Yek's Guide to the Fractal Audio Amplifier Models

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Table of Contents

Table of Contents....1
Introduction by simviz....7
Introduction by yek....8
Disclaimers....9
Guide Revisions....10
The Amps....11
5F1 Tweed (Fender Narrow Panel Tweed Champ, 5F1)....12
5F8 Tweed (Keith Urban's Fender Narrow Panel high-powered Tweed Twin, 5F8)....14
6G4 Super ('60 brown Fender Super, 6G4)....17
6G12 Concert ('60 brown Fender Concert, 6G12)....19
59 Bassguy ('59 Fender Narrow Panel Tweed Bassman, 5F6-A)....21
65 Bassguy (Dweezil Zappa's '65 blackface Fender Bassman, AB165)....24
1959SLP (Marshall SLP1959, Vintage Re-Issue Series)....27
1987X (Marshall 1987X, Vintage Re-issue Series)....31
5153 (EVH 5150-III)....34
AC-20 (Morgan AC20 Deluxe)....37
Angle Severe (Engl Savage 120)....39
Atomica (Cameron Atomica)....41
Band-Commander ('68 Fender Bandmaster, AB763)....43
Big Hair (FAS custom model)....45
Blanknshp Leeds (Blankenship Leeds 21)....46
Bludojai (Bludotone Ojai)....48
Bogfish (Bogner Fish preamp)....51
Boutique (Matchless Chieftain)....52
Brit 800, Brit 800 Mod and Brit 800 #34 (Marshall JCM 800)....54
Brit AFS100 and Brit Super (Marshall AFD100, Slash's signature amp)....57
Brit Brown and FAS Brown (FAS custom models)....59
Brit JM45 (Marshall JTM 45)....61
Brit JVM (Marshall JVM410H)....64
Brit Pre (Marshall JMP-1 preamp)....66
Brit Silver (Marshall Silver Jubilee)....67
Brit Super (Marshall AFD100, Slash's signature amp)....69

Buttery (Budda Twinmaster) 70
CA OD-2 (Carol-Ann OD2) 72
CA Triptik (Carol-Ann Triptik) 75
CA Tucana (Carol-Ann Tucana 3) 78
CA3+ (Custom Audio Amplifiers 3+ SE preamp) 81
Cali Leggy and Legato 100 (Carvin Legacy VL100, Steve Vai's signature amp) 83
Cameron CCV (Cameron CCV-100) 85
Capt Hook (HOOK Captain 34) 88
Car Roamer (Carr Rambler) 91
Citrus A30 (Orange AD30HTC) 94
Citrus Bass 200 (Orange AD200B) 96
Citrus RV50 (Orange Rockerverb 50 MK II) 98
Citrus Terrier (Orange Tiny Terror) 100
Class-A 15W TB (VOX AC15) 102
Class-A 30W (VOX AC30) 106
Class-A 30W: Normal channel of a non-Top Boost AC30 107
Class-A 30W BRT: Bright channel of a non-Top Boost AC30 107
Class-A 30W TB: Top Boost channel of the AC30 Hand-Wired 107
Class-A 30W HOT: Hot mode of the AC30 Hand-Wired 107
Comet 60 (Komet 60) 109
Comet Concourse (Komet Concorde) 112
Corncob M50 (Cornford MK50 II) 115
Das Metall (Diezel VH4) 117
Deluxe Tweed (Fender Tweed Deluxe, 5E3) 118
Deluxe Verb ('65 blackface Fender Deluxe Reverb, AB763) 121
Dirty Shirley (Friedman Dirty Shirley) 124
Div/13 CJ11 (Divided By 13 CJ 11) 127
Div/13 FT37 (Divided By 13 FTR 37) 129
Dizzy V4 and Das Metall (Diezel VH4) 131
Double Verb (Fender Twin Reverb) 135
Double Verb NRM: '66 blackface 85 watt, AB763 circuit, Normal channel 136
Double Verb SF: '71 silverface, 100 watt, Vibrato channel 136
Double Verb VIB: '66 blackface 85 watt, AB763 circuit, Vibrato channel 136
Dweezil's B-man (modded '65 blackface Fender Bassman, AB165) 138

Energyball (Engl Powerball) 139
Euro Blue and Red (Bogner Ecstasy, 20th Anniversary edition) 141
Euro Uber (Bogner Uberschall) 145
FAS custom models 147
FAS 6160 147
FAS Bass 147
FAS Brootalz 147
FAS Brown 147
FAS Class-A 147
FAS Crunch 147
FAS Hot Rod 147
FAS Lead 1 148
FAS Lead 2 148
FAS Modern 148
FAS Modern II 148
FAS Modern III 148
FAS Rhythm 148
FAS Wreck 148
Fox ODS (Fuchs Overdrive Supreme) 149
Friedman BE and HBE (Friedman BE-100) 152
Friedman SM Box (Friedman Small Box) 156
Fryette D60 (Fryette Deliverance 60) 159
Gibtone Scout ('64 Gibson Scout) 162
Herbie (Diezel Herbert) 164
Hipower (Hiwatt DR103) 167
Hot Kitty (Bad Cat Hot Cat 30) 170
Jazz 120 (Roland Jazz Chorus 120) 172
JMPre-1 and Brit Pre (Marshall JMP-1 preamp) 174
Jr Blues (Fender Blues Junior) 177
JS410 (Marshall JVM410HJS, Joe Satriani's signature amp) 180
Legato 100 (Carvin Legacy VL100, Steve Vai's signature amp) 184
Matchbox D-30 (Matchless DC-30) 185
MR Z HWY 66 (Dr. Z Route 66) 189
Mr Z MZ (Dr. Z Maz) 191

Mr Z MZ-8 (Dr. Z Maz 8) 191
Mr Z MZ-38 (Dr. Z Maz 38) 193
Nuclear-Tone (Swart Atomic Space Tone) 195
ODS-100 (Dumble Overdrive Special) 198
Plexi models (Marshall Plexi) 202
Plexi 100W HIGH/JUMP/NRML 203
Plexi 100W 1970 203
Plexi 50W HI 1/JUMP/NRML 203
Plexi 50W HI 2 203
Plexi 50W 6550 203
Prince Tone (Fender Princeton) 207
Prince Tone (Fender Tweed Princeton) 207
Prince Tone NR (Fender Silverface Princeton w/o Reverb) 208
Prince Tone Reverb (blackface Fender Princeton Reverb) 209
PVH 6160 Block (block letter EVH 5150 = Peavey 6505) 213
PVH 6106+ (Peavey 6160+ / EVH 5150-II) 216
Recto1 and Recto2 (MESA two-channel and three-channel Dual Rectifiers) 218
Ruby Rocket (Paul Ruby Rocket) 222
Shiver (20th Anniversary Bogner Shiva) 224
Solo 88 and Solo X99 (Soldano X88R and X99 preamps) 227
Solo 100 (Soldano SLO-100) 229
Spawn Nitrous (Splawn Nitro) 233
Spawn Qrod (Splawn Quickrod) 235
Suhr Badger 237
Suhr Badger 18 237
Suhr Badger 30 238
Super Verb ('64 blackface Fender Super Reverb, AB763) 240
Supertweed (FAS custom model) 243
Supremo Trem (Supro 1964T Dual-Tone) 244
SV Bass (Ampeg SVT) 247
Thordendal (pre-G3 Recto models) 250
Tremolo Lux (blackface Fender Tremolux, AA763) 251
Tube Pre 254
Two Stone J35 (Two-Rock Jet 35) 255

TX Star (MESA Lone Star) 257
USA Bass 400 (MESA Bass 400) 259
USA Clean / USA Lead / USA Rhythm (MESA/Boogie Mark IV) 261
USA Clean 264
USA Lead 264
USA Lead+ 264
USA Lead Brt 264
USA Lead Brt+ 264
USA Rhythm 264
USA IIC+ and USA IIC++ (MESA/Boogie Mark IIC+) 265
USA IIC+ 268
USA IIC+ Bright 268
USA IIC+ Deep 268
USA IIC+ BRT/DP 268
USA IIC++ (modded MESA/Boogie Mark IIC+) 271
USA Pre (MESA/Boogie TriAxis preamp) 272
USA Pre Clean: Rhythm/Green mode, a vintage fat clean (Mark I, blackface) 274
USA Pre LD1 RED: classic British lead, based on the TriAxis “TX-4 board” 275
USA Pre LD2 GRN: medium Mark IV Lead 275
USA Pre LD2 YLW: Mark IIC+ Lead 276
USA Pre LD2 RED: “shred” 276
USA Sub Blues (MESA/Boogie Subway Blues) 279
Vibra-King (custom Fender Vibro-King) 281
Vibrato Lux (Fender Vibrolux, 6G11) 283
Vibrato Verb (Fender Vibroverb) 285
Vibrato Verb 287
Vibrato Verb AA 287
Vibrato Verb AB 287
Vibrato Verb CS 287
Wrecker Express (Trainwreck Express) 288
Wrecker Liverpool (Trainwreck Liverpool) 290
Wrecker Rocket (Trainwreck Rocket) 292
Amp Categories 294
Fender Circuits 294

VOX-type Amps 295
D-type Amps 296
Preamps 297
References 298
Amplifier Information 298
YouTube 298
Commercial Impulse Responses 298
Fan sites, articles and more 298
Fractal Forum Content 299

Introduction by simviz

In February 2016, Yek (or Alexander van Engelen) from the Fractal Audio forum began writing **online articles describing the amplifier models** in the Fractal Audio Axe-Fx II and AX8 modelers, including presets to demonstrate each amp.

This document is made up of those articles. I added summaries and pictures.

Each amplifier section contains a synopsis of the amp model, quick tips on how to dial it in, links to clips and recommended cabs. For more videos, check out the forum postings.

The text within each section typically describes the specifics of the original amplifier and references the manufacturer's website and manual (if available).

I've added tables summarizing the original amplifier's technical specifications and specifying the model's tonestack location.

Tips and information provided by Cliff Chase and yek are highlighted in boxes.

If you like this document, please support Yek by donating to a good cause:

> "*I have a great job (not related to music) and I'm doing fine. I've never asked for a donation for wiki maintenance etc.*
>
> *But there are other people on this earth who are in need. My girlfriend Mariette visited Nepal to do voluntary work, among others in a children's home. Where young children stay, who otherwise would have to live on the streets and risk becoming victims of human trafficking, which is a big issue in Nepal, sadly. While she was away, I started writing the threads.*
>
> *If you found the series of threads entertaining, perhaps learned something from it, enjoyed the read or just want to show appreciation, please consider donating in return. Any amount you feel is right. It will be used to keep helping these children, through a bona fide organization.*" – Yek

You can donate at:

> **http://www.paypal.me/alexandervanengelen**

Enjoy!

simviz

Introduction by yek

I'm very grateful to simviz for his work. He assembled all articles into this comprehensive document, providing a superior way to present the information.

I've added improvements and corrections where needed. This guide is a now more complete resource than the original articles. Open the online version of this document to make use of the many hyperlinks.

It's still fun to check the original forum threads to read comments about the original amplifiers and the amp models from other forum members, as well as personal stories and suggestions. Those threads also link to many more videos, showcasing the original amplifiers.

So why the name "yek"? It was the nickname I randomly chose when joining CompuServe long ago, before the World Wide Web even existed.

English is not my native language. So don't mind the spelling and grammar mistakes.

Finally, many thanks to Fractal Audio for creating such wonderful digital models of these epic guitar amplifiers.

Alexander van Engelen (yek)

Disclaimers

This guide has not been not submitted to Fractal Audio for authorization. The contents are based on published data, web sources, forum posts etc., and of course on personal experiences.

Yek nor simviz owns the copyright to any of the photos.

There WILL be unintentional errors in this guide. If you find one, please contact yek through the forum: **http://forum.fractalaudio.com**

Guide Revisions

August 2016	Textual and design overhaul. Many additions and corrections.
October 2016	Adding new amp models from firmware Quantum 5.00. Other minor additions.
December 2016	Minor corrections and updated information about preamp tubes (Quantum 6.x).
April 2017	Quantum 7.x-related revision. Corrections and additions are marked in red color.

The Amps

The following sections contain descriptions of the amp models and the original amps on which they are based. The header of each section is a hyperlink to the original forum thread.

Consult the **Fractal Audio wiki** for:

- **current list of all amplifier models**
- **current list of all stock cabinet models**
- **descriptions of all AMP block parameters**
- and more, much more.

Important information about the amp models in your Axe-Fx II or AX8:

High and Low inputs
If the actual amp has two inputs, the model is based on the input with the highest gain. Decrease Input Trim to get the equivalent of the lowest input (use 0.500 with models based on Fender amps).

No Master Volume
If the original amp has no Master Volume control, the Master control in the amp model will default at 10.

Two gain controls
If the original amp has two gain controls, the one that's closest to the 1/4" input on the actual amp will be represented by Input Drive in the amp model, and the other one by Overdrive.

Single tone control
If the original amp only has a single Tone control, the control will be mapped to either Treble or Presence/Hi Cut in the amp model.

Visual taper matching
The controls of the virtual amp models, such as Drive, Bass, Treble etc. match the tapers on the original amps within 10%, except for Master, Presence/Hi Cut and Depth.

Resetting the amp model
A soft reset is performed by de-selecting and re-selecting the amp type in the Amp block. This resets most parameters, including Presence and Master, but leaves the Drive controls and Bass/Mid/Treble untouched. A full reset is performed by resetting the block. **More information**.

There are more great resources for information about the Fractal Audio amp models. We'd like to mention the following handy guides:

- Amp & Cab Quick Reference, by JMA
- F.A.S. Amps Models Gallery, by MDProd

If you're interested in the Drive models, check out **Yek's Guide to the Fractal Audio Drive Models**.

5F1 Tweed (Fender Narrow Panel Tweed Champ, 5F1)

Synopsis	Model of Fender's practice amp from the Tweed era
Tips	The original amp only has a Volume control, so leave everything else in the model at default for authenticity
Clips	**1957 Fender Champ** **More videos, clips and comments**
Cabinet/speaker	Single 6" or 8" Alnico speaker (Jensen P8T, Oxford 8EV)
Stock cabs	1x8 – **Cab Packs 2 and 4**
Amp controls	Volume (=Drive)

The 5F1 Tweed amp model is based on a Fender Champ from the Tweed era.

The Tweed era is the earliest period of Fender amplification (late '40s - early '60s), before the blonde, brown, blackface and silverface models. Very collectible amplifiers. "Tweed" refers to the cloth covering used at that time, as seen in the picture above. Tweed amplifiers typically break up earlier than later models and are known for their warm sounding distortion. **More information**

This particular model is a "narrow panel" Tweed model. This refers to the panels around the speaker grill which are narrower than earlier "wide panel" models which looked like old televisions.

The Fender Champ is a single-ended Class-A amp with a 6V6 power tube. This modeled amp has the simple 5F1 circuit, which was produced between the **late '50s and '64**. The Champ was marketed as a practice amp and therefore has only 5w output power.

About the circuit numbers: in general, the first number indicates the decennium (5 is '50s). The letter indicates the circuit revision, and the last number is the amp model (1 = Champ).

The low output and small speaker make the amp break up early. The tiny speaker also attributes to the “boxy” sound. Crank the volume and you understand immediately why the expression “farty bass” exists (the Cut switch in the amp model helps to tame the low end). Nevertheless, the Champ was a popular amp for recording. Eric Clapton's Layla and Joe Walsh's Rocky Mountain Way were recorded with a Champ, allegedly.

> *“Stick to single coils. The output signal of a humbucker is too strong for the Champ to handle.”* – yek

The amp has two inputs to plug the guitar into. Fractal Audio’s models of Fender amps are always based on the input on the amp with the highest level. To get the equivalent of the lowest input, set Input Trim in the amp model to 0.500.

The amp only has a single Volume control. There are no tone knobs or other controls. If authenticity matters to you, stick to adjusting Input Drive in the amp model.

Note that the range of the controls is 1- 12, so you can't copy those settings exactly to the amp model controls. To translate the settings, use the **table at the back of this guide**.

Select one of the 1x8 stock cabs for authenticity.

Amplifier Specifications	
Years of Manufacture	1958-1964
Circuit	5F1
Power	5 watt
Master Volume	No
Negative Feedback	Yes
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	6V6
Tonestack Location	PRE

5F8 Tweed (Keith Urban's Fender Narrow Panel high-powered Tweed Twin, 5F8)

Synopsis	Model of Keith Urban's Narrow Panel Tweed Twin
Tips	It's a dark sounding amp model when combined with its stock cab, so be like Keith Urban and turn up Treble and Presence
Clips	**Keith Richards Fender High Powered Tweed Twin Amp**
	Carter Vintage Guitars – '59 Twin – J.D. Simo
	More videos, clips and comments
Cabinet/speaker	Keith Urban's cabinet has two Two-Rock CR12 speakers, captured in the IR below. The original Tweed Twin has two Jensen P10Ns
Stock cabs	2x12 Double Amp – **Cab Pack 15**
Web, Manual	**'57 Twin-Amp Owner's Manual (reissue low-powered Twin-Amp, 5E8)**
Amp controls	Presence, Middle, Bass, Treble, Volume (=Drive)

The 5F8 Tweed amp model is based on Fender's "high-powered" Twin-Amp from the Tweed era, also known as the Tweed Twin. The modeled amp is Keith Urban's personal Twin-Amp.

The Tweed era is the earliest period of Fender amplification (late '40s – early '60s), before the blonde, brown, blackface and silverface models. Very collectible amplifiers. "Tweed" refers to the cloth covering used at that time, as seen in the picture above. Tweed amplifiers typically break up earlier than later models and are known for their warm sounding distortion. **More information**

Tweed-era amps are very collectible. In fact, the Tweed Twin is listed #3 on **Vintage Guitar's list of the 25 most valuable guitar amps.** That's a higher ranking than SRV's famous Vibroverb.

This particular model is a “narrow panel” Tweed model. This refers to the panels around the speaker grill which are narrower than earlier “wide panel” models which looked like old televisions.

This amp marked the start of a period when Fender started to design amps which were loud enough to fill a large room by themselves without the assistance of a sound system, with enough headroom to stay clean when played loud. That's why this amp is referred to as “high-powered” or “big box”. It has four 5881 power tubes, rated at 80 watt, and the 5F8 circuit.

There’s also a lower powered Twin Amp, rated at 40 watt (5E8 circuit), **reviewed here by Premier Guitar**. **More technical information**

About the circuit numbers: in general the first number indicates the decennium (5 is ‘50s). The letter indicates the circuit revision, and the last number indicates the amp model (8 = Twin).

The Twin-Amp is said to sound similar to a Bassman but warmer and larger. **More information about Fender Twins**. Famous Twin-Amp players are Keith Richards, Eric Clapton, the late Rory Gallagher, Joe Bonamassa, Steven Seagall, David Gilmour.

The name “Twin” probably refers to the use of two 12” speakers. As with all Fender amps, early non-reverb models like this one are different from later models *with* reverb such as the Twin Reverb.

The original amp provides a Bright and Normal input to plug the guitar into. It's not documented which input has been modeled by Fractal Audio, but Keith Urban uses the Normal input.

The controls on the original amp are: Presence, Middle, Bass, Treble and Volume controls for the Bright and Normal inputs. No Master Volume, so keep the Master control in the model cranked.

The first picture above shows Keith Urban's settings. The second picture shows Joe Bonamassa’s settings. The range of the controls is 1- 12, so you can't copy those settings exactly to the amp model controls. To translate the settings, use the **table at the back of this guide**.

"The amp doesn't stay as pristine clean at higher volume levels as the later Twin Reverb, especially when you play it with humbuckers. It still has a lot of clean headroom. With single coils you have to crank Input Drive in the model to get it into overdrive. Even then it doesn't distort a lot; compression increases and the tone gets fatter in a nice way." – yek

"The amp is not as bright as the later Twin Reverb either. In fact, when you combine it with its stock cab, it is a dark sounding amp. So be like Keith Urban and turn up Treble and Presence. And turn down Bass." – yek

Keith Urban's cabinet has Two-Rock CR12 speakers, which sound similar to G12-65s. These are captured in stock cab 2x12 Double Amp.

The amp originally came with Jensen P12N speakers (combo). Fender's '57 low-powered Twin-Amp re-issue had Weber Alnico speakers. If you prefer those, select 2x10 or 2x12 Alnico stock cabs.

Amplifier Specifications	
Years of Manufacture	1958-1960
Circuit	5F8
Power	80 watt
Master Volume	No
Negative Feedback	Yes
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	6L6/5881
Tonestack Location	POST

6G4 Super ('60 brown Fender Super, 6G4)

Synopsis	Model of a ’60 brown Fender Super Amp
Tips	No Middle tone control, so keep it at default in the model for authenticity
Clips	**1951 Fender Esquire, played through a 1960 Fender Super Amp (1)**
	1951 Fender Esquire, played through a 1960 Fender Super Amp (2)
	More videos, clips and comments
Cabinet/speaker	Originally equipped with two Jensen 10” speakers. The modeled amp has two 12” speakers, captured in the IR below
Stock cabs	2x12 Brown Super – **Cab Pack 15**
Amp controls	Volume (=Drive), Treble, Bass, Presence

“Brown” refers to the period between the Tweed and blackface models: ’59 – ’63. Brown Fenders typically are cleaner than the Tweed versions, but still warmer and dirtier than the blackface models. Like the Tweed amps, brown models are very collectible. **More information**

According to **Wikipedia**, Fender’s Super Amp originated as a renamed version of the Dual Professional, supposedly the world’s first twin-speaker guitar amp. The 5F4 Super circuit with 6L6 tubes is said to be similar to the 5E5 Pro and 5E7 Band-Master and to distort more quickly than a Bassman. Remember, this is the Super, not the Super Reverb.

According to Vintage Guitar the sound of a (Tweed) Super “in the estimation of many a vintage-amp fan, is among the sweetest and most delectable of any amp ever made”. The Tweed version (single channel, 30 watt) is the most sought-after version of the Fender Super and was Leo Fender’s

personal favorite, according to Vintage Guitar. The ’57-’60 Fender Super occupies spot #12 on **Vintage Guitar's list of the 25 most valuable guitar amps**.

The Super is also very famous for its built-in vibrato which in fact is a tremolo, sometimes called a harmonic tremolo. **Here's how to create harmonic tremolo in the Axe-Fx II**, which will sound closer to the amp's Vibrato than the Tremolo/Panner block.

The Super modeled by Fractal Audio has the 6G4 circuit and two 6L6 tubes, rated at 40 watt.

About the circuit numbers: in general the first number indicates the decennium (6 is 60s). The letter indicates the circuit revision, and the last number indicates the amp model (4 = Super).

Pictures of the insides of the 6G4

The amp has two inputs per channel. Fractal Audio’s models of Fender amps are always based on the input with the highest level. To get the equivalent of the lowest input, set Input Trim in the amp model to 0.500.

The amp has two channels: Normal and Vibrato. Fractal Audio’s model is based on the Vibrato channel which has these controls: Volume, Treble, Bass, Presence and Vibrato (the vibrato itself has not been modeled). There’s no Middle tone control, so keep this at default in the amp model for authenticity. No Master Volume either, so keep the Master control in the amp model cranked.

> *“With the stock cab and a strat or telecaster, there's not a lot of tweaking required. All amp controls at default, Input Drive at 4, and you have a great vintage Fender tone. Increase Input Drive to 6 or higher for more bite.”* – yek

Note that the range of the controls is 1- 10, so you can't copy those settings exactly to the amp model controls (which start at 0). To translate the settings, use the **table at the back of this guide**.

The amp originally had two 10” speakers (Jensen P10R / P10Q, Oxford 10K5). The modeled amp has two 12” speakers, captured in stock cab 2x12 Brown Super.

If you prefer 10” speakers, try stock cab 2x10 Super Tweed for a different tone.

Amplifier Specifications	
Year of Manufacture	1960
Circuit	6G4
Power	40 watt
Master Volume	No
Negative Feedback	Yes
Preamp Tubes	7025 (12AX7A Syl)
Power Amp Tubes	6L6
Tonestack Location	PRE

6G12 Concert ('60 brown Fender Concert, 6G12)

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Synopsis	Model of a ‘60 brown Fender Concert
Tips	The amp has a lot of clean headroom and bass. Reduce bass and crank Input Drive to get a mild “brown” overdrive
Clips	**JD Simo playing a Fender Concert with a Les Paul Junior** **More videos, clips and comments**
Cabinet/speaker	Four 10” speakers (Jensen P10R / P10Q / C10R, Oxford 10K5), like a Bassman or Super Reverb
Amp controls	Volume (=Drive), Treble, Bass, Presence

The brown control panel indicates that this amp dates back to the period between the Tweed and blackface models: ’59 – ’63. Brown Fenders typically are cleaner than the Tweed versions, but still warmer and dirtier than the blackface models. Like the Tweed amps, brown models are very collectible. **More information**

The Concert was introduced around 1960. **Wikipedia** states that the Concert was the same amplifier as the Fender Pro but equipped with four 10” speakers. **Premier Guitar** writes that it was similar to the flag-ship Vibrasonic.

The appreciation of this amp varies a lot. Some say it's the best thing after the “holy grail” Tweed Bassman. Some think there are better amps among the Fender Professional series from that era. Interestingly, while the Bassman was designed for bass players and adopted by guitar players, the Concert was a guitar amp which was used by living legend Carol Kaye for bass. Like the Super, people love the vibrato effect on this amp.

The version on which the model is based has the 6G12 (not: 6G12-A) circuit with a solid state rectifier, rated at 40 watt through two 6L6 tubes.

About the circuit numbers: in general the first number indicates the decennium (6 is '60s). The letter indicates the circuit revision, and the last number indicates the amp model (12 = Concert).

> *"It has a lot of clean headroom and a lot of bass. You have to really crank it with single coils to get it into mild overdrive territory."* – yek

The Concert has two inputs per channel. Fractal Audio's models of Fender amps are always based on the input with the highest level. To get the equivalent of the lower input, set Input Trim to 0.500 in the amp model.

The amp has two channels: Normal and Vibrato. Fractal Audio's model is based on the Vibrato channel, which has these controls: Volume, Treble, Bass, Presence and vibrato (the vibrato circuit has not been modeled). Note that the range of the controls is 1- 10, so you can't copy those settings exactly to the amp model controls (which start at 0). To translate the settings, use the **table at the back of this guide**. There's no Middle tone control and no Master Volume, so keep these at default in the amp model for authenticity.

The Concert is a big and heavy beast. The amp originally came with four 10" speakers (Jensen P10R / P10Q / C10R, Oxford), just like a Bassman. Use a 4x10 Bassguy or 4x10 Super stock cab.

Amplifier Specifications	
Year of Manufacture	1960
Circuit	6G12
Power	40 watt
Master Volume	No
Negative Feedback	Yes
Preamp Tubes	7025 (12AX7A Syl)
Power Amp Tubes	6L6/5881
Tonestack Location	PRE

59 Bassguy ('59 Fender Narrow Panel Tweed Bassman, 5F6-A)

Synopsis	Model of a “holy grail” 1959 Fender Tweed Bassman, the “grandfather of rock and roll”
Tips	Turn down Bass and turn up mids. Or try Bass and Treble at 0, and Mid and Presence at 10
Clips	**Original '59 Fender Bassman Amp with Telecaster**
	Hendrix Jam on a Vintage 1959 Fender Bassman
	Rory Gallagher’s Bassman
	Gibson Les Paul 50's Tribute through a vintage '58 Fender Bassman
	The greatest guitar amp of all time - original Fender 1959 Bassman
	More videos, clips and comments
Cabinet/speaker	Four 10” Jensen P10Q or P10R speakers
Stock cabs	4x10 Bassguy – **Cab Packs 1 and 10**
Web, Manual	**’59 Bassman LTD (re-issue)**
	’59 Bassman LTD Operating Instructions (re-issue)
Amp controls	Presence, Bass, Middle, Treble and Volume (=Drive)

The Tweed era is the earliest period of Fender amplification (late 40’s – early 60s'), before the blonde, brown, blackface and silverface models. Very collectible amplifiers. “Tweed” refers to the cloth covering used at that time, as seen in the picture above. Tweed amplifiers typically break up earlier than later models and are known for their warm sounding distortion. **More information**

This particular Bassman is a “narrow panel” Tweed model. This refers to the panels around the speaker grill which are narrower than earlier “wide panel” models which looked like old televisions.

Tweed-era amps are very collectible. In fact this ’59 Tweed Bassman Amp is listed #4 on **Vintage Guitar's list of the 25 most valuable guitar amps**, just behind the Tweed Twin.

The Fender Bassman was originally intended to amplify bass guitars, but soon was adopted as a guitar amplifier. It is known for its simple, pure and raw tone. “*The grandfather of rock and roll*”, says Carl Verheyen. Many famous players play(ed) a Bassman. Among them: Eric Clapton, Jimi Hendrix and Brian Setzer.

The 5F6-A Bassman is the final ‘50s Tweed Bassman, a landmark of amp design. The design was copied by Marshall into their JTM-45 amplifier. But contrary to popular belief, the Bassman rocks harder than the JTM.

About the circuit numbers: in general the first number indicates the decennium (5 is ‘50s). The letter indicates the circuit revision, and the last number indicates the amp model (6 = Bassman).

Fender released a reissue of the ’59 Bassman: **’59 Bassman LTD**. **Reviewed by Legendary Tones**

The 5F6-A circuit with two 6L6 tubes is rated at 50 watt. It generates a lot of bass and starts to distort when increasing the volume (amp model: Input Drive). It can do it all: clean, funk, soul, blues and rock’n’roll.

The Bassman provides two inputs per channel: High and Low. Fractal Audio’s models of Fender amps are always based on the input with the highest level. To get the equivalent of the low input, set Input Trim to 0.500 in the amp model.

The original amp has two channels: Normal and Bright. In Fractal Audio’s amp model the Bright channel is selected when the Bright switch is switched on (enabled by default).

The original amp controls are: Presence, Bass, Mid, Treble and Volume controls for the Bright and Normal channels. No Master Volume, so keep the Master control in the amp model cranked.

There are varying approaches to dial in a vintage Fender like this. You can crank the mids and turn down Bass all the way. Or keep Bass and Treble at zero and crank Presence and Mid.

Note that the range of the controls is 1- 12, so you can't copy those settings exactly to the amp model controls. To translate the settings, use the **table at the back of this guide**.

Bassman amps use four Jensen 10” Alnico speakers (Jensen P10R / P10Q).

Use stock cab 4x10 Bassguy.

“*For some vintage fun, put the Face Fuzz before the amp. Or control the low end of the amp model by engaging a Treble Booster.*” – yek

“*The 4x10 Bassguy is an excellent stock cab for any Fender amp model with 10*” *speakers.*” – yek

Amplifier Specifications:	
Year of Manufacture	1959
Circuit	5F6-A
Power	40 watt
Master Volume	No
Negative Feedback	Yes
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	6L6/5881
Tonestack Location	POST

65 Bassguy (Dweezil Zappa’s '65 blackface Fender Bassman, AB165)

Synopsis	Models of both channels of a ‘65 Fender Bassman with AB165 circuit, owned by Dweezil Zappa. Much nastier than a regular Bassman, sort of “Marshall-ish”
Tips	Turn down Bass and disengage Bright
	Dweezil’s B-man: leave everything at default except Input Drive
Clips	**1965 Blackface Fender Bassman & 1971 Les Paul Cranked by Tyler Grund**
	More videos, clips and comments
Cabinet/speaker	Cabinet with two Jensen 12” speakers (C12N, Oxford 12T6)
Amp controls	Volume (=Drive), Bright switch, Treble and Bass

Blackface Fenders were produced between 1964 and 1967. Pre-CBS blackface Fenders are in high demand and are not as expensive as Tweed and brown models. The blackface label refers to the black tolex and control panel. **More information**

This is a model of Dweezil Zappa’s blackface Bassman with AB165 circuit.

The AB165 circuit is much dirtier and nastier than the ’59 Bassman. It gets Fender into Marshall territory. If I’m not mistaken this particular amp is an early “CBS”-era model. That’s when CBS owned Fender and in the opinion of many wasted a lot of great Fender circuit designs. That’s why the AB165 Bassman is not regarded as a true blackface amp by some. But it's still a great amp, just listen to **Tyler Grund's clip** or to the model. More background information on **Premier Guitar** and **Fenderguru.**

The AB165 is rated at 50 watt through two 6L6 tubes.

"*So what does the blackface Bassman sound like? Describing tone is best done with establishing a common and well-known reference point, for example the traditional blackface AB763 amps such as the Super Reverb and Twin Reverb. The Bassman is known for its simple, pure and raw tone. It is 50w loud with power supply and output transformers sized approx. as the Super Reverb and Bandmaster. The bass channel of the AB165 and AA864 is much mellower and deeper than the normal channel of any AB763 amps since it is voiced for bass guitars. The Bassman bass channel features a deep switch that can remove the lowest frequencies, which is practical when you're playing loud and using different speaker cabinets where you need to adjust the lower bass. The normal channel is more relevant for guitar players. The Bassman sounds "browner" than the AB763-amps, particularly the AB165 model, and it has more preamp distortion and mids when the volume is turned up. The reason that the Ab763-amps have less preamp gain is the use of only one half/triode (V4 12ax7) in the second gain stage vs both halfs/triodes (V2 12ax7) in the Bassman AB165. The normal channel in the AA864 Bassman is cleaner than in the AB165 since it has no additional gain stage. The Bassman amps have more mids than the AB763-amps, and particularly without the reverb effect (the reverbs thins the tone) the Bassman experience is a fuller, direct and less camouflaged tone.*" – **Fenderguru**

"*The 65 Bassguy was matched to a 65 Bassman that Dweezil sent me. It's a vicious amp that sounds more like a Plexi than a Fender. It's the infamous AB165 circuit which is very crunchy and bright and does not sound like your typical Fender. I was told it is stock. Definitely not your father's Bassman. Has a pissed-off Marshall vibe to it.*"

"*Dweezil's Bassman has two channels like a regular Bassman. The Normal channel is "normal" and corresponds to the 65 Bassguy Nrml model.*"

"*AB165 uses 7025 preamp tubes (which are relabeled 12AX7). The phase inverter, however, is a 12AT7. The secret to the AB165 is the summing stage. It uses an inverting summing amp to sum the Normal and Bass inputs. This stage clips, because of all the local negative feedback, quite hard.*"

The Bassman has two channels: Bass Instrument and Normal, both modeled by Fractal Audio. The Bass channel can also be used with guitar for a mellow tone. The Normal channel has a Bright switch (enabled in the amp model).

The AB165 controls are: Treble, Bass, Volume Bright and Volume Normal and the Bright switch. In the amp model the Presence parameter is maxed, because the real amp has a fixed Presence setting inside. There's no Middle tone control, so keep this at default in the model for authenticity. No Master Volume either, so keep the Master control in the amp model cranked.

The range of the controls is 1- 10, so you can't copy those settings exactly to the amp model controls (0 – 12). To translate the settings, use the **table at the back of this guide**.

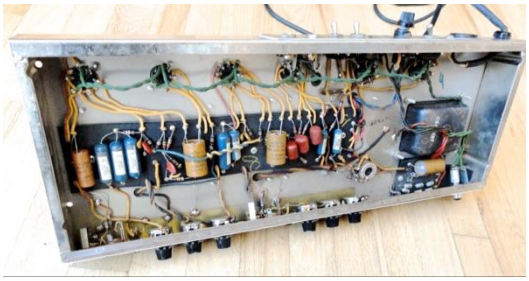
The Bassman has two inputs per channel. Fractal Audio's models of Fender amps are always based on the input with the highest level. To get the equivalent of the low input, set Input Trim to 0.500 in the amp model.

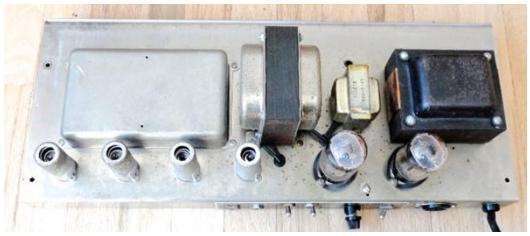
There also is a version of the Bass Instrument channel, modded by Blankenship, which is available as a separate amp model: Dweezil's B-man. The Blankenship-modded version is different. It has no tone stack (no tone controls), so you only use the Volume control.

(Dweezil's B-man amp model)

"*The Bass Instrument channel is modified and that's the basis for the new model (Dweezil's B-man). It has a boatload of gain and sounds more like a Plexi than a Fender.*"

"*The actual amp has no tone stack so for maximum authenticity all tone controls would be at noon (but don't be afraid to tweak them). In the actual amp the Treble control is re-purposed as a Negative Feedback control. Experiment with different values of Negative Feedback. Lower values are looser.*"





Unlike regular Bassmans, the AB165 Bassman came with a 2x12 cabinet, with Jensen C12N or Oxford speakers. Try the 2x12 Brown Super. Marshall-type cabs also work well with this amp.

Amplifier Specifications	
Year of Manufacture	1965
Circuit	AB165
Power	50 watt
Master Volume	No
Negative Feedback	Yes
Preamp Tubes	7025 (12AX7A Syl)
Power Amp Tubes	6L6/5881
Tonestack Location	PRE

1959SLP (Marshall SLP1959, Vintage Re-Issue Series)

Synopsis	Models of a 100 watt Superlead Plexi re-issue
Tips	Don't hesitate to turn Bass all the way down and turn up Middle and Treble. Or just crank everything, like Eddie Van Halen "*My settings for a "typical" Plexi tone are Bass 2, Mid 8, Treble 7.5. Adjust Presence to taste.*"
Clips	**Marshall Plexi 1959SLP 100W Tube Guitar Amp Head Standard** **Johan Segeborn comparing 1959SLP vs 1987x** **More videos, clips and comments**
Cabinet/speaker	4x12 Marshall cabinet with Celestion G12M (greenbacks) or G12H speakers
Stock cabs	Marshall stock cabs – **Cab Packs**
Web, Manual	**Vintage Re-issue Series: 1959SLP** **Vintage Re-issue Series Owners Manual**
Amp controls	Presence, Bass, Middle, Treble and Volume (=Drive)

The world's greatest rock amp is a Marshall "Plexi". These came to the market in the mid '60s, when Marshall and Fender started to make loud amps. These amps are referred to as "Plexi" because of the gold Plexiglass front panel, later replaced with gold aluminum. Plexis with 4x12 cabinets gave rise to the "Marshall stack". The Plexi was built for almost 20 years and was then replaced by the JCM 800. Even today's amp builders still design amps based around the Plexi, such as the Bogner Helios. And its looks are being copied for all kinds of guitar amps.

So why has the Plexi become such a popular amp?

> *"Many things. First and most important perhaps is the sense of dynamics and rich harmonics. No large-production amp created before or since the early Marshall plexi series has been able to capture the feel of the player through varying degrees of dynamics and coloration from the (mostly) EL34-based tube circuits of these Marshalls. Call it a lucky accident with the*

> *folks at Marshall, but they were able to create amplifiers that really responded well to the guitars that played through them. A wide palette of distortion color that is rich and full and just powerful and timeless in tone is what these amps deliver. It takes some time to really get used to playing a basic amp such as a Marshall plexi. No multi channels or reverb or effects and no master volume controls. Turn up the amp and play – play hard and the amp rewards you with fullness of tone and smooth distortion. Back off your playing and the amp will respond, and move into lighter shades of overdrive. Roll down your guitar volume a touch and you've got a warmed up clean sound. There just isn't anything like the ability to feel a set of power and preamp tubes overdriving together musically.*" – **Legendary Tones**

A Plexi is raw, unrefined, honest and touch sensitive. Hit a power chord through a Plexi and feel the explosion of sound in your face and body.

Numerous guitar heroes played some kind of Plexi: Pete Townsend, Jimi Hendrix, Jimmy Page, Angus Young, Yngwie Malmsteen, Jeff Beck and of course Eddie Van Halen.

The Plexi came in various incarnations. Many (but not all) Plexis have a JMP logo ("Jim Marshall").

The '60s Marshall Superlead was one of the original 100 watt Plexi amps, a very desirable amp, number 9 on **Vintage Guitar's list of the 25 most valuable guitar amps**. The 1959SLP is a re-issue, made in the '90s as part of the Vintage Re-issue Series.

> "*The 100 Watt Super Lead head of the late '60s ('68 – '69) with the famed Plexiglass front panel, is re-issued here in all its glory. The 1959SLP 'Plexi' head is the amp that defines classic rock tone. To ensure absolute tonal authenticity, we took a 'Plexi' head from said era, and using it as a template, our R&D experts developed a replica so exact, that sonically we couldn't tell them apart. The 1959SLP truly is the sound of rock.*" – **Marshall**

Note that the number "1959" does not refer to the build year, it's Marshall's model number.

We also have several amp models of original Plexi amplifiers, discussed in separate articles.

FRACTAL AUDIO SYSTEMS

"*The old one (Plexi 100w model) has a 2.7K cathode resistor on the first stage, the new one (1959SLP) has an 820 ohm.*"

"*Don't be afraid to turn the bass all the way down or the treble all the way up. Just like with the actual amp. For example, on the normal channel of a Plexi most people turn the bass way down. Otherwise it's too flubby.*"

Like the original Plexi, the SLP has four EL34 tubes and blasts 100 watt through (preferably) a 4x12 cabinet.

It provides two channels: Normal and Treble, and two inputs per channel. Both channels have been modeled by Fractal Audio.

The Normal channel is much less bright than the Treble channel, and has loads of bass. It lends itself for use with a treble booster.

The Treble channel can be painfully bright. A popular "mod" of the real Plexi is clipping the bright cap. In the virtual amp model that's easy to do: turn off Bright. Or adjust the Bright Cap value. Note: turning off Bright will result in noticeable loss of amp gain.

Apart from Volume controls, the amp has Bass, Middle, Treble and Presence controls.

Eddie Van Halen cranked all volume and tone controls on his Plexi. And to emulate his Variac: set the parameter “AC Voltage (Variac)” at 75 or so in the amp model.

Some players of a real Plexi use patch cables to “jumper” the inputs: 2nd input of channel 1 goes into 1st input of channel 2. This enables them to have the benefits of both channels at once. This is modeled in the “Jumpered” model of the 1959SLP. This particular amp model has two Drive controls. Set them at the same position, or keep Normal Drive lower than Treble Drive.

Like an original Plexi, the 1959SLP doesn’t have a Master Volume, so keep the Master control in the amp model cranked. Without a Master Volume control, Plexi amps rely on power amp distortion. To achieve a nice overdriven rock tone, you need to turn up a Plexi a lot. This makes it a very loud amp in real life.

FRACTAL AUDIO SYSTEMS

“One of the first mods people make to real 'Plexi' Marshalls is to “clip the bright cap”. The bright cap varied over the years, supposedly depending on what was lying around in the shop. The model defaults to the bright cap in the circuit. If you turn off Bright you're effectively clipping the bright cap. The bright cap in Marshalls can be very bright and harsh. However, if you crank the Master you might find the extra brightness helps compensate for the power amp getting darker.”

[In response to complaints about “fizzy” Plexis]
“It's the way a Plexi is supposed to sound. That's due to the cathode follower. That raspiness helps it cut through in a mix. I own three of them and they are that fizzy.”

“My settings for a “typical” Plexi tone are Bass 2, Mid 8, Treble 7.5. Adjust Presence to taste.”

If you like to experiment, turn up Supply Sag in the amp model for more compression. Note that high Sag settings may cause “ghosts notes”, similar to the real amp at high volume levels (watch the interview with J.D. Simo). If you don't want ghosts notes, set Supply Type to DC.

Another tweak is to switch on Boost in the amp model to slam the amp model's input stage for more gain.

You can’t discuss Marshall amps and leave out speakers, in particular: greenbacks. Early Marshalls were paired with 4x12” cabinets with Celestion G12M speakers. They have a sweet midrange and good bass reproduction. The rear of those speakers was green and the nickname “greenbacks” was born. They are the reason that 4x12 cabinets were designed: the G12M was only 20 of 25 watt, so you need four of them to prevent blowing them up.

Another popular speaker: the G12 Heritage (G12H). A 30 watt Celestion speaker that compresses less than a greenback and has a flatter response. It’s the “Jimi Hendrix” speaker.

Premier Guitar – JD Simo rig rundown

JD Simo's Settings:

- Bright Channel
- Bass:0, Mid:10, Treble:10, Volume:10
- Presence: to taste (around 5 or 6)
- Cabs: '69 4x12 Basketweave, with 2x 25w Greenbacks (mic'd) and 2x Weber Cerwin Vega copies (try OH Marshall 1966B), mic'd with Cascade Fat Head

Amplifier Specifications	
Years of Manufacture	1993 to 1995
Power	100 watt
Master Volume	No
Negative Feedback	Yes
Preamp Tubes	ECC83
Power Amp Tubes	EL34
Tonestack Location	POST

1987X (Marshall 1987X, Vintage Re-issue Series)

Synopsis	Models of a Marshall JMP 50 re-issue: a 50w Plexi. More aggressive than the ’60s Plexis, the 1987X is much more of the ’72 period, with a heavy, sweet/aggressive tone
Tips	The 1987X is bass-heavy, so don’t hesitate to turn that down
Clips	**Johan Segeborn comparing 1959SLP vs 1987x**
	Johan Segeborn Marshall 1987x – Better than the real thing?
	More videos, clips and comments
Cabinet/Speaker	4x12 Marshall cabinet with Celestion G12M (greenbacks) or G12H speakers
Stock cabs	Marshall stock cabs – **Cab Packs**
Web, Manual	**Vintage Re-issue Series: 1987X**
	Vintage Re-issue Series Owners Manual
Amp controls	Presence, Bass, Middle, Treble and Volume (=Drive)

The world’s greatest rock amp is a Marshall “Plexi”. These came to the market in the mid ‘60s, when Marshall and Fender started to make loud amps. These amps are referred to as “Plexi” because of the gold Plexiglass front panel, later replaced with gold aluminum. Plexis with 4x12 cabinets gave rise to the “Marshall stack”. The Plexi was built for almost 20 years and was then replaced by the JCM 800. Even today’s amp builders still design amps based around the Plexi, such as the Bogner Helios. And its looks are being copied for all kinds of guitar amps.

So why has the Plexi become such a popular amp?

> *“Many things. First and most important perhaps is the sense of dynamics and rich harmonics. No large-production amp created before or since the early Marshall plexi series has been able to capture the feel of the player through varying degrees of dynamics and coloration from the (mostly) EL34-based tube circuits of these Marshalls. Call it a lucky accident with the folks at Marshall, but they were able to create amplifiers that really responded well to the guitars that played through them. A wide palette of distortion color that is rich and full and*

> *just powerful and timeless in tone is what these amps deliver. It takes some time to really get used to playing a basic amp such as a Marshall plexi. No multi channels or reverb or effects and no master volume controls. Turn up the amp and play – play hard and the amp rewards you with fullness of tone and smooth distortion. Back off your playing and the amp will respond, and move into lighter shades of overdrive. Roll down your guitar volume a touch and you've got a warmed up clean sound. There just isn't anything like the ability to feel a set of power and preamp tubes overdriving together musically.*" – **Legendary Tones**

A Plexi is raw, unrefined, honest and touch sensitive. Hit a power chord through a Plexi and feel the explosion of sound in your face and body.

Numerous guitar heroes played some kind of Plexi: Pete Townsend, Jimi Hendrix, Jimmy Page, Angus Young, Yngwie Malmsteen, Jeff Beck and of course Eddie Van Halen.

The Plexi came in various incarnations. Many (but not all) Plexis have a JMP logo ("Jim Marshall").

The 1987X is a re-issue of the'67 Marshall JMP 50, a 50 watt Plexi. The 1987X re-issue, made in the '90s, is part of Marshall's Vintage Re-issue series. Note that the number "1987" does not refer to the build year, it's Marshall's model number.

Fractal Audio also modeled original 50-watters, discussed in separate articles.

FRACTAL AUDIO SYSTEMS

"*The 1987x doesn't have the 0.68uF cap on the last triode. Gives it a smoother distortion.*"

"*The 1987X sounds and feels really juicy. It's a very versatile amp, that can handle anything between funk and hard rock.*" – yek

"*One of my favorite Plexi Marshalls. I like the slightly darker, juicy tone.*" – yek

So in what aspect is a 50 watt Plexi different from 100 watt? Not a lot in volume, the 50-watter is also very loud, and not a lot in gain either. The 50 watt Plexi is a little more aggressive and compressed, while a 100 watt Plexi sounds more open and bigger with more "kerrang".

> "*While the 50 Watt 1987X head shares the same 'Plexi' front and rear panel features as the 1959SLP, it has its own distinctive sonic personality. More aggressive than the '60s 'Plexis', the 1987X is much more of the '72 period, with a heady, sweet/aggressive tone. These tonal characteristics are what define this much respected all-valve head.*" – **Marshall**

The re-issue has two EL34 tubes and blasts 50 watt through (preferably) a 4x12 cabinet.

It has two channels: Normal and Treble, and two inputs per channel. Both channels have been modeled by Fractal Audio. The Treble channel is not as bright as the one in the 1959SLP. The Bright switch in the amp model is off by default.

Some players of a real Plexi use patch cables to “jumper” the inputs: 2nd input of channel 1 goes into 1st input of channel 2. This enables them to have the benefits of both channels at once. This has been modeled in the “Jumpered” model of the 1987X. This particular amp model has two Drive controls. Set them at the same position, or keep Normal Drive lower than Treble Drive.

Like an original Plexi, the 1987X doesn’t have a Master, so keep the Master control in the amp model cranked. Without a Master Volume control, Plexi amps rely on power amp distortion. To achieve a nice overdriven rock tone, you need to turn it up a lot. This makes it a very loud amp in real life.

The amp has Volume controls for both channels and Bass, Middle, Treble and Presence controls.

If you like to experiment, turn up Supply Sag in the amp model for more compression. Note that high Sag settings may cause “ghosts notes”, similar to the real amp at high volume levels. If you don't want ghosts notes, set Supply Type to DC. Another tweak is to switch on Boost in the amp model to slam the amp model's input stage for more gain.

You can’t discuss Marshall amps and leave out speakers, in particular: greenbacks. Early Marshall amps were used with 4x12” cabinets with Celestion G12M speakers. They have a sweet midrange and good bass reproduction. The rear of those speakers was green and the nickname “greenbacks” was born. They are the reason that 4x12 cabinets were designed: the G12M was only 20 of 25 watt so you need four of them to prevent blowing them up.

Another popular speaker: the G12 Heritage (G12H). A 30 watt Celestion speaker that compresses less than a greenback and has a flatter response. It’s the “Jimi Hendrix” speaker.

Amplifier Specifications	
Years of Manufacture	90’s
Power	50 watt
Master Volume	No
Negative Feedback	Yes
Preamp Tubes	ECC83
Power Amp Tubes	EL34
Tonestack Location	POST

5153 (EVH 5150-III)

Synopsis	Models of all channels of Eddie Van Halen's signature amp, popular with high gain players
Tips	The Blue channel of the 50 watt amp has about twice the gain compared to the 100 watt's Blue channel. You can simulate this with the Input Trim knob
Clips	**Premier Guitar Monsters of High Gain**
	More videos, clips and comments
Cabinet/speaker	EVH 4x12 or 2x12 cabinet with Celestion G12EVH speakers
Stock cabs	4x12 5153 – **Cab Packs 5, 12 and 14**
Web, Manual	**EVH Amplification**
	EVH 5150-III Owner's Manual
Amp controls	Gain (=Drive), Low, Mid, High, Master, Presence, Resonance (50w model)

Eddie Van Halen has his own signature amps. The first two generations were designed in collaboration with Peavey, the third one with Fender. These signature amps have received much praise, especially with guitar players in the metal scene. In fact it's hard to find a non-metal video on YouTube featuring this amp. All three generations are represented in the Axe-Fx II and AX8. This article discusses the 5150-III, very popular with high gainers. **Eddie talks about the 5150-III**.

FRACTAL AUDIO SYSTEMS

"IMO, it's a very good amp. The build-quality is great and the design is very good. It is similar to the previous versions but voiced a bit different. Personally, I think all of the 5150's have more gain stages than necessary which just makes for unnecessary failure points but the "OMG, this amp has sooo many toobz it must sound awesome" marketing makes it understandable. It's incredibly heavy though."

The 5150-III has three channels: Green (clean), Blue (crunch) and Red (lead).

The Green channel is not just for clean tones. Crank it for Plexi-like tones.

Fractal Audio has modeled all three channels of the 100 watt head, plus the Blue channel of the 50 watter. The Red channel model has the Bright switch enabled by default, the others don't.

On the 100 watt head each channel has its own controls: Gain, Low, Mid, High, Master Volume, and Presence.

The 100 watt version has four 6L6 tubes.

The smaller 50 watt model has two 6L6 power tubes, shared EQ controls, a master Presence control, an additional Resonance control (amp model: Depth) and much more gain in the Blue channel.

The amp has a Master. This means that the amp's distortion is created in particular by the preamp tubes, not the power amp. The Master Volume, which works in the power amp section, is still very important to the tone and feel. You have to decide for yourself what setting in the amp model works best. The default setting is a good point to start of course.

FRACTAL AUDIO SYSTEMS

"The 50W version has a different input network than the 100W version for that channel (Blue). The 50W version has about twice the gain as a result. Otherwise things are pretty similar. You can simulate this using the Input Trim knob. The red channels (of 50w and 100w models) are identical."

"A 5150 uses a fixed bias with no adjustment. Depending on the tubes used the bias can run from average to cold. The model uses average. Some people like a colder sound. If you prefer your amps biased cold, then reduce the bias parameter to taste."

In older firmware versions the Saturation parameter was engaged in the Blue and Red amp models. This is no longer the case.

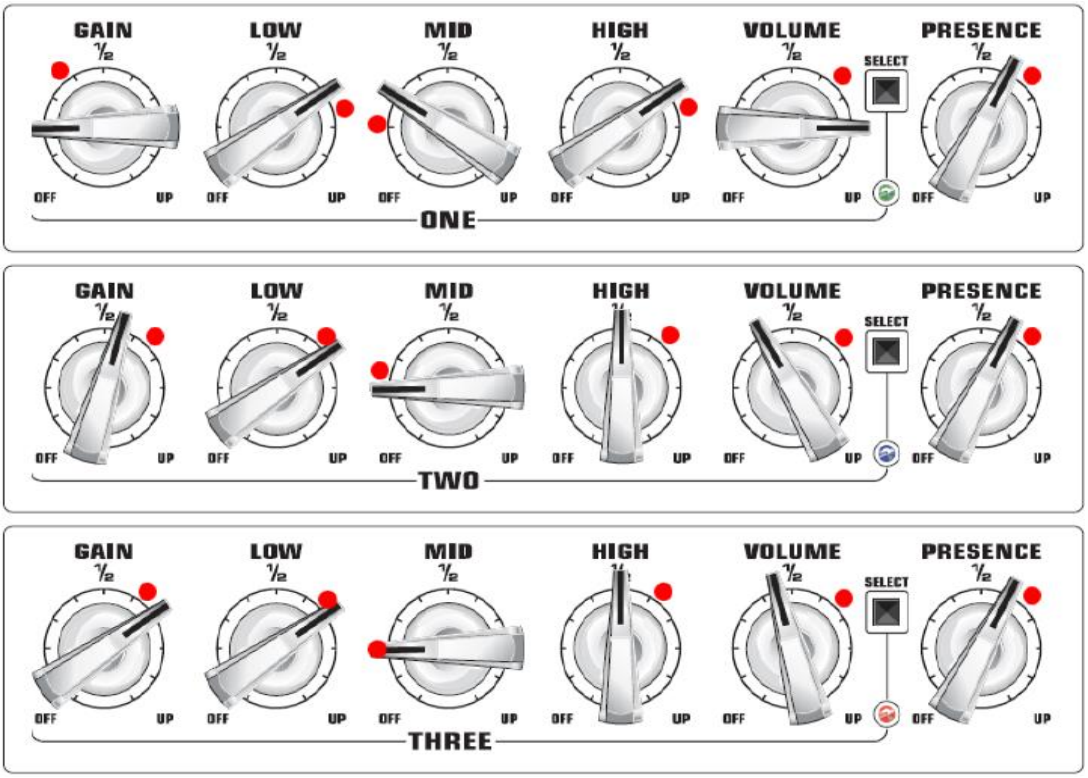
EVH cabinets are equipped with custom speakers. In the 5150-III these are Celestion G12EVHs. Check the wiki for 5150 stock cabs: 4x12 5153.

Amplifier Specifications	
Power	100 / 50 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A
Power Amp Tubes	6L6/5881
Tonestack Location	POST

More EVH information:

- **Eddie's amp settings**
- **Guitar World: Eddie Van Halen reveals secrets behind his live rig: guitars, amps, effects and more**

Recommended settings according to the **owner's manual**:



Source picture: **JMA's Amp & Cab Quick Reference Guide**

AC-20 (Morgan AC20 Deluxe)

Synopsis	Models of a Morgan AC-20, a VOX-type amp, with 12AX7 and EF86 preamp tubes
Tips	For authenticity keep all tone controls in the models at default, except Hi-Cut. Keep Drive low for clean tones. Try the EF86 models with single-coils and 12AX7 with humbuckers "*As with the real amp I dial in quite a bit of Hi-Cut*."
Clips	**Rhett Shull** **More videos, clips and comments**
Cabinet/speaker	1x12 or 2x12 cabinet with Celestion G12H or Celestion Gold speaker(s)
Stock cabs	AC-20 – **Cab Pack 4**
Web, Manual	**Morgan AC20 Deluxe** **AC20 Deluxe Instruction Manual**
Amp controls	Cut (=Hi-Cut), Volume (=Drive), Brilliant switch, 12AX7/EF86 switch

The AC-20 models are based on a Morgan AC20 Deluxe. It's a popular EL84-equipped 20 watt boutique amplifier that looks like a mini Plexi. Sounds like a VOX and according to many: far superior.

> "*The Morgan AC20 Deluxe is a deceptively simple amplifier that is capable of producing a myriad of early 60s British tones but that is just the beginning. The switchable EF86 tube helps to make the range of tones from the cleanest of EL84 chime to ferocious high gain growl. The power level control allows you to dial in just the right amount of volume without sacrificing your tone the way some master volumes do. The AC20 Deluxe was created to solve modern guitar player amplifier issues with the ability to stay true to vintage tonality. It is equally at home in the studio or on the stage. It can be seen on the stages of superstars like Jeff Tweedy, Tim McGraw, The Band Perry, Taio Cruz and with Toshi Yanagi on Jimmy Kimmel Live. Plug into the AC20 Deluxe and you will instantly notice the familiar chime and compression of the Class A EL84 driven output section. The amplifier's extreme touch-*

sensitivity will allow you to coax clean tones even at the highest of gain settings. To quote Keith Armstrong (Chief Engineer at Mix LA) "It is impossible to get a bad sound out of this amp!" (…) The AC20 Deluxe uses 3 separate switches to give you all of the original early 60's EL84 tonalities, Normal, Brilliant and EF86. Never has such a deceptively simple amp had so many tonal options. Handwired in the USA." – **Morgan**

"*It's a delicate tone. The AC-20 sounds intimate and "small" in a good way."* – yek

"*When I need a VOX-like sound, I tend to choose the AC-20. This is one of the gems in the amp collection."* – yek

FRACTAL AUDIO SYSTEMS

"*As with the real amp I dial in quite a bit of Hi-Cut."*

The Morgan amp doesn't have tone controls, apart from Cut (amp model: Hi-Cut) which attenuates highs, a Bright switch, a Brilliant switch (which cuts bass) and a 12AX7/EF86 switch. For authenticity, keep all tone controls in the models at default, except Hi-Cut. The amp models have the Bright switch enabled. If that's too bright, turn it off or adjust Hi-Cut. Don't hesitate to use very low Drive settings for a clean tone.

The amp's modes are captured in separate amp models. 12AX7 is glassy and has sparkle, EF86 is full-bodied and fat. Increase Drive and the EF86 gets a lot more distorted than the 12AX7. Some players use the EF86 with single coils pickups and the 12AX7 with humbuckers, for matched response.

The original AC20 Deluxe also features power scaling (not modeled).

FRACTAL AUDIO SYSTEMS

"*The AC-20 model is based on the amp with the power scaling at maximum power which effectively disables it (and sounds best IMO)."*

The Morgan pairs well with G12H or Alnico Gold speakers. Use the AC-20 stock cabs.

Amplifier Specifications	
Power	20 watt
Master Volume	No
Negative Feedback	No
Preamp Tubes	12AX7A (Syl), EF86
Power Amp Tubes	EL84
Tonestack Location	POST

Angle Severe (Engl Savage 120)

Synopsis	Models of an Engl Savage 120, a very high gain amp, Channel 2 in “Rough” mode which emphasizes highs and lows
Tips	Angage the Boost switch
Clips	**Engl TV**
	More videos, clips and comments
Cabinet/speaker	4x12 Engl cabinet with Celestion V30 or V60 speakers
Stock cabs	4x12 German V30 (RW) – **Cab Pack 19**
Web, Manual	**Savage 120 (current edition)**
	Engl Savage 120 Operator’s Manual
Amp controls	Gain (=Input Drive), Lead (=Overdrive), Contour, Bass, Middle, Treble, Rough/Smooth switch, Depth Boost switch, Master, Presence

The Powerball was the first virtual model of an **Engl** amp in the Axe-Fx. People kept begging for a amp model of the Savage which was introduced in firmware 14 and immediately gained a lot of fans, who often label it as the best amp model for metal.

The Savage is a German 120 watt high gain monster with four channels: Main 1 Clean / Crunch and Main 2 Crunch 2 / Lead. It uses two 6550 power tubes, rated at 120 watt (80 watt continuously) and has loads of preamp gain. Ritchie Blackmore’s signature amp is based on the Savage. Other famous Engl players include Steve Morse and Thin Lizzy.

Fractal Audio has modeled Main 2 Lead in Rough mode. As described in the **manual**: “*emphasis on high and low ends. Use Bass sparingly*.”

- The “Angle Savage 1” amp model was created with Channel 2's Contour switch turned off, boosting the lower midrange around 500 Hz for a warm tone.
- The “Angle Savage 2” amp model was created with Channel 2's Contour switch turned on, boosting from 1200 Hz and cutting the lower midrange for more transparency.

It's a high gain amp with a Master. This means that the amp's distortion is created in particular by the preamp tubes, not in the power amp. The Master Volume, which works in the power amp section, is very important to the tone and feel. You have to decide for yourself what setting in the amp model works best. The default setting is a good point to start of course.

The controls on the original amp's channel are: Gain, Lead, Master, Bass, Middle, Treble, Contour, Rough/Smooth, Depth Boost (6dB at 80Hz) and Presence.

(about Presence)

"*From noon and up it's a presence boost, from noon down it's a presence cut.*"

"*Input Drive increases the gain amount as you rotate the knob clockwise. As the gain increases the tone is shifted from a treble and upper mid emphasis, which produces an up front sparkling tone, to a lower mid and bass emphasis, which produces a thick meaty tone. Overdrive increases the gain amount as you rotate the knob clockwise but with no alteration of the tonal balance.*

Different combinations of Input Drive and Overdrive settings will have a dramatic effect on the response of the amplifier and the personality of your instrument. It is easy to get familiar with the action of these controls and you'll be amazed with your ability to make any guitar sound mellow, fat, soulful or aggressive."

The amp features two gain controls: Gain and Lead (model: Input Drive and Overdrive). On all amps like this, including those by Dumble, Fryette, Carol-Ann and MESA, the first control sets the sensitivity and the second one sets the amount of distortion.

Models with separate Input Drive and Overdrive controls always feel elastic and spongy, a real joy to play.

For even more gain, engage the Boost switch in the amp model.

Engl uses Celestion V30 and V60 speakers. There are many V30s IRs among the stock cabs. The 4x12 German V30 is the IR of an Engl 4x12 PRO cabinet with V30s, created by Red Wirez. The Red Wirez stock cabs have been captured using an neutral microphone, so consider adding a mic model in the Cab block.

Amplifier Specifications	
Power	120 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	ECC83
Power Amp Tubes	6550
Tonestack Location	POST

Atomica (Cameron Atomica)

Synopsis	High and low gain models of the Cameron Atomica, which reproduces the "brown sound" of a Jose Arrendendo-modified Super Lead Plexi
Tips	For grinding high gain, crank Bass, Mids and Depth, increase Treble and Presence, set gain around 6
Clips	**Cameron Atomica 80's Rock!** **More videos, clips and comments**
Cabinet/speaker	4x12 cabinet with Celestion G12H speakers
Amp controls	Thump (=Depth), Presence, Bass, Middle, Treble, Master, Gain (=Drive), Edge switch (=Bright), Gain Style switch

The Cameron Atomica was built to reproduce the legendary "Brown Sound" of a mysterious Super Lead Plexi, modded by Jose Arrendendo, and supposedly sounding like the best thing ever. That Plexi had a label on it that said: "Atomica". Before it got lost, amp modder Mark Cameron got his hands on it and examined its insides. His findings led to the creation of the Cameron Atomica. Well, that's the story. There was a long waiting list for this amp but it was built for a short time only. The whole thing turned into a mess. People's orders weren't fulfilled, people lost money etc. Cameron and others involved fought it out online, it's all on **Rig-Talk**.

The Atomica is a 100 watt head with EL34 tubes. It has L(ow) gain and H(igh) (additional gain stage) inputs, which are available as separate models.

It's an amp with a Master. This means that the amp's distortion is created in particular by the preamp tubes, not in the power amp. The Master Volume, which works in the power amp section, is still important to the tone and feel. You have to decide for yourself what setting in the amp model works best. The default setting is a good point to start of course, but don't hesitate to turn it up.

"The Atomica can tolerate high MV because it is a "Jose-style MV". The Jose-style MV imparts a very high source resistance to the tone stack which causes much more insertion loss and therefore lower drive level into the power amp."

The controls on the original amp are: Thump (amp model: Depth), Bass, Middle, Treble, Master, Gain (amp model: Input Drive), Edge switch (amp model: Bright switch, defaults to off), Presence. Plus a Gain Style knob at the rear which selects between three voicings.

Presence at default is set pretty modest. You might want to turn that up in the amp model.

Tone tips from Paramore's Justin York (Fractal Audio user):

> *"If you want grinding high gain, don't be afraid to dime out bass, mids, and depth, and then set your treble and presence fairly high (7-ish range). I keep my gain around 6 and master volume at 5."*

In both amp models Saturation is engaged. This attributes to the mean sound, especially in the High model. That amp model cuts like a knife and has a great aggressive growl. The Cameron CCV-100, discussed in a separate article, sounds even meaner, and much brighter.

The amp head is often used with 4x12 cabinets with G12H speakers. Alternatively you can use the EVH stock cabs with these amp models.

Amplifier Specifications	
Power	100 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A (JJ)
Power Amp Tubes	EL34
Tonestack Location	POST

Band-Commander ('68 Fender Bandmaster, AB763)

Synopsis	Model of a ’68 silverface Fender Bandmaster with blackface AB763 circuit, screaming: “Play a John Mayer tune”
Tips	Sounds awesome at stock settings
Clips	**Music Store Live Demo** **More videos, clips and comments**
Cabinet/speaker	Fender cabinet with two Jensen or Oxford 12” speakers
Amp controls	Volume (=Drive), Bright switch, Treble, Bass

Maybe not as famous as some of the other Fender amps, but the Bandmaster with the AB763 circuit is considered to be a “holy grail” Fender.

This amp has the looks of a silverface Fender, the period between 1967 and 1981 following the blackfaced Fenders. Silverfaces are commonly labeled as less desirable. But this amp has the AB763 circuit from the blackface period, considered to be the best version produced for this amp, so you may as well regard this amp as a blackface version. This “hybrid” Bandmaster was produced shortly by Fender, before the introduction of lesser-quality circuits. **More information**. Do not confuse this version with the earlier Tweed Bandmaster or later Bandmaster Reverb.

> “*In August 1967, Fender changed the cosmetics once again, this time to the silverface style. The earliest of these (Aug. ’67 to July ’68) had aluminium grill trim, black vertical lines on the control panel, and a highly textured version of the famous silver/blue sparkle grill cloth. In addition, the speaker cabinet was enlarged and ported. In June 1968, the Bandmaster was given the infamous AC568 silverface circuit. The amp shown here is one of the very last silverface Bandmasters produced with the blackface AB763 circuit.*” – **Ampwares**
>
> “*Not all silverface amps were developed in a bad direction. Let’s study the blackface Bandmaster AB763 and Bassman AA864. They are similar in the way that both are clean sounding with just one 12ax7 tube in the preamp stage (vibrato ch in bandmaster and normal channel in bassman). The vibrato channel in the Bandmaster is even more clean than the Bassman because of the vibrato circuitry loading the signal chain and reducing the gain*

level in the preamp section. Hence, the AA864 Bassman normal channel has more preamp "juice" and reaches the sweet spot at an earlier volume knob setting. The Bassman has a slightly bigger output transformer resulting in a firmer tone and more attack. A smaller output transformer will introduce sag and compression in the power amp section. The blackface Bandmaster is therefore ideal for those who look for a pure Fender clean sound without making ones ears bleed. The blackface and silverface Bandmaster is a big sounding amp with a flexible speaker impedance of 4 ohm, allowing anything between one and four speakers (8 ohm each) to be connected via the main and/or external speaker jack. This makes it possible to adapt to small and big stages and gigs just by configuring the speakers."
– **Fenderguru.com**

This amp is rated at around 40 watt through two 6L6 tubes. It has Normal and Vibrato channels. The amp model is based on the Vibrato channel.

It's an amp with a lot of headroom. When it does start to break up, it produces a nice overdrive. Its overall sound is very balanced and doesn't need much tweaking.

The original amp controls are: Volume Bright and Volume Normal, Treble, Bass and a Bright switch. There's no Middle tone control, so keep this at default in the amp model for authenticity. No Master Volume either, so keep the Master control in the amp model cranked.

Note that the range of the controls is 1- 10, so you can't copy those settings exactly to the amp model controls (which start at 0). To translate the settings, use the **table at the back of this guide**.

The Bandmaster offers two inputs per channel. Fractal Audio's models of Fender amps are always based on the input with the highest level. To get the equivalent of the lower input, set Input Trim to 0.500 in the amp model.

This Bandmaster amp matches with a 2x12 cabinet with 12" Jensen or Oxford speakers. Use a 2x12 stock cab such as 2x12 Double Verb.

Amplifier Specifications	
Year of Manufacture	1968
Circuit	AB763
Power	40 watt
Master Volume	No
Negative Feedback	Yes
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	6L6/5881
Tonestack Location	PRE

Big Hair (FAS custom model)

Synopsis	Custom amp model by Fractal Audio, similar to a '80's JCM 800
Tips	For more '80's revival, add a "detune" Pitch block after the CAB block and a circular delay
Clips	**More videos, clips and comments**

Fractal Audio has added a considerable number of custom amp models to the collection. These virtual amps have no real-life equivalents. They solely exist within the Axe-Fx II and AX8, surpassing the electronical limitations of traditional amps. An advantage of the custom models is that most sound great at default settings.

The Big Hair amp model dates back to the first Axe-Fx generation when there were not as many amp models as now. According to the manual, it delivers "*mids without mud, and revives the '80's metal scene (Spandex not included)*".

FRACTAL AUDIO SYSTEMS

"It was a total guess. I just tuned it by ear. It's just my idea of what 80's hair metal might sound like."

So the Big Hair amp model should probably sound like a JCM 800. And it does. Just compare it to the Brit 800 Mod amp model with a low-gain "T808 OD" Drive block in front of it.

For more '80's revival, add a "detune" Pitch block and a circular delay after the CAB block.

A logical cab choice would be the IR of a 4x12 Marshall cab with G12M, V30 or G12-75 speakers.

Blanknshp Leeds (Blankenship Leeds 21)

Synopsis	Model of a boutique replica of an 18 watt Marshall Mini Bluesbreaker
Tips	Crank volume (amp model: Input Drive) and Tone (amp model: Treble), then use your guitar's volume knob to control volume and amp gain
Clips	**Premier Guitar review of Blankenship Amps**
	More videos, clips and comments
Cabinet/speaker	Cabinet with one or two Celestion G12H or G12M speakers
Web, Manual	**Blankenship Clone Amps**
Amp controls	Tone (=Treble), Volume (=Drive)

The Leeds 21 is a 21 watt head with EL84 tubes. It's the boutique replica of a famous and expensive 18 watt open-back Marshall, often referred to as "Mini Bluesbreaker" or "18 watter". That Marshall is placed 16th on **Vintage Guitar's list of most valuable amps**. Marshall manufactured a couple of **re-issues**. This mini Marshall and its clones, such as the Blankenship, are known for sounding "big" despite being relatively low power. **More information**

The original 18w Marshall came in three flavors:

- 2x10" (model 1958)
- 2x12" (model 1973)
- 1x12" (model 1974)

> "*As Blankenship explains in the video, the best way to use this thing is to max out the Volume (Input Drive), turn up Tone (Treble) to your liking and then use the guitar's volume knob to regulate the gain. So simple, so awesome.*" – yek

"The model was matched to Dweezil's amp. He loaned it to me because it was one of his favorite amps and I can see why. It's a really cool amp."

"The amp has no hi-cut circuit therefore the control won't do anything. Neither will the Depth."

"18W Marshalls are kind of a bad design. The phase inverter drives the power tubes too hard whioch results in excessive bias excursion."

The Blankenship has two channels: one with tremolo and one without.

The amp controls are simple: Volume, Tone and tremolo controls. The Tone knob is mapped to the Treble control in the amp model.

Marshall's re-issue has a 20 watt G12M speaker. The Leeds 21 combo uses two G12H speakers. Take your pick from the Marshall stock cabs, or try the IR of a smaller cab/speaker such as the Triptik, Nuclear Tone, Scumtone or Division 13.

Amplifier Specifications	
Power	18 watt
Master Volume	No
Negative Feedback	No
Preamp Tubes	ECC83
Power Amp Tubes	EL84
Tonestack Location	POST

Bludojai (Bludotone Ojai)

Synopsis	Models of the Bludotone Ojai, a clone of Robben Ford's "Tan" Dumble Overdrive Special
Tips	Maybe one of the easiest models to create a singing Dumble lead tone
Clips	**Bludotone Ojai Tone Test** **Bludo-Drive by Bludotone** **More videos, clips and comments**
Cabinet/speaker	1x12 or 2x12 Bludotone cabinet with G12-65 speaker(s)
Stock cabs	1x12 Bludo – **Cab Pack 17**
Web, Manual	**The Bludo-Drive**
Amp controls	Volume (=Input Drive), Bright switch, Mid switch, Rock/Jazz switch, Treble, Middle, Bass, Overdrive Drive (=Overdrive), Overdrive Volume, Master and Presence

The Ojai is an exact copy of Robben Ford's personal **"Tan" Dumble Overdrive Special**. When you Dumble, you say Robben Ford, and vice versa. It's sort of an authorized clone: Robben Ford owns a Bludotone Ojai.

Dumble is THE most expensive amplifier available, no.1 on **Vintage Guitar's list of most valuable guitar amps**. Famous Dumble players include Robben Ford, Larry Carlton, John Mayer, Carlos Santana, Keith Urban, SRV, Eric Johnson, Joe Bonamassa.

There's always a lot of talk on the internet forums about Robben Ford's Dumble tone. It's an elusive tone, worshipped by a lot of jazz / blues / fusion players. Thick, mid-heavy, smooth and very touch-sensitive lead tones. That trademark tone is not for everybody: hit a power chord and it may terrible to your ears. The "note flip" is a certain tonal characteristic attributed to the Dumble and some of its clones. So what's this mysterious note flip? Quote: "*It sounds KIND of like it's starting to feed back, but it's not. It flips the note up so that a different harmonic order is heard, or something like that*".

There's more to Dumble than Robben Ford's tone. Each Dumble was voiced specifically for its buyer by Alexander Dumble. Replicating an original Dumble amp is hard. The amp's circuit often has "goop" all over it, hiding the electronics. Howard Alexander Dumble retired in the '90s. They say there are less than 300 Dumble amps. **More info on Wikipedia**

The Ojai is a 100 watt amp with 6L6 tubes. Ojai is the name of the city where Robben Ford lives. The amp is part of **Bludotone's line of Bludo-Drive amps**.

> "*The Ojai is an exact copy of Dumble #102. Robbens tan Dumble. It also requires the Dumbleator and specific capacitance cables to run to and from the Dumbleator (about 180-200pf per cable). This due to the large bright cap on the amp master. All controls are marked in silver sharpie for the exact settings of Robbens tone. The pot tapers are all 30% audio taper, except the treble control, presence, and the OD in/outs which are linear. Robben sets his mids at about 70K from ground.*" – The Gear Page

The Ojai has two inputs: FET and normal. The FET input has a different impedance. The amp models are based on the Normal input.

The amp has two channels: Clean and Overdrive. The Clean amp model is based on Ojai's clean channel with Preamp Boost (PAB) turned off. The foot switchable PAB bypasses the tonestack and increases gain. There are two virtual models of the Overdrive channel: one with PAB engaged and one without.

The other controls on the original amp are: Volume for each channel, shared tone controls (Treble, Middle and Bass), Overdrive on the OD channel, Master and Presence, and three switches which work on both channels:

- Bright: adds sparkle, less noticeable when the volume is turned up
- Mid: boosts the mids for more gain, like the FAT switch in the amp model
- Rock/Jazz: the Jazz setting applies some low-pass filtering

On the real amp the first two switches are often turned off and Rock/Jazz is often set to Rock, so the amp models were created like that.

There are two gain controls on the Overdrive channel: Volume and Drive (amp model: Input Drive and Overdrive). On all amps like this, including those by Engl, Fryette, Carol-Ann and MESA, the first control sets the sensitivity and the second one sets the amount of distortion. Models with separate Input Drive and Overdrive controls always feel elastic and spongy, a real joy to play.

It's a Master Volume amp. This means that the amp's distortion is created in particular by the preamp tubes, not in the power amp. The Master Volume, which works in the power amp section, is still very important to the tone and feel. Decide for yourself what setting in the amp model works best. The default setting is a good point to start of course. Master Volume has a bright cap switch on it: when you turn it down, it gets brighter to compensate.

The Ojai amp models are based on an amp, owned by forum member Austinbuddy. He writes:

> "*The model is of a 100w 6L6 BludoDrive Ojai by Bludotone amps. The Ojai has the same schematic as the famous "Tan" boutique amp played by Robben Ford (Rumble).*"
>
> "*The Bludojai is a Robben Ford voiced amp. Pair it with a G12-65H speaker. Cab Pack 17 has many choices (full disclosure, I produced 5 of the 6 Cabs in that Cab Pack). The BludoMix Cab in factory firmware is a 1x12 Alnico dual port cab, and will sound good but perhaps a tad darker (great for Jazz) on clean sounds than the G12-65H will. Now, if you like, put a Zen*

drive in front on the BludoClean amp....or a boost...and listen to how that clean channel wakes up fast for grittier leads and touch-responsiveness."

"*For BludoLead, take the Lead default amp values. Put the Master Volume on 5. Put drive at 4-5 and Overdrive at 4-5, and experiment with the tone stack swaps above. If you want the amp to feedback effortlessly on a note, raise the overdrive setting higher combined with the gain, provided you have sufficient volume coming out your speakers to hit your guitar pickups in a reinforcing loop, it will do it! Throw a boost or Zen drive on that, if you like.*"

"*Cab Pack 17 also has the oval-back 2x12 cabinet with Celestion G12-65H speakers which Robben uses live. Be sure to play with the speaker resonance in the amp block (lower it to around 75-85) to compensate for the open-back cab and get your bottom end correct!*"

For the Robben Ford trademark tone, you'll need the G12-65 speaker. There is no near-field IR of a G12-65 among the stock cabs. But you can get them in **Cab Pack 17**, which was co-produced by Austinbuddy.

Or try stock cab 1x12 Bludo. It's an IR of Austinbuddy's dual-ported 1x12 closed-back cab with a modern replacement for an EVL-SRO: the Blackhawk Alnico WGS.

The 2x12 Double Amp stock cab also works well, because it's the IR of a Two-Rock CR12 speaker that sounds like a G12-65.

Amplifier Specifications	
Power	100 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	6L6/5881
Tonestack Location	MID (Clean) POST (Lead 1) PRE (Lead 2)

Bogfish (Bogner Fish preamp)

Synopsis	Models of the Strato and Brown channels of a Bogner Fish preamp
Clips	**More videos, clips and comments**
Web, Manual	**Fish Preamp**
Amp controls	Volume (=Drive),Treble, Middle, Bass, Volume (=Master)

Bogner is a guitar amplifier manufacturing company, founded by the entertaining and eccentric Reinhold Bogner. The Fish is his all-tube preamp from the '90s, famous for its use by Jerry Cantrell of Alice in Chains. It was re-issued for a short time.

> *"The Fish preamp was created in 1989-90 and ushered in a new era of boutique design and tone. It featured 4 channels: Country, Strato, Shark and Brown that covered a wide range of tones from crystalline clean to heavy modified amps tones all within a 2-space rack mountable chassis."* – **Bogner**

We have models of the Strato and Brown channels of the Fish. The Brown channel has the most gain. Fractal Audio uses the power amp model from the Euro models (Bogner Ecstasy).

The amp's controls are simple: on the original preamp the Stratos and Brown channels share Treble, Middle and Bass controls and have their own gain controls.

"I was a "Bogner man". I owned various Bogner Ecstasy models. It was my mainstay amplifier before I got the Axe-Fx Ultra. I never played the Fish preamp. The Fish certainly is a different type of amp / model for that matter. Not as thick as the trademark Bogner tones, less depth, slightly papery." – yek

FRACTAL AUDIO SYSTEMS

"I used the power amp models from the XTC."

Amplifier Specifications	
Years of Manufacture	1990s
Preamp Tubes	ECC83
Tonestack Location	POST

Boutique (Matchless Chieftain)

Synopsis	Models of the Matchless Chieftain in normal and boosted modes
Tips	The Bass control has a very wide range, excessive amounts can cause floppiness and lack of definition at high volume settings. Use Hi-Cut to tame the brightness
Clips	**Matchless Chieftain**
	More videos, clips and comments
Cabinet/speaker	2x12 Matchless cabinet with a G12M and a G12H speaker
Stock cabs	2x12 Boutique – **Cab Pack 10**
Web, Manual	**Chieftain**
	Matchless Clubman / Chieftain Manual
Amp controls	Volume (=Drive), Bass, Mid, Treble, Brilliance (=Hi Cut), Master

Matchless was part of the boutique amplifier craze in the 'late 80s, early 90s. Hence the name of this amp model. One of its founders was Mark Sampson and the amplifiers that were made during the time he worked at Matchless are considered the best ("Sampson-era"). Matchless amps are often associated with country music (Nashville) but they are also used by artists like Kings of Leon and Dave Grissom. **More information**

Matchless takes Class-A tone to a higher level. The C-30 is their most famous amp (also modeled by Fractal Audio). The Chieftain is not as famous but a fine amp in its own right.

It's a single channel 40 watt amp, with a single input jack and two EL34 tubes. Medium-gain, thick yet crisp, with a fair amount of power amp breakup. The preamp on the Chieftain Reverb has a 12AX7 tube for the first preamp and an EF-86 (6267) tube in the tone control circuit.

The Volume control sets the gain of the first preamp stage, acting as a sensitivity and drive control.

Bass, Mid and Treble are interactive. The Bass control has a very wide range, excessive amounts can cause floppiness and lack of definition at high volume settings.

The Brilliance control adjusts the overall high-frequency response of the power amplifier. It is used to smooth out high-frequency edginess or bring it forward. It offers extra flexibility and tone shaping by widening or narrowing the broad-band response of the amplifiers. Brilliance is mapped to the Hi-Cut control in the amp model. Default is "0" but you may like it higher to tame the brightness.

The Master control adjusts the overall gain of the output amplifier. For maximum clean headroom set Master to its maximum position. For dirtier tones, lower the Master and turn up Volume.

Read the manual for more information about the controls.

There are two models of this amp, named "Boutique". "Boutique 2" is a model with a boost for more gain and high-frequency emphasis.

Matchless amps commonly use a combo of G12H / G12M speakers. Try the 2x12 Boutique stock cabs.

> "*The Boutique 1 model with Master cranked, Hi-Cut around 12 o'clock, low Bass and Input Drive anywhere between 2 and 6, is a delight to play. I love the power amp compression created by the high Master setting.*" – yek

Amplifier Specifications	
Power	40 watt
Master Volume	Yes
Negative Feedback	No
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	EL34
Tonestack Location	PRE

Brit 800, Brit 800 Mod and Brit 800 #34 (Marshall JCM 800)

Synopsis	Models based on the Marshall JCM 800, the '80's classic rock amp
Tips	A stock JCM 800 is very harsh at lower volume levels. To make it sound less brittle, turn up Master, or drastically reduce Treble and Presence
Clips	**Johan Segeborn JCM800 Comparison**
	More videos, clips and comments
Cabinet/speaker	4x12 Marshall cabinet with G12M, G12H or V30 speakers
Stock cabs	Marshall stock cabs – **Cab Packs**
Web, Manual	**Vintage Re-issue Series: JCM 800 2203**
	JCM 800 2203 (Vintage Re-issue) Owner's Manual
Amp controls	Presence, Bass, Middle, Treble, Master and Pre-Amp Volume (=Drive)

Some amplifiers define an era or a particular style in music. The JCM 800 is such an amp. It'll always be associated with hard rock in '80s and '90s. Slash, Iron Maiden, Slayer and the list goes on.

"JCM" denotes Jim Marshall's initials. "800" indicates the decennium in which the amp was made. Followed by the JCM 900 series in the '90s and the JCM 2000 series in the new millennium.

We have three "Brit 800" amp models:

- Brit 800: based on a Marshall JCM 800, model 2204 (50w)
- Brit 800 Mod: custom amp model of a modded JCM 800
- Brit 800 #34: based on a JCM 800, modded by Santiago to sound like rental amp #34 from the company S.I.R., which was used on a few parts on the Appetite for Destruction album.

Model 2204 means 50 watt. Model 2204 means 100 watt. The regular Brit 800 model is based on the 50 watter.

"It's a vertical input Canada export version. I went through several before settling on this one as it was the best sounding by far."

"*Some of them are really dull. We have two 50 watters. One is a Canadian export with bat-handle switches and sounds glorious. All nasty and spitty and full of "artifacts". The other is a "regular" one with the rocker switches. It sounds like it has a blanket over it in comparison. Our model is based on the Canadian one. Oh, and I should add that someone removed the bright cap from the Canadian one. Probably because it's so nasty with it in. I installed a new one to bring it back to it's original glory. The key to JCM800's is to crank the MV to overcome the brightness of the preamp.*"

The JCM is a single-channel amp with Low and High Sensitivity inputs. The model is based on the High input. It's equipped with EL34 or 6550 tubes.

The amp has Presence, Bass, Middle, Treble, Master and Pre-Amp Volume controls.

A stock JCM 800 is a very harsh amp at lower volume levels. To make it sound less brittle, turn up Master Volume or drastically reduce Treble and Presence. This applies to the amp model too. Another way to make the amp model less bright, is to turn off the Bright switch. This is equivalent to removing the treble peaker on the real amp.

"*It is a very bright model. However, it sounds exactly like the amp it was based on. If it is too bright, you can adjust the various tone controls and parameters to reduce the brightness to your tastes. They are designed to be run loud and the brightness decreases as the MV is increased. The sound of '80's hair metal for sure.*"

"*Rips my head off here. I have to turn the presence way down. Check the MV. Too high and will get muddy.*"

"*Those amps are all designed to get their character from power amp distortion. If you don't push the power amp all you are hearing is the preamp which is voiced to be trebly. The power amp then compresses the highs and the sound gets fatter.*"

"*That "interference" is due to all the treble peaking used in the design. JCM800s have quite a bit of treble boost. When you first attack the string the note is unpitched. It's basically a brief explosion of noise. The treble boosting amplifies the upper frequencies of this noise burst which is what you hear. However, when you playing in a loud mix that treble boosting helps the sound cut. Modern designs use more carefully crafted treble boosting to retain the cut but tame some of the harshness of the attack. This is accomplished typically by putting a capacitor in parallel with the plate resistor(s) which rolls off around a few kHz. This preserves the treble boost in the upper midrange but softens the attack. I believe the SLO100 was one of the first amps to do this. You can see*

this in the Axe-Fx II as your Triode Freq parameters. You can soften the JCM800 attack by lowering the Triode Freq values. Most modern hi-gain designs use some form of HF rolloff like this. Another reason is that JCM800s use relatively low amounts of negative feedback (which is why they're so loud). This causes a treble boost in the power amp. Increase the Damping parameter to increase the negative feedback."

"It also reduces the lowpass filtering due to the Miller capacitance of the PI. At low MV the source resistance into the PI is low which raises the highpass frequency due to the coupling cap and raises the lowpass frequency due to the Miller capacitance and snubber. As you increase the MV the source resistance increases which decreases both of these things. As you keep raising the MV the source resistance then starts to decrease as you get above 50% of the pot value."

It is common practice to use a pedal such as a Tube Screamer to shape the tone and distortion of the JCM 800 and keep the bass tight. Set the pedal's gain low and turn up its level. This can be done with the amp models too.

A JCM is an angry-sounding amp. Adding the renowned "Jose Arrendendo mod" makes it even meaner. This is accomplished by turning on Saturation in the amp model. Alternatively, or combined with Saturation: turn on Boost in the amp model for even more gain. Another tweak is to move the Master Volume to Post PI (Post Phase Inverter) in the amp model.

FRACTAL AUDIO SYSTEMS

"It's called PPI MV or the "Lar-Mar Mod"."

The Brit 800 Mod amp model represents a JCM 800 with common modifications to make it sound heavier and less strident.

The Brit 800 #34 model implements "Santiago #34"modifications, which make it sound like rental amp #34 from the company S.I.R., which was used on parts on the Appetite for Destruction album. We already have such a model: Brit AFS100 1. Just like the two real amps, the models sound different.

The Brit 800 pairs well with a lot of Marshall cabs. Take your pick from stock cabs of 4x12 cabinets with G12M or G12H speakers, the higher-powered G12-75 or V30.

Amplifier Specifications	
Power	50 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	ECC83
Power Amp Tubes	EL34/6550
Tonestack Location	POST

Brit AFS100 and Brit Super (Marshall AFD100, Slash's signature amp)

Synopsis	Models of Slash's signature amp, providing the sounds of the Appetite for Destruction album. The amp has two modes: #34 which is a modified JCM 800 and AFD which is based on a modified Superlead Plexi
Tips	According to the amp's manual, Slash sets all controls around 1 o'clock. And use a Les Paul, of course
	More videos, clips and comments
Clips	**AFD100 Launch Video**
Cabinet/speaker	4x12 Marshall cabinet with V30 speakers
Stock cabs	Marshall stock cabs – **Cab Packs**
Web, Manual	**AFD100 Slash Signature Series Amplifier Owner's Manual**
Amp controls	Presence, Bass, Middle, Treble, Master and Gain (=Drive)

You should be listening to Gun 'N Roses' Appetite For Destruction while reading this article…

The AFD Special Collector's Edition is Slash's signature amp, which was produced in a small quantity only. It's a replica of two amps used by Slash to record the GnR album Appetite For Destruction (AFD). It's widely regarded as **one of the best rock albums ever**. The amp has a silver front panel, borrowed from Marshall's Silver Jubilee, with the signature of Slash on it.

The AFD is a 100 watt head with 6550 tubes, offering two modes.

- Mode #34 (LED off): based on a modded JCM 800, model 2203 (100 watt). This was rental amp #34 from the company S.I.R., which was used on a few parts on Appetite for Destruction. Modeled by Fractal Audio in the Brit AFS100 1 amp model.
- Mode AFD (LED on): based on a Superlead Plexi, supposedly, which had been modified to add gain and a master volume. Thicker and with more gain than mode #34. Responsible for THE sound that defines the Appetite For Destruction sound. Modeled by Fractal Audio in the AFS100 2 model.

About the AFD mode: the story goes that the original amp was an amp of almost mystical proportions. Modded and sounding so good that everybody wanted to rent it. Loved so much by Slash that he falsely reported the amp as stolen. It was reclaimed later by the rental company S.I.R. but gone missing now. The **owner's manual** states that it was a modified Super Lead Tremolo, model 1959T, S.I.R. rental #39. However, according to **this report**, which seems based on proper investigating and is a great read, Slash didn't use rental amp #39 at all. He used a substitute model 1959 (rental #36), which had been modded in the same way as #39.

The AFD mode had already been modeled by Fractal Audio in the Brit Super amp model. Unlike the AFS100 2 model, Brit Super was based on a schematic of the original only, and therefore sounds different than the later model (more gain and more boosted high end). You might say that Brit Super has been superseded by the AFS100 2 model, which is based on the actual amp, owned by Fractal Audio.

FRACTAL AUDIO SYSTEMS

"I have an actual Slash signature model and spent a lot of time measuring, listening and comparing ."

The amp has Presence, Bass, Middle, Treble, Master Volume and Gain controls, and Low/High inputs. As always, the models are based on the High input.

The amp has a Master Volume, so the amp's distortion is created by the preamp and power tubes. You have to decide for yourself what setting in the amp model works best. Don't hesitate to turn it up.

According to the amp's manual, Slash sets all controls on his amp around 1 o'clock. This works in the amp model too, with Presence and Master at default. Use a Les Paul, of course. And remember: while the gain and tone controls in the amp models visually match the controls on the original amps (within 10%), the Master / Presence / Depth controls do not.

Slash uses V30s in his Marshall cabs.

Amplifier Specifications	
Power	100 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	ECC83
Power Amp Tubes	6550/EL34
Tonestack Location	POST

Brit Brown and FAS Brown (FAS custom models)

Synopsis	Custom amp models by Fractal Audio, recreating EVH's "Brown Sound"
Tips	Turn up Presence in the Brit Brown model
Clips	**More videos, clips and comments**

Fractal Audio has added a considerable number of custom amp models to the collection. These virtual amps have no real-life equivalents. They solely exist within the Axe-Fx II and AX8, surpassing the electronical limitations of traditional amps.

The Brit Brown and FAS Brown amp models are Fractal Audio's take on the pure, raw guitar tones on early Van Halen albums.

Eddie van Halen's legendary "Brown Sound" probably is the most sought-after guitar tone: a Marshall Superlead Plexi, perhaps modded, with a Variac to run at lower than normal voltage, a 4x12 cabinet with JBLs or greenbacks, copious (panned) reverb and some EQ magic at the mixing table.

The sound on the early Van Halen records is immediately recognizable. If you listen to isolated Van Halen guitar tracks, you'll hear that early Eddie Van Halen didn't use that much gain and that his tone was very bright.

Supposedly Eddie himself said: "*There is a difference between being just loud and having what I call a warm, brown sound, which is a toney sound*." Another story tells that the term "brown sound" originally was used to describe Alex Van Halen's drum sound. **Legendary Tones**

The Brit Brown amp model was created by Fractal Audio "by ear", based on the 1959SLP, and continues to be a popular model.

The FAS Brown amp model was originally created on the Axe-Fx Standard/Ultra and named Brown at that time. Initially it wasn't part of the Axe-Fx II firmware. When people requested it, it was ported and renamed FAS Brown. It's similar to Brit Brown, but brighter.

The Brit Brown amp model has the Saturation parameter turned on, which simulates the Jose Arrendendo mod, for an aggressive tone. The FAS Brown model hasn't.

FRACTAL AUDIO SYSTEMS

"*Brit Brown is my personal take on what the ultimate "Brown" plexi should sound like. It's based on a 100W SLP with Arredondo mods and a few little voicing tweaks.*"

"*The Brit Brown was built by ear.*"

Eddie used to crank all controls on his amps. Since that sound is already modeled, you don't have to do that in the amp models. But there are no rules of course.

The Brit Brown model can be a little dull at default. Increasing Presence solves that.

For authenticity select Marshall stocks cabs with greenbacks or JBLs. Eddie didn't use V30s or his custom speakers until later.

> "*If you're looking for EVH tones, check **Danny Danzi's posts on the forum***" – yek

Brit JM45 (Marshall JTM 45)

Synopsis	Marshall's first, borrowing a lot from Fender's Bassman
Tips	Without a Master Volume control, the JTM relies on power amp distortion. To achieve a nice warm overdriven blues or rock tone, you need to turn up the volume and crank the tone controls which makes it a very loud amp in real life. It's bass-heavy, so turn down Bass or use the Cut switch, and turn up mids
Clips	**Marshall JTM-45**
	Marshall JTM45 2245 Plexi Amp
	More videos, clips and comments
Cabinet/speaker	4x12 or 2x12 Marshall cabinet with greenbacks, G12M or G12H speakers
Stock cabs	Marshall stock cabs – **Cab Packs**
Web, Manual	**Vintage Re-issue Series: JTM45 2245**
	Vintage Re-issue Series Owners Manual
Amp controls	Presence, Bass, Middle, Treble and Volume (=Drive)

The JTM 45 was Marshall's first amplifier in the early '60s. Its design was copied from the Fender Bassman. It was a hit and a vintage JTM 45 is worth a lot, listing #6 on **Vintage Guitar's list of most valuable amps**. 2245 is Marshall's model number. Some models are labeled "JTM 50". **More history**

> "*Despite being derived virtually point-by-point from Fender's 5F6-A Bassman schematic, British components give the JTM45 a tone all its own.*" – Vintage Guitar

It's a different kind of Marshall, compared to the later Plexis.

> "*For all of its differences with the Bassman, the sound of the JTM 45 is still described as "like a tweed Fender"; it has more sag and less crunch than the later Marshalls, and is favored for blues and rock rather than for hard rock and metal. The JTM 45 does not deliver the famous Marshall "crunch" that became so sought after.*" – **Wikipedia**

Gary Moore recorded Still Got The Blues through a JTM 45. Eric Clapton played a JTM 45 combo known as the Blues Breaker on the famous '66 Beano album by John Mayall Bluesbreakers.

More information:

- **Eric Clapton's amps and guitars**
- **Eric Clapton Classic Tone, 1: Clapton's Beano Sound**
- **Eric Clapton Classic Tone, 2: Der Bluesbreaker-Sound**

The JTM 45 has KT66, EL34 (amp model) or 6L6 power tubes and is rated at 30 watt. The Super, a 100 watts version of the JTM, is very rare and sought-after.

It was re-issued by Marshall, with 6L6 tubes:

> "*The very first Marshall amp, made back in 1962, was the JTM45. It was an instant hit and launched a whole new generation of groundbreaking guitar players and sounds. Since then, connoisseurs of tone have sought out rare original JTM45s from the '60s. Now they shall seek no more, thanks to this meticulously accurate re-issue. It was GZ34 rectification that was the key to the JTM45's sound, and this is a feature painstakingly reproduced in this re-issue. The way the rectifier interacts with the other valves causes subtle harmonics to shift and smoulder beneath every note, producing the unmistakable, original, and much emulated Marshall sound.*"

It has two channels: Normal and High Treble, and two inputs per channel. Fractal Audio has modeled the High Treble channel and the jumpered inputs. The High Treble channel is very bright and also bass-heavy. It's not unusual to turn down Bass all the way to prevent the tone from getting flubby and fuzzy. Or use the Cut switch in the amp model.

"Our model is based on Channel 2 which is the bright channel. Also our reference amp has a 100 pF bright cap. Many JTM45s did not but I think they sound better with one. A JTM45 with a bright cap is similar to a Superlead."

"If you want the Channel 1 sound with an Axe-Fx use the Brit JM45 Jump model and turn the Treble Drive knob all the way down."

Apart from Volume controls, the amp has Bass, Middle, Treble and Presence controls.

The JTM 45 doesn't have a Master, so keep the Master control in the model cranked. Without a Master, the JTM relies on power amp distortion. To achieve a nice warm overdriven blues or rock tone, you need to turn up gain a lot and crank the tone controls.

"They had no Master Volumes so people rarely got the Drive past 3.00 since it would melt your face. Without the specter of having your skin flayed off as is afforded by a model of the amp, the temptation is to turn the Drive way up. When you do this, the low notes get very muddy. Single notes can form an almost perfect square wave which will sound like a synthesizer."

Some players use patch cables to "jumper" the inputs: 2nd input of channel 1 goes into 1st input of channel 2. This enables them to have the benefits of both channels at once. This has been modeled in the "Jumpered" model. This model has two separate Drive controls. Set them at the same position or keep Normal Drive lower than Treble Drive.

Turn up the mids to decrease the scooped character.

Forum member Simeon's suggested settings for a "Gary Moore" tone: Input Drive 3, Presence 3, stock cab 103, T808 with Drive 0, Tone 6 and Level 7.

Unlike the Fender Bassman, the JTM 45 was designed to be used with a 2x12 or 4x12 cabinet with Celestion G12M (greenbacks) or G12H speakers.

Amplifier Specifications	
Power	30 watt
Master Volume	No
Negative Feedback	Yes
Preamp Tubes	ECC83
Power Amp Tubes	EL34 / 6L6 / KT66
Tonestack Location	POST

Brit JVM (Marshall JVM410H)

Synopsis	Models of all modes of the OD1 and OD2 channels of Marshall's flagship amplifier, designed to cover Marshall's trademark tones
Tips	The models have a lot of gain, so keep Input Drive low
Clips	**Marshall JVM4 series product demo**
	Johan Segeborn: Can Marshall JVM410H sound like a Plexi?
	More videos, clips and comments
Cabinet/speaker	4x12 Marshall cabinet with Celestion G12H and V30 speakers
Stock cabs	Marshall stock cabs
Web, Manual	**Marshall JVM series**
	JVM410H Head & JVM410C Combo Owners Manual
Amp controls	Master, Bass, Middle, Treble, Gain (=Drive), Presence, Resonance (=Depth)

The JVM410H is Marshall's flagship guitar amplifier. It's a 100 watt EL34-powered head with four channels and three modes (voices) per channel. Its twelve voices cover almost Marshall's entire sound spectrum: JTM 45, Plexi, JCM 800 etc., and add ultra-high gain.

FRACTAL AUDIO SYSTEMS

"IMO, the reason the JVM sounds good is the plate cap on the second-to-last triode. That smooths out the tone considerably. The second-to-last triode is associated with "Triode 1 Freq" in the advanced parameters. You can adjust this to simulate adding a cap to the plate. The other thing that helps the tone is the 220K plate resistor on the last triode. This shifts the bias point down vs. a "classic" Marshall. Unfortunately the bias points aren't exposed to the user."

According to the handbook, the JVM's power amp is based on the ones found in the JCM 800 2203 and 1959 Super Lead Plexi.

> *"The British-built JVM4 is the current flagship Marshall amp. The JVM4 Series has been hailed as a market leader, trouncing the competition on tone and value for money. One review described, 'In a market sector with more than its fair share of indifferent, run-of-the-mill black boxes, Marshall has just unleashed a powerhouse of tone that easily competes with boutique designs costing two or three time as much.' – Guitarist Magazine.*
>
> *British-built, the 100 Watt all-valve JVM410H head redefines versatility thanks to four tonally independent channels: Clean, Crunch, OD1 and OD2, each with three switchable modes. Each mode reconfigures the gain structure of each channel, making twelve modes in total.*
>
> *The JVM410H front panel looks mind boggling with its twenty-eight controls and eight switches, but because it is intuitively laid out, it is remarkably simple to use. The JVM410H also features four studio-quality digital Reverbs (one per channel), individual channel EQ, two Master Volumes, and a memory that can recall your Reverb, FX loop and Master settings.*
>
> *Combining some of the finest Marshall sounds, the JVM410H has a vast tonal palette, taking you from 'Plexi'/JTM45 cleans through JCM800 roar to modern high gain.*" – **Marshall**

The JVM410JS head, Joe Satriani's signature amp, is a custom version of the JVM410 with important differences. There are separate amp models of the JVM410JS.

The JVM channels are: Clean – Crunch – OD1 – OD2. Each channel has Green, Orange and Red modes. Fractal Audio has modeled all modes of channels OD1 and OD2.

- OD1 Green: similar to a hot-rodded JCM 800
- OD1 Orange: has an additional gain stage, suitable for hard rock and leads
- OD1 Red: adds more gain
- OD2 modes: offers even more gain and the Middle control is shifted down to being centered around 500 Hz instead of the more typical Marshall value of 650 Hz

The JVM is equipped with channel/mode switches, reverb, MIDI-support and has these controls: Bass, Middle, Treble, Gain, Master Volume, Presence and Resonance (amp model: Depth).

Note that some of the models have so much gain that it suffices to keep Input Drive pretty low in the amp model.

Marshall's standard JVM cabinet has G12H as well as Vintage 30 speakers.

Amplifier Specifications	
Power	100 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	ECC83
Power Amp Tubes	EL34
Tonestack Location	POST

Brit Pre (Marshall JMP-1 preamp)

Please refer to the section on the **JMPre-1 models**.

Brit Silver (Marshall Silver Jubilee)

Synopsis	Model of Marshall's 100 watt Silver Jubilee, darker and thicker than a JCM 800 with more gain at lower levels
Tips	Allows higher Bass settings than a JCM 800 or Plexi
	Joe Bonamassa: Presence 5, Bass 10, Mid 7.5, Treble 4.5, Master 10, Gain 5
Clips	**Guitar World – Marshall JCM 25/50 2555X Silver Jubilee Re-issue**
	More videos, clips and comments
Cabinet/speakers	4x12 Marshall cabinet with Celestion V30s
Stock cabs	Marshall stock cabs – **Cab Packs**
Web, Manual	**Marshall Silver Jubilee 2555X Re-issue**
	JCM 25/50 2555X Silver Jubilee Re-issue Owner's Manual
Amp controls	Presence, Bass, Middle, Treble, Master, Input Gain (=Drive)

1987 was Marshall's 25th anniversary year. To celebrate, Marshall released the Silver Jubilee. Model 2555 was the 100 watt model, and model 2550 was 50 watt. The Jubilee looks very classy with its chrome mirrored panel and silver tolex. It's valuable too, listing 19th on **Vintage Guitar's list of most valuable amps**. Marshall still carries a **Vintage Re-issue 2555X** and a **Mini Jubilee** in its product line, reviewed in **Premier Guitar**.

Famous Jubilee players are Joe Bonamassa and Alex Lifeson from Rush. Slash used one in his live GnR rig and when playing with Velvet Revolver. Prior to Marshall's AFD100, his signature amp was a Jubilee.

The Jubilee is partly based on the JCM 800. In comparison it sounds darker, fatter and thicker and offers more gain at lower levels, thanks to the addition of a diode circuit. It runs on EL34 power tubes and has a single input. Marshall used the Jubilee to introduce Pentode/Triode switching which halves power output.

It has two channels: Clean (not modeled) and Lead. On the clean channel you can pull out the Input Gain control to activate "Rhythm Clip" mode, for a crunchy sound.

The Jubilee has these controls: Presence, Bass, Mid, Treble, Output Master, Lead Master and Input Gain (pull-out: Rhythm Clip).

Joe Bonamassa sets the controls on his Jubilee like this: Presence 5, Bass 10, Mid 7.5, Treble 4.5, Master 10, Gain 5.

> "*Looking at Marshall's current catalogue, I'd much rather own the 2555 re-issue (Jubilee) than a JVM410. The 2555 reminds me of amps by Bogner, Friedman and Carol-Ann.*" – yek

The Brit Silver model is based on the Jubilee's Lead channel. Its sound is dark and fat, different from the Plexi and JCM 800 types, even approaching Dumble-territory.

The Jubilee pairs well with a Marshall 4x12 cabinet with Vintage 30 speakers. If you seek Joe Bonamassa's tone, use EV-12L speakers such as the 4x12 Rumble stock cab.

Amplifier Specifications	
Power	100 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	ECC83
Power Amp Tubes	EL34
Tonestack Location	POST

Brit Super (Marshall AFD100, Slash’s signature amp)

Please refer to the section on the **Brit AFS100 models**.

Buttery (Budda Twinmaster)

Synopsis	An “ear-tuned” custom model, loosely based on a late ‘90’s Budda Twinmaster
Tips	A great crunchy amp model and simple to dial in: crank the Master and turn down Input Drive
Clips	**Axe-Fx II Buttery demo**
	More videos, clips and comments
Cabinet/speaker	Alnico speakers and/or greenbacks
Stock cabs	None – **Cab Pack 6**
Web, Manual	**Budda Twinmaster**
	Budda Twinmaster Manual
Amp controls	Bass, Treble, Volume (=Drive)

This is a hybrid amp model. Fractal Audio created it “by ear”. It was never matched to a real Budda (schematic nor amp).

According to the Fractal Audio manual: “*Based loosely on a late ‘90’s specimen Budda Twinmaster. Relies mostly on power amp distortion*”.

The Twinmaster was Budda’s first amp (Budda is now owned by Peavey). It’s a 18 watt Class AB amp that runs on EL84 power tubes, has two inputs and Bass, Treble and Volume controls.

But don't compare the model to the original Twinmaster. Just enjoy the model in its own right. It sounds great and is liked by many.

"*Buttery was my edge-of-breakup amp choice for a long time. It's a great crunch amp model, like an overdriven Fender. Simple to dial in too: crank the Master, turn down Input Drive and leave everything else at default*." – yek

"*I did the Buttery model by ear. I listened to some clips of Buddas (Matchbox 20, remember them?) and tweaked the model until I thought it sounded like one. Screwed around a little with the tube bias points until it had the right balance of harmonics and called it a day.*"

"*Buttery is a virtual amp model that was created by ear. There is no physical, real amp that exists upon which it was based. It's like the FAS models. They exist solely in the virtual world. They all still benefit from the Quantum stuff though as they use the same underlying algorithms for the tube modeling. The amp model, regardless of how accurate it is (and it's probably grossly inaccurate as I never compared it to any actual amp) is very popular and that's why it was never matched to any real amp.*"

"*It's still the "ear tuned" version. I bought the amp but because it was so popular as-is I didn't dare change it.*"

The Twinmaster is a 1x12 combo. Budda uses custom "Phat" speakers. We don't have those as stock cabs. The model sounds fine with either Alnico speakers or greenbacks.

Amplifier Specifications	
Power	18 watt
Master Volume	Yes
Negative Feedback	No
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	EL84
Tonestack Location	POST

CA OD-2 (Carol-Ann OD2)

Synopsis	Model of a Carol-Ann OD2, sort of a Dumble-style amp with characteristics of a modified Marshall
Tips	It's a dark amp
Clips	**Fender Eric Johnson Strat plus 2009 Carol-Ann OD-2 100W Combo Part 1**
	2007 Gibson ES-335 Block Re-issue plus 2009 Carol-Ann OD-2
	More videos, clips and comments
Cabinet/speaker	Classic Lead 80 or EV-L speakers
Web, Manual	**OD2 Series**
Amp controls	Pre-Gain (=Input Drive), Bright switch, Shift switch, Treble, Middle, Bass, Presence, Master, Drive (=Overdrive)

This model is based on an amp by amp builder Alan Phillips of **Carol-Ann**. His story:

> *"Back in 2002, I had just moved to US from England and was waiting for all my worldly possessions to follow me, which would take up to 5 months to be shipped across the Atlantic as part of container ship cargo. Within 6 weeks of being in the US, I already found myself joining a local rock cover band. I had been playing in bands since 1985 and just couldn't stand not playing. While I had my guitar and a couple of effects, all my amplifiers and speaker cabinets were living in a container somewhere on Heysham dock in England. I could either buy an amp in the US or just build myself one. I had been repairing and building amps for many years in the UK, so it was no big deal to build one....apart from the fact I had no clue where to buy parts in the US and had very little in the way of tools or space to build it. I did still however manage to build one, although it cost way more than it should have done and took up precious space on the dining room table whilst under construction much to the dismay of my wife at the time. In order to try to offset the fact the project cost way more money than I had originally anticipated and the construction took up the dining table for a week or more I decided to name the amp after my wife, hence the name 'Carol-Ann'. I still*

> *got in trouble anyway....but maybe not as bad as it could have been. The business was formed in 2005 with the same name. However, even though Carol and I are no longer together, the name stuck and she insisted I kept the name.*" – Alan Phillips

Carol-Ann amps get a lot of praise from Cliff. Alan Phillips works with Cliff to get the best possible virtual models of his amps.

> "*He's welcome to model anything of mine. I love the guy and his work, he's a good friend. We are local to each other and also both classic car nuts too that frequent many of the same car shows and cruise nights, so that just seals the deal.*"

> "*Not everyone falls in to the hatred of tube amps and despising guys like me, who actually design the things you guys want to emulate, just because they own an AxeFX. While there might be a childish 'them and us' situation on forums, there truly isn't at a professional level. Most accomplished players don't fall in a strict category and will use both if they have a need. What better way to get an amp in front of 1000's of players, amateur and pro alike than to ensure the model is as close as it can be. It sure beats clips on a website. An AxeFX is a tool, so is a tube amp, they are not a political statements. They don't even compete. Bottom line, it helps sell amps !! Now that probably pisses some of the closed minded idiots off, but hey, they win out in the next free software update with another new amp, at no cost to them. Get the designer on board and it naturally stands a much better chance of being closer. I'm compensated by more sales. Win-win.*"

> "*I repaired a Soldano SLO for him one day and when he came over my house to pick it up we just decided it would be a good idea to put a CA model in there. Having the actual builder involved kind of closes the loop fully. I'm happy to endorse that model because I put a lot of hours testing it and putting together a ton of technical information, fourier analysis graphs, frequency response graphs, schematics etc that would make validation of a mathematical model much easier. In reality even though the power amp and the preamp are modeled the pre-amp got the most effort. As I said in another thread, I tuned that by putting the axe in to the actual power amp of an OD2 and running that side by side with a full OD2. The final tweaks were made like that using parametric eq blocks that were hard coded in to the model. You could call that the icing on the cake and basically put the same level of tuning into the model as I do with an actual OD2. The only difference was I was using a GUI, not resistors and capacitors*." – Alan Phillips

The OD2 is a 50 watt single input amp with 6L6 tubes. The OD2 (and the smaller OD2R designed for recording) are sometimes labeled "D-style" amps: sounds like a Dumble. But while the OD2's sound is indeed warm, dark and thick like a Dumble, its tonal characteristics aren't exactly similar. It leans towards the tone of a modded Marshall.

The OD2 has a Clean channel (ch.A) and Overdrive channel (ch.B). Fractal Audio modeled the Overdrive channel, which is described on **Carol-Ann's website** as follows:

> "*The Overdrive Channel is simply incredible with a harmonic balance that gives the amplifier a three dimensional feel, rarely experienced with any standard design. The amount of overdrive is variable from slight crunch to all out sweetly compressed high gain tone. Note separation and response remain true throughout the full range of gain settings.*"

The OD2 has Bass, Middle, Treble and Presence controls, Master, Pre-Gain and Drive. Pre-Gain (amp model: Input Drive) sets the overall input gain for the amp (both channels), and Drive (amp model: Overdrive) sets the gain on the Overdrive channel. Models with separate Input Drive and Overdrive controls always feel elastic and spongy, a real joy to play.

The OD2 is a Master Volume amp. This means that the amp's distortion is created in particular by the preamp tubes, not in the power amp. The Master, which works in the power amp section, is still very important to the tone and feel. You have to decide for yourself what setting in the model works best. The default setting is a good point to start of course.

The OD2 also has a Bright switch, which affects both channels, and a Shift switch, which changes the range and action of the Bass, Middle and Treble controls on the clean channel only.

The amp is rather dark at default settings.

> "*I use the 4x12 Rumble cab in my OD2 preset. Input Drive at 6.25 and Overdrive at 7.50. Bass at 3, Middle and Treble between 6-7, Presence at 6. With single coils this creates a thick cutting medium rock tone with a lot of hair, great for rhythm and leads.*" – yek

Alan Phillips recommends a cabinet with an EV-12L or Classic Lead speaker:

> "*In the real world the OD2 is very fussy on speaker choice too. The real world speakers of choice are EVM12L in a 1x12 rear ported and 2x12 with Celestion Classic Lead 80s. I found the 12L emulation did a pretty good job. Some of the others sounded so artificial with that model. Like a Rockman. Coupled with the right cab the emulated model does a good job of representing the basic tonal signature of the amp*".

You'll find IRs of the EV-12L in the 1x12 E12L and 4x12 Rumble stock cabs, and IRs of Classic Lead 80 speakers in the 4x12 Cali stock cabs.

Amplifier Specifications	
Power	50 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	6L6
Tonestack Location	POST

CA Triptik (Carol-Ann Triptik)

Synopsis	Models of all three channels of Carol-Ann's Triptik: "Dumble meets Marshall with a sprinkle of 5150 power amp"
Tips	It's a dark amp, don't hesitate to increase Treble or Presence
Clips	**Carol Ann Triptik--Clean Channel**
	Carol Ann Triptik Channel B (Classic)
	More videos, clips and comments
Cabinet/speaker	Carol-Ann Triptik cabinet, various speakers
Stock cabs	1x12 Triptik – **Cab Pack 5 and OBOT The Robot**
Web, Manual	**Carol-Ann Triptik**
Amp controls	Input Level (=Input Drive), Classic/Modern switch, Drive (=Overdrive), Treble, Middle, Bass, Presence, Master

Read the Carol-Ann OD2 section for information about **Carol-Ann's** background and collaboration with Fractal Audio.

The Triptik is a 50 watt 3-channel amp with EL34 power tubes, designed for rock. Channel 1 handles clean sounds. The second and third channels are identical; the Classic/Modern voicing switches sets their character.

> *"This 3- Channel Amplifier is our idea for a true rock amp that is capable of reproducing both timeless classic rock tones to modern high gain tones with a super tight and crushing low end. The design of this amplifier is a true ground up design and has not been inspired by any other amplifier out there. It is an original back to the drawing board design.*
>
> *The unique gain structure doesn't use high numbers of cascading gain stages compressing the life out of your tone, nor does it use any type of solid state clipping. The OD from this amp is generated by running each gain to their absolute extreme, just keeping them this side of instability. Like a fine tuned racing engine. This helps preserve the dynamic range, keeps*

noise to a minimum and emphasizes the harmonic overtones of each note without ever sounding bright or harsh.

The Clean Channel on this amp has been designed to redefine what is capable with EL34 power tubes. It has a shimmer that is never heard with this tube type and has incredible headroom. By pushing the pre-gain control a little, it is possible to get some slightly broken clean tones too from this channel. It also takes Overdrive pedals extremely well.

The amp features two identical overdrive channels that both have a switch that sets the particular channel to either 'Classic' or 'Modern' voicings. The 'classic' voicing has a little less gain and low end and will produce '70's and '80's British rock tones with a very wide and complex sound stage with no buzz or brittle high frequencies. The 'Modern' setting has more gain and low end for those more modern heavy rhythm, dropped tunings. This channel also makes for a superb liquid lead channel with incredible sustain and harmonic bloom.

The tones controls on all channels are very effective and the center points of each one perfect for the exact frequency bands that will push the amp through any mix.

Basically, the concept was for me to produce an amp that would reproduce my favorite modded rock amp tones as well as up to date modern higher gain tones without mush and noise.

As with all our amplifiers, the Triptik is built entirely by hand and features a non-PCB main audio board, and hard wired chassis mounted controls and tube sockets." – Carol-Ann

"*In the Triptik, The initial bass cut happens after the first gain stage, but is incrementally brought back in through the next stages while also controlling and manipulating the high and the mid bands too. There are several filters at various points in the gain stages to manipulate these other bands. One band is always relative to the other two. In other words if you want more bass, you don't necessarily have to increase that, you can attenuate the other two bands to create the same effect. Keeping the bass out of earlier stages allows each stage to be set up for more gain, so you get more gain from less stages which keeps the S/N ratio down and the dynamic range up. The feedback loop in the power amp is frequency dependent and allows more mid-highs to be passed back to the phase inverter on the inverted input out of phase with the normal input which flattens the response and lowers the power amp gain (closed loop gain) much more for just those two bands. The bass band is not attenuated anywhere near as much so is amplified at a level much closer to the open loop gain of the power amp.*" – Alan Phillips

FRACTAL AUDIO SYSTEMS

"*This TripTik is badass. Dumble meets Marshall with a sprinkle of 5150 power amp.*"

"*I think what people like about this amp is the same reason people like the BE/HBE. These amps share the same aggressive low-cut on the input and then add bass back in the power amp. This gives clear bass response without getting flubby.*"

The Triptik has dedicated tone controls (Bass, Middle, Treble) on the clean channel and a shared set for channels 2 and 3. There's a shared Input Level control (amp model: Input Drive) and separate Drive control (amp model: Overdrive) for channels 2 and 3. Each channel has a Master. Presence is shared. Channels 2 and 3 have a Classic/Modern voicing switch. No Bright switch(es).

Models with Input Drive and Overdrive controls always feel elastic and spongy, a real joy to play.

> (about the Classic mode):
> "*On the real amp, you would set the Input level at 2 O'clock and the Gain at 1 to 2 O'clock to get a great classic rock rhythm tone. It's not overly different in character to the modern setting, less gain and less low end essentially*." – Alan Phillips

The Triptik is a Master Volume amp. This means that the amp's distortion is created in particular by the preamp tubes, not in the power amp. The Master, which works in the power amp section, is still very important to the tone and feel. You have to decide for yourself what setting in the amp model works best. The default setting is a good point to start of course.

All three channels have been modeled.

We have a 1x12 Triptik IR as a stock cab. It's a little special because it's a boutique Scholz Classic (aka Sugar Cone) speaker. The Triptik pairs well with various speakers.

> "*I ran into a combination of cabs that I just love with the Triptik models: cab 54 (4x12 Pre-Rola 55 and 116 (Scumtone).*" – yek

Amplifier Specifications	
Power	*50 watt*
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A
Power Amp Tubes	EL34
Tonestack Location	POST

CA Tucana (Carol-Ann Tucana 3)

Synopsis	Models of the Carol-Ann Tucana, according to Cliff: "one of the best amps in the world"
Tips	"*Input gain on 10 o clock, gain on 2 o clock is a '70's /'80's lead tone, put the input level up to 2 o click and it's a very sustained lead tone or a very modern heavy rhythm tone*" – Alan Phillips
Clips	**Carol-Ann TUCANA 3 overview**
	More videos, clips and comments
Cabinet/speaker	Carol-Ann cabinet, various speakers
Stock cabs	None – **Cab Pack OBOT The Robot**
Web, Manual	**Carol-Ann Tucana**
Amp controls	Input Gain (=Input Drive), Overdrive, Treble, Middle, Bass, Master, Presence

Read the article about the OD2 for information about **Carol-Ann's** background and collaboration with Fractal Audio.

FRACTAL AUDIO SYSTEMS

"*One of the best amps in the world IMO. I have a Dumble and a Trainwreck and various other boutique amps and the Tucana is better than all of them.*"

The Tucana 3 is Carol-Ann's flagship amp. It's a 3-channel amp with KT88 power tubes, rated at 75 watt. Channel 1 handles clean sounds. Channels 2 and 3 (Overdrive) are identical.

"*Welcome to our flagship model! The Tucana 3 is our latest amp in the Tucana range. Tonally these amps are designed to cover many styles and are very suited to session players and players who need a very wide palette of excellent tones. With the 3 channels, they can stray into higher gain levels, yet still retain full note definition and separation even with complex chord passages and have an ultra-quiet noise floor.*

The first new feature of this amp are the separate Input Level Controls for the Clean and OD channels. This gives much greater flexibility than any of the previous models. It is possible to set the Clean Channel for a little more crunch or for maximum clean headroom.

The overdrive range can be set very easily with the OD Input Level to suit the playing styles or musical genre from a range of blues through rock to modern high gain styles.

The power amp section runs the KT88s at a moderate 75W ensuring very long tube life. The transformer set has been designed to retain a ton of warmth, a tightness in the low end that has not been previously seen in the Tucana series." – **Carol-Ann**

"*It's very difficult for anyone to get a bad tone out of the real amp. It's designed that way, the range and limits on the controls, even the biasmon system makes it difficult for even a very inexperienced player to FU. The real amp has a more British overtone to it due to the fact I am British and I designed it. The gain staging, overdrive voicing and output stage are night and day to ANYTHING Mesa, any owner of the real amp would attest to that.*"
– Alan Phillips

The amp has separate Input Level controls, Bass/Middle/Treble and Master controls for the Clean and Overdrive channels. Presence is shared. Channels B and C have separate Drive controls. There's a gain boost available on the foot controller.

"*Real world, it has same amount of actual gain as the Triptik. Way more than most people would need for recording or live playing. Input gain on 10 o clock, gain on 2 o clock is a '70's /'80's lead tone, put the input level up to 2 o click and it's a very sustained lead tone or a very modern heavy rhythm tone.*"

"*You don't need to crank the real amp to get a ton of overdrive. I actually designed the original for myself and I play in a rock cover band. There's nowhere I would ever be able to get the amp to the point of pushing the power tubes in to overdrive. You gain stage a design based on its application. For a design that needs a lot of overdrive at a low volume, you do most of that and the harmonic makeup in the preamp. The Tucana falls in to this category. The master volumes in a 500 seat club rarely get above 10 O Clock on the real amp and at that point there's still tons of clean headroom left. Of course the power amp adds to the harmonic content, but it adds very little overdrive. Another interesting point to note is that the Tucana has a high pass filter in the power amp feedback loop, which gives you a nice tight low end because the bass is subjected to more gain. For an amp designed to be pushed hard in to power tube overdrive, this should be omitted as all bets are off in the feedback loop when you hit the rails. In other words that filter requires headroom to function properly, as does the presence control of any amp where it's a component of the feedback loop.*"
– Alan Phillips

The Tucana is a Master Volume amp. This means that the amp's distortion is created in particular by the preamp tubes, not in the power amp. The Master Volume, which works in the power amp section, is still very important to the tone and feel. You have to decide for yourself what setting in the amp model works best. The default setting is a good point to start of course.

The Clean channel and the Overdrive channel have both been modeled. The models are among the favorites of many Fractal Audio users.

The Tucana pairs well with various speaker types.

> "*Now I can only speak for the actual amp, but my preference of speaker is a Celestion Creamback 65, though I gig these regularly with a 2x12 with Celestion T75's. It's pretty forgiving on speakers compared with some models.*" – Alan Phillips
>
> *The Tucana 3 is very forgiving on cabinet choice and works well with many speaker / cab combinations.*" – Alan Phillips
>
> "*The Tuc 3 is very tolerant of most cabs and speakers, unlike say the OD2. I feel people need to approach this model very simply. Don't mess with extended parameters, basically don't try and redesign it. Use a reliable Celestion based cabinet model. I have a fantastic 4x12 with 2 old greenbacks and two old v30s that is the best cab I've played the real amp through.*" – Alan Phillips

Amplifier Specifications	
Power	75 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A
Power Amp Tubes	KT88
Tonestack Location	POST

CA3+ (Custom Audio Amplifiers 3+ SE preamp)

Synopsis	Models of all three channels of the CAE 3+ SE tube-based preamp, the classic studio preamp of the ‘90s
Tips	Everything at default suffices to create that typical studio clean tone of the ‘90s
Clips	**Custom Audio Electronics 3+ Rig** **More videos, clips and comments**
Web, Manual	**3+ SE Guitar Preamp** **3+ SE Guitar Preamp Operating Guide**
Amp controls	Bright switch, Gain (=Drive), Bass, Middle, Treble, Master, Level, post-EQ Presence and Depth

A tube preamp that left a mark in history. It’s from the ‘90s when many guitar players used “refrigerator” racks, stuffed with preamps, mixers, effects devices etc. The 3+ SE fitted right in there. You've probably heard it on many albums as it was a common studio device. It helped Bob Bradshaw and John Suhr establish Custom Audio Electronics (CAE) / Custom Audio Amplifiers (CAA). It is famous for its clean tone (like a blackface Fender) as well as for its crunch and lead overdrive tones. The number 3 in its name denotes the number of channels. More information on the **CAE website**.

Steve Lukather used this preamp a lot. Others were Peter Frampton, Eddie Van Halen (F.U.C.K. album), Green Day’s Billie Joe Armstrong, Metallica, Megadeth.

CAE also builds the **OD-100 amplifier**, a head based on the 3+ SE preamp. John Suhr, who worked at CAE/CAA and co-designed the 3+ SE and the OD-100 and who started his own company, also sells the **OD-100** under the CAA name.

> “*From 1985 to 1990 I toured with Steve Lukather on all the Toto shows. We were taking a lot of equipment to Europe and it got to the point were we needed to scale down and change things a lot. I go well: here we are with this big rack full of amplifiers that we're basically using as preamps. It was a Mesa-Boogie for a clean sound, a Marshall for a crunch sound and a Soldano for a solo sound. We were just using the preamp section of those amps, so I thought, why can't we make a three channel preamp with clean, crunch and overdrive and we'll use power amps that were using anyway. So I went to Mike Soldano and explained him the situation that we needed to scale our rig down to take overseas. Hence the Soldano X-88 R. Which was my concept, Soldano came up with the circuitry and everything, but it was my thing. The amp came out and it was a big hit. $1800 a piece. Soldano sells em to me for*

$1700. I only make a $100 for each amp I sell myself, it's like, com'on you now. But I own the prototype. In the meantime I start working with John Suhr. John is building great guitars at the same time, he's interested in doing amp work. John was on the eastcoast. The Soldano preamp needed help, it always needed an extra EQ to breathe some life into it. It was a great basic thing, but it needed some top, some bottom. There were things about it that we wanted to change. Mike Soldano was kind of reluctant to make any of these big changes, he had something going and was happy the way things went. (…)" – Bob Bradshaw

"*The Clean channel is extremely warm and punchy with tons of tight low end, smooth midrange and silky highs.*

The Crunch channel in itself is capable of a high gain solo sound and can also clean up to a classic slightly overdriven clean sound by rolling off the guitar volume or turning down its gain control while still retaining its warm, round tone.

"*The Lead channel, the highest gain channel, is not only able to clean up as well as Channel 2, but is also able to provide a rich, fat, searing overdrive with a quick attack while maintaining sensitivity to picking technique.*" – CAE website

Fractal Audio has modeled all three channels. It's unknown what power amp model is used.

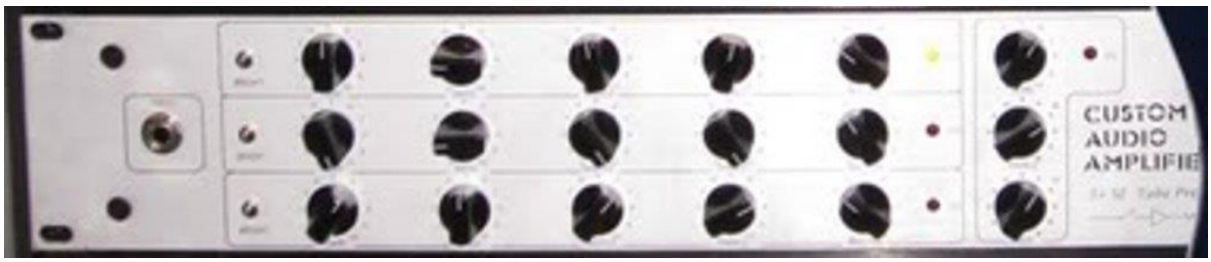
"*Toto's Kingdom of Desire was the reason I bought mine. It is long gone, but damn that rig always made guitarists go OMG! I get even more OMG's with the AxeFx.*" – Mark Day

The preamp has separate Gain, Bass, Middle, Treble and Master controls and a Bright switch for each channel. The lower the Gain settings, the more noticeable the Bright switches are. It also has shared post-EQ controls: Presence and Depth.

FRACTAL AUDIO SYSTEMS

"*That's a "James" tone-stack. You can find simulations on-line but typically you would get close using shelving filters with frequencies of 100 and 1000 Hz.*"

David Mustaine's settings:



Amplifier Specifications	
Preamp Tubes	12AX7A
Tonestack location	PRE / POST

Cali Leggy and Legato 100 (Carvin Legacy VL100, Steve Vai's signature amp)

Synopsis	Model of the Lead channel of Steve Vai's first signature amp
Tips	Cali Leggy: "*Drive 6.50, Bass 7.00, Middle and Treble 3.50, everything else default. For higher gain, engage the Boost switch and turn down Drive*" – yek
	Steve Vai's personal VL100 settings: Drive: 7.5, Bass: 6, Mid: 4/5, Treble: 8, Presence: 8 (Legato 100 model)
Clips	**Steve Vai VL100 Carvin Legacy Interview**
	More videos, clips and comments
Cabinet/speaker	2x12 or 4x12 Legacy cabinet with V30 speakers
Stock cabs	2x12 SV Legend – **Cab Pack 10**
Web, Manual	**Carvin Legacy Tube Amplifiers**
	VL100 Guitar Head Operating Manual
Amp controls	Master, Presence, Treble, Mid, Bass, Drive, Volume

Models of the first edition of Steve Vai's signature amp: Carvin's VL100. The VL100 is a two-channel EL34-based 100 watt head with a Clean and a Lead channel.

The Cali Leggy model was added to the firmware first. The Legato 100 model followed much later. Both models are based on the Lead channel. The amp's clean channel has not been modeled.

Lead channel controls: Presence, Treble (11 kHz), Mid (650Hz), Bass (80Hz), Drive and Volume.

FRACTAL AUDIO SYSTEMS

"The thing that makes a Legacy unique is the tone stack. It uses a "James" tone stack which is more like hi-fi tone controls."

The VL100 has an unusual "James" (aka "Baxandall") tone stack. The range of the tone controls is unlike other amps. For example, the difference between the outer positions of the Middle control is enormous.

> "*For mild tube saturation, set the DRIVE control between 1 & 2. For some of the best saturation, set the control around 3 & 6. For full blown overdrive, set the control between 8 and 10. Drive settings above 8 are subject to over saturation depending on the output of the guitar pickups used. High-output pickups can over saturate causing sluggish distortion. Play your guitar with its volume at 10 and decrease the amount of drive until the crisp highs come back.*" – Carvin

"*Truth be told, the model (Cali Leggy) has been the subject of lengthy discussions in the past. Some people thought it didn't resemble the real amp enough or they couldn't achieve Steve Vai's tones. I didn't touch the model for a long time because I simply didn't bond with its sound. Well, I played it again when preparing this article and I found some great juicy tones after some tweaking. Surprisingly I later came across those same settings in a demo video of the real amp. So I guess the model does represent the real amp well enough.*
Here's what I settled on: Drive 6.50, Bass 7.00, Middle and Treble 3.50, everything else default. For higher gain, engage the Boost switch and turn down Drive." – yek

FRACTAL AUDIO SYSTEMS

"The Legato 100 is based on a one-of-a-kind version owned by a certain Californian guitar player. It is a very dark amp. Part of this is due to the tapers on the tone pots. With everything at noon the tone stack looks like a highshelf with a good amount of high frequency cut. The tone stack is a Baxandall which is more common in hi-fi gear than guitar amps. It lends a unique character to the tone."

"SV's personal settings are: Drive: 7.5, Bass: 6, Mid: 4, Treble: 8, Presence: 8.
I had to increase the Mid control on the model to about 5 to match the amp which indicates the mid pot on the amp was greater than spec. This is not unusual. Typical consumer-grade pots have pretty poor tolerance in both end-to-end resistance and resistance at the midpoint."

The Legacy has a matching 4x12 or 2x12 cabinet with V30s. Try the stock cab 2x12 SV Legend cab.

Amplifier Specifications	
Power	100 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A
Power Amp Tubes	EL34
Tonestack Location	POST

Cameron CCV (Cameron CCV-100)

Synopsis	Models of a Cameron CCV that sounds like “one pissed off amp”
Tips	It’s a very bright amp
Clips	**Cameron CCV and Fractal FX8**
	More videos, clips and comments
Cabinet/speaker	4x12 cabinet with Celestion G12H speakers
Web, Manual	**Cameron CCV Owner’s Manual**
Amp controls	Punch (=Depth), Presence, Master, Bass, Middle, Treble, Gain (=Drive), switches: Voicing/Dark/Gain Style/Bright/Drive

The CCV is a 100 watt, two-channel head with EL34 power tubes, a single input and support for MIDI. Called by its controversial creator: “one pissed off amp”.

FRACTAL AUDIO SYSTEMS

“It's a bit of a quirky amp and kind of a one-trick pony but, man, what a trick.”

“It's actually not a very high gain amp. The topology is very similar to a JCM800.”

“The key to the CCV sound is the Sat Switch.”

The CCV doesn't have that much gain. It just explodes because of the engaged Saturation parameter which attributes to its mean sound. It sounds nastier (and much brighter) than the Cameron Atomica. A side-product of these cutting tones is that you may not like them as much for single notes high on the neck; they can sound a little thin.

Channel 1 has these controls: Punch (= Resonance / Depth), Presence, Master, Bass, Middle, Treble and Gain.

There are a lot of three-way switches too:

- Voicing: affects resonance
- Dark: affects Negative Feedback
- Gain Style: adjusts "Jose Master" gain/clipping
- Bright: controls treble and therefore gain (less noticeable at higher gain settings)

Channel 2 has these controls: Solo Master, Master, Bass, Middle, Treble, Presence, Gain and these three-way switches:

- 2x Gain Style
- 2x Bright
- Drive

It's a very bright channel, so keep Presence low.

According to the **Owner's Manual** the CCV has a lot of mids already so don't hesitate to turn Middle down.

Note that the Gain (amp model: Drive) taper control is peculiar. It goes from 0 to 100 at the very start, then hardly changes for the remainder.

It's an amp with a Master Volume on both channels. This means that the distortion is created in particular by the preamp tubes, not the power amp. The Master Volume, which works in the power amp section, is still very important to the tone and feel. You have to decide for yourself what setting in the amp model works for you best. The default setting is a good point to start of course.

FRACTAL AUDIO SYSTEMS

"*The amp has a dozen switches and, frankly, there isn't a lot of difference between some of the settings. The Drive switch sounds virtually identical whether left or right. I don't like it in the middle.*"

"*The amp was modeled with the Voicing switch in the middle position.*"

"*The "Dark" switch is the Negative feedback control. Set Negative Feedback to 3.6 to reproduce the switch in the middle position. Set it to 9.8 to reproduce the switch in the right position. 5.0 for left position (default).*"

"*Bright-1 switch selects the Bright capacitor which you can alter via the Advanced menu.*"

"*Our reference amp has a linear taper pot so the behavior is very abrupt. The model matches the amp extremely accurately.*"

> "*When adding gain (via the gain/clipping switches above the masters), turn back the gain pots to get a more noticeable effect from the gain switches (for better cut and more articulation). You can roll them back to noon and the amp will still have a lot of gain. There is no right or wrong way to set these knobs or switches. If it sounds good, it is good. Have fun and experiment!*" – Owner's Manual

Fractal Audio provides no less than six models of the CCV.

Models 1A and 1B cover channel 1. The difference between these two models probably is the Gain Style switch position.

Models 2A-to-2D cover channel 2 with the following switch settings:

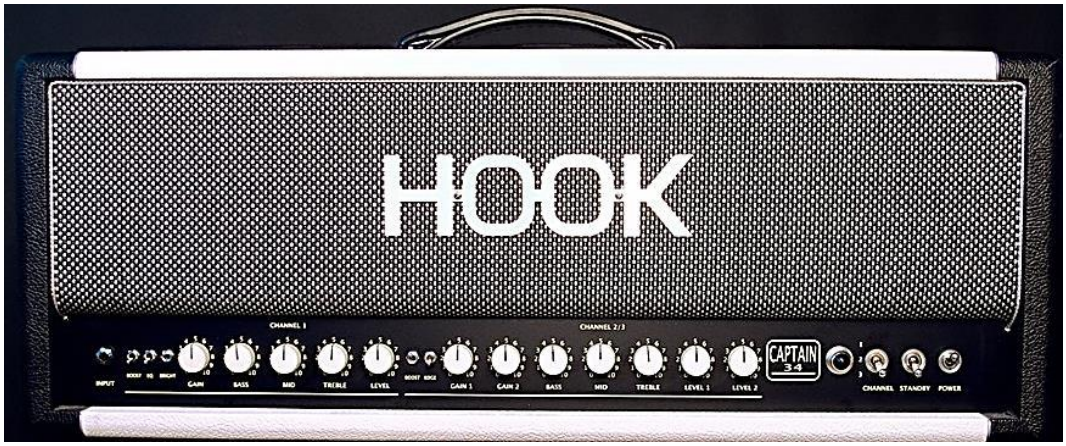
- 2A: Bright-1 left, Bright-2 left, Gain Style left
- 2B: Bright-1 left, Bright-2 right, Gain Style left
- 2C: Bright-1 left, Bright-2 left, Gain Style right
- 2D: Bright-1 left, Bright-2 right, Gain Style right

> *"As with the Atomica, the model of channel 1 doesn't really move me. But (the model of) channel 2: oh yeah baby!*
> *It's nasty. It smolders, waiting to explode. It's the amp you would select if you were the guitar player who's tied to a car in* ***Mad Max: Fury Road****. If it was a car engine, it would be too hot to touch. It's in-your-face aggressiveness in musical form. It's Cameron Atomica's nephew who met wrong friends and succumbed to dealing drugs. It makes you play AC/DC till your fingers bleed. It's the amp you would associate with an actual highway to hell. It's, it's, it's … so much fun to play.*
> *And in case you're wondering: "Hey, doesn't this sound rather like a JCM 800 with Saturation turned on?" Yes, it does.*" – yek

This amp head is designed to be used with 4x12 cabinets with G12H speakers. You'll find the list of stock G12H cabs in the wiki. Alternatively you can use the 5153 stock cabs.

Amplifier Specifications	
Power	100 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A (JJ)
Power Amp Tubes	EL34
Tonestack Location	Channel 1: PRE Channel 2 and 3: POST

Capt Hook (HOOK Captain 34)



Synopsis	Models of all channels of the “Made in Holland” HOOK Captain 34
Tips	To mimic the Pull Gain feature on the clean channel, select tonestack “Hook Clean 2”
Clips	**Eric Steckel - HOOK amps Captain 34** **HOOK amps - Captain 34 demo**
Cabinet/speaker	Cabinet with V30, G12H, G12-65 or WGS speakers
Web, Manual	**Hook Amps Captain 34**
Amp controls	Gain (=Drive) with Pull, Bass, Mid, Treble, Level (=Master), Bright switch, EQ bypass switch, Boost switch, Edge switch, Presence, Balls (=Depth)

The Capt Hook models are based on the Captain 34 head by HOOK. This is a brand of boutique guitar amps, started by Leendert Haaksma (“haak” translates to “hook”), one of Holland’s finest guitar players, well-known for his work with the singer Anouk and many others artists and bands. The amps are built by **Van der Haar Guitars.**

> *“The Captain 34 is a 3 channel all-tube guitar amplifier with a plexi style EL34 poweramp.*
>
> *The power supply was redesigned to give that nice compression like you are turning your levels all the way up, even at lower volumes.*
>
> *This amp sucks the tone right out of your fingers!! You must feel it to believe it.*
>
> *The clean channel has sparkling clean with heaps of dynamics and a well balanced tone with smooth bass response and shimmering bell like highs. The EQ has some special features, a bright switch for extra highs and a eq cut function bypassing the tone circuit for extra gain and mid boost. There is also a (foot)switchable boost function giving just that extra gain for a texas tone. The clean channel works great with pedals too.*
>
> *The second channel has 2 different modes; normal and boost. The sound differs from light crunch through fat blues distortion to old school fat overdrive. This channel has its own gain*

and level knobs and shares the EQ with the 3rd channel. In addition to that there is an edge switch wich you can use to create more modern rock sounds.

The lead channel has 2 different modes; a normal and a boost. In comparison to second channel this sound is more British voiced. This channel starts with crunch to vintage tube overdrive. In the boost mode more gain added for extra punch and sustain. The edge switch works also on the 3rd channel." – **HOOK**

Richard Hallebeek, a fine Dutch professional guitar player and Fractal Audio artist:

"That HOOK is my amp that I sent to Cliff for modeling it and using it in the new firmware. I did a tour with Guthrie and Jose de Castro through Holland and Germany a couple of years ago and then we all played through this amp. It's my main amp for some time now when I play live. It's capable of smooth distortion but also bluesy lead tones. We used a 2x12" HOOK cabinet with V30's at that time."

"The HOOK has a big sounding clean channel that's great for pedals. The blues tones are there, but with a gain pedal in front, it has a very open high gain lead tone."

"Leendert Haaksma, who builds these amps, sent the latest version of the head to Cliff."

"The new models sound just like my real HOOK amp.. can't tell the difference in a blindfold test."

The Captain 34 is a boutique "British" 3-channel amp with a single input, rated at 100 watts through EL34 power tubes. The models are based on version 2 of the head. The dirty tones are reminiscent of a Plexi, with a vibe of their own.

FRACTAL AUDIO SYSTEMS

"This amp uses a mu follower which yields a complex distortion with smooth decay. A mu follower is similar to a cascode configuration except the output is off the cathode instead of the plate. So the output impedance is lower."

German review of the Captain 34

Channel 1 offers these controls: Gain (Pull), Bass, Mid, Treble and Level. The effect of the Pull Gain control (bypasses the preamp) can be obtained by selecting the Hook Clean 2 tonestack. The clean channel also provides a Bright switch, an EQ-bypass switch and a Boost switch (boosts mids). Fractal Audio's "1A" model was created with EQ and Boost off, and "1B" model was created with EQ and Boost on.

Channels 2 and 3 have separate Gain and Level controls, and share Bass, Mid and Treble controls. There also are some Boost and Edge switches. Edge alters the midrange and is enabled in the 2B and 3B models. Boost has not been modeled.

The amp also has global Presence and Balls (resonance/depth) controls.

"To simulate the Boost switch use the Boost switch in the amp block as it has the same amount of gain."

It's an amp with Master Volume (Level) on both channels. This means that the distortion is created in particular by the preamp tubes, not the power amp. The Master Volume, which works in the power amp section, is still very important to the tone and feel. You have to decide for yourself what setting in the amp model works for you best. The default setting is a good point to start of course.

The amp is designed to be used with cabinets with V30, G12H, G12-65 or WGS speakers.

> *"I use smaller cabinets with G12 M Greenbacks and the 4x12" cabinet has Celestion V30's. I would recommend to try both to see what fits your taste. V30's have more of a sizzling high that's suitable if you are looking for a more high gain rock sound from the HOOK."*
> – Richard Hallebeek

Amplifier Specifications	
Power	100 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	ECC83
Power Amp Tubes	EL34
Tonestack Location	PRE /POST

Car Roamer (Carr Rambler)

Synopsis	Model of the Carr Rambler, a modern take on the Fender Deluxe Reverb with extra chime, presence and headroom
Tips	Beware of the bass: there's a lot of it, depending on the Mid position
Clips	**Carr Amps website**
	More videos, clips and comments
Cabinet/speaker	1x12, 2x12, 2x10 or 1x15 cabinet with Eminence speaker(s)
Stock cabs	1x12 Roamer – **Cab Pack 4**
Web, Manual	**Carr Amplifiers Rambler**
	Carr Rambler Owner's Manual
Amp controls	Volume (=Drive), Treble, Middle, Bass, Pentode/Triode switch (not modeled)

The Rambler is a boutique high-end amp, often compared to the Fender Deluxe Reverb. The Fender's headroom is limited, the Rambler has ample. As such it is primarily a clean amp. And a great platform for drive pedals.

On TGP and similar boards the Rambler gets a lot of praise for its pristine clean tones. And it does sound great, as demonstrated in the clips: close to a Deluxe Reverb, with more chime and presence.

It's a 28 watt, single channel, cathode bias combo with 6L6 power tubes. Switchable between Pentode (28 watt) and half-power Triode (14 watt).

"*The Rambler employs a pure and simple classic 60s American style preamp circuit combined with an output section owing more to the early 50s. This unique blending yields very open and rich clean tones with mild overdrive.*"

"*The Rambler was one of my earliest signature designs, and today it is still one of our most popular models. Why? It's no accident that the Rambler succeeds in delivering classic American 'deluxe' tone with dramatically expanded clean headroom, solid bass response and the option of 28 watt pentode or 14 watt triode operation. The Rambler simply reflects my desire to improve and refine the original concept of an appropriately powered 1x12 club amp with reverb and tremolo. Rambler owners describe their amps as being warm, full and round, with a surprisingly high threshold of clean tone, (which also makes the Rambler uniquely suited to virtually any overdrive pedal ever built). The Rambler is considered by many to be the quintessential club amp, voiced to meet the needs of virtually any player, and all types of music.*"

(about comparing the Rambler to the Fender Deluxe)
"*Both amps more or less occupy the same place in the general range of amps out there, so it's easy to see why people compare them, but the Rambler and the Deluxe behave very differently in practical use. At 28 watt it makes more power and is cleaner than a Deluxe, and their pre-amp sections are similar. Having said that, the Rambler's power section is much more like a Tweed Pro and its phase inverter is based on a Princeton. So, the Rambler shares heritage with a few Fender classics.*" – **Carr**

FRACTAL AUDIO SYSTEMS

"*It's basically a Deluxe Reverb preamp with a cathode bias 6L6 power amp and no negative feedback. Sort of a Fender-meets-Vox thing.*"

"*Enter one of my absolute favorite real amps ever. I've used a real Carr Rambler as my one of my main amps for > 10 years and continue to absolutely love it! It has all the qualities that makes a vintage Deluxe Reverb great (current RI Deluxe Reverbs sound nothing like a real vintage one IMO), with a bit more punch, warmth and oomph provided by the 6L6 based power amp section, plus it'll get close to a tweed sound when dialed in that way – push the mids and experiment with pentode vs triode mode. The tube based tremolo and reverb are both really wonderful. Also the Rambler takes pedals like no other amp that I've tried, and as such it could easily be my only amp. The Rambler ties with a Reinau Modern Tweed Deluxe and a Tweed Twin as my favorite clean real amps of all time, and the Axe version of the Rambler is really really great and sound just as good as the real thing when matched with a great IR.*" – Rocket Brother

It has these controls: Volume, Treble, Middle, Bass, plus Reverb and Tremolo controls. No Master Volume. And a Pentode/Triode switch (not modeled). According to the manual the Pentode setting yields a punchy, full sound, while Triode is mellow and thick.

You can get the amp (model) to distort. But distortion isn't the unique selling point of this amp.

The **manual** provides recommended settings. Here's what it says about the Middle control:

> "*Varies the mid frequencies and is very influential in taking the tone from a 60's blackface sound (minimum to 11 o'clock) to a pushed tweed mid sound (11 o'clock to full).*"

Beware of the bass: the Roamer model has a lot, especially with mids turned up.

The Rambler is a combo amp in various configurations: 1x12, 2x12, 2x10 or 1x15 with Eminence speakers.

We have two "Roamer" stock cabs.

Alternatively try a Fender stock cab.

Amplifier Specifications	
Power	28 / 14 watt
Master Volume	No
Negative Feedback	No
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	6L6
Tonestack Location	PRE

Citrus A30 (Orange AD30HTC)

Synopsis	Models of both channels of an Orange A30HTC
Clips	**ProGuitarShop – Orange AD30 Head**
	More videos, clips and comments
Cabinet/speaker	Orange 2x12 or 4x12 cabinet with V30 speakers
Stock cabs	4x12 Citrus – **Cab Packs 5, 14, 19 and 23**
Web, Manual	**Orange Head AD Series**
	AD Series Owners Manual
Amp controls	Master, Treble, Middle, Bass and Gain (=Drive)

The British company **Orange** has been around since 1968. Company background can be found on **Wikipedia**. You can't miss the bright orange amps on stage, and they are found on many.

In 1998 Orange launched its AD series, an EL84-powered 30 watt Class-A tube amp with a valve rectifier and single input. The amp modeled by Fractal Audio is the AD30HTC, where H stands for Head and TC for Twin Channel.

> "*Essentially two vintage British-style amps in one, the valve rectified twin channel AD Series recaptures the warm, time-honoured EL84 sound that defined an era. These amps have gained deserved reputation among Country pickers, Bluesmen, Pop, Funk and Indie artists for their classy, bell-like cleans, breaky crunch and controlled natural compression. This amp has proved to be so popular worldwide that its specification remains unchanged, and is fast becoming the new standard in 30 watt Class A amplification.*
>
> *With two completely separate signal paths, each with two stages of gain and master volume controls, both channels can be set clean or coaxed into varying degrees of crunch. Channel One has a slightly mellower character, with a thick, creamy, classic voice. Channel Two produces a tighter bass response and a faster attack with more gain and a more prominent upper midrange.*

However you set the controls, the AD30HTC remains wonderfully receptive to various guitars and playing styles, whilst the GZ34 valve rectifier imparts its own distinct vibe for players seeking a more vintage feel and responsiveness. Pair with our PPC212OB for glassy highs and spacious cleans or expose the AD30HTC's heavier nature with our PPC212 or PPC412 for more low end projection." – Orange

We have Clean and Dirty models of the AD30. But the amp hasn't got a clean and a dirty channel, read the description above. There's lots of gain available but the AD30 is not a high gain amp.

Typical for Orange amps are the symbols describing the panel controls. The AD30 has these controls (per channel): Master, Treble, Middle, Bass and Gain. The tone controls affect the amount of gain; turn them up for more gain.

The amp has a Master Volume, so the amp's distortion is created by the preamp and power tubes. You have to decide for yourself what setting in the amp model works for you best.

I use it for my 'better than a Vox' sounds. It has a real nasty bite to it, like chucking a bag of nails down some stairs.....my reference tone is "What's Going On" by Taste (I know that's an AC30 but it's the same 'bite' to me). I discovered the amp after going through TAF Platinum bundle presets. There's one in there called "Indie Yeah" that combines the AD30 with a Tayden True Brit IR. I'd never thought about using the amp before and I'd never heard of Tayden speakers before, but this combination just works for me. Maybe it's a result of growing up in the UK with the sound of Oasis everywhere… I find the distorted tone really works for those Britpop arpeggio chords." – simviz

Orange's 2x12 and 4x12 cabinets have V30 speakers. We have several Orange (Citrus) stock cabs.

"The 4x12 Citrus is one of my favorite 4x12/V30 stock cabs" – yek

Amplifier Specifications	
Power	30 watt
Master Volume	Yes
Negative Feedback	No
Preamp Tubes	ECC83
Power Amp Tubes	EL84
Tonestack Location	POST

Citrus Bass 200 (Orange AD200B)

Synopsis	Model of an Orange AD200B bass amp
Clips	**More videos, clips and comments**
Cabinet/speaker	Orange 8x10 bass cabinet
Web, Manual	**Orange Bass Heads**
	AD200B MK III Owners Manual
Amp controls	Master, Treble, Middle, Bass, Gain (=Drive)

The British company **Orange** has been around since 1968. Company background can be found on **Wikipedia**. You can't miss the bright orange amps on stage, and they are found on many. Including bass amps used by Geddy Lee (Rush), Deftones and Mastodon.

The AD200B isn't a "bells and whistles" kind of amp. It's incredibly simple. Three tone knobs, gain and Master. You can choose between a passive or active input. It runs on 6550 tubes (valves, as they call them in the U.K.), four of them, rated at 200 watt.

> "*The AD200B MK 3 is quite simply one of the purest valve bass amplifiers ever produced, designed on the premise that the best tone often comes from the shortest signal path from guitar to speaker. The classic, uncomplicated design features inputs for both active and passive instruments, with a simple but effective EQ.*
>
> *With four 6550 output valves pushing 200 Watt of power, the AD200B has a creamy, dynamic low-end with a focused mid-range. The rounded gain structure reveals a wide spectrum of vintage and modern tones, from mellow hues perfect for flatwound strings, through to heavy percussive grind. Whatever the situation, there is no shortage of punch, which is just one of the reasons why the AD200B has appeared on some of the world's biggest stages.*" – **Orange**

It's unknown whether the Fractal Audio model is based on the latest MK III edition or an earlier one.

The simple tone controls, Gain and Master are indicated by symbols on the front panel. The Gain control enables you to dial in an overdriven bass tone.

The 8x10 1200 watt cabinet is so big that yo' mama could live in it.

The 10" speakers are from Eminence. We haven't got those among our stock cabs.

Visit **Orange's website** for audio clips.

Amplifier Specifications	
Power	200 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	ECC83
Power Amp Tubes	6550
Tonestack Location	POST

Citrus RV50 (Orange Rockerverb 50 MK II)

Synopsis	Model of an Orange Rockerverb MK II
Clips	**2010 Orange Rockerverb MKII**
	Orange Rockerverb 50 Combo
	More videos, clips and comments
Cabinet/speaker	Orange 2x12 or 4x12 cabinet with V30 speakers
Stock cabs	4x12 Citrus – **Cab Packs 5, 14, 19 and 23**
Web, Manual	**Orange Rockerverb 50 watt MK II**
	Rockerverb 50/100 MKII Owners Manual
Amp controls	Volume, Treble, Middle, Gain (=Drive)

The British company **Orange** has been around since 1968. Company background can be found on **Wikipedia**. You can't miss the bright orange amps on stage, and they are found on many.

The Rockerverb is a tube amp with a clean channel (two gain stages) and a dirty channel (four gain stages) and a single input. It was introduced in 2003. The MK II model was introduced in 2010. Slipknot's Jim Root is a well-known Rockerverb user. The modeled amp is the 50 watter with 650 power tubes.

People often think that 50 watt is half as loud as 100 watt. But that's not the case. The difference often is just a few decibels.

> "*All Valve, channel-switching amplifier with ultra-transparent effects loop and valve-driven reverb. This amplifier utilises a two stage clean channel with a four stage dirty channel.*
>
> *The Clean Channel delivers a super rich clean tone with beautiful harmonic overtones. It is a non-master channel, much like vintage Orange amps, and when cranked the power section breaks up faster, delivering the most classic British crunch imaginable.*

> *The Dirty Channel is four stages of unadulterated filth, but it is NOT a one-trick pony. Move the Gain knob from 0 to 10, and as you do you'll find a variety of Orange tones, from metal to fusion, rock to blues…there's even some country in there.*
>
> *All 50 watt Rockerverb Mark II amps offer switchable output valves. This means you can swap the factory fitted EL34 output valves to 6L6s, KT88s, or 6550s. Just make sure you take your amp to a tech for rebiasing!*" – **Orange**

Let's look at this statement from the manual, without further comment: ☺

> "*The warmth, tonal quality and rich harmonics generated by a valve amplifier cannot be reproduced by 'artificial' means. Many guitarists have reached the same conclusion: neither the transistor nor microchip is a suitable alternative to valve technology.*"

Typical for Orange amps are the symbols describing the panel controls. The amp has a global Reverb control and per channel: Treble, Middle, Bass and Gain. The Dirty channel also has a Master. The tone controls also affect the amount of gain; turn them up for more gain.

The Master Volume means that the amp's distortion is created by the preamp and power tubes. You have to decide for yourself what setting in the amp model works for you best.

Orange's 2x12 and 4x12 cabinets are equipped with V30 speakers. We have several Orange (Citrus) stock cabs.

Amplifier Specifications	
Power	50 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	ECC83
Power Amp Tubes	EL34
Tonestack Location	POST

Citrus Terrier (Orange Tiny Terror)

Synopsis	Model of a "lunchbox" Orange Tiny Terror in 15 watt mode
Tips	The amp only does dirty tones, it's inaudible when clean. The Tone control is actually a high-cut control in the power amp and is replicated by the Hi Cut parameter in the amp model. Hi Cut set fully CCW is equivalent to the amp's tone knob fully CW. Keep T/M/B at noon for authentic sounds
Clips	**Orange Amplifiers – Tiny Terror**
	More videos, clips and comments
Cabinet/speaker	Orange 2x12 or 4x12 cabinet with V30 speakers
Stock cabs	4x12 Citrus – **Cab Packs 5, 14, 19 and 23**
Web, Manual	**Orange Terror Series**
	Tiny Terror Online Manual
Amp controls	Volume (=Master), Tone (= Hi Cut), Gain (=Drive)

The British company **Orange** has been around since 1968. Company background can be found on **Wikipedia**. You can't miss the bright orange amps on stage, and they are found on many.

The Tiny Terror is a simple, portable amp. Single channel, Class A, EL84 and switchable between 7 and 15 watt. At 15 watt it is still loud enough to keep up with a drummer and fill a room when combined with an appropriate cabinet. Reportedly it's based on a Vox AC-15 (non-TB channel) with an extra gain stage.

> "*Often imitated, but never equalled, the iconic Tiny Terror quite literally turned the guitar world upside down upon its launch. Heralded by Guitarist Magazine as '**the most important guitar product in the last 30 years**', Tiny Terror ownership now stretches to well over 30.000 players worldwide. This is the original 'lunchbox' amp head, and continues to set the standard by which all other low wattage valve amplifiers must be judged.*
>
> *Combining ultra-portability with an outstanding array of valve tones, Tiny Terror head delivers an exceptional range of British valve tones made possible by a single channel with just three controls. A unique preamp section and gain structure goes from clean/bluesy crunch to Punk and Classic Rock, all controllable by your guitar's volume knob.*

The intuitive tone circuit acts as a roll off for the upper frequencies whilst always retaining the character of the instrument, even when driving the amp to its absolute limits.

Whilst the philosophy behind the Terror series began with the gigging musician on the move, their huge sonic range, supreme usability and switchable output options has made them the 'go-to' amps for studio engineers and producers alike." – **Orange**

FRACTAL AUDIO SYSTEMS

"*It's inaudible when clean.*"

"*The tone control is actually a high cut control in the power amp and is therefore replicated by the Hi Cut parameter. The Hi Cut set fully CCW is equivalent to the amp's tone knob fully CW. The model uses a neutral tone stack. Set T/M/B to noon for authentic sounds or adjust to taste.*"

Typical for Orange amps are the symbols describing the panel controls. The controls are simple: Gain, Volume and a single Tone control (amp model: Hi Cut).

It really is an amp for dirty tones only, useless for clean tones.

The Tiny Terror was modeled in 15 watt mode. The model uses a neutral tone stack. Set T/M/B to noon for authentic sounds or adjust to taste.

"*Of the Citrus amps, I like this one the best. Gain around 7, Hi-Cut at 6, and control the gain with the guitar's volume knob. That's all.*" – yek

"*The 4x12 Citrus is one of my favorite 4x12/V30 stock cabs.*" – yek

The Tiny Terror combo includes a G12H speaker. But it works well with larger Orange cabs with V30 speakers as well. We have several Orange (Citrus) stock cabs.

Amplifier Specifications	
Power	15 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	ECC83
Power Amp Tubes	EL84
Tonestack Location	PRE

Class-A 15W TB (VOX AC15)

Synopsis	Model of a VOX AC15 Top Boost, AC30's little brother
Tips	Try the 1x12 Bludo stock cab
Clips	**VOX AC15 Amplifier Guitar World Review**
	More videos, clips and comments
Cabinet/speaker	Single Alnico Blue or greenback
Stock cabs	1x12 Class-A 15W – **Cab Packs 1 and 21**
Web, Manual	**VOX Hand-Wired amplifiers**
	AC15HW Owner's Manual
Amp controls	Volume (=Drive), Tone Cut (=Hi Cut), Bass, Treble

From Beatles to nowadays rock stars, everybody plays VOX amps: Brian May, The Edge, Rory Gallagher, Radiohead, Kings of Leon, Ritchie Blackmore etc. etc. Did you know that the famous James Bond theme was recorded on an AC15? And for some divine reason, VOX is the tone of choice in P&W. **VOX** is owned by Korg. The original VOX company (Jennings) now builds the original amps again, under the name of **JMI**.

The AC15 was developed before the AC30. The AC15 simply was not loud enough so VOX made a louder version: the AC30. The AC15 is still being made by Korg, eh sorry, VOX. A '60-'65 VOX AC15 Twin occupies spot #21 on **Vintage Guitar's list of most valuable amps**:

> "*The Vox AC30 garnered more attention for years, but in this age of reduced stage volumes and project-studio recording practices, the smaller AC15 has become even more desirable in some players' estimation. Dick Denney's creation benefited from several design elements that were specifically intended to flatter the voice of the electric guitar, rather than merely amplify it, and these babies achieve that in spades. Plug into the stout EF86 pentode preamp*

channel for creamy, milkshake-thick tones or the ECC83 channel for more jangle and sparkle, and you quickly hear what all the fuss is about."

The AC15 and AC30 were rather dark amps, with a single tone control. The "Brian May" tone. The Top Boost circuit was added later, adding gain and Bass and Treble controls, and the well-known VOX "chime".

The VOX is often cited to be a Class A amp. I'll **quote Korg/VOX** about the difference between Class A and Class A/B amps:

"*In order to understand the difference between these two types of amplifier designs (there are others) you must first understand a little about tubes.*

The most basic tube used as an amplifier consists of three elements: Cathode, Plate and Grid. The Cathode is heated (by the heater, another element in all tubes except in very old designs where the cathode is the heater) and forms a cloud of negatively charged electrons. The Plate has a positive charge that attracts the electrons. The Grid is the audio input to the tube and usually controls the flow of electrons.

Amplification happens when a signal is applied to the grid that allows for and controls how much current flows through to the plate. Because the signal voltage is relatively low and the plate voltage is relatively high (as supplied by the power supply), the small changes produced by the audio signal at the Grid appear much larger at the Plate, hence amplification.

In a Class A circuit, a positive voltage is applied to the Grid, which controls the flow of electrons. In this circuit design current is flowing at all times through the tube.

In a Class "AB" design a negative "bias" voltage is applied to the grid, which will cause the tube to "shut off" when the audio waveform is below a certain point. Meanwhile there is another tube and associated circuit that is turning on before the first one turns off and is reproducing the rest of the waveform. In short these two tubes share the job of reproducing the full audio waveform.

Each type of design has its advantages and disadvantages."

"Class A" advantages are:

- The tube is ready to amplify the signal at all times
- The signal is instantaneously amplified because the tube does not have to "wake up" from a less than full operational state
- A 30 watt "Class A" amp will sound louder than a 30 watt "Class AB" amp
- Because current is maximum at all times, the amp will have smooth compression
- There is not a lot of headroom because of the lower plate voltages used in "Class A" amps
- Instantaneous amplification and smooth compression make an amp that is responsive to the touch: the amp feels good and playing it is a satisfying experience
- Combined with EL84s in push-pull operation, the amp will emphasize high order harmonics and the amp will "sing"

"Class A" disadvantages are:

- Maximum current at all times means that the tubes are being strained even without playing
- Shorter tube life
- Lower power rating than a "Class AB" amp with the same tube configuration
- Power transformer needs to be upgraded in order to handle the high current demands.

“Class AB” advantages are:

- Longer tube life because the tubes are “idling” with lower Plate Current
- Higher power ratings with the same tube configuration
- More headroom
- Tighter bass response
- Less continuous demand on the power transformer.

“Class A/B” disadvantages are:

- Not as “responsive” as a “Class A” amp.

Let’s carry on with **Wikipedia**:

> “*The Vox isn’t really a Class amp. It’s a Class A push-pull amp with cathode bias. The high bias condition is believed by some to be the source of the amplifier's famous immediate response and “jangly” high-end, though the lack of negative feedback, minimal preamp circuit, simple low loss tone stack, and the use of cathode biasing on the output stage play at least as large a role, if not larger.*”

The AC15 runs on EL84 power tubes. Originally the AC15 had an EF86 preamp tube in one channel and ECC83 (currently: ECC83/12AX7) in the other one. There’s no EF86 in the current AC15 and AC30 models; you have to resort to boutique alternatives for that such as Matchless and Morgan. Our AC15 virtual model defaults to 12AX7 preamp tubes.

It has High and Low inputs per channel. If the original amp has High and Low inputs, the model is always based on the High input. To get the equivalent of the Low input, decrease Input Trim.

VOX amps are “no negative feedback” amps. Negative feedback sends a bit of the signal coming out of the amplifier back to the input of the power amp. This cleans up tube distortion, but also causes loss of harmonics. If there’s no negative feedback, the Damping parameter in the amp model is set at zero. The model’s Presence control then becomes a Hi-Cut control.

The original AC15 had two channels. The first channel provided a “Vibravox” effect (not modeled), a combination of tremolo and vibrato, plus Volume and Brilliance controls. Channel 2 had a Volume and a Cut control (amp model: Hi-Cut). Later models with Top Boost added Bass and Treble controls. **More recent models** offer Normal and Top Boost channels with additional options (Bright, Master Volume etc.).

It has not been disclosed on which specific hardware model our amp model is based, other than that it has the Top Boost circuit.

A VOX typically feeds Alnico Blue speakers or greenbacks. Blue refers to the color of the speaker’s metal. Alnico speakers are often used when bright tones are needed.

> "*I like the combination of the AC15 model and stock cab 1x12 Bludo.*" – yek

Amplifier Specifications	
Power	15 watt
Master Volume	No (on originals)
Negative Feedback	No
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	EL84
Tonestack Location	POST

Class-A 30W (VOX AC30)

Synopsis	Four models of a VOX AC30: • Class-A 30W: Normal channel of a non-Top Boost AC30 • Class-A 30W BRT: Bright channel of a non-Top Boost AC30 • Class-A 30W TB: Top Boost channel of the AC30 Hand-Wired • Class-A 30W HOT: Hot mode of the AC30 Hand-Wired
Tips	Try a Drive block before the Amp block, set to FET or SDD or Treb Boost Leave all tone controls in the "Hot" model at default for authenticity
Clips	**ProGuitarShop – 2010 VOX AC30 Hand-Wired Head** **More videos, clips and comments**
Cabinet/speaker	Two Alnico Blue speakers or greenbacks
Stock cabs	2x12 Class-A, 2x12 Top Boost, 2x12 ACROIX, 4x12 Beatle – **Cab Packs 1, 2, 4, 6, 18, 21**
Web, Manual	**VOX Hand-Wired amplifiers** **AC30HW Owner's Manual**
Amp controls	Treble, Bass, Volume (=Drive), Tone Cut (=Hi Cut)

From Beatles to nowadays rock stars, everybody plays VOX amps: Brian May, The Edge, Rory Gallagher, Radiohead, Kings of Leon, Ritchie Blackmore etc. etc. And for some divine reason, VOX is the tone of choice in P&W. **VOX** is owned by Korg. The original VOX company (Jennings) now builds the original amps again, under the name of **JMI**.

The VOX AC30 flagship amplifier came to life in '59 because the existing AC15 simply wasn't loud enough and artists such as The Shadows asked for louder ones.. VOX doubled the number of power tubes in the AC30.

The Edge's famous amp is a '64 Top Boost AC30/6 model. A '60-'63 VOX AC30 occupies spot #18 on **Vintage Guitar's list of most valuable amps**: "*The hallowed AC30 is a seminal tone template for the ages.*"

VOX amps are often cited to be a Class A amp. Read the Class-A 15W write-up for an explanation of Class A and Class A/B amps and negative feedback.

The AC30 originally was a dark two-channel amp with a single tone control. The "Brian May" tone. People used treble boosters to, duh, boost treble, which also added gain. The Top Boost circuit, aka "Brilliance", was added later, adding Bass and Treble controls and creating the well-known VOX "chime". **Wikipedia** has more background information.

The AC30 runs on EL84 power tubes. Originally the AC30 had an EF86 preamp tube in one channel and ECC83 (currently: ECC83/12AX7) in the other one. VOX dropped the EF86 because of reliability issues. There's no EF86 in the current AC30, although you can custom-order it. Our AC30 amp model defaults to 12AX7 preamp tubes.

The AC30 has High and Low inputs per channel. If the original amp has High and Low inputs, the amp model is always based on the High input. To get the equivalent of the Low input, decrease Input Trim in the amp model.

Some (or maybe all) Fractal Audio's AC30 models are based on an AC30 Hand-Wired. This amp has ECC83/12AX7 preamp tubes, Normal and Top Boost channels, a Bright switch on the Normal channel, a Hot/Cool switch on the Top Boost channel and a Master volume control with the option to bypass it. The amp was modeled with Master Volume bypassed. The "Hot" mode bypasses the amp's EQ for more gain.

Two models may be based on a non-Top Boost AC30, but this hasn't been confirmed.

Class-A 30W: Normal channel of a non-Top Boost AC30

Class-A 30W BRT: Bright channel of a non-Top Boost AC30

Class-A 30W TB: Top Boost channel of the AC30 Hand-Wired

Class-A 30W HOT: Hot mode of the AC30 Hand-Wired

"*While the Class-A models (VOX) are outstanding, we also have models of boutique supposedly "better-than-VOX" amps such as Morgan, Ruby and Trainwreck.*" – yek

The controls are: Volume, Tone (model: Hi-Cut), Bass/Treble on the Top Boost channel, Bright switch on the Normal channel of a non-Top Boost AC30

Since the “Hot” mode of the Handwired amp bypasses the amp’s EQ, you should leave all tone controls at default in that model for authenticity.

To increase gain, turn up Input Drive. What also works well with VOX amps is to boost the signal at the input stage, for example by increasing Input Trim, or by adding a Drive such as FET Boost or SDD.

Older Top Boost AC30s have a design flaw. When the Bass control is maxed, there’s a very noticeable midrange notch. This has not been modeled.

A VOX AC30 typically feeds two Alnico Blue speakers or two greenbacks. Blue refers to the color of the speaker’s metal. Alnico speakers are often used when bright tones are needed.

“Tom’s Mix” IRs in **Cab Pack 4** are popular.

FRACTAL AUDIO SYSTEMS

[talking about the Handwired amp]
“*Note that the particular AC30 used for the model has this scratchy high end. This is reflected in the high Dyn Pres value. It's a hand-wired version and that can lead to this type of sound as the parasitics cause boosting of the very high frequencies when the amp is driven hard. The obvious solution is to turn Dyn Pres down.*”

“*I intentionally limited the midrange notch since, IMO, it's a design flaw in that tone stack. But you can recover that behavior by setting the Mid control fully CCW. Modern AC30's don't have this flaw. They use a Fender-style tone stack with a fixed mid resistor.*”

"*AC30's have no negative feedback on the power amp. This means the output voltage follows the speaker impedance. Therefore you get a boost at the low frequency resonance of the speaker which causes the low end to get loose when you crank it*.”

Amplifier Specifications	
Power	30 watt
Master Volume	No (on originals)
Negative Feedback	No
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	EL84
Tonestack Location	POST

Comet 60 (Komet 60)

Synopsis	Model of the Komet 60, a single channel amp without Master Volume, designed by Ken Fischer who also designed Trainwreck amplifiers
Tips	A Touch Response switch lets you choose between Fast and Gradual response. The model is based on the switch in the “Fast” position. You can replicate the “Gradual” position by decreasing Input Trim to .250. Turn down Bass
Clips	**Komet 60 – Demo by Simon Gotthelf** **Komet 60 Part 2 clean/dirty Lead – Demo by Simon Gotthelf** **More videos, clips and comments**
Cabinet/speaker	4x12 cabinet with Celestion Blue or greenback speakers
Web, Manual	**Komet Concorde**
Amp controls	Hi-Cut, Presence, Bass, Midrange, Treble, Volume (=Drive), Fast/Gradual switch

After Dumble the most expensive guitar amplifiers are Trainwrecks. Those boutique amps were created by (the late) Ken Fischer. He designed amps for Komet too, which are also held in high esteem and are similar to the Trainwreck amps.

> “*The Komet is a 100% new design, but is built along traditional Trainwreck methodologies. Like all “Wrecks”, the Komet is a single channel amp. It has NO reverb, master volume, effects loop, foot switches, pull pots, transistors or chips ANYWHERE.*”
>
> “*The amp should produce about 50 to 60 Trainwreck watt of power. The amp must have plenty of headroom. The amp must use a 5AR4/GZ34 tube rectifier for the feel and sound this tube creates without the mushy sag usually associated with tube rectification. The amp's bass response must be big, bold, clear and tight. The amp's touch response must be adjustable from gradual, like a fifties or sixties amp, to fast, like a Trainwreck amp. The amp's workmanship is to be second to none”. –* **Ken Fischer**

The Komet 60 is **Komet's flagship model**. EL34 power tubes are but you can swap these for other tubes. It is rated at 50-60 watt.

> "*The Komet 60. Our first amplifier and our flagship model. Sleek and streamlined. In many ways - the ultimate tonal chameleon. Designed by Ken Fischer in 1999. This multifaceted amplifier has the ability to operate on several different tube types. Each tube selection allows the player to travel into a different tonal universe.*
>
> *The EL34 stock factory setup immediately dials you into the benchmark English era of rock and roll. Switch to 6L6s and you're in the 1960's American rock zone. EL34s, KT77s, 6L6s, 5881s, KT66s, KT88s, 6550s, - your tube choice ultimately decides where you wish the sound to take you. You can expect complex harmonics, bold & clean focused clarity and aggressive when pushed. Pedal friendly ? - you bet! The Komet 60 will always have an immediate, balanced full tonal range, no matter which power and pre amp tube selection you choose.*
>
> *The front control panel is simple and intuitive. Volume followed by a standard 3-band EQ, a presence control as well as a high cut control. The high cut control operates within the power section of the amplifier and thus allows the user to darken and shape the overall tone of the amplifier without affecting the equalization of the preamp section. This solves the common problem of the loss of gain and clarity when turning the treble control down in the preamp.*
>
> *On the back control panel you will find The Touch Response switch. This Trainwreck Engineered circuit enables the musician to alter the amplifier's touch response characteristics to suit their playing style. A simple flip of the switch allows the player to choose between a fast, or a gradual response to one's picking dynamics and guitar's volume control settings. The Touch Response circuit is not an extra gain stage or gain boost circuit. Instead it works by magnifying subtle changes in pick or finger attack along with subtle changes in guitar volume. This circuit allows those players who prefer clean tones to run the full range of dynamics without breaking into unwanted distortion. A blues player can play on the edge of distortion easily going from clean to blues overdrive using pick attack as the controlling factor. An over the top player can go from clean to scorch using the fast setting. The slightest change in pick attack or guitar volume setting will translate into huge changes in dynamics and power. To sum up, the Touch Response circuit lets you choose the response and feel you want and makes your amplifier capable of playing every style of music.*" – Komet

The Komet 60 is a single channel amp without Master volume, with a single input.

The controls are Hi Cut, Presence, Bass, Middle, Treble, Volume. The Hi Cut control isn't available in Fractal Audio's model. There's a lot of bass so turn that down or use the Cut switch in the amp model.

The amp has a Touch Response switch which lets you choose between Fast and Gradual response. The model is based on the switch in the "Fast" position. You can replicate the "Gradual" position by decreasing Input Trim to .250 in the amp model.

Komet builds 4x12 cabinets with a choice of the following speakers: G12H, G12M (greenbacks), Alnico Blue or Gold and G12-65.

Amplifier Specifications	
Power	50 watt
Master Volume	No
Negative Feedback	Yes
Preamp Tubes	12AX7A
Power Amp Tubes	EL34
Tonestack Location	PRE

Comet Concourse (Komet Concorde)

Synopsis	Model of a Komet Concorde, similar to the Komet 60 but positioned more as a rock amp
Tips	A Touch Response switch lets you choose between Fast and Gradual response. The model is based on the switch in the "Fast" position. You can replicate the "Gradual" position by decreasing Input Trim to .250 "*Like the Comet 60 model, this model doesn't need a lot of EQ-ing. I have everything at default, except for Input Trim (see above) and Input Drive at around 4.*" – yek
Clips	**Komet Concorde – Demo by Simon Gotthelf** **More videos, clips and comments**
Cabinet/speaker	4x12 cabinet with Celestion Blue or greenback speakers
Web, Manual	**Komet Concorde**
Amp controls	Hi-Cut, Presence, Bass, Midrange, Treble, Volume (=Drive), Fast/Gradualswitch

After Dumble the most expensive guitar amplifiers are Trainwrecks. Those boutique amps were created by (the late) Ken Fischer. He designed amps for Komet too, which are also held in high esteem and are similar to the Trainwreck amps.

> "*The Komet is a 100% new design, but is built along traditional Trainwreck methodologies. Like all "Wrecks", the Komet is a single channel amp. It has NO reverb, master volume, effects loop, foot switches, pull pots, transistors or chips ANYWHERE.*"
>
> "*The amp should produce about 50 to 60 Trainwreck watt of power. The amp must have plenty of headroom. The amp must use a 5AR4/GZ34 tube rectifier for the feel and sound this tube creates without the mushy sag usually associated with tube rectification. The amp's bass response must be big, bold, clear and tight. The amp's touch response must be adjustable from gradual, like a fifties or sixties amp, to fast, like a Trainwreck amp. The amp's workmanship is to be second to none*". – **Ken Fischer**

We already discussed the Komet 60. The Concorde's specs are quite similar: EL34s (but not swappable), 50/60 watt, etc. More than the 60, the Concorde is positioned as a rock amp.

> "*Traditional Trainwreck principles are followed in the design and construction. The Concorde is a single channel amp and does not have reverb, a master volume, an effects loop, foot switches, pull pots, transistors, chips or anything else that would degrade tone, harmonic complexity or touch sensitivity.*
>
> *The head box is constructed with top quality Baltic Birch covered in vintage style black levant tolex. The front panel is made of solid Padauk hardwood, hand finished and centered by a 1/8th-inch stainless steel etched plaque which displays our traditional Komet "V". A simple, yet efficient Padauk back panel allows for optimum tube protection with plenty of ventilation to spare for the amplifier. Like all Komet amplifiers, our chassis is laser cut, solid 1/8" welded aircraft grade aluminium. It features completely sealed military-grade 2 Watt potentiometers and ceramic tube sockets with gold plated contacts. It is hand built with only the best sounding and most reliable parts, and as with all of our amplifiers, is completely hand wired.*
>
> *This Trainwreck circuit, which includes Ken Fischer's specially designed power and output transformers, offers an exceptional sound. The Concorde is designed to operate exclusively on EL 34 power tubes. Ken has achieved the very best from this tube compliment without any compromises. The Concorde has more gain than Ken Fischer's other designs for Komet and incorporates a solid state rectifier. A new circuit in conjunction with new transformers and the careful selection of only the finest components allow the Concorde to offer benchmark EL 34 tone with rich complex harmonics, creamy rhythms and singing leads - all reinforced with a strong, bold, tight, low-end response. The Concorde follows the Komet / Trainwreck tradition of creating an amplifier with rich, balanced sound and unmatched musicality including superb touch sensitivity, note articulation, string to string separation and dynamic response.*" – **Komet**

The amp has a Touch Response switch which lets you choose between Fast and Gradual response. The model is based on the switch in the "Fast" position. You can replicate the "Gradual" position by decreasing Input Trim to .250 in the amp model.

While Komet writes that the Concorde has more gain than the 60, it seems to be the other way around with the amp models: the "60" model has (slightly) more gain than the Concourse.

The controls are: Hi Cut, Presence, Bass, Middle, Treble, Volume. The relationship between Presence and Hi Cut isn't clear, but that doesn't really matter because the Hi Cut control hasn't been modeled.

There's a lot of bass so turn that down or use the Cut switch in the amp model.

> "*This amp doesn't need a lot of EQ-ing IMHO. I have everything at default, except for Input Trim (see above), low Bass and Input Drive at around 4.*" – yek

Komet builds 4x12 cabinets with a choice of the following speakers: G12H, G12M (greenbacks), Alnico Blue or Gold and G12-65.

Amplifier Specifications	
Power	50 watt
Master Volume	No
Negative Feedback	Yes
Preamp Tubes	12AX7A
Power Amp Tubes	EL34
Tonestack Location	PRE

Corncob M50 (Cornford MK50 II)

Synopsis	Model of the overdrive channel of a Cornford MK50H II: “Plexi-meets-Modern tone with big cojones”
Tips	Add a Drive block (T808: Drive at zero, Level at 7) to make it less loose
Clips	**Cornford MK50 MKII Demo (Clean, Rock and Metal tones)**
	More videos, clips and comments
Cabinet/speaker	4x12 Cornford cabinet with V30 speakers
Web, Manual	**MK50H II**
	The MK50II 2 Channel 50 Watt Head
Amp controls	Gain (=Input Drive), Overdrive, Bass, Middle, Treble, Volume, Master, Presence, Resonance (=Depth)

“*I first heard and saw a Cornford amp when Dweezil Zappa played one at a Zappa Plays Zappa gig in The Netherlands. That was before he moved to Fractal Audio gear. His sound blew me away. As a matter of fact it blew Steve Vai’s tone away too, who was present too, playing his usual gear.*” – yek

Dweezil Zappa, Richie Kotzen and Guthrie Govan were well-known Cornford players. “Were” because Cornford amplifiers in Britain no longer exists. The designer went on to found **Victory amplifiers**, not to be confused with USA-based Victoria amps. Guthrie Govan plays Victory amps.

The Corncob RK100 amp model was a popular amp model in the first generation Axe-Fx, based on Richie Kotzen’s signature amp. The model in the Axe-Fx II and AX8 is based on another Cornford: the MK50 II, Cornford’s flagship at the time.

The MK50 II is a hand-built two-channel amp, with EL34 (modeled) or 6L6 power tubes and a solid-state rectifier. Rated output is 50 watt.

"*Plexi-meets-Modern tone with big cojones.*"

"*I always play the model when writing write-ups. This is one of the models I enjoyed playing most. Quite different from other high-gain amps. It isn't the amount of gain, it's the "Bam! In your face!" tone. If I was playing in a hard rock band, this would be a top candidate.*

Try Input Drive 5, Overdrive 8, Bass 0, Middle 5, Treble 5, Presence 3.

What works great with this model: put a Drive in front of it like the T808 with Drive at zero and Level at 7. This tames the bass of the amp model and makes the tone even better." – yek

The model is based on the amp's Overdrive channel. It has the characteristics of other brands, such as Marshall, MESA and Soldano, but retains its own vibe: big, brutal and bold, combining the best of all. The amp's Clean channel hasn't been modeled.

Controls on the Overdrive channel: Gain (model: Input Drive), Overdrive (model: Overdrive), Bass, Middle, Treble, Volume. Two Master controls, Presence and Resonance (model: Depth).

There's a load of bass in this amp model, so turn that down or use the Cut switch.

The Overdrive channel provides two gain controls (model: Input Drive and Overdrive). On all amps like this, including those by Dumble, Fryette, Carol-Ann and MESA, the first control sets the sensitivity and the second one sets the amount of distortion. Models with Input Drive and Overdrive controls always feel elastic and spongy.

The amp has Master controls. This means that the amp's distortion is created in particular by the preamp tubes, not the power amp. The Master Volume, which works in the power amp section, is still very important to the tone and feel. You have to decide for yourself what setting in the amp model works for you best. The default setting is a good point to start.

Cornford cabinets use V30 speakers. Alt. try the combination of the two 4x12 Fractal stock cabs.

Amplifier Specifications	
Power	50 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	ECC83
Power Amp Tubes	EL34 / 6L6
Tonestack Location	POST

Das Metall (Diezel VH4)

Please refer to the section on the **Dizzy V4 models**.

Deluxe Tweed (Fender Tweed Deluxe, 5E3)

Synopsis	Model of a 5E3 Fender Tweed Deluxe
Tips	Just a single Tone control, mapped to Treble in the amp model, turn it up! Keep Bass, Mid and Master at default for authenticity and play a telecaster
Clips	**J.D. Simo – 1957 Les Paul Custom and a 1959 Fender Deluxe**
	1955 Fender Tweed Deluxe 5E3
	More videos, clips and comments
Cabinet/speaker	Single Jensen Alnico P12 speaker, or Marshall G12H or JBL D120
Stock cabs	1x12 Tweed, 1x12 Deluxe Tweed – **Cab Packs 1 and 4, ML USA Combos**
Web, Manual	**Fender The Edge Deluxe**
Amp controls	Tone (=Treble), Volume (=Drive)

The Tweed era is the earliest period of Fender amplification (late 40's – early 60s'), before the blonde, brown, blackface and silverface models. Very collectible amplifiers. "Tweed" refers to the cloth covering used at that time, as seen in the picture above. Tweed amplifiers typically break up earlier than later models and are known for their warm sounding distortion. **More information**.

Tweed-era amps are very collectible. This particular model is a "narrow panel" Tweed model. This refers to the panels around the speaker grill which are narrower than earlier "wide panel" models which looked like old televisions.

The Tweed Deluxe was produced by Fender from early 1948 to 1966. Not to be confused with the Deluxe Reverb; the difference is more than reverb. It was marketed as a studio amp because of its low wattage. The amp has the famous 5E3 circuit. It was the most popular of the Tweed amps at the time. While it's a sought-after amp, it's also relatively easy to copy, err, reproduce. There are lots of clones and DIY kits on the market. Fender's **The Edge Deluxe amp** is an official re-issue. About the

circuit numbers: in general the first number indicates the decennium (5 is '50s). The letter indicates the circuit revision, and the last number indicates the amp model (3 = Deluxe).

> "*Rich and sweet clean tones at low volume, toothsome overdrive at decibels that won't make the soundman apoplectic, and compact dimensions that'll let it ride in the front seat of your Fiat 500. The tweed Deluxe is the original "ideal studio and club amp"."* – **Guitar Player**
>
> "*The 5e3 Deluxe is desirable among players within all kinds of music styles. The tone of the 5e3 Deluxe is fat and rich with strong mids and a decent bass response given the relatively small cabinet size, approximately the same size as the Princeton Reverb. The construction of the pine baffle and cabinet sounds to us tighter and more closed than the blackface open cabinets, with the possibility of more low end response given the right speaker. A 12" speaker contributes to a full and warm tone and the pure and simple tone stack of the 5e3 Circuit delivers a natural and uncolored tone of your guitar.*
>
> *The 5e3 Tweed Deluxe is known for its distorted and cranked tones which comes easily when setting the volume and tone above 12 o'clock. The early distortion is partly explained by the lack of a negative feedback loop and the 6V6 cathode bias design which offers more sag and compression and less clean headroom than fixed bias (typically the ab763 blackface amps and a few tweed amps). Besides the fact that the 5e3 Deluxe distorts easily, what fascinates us the most are the golden tone secrets that exist within this amp. If you experiment with the tone knob and the other channel's volume knob (the channel you're not plugged into), you'll find one of the most beautiful clean tones of all times that once and for all confirms that Leo is a God of tone and that he loves us all. The clean sound is not as loud, cold and terrifying as of the silverface or blackface era amps. They will require much more experience and effort to dial in sweet tones, but once you know how you'll be rewarded greatly. With the 5e3 Deluxe it is easier to quickly dial in a nice clean tone, especially at practice volume levels. Given the early distortion and mellow clean sound we find the 5e3 Deluxe great for single coil guitars, especially the bright bridge pickup of the Strat and, of course, the Tele. It is just fabulous for a Telecaster on bridge pickup.*
>
> *By looking at the control panel the 5e3 Deluxe appears to be very simple. The few controls provide a quick and small selection of tones. It is practically impossible to not find a good tone with this amp. All you need to do is turn up the volume and set the tone. We believe the world would be a better place if the 5e3 Deluxe was the only amp around. All guitar players deserve to play this amp and learn how to create music with a natural and transparent guitar tone. But the amp is really not as simple as one might think… The two interactive volume channels and the mysterious, non-linear tone control provides a big spectrum of tones, everything from Fender clean to Marshall grit. Many players find the two volume controls confusing. We at fenderguru.com agree. What the heck was Leo and his engineers really thinking when they designed the two volume controls? When you plug into the normal channel any normal person, even a drummer :), would expect that the other channel's setting is not affecting the tone. But no. As you gradually turn the other volume knob, both tone and volume changes, also drastically at the very end between 10 and 12 where you'd expect nuthin more to come. It works likewise the other way around if you play the bright channel. Even more confusing is the tone control. You'd might expect a treble or mid control. Nope, the tone control affects volume, gain, EQ/tone, everything! And worst of all, it does not behave consequently at different volume levels of the two channels. In total you have 4 inputs to choose from, two volume knobs and a tone knob that you can spend years trying to figure out*." – **Fenderguru.com**

Each of the two channels (Normal and Bright) has two inputs. The model is based on the Bright channel and High input. To get the equivalent of the low input, set Input Trim to 0.500 in the amp model.

The amp only has a Volume control for each channel and a shared Tone control. In the amp model Tone is mapped to Treble. You will want to turn up Treble a lot (8 or higher). The amp has no Bright switch. And no Master so keep it at default in the amp model.

> "*Note that this amp only has a single tone control. This is modeled by the Treble control in the Axe-Fx II. The Bass and Mid controls are functional and recreate the amp when set to noon*." – Firmware release notes

It's a low output amp. The 6V6 tubes generate 12 to 15 watt. So it starts to distort early. This attributed to its popularity and is the reason why players such as Neil Young (who owns hundreds) and Billy Gibbons use it. When you really crank the volume, the distortion gets crazy and uncontrollable and sounds like a fuzz.

FRACTAL AUDIO SYSTEMS

"*Yup, that's the key. Crank the treble almost all the way up.*"

> "*Also note that this amp suffers from extreme blocking distortion at or near maximum gain. This is common in very old designs. As it is virtually unplayable like this, the model uses a somewhat reduced level of grid conduction to lower the amount of blocking distortion and make the amp more playable at high Drive settings.*" – firmware release notes

Note that the range of the controls is different from the amp model (which start at 0). To translate the settings, use the **table at the back of this guide**.

Many people insist that a Deluxe must be used with a telecaster. A cranked Deluxe takes the harsh end off the bridge pickup and the low end of the neck pickup.

The Deluxe combo included a single Jensen P12 Alnico speaker. Try the 1x12 Tweed stock cabs or other try Alnico stocks cabs.

Amplifier Specifications	
Power	12 – 15 watt
Master Volume	No
Negative Feedback	No
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	6V6
Tonestack Location	PRE

Deluxe Verb ('65 blackface Fender Deluxe Reverb, AB763)

Synopsis	Models of a 1965 blackface Fender Deluxe Reverb with AB763 circuit
Tips	Chimey tone that breaks up nicely when pushed
Clips	**Fender Deluxe Reverb-Amp 1965 (Original)**
	Johan Segeborn – '65 Deluxe Reverb (Re-issue)
	More videos, clips and comments
Cabinet/speaker	Single Jensen C12N, Oxford, JBL 120 or EV-12L speaker
Stock cabs	1x12 Black, 1x12 Deluxe Verb – **Cab Packs 1, 4 and 10**
Web, Manual	**'65 Deluxe reverb reissue**
Amp controls	Volume (=Drive), Treble, Bass

The Fender Deluxe Reverb, aka "DR", isn't the same as a Fender Deluxe with added reverb. Well, it is in a way but this amp sounds different, more scooped.

The Deluxe Reverb was introduced in '63. The modeled amp is a '65 blackface model. It delivers a great, chimey tone and breaks up nicely when you push its level. This amp has the well-known AB763 circuit, delivering 22 watt through 6V6 tubes. More info on **Wikipedia**.

Blackfaced Fenders were produced between 1964 and 1967. The blackface label refers to the black tolex and control panel. Pre-CBS blackface Fenders are in high demand and are not as expensive as Tweed and brown models. **More information.**

> *"The Deluxe Reverb 1x12" has for decades been one of the most popular amps among all Fender amps, and its popularity is still growing as the demand for low wattage tube amps*

increases. The combination of size, weight and performance makes the Deluxe Reverb a true road warrior on gigs and practice. Both the Deluxe Reverb (DR) and Princeton Reverb (PR) "survived" the CBS silverface periods with minor changes. Many people consider the silverface amps just as sonically good as the blackface models. Being almost a blackface amp with a new faceplate (wrong for collectors), the silverface models became popular value-for-the-money amps. Collectors hunt the blackface models and players hunt the silverface for its quality and price. The DR is a small/medium-sized amp with an ability to deliver both sparkling clean tones and low wattage breakup at 22W with 6V6 tubes and relatively small transformers (power and output). It has found its way in to more recording studios, clubs and bars than any other Fender amp. It has met many players' expectations. It is just powerful enough to cut through in practice in a band with a drummer and, unlike some bigger amps, it will reach its sweet spot at a reasonable volume. It has the typical blackface 60's sparkle with a scooped clean sound just like the bigger Fender brothers, just with more smooth breakup, sag and compression." – **Fenderguru.com**

"*An equally fine choice for a versatile small club amp is the Vibrolux Reverb's little brother, the Blackface Deluxe Reverb (1964 through 1967). It is rated at just 24 watt or so (with two 6V6 power tubes), but the overall circuitry in the amp is virtually the same as the Vibrolux Reverb. It has two channels, but I only use the second channel, again, due to the extra stage of gain. It drives a single 12" speaker. Most of the Deluxe Reverbs that Fender built have a very inefficient Oxford 12" in them. The first thing you should do to make this amp really worthy is to install a much larger ceramic magnet speaker. A better 12" is essential to having a Deluxe sound as good as it possibly can (and that is very good indeed.) The Deluxe Reverb will not have as much bottom as a Vibrolux Reverb, due to its smaller power tubes, but anyone who's heard a Deluxe Reverb set at about "6" for leads knows how sweet the 6V6 power tubes sound. Again, you need to run this amp at "6" or above in terms of volume to really bring out the classic overdriven Fender tone. I find that setting my guitar's volume knob on "10" for leads works wonderfully, then when I back it off to say "7" or so for rhythm, the amp naturally cleans up. That's a neat trick to use. If you are hesitant to change your original speaker, consider acquiring a second speaker cabinet for your new and improved speaker. But remember, amps are tone machines, not museum pieces, so if you are torn between swapping out the speaker, keep in mind that you can always store it away and reinstall it if you decide to sell the amp later. I have an extension cabinet with a 15" Electrovoice SRO speaker in it, and I sometimes run my own Deluxe Reverb through that setup. It dramatically improves the tone—huge fat bottom, low mids, and much more overall volume.*" – **ToneQuest**

Fender still manufactures **Deluxe Reverb re-issues**:

"*The 22-watt '65 Deluxe Reverb amp is for rock, country or blues players who want a moderately powered amp they can crank up at the gig or in the studio. The full, snappy guitar tones heard on many famous recordings from Memphis to Abbey Road were made using the Deluxe amp. Features include dual 6V6 Groove Tubes output tubes, one 5AR4 rectifier tube, four 12AX7 preamp tubes, two 12AT7 tubes, one 12" 8-ohm Jensen C-12K speaker, dual channels (normal and vibrato), tube-driven Fender reverb, tube vibrato, two button footswitch for reverb and vibrato on-off, black textured vinyl covering and silver grille cloth.*"

The Deluxe Reverb has Normal and Vibrato channels, which both have been modeled because of their different characteristics. Most people will use the Vibrato channel and model, but the Normal channel is pretty cool too, especially for single note runs and jazzy tunes.

Each of the channels has two inputs. Fractal Audio models are always based on the input with the highest input level. To get the equivalent of using the lower input, set Input Trim to 0.500 in the amp model.

Note that the range of the controls doesn't correspond to the amp model controls (which start at 0). To translate the settings, use the **table at the back of this guide**.

A specific way to dial in this amp is to turn Bass all the way, and set Drive at its maximum value.

Each channel has Volume, Bass and Treble controls (plus Reverb and Vibrato controls on the Vibrato channel). No Bright switch and no Master so keep these at default in the amp model.

A Deluxe Reverb usually is equipped with a Jensen 1x12" speaker such as the C12. Try the 1x12 Deluxe Verb or 1x12 Black.

Alternatives include 2x10" speakers, an EV-12L or JBL 120.

FRACTAL AUDIO SYSTEMS

"We got our reference Deluxe Reverb out of storage today, hooked it up and measured and compared. Gain measures spot-on and A/B testing sounds identical. With a Suhr Modern guitar with stock pickups both the amp and the model were starting to break up around 3 (which equals 2.2 on the Axe-Fx since the knobs start at zero not one). A Deluxe Reverb breaks up easily since it has 6V6 power tubes. The preamp is virtually identical to a Twin Reverb but 6V6s break up earlier than 6L6s. For a given voltage into the power amp a 6V6 has about 70% of the headroom compared to a 6L6."

"The values for the Deluxe Reverb model are based on measurements of an actual 65 Deluxe Reverb, not some hypothetical values on some spec sheet."

Amplifier Specifications	
Year of Manufacture	1965
Circuit	AB763
Power	22 watt
Master Volume	No
Negative Feedback	Yes
Preamp Tubes	7025 (12AX7A Syl)
Power Amp Tubes	6V6
Tonestack Location	PRE

Dirty Shirley (Friedman Dirty Shirley)

Synopsis	Models of two versions of Friedman's Dirty Shirley, his take on the JTM 45. The "2" model is based on an earlier version, which is a little more aggressive than the regular model
Tips	"*We recommend starting the amp with the Bass on 6, the mids at around 7 or 8 and the treble and presence at 5. Set the gain around 6 and then bring the master to taste*" – Manual
Clips	**Friedman Dirty Shirley Demo (with V30s)**
	More videos, clips and comments
Cabinet/speaker	4x12 or 2x12 Friedman cabinet with G12M, G12-65, G12H or V30 speakers
Stock cabs	4x12 Fractal stock cabs – **Cab Pack 10**
Web, Manual	**Dirty Shirley 40 Head**
	Dirty Shirley Instruction Manual
Amp controls	Presence, Bass, Middle, Treble, Master, Gain (=Drive)

Dave Friedman modded amps for a lot of famous guitar players. He now designs and builds his own hand-wired amps and does so very successfully. Friedman amps are medium-to-high gain amps delivering really fat tones. He built signature amps for Steve Stevens, Jerry Cantrell and others.

> "*Dave Friedman's Dirty Shirley 40 Watt Head was designed for guitarists that want a Vintage Classic Rock tone inspired by British tube amps from the '60s and '70s.*
>
> *It is based on a modified JTM 45 but still delivers the signature high gain tone for which Friedman is best known. The Dirty Shirley is a 40-watt, 5881 powered, single channel amp that will give you that vintage crunch and also cleans up nicely by merely backing off the guitar's volume knob. Extremely versatile, it is capable of producing many styles of music from blues to rock and country by just adjusting the gain and master controls.*" – **Friedman**

The Dirty Shirley is based on the Marshall JTM 45, puts out 40 watt, has a single channel, high and low sensitivity inputs and 5881 (6L6) power tubes. It sounds more classic and vintage than Friedman's flagship, the BE. There's a **Mini Dirty Shirley** too.

"*Dave and I were vacationing with his wife and my girlfriend. We were having cocktails in the lounge area of a hotel. Dave and I were discussing what to name our new amp. My girlfriend is a bartender and was telling Dave's wife about a shirley temple with vodka in it. I said , so it's a Dirty Shirley.*" *Dave said, perfect, that's the name of the amp.*" – Rob Navarette

"*A favorite of mine. I use it for everything, from clean to higher gain. Funky and rhythm stuff at low drive settings, light crunch with medium drive, higher drive settings to get it into rock territory and searing leads.*

I love that's it so basic and simple. I don't turn a lot of knobs. I dial back Bass or Depth to decrease the bass frequencies and turn up Presence in clean parts. Eat that, MESA…

Maybe this amp's heritage is why I like the model so much. It's based on the JTM 45 (another excellent amp / model), which in turn is based on the Fender Bassman. Dirty Shirley has a vibe of its own, it's vintage, not as smooth and polished and modern as others. It also cleans up well and cuts well through my guitar cab as well as FR monitors.

I'm more and more attracted to guitar tones which are a little filthy and raw. Too many clips demonstrate perfectly EQ'd tones, and TBH, they don't stick, I find them boring and don't remember them, they have no personality. Dirty Shirley does!" – yek

Compared to a JTM 45 the Friedman is less bright, much fatter, and has more gain and a Master.

The amp's controls are very simple: Gain, Master, Bass, Middle, Treble and Presence. There have been revisions so the controls and number of inputs vary.

"*We recommend starting the amp with the Bass on 6, the mids at around 7 or 8 and the treble and presence at 5. Set the gain around 6 and then bring the master to taste.*" – **Manual**

The amp has a Master. This means that the amp's distortion is created in particular by the preamp tubes. The Master, which works in the power amp, is still important for the tone and feel. Friedman amps sound great at low Master settings.

If there's too much bass to your liking, decrease Depth or Negative Feedback.

According to Fractal Audio, the “Dirty Shirley 2” model is based on an earlier version of the Dirty Shirley with some different component values, a little more aggressive than the regular model. And with less bass.

“At first I didn't like it but for some genres it works. The old version (new model) has a 2.2 nF cap on the cathode follower while the newer version has 4.7 nF. The larger cap smooths out the distortion. The cathode bypass cap values are different as well which changes the midrange response.”

The amp and model work with a lot of speakers, including G12M, G12-65, G12H and V30. If you want the sound of Mark Day’s cabinet, which he uses with his Friedman BE, use stock cabs 4x12 Fractal (V30s and greenbacks).

Amplifier Specifications	
Power	40 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A (JJ)
Power Amp Tubes	6L6/5881
Tonestack Location	POST

Div/13 CJ11 (Divided By 13 CJ 11)

Synopsis	Models of the Normal and Boosted modes of a Divided by 13 CJ 11, similar to a Fender Tweed Deluxe with more clean headroom
Tips	Bassy amp, works best with single coils. Turn up the master
Clips	**Divided By 13 CJ11 Demo**
	More videos, clips and comments
Cabinet/speaker	Single G12M speaker
Stock cabs	1x12 Division 13 – **Cab Pack 1**
Web, Manual	**Divided By 13 CJ 11**
Amp controls	Volume (=Drive) with Pull Boost, Treble, Bass, Master

Fred Taccone of Divided By 13 manufactures each of his amps by hand. They're easily recognizable by their exquisite looks and the triangle at the top. These amps look awesome.

> "*When asked, by Corky James, amongst others, "Can you take my favorite 1959 tweed amp from Fullerton and instead of the controls being Volume Tone make it Volume Treble Bass, give it more clean headroom, a wider range of usable overdrive (throw in a little EL 34), make it a little louder with fuller, tighter low end, and put a master volume in it so i can play at all levels and dial in and hit the sweet spot of whatever speaker i am using at the time, mostly a G12M Celestion.*" – **Divided by 13**

The "1959 tweed amp from Fullerton" in the quote is a Fender Deluxe.

The CJ 11 is a Class A amp with 6V6 power tubes and a Master. It's only 11 watt. It's a single channel amp but its boost (pull Volume) makes it versatile. It has two inputs.

The controls are simple: Volume (pull: Boost), Treble, Bass, Master. Loads of bass so turn that down.

FRACTAL AUDIO SYSTEMS

"*It is a bassy amp. Works best with single coils.*

"*You increase the LOW CUT FREQ to reduce the fuzziness on bass notes but then it won't sound like the real thing.*"

"*While the amp does offer an Master Volume, it sounds best to me to crank the Master and leave it there*." – yek

The combo contains a single G12M. There's an IR of this cab in the stocks cabs: 1x12 Division 13.

Amplifier Specifications	
Power	11 watt
Master Volume	Yes
Negative Feedback	No
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	6V6
Tonestack Location	PRE

Div/13 FT37 (Divided By 13 FTR 37)

Synopsis	Models of the Normal and Boosted modes of channel 1 of a Divided By 13 FTR 37, voiced to sound like a big clean Fender
Tips	Crank Input Drive for a great tone
Clips	**Divided by 13 FTR 37 by Guitars Rebellion**
	More videos, clips and comments
Cabinet/speaker	2x12 cabinet with Celestion G12H and Alnico speakers
Stock cabs	None – **Cab Pack 6**
Web, Manual	**Divided By 13 FTR 37**
Amp controls	Volume (=Drive) with Pull Boost, Treble, Bass

Fred Taccone of Divided By 13 manufactures each of his amps by hand. They're easily recognizable by their exquisite looks and the triangle at the top. These amps look awesome.

The FTR 37 is a 37 watt amp with 6V6 power tubes. The amp can be switched to Half Power and has built-in reverb.

It has two channels with two inputs per channel. The first channel is voiced like a big clear Fender. The second channel (not modeled) is Divided by 13's impression of a Marshall. The channels can be blended which makes it a versatile amp.

> "*Capturing and exceeding some of the best tones offered by our favorite amp from Fullerton and our favorite amp from England, the FTR 37 from 1 to 10 can produce the most pure and bodied clean tones, to varying degrees of medium and over-the-top types of complex and full-bodied overdrive. Coupled with the exterior switching/boost device, the Switchazel, the flexibility available in both channels, either separate or blended, offer an infinite array of guitar tones rarely thought possible for the music maker of today.*" – **Divided by 13**

The amp's controls are simple: Volume, Treble, Bass on the first channel. Pull out Volume for a mid/gain boost. On the 2nd channel: Volume and a Tone knob (referred to as "Click" because it clicks between settings). No Master Volume so keep that at default in the amp model.

The "LO" amp model represents channel 1 with the Volume knob pushed (gain boost off). The "HI" amp model represents channel 1 with the Volume knob pulled (mid/gain boost).

> "*Both sound great with Input Drive at 5 to 9. Especially the HI model with a high drive setting*." – yek

The 2x12 cabinet has Alnico and a G12H speakers.

Amplifier Specifications	
Power	37 watt
Master Volume	No
Negative Feedback	No
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	6V6
Tonestack Location	PRE

Dizzy V4 and Das Metall (Diezel VH4)

Synopsis	Models of a Diezel VH4, a multi-channel amp capable of many different styles • Das Metall – ear-tuned, not matched to the real amp • Dizzy V4 Blue 2 – Diezel VH4 Blue, Crunch • Dizzy V4 Blue 3 – Diezel VH4 Blue, Distortion/Mega • Dizzy V4 Blue 4 – Diezel VH4 Blue, Solo/Lead • Dizzy V4 Slvr 2 – Diezel VH4 Silver, Crunch • Dizzy V4 Slvr 3 – Diezel VH4 Silver, Distortion/Mega • Dizzy V4 Slvr 4 – Diezel VH4 Silver, Solo/Lead
Tips	VH4s with blue faceplates sound darker than the later Silver ones For suggested settings, see the picture of Adam Jones' VH4 below
Clips	**Premier Guitar – Monsters of High Gain – Diezel VH4** **More videos, clips and comments**
Cabinet/speaker	4x12 Diezel cabinet with V30 or G12K-100 speakers
Stock cabs	None – **Cab Pack 24**
Web, Manual	**Diezel VH4** **Diezel VH4/VH4S Owner's Manual**
Amp controls	Gain (=Drive), Volume, Treble, Middle, Bass, Presence, Deep, Bright switch

Peter Diezel's VH4 launched his company. Although the VH4 is often associated with high gain, it is a versatile all round rock amp. It has four channels and is rated at 100 watt using 6550/6L6 power tubes. There's also a stereo model: VH4s. Among the Diezel users: Metallica, Mark Tremonti, Muse and Adam Jones (Tool).

> "*Launched in 1994 the VH4 was a milestone in guitar amplification. The head has a powerful 100 Watt section, 4 individual preamps, each with individual equalization and volume/gain controls and is fully midi switchable. At that time that was unique - a head which replaced*

refrigerator sized racks. Additionally the VH4 has serial and parallel loops and the so called channel inserts to add pedals specifically for each channel, like an analogue chorus just for clean or a compressor for crunch.

The four preamps are: clean, crunch, mega and lead. The clean channel (additional bright switch) has the Diezel-typical HiFi-clean, but with its gain pot is able to reproduce the powerful and warmer Hiwatt territory as well.

The crunch channel (also with bright switch) starts where the clean ends: warm, powerful clean sounds. Variation of the controls (volume, gain) will open the amp to sonic dimensions of semi-crunch and full crunch sounds.

The mega channel is the typical Diezel trademark sound. Nuff said. Try it, love it.

The lead channel starts, where the mega ends: more compression, more smoothness - a singing/screaming lead at its best.

The VH4 is the ultimate sound machine for numerous styles. With its deep section also suitable for many heavier styles, but also the perfect central for Top 40 guitarists looking for the whole spectrum of guitar sounds from yesterday to today. Still a masterpiece - the VH4." – **Diezel**

We have a lot of VH4 amp models at our disposal. The oldest is DAS METALL, from the Standard/Ultra period. Based on a schematic only and modeled by ear, not matched to a real VH4. It still is a popular amp model.

The other models are based on real VH4s, with either a blue or a silver faceplate. Blue Diezels are the early ones. They sound darker than the later Silver ones, so crank that Presence.

"*I go for Silver (which is why I never became an Olympic athlete).*" – yek

FRACTAL AUDIO SYSTEMS

"*People think the VH4 is a metal amp which it most definitely is not. It's a mid-gain amp. If you try to use it for detuned death-metal it won't sound good because that's not its intended usage.*"

"*The Dizzy and Herbie models were completely redone* [Quantum Firmware] *as I figured out the secret to the Diezel sound.*"

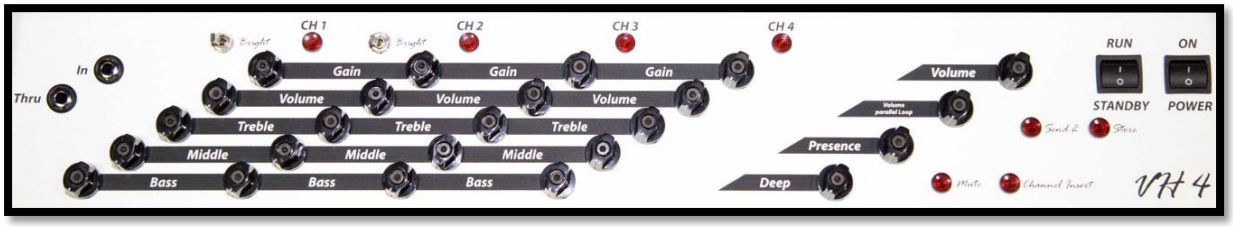
"*Channel 1 Clean: for clean, undistorted sound with high power and good harmonics. With its gain control to the upper third, it sounds soft and warm, gain at lower settings produce more percussive and penetrating clean sounds. Full gain setting makes crunch sounds possible. The tone reminds of a cross between a twin and a Hiwatt 100, but with better overall dynamic response.*

Channel 2 Crunch: is a blues guitarist's closest friend. Its dynamic spectrum is especially beautiful in the lower frequency range. Its gain range goes from clean to distorted. Due to its different voicing the 2nd channel will sound a little softer than channel one in clean mode (gain 2:00-3:00, and approaches channel 3's tone in high gain mode (gain 3:00-4:00, but with softer midrange and less compression. "Raw" probably best describes this channel.

Channel 3 Distortion: its concept is heavy rhythm guitar. The distortion is noticeably tighter than in channel 2. The side effect of this added compression is that the signal gets somewhat limited in its dynamic range. This limitation hits mostly the lower frequencies. This loss is

corrected by a negative feedback loop to the power amps, which adds fat low end to this tone without muddling up the tone. The control for this low end is in the master section and bears the "Deep" designation. The gain structure of channel 3 is designed to deliver great distorted sound even with guitars that have relatively low output, like many vintage guitars. The side effect here is that guitars with very high output (active EMG etc.) might overdrive this channel too much and become too compressed. The guitar loses its punch in the band sound and becomes very undefined. In this case, a radical gain reduction is the cure. The guitar sound will clean up a little bit, and the overtones and harmonics will once again sparkle. It is best to start with a 12:00 o-clock gain setting and start to feel your way to the point of perfection and very little compression. This works best while the band is playing with you. Remember - less is often more.

Channel 4 Solo: a little more mid heavy than channel 3, therefore punches through the band sound quite well. See channel 3 description for gain control setting. Often a gain setting near 1:00 o'clock is sufficient for absolute high gain distortion. Use the volume control here and for all other channels to match the individual channel volumes." – **VH4 manual**



The amp's controls: Gain, Volume, Bass, Mid, Treble, Presence (4 kHz), Deep (80 Hz) and Bright switches on channels 1 and 2. In the model of channel 2, the Bright switch has a noticeable impact; meant to be used with humbuckers.

"*Master Volume: controls the final volume of the Power amplifier(s). The layout of the controls is such that full volume is achieved at the 1:00 o'clock knob setting. Turning the knob further will overdrive the power amp(s) to create power amp distortion for those of you that prefer this sort of thing. We added this feature to round out the distortion sound palette on the extreme end. So you friends of all things vintage can get colorations and distortion textures that only power amp tubes can deliver. Bring your ear plugs, please.* "

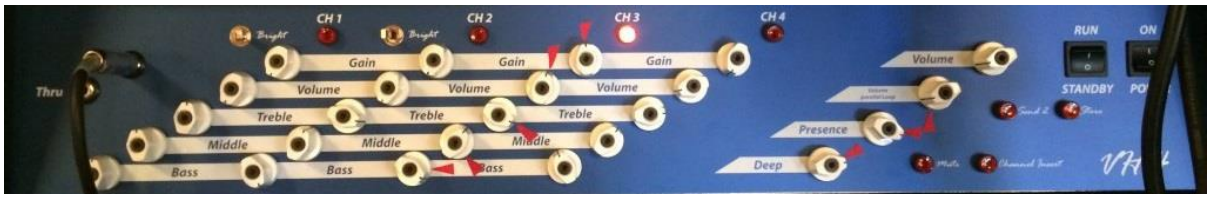
"*Presence: This knob controls the treble part of the power amps tone spectrum. Its frequency centers at about 4kHz. Treble is produced and dispersed in a very small beam from the speaker, so be sure to position yourself in the projection area of the speaker when making adjustments.*"

"*Deep: the Deep control is an active bass control for the power amp that adds low end punch to the power amp centered at 80Hz. It does not alter the dynamic behavior of the power amp. Diezel Co. is not responsible for cabinet handles popping out etc.*" – Diezel

Use the amp model with V30 or G12-K100 speakers. There are no Diezels among the stock cabs.

				Gain and EQ Section					Master Section		
Setting Name	Guitar/Pickup	Channel #	Bright SW	Gain	Volume	Treble	Mid	Bass	Presence	Deep	MV
Clean	Strat/LP/335/Neck pup	1	Off	12:00	12:00	12:00	12:00	12:00	12:00	12:00	9:00
Rhythm	Strat/LP/Neck pup	1	Off	11:00	2:00	2:00	11:00	2:00	1:00	1:00	9:00
Country Picking	Strat/Tele/Neck SC	1	On	11:00	12:00	1:00	12:00	2:00	1:00	12:00	10:00
Funk	Strat/Bridge SC	1	On	11:00	12:00	2:00	11:00	2:00	1:00	12:00	10:00
Clean Picking	Strat/Hollow body/Bridge SC	1	On	11:00	1:00	2:00	11:00	12:00	2:00	11:00	9:00
Funk 2	Strat/Bridge and Neck SC's	1	On	11:00	12:00	2:00	11:00	2:00	1:00	12:00	10:00
Jazzy	Strat/LP/Neck pup	1	Off	10:00	1:00	12:00	2:00	2:00	12:00	1:00	9:00
Clean Rhythm	Strat/Neck SC	1	Off	11:00	1:00	11:00	12:00	1:00	12:00	1:00	9:00
Clean Rhythm 2	Strat/Neck and Middle SC's	1	Off	11:00	1:30	11:00	12:00	2:00	1:00	1:00	9:00
Clean Rhythm 3	Strat/Neck and Middle SC's	1	Off	11:00	12:00	12:00	1:00	2:00	1:00	1:00	9:00
Blues Shuffle	Strat/Middle SC	2	Off	12:00	2:00	12:00	12:00	12:00	12:00	1:00	9:00
Swampy	Strat/Middle SC	2	Off	2:00	1:00	12:00	2:00	2:00	12:00	1:00	9:00
Bluesy Lead	Strat/Neck SC	2	Off	3:00	1:00	12:00	2:00	2:00	12:00	1:00	9:30
Bluesy Lead 2	Strat/Neck SC	2	Off	3:00	2:00	12:00	2:00	2:00	12:00	1:00	9:00
Crunch Rhythm	Strat/LP/Neck pup	2	On	4:00	3:00	1:00	3:00	3:00	11:00	12:00	9:00
Classic Rock	Strat/LP/Neck or Bridge pup	2	On	4:00	3:30	1:00	3:00	3:00	12:00	12:00	10:00
Dumble Rock	Strat/Middle SC	3	~	12:00	1:00	10:00	4:00	10:00	11:00	12:00	9:00
Fusion Lead	Strat/Hollow body/Neck pup	3	~	2:00	1:00	12:00	3:00	11:00	12:00	1:00	9:00
Jimi	Strat/Bridge SC	3	~	2:00	2:30	2:00	2:00	1:00	12:00	1:00	10:00
Zep Power	LP/Bridge HB	3	~	11:00	3:00	2:00	2:00	2:00	12:00	1:00	10:00
Hard Riffing	LP/Bridge HB	3	~	1:00	3:00	1:00	1:00	1:00	12:00	1:00	9:00
VH-ish	Strat/LP/Bridge HB	3	~	5:00	3:00	3:00	5:00	5:00	11:00	1:00	9:30
VH-ish 2	Strat/LP/Bridge HB	3	~	5:00	2:00	3:00	5:00	5:00	12:00	1:00	10:00
Yngwie	Strat/Bridge pup	3	~	5:00	2:00	5:00	5:00	5:00	11:00	12:00	9:00
Hard Rock	LP/Strat Bridge HB	4	~	11:00	3:00	2:00	12:00	12:00	12:00	12:00	9:30
Legato	LP/Strat Bridge HB	4	~	2:00	2:00	12:00	2:00	1:00	12:00	12:00	9:00
Heavy Rhythm	LP/Strat Bridge HB	4	~	2:00	3:00	2:00	12:00	2:00	12:00	1:00	9:30
Drop D Rhythm	LP Bridge HB	4	~	3:00	3:00	3:00	11:00	3:00	1:00	2:00	9:00
Alterna Rock	LP/Strat Bridge HB	4	~	1:00	2:30	2:00	2:00	12:00	1:00	1:00	9:00
Alterna Rock 2	LP/Strat Bridge HB	4	~	2:00	3:00	2:00	2:00	12:00	1:00	1:00	9:30
Lead Improv	Strat/LP Bridge HB	4	~	3:00	3:00	3:00	2:00	1:00	12:00	12:00	9:00
Riff 'N Shred	Strat/LP Bridge HB	4	~	3:00	3:00	3:00	2:00	1:00	11:00	1:00	9:30

Adam Jones (Tool):



Amplifier Specifications	
Power	100 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	ECC83
Power Amp Tubes	6L6
Tonestack Location	POST

Double Verb (Fender Twin Reverb)

Synopsis	Models of a ‘66 blackface Fender Twin Reverb and a ’71 silverface model
Tips	Disengage the Bright switch if the sound is too harsh
Clips	**1968 blackface Fender Twin demo**
	“Manic Depression” demo on 1968 Silverface Twin Reverb
	More videos, clips and comments
Cabinet/speaker	Two Jensen 12” speakers
Stock cabs	2x12 Double Verb – **Cab Packs 1, 4, 15, 21**
Web, Manual	**’65 Twin Reverb reissue**
Amp controls	Volume (=Drive), Bright switch, Treble, Middle, Bass

Blackfaced Fenders were produced between 1964 and 1967. The blackface label refers to the black tolex and control panel. Pre-CBS blackface Fenders are in high demand and are not as expensive as Tweed and brown models. **More information.**

Silverfaced Fenders were manufactured between 1967 and 1981. They are commonly labeled as less desirable than earlier models, sometimes wrongly.

The Twin Reverb may be Fender’s most popular amp. It’s big, it’s loud, it takes pedals well, and it’s ultra clean. Getting this amp into overdrive requires a volume level that hardly anyone can handle unless you’re got your hands on a modded one. Also, the Twin handles humbuckers well, which is not the case with all Fenders.

“*If an alien came to earth and wanted to hear an American guitar sound, I’d play him my Twin with a set of Jensens. This was stated by a happy Twin Reverb owner on Harmonycentral.com. It could have been our own words. The Twin Reverb is the king of Fender blackface amps. Having two pairs of 6L6,*

the popular and traditional two-channel AB763 circuit design, a diode rectifier and enormous transformers (power & output), it offers tons of clean headroom and volume for unmiked gigs and really big stages. Where the other Fender amps break up at around 4 on the volume knob, the Twin stays clean up to almost 6 and will hold up against heavy drummers and bass players with clean notes sharp as a knife edge. This is exactly what the amp is made for, being played unmiked in in a gospel band in a 300-seat church every Sunday. It is designed not break up like the other Fender amps. You need to have your expectations set correctly to be able to appreciate the evil Twin. Warning nr 1) The big transformers and speakers makes this amp weigh around 40kgs, a burden too big for many gigging players who cannot (yet) afford a crew of roadies. Warning nr 2) Volume and clean headroom. If you want tube amp breakup and smoking tones with no pedals you will experience many fights with your band mates and club owners. Just as the other Fender amps the Twin needs to operate in its sweet spot up to sound sweet. After carrying a Twin Reverb on to the stage, the least you should deserve is to crank the bastard. Sadly, we are seldom offered the opportunity to turn the volume above 3 on a Twin Reverb. Instead we have played many nights with a thin and unpleasant tone, even worse with a sparkling, clean sounding strat." – **Fenderguru.com**

Twin Reverbs use 6L6 power tubes. **More Twin Reverb information** is available on Wikipedia.

The amp has two channels: Normal and Vibrato. Both channels have Volume, Bass, Middle and Treble controls and a Bright switch. The Vibrato channel has additional vibrato and reverb controls. Because of the reverb circuit the Vibrato channel breaks up earlier than the Normal channel.

Note that the range of the controls is different from the amp model (which start at 0). To translate the settings, use the **table at the back of this guide**.

Each of the channels has two inputs. Fractal Audio models are always based on the input with the highest input level. To get the equivalent of using the lower input, set Input Trim to 0.500 in the amp model.

The Twin Reverb can be a painful bright amp and amp model. Consider turning off the Bright switch or reduce the Bright Cap in the model (try 68pF). It also can produce a lot of bass, so don't hesitate to turn that down.

We have three Twin Reverb models:

Double Verb NRM: '66 blackface 85 watt, AB763 circuit, Normal channel

Double Verb SF: '71 silverface, 100 watt, Vibrato channel

Double Verb VIB: '66 blackface 85 watt, AB763 circuit, Vibrato channel

The blackface Twin Reverb has been modded by Andy Fuchs and breaks up earlier than a stock Twin. Turn down Input Trim if you want it cleaner. The circuit of the silverface model is unknown but it has no Master Volume.

"*When I select a Double Verb model, I choose the Silverface model, with Bright off.*" – yek

"*The Twin Reverb that the model is based on breaks up like that* [earlier that stock Twins]*. The model is MIMIC'd and is extremely accurate. It's a Blackface Twin which breaks up easy compared to later Twins. Furthermore, as with all models, it is modeled on the "Hi" input. If you don't want it to break up as easy turn Input Trim to 0.5 to simulate using the "Low" input, reduce Input Drive and MV as necessary. You may want to turn the Bright Switch off as well. People who want squeaky clean usually turn the Bright Switch off on these amps. However, you'd be surprised that a Twin isn't nearly as clean as you think. It's just so damn loud that you get the sensation that it's clean because a light touch on the strings creates a lot of volume."*

"The model is extremely accurate and is based on a 1966 Blackface Twin Reverb. Part of the reason the Blackface era are so sought after is because they distort. They are NOT clean amps by any stretch."

The Twin Reverb is equipped with two Jensen 12" speakers. Sometimes JBM 120s or EV-12Ls. Try the 2x12 Double Verb stock cabs.

Amplifier Specifications	Blackface	Silverface
Year of Manufacture	1966	1971
Circuit	AB763	AC568
Power	85 watt	100 watt
Master Volume	No	No
Negative Feedback	Yes	Yes
Preamp Tubes	7025 (12AX7A Syl)	7025 (12AX7A Syl)
Power Amp Tubes	6L6	6L6
Tonestack Location	PRE	PRE

Dweezil’s B-man (modded ’65 blackface Fender Bassman, AB165)

Please refer to the section on the **65 Bassguy model**.

Energyball (Engl Powerball)

Synopsis	Model of the Lead channel of the original Engl Powerball, a high gain amp with lots of bass, great for aggressive, drop-tuned riff work
Tips	It can be challenging to dial in: turn down Bass and Master and turn up Gain
Clips	**Guitar World – Engl Powerball Head**
	More videos, clips and comments
Cabinet/speaker	4x12 Engl cabinet with V30s or V60s
Stock cabs	4x12 German V30 (RW) – **Cab Pack 19**
Web, Manual	**Engl Powerball 2 (current model)**
	Powerball Full Tube Guitar Amplifier Operator's Manual
Amp controls	Gain (=Drive), Bass, Mid-Open, Mid-Focused, Treble, Volume, Open/Focused switch, Bottom switch, Gain Lo/Hi, Master

The Powerball is a high gain amp, made by the German company Engl. Lots of bass and great for aggressive, drop-tuned riff work. Rated at 100 watt, using 6L6 tubes.

> "*A four-channel, all-tube powered head, the Powerball offers sound-shaping options unrivalled by any other amp. Designed to satisfy the exacting demands of discerning players, it delivers all the tonal hues and colors you need to paint the most vivid musical pictures imaginable. Housed inside this newly designed enclosure is a powerhouse 100-watt amp boasting 6L6GC tubes. It delivers the sonic goods you need to dial in everything from contemporary ultra-high gain lead tone to crystal-clear clean and punchy crunch sounds. An astonishing amount of gain reserves, remarkable tonal versatility, and bone-rattling bottom end have crowned the Powerball king of the heap among modern-day guitar amps. Courtesy of its ability to crank out tight, focused low end, glossy top end and jaw-dropping sound pressure levels, this amp provides the contemporary guitarist with richly detailed tone and the kind of cut-thru-the-din assertiveness that sets standards for amps of this class. And in keeping with the ENGL tradition of engineering excellence, it sports a host of hip features: a second master volume, electronic power amp monitoring, an adjustable FX loop, and a Depth Punch knob that shapes the power amp's response by beefing up the low end. But that's not*

> *the last word on this ENGL head's innovative features: You also get two different sound voicings, Open and Focused. We created these voicings to extend the range of lead sounds you have at your disposal by tweaking mid-range response to suit different playing styles and applications.*" – **Manual**

It has two channels and two modes per channel. Channel 1: Clean and Crunch. Channel 2: two lead modes. The amp model is based on the Lead channel.

Channel 2's controls are: Gain (input sensitivity), Bass, Mid-Open, Mid-Focused, Treble, Lo Lead Volume, Hi Lead Volume, Open/Focused switch, Lo Lead Bottom switch, Hi Lead Bottom switch, Gain Lo/Hi, Master. The Bottom switches alter the EQ by boosting the low end range. The Open/Focused switches between two mid-range (300-500 Hz) voicings where Open is looser and Focused is tighter.

The global controls are: Presence, Depth Punch and Master. This means that the amp's distortion is created in particular by the preamp tubes, not the power amp. The Master Volume, which works in the power amp section, is very important to the tone and feel. You have to decide for yourself what setting in the amp model works for you best.

> "*The Energyball model can be challenging dial in. To make it work, I have to turn down Bass, turn up Gain and turn down Master.*" – yek

Engl uses Celestion V30 and V60 speakers. There are many V30s among the stock cabs, including 4x12 German V30 (RW) which is the IR of an Engl 4x12 PRO cabinet with V30s, created by **Red Wirez**. Red Wirez IRs in the Axe-Fx II and AX8 have been captured using a neutral microphone, so you may want to add a mic model in the Cab block.

Amplifier Specifications	
Power	100 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	ECC83
Power Amp Tubes	6L6
Tonestack Location	POST

Euro Blue and Red (Bogner Ecstasy, 20th Anniversary edition)

Synopsis	Models of a 20th Anniversary Bogner Ecstasy • Blue in Vintage mode • Blue in Modern mode • Red in Vintage mode • Red in Modern mode
Tips	Generally considered to be a dark amp, but this can be adjusted through Treble, Presence and Bright
Clips	**Bogner Ecstasy Amp – A Sonic Journey** **Tone Merchants Presents: Bogner 20th Anniversary Ecstasy feat. JMR** **More videos, clips and comments**
Cabinet/speaker	Bogner 4x12 or 2x12 cabinet with V30s
Stock cabs	4x12 Uber V30 (RW), 1x12 Shiver, 4x12 German Boutique (RW) – **Cab Pack 9**
Web, Manual	**Bogner Ecstasy** **Ecstasy User Manual**
Amp controls	Presence, Volume, Treble, Middle, Bass, Gain (=Drive), 3-way Bright switch, Structure switch, Old/New Style switch, Excursion switch (=Depth), Gain switch, Plexi Mode

The Bogner Ecstasy (often abbreviated to XTC) dates from the early '90s. It's still Bogner's flagship amplifier and Steve Lukather's current favorite. There have been several Ecstasy models; read the history on Bogner's website. The current model is the 20th Ann. model with 6L6 tubes (EL34s also possible), rated at 100 watt. And that's the amp on which the four models are based.

> "*It's a fantastic amp and amp model. But I'm biased, because I'm a Bogner guy. I owned various Ecstasy models (Classic and 20th Ann.). It was my mainstay amplifier before I moved to the Axe-Fx. I love this amp for its low-mid growl and fat tones*." – yek

"*The features allow the "DNA" of the 3 distinctly voiced channels to be radically morphed into sounds of the past, present and future. Imagine going from our notorious barking Plexi mode, to the greasiest, harmonically chewy overdrive and then washing it all down with the lushest most decadent clean tone.*

The Ecstasy comes standard with an amazing array of controls: 1/2 power switch, new/old style switch, dual assignable presence controls with 3-way Excursion switches to control speaker cabinet dampening, gain boost and individual pre-eq switches for each channel, plexi-mode, gain structure, tube buffered series/parallel FX loop with mix and master control.

In 2009 we celebrated our 20th year of Bogner USA and wanted to create something special for our amplifier line; enter the 20th Anniversary Ecstasy. We consider this model to be the new "Flagship" in the Ecstasy line with the most organic and open sound yet.

The 20th Anniversary Ecstasy has a real plexi panel with gold background and a different pre-amp circuit as well as a foot control able boost feature in the plexi mode. Up until late 2015 the amp was housed in a slightly larger head shell for an iconic and classic vintage vibe.

The 20th Anniversary is our finest evolution of the Ecstasy line that started with the 100B, 101B and Classic. However, the 20th Anniversary model features its own unique circuit and many refinements never before seen.

In the past few years many new boutique capacitors have come on the market such as the Sozo and Jupiter brand which focus on replicating the vintage capacitors from the 60's. These new capacitors are very expensive and mostly hand made in their construction so we were intrigued to hear how they sound. We purchased all the available brands and meticulously went through the entire signal chain of our Ecstasy circuit incorporating these vintage style capacitors into the design. However, once this process started, we quickly realized that replacing the capacitors was only the beginning, additional adjustments and refinements were implemented to maximize the vintage tonal character of these new capacitors which all together give the 20th Anniversary its iconic Golden-Era of Ecstasy tone.

Additional refinements have been made including:

The pre EQ's 2 and 3 have been shifted and a vintage modern style switch lets you decide the overall flavor of Channel 2 and 3, bypassed when in the plexi mode. The plexi channel has slightly more gain and a foot controllable boost was added which expands the amp to have 6 sounds on tap via your foot. Boost is engaged with the same switch as for Channel 2 and 3. The clean channel has been changed; special emphasis was taken to the boosted mode which gives you more gain with nicely balanced frequencies and compression. Power amp dampening was adjusted to compliment the new pre amp design, the Excursion switches so to speak. The 20th Anniversary amp was designed and features 6L6 power amp tubes standard but can be custom order with EL34's." – **Bogner**

"*People think Bogners are dark but they really aren't. The reason they seem that way is the pot tapers. Most people assume knobs should be set somewhere around noon. If you do this on a Bogner it's like turning the treble way down on a Marshall. Close your eyes and adjust the tone controls with your ears. Don't be afraid to turn them way up or way down.*"

"*Human nature is to put the knobs near noon. We are reticent to deviate much from noon. Amp designers exploit this and use different tapers to change the sound of their amps WITH THE KNOBS AT NOON. A prime example are Bogner amps. Everyone says "Bogner amps are dark". No they aren't. But he uses a Log10A taper for the treble pot. It's a standard Marshall tone stack. Usually a linear taper pot is used for the treble. The treble knob at 5.0 (noon) on a Bogner is equivalent to the treble knob at 1.0 on a Marshall. People put the knob at 5.0 and go "wow, this amp is dark". No it isn't. If you turned the treble up to 8 or 9 it would sound a lot like a Plexi but humans are reticent to turn the knobs to extremes. Amp designers know this and exploit it to give their amps a "signature sound"."*

"*Our reference amp is a 20th anniversary and N is Bright Off, B1 is 150 pF and B2 is 1000 pF for both channels. The models default to B1. Change the Bright Cap value to 1 nF to emulate B2. Or better yet use your ears to select a value."*

The Ecstasy was one of the first three-channel amps to hit the market, with plenty modes and options. Channel 1 (Green) is the clean channel (not modeled). Channel 2 (Blue) is the famous crunch channel. Channel 3 (Red) is the high gain lead channel.

Fractal Audio has modeled the Blue and Red channels in Vintage (less gain) and Modern (more gain) modes. The Structure switch selects between Vintage and Modern mode.

"*The models represent the original amp really well. I prefer the non-Modern models, with Presence set high.*" – yek

The controls on the Blue and Red channels are: Gain, Master, Bass, Middle, Treble, Presence, three-way Bright switch, Structure switch, Old/New Style switch, Excursion switch (amp model: Depth), Gain switch, Plexi Mode.

The Bright switch not only adds treble, it adds gain too. At high Gain settings, its effect is less noticeable.

Bogner's cabinets range from the small 1x12 Cube to the large 4x12 Uberkab with V30 and T75 speakers. The Bogner ("Euro") stock cabs are a logical choice.

The 1x12 Shiver cab works well too:

"*Bogner Blue (non-Modern) is one of my all-time, desert island, favorites amps! One reason I did Cab Pack 17 was because I had paired my real 101b EL34 Ecstasy amp with a 1X12 Bogner Shiva Cab with a Classic Lead 80 for a years worth of gigs on 6th street in Austin Texas, and just loved that tone (and was constantly complimented on it) -- and wanted to recreate it with the AXE FX. If you have that cab pack, do check out the sounds of the Bogner 1x12 IRs with the XTC amp model, as well as the Shiver (Shiva) amp.*" – Austinbuddy

Amplifier Specifications	
Power	100 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	ECC83
Power Amp Tubes	6L6 (modeled) or EL34
Tonestack Location	POST

Turning an Amp into a Drive Pedal

The Bogner pedals (Ecstasy Blue, Ecstasy Red, Uberschall) are awesome. But what do you know: you already have these in your Axe-Fx II and AX8. How? Turn the equivalent Amp block type into a preamp pedal:

- Insert an additional Amp block before the main Amp block in your preset
- In that block: select Euro Blue, Euro Red or Euro Uber
- Turn off power amp simulation by setting SAG to 0 (“p.a. off”)
- Set Presence/Hi Cut to “5” (neutral)
- The main (last) Amp block in the preset should be set to a rather clean tone for best results, just like when using a distortion pedal with a real amp
- Assign a switch on your foot controller to the 2nd amp's CC

Should work in 4CM too. Another good thing: this requires way less CPU than a Drive block.

Euro Uber (Bogner Uberschall)

Synopsis	Model of the Bogner Uberschall, called “Armageddon in a box” by Bogner
Tips	Keep Bass low and engage the Cut switch. The Middle tone control has a large impact on the tone
Clips	**Bogner Uberschall Metal Clip**
	More videos, clips and comments
Cabinet/speaker	Bogner 4x12 Uberkab with V30 and T75 speakers
Stock cabs	4x12 Uber (RW) – **Cab Packs 5 and 9**
Web, Manual	**Bogner Uberschall**
	Uberschall User Manual
Amp controls	Master, Volume, Presence, Treble, Middle, Bass, Gain (=Drive)

The Uberschall was one of the early really high gain amps. Reinhold Bogner himself calls it: “Armageddon in a box”. The amp has got a clean channel but that’s not what we’re here for, the high gain channel is this amp’s selling point.

The Uberschall is rated at 100 watt, has a single input and EL34 (modeled), KT88 or 6L6 power tubes and specializes in heavy grinding lows and insane gain.

> “*Uberschall is the German word for Super Sonic and we designed this amp primarily for extreme, heavy and aggressive styles of music. Detuned or baritone guitars crave this amp.*
>
> *We unleash mayhem with the super aggressive high gain channel with gain, bass, middle, treble, volume and presence controls. You think you've heard BASS before, no way, the UBERSCHALL can crush on demand. Even with extreme gain and volume this channel stays massively focused and resists mushing out from the heaviest right-hand attack. Have some crazy effects? Put them through the tube buffered effects loop. Power comes from a throaty EL34 output section.*

Our UBERKAB is perfectly matched for the thunderous UBERSCHALL. This 4x12" straight front speaker cabinet features a black front speaker grill with silver piping and a combination of front loaded Celestion Vintage 30's and G12T75's wired at 16 ohms. This combination unleashes the aggressiveness of the UBERSCHALL amp, plus helps to maximize the low end and give great cutting power to the mids and highs. Our standard Bogner 4x12" cabinet, with Vintage 30's, also sounds great with the UBERSCHALL but we wanted to offer a cabinet that was fine tuned for the flame-throwing UBERSCHALL." – **Bogner**

The controls on the high gain channel are: Gain, Bass, Middle, Treble, Presence, Master.

FRACTAL AUDIO SYSTEMS

"*The feedback circuit is responsible for the behavior of the Presence and Depth controls. Certain Bogners and Diezels have a unique type of feedback circuit. There are no new parameters and nothing to do except twist the Presence and Depth knobs to your desired tone. Note that an Uberschall doesn't have a Depth knob. The default Depth value when you select the Euro Uber model is equivalent to the amp's fixed depth circuit.*"

It generates an enormous amount of bass, which can be overpowering. Turn down Bass and try the Cut switch in the model. Or put a low-gain Drive block in front of the Amp block to keep it tight.

Two other important controls: Presence (turn it up) and Middle, which both have a large impact on the tone.

"*The "Midrange" control is very interactive with all the other tone controls; you can go from a hollow scooped-mid setting to an aggressive in your face and on your throat kind of intensity*." – Manual

A forum member explained the Uberschall as follows:

> "*The "Treb" knob is more similar to a "Presence" knob. The "Mid" knob is more similar to a "Treb" knob. And the "Presence" knob is, all in all, a sort of "Contour" knob.*"

Go to the Euro Blue and Red section to read why people think that Bogners are 'dark' and to discover how the amp model can be turned into a pedal.

The Uberschall's accompanying cabinet is the Uberkab, a 4x12 cabinet with V30 and T75 speakers. It's available as a stock cab.

Amplifier Specifications	
Power	120 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	ECC83
Power Amp Tubes	EL34 (modeled) / 6L6
Tonestack Location	POST

FAS custom models

Fractal Audio has added a considerable number of custom amp models to the collection. These virtual amps have no real-life equivalents. They solely exist within the Axe-Fx II and AX8, surpassing the electronical limitations of traditional amps. Some are based on real amps, implementing Cliff's ideas and improvements, some were born by accident.

There are no rules when it comes to cab choices.

FAS 6160

Based on the original Peavey 5150 but less fizzy, with a bouncier feel.

FAS Bass

Fractal Audio's implementation of a bass amp with active controls.

FAS Brootalz

Brings teh brootalz! An aggressive high gain amp model with some resemblance to the Angle Savage.

> "*This amp was an accident. I was working on the Savage model and accidentally used the input stage from an SLO100. So it's the front end of an SLO100 with the back end of a Savage. It's probably an SLO100 power amp too but I'd have to check.*"

FAS Brown

See Brit Brown.

FAS Class-A

An amp model that was born by accident.

> "*A "Blackface" preamp into a cathode-biased 6L6 power amp with no negative feedback. This was a happy accident when originally modeling the Carr Rambler in the beta version of this release. Several mistakes were made in the model prior to MIMIC'ing the amp but the model was so well liked that we decided to make it into its own custom amp model.*"

FAS Crunch

Fractal Audio's take on the ultimate British-sounding amp. More dynamic/open and more gain than a Plexi.

FAS Hot Rod

Cliff's idea of the ideal modded Marshall.

> "*FAS Hot Rod is my version of what a modded Marshall should be. I find the BE/HBE a little too boomy and scooped. Bogners are too dark. Splawns don't have enough compression. Etc. So it's my take on a hot-rodded Marshall tone.*"

FAS Lead 1

A neutral high gain lead tone with a tight midrange.

FAS Lead 2

A hot-rodded British lead sound with a tonestack by Custom Audio Electronics.

FAS Modern

A high gain hybrid tone that's equally suited to modern rhythm and lead work. A very popular model, used by Periphery, Andee Blacksugar and others.

> "*This model is my interpretation of the ideal modern metal tone. In the digital realm we are not constrained by the limitations that face tube amp designers so we are free to implement designs that would be nearly impossible with a tube amp. The Axe-Fx II modeling includes a variety of general purpose filters that I can place anywhere in the signal path. So I put some second-order filters in there to tighten up the tone. Implementing second-order filters in a real tube amp is difficult and costly so is rarely seen.*"

FAS Modern II

Tighter version of the FAS Modern model with a 5150-style bass boost in the tone stack.

> "*Turn down Presence in the Modern I and II models.*" – yek

FAS Modern III

Similar to a Recto but with tighter bass and a cathode-biased power amp.

> "*Decrease Presence and turn down Drive.*" – yek

FAS Rhythm

Combines the best features of the British (Marshall) and USA (MESA) crunch models.

FAS Wreck

This is the original WRECKER 1 model from the Axe-Fx Standard/Ultra, ported to the Axe-Fx II.

Fox ODS (Fuchs Overdrive Supreme)

Synopsis	Two models of the Overdrive channel of a Fuchs Overdrive Supreme, a Dumble-type amplifier with loads of gain
Tips	The models have lots of gain so keep Input Drive low
Clips	**FUCHS Overdrive Supreme Amp Overview**
	More videos, clips and comments
Cabinet/speaker	2x12 or 4x12 cabinet with Eminence speakers
Web, Manual	**Fuchs Audio**
	Overdrive Supreme (ODS) Instrument Amplifiers Operations Manual
Amp controls	Brite switch, Deep switch, Rock/Jazz switch, High (pull: mid boost), Mid (pull: gain boost), Low, Input (=Input Drive), Output (=Overdrive), Master, Accent (=Negative Feedback)

The Fuchs Overdrive Supreme is a D-style amp, which means that it's similar to a Dumble. Artists playing Fuchs amps include Al Di Meola, Joe Bonamassa (always) and Dweezil Zappa.

Dumble is THE most expensive amplifier available, no.1 on **Vintage Guitar's list of most valuable guitar amps**. Famous Dumble players include Robben Ford, Larry Carlton, John Mayer, Carlos Santana, Keith Urban, SRV, Eric Johnson, Joe Bonamassa. Howard Alexander Dumble retired in the '90s. They say there are less than 300 Dumble amps. **More info on Wikipedia**.

There's always a lot of talk on the internet forums about Robben Ford's Dumble tone. It's an elusive tone, worshipped by a lot of jazz / blues / fusion players. Thick, mid-heavy, smooth lead tone, very touch-sensitive. That trademark tone is not for everybody: hit a power chord and it may terrible to your ears. The "note flip" is a certain tonal characteristic attributed to the Dumble and some of its clones. So what's this mysterious note flip? Quote: "*It sounds KIND of like it's starting to feed back, but it's not. It flips the note up so that a different harmonic order is heard, or something like that*".

There's more to Dumble than Robben Ford's tone. Each Dumble was voiced specifically for its buyer by Alexander Dumble. Replicating an original Dumble amp is hard. The amp's circuit often has "goop" all over it, hiding the electronics.

> "*The Overdrive Supreme excels at everything it does. From crystal clear and detailed clean sounds to its harmonically complex and articulate overdrive, the amp holds its sonic integrity at any volume level. If you've ever heard Larry Carlton or Robben Ford live, that's the tone!* "*The Overdrive Supreme nails the Dumble sound to a tee, and then some!*" *(20th Century Guitar).*
>
> *The Overdrive Supreme has received glowing reviews in BOTH domestic and foreign publications. We recently received a very favorable review in Japan's* "*Guitar Magazine,*" *as well as Guitar Player Magazine (February 2005). The Overdrive Supreme is available in power ranges from 20 through 150 watt. Available in heads or 112, 210 or 212 combos. A spacious Accutronics 3-spring long decay reverb pan is used for a natural warm, yet detailed reverb.*
>
> *The clean channel has brite and deep switches, as well as a rock/jazz switch, which changes the way the tone controls operate. Rock is a more aggressive and punchy bright tone, which jazz is lean and audiophile-like, being more balanced and smooth. There are passive high mid and low controls. The high control pulls for a mid boost, the mid control pulls for gain boost (which bypasses the tone controls). The clean channel acts as a preamp to the overdrive channel, and the tone controls and EQ switches are all active during overdrive use, including all boosts.*
>
> *The overdrive channel features separate OD in and OD out controls. OD-in sets the level of saturation in overdrive, while the OD out control sets the final balance between clean and dirty channels. There is a global master volume, master reverb and accent control, which adds presence and edge to the output stage.*
>
> *The entire audio signal path is fully tube (except reverb). The ODS features a regulated high voltage DC supply for lowest noise, consistent tone despite line voltage variations, and also features regulated DC preamp tube heaters for additional noise reduction. These techniques are used in the finest audiophile and tube studio equipment, and are unique to guitar amps.*" – Fuchs

The Fuchs is a 50 watt amp with 6L6 tubes. It has the same channels and controls as a Dumble ODS. The clean channel acts as a preamp to the Overdrive channel.

> FRACTAL AUDIO SYSTEMS
>
> "*Supposedly a Dumble ODS clone but our reference amp has way more gain than our Dumble.*"

Original controls: Clean Gain, Deep switch, High (pull: mid boost), Mid (pull: gain boost), Low, Input (model: Input Drive), Output (model: Overdrive), Master, Accent (reduces negative feedback at higher frequencies) and Reverb. **More information in the manual**. A Brite switch adds sparkle and the Jazz-setting of the Rock/Jazz switch applies low-pass filtering.

Fractal Audio's models are based on the Overdrive channel. Of all D-style amp models in the Fractal Audio devices, these models provide the most gain.

In the "Fox ODS" model the amp's Deep switch was turned off when modeled, in the "Deep" model it was turned on. The Deep switch shifts the overall tonality of the amplifier, slightly increasing the low frequencies. This is often useful for single-coil guitars, which benefit from a low-frequency boost. Both models were modeled with Preamp Bypass (PAB) engaged, which boosts mids and adds gain.

There are two gain controls for the OD channel (amp models: Input Drive and Overdrive). On all amps like this, including those by Engl, Fryette, Carol-Ann and MESA, the first control sets the sensitivity and the second one sets the amount of distortion. Models with Input Drive and Overdrive controls always feel elastic and spongy.

It's a Master Volume amp. This means that the amp's distortion is created in particular by the preamp tubes, not the power amp. The Master Volume, which works in the power amp section, is still very important to the tone and feel. You have to decide for yourself what setting in the amp model works for you best. The default setting is a good point to start of course.

> *"Because the model has so much gain, I turn down Input Drive to around 3.0."* – yek

About the cabs: Fuchs uses mainly Eminence speakers. We haven't got those as stock cabs.

Amplifier Specifications	
Power	50 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	6L6
Tonestack Location	POST

Friedman BE and HBE (Friedman BE-100)

Synopsis	Models of two versions of Friedman's BE-100, the "ultimate modded Plexi"
Tips	Don't overlook the SAT switch, it's a treat
Clips	**Friedman BE-100 with Phil X**
	Friedman BE100 Video Manual (Mark Day)
	More videos, clips and comments
Cabinet/speaker	4x12 Friedman cabinet with G12M, G12H or V30 speakers
Stock cabs	4x12 Fractal stock cabs – **Cab Pack 10**
Web, Manual	**Friedman BE-100 head**
	Friedman BE100 "The Brown Eye" Manual
Amp controls	Presence, Bass, Middle, Treble, Master, Gain, Voice switch, Sat switch, Fat switch, C45 switch

Dave Friedman modded amps for a lot of famous guitar players. He now designs and builds his own hand-wired amps and does so very successfully. Friedman amps are medium-to-high gain amps delivering really fat tones. He built signature amps for Steve Stevens, Jerry Cantrell and others.

The Marsha was Friedman Amplification's first amplifier. He had to rename it after some pressure from Marshall. It was renamed BE-100 (Brown Eye, don't ask …). The BE is what many call "the ultimate modded Plexi", delivering a very fat, tight rock tone. The amp's HBE mode (Hairy Brown Eye, don't ask…) has an alternate voicing with a preamp triode gain boost.

The amp has a single input, runs on EL34 tubes and is rated at 100 watt. The amp's tone is available as a pedal too.

> "*The Friedman BE100 is a hand-wired, 100-watt, EL34 powered, multi-channel British-style amp. By merely adjusting the gain and master volume controls, the BE100 can produce a variety of tones, seamlessly transitioning from blues to classic rock or hard rock to metal. To say it is British-styled is just the start of describing this inspiring tone machine.*

The BE100 is a critically acclaimed amplifier created for the many musicians who have longed for the Friedman sound in a 100-watt format, as seen on the stages of superstars like Alice in Chains, Pink, Bon Jovi, The Cult, and Foo Fighters.

Plug into to the BE100 and you will instantly notice the huge, tight low-end and rich harmonically detailed chords at any volume, made possible by Friedman's superior Master Volume control.

Single notes take on that Holy Grail singing quality all guitarists strive to attain but rarely can through most amps. The BE100 cleans up remarkably well with the guitar's volume control, even with the amp on higher gain settings. For a more dramatic clean sound, switch over to the clean channel and dial in the bass, treble and three-way bright switch tone shaping controls.

All 3 modes (BE, HBE, CLEAN) can be accessed from the amp's front panel or from the included 2-button footswitch. The BE100 was designed to take pedals and loves boosts, OD's, phasers, flangers, tremolos and wahs, while the brand new ultra-transparent series effects loop handles your time-based effects pedals and rack units.

Play through the BE100 and you'll see why this amp has received the prestigious Editor's Pick Award from Guitar Player Magazine (Nov, 2013)." – **Friedman**

"*Compared to its companion, the Hairy input has a slight gain boost, yet when I plugged a 1978 Gibson Les Paul Custom into this input, I noticed more of a difference in feel than tone. The added saturation made it a little more difficult to coax dynamics out of the amp, but it was still possible to drastically change its response by rolling back the guitar's volume knob.*

First in line is a Fat switch, which thickens up the low end to help fill out rhythm parts. I liked this because it didn't increase the gain at all. Engaging the Fat switch livened up the tone from a Tele without adding grit to its spanky sound. This simply helped the Tele project better across the room.

FRACTAL AUDIO SYSTEMS

"*The old model is an original, hand-built "Marsha". It's MUCH darker than Mark's newer BE/HBE. In fact it's so dark and boomy I emailed Dave to make sure the amp was built correctly. Turns out the snubber cap is the wrong value. But even with the snubber cap corrected it's still very dark and boomy which made me question as to whether there are other components that are incorrect (the guy who built the amp smoked about a pound of pot a day). So we decided to redo the model based on Mark's amp which is the amp that was the demo model at Tone Merchants.*"

"*The BE/HBE has a fixed depth circuit that gives a lot of bass boost. The model defaults the Depth to match this.*"

"*These amps share the same aggressive low-cut on the input and then add bass back in the power amp. This gives clear bass response without getting flubby.*"

Adjacent to the Fat switch is another switch that controls Friedman's Custom 45 response mod. Flipping this switch smoothed out the tone a bit more, while adding a bit of chime and openness to the highs.

When I was ready to hear what sorts of gain this monster could muster, the next control, Sat (saturation boost), helped me do so—in spades. Throwing the Sat switch, I immediately

understood why Steve Stevens and Jerry Cantrell are using the Brown Eye in their rigs. The pure, raw aggression lunging from the amp was staggering, to say the least. Low notes were super tight and punchy, and the highs carried a really nice sting.

As far as midrange voicing, I think you'd be hard-pressed to best the Brown Eye's overdrive.

With all the versatility and power it offers, what really sets it apart is its Presence control. The knob doesn't simply boost highs and add shimmer, it adds more girth, dimension, gain, and perceptible volume. Taming the Brown Eye's high-gain settings only required lowering the Presence knob, which softened the high-end response and eased off the screaming gain a bit. It's as if you have a retractable muzzle, with the higher settings pulling back the mask to let the razor-sharp mids and highs bite through.

With the Brown Eye, Dave Friedman has packed decades of circuit design and modification know-how into a head that represents the finest Marshall-inspired tones he can muster. Players who gravitate toward amps with a strong upper-midrange spike and immediate attack should really take a look at the Brown Eye. If you love the pure aggression of a healthy, late-'60s plexi, yet demand modern features like channel switching, the Brown Eye is extremely hard to beat." – **Premier Guitar**

We have models of the BE and HBE modes. The amp has these controls: Presence, Bass, Middle, Treble, Master, Gain, Voice switch.

The amp has a Master Volume control. This means that the amp's distortion is created in particular by the preamp tubes, not the power amp. The Master Volume, which works in the power amp section, is still very important to the tone and feel. Friedman amps sound great at low-to-high Master Volume settings. The default setting is a good point to start of course.

The amp also provides some switches.

The C45 switch is a treble boost on the input. It isn't included in the models. To replicate this: put a Filter block before the amp, Type:Tilt EQ, Freq 700 Hz, Gain 4.5 dB.

The FAT switch is available in our models (under the Middle control).

The SAT switch is also available in our models. It was designed to be used in the BE or C45 mode to add gain, compression and saturation. Don't overlook this, it's a treat! What also works well: engage Boost.

The Voice switch changes the tone slightly. Switched to the right the amp sounds slightly brighter with a bigger bass. In the left position the amp is slightly darker with more mids. We have separate models of the voicings.

The V1/V2 models are based on Mark Day's full-option BE-100. The V1 models were modeled with Voice switched to the right. The V2 models were modeled with the Voice switch in the left position.

The non-V1/V2 models are based on the original Marsha amp. These models are rather dark and very bassy. Reduce Depth and/or Negative Feedback to handle this, or use one of the EQs.

"*We recommend starting the amp on the BE channel with the Bass on 10, the Mids at around 6 , the Treble at 5 and the Presence at 5. Set the Gain around 8 and then bring the master up to taste. After plugging in, you will notice instantly, the tight bottom end and rich harmonically detailed chords and single notes, that's the Friedman sound. This amp cleans up remarkably well with the guitar's volume control even with the amp on higher gain settings. For even more gain switch to HBE mode*." – Manual

"*There's not a lot of tweaking required. The models sound pretty awesome at default settings. I prefer the V2 models because I like mids. Like the Dirty Shirley model, the range of the gain control (Input Drive) enables you to cover everything from a mild crunch tone to very high gain. You can use a Scene Controller to vary gain across scenes. Don't forget to try the SAT switch. The BE won't let you clean up the gain entirely, you need to use the Dirty Shirley model for that. Dirty Shirley is more vintage, the BE sounds more modern.*" – yek

The BE and HBE pair well with a lot of speakers, including G12M, G12H and V30. You can also combine different speakers. If you want the sound of Mark Day's custom cabinet that he uses with his Friedman BE amp, use stock cabs Fractal 4x12 (V30s + greenbacks).

If you want hear the sound of Fractal Audio's BE and HBE models, just search for Mark Day's **clips and videos on YouTube**.

Amplifier Specifications	
Power	100 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A (JJ)
Power Amp Tubes	EL34
Tonestack Location	POST

Friedman SM Box (Friedman Small Box)

Synopsis	Model of the high gain channel of Friedman's Small Box, similar to the BE-100 but "grittier"
Tips	
Clips	**Getting Deep with the Friedman Small Box – with Dave Weiner**
	Friedman Small Box Tube Amp Demo by Sweetwater Sound
	More videos, clips and comments
Cabinet/speaker	1x12, 2x12 or 4x12 Friedman cabinet with G12M, G12H or V30 speaker(s)
Stock cabs	4x12 Fractal stock cabs – **Cab Pack 10**
Web, Manual	**Friedman Small Box head**
	Smallbox Instruction Manual
Amp controls	Presence, Bass, Middle, Treble, Volume, Gain

Dave Friedman modded amps for a lot of famous guitar players. He now designs and builds his own hand-wired amps and does so very successfully. Friedman amps are medium-to-high gain amps delivering really fat tones. He built signature amps for Steve Stevens, Jerry Cantrell and others.

The Smallbox is often labeled as a BE-100 in a smaller enclosure. That's not the full story. The Smallbox has its own identity.

It's rated at 50 watt, has EL34 tubes and offers two channels. It's available as a head or combo. Channel 1 covers clean to Plexi tones, while Channel 2 has a slightly different voicing on the Brown Eye sound, more vintage and with more pronounced midrange.

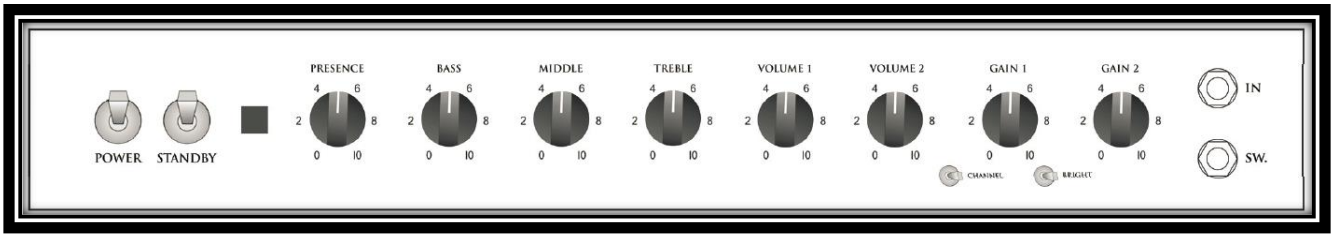
> "*Dave Friedman's Smallbox, 50 Watt Head was designed for guitarists that want the classic tones reminiscent of great vintage plexis as well as Friedman's more modern high gain offerings.*
>
> *The Smallbox features two channels, the first giving you those classic plexi tones that clean up nicely with just a twist of the guitar's volume knob. It goes from clean to crunch to that*

full-blown plexi roar. The second channel features the modern high gain tone on which Friedman has built his reputation.

The Smallbox was designed to take pedals and loves boosts, OD's, phasers, flangers, tremolos and wahs, while the brand new ultra-transparent series effects loop handles your time-based effects pedals and rack units. The handcrafted in the USA head features beautiful Tolex encasing tongue and groove Baltic Birch construction and built to withstand the rigors of the road.

The Friedman Smallbox has delivers all of these remarkable features into a mind-blowing 50-watt package." – **Friedman**

The amp's controls: Presence, Bass, Middle, Treble, Volume 1, Volume 2, Gain 1, Gain 2, Bright switch on channel 1.



We have a model of channel 2. No need to request a model of channel 1, because we already have lots of Plexi amp models.

FRACTAL AUDIO SYSTEMS

"*The schematic shows a 2.2 nF coupling cap off the first stage but the actual amp has a 4.7 nF. 2.2 nF would mean less bass. I can only assume the amp was built to the latest specs. If an amp model is "G3'd" it is deadly accurate. I go through the amps and check the values of each component, measure the voltages, compare the frequency response to the model, etc., etc., etc. If the model is too bassy for you then you would find the real amp too bassy, or at least our particular reference model.*"

"*For Channel 2 we recommend starting with the Bass on 8, the mids at around 6 or7 and the treble at 5. Set the gain around 8 and then bring the master to taste. After plugging in, you will notice instantly, the tight bottom end and rich harmonically detailed chords and single notes, that's the Friedman sound. This amp cleans up remarkably well with the guitar's volume control even with the amp on higher gain settings.*" – **Manual**

The model is very bassy in the sub-region. Decrease Negative Feedback or Depth to deal with this, or increase Low Cut.

The amp has a Master Volume control. This means that the amp's distortion is created in particular by the preamp tubes, not the power amp. The Master Volume, which works in the power amp section, is still very important to the tone and feel. Friedman amps sound great at low-to-high Master Volume settings. The default setting is a good point to start of course.

The Smallbox combo has a G12M Creamback speaker. If you want the sound of Mark Day's custom cabinet that he uses with his Friedman BE amp, use stock cabs Fractal 4x12 (V30s + greenbacks).

Amplifier Specifications	
Power	50 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A (JJ)
Power Amp Tubes	EL34
Tonestack Location	POST

Fryette D60 (Fryette Deliverance 60)

Synopsis	Models of Fryette's Deliverance 60H in low and high gain modes, popular with metal players
Tips	Turn up the gain controls and mids and reduce bass
Clips	**VHT – Fryette Deliverance 60**
	More videos, clips and comments
Cabinet/speaker	4x12 Fryette cabinet with Eminence P50 or Fane F70G speakers
Web, Manual	**Deliverance Series Heads**
Amp controls	Gain I (=Input Drive), Gain II (=Overdrive), More/Less switch, Master, Treble, Middle, Bass, Presence, Depth

Steven Fryette founded VHT Amplification, a well-known amplifier brand (guitar amps and power amps). He sold the brand name in 2009 and continues to design and sell products under his own name. The famous VHT power amplifiers are now Fryette power amplifiers.

The D60 models are based on the VHT, eh, Fryette Deliverance 60H amp (Mk I). It's a 60 watt head with KT88 tubes, capable of delivering (bad um tss…) tight, dry, aggressive high gain tones, especially popular with metal players.

> "*As with all Fryette amplifiers, the Deliverance Sixty amplifier beautifully accentuates the inherent qualities of any instrument. It breathes and dynamically responds to your playing technique exactly the way a great guitar amp should. And as stomp boxes have gained more widespread appeal, you will find Deliverance amps to be pedal friendly and ultra-responsive to the many colors pedal effects produce.*
>
> *The Deliverance preamp section has a broad dynamic range, which accounts for its extra touch-sensitivity and excellent guitar volume response. In addition, clean and overdriven voicings can easily be dialed up on the Deliverance Sixty using the unique GAIN I / GAIN II structure, tone controls, presence and depth. From there, just a little tweaking on your guitar volume and tone controls will yield a surprising amount of control.*

The D60H power amp section is designed for big round tone and dynamic response at low to medium guitar volumes and a rapid but smooth transition into saturation, turning rich and thick at full guitar volume. This combination of preamp voicing and power amp response enhances the unique character of any guitar and pick-up type.

Specially designed, precision wound power and output transformers produce optimum performance, reliability and stability, delivering excellent power tube response and just the right amount of natural output transformer saturation and compression." – **Fryette**

The amp has these controls: Gain I (voicing), Gain II (amount of overdrive), More/Less switch, Master, Treble, Middle, Bass, Presence, Depth.

"*The Input Sensitivity of an amplifier, commonly referred to as GAIN, determines how much overdrive and sustain your guitar will produce. Tonal balance, which we refer to as VOICING determines how the amp will respond to your playing style and sound with a particular guitar. Like all amplifiers, the D60 has tone and gain controls, but unlike any other amplifier the D60 gives you total control over VOICING and GAIN. This GAIN I / GAIN II / MASTER VOLUME configuration is the key to dialling in the Deliverance sound and volume to your specific requirements.*

GAIN I increases the gain amount as you rotate the knob clockwise. As the gain increases, the tonal balance is shifted from a treble and upper mid emphasis, which produces an up front sparkling tone, to a lower mid and bass emphasis, which produces a thick meaty tone.

GAIN I / VOICING – Sets the amount of overdrive in the second gain stage. This first gain control also serves as a tone shaping control, counter-clockwise for crisp and articulate, clockwise for thick and saturated

GAIN II increases the gain amount as you rotate the knob clockwise but with no alteration of the tonal balance. Different combinations of GAIN I and GAIN II settings, will have a dramatic effect on the response of the amplifier and the personality of your instrument. It is easy to get familiar with the action of these controls and you'll be amazed with your ability to make any guitar sound mellow, fat, soulful or aggressive."

GAIN II / OVERDRIVE – Full frequency gain boost or cut. Sets the amount of overdrive in the third gain stage. Works in conjunction with Gain I to dial in the perfect overdrive/sustain amount for your guitar and pick-up combination." – Fryette

We have two models of this amp, based on the Less (three gain stages) resp. More (four gain stages) modes of the amp.

"*This switch selects three stages or four stages of tube preamp gain depending on the amount of overdrive required. LESS = 3 stages, MORE = 4 stages. When using stomp boxes or active pick-ups, four stages of gain are often unnecessary and generate undesirable levels of background noise, so the ability to defeat the additional stage is a real plus.*"

The MORE / LESS switch activates or defeats a tube gain stage. The interesting and often overlooked benefit of this switch is that you can use it in conjunction with the gain controls to tailor your tone as well as distortion amount. For example, set GAIN I, GAIN II, MORE/LESS and MASTER VOLUME as shown in the photo above and play for a few minutes. Now set these controls as shown in the photo below.

Notice that the overall amount of overdrive is approximately the same as it was but the tonal balance has shifted markedly from full and warm to crisp and spanking." – Fryette

> "*I turn up both gain control and mids, and reduce bass. I have a Fryette GP/DI and I can get the model to sound just like the GPDI's Deliverance mode.*" – yek

Fryette uses custom Eminence P50 and Fane F70G speakers. We haven't got those among our stock cabs. Try MESA stock cabs.

Amplifier Specifications	
Power	60 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A
Power Amp Tubes	KT88
Tonestack Location	POST

Gibtone Scout (’64 Gibson Scout)

Synopsis	Model of a 1964 Gibson Scout, a simple 17 watt “jazzy” amplifier
Tips	The Scout’s only control is Volume. If authenticity matters, stick to Input Drive and leave everything else at default
Clips	**1965 Gibson Scout GA-17RVT Tube Combo Amp Demo**
	More videos, clips and comments
Cabinet/speaker	Single 10” speaker
Amp controls	Loudness (=Drive)

This Gibson GA17RVT Scout amp dates back to 1964. It’s an industrial-looking amp. It’s only 17 watt, has two inputs and runs on 6AQ5 tubes (EL84). Reverb and tremolo are built-in.

If you prefer an evolved version of the Scout, try the Nuclear-Tone model. It is based on the Swart Atomic Space Tone (AST) which was inspired by the Gibson Scout. It provides a great bias-controlled tremolo too.

If authenticity matters to you, stick to Drive and leave everything else at default.

The original speaker is a Gibson 10” speaker. It hasn’t been captured so select a 1x10 from the stock cabs.

Amplifier Specifications	
Power	17 watt
Master Volume	No
Negative Feedback	No
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	6AQ5 (EL84)
Tonestack Location	PRE

Herbie (Diezel Herbert)

Synopsis	Models of a Diezel Herbert, covers similar territory as the VH4 but voiced differently
Tips	Decrease bass by lowering Depth
Clips	**Diezel Herbert MK1 Demo by Josh W Part 1**
	Diezel Herbert MK1 Demo by Josh W Part 2
	More videos, clips and comments
Cabinet/speaker	4x12 Diezel cabinet with V30 or G12K-100 speakers
Stock cabs	None – **Cab Pack 24**
Web, Manual	**Diezel Herbert**
	User Manual for the Diezel Herbert Amplifier
Amp controls	Gain (=Drive), Volume(=Master), Treble, Mid, Bass, Midcut Intensitity and Level, Presence, Deep, +/- Gain Boost switch

Diezel's Herbert covers the same territory as the VH4 but feels and sounds differently. It's immensely powerful with its 180 watt peak. It runs on KT66 or KT77 tubes, has a single input and supports MIDI.

> "*Its main difference from the VH4 models are in voicing, circuit design, and general layout. Overall the Herbert has a more familiar, slightly looser feel than the VH4, without losing much of the Diezel signature definition and tightness. Simply put, the amp is a player's amp, forgiving and ready for whatever one's soul and mood desires.*" – **Diezel**

The amp has three channels. The voicing of the channels is different. Channel 1 (Clean) hasn't been modeled so we'll focus on channels 2 (Crunch) and 3 (Lead).

Channel 2:

> "*Channel two is a dual purpose channel, its two voicings can be selected with a toggle switch. The (-) mode of this channel has dynamics to range from a vintage type clean sound to a broad crunch. The (+) mode of this channel offers similar voice, but much more gain. Both modes provide ample pick sensitivity.*"
>
> "*Channel 2 offers the whole spectrum of crunch sounds (or even lead) you can think of. In the minus position and the gain around 35% you`ll get typical cranked Plexi sounds, setting the gain a bit higher to say 60% (keeping all other pots noon) - voilà: 800s territory. Now flip the switch to the + mode and get the typical Diezel trademark crunch (gain around 40%). Tight, punchy, fast attack. A dream for those who prefer the harder stuff. Rotate the gain to 60% and play leads.*"
>
> "*This channel's main objective is to cover soft and heavy overdrive and distortion sounds. It features a voicing switch, with -/+ settings. With the (-) setting selected, blues and classic rock sounds can easily be realized. The (+) setting kicks everything up a few notches and offers crunch with a good bite, for punchy heavy rhythm and searing solo tones.*"

Channel 3:

> "*Channel three offers a high gain structure, but again with very good pick sensitivity and easy control. The distortion structure is transparent, but yet percussive and brutal.*"
>
> "*With the gain around 30% you`ll get your metal rhythm channel - use the mid cut to land in Recto territory. Without the mid cut engaged, gain at 50% and the mids a bit cranked you`ll get a screaming or creamy lead - just depends on your style/axe/fingers. Crank the mids a bit above noon to add some bite. If you want to use it for both, rhythm AND lead - find your ideal setting and simply engage the second master to get your personal volume boost.*"
>
> "*This channel is voiced for highly articulate single note lines or for very heavy and massive rhythm guitar. Due to its slight midrange accent and very high gain structure, it possesses good punch and will, with ease and authority, rule any stage or studio. The "less is often more" rule applies here also.*"

We have models of both modes of channel 2, plus channel 3. The controls are: Gain, Volume, Treble, Mid, Bass, Deep (120 Hz), Presence (> 3 kHz) and the +/- Gain Boost switch on channel 2.

> "*The tone controls work in an unusually wide range, so a little adjustment goes a long way. As with so many other things - less is often more. We suggest you start exploring the channels with all controls set to 12:00 o'clock, and the master volume just slightly cracked open.*" – **Manual**

The Herbert has a Mid Cut switch on each channel (not modeled). To replicate it: "*Use a Peak EQ filter at 400 Hz with a Q of 1.4. Decrease its Gain until the desired scoop is achieved. Play with the Q to set the width of the scoop.*"

Use IRs of V30 or G12-K100 speakers in a 4x12 cabinet.

Amplifier Specifications	
Power	180 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	ECC83
Power Amp Tubes	KT66
Tonestack Location	POST

Hipower (Hiwatt DR103)

Synopsis	Models of a Hiwatt DR103, a British amp with an unique tone stack and a brilliant chimey tone
Tips	If you want it to roar, crank the Master as well as the channel volume and engage Boost
Clips	**1972 Hiwatt DR103 CRANKED through 1978 Hiwatt 4x12 with Fane Speakers (Tyler Grund)** **The David Gilmour Amp: Hiwatt Dr-103 – built in 1972** **More videos, clips and comments**
Cabinet/speaker	4x12 Hiwatt cabinet with Fane speakers
Stock cabs	4x12 Hipower (RW), 4x12 WAT, 4x12 Starfound – **Cab Pack 3**
Web, Manual	**Hiwatt** **Hiwatt Owners Manual**
Amp controls	Volume (=Drive), Bass, Treble, Middle, Presence, Master

People often talk about the sound of British guitar amps. Is there really just "one" British sound? There's Marshall, VOX, Orange, etc. And there's Hiwatt. These amps have a sound of their own, in combination with Fane speakers.

Fractal Audio's Hipower models are based on Hiwatt's flagship product: the DR103. According to Fractal Audio: "*an amp with an unique tone-stack and a brilliant chimey tone*".

FRACTAL AUDIO SYSTEMS

"*I have a 1974 Hiwatt DR-103. The model is based on that. It is one of the Harry Joyce, Hylight era models. Still has the original tubes. Closet find and sounds glorious.*"

The DR103 has a raw tone, slightly glassy and hollow in a good way. Crank it and enjoy pure British power amp distortion. Want to hear a Hiwatt in its full glory? Listen to The Who's **Live At Leeds**, quoted by some as the best live rock recording of all time (**Pete Townsend used a CP103**, based on the DR103). And then there's David Gilmour, Pink Floyd's master of tone, who has played Hiwatt all his life.

> "*This is the amp that started it all. The dr103 has proved itself as the cornerstone of such a huge variety of acts that has provided them all with the platform on which to build their own, unique sounds. Check out the Hiwatt users on this website for the evidence of that. The reason for that variety is that on the one hand, the amp kicks out such a pure, powerful tone that it really compliments the pedals put through it rather than competes with them like some other amps, yet on the other hand has the rich, classic 'British' tone which stands out so distinctively, particularly when the amp is cranked up. Dual channel pre-amp with high and low sensitivity inputs and normal and bright options on each. Volume controls for each channel and master volume control. 3 band EQ; bass, middle and treble. 4xEL34s at power stage, and either 4xECC83s or 3xECC83s and 1xECC81 (giving a tighter sound) at the preamp stage.*" – **Hiwatt** (about the current model)
>
> "*Hiwatt amplifiers were marketed as high-end amplifiers, and indeed their quality in construction, from use of premier Partridge transformers to exquisite attention to detail being made in the electronic wiring and assembly, quickly further enhanced Hiwatt's reputation. Even die-hard and loyal Marshall enthusiasts would have to admit that the construction quality of early Hiwatt amplifiers was vastly superior to Marshalls. The person responsible for this was Hiwatt's Chief Technician Harry Joyce, who oversaw the construction of these amplifiers and built and signed many of them himself. Harry Joyce was a military-certified wiring technician, and as a result, all Hiwatt produced during the Harry Joyce era were produced at military-spec levels. Military specifications required that products being made be wired in such a way that components would be easily accessible and that the wiring itself would remain "clean". This was to allow for quick and efficient repairs of military equipment while "in the field". Looking inside a Hiwatt chassis, this attention to "Mil-Spec" is plainly evident. This attention to detail was also the primary reason why Hiwatt production was limited to only 40 amplifiers per month.*
>
> *The most famous Hiwatt within the line was the Custom 100 DR103 amplifier. Its 100 watt of output compared to a Marshall Super Lead is quite different to say the least. The Hiwatt DR103 is notably louder and can also run much cleaner than100 watt Marshalls when needed and they also have tremendous headroom available. Playing a Hiwatt at a loud volume is well… an experience. When I played through one for the first time (a DR103 made in 1972), all of a sudden, my Marshalls felt very "thin" in tone in comparison. Hiwatt are loud, punchy, and rich with even-ordered harmonics and I should add the politically incorrect term, "ballsy as all hell!". I can think of no better example of the epitome of clean and lush tube tone. Overdrive is certainly available when the Hiwatt is pushed, but it must be acquired by use of the higher-gain "brilliant" channel (more on this momentarily) and certainly a high-output pickup helps further. The "normal" channel is voiced to stay clean and powerful at all levels. An additional benefit to the Hiwatt DR103's tone and design was its inclusion of tone controls that actually seemed to respond with a much wider range than other amplifiers of the time. Bass response could be bassy, mids added strong punch and a wide range of the treble and presence controls would deliver all the upper frequencies and sibilants desired.*"
> – **Legendary Tones**

It's a 100 watt amp with EL34 tubes, Normal and Brilliant channels and four inputs. We have models of each channel, plus one of jumpered inputs which means that both channels are being used at the same time.

A Hiwatt creates a great clean tone. Glassy but different from a VOX, just listen to Pink Floyd.

The amp controls are: Volume, Master, Bass, Middle, Treble, Presence. Presence doesn't do a lot but it opens up the amp a little.

> "*I like the Brilliant model and crank the Master. Bass is turned down. I use Drive to dial in the desired volume and gain level. To force the model into a lot of power amp distortion, I engage Boost.*" – yek

More information about Hiwatt amps **on this fan site**.

Hiwatt amps and Fane speakers go hand in hand. Try the 4x12 Hipower (RW) stock cab. Note that the Red Wirez stock cabs have been captured using an neutral microphone, so consider adding a mic model in the Cab block.

Amplifier Specifications	
Power	100 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	ECC83
Power Amp Tubes	EL34
Tonestack Location	MID

Hot Kitty (Bad Cat Hot Cat 30)

Synopsis	Model of the dirty channel of a Bad Cat Hot Cat 30: pure Class A high gain
Tips	Crank the Master and turn up Hi Cut
Clips	**HotCat30 Demo**
	BadCat Hot Cat 30
	More videos, clips and comments
Cabinet/speaker	Custom 12” Celestion
Stock cabs	1x12 Hot Kitty – **Cab Pack 1**
Web, Manual	**Bad Cat**
	Hot Cat 30 Operating Manual
Amp controls	Gain (=Drive), Bass, Mid, Treble, Master, Presence, Edge, Level, Brilliance (=Hi-Cut), Master

Bad Cat amplifiers became well-known after Mark Sampson (from Matchless) became their chief amp designer. The amp model is based on the Hot Cat 30, not the current Hot Cat 30r.

It’s a 30 watt cathode bias head or combo with EL34 tubes, at one time voted by Guitar Player as “the second best combo of all time”. It can do clean-to-crunch stuff as well as high gain tones, and has a very specific sound of its own.

> “*We started with one of the nicest most touch responsive clean channel ever designed enabling the ability to tailor the amp to bright single coils or thick warm double coils. We've added a K Master volume that can be utilized to drive channel one into all shades from clean to soft pushed overdrive and beyond. The little secret that loyal users of the Hot Cat have known for years is that the clean channel crunches like the sounds found on vintage ‘70’s vinyl. Channel two is a pure Class A EL34 high gain. The same sweet harmonically rich gain only now with an added mid-range knob to help you dial into a rich scooped thump. This amp covers everything from clean sparkle to harmonically rich saturation*.” – **Bad Cat** (about the current Hot Cat 30r model)

Review of the Hot Cat in Vintage Guitar

The Hot Kitty model is based on the amp's dirty channel. Its controls: Gain, Edge, Level, Bass, Mid, Treble, Brilliance (model: Hi-Cut), and Master. Note that the tone controls on the amp are pretty radical and interactive. Turning them fully up or down can mute the amp.

According to some players you have to crank the Master and Hi Cut to make it sound best.

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"I set the Edge control to where I thought it sounded best. It essentially does the same thing as the Bright knob though less precise."

"The amp has a Hi Cut but it's labeled Brilliance. It's wired backwards so turning it CW gets brighter."

"Those amps make a lot of IMD. The real amp does the same thing but you wouldn't normally use a subwoofer with one."

Bad Cat uses proprietary Celestion speakers. We have a 1x12 Hot Kitty stock cab.

Amplifier Specifications	
Power	30 watt
Master Volume	Yes
Negative Feedback	No
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	EL34
Tonestack Location	POST

Jazz 120 (Roland Jazz Chorus 120)

Synopsis	Model of the solid-state Roland Jazz Chorus 120, famous for its clean tones in jazz as well as metal tunes
Tips	Turn up Master
Clips	**The Roland JC-120 Amp – GearWire**
	More videos, clips and comments
Cabinet/speaker	Two 12” Roland speakers (Silver Alnico)
Stock cabs	None – **Cab Pack 21**
Web, Manual	**JC-120**
	JC-120 Instructions
Amp controls	Volume (=Drive), Bright switch, Treble, Middle, Bass

Currently the only current Fractal Audio model that’s based on a solid-state circuit: the venerable Roland Jazz Chorus JC-120. Famous JC-120 players include Andy Summers, Alex Lifeson, Metallica and many more.

The JC-120 originally was used mostly in the jazz(-rock) scene. It enjoyed a revival in the metal and nu-metal era. Bands such as Metallica and Limp Bizkit used it for clean parts in their songs.

It is associated with ultra-clean tones and its built-in chorus/vibrato, a true stereo chorus, called Dimensional Space Chorus by Roland. This seems to refer to Roland’s Dimension chorus, but the JC-120’s built-in chorus circuit is identical to the famous vintage CE-1 pedal. As a matter of fact, the JC’s chorus predates the CE-1.

"*Back in the 80s I owned one, even though I didn't, no, couldn't play jazz. There were a lot of these amps around, especially in the jazz and jazz-rock scene. I remember seeing Billy Cobham's guitar player using one. Although it's an ultra-clean amp by itself, it handles drive pedals well. I achieved great overdriven tones with my JC-120 and an original H&K Tube Factor pedal or Tube Screamer.*" – yek

"*First introduced way back in 1975, the JC-120 Jazz Chorus is one of the few guitar amps that can truly be called a legend. Roland's long-standing flagship is universally recognized by pros as the benchmark in clean guitar sound, and its rich tone and famous built-in stereo chorus effect have been heard on countless popular songs over its long history. Now celebrating 40 years of continuous production and counting, the JC-120 remains the undisputed "king of clean," and the enduring choice of serious guitarists everywhere.*" – **Roland** (current JC-120)

"120" means 120 watt, which is 60 watt per side. The amp has two channels. The Normal channel doesn't have any effects, while the Effect channel provides chorus, reverb and drive. Because of the chorus, everybody uses the Effect channel. The amp has two inputs per channel.

The amp does have a Distortion control. But the distortion sounds so terrible that it should be forbidden by law to use it.

The chorus isn't a part of the amp model. To replicate it, use the CHORUS block, set it to CE-2 and place it after the AMP block to keep it stereo.

The amp's controls: Volume, Bass, Mid, Treble, Bright switch. Not modeled: Distortion, Chorus and Reverb.

The model's output is low. So turn up the model's Master (the original amp has no Master Volume) or increase its Level.

For its stereo output the JC-120 has two 12" Roland speakers (silver Alnico). We used to have these as stock cabs, but they were replaced. Try other Alnico stock cabs, such as 2x12 Class-A 30W Silver.

"*I always crank the Master.*" – yek

Amplifier Specifications	
Power	2x 60 watt

JMPre-1 and Brit Pre (Marshall JMP-1 preamp)

Synopsis	Models of Marshall's JMP-1 preamp
Tips	The visual tone control settings don't line up to the actual amp due to a different tone stack
Clips	**Marshall Amp Demo (JMP-1 / EL-34 50/50) - Part 1 – Clean**
	Marshall Amp Demo (JMP-1 / EL-34 50/50) - Part 2 - Overdrive
	More videos, clips and comments
Web, Manual	**JMP-1 Handbook**
Amp controls	Volume, Gain (=Drive), Bass, Middle, Treble, Presence

The Marshall JMP-1 is a MIDI-controllable rack-mount tube preamp, based on the JCM 900, Marshall's amp from the '90s. Bands such as Def Leppard, ZZ Top and Deftones are known for using the JMP-1.

Don't confuse this preamp with the current JMP1 "baby" Marshall.

Fractal Audio's first model of the JMP-1 was the Brit Pre amp model. That model was reworked, resulting in the JMPre-1 models. The Brit Pre amp model stayed on because it is used by several prominent "A-list" artists.

The power amp section in the models is based on a typical Marshall 100w power amp from the '90s.

The JMP-1 preamp has four modes: two Clean ones, OD1 and OD2. Fractal Audio has modeled both OD modes.

- OD1 : "*a warm vintage drive reminiscent of Marshall Super Lead amps through to modern day Master Volumes*". And: "*Features the purity of distortion from the golden age of the plexi glass Super Leads. As the gain is increased you pass through degrees of distortion into a rich higher gain mode, with just the right nuances for the modern blues rock player. Vintage crunch, modern metal and fat blues lead sounds are all readily available*." – Marshall
- OD2 is "*a tightly focused high gain drive which can be smooth or aggressive depending on the E.Q. and gain settings*". And: "*Tightly focused stunning high gain is what you will find in OD2. Modern and aggressive, smooth and fluid, the gain levels and singing tone of this channel will give you infinite sustain whilst retaining a pure toneful quality*." – Marshall

The JMP-1 provides Gain, Bass, Middle, Treble and Presence controls, adjusted through keys instead of rotary knobs. There's no Master Volume because it's a preamp.

(Brit Pre model)
"*The two channels have preset tone stacks. Then there is a digitally controlled 4-band graphic EQ which is the B/M/T and Presence. This technique gets around the problem of trying to digitally control a tone stack. The Triaxis uses LDRs in place of potentiometers. The Soldano X-99 uses motorized pots. Both techniques being expensive. So the JMP-1 uses a fixed tone stack and then a digitally controlled graphic EQ. The Axe-Fx model of the JMP-1 is "better" in the sense that the tone controls control the tone stack rather than a graphic EQ. You then have the separate graphic EQ to further tailor the sound. What I didn't do, and why people probably feel the model differs, is "normalize" the tone controls so that with B/M/T at noon the tone stacks match. On the Axe-Fx you might need to set the Bass to 3, Mid to 7, etc. to get the tone to match. I just used a standard Marshall tone stack whereas the JMP-1 uses a standard Marshall tone stack but the pots are replaced with fixed resistors but those values don't necessarily correspond to the pots at noon.*"

"Man, that Brit Pre is just a magic amp model to my ears. I know some celebrity guitar players who played JMPs for years and they prefer it. Oh, and speaking of Def Lep, I sat and dialed in Axe-Fx presets using Phil Collen's actual JMP rig... We chose.... you guessed it: Brit Pre"– Admin M@

(JMPre-1 models)
"*The JMP-1 tone controls have more range than the actual preamp. The preamp has about +/- 8 dB for each tone control while the model has the standard +/- 12 dB.*"

The JMPre-1 models with "BS" in the name were created with the Bass Shift function engaged on the preamp.

> "*It's a subtle low frequency character control. When selected it thickens the bottom end of the sound and tightens the playing feel. On clean selections it adds body and on overdrive it provides the extra low end "throb" so essential for heavy rock sound*." – Marshall

"The models of the JMP-1 are well balanced. At default values they already sound fine, although you may want to turn up the gain. I prefer the non-BS models, because I don't like too much bass in my tone, but that's a matter of personal preference of course." – yek

Amplifier Specifications	
Years of Manufacture	1990s
Preamp Tubes	ECC83
Tonestack Location	POST

JMP-1 Preamp Presets

PRESET	TITLE	MODE	B/S	VOL	GAIN	BASS	MID	TREB	PRES	Comments
25	Mellow	CL-1	off	20	14	2	-2	1	1	Clean & pretty Roll back guitar tone for full "Jazz"
24	Warm Grit	CL-1	on	16	20	-1	3	6	6	Dark & on the edge Hi output pickups will distort
03	Cleeeeen	CL-2	off	20	9	3	-1	4	6	Cleeeeen CL 2 Very Lots of headroom
22	Grit Clean	CL-2	off	16	19	3	-1	4	6	Clean & on the edge Hi output pickups will distort
17	Britaevious	CL-2	on	17	17	4	-2	6	6	Modern clean - Pick's up EFX well Hi output pickups will distort
01	Chunkus	OD-1	off	17	20	1	-3	3	4	Big, Ugly & Fat Gain controls "chunkiness"
13	Biffa	OD-1	off	15	20	2	0	3	3	Obnoxious overdrive In your face crunch
19	800's	OD-1	off	16	15	6	0	3	3	Deliverin' the dB's Set bass to suit your guitar
02	Sticky	OD-1	on	15	13	1	2	6	3	Edgy grime Big change for different guitars
11	Tej'as	OD-1	on	16	14	1	-1	4	1	Punchy/dark drive Increase gain for vintage singles
12	Modster	OD-1	on	14	20	2	1	5	5	Mod-ed Plexi More than enough
15	Mid-lands	OD-1	on	14	17	2	6	3	3	Honky mid range voice Cuts through
18	Trash	OD-1	on	17	9	4	-1	2	3	Very broad modern tone Fills up a lot of space
20	LA Crunch	OD-1	on	16	17	6	1	3	2	Mod-ed JCM800 on "5" Decrease Pres. for single coils
21	Crusher	OD-1	on	18	12	5	-4	5	4	JCM900 on "8" Mid control very effective
23	Shred Spread	OD-1	on	17	20	5	0	6	6	Full scoop shred tone Bass control is the key here
00	Smoke-em	OD-2	off	18	20	3	-3	3	1	Lots of drive & sustain It starts here
04	British Steel	OD-2	on	17	16	4	0	4	1	Warm & Heavy English overdrive
05	Nasal Tone	OD-2	on	16	20	0	1	6	6	Thin, midrangy & cutting When tracks are full, this fits
06	Quo!!!	OD-2	on	17	10	2	-2	6	3	Bright crunch Rocks you all over the world
07	Angus-Ho	OD-2	on	17	14	0	-1	3	2	Mid '70s Marshall Tone
08	Filth	OD-2	on	17	20	2	-6	6	6	Bright, semi scooped Great for chords
09	Bloooz-O	OD-2	on	17	11	2	-2	3	2	Plexi 50 Watt Classic tone
10	Bloooz-O+	OD-2	on	17	19	2	-2	3	2	Plexi 100 Watt As above, more aggressive
14	More Gary	OD-2	on	17	4	3	0	3	3	JTM 45 on "6" Started it all
16	Sunshine	OD-2	on	15	10	1	6	-6	3	Cleaner than you think! Increase Treb. for dark guitars

Note: Tone settings don't necessarily match AXE FX Tone control settings

Jr Blues (Fender Blues Junior)

Synopsis	Models of a Fender Blues Junior with the FAT switch On and Off
Tips	Use the FAT model and turn up Master to get the typical Blues Junior sound
Clips	**Fender Blues Junior III & Strat: "Late Night Blues"**
	Blues Junior Demo – Original Ballad
	More videos, clips and comments
Cabinet/speaker	Single 12" Eminence Legend or Jensen C12N/P12R
Stock cabs	1x8 Tweed, 1x12 Junior Blues – **Cab Packs 2 and 10**
Web, Manual	**Fender Blues Junior**
	Blues Junior Operating Instructions
Amp controls	Gain (=Drive), Treble, Bass, Middle, Master, FAT push-button

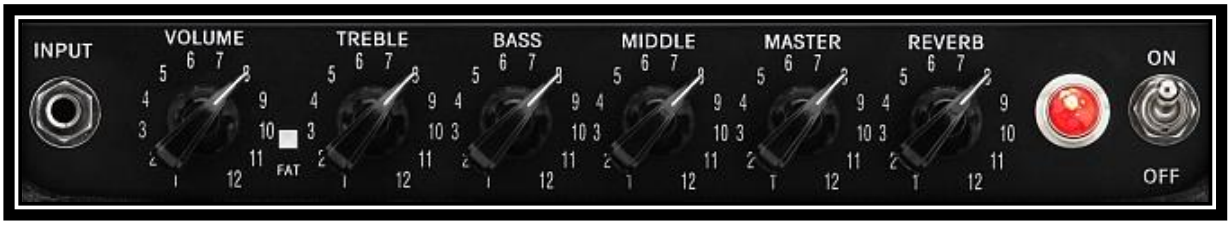
The Fender Blues Junior is a portable 15 watt amplifier with dual EL84s, a solid state rectifier and a single input. It's a different kind of Fender, not as clean as most others. Some love' em, some hate 'em.

> "*The Blues Junior is a 15-watt warm-toned, longtime favorite - the perfect grab-and-go tube amp for stage and studio. It is known for the fat mid tones characteristic of EL-84 output tubes, warm 12AX7 preamp tube overdrive, real spring reverb, simple control layout, foot switchable FAT boost and external speaker capability.*" – **Fender** (current model)
>
> "*The Blues Junior is a professional tube guitar amplifier introduced in 1995 by the Fender company. It is aimed at achieving the warm, tube-driven tone common in many styles of*

American blues and blues rock dating back to the 1950s, while remaining both portable and affordable. Fender frequently releases limited editions of the Blues Junior. All have the same electronic components and specifications but have cosmetic changes and often a different speaker, at varying prices. The Fender Blues Junior is most similar to the Fender Blues Deluxe, which adds a "drive" channel, an effects loop, and uses 6L6GC output tubes for 40 watt of rated output. The Fender Blues Junior was introduced after the Fender Pro Junior, but has entirely different circuitry other than EL84 output tubes rated at 15 watt." – **Wikipedia**

This amp is one of the few Fender amps with a Master control. Other controls are: Gain, Bass, Middle, Treble, FAT push-button, Reverb. The amp has a fixed presence circuit and no Bright switch.

The FAT switch boosts gain and midrange frequencies in the preamp stage. We have models of the amp with the FAT switch engaged and disengaged.



"*Your new Fender Blues Junior is a professional tube amplifier with that classic, late night blues tone found nowhere else but in a Fender. Its compact size makes it ideal for rehearsal, backstage warm-up, and studio work. The control panel on the Blues Junior is located on the top side for easy access and the "chicken-head" knobs indicate all your settings at a glance. Volume, Treble, Bass, Middle, Master, "FAT," and Reverb are all that's needed to get every sound from "vintage clean" to "expressive growl" from this versatile amplifier. The Fender vintage Special Design 12" speaker is connected through a standard 1/4" jack allowing your choice of connecting to either the internal speaker or an external 8W speaker cabinet.*

The "FAT" switch provides additional preamplifier boost adding warm, "Fender American Tube" distortion and may be controlled from the top panel or with the optional footswitch. The quality built into Fender amplifiers is the result of over 50 years of dedication and experience that our engineers and countless musicians have gained both in recording studios and performing on stages around the world." – **Manual**

"Use the FAT model and turn up Master to get the typical Blues Junior sound." – yek

Use this model with no Damping (no negative feedback) to make it sound like an Egnater Rebel 20.

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"The Eggie is very similar to a Blues Jr. Basically the same preamp with some minor tweaks."

The combo has a single Eminence Legend or Jensen C12N or P12R speaker. We have them as stock cabs: 1x12 Blues Junior.

Amplifier Specifications	
Power	15 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	EL84
Tonestack Location	MID

JS410 (Marshall JVM410HJS, Joe Satriani's signature amp)

Synopsis	Four models of Joe Satriani's signature amp, Marshall's JVM410HJS
Tips	"*Joe said he puts all the tone controls at around 10:00*."
Clips	**Marshall JVM410HJS review with Danny Gill**
	Monsters of High Gain '13 – Marshall JVM410HJS Joe Satriani Signature
	More videos, clips and comments
Cabinet/speaker	4x12 cabinet with G12-75 speakers
Stock cabs	Marshall stock cabs
Web, Manual	**Marshall JVM410JS**
	JVM410HJS Signature Head Owners Manual
Amp controls	Master, Gate, Presence, Resonance (=Depth), Volume, Bass, Middle, Treble, Gain (=Drive), Mid-Shift button

"*IMHO this model totally rules when compared to the regular 410H amp/model. Liquid, thick, less harsh, more usable gain range.*" – yek

JVM410HJS (what a name …) is Joe Satriani's signature amp, after quitting Peavey. Important changes were applied to the regular 410H: reverb was dropped; noise gates were added; a Mid-Shift button was added which centers the mids around 650hz when OFF and around 500hz when ON; the Clean channel's Green mode is based on the 30th Ann. Marshall 6100 (Satriani's favorite clean tone); some of the Marshall AFD circuitry is included in the Crunch channel; the OD1 and OD2 channels are identical (voice matched for smoother transition between modes) and re-voiced.

Fractal Audio has modeled the Orange and Red modes of the Crunch and OD channels.

> "*The Joe Satriani JVM head looks very similar to the stock JVM410H, but look and listen a little closer. You'll realise just how different this amp is. The reverb pots have been replaced by four independent, studio-quality noise gates, one for each channel and, as specified by Joe, a footswitchable Mid-Shift button has been added (around 650hz off and around 500hz*

on). Tonally, this amp is very different from the stock JVMs. The clean channel is based on the 30th anniversary 6100 when in green mode, with the orange and red modes being hotter variations of that. The crunch channel includes some of the popular AFD circuitry, and the overdrive channels are voice matched for smoother transition between modes. The channels and modes have been re-voiced to Joe's exact specifications after experimenting with prototypes on tour and during recording sessions. This awesome amp also features individual channel EQ, two master volumes and a switch memory that can recall your reverb, FX loop and master settings. There is also an emulated output that can be used for recording or, as Joe does, used to monitor on stage." – **Marshall**

Satriani's comments in the **manual**:

"*(…) start recording what would become "The Extremist" album, and Marshall had sent over this new head – the 30th Anniversary 6100. The first thing I did was go in to the clean channel and seeing how my box sounded and it was like: Wow – that's amazing.. And that was really the beginning of me just depending on that head. I've got 5 of them & I even have a full stack with the polished brass chassis and logo that's very cool. (…) Marshall set us up with some JVM and some (...) Vintage Modern heads and we just loved them. They literally transformed the sound of the band. I was using a JVM and the end of that touring cycle I'd realized exactly what it was I was looking to get out of the amp. Then came the offer to work with Marshall on a signature head… I was not only flattered by this gesture but also very excited because I had real, practical experience with the JVM and I had some things I wanted to change about it – specifically, make an already great amp even bigger, bolder, more punchy and more dynamic. To me the JVM410H's four channels were amazing but what was even more mind-blowing was that it had three switchable modes per channel. So it wasn't merely a 4 channel amp, it was 4 by 3. It was fascinating just to sit there and play through it. I felt that the designer, Santiago Alvarez, had really made a huge step forward in amplifier design by being able to pack so much into a head while making it so elegantly designed and functional. This amp gets you in and out of all the different eras of rock music, no questions asked. So that's how myself and Santiago started working on the JVM410HJS. I think you can hear a good example of how Chickenfoot's sound blossomed as a result of the JVM on the "Get Your Buzz On" live DVD [filmed on one night in 2009]. It's a very fat, rich tone which we've since taken several steps further to make it even more of an organic rock and roll sound - which is the hallmark of my signature amp. Thanks to a really long and fruitful R&D period, I've been able to record, rehearse and play live with all the prototypes while Santiago and I fine tuned the amp…not just with Chickenfoot but on my solo stuff too. I've really put all the prototypes through their paces in "the real world" – well, in "my real world" anyway. To my mind, the original JVM410H has a sizeable chunk of Marshall History encapsulated within its 12 modes. I feel that Santiago and myself have capitalized and expanded upon that firm sonic foundation and, as a result, the JVM410HJS contains a lot of classic Marshall tones as well as a few fresh ones that people will regard as new classics.*"

Crunch channel:

"*I love this channel because, to me, it's as if a very important period of Marshall History is sitting there. It also represents three of my alltime favourite amps that I've used to record all the time. I'm not going to go too crazy trying to over-describe these because anyone who knows and loves Marshall will know the classic amps and sounds upon which they're based…*

***ORANGE MODE:** Based on a JCM800 2203 which, like the JMP, is such a standard in rock music.*

> ***RED MODE:*** *That telling, modded JCM800 sound that so defined the '80s era, and is still a "go to sound" for any rock band. This channel is so useful. For me to be able to make two albums using this channel – a solo record and "Chickenfoot III" - and to tour, using all three modes during the show is a true testament to just how good the JVM410HJS's Crunch channel is and how many different tones it can give you."*

OD channels:

> *"It's a crazy idea I know, but these two channels are identical. Generally, logic and intuition would tell you that the rational thing to do if you've got four channels is to make them all different. That said, I've realized, particularly from the experience of playing live, that once you get your tone dialed in, you wish that you could also get it a little bit louder and with a slightly different EQ once you get it louder. I've found this to be the case more often than not, and no-one wants to walk around with two heads if they don't have to – they'd much rather have one head with the sounds in it. Hence the reason for OD1 and OD2 being the same. So working with Santiago, we made the two channels essentially the same as OD1 on the original JVM410H but then, at the click of a programmable button – the added Mid-Shift – you can make either one, or both of them be identical to the original JVM OD2 channel too, in terms of the EQ curve. So on the JVM410HJS you can dial in that big, full, organic "Get Your Buzz On" CF guitar tone. Or, you can activate that switch and there's a bit of a scoop which I found while still being a really fat tone, makes more room for Sammy's vocal in the overall shape of the sounds that make up Chickenfoot. But then, by the same token, I find that on my solo work that space needs to be filled by my guitar so I need that extra midrange to do so properly. I've now got the ability to have both those sounds and as the gain structures are identical and the way two channels behave are also the same, you can successfully use the channels back to back. (…)*

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>
> *"Joe said he puts all the tone controls at around 10:00."*

> ***ORANGE MODE:*** *Even more Gain.*

> ***RED MODE:*** *None more Gain ©Nigel Tufnel! In conclusion: I don't want to say that "I'm as happy as a peach" because that's a horrible analogy! Let's just say that I'm spoiled for choice because there are just so many options for how wild you want your guitar to sound within the 12 Modes of the JVM410HJS. I love it, I really do."*

The amp's controls are: Volume, Gain, Bass, Middle, Treble, Mid-Shift, Master, noise gate, Presence, Resonance (model: Depth). The Mid-Shift button has not been modeled.

For more information about Marshall's 410 series, read the JVM410H article.

Marshall's accompanying 1960A cabinet has four G12-75 speakers.

Amplifier Specifications	
Power	100 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	ECC83
Power Amp Tubes	EL34
Tonestack Location	POST

Legato 100 (Carvin Legacy VL100, Steve Vai's signature amp)

Please refer to the section on the **Cali Leggy model**.

Matchbox D-30 (Matchless DC-30)

Synopsis	Model of Channel 1 (12AX7) of a Matchless DC30, a VOX-type amp that started the boutique amp craze, and very popular in Nashville
Tips	The Master was bypassed when creating the model so keep this at default in the amp model
Clips	**Matchless DC 30 ('92) Complete Test**
	Matchless DC 30 vs Bad Cat Wild Cat
	Matchless HC30 Sound Demo
	More videos, clips and comments
Cabinet/speaker	2x12 Matchless cabinet with a G12M and a G12H speaker
Stock cabs	2x12 Boutique – **Cab Pack 10**
Web, Manual	**DC-30 Series**
	Matchless C-30 Manual
Amp controls	Volume (=Drive), Bass, Treble, Cut (=Hi Cut), Master

Matchless was part of the boutique amplifier craze in the 'late 80s, early 90s. One of its founders was Mark Sampson. The amplifiers that were made during the time he worked at Matchless are considered the best ("Sampson-era"). Matchless amps are often associated with country music (Nashville) but they are also used by artists like Kings of Leon and Dave Grissom. **More information**.

Matchless takes Class-A tone to a higher level. The DC-30 is their most famous model. It's a two-channel, Class A 30 watt combo with EL84 tubes and two inputs. The HC-30 is the head version.

A ’95 – ’99 C-30 ranks #20 on **Vintage Guitars list of most valuable amplifiers**:

> “*In achieving Matchless founder and designer Mark Sampson’s goal of being “…an AC30 that wouldn’t break down,” the DC30 also became one of the best-loved and most-used amps of hard-working players in the studio and on the touring circuit. These EL84-based class-A beauties are entirely hand-wired in the lauded point-to-point style, and deliver classic British chime, shimmer, and crunch, but with a certain modern clarity and fidelity and a bulletproof robustness relied on by countless pros. Bolted into one of Matchless’ rare exotic-wood cabs, they look awful sweet, too.*”

More info about the DC-30 in Vintage Guitar

> “*This is what changed the amp world. The DC-30 was the company’s first design and still leads the lineup.*
>
> *Thirty very conservatively rated watt from a quartet of EL-84’s, through two channels, each with unique voicing and tone control layouts, produce a world of tone choices. True “Class A” configuration gives rich, complex harmonics whether played clean, mildly overdriven, or with all out power tube saturation. This means you should sound great in any situation, in any music style.*
>
> *A long list of musician designed features includes: highly interactive tone controls and circuitries unique to each channel, bypassable master volume, individual channel effects loops, cut control for high frequency shaping, high and low (30 or 15 watt) power settings, selectable output impedance and phase inverter switches allow the use of additional speaker cabinets or amps in-phase with the DC-30.*
>
> *The preamp sections are based on a layout of two 12AX7’s in Channel 1 and one EF86 in Channel 2. The two 12AX7’s in Channel 1 create a parallel-triode circuit with interactive bass and treble. The one EF86 in Channel 2 consists of a high-gain pentode coupled to a six-position tone switch. Outright benefits include quick dial-in of new tones and an easy return to the settings you prefer. Also “high treble” cut control, master volume, with a bypass feature that offers flexible control of the power amp section. The power amp is fed by a 12AX7 phase inverter, which drives four EL84 power tubes. The rectifier circuit gives you the flexibility of using one 5AR4 for a quick attack or you can use two 5V4’s for a smooth, round response. Other professional features include an effects loop, half power-mode switch (a conservative 30 watt switching to 15 watt), output impedance selector (4, 8, 16 ohms) and a speaker phase-reverse switch.*
>
> *Sound on the 212 Combo is delivered through two dissimilar Celestion speakers: a G12H30 and a Greenback 25, each specially modified through a proprietary MATCHLESS formula. All of this is encased in an extremely sturdy hand-made 11-ply, 3/4” Baltic birch cabinet, wrapped in richly textured black vinyl. The finishing touch is our signature backlit nameplate and control panel, which lets you (and the audience) know when the power is on.*”
> **– Matchless**
>
> “*MATCHLESS amplifiers are cathode biased and operate mostly in a Class “A” mode. This means that current flows continuously through the output tubes whether a signal is present or not. Most amplifier designs employ the more popular “AB” or “AB1” biasing technique, which although capable of producing more power for a given tube configuration and transformer size, produces crossover distortion and more odd order harmonics. This is why MATCHLESS amplifiers are described as having a smooth tone that won’t fatigue ears even at a high volume. The MATCHLESS design also does away with controlled or corrective negative*

feedback, allowing the amplifier to run "open loop" or wide band. This is why your amplifiers sound full and rich at low or high volume levels." – **Manual**

Channel 1 has a 12AX7 preamp tube, while channel 2 uses an EF86. The two channels are very different in sound.

"*Channel 1 has three controls, VOLUME, BASS, and TREBLE. This is the "triode" channel. This channel offers a two stage active tone circuit employing a second pair of triode amplifiers. This circuitry is popularly referred to as a "tone-boost" or "treble-boost" circuit. The Bass and Treble controls are highly interactive and capable of a wide variety of textures. Channel 1 may be preferred for that early British sound that we have become so endeared to. If you play a RICKENBACKER or GRETSCH guitar through this channel, you will recognize this familiar sound instantly.*

Channel 2 utilizes a "pentode" vacuum tube as the first preamplifier stage and is followed with a six position rotary switch to control the tone envelope. This preamplifier tube is capable of more gain than channel one and is capable of being overdriven harder. The tone control for this channel is passive. This may become the channel of choice for a "heavier" sound, especially when overdriven and used in conjunction with the MASTER volume control option. The multi-position rotary tone switch varies the dimension or width of the tone envelope. The minimum position (counter clockwise) will procedure a thinner sound that will become thicker and thicker with each clockwise click of the switch. This switch has a total of six tonal textures." – Manual

FRACTAL AUDIO SYSTEMS

"*The DC-30 is basically an AC30 copy. The voltages are a bit different but the topology is nearly identical. However, IMO, it does sound better. Not sure why. Perhaps the better quality components. AC30's have kind of crappy OTs.*"

"*My favorite "Class-A" amp model by far.*"

Fractal Audio's model is based on channel 1 (12AX7) with Master bypassed. It's a favorite of many players, for clean tones with chime as well as crunchy work.

Controls on channel 1: Volume (model: Input Drive), Bass, Treble, Cut (model: Hi Cut), Master (bypassable).

"*The CUT control varies the bandwidth, or high frequency response of the power amplifier. This is characterized by fewer heights or less top end. The CUT control is used to soften or take the edge off a harsh instrument or tone setting. The effect is subtle before the halfway point on the control and increases the amount of cut from midpoint to full. The CUT control is most effective when the Master volume is bypassed or set for maximum gain.*" – Manual

Click here for sample amp settings

> "*I keep Bass and Treble pretty much at default, turn up Cut to about 3 (depends on guitar), and then vary Input Drive between 2 and 8, depending on my needs. The model is very input sensitive, you can really dig in and get a juicy compressed tone. I use the stock 2x12 Boutique Ultra-Res cab.*" – yek

Matchless cabinets use a combo of G12H and G12M speakers. We have these as stock cabs: 2x12 Boutique.

Amplifier Specifications	
Power	30 watt
Master Volume	No
Negative Feedback	No
Preamp Tubes	12AX7A Syl (Ch 1) EF86 (Ch 2)
Power Amp Tubes	EL84
Tonestack Location	POST

MR Z HWY 66 (Dr. Z Route 66)

Synopsis	Model of a Dr. Z Route 66: thick blues and medium rock tones
Tips	To put the amp into overdrive, turn up all three controls (Volume, Treble, Bass)
Sound Clips	**DR Z Route 66 amplifier demo with Kingbee Tele and Z Best 212 Cabinet**
	Dr Z Route 66 amplifier demo with Fender Stratocaster and Z Best 212 Cabinet
	More videos, clips and comments
Cabinet/speaker	Single 12” V30, G12H, Alnico Blue or Dr. Z Z 12
Web, Manual	**Route 66**
	Route 66 Owners Manual
Amp controls	Treble, Bass, Volume (=Drive)

Dr. Z is Mike Zaite. He builds simple amplifiers that sound pure and are appreciated widely, especially with country players.

This model is based on the Route 66, a 32 watt single-channel amp head with KT66 power tubes and an EF preamp tube.

> “*The Route 66 is an all original Dr. Z design based on the incredible KT-66 tube originally built by Genelex. This tube generates the “Milkshake Thick” tones, as heard on John Mayall’s “Bluesbreaker” album featuring Eric Clapton (the “Beano Album” as it is known to many). This is not a duplicate of the Marshall JTM-45, but completely original spin with new tonal end results. The Route 66 has an EF-86 front-end. For those not familiar with this tube, it is a 9 pin pentode that offers incredible gain and input dynamics. It is normally used in high-end stereos, most often for its accurate transfer of input signal, balance, and headroom. The Route 66 features a deceptively simple tone stack, consisting of Volume, Bass, and Treble, which feeds a non-negative feedback Phase Inverter, for true harmonic content and full output tube dynamics. It has a GZ-34 Tube Rectifier to complete the round enveloped tone.*

The amp has piano-like clarity with endless sustain, even at low volumes. Its 32 watt truly sing when driven hard in a focused, thick distortion, with the tightest bass response you've ever heard." – **Dr Z**

"*The Route 66 is a completely original design based around the classic KT-66 output tube. The Route 66 is the first ever winner of the Editor's Pick Award from Guitar Player Magazine. The EF86 front end coupled to the big bottled KT-66 output tubes lets loose a thick bottom end with a clear singing top. This amp delivers plenty of classic rock and roll crunch as well as sweet blues sustain. The Route 66 makes any pedal you plug in sound like it was built into the amp*." – **Manual**

Review in Guitar Buyer

The controls are very simple: Volume, Bass and Treble. On the original amp Treble and Bass operate regularly until 12:00 and dial in gain once turned past noon. To put the amp into overdrive, crank all three controls. The amp has no Master so keep this at default in the amp model for authenticity.

"*Try Bass at 7, Treble maxed, Volume around 7 and the Ultra-Res 2x12 Boutique cab.*" – yek

Amplifier Specifications	
Power	32 watt
Master Volume	No
Negative Feedback	Yes
Preamp Tubes	EF86
Power Amp Tubes	KT66
Tonestack Location	POST

Mr Z MZ (Dr. Z Maz)

Mr Z MZ-8 (Dr. Z Maz 8)

Synopsis	Model of a Dr. Z Maz 8, an 8 watt Class A amp, the “quintessential country amp”
Tips	The ratio Drive/Master is important to keep the tone tight
Clips	**Dr Z Maz 8 1x12 Studio Demo**
	DR Z Maz 8 – Rig Gear Demo
	More videos, clips and comments
Cabinet/speaker	Single 12” V30, G12H, Alnico Blue or Dr. Z Z 12
Web, Manual	**MAZ 8**
	Maz 8 Manual
Amp controls	Master, Cut (=Hi Cut), Bass, Middle, Treble, Volume (=Drive), Pentode/Triode switch

Dr. Z is Mike Zaite. He builds simple amplifiers that sound pure and are appreciated widely. Famous Dr. Z amp players include Brad Paisley and Joe Walsh.

The Maz 8 is an 8 watt Class-A head or combo with a single EL84. The amp has no negative feedback (amp model: Damping is 0).

Controls are: Volume, Treble, Middle, Bass, Reverb, Cut (model: Hi Cut), Master Volume and a Pentode/Triode switch (not modeled). The tone controls can be bypassed.

It has two inputs: Hi and Lo. Lo has 3 dB less gain.

FRACTAL AUDIO SYSTEMS

“Dr. Z is the quintessential country amp.”

"Based on the modern day classic Maz 18 platform, the Maz 8 is set to become the new standard in single ended class A amps. If you are tired of thinking of ways to win the volume wars with sound guys, club owners, and recording engineers the Maz 8 is the solution. The Maz 8 is a full featured 8 watt amp that will give you an incredible range of shimmering cleans to full on rock action at reasonable volume levels.

The Maz 8 gives you the true class A experience. The single EL84 output section can be run in Pentode or Triode mode. In Pentode mode you get the sonic signature of the Maz 18. The chimey top end and sweet low end bloom are all there, but at a significantly lower volume. The pentode setting gives you plenty of dynamic range for clean country picking to grinding riff rock bliss. You can even take it a step beyond with the footswitchable EQ bypass function. This gives you a great gain boost for effortless leads that will sustain for days. The Maz 8 takes on a much different dialect in triode mode with more of a vintage feel and sound. In triode, the volume level drops back and the tone fattens up making you think you plugged into a lost gem from the 1950s. Kicking on the EQ bypass in triode mode will have you reaching for your slide in no time." – Dr. Z

Review of the Maz 8 in Premier Guitar

> *"I really like these amp models, the Maz 8 even more than the 38. Not limited to country. These amp models are capable of putting out vintage medium rock tones too. They excel at clean tones at the verge of breakup. Loose and bold power amp tones. The ratio Input Drive / Master is important to keep the tone tight. I use the 2x12 Boutique stock cabs."* – yek

Pick a single 12" G12H, V30 or Alnico Blue stock cab.

Amplifier Specifications	
Power	8 watt
Master Volume	Yes
Negative Feedback	No
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	EL84
Tonestack Location	POST

Mr Z MZ-38 (Dr. Z Maz 38)

Synopsis	Model of a Dr. Z Maz 38 SR, an 38 watt Class A amp, the “quintessential country amp”
Tips	The ratio Drive/Master is important to keep the tone tight
Clips	**Dr Z Amps Maz 38 vs. Maz 38 NR Demo**
	DR.Z MAZ 38 DEMO
	More videos, clips and comments
Cabinet/speaker	Single 12” V30, G12H, Alnico Blue or Dr. Z Z 12
Web, Manual	**MAX 38**
	MAZ 18NR/MAZ 38NR Manual
Amp controls	Volume (=Drive), Treble, Middle, Bass, Cut (=Hi Cut), Master

The Maz 38 Sr is a 38 watt Class A head or combo with four EL84 power tubes. The controls are: Volume, Treble, Middle, Bass, Cut (model: Hi Cut), Master Volume. The tone controls can be bypassed. It has two inputs: Hi and Lo, where Lo has 3 dB less gain. The regular version has reverb built-in, the NR version doesn’t.

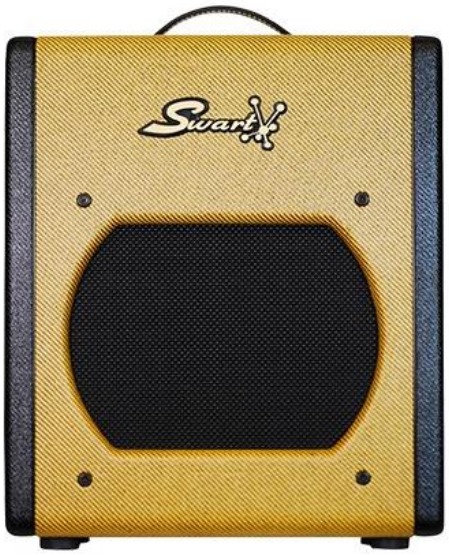
> “*Big rockin’ amp with that undeniable Dr. Z sound!*”
>
> “*The Maz 38 is one of Dr Z’s most enduring designs. It is the perfect combination of sound and power. 4 EL84s with no negative feedback give you a wide pallet to work from. The 38 has enough clean headroom to make for a great pedal platform and gives up the goods for a great drive sound at reasonable levels. The 38 can satisfy many different styles and playing approaches. You are able to dial in mid 60s blackface sounds as well as UK flavored chime.*

The Dr. Z MAZ-38 is a truly versatile amp for the working or studio musician. Whether your forte' is Blues, Country, Roots, or Rock, The MAZ 38 Senior will fit the bill." – Dr. Z

Pick a single 12" G12H, V30 or Alnico Blue stock cab.

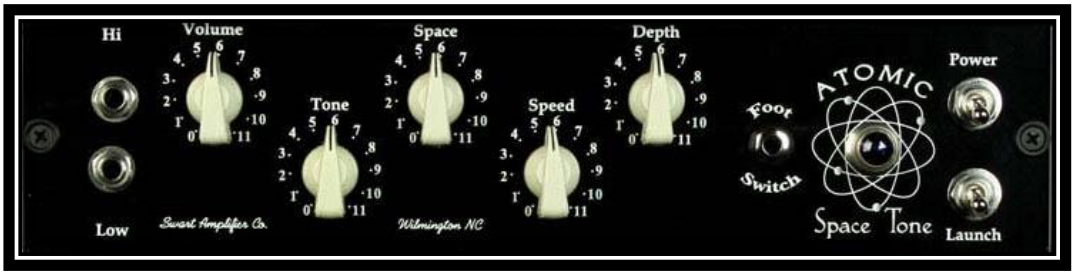
Amplifier Specifications	
Power	38 watt
Master Volume	Yes
Negative Feedback	No
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	EL84
Tonestack Location	POST

Nuclear-Tone (Swart Atomic Space Tone)



Synopsis	Model of the boutique Swart Atomic Space Tone
Tips	The amp's Tone control is mapped to Treble in the model. The amp's Bias Tremolo has also been modeled
Clips	**Swart Atomic Space Tone**
	Swart Space Tone Reverb – Fat Sound Guitars
	More videos, clips and comments
Cabinet/speaker	Single 12" Mojotone BV-25m
Stock cabs	1x12 Nuclear Tone – **Cab Pack 10**
Web, Manual	**Atomic Space Tone Manual & Tech**
Amp controls	Volume (=Drive), Tone (=Treble)

The Swart Atomic Space Tone (AST) is a very cool small boutique combo, inspired by the Gibson Scout. It's rated at 18 to 22 watt, has 6V6 tubes and low and high inputs. The amp looks gorgeous. This is an amp that fits right into your living room.



The amp has a wonderful bias-regulated tube tremolo and tube reverb.

Only other controls are Volume and Tone. Tone is mapped to Treble in the amp model.

> *"In just a handful of years, the Swart Atomic Space Tone has received some of the most glowing raves of ANY amplifier in recent memory. This amplifier has 20w of twin 6V6 power in high Class A biased AB and brings some of the most soulful, rich, near three-dimensional tone you have ever heard. This has to be one of the most expressive amplifiers made to our knowledge, and we've tried more than a few. TUBE REVERB and TUBE TREMOLO, something virtually nonexistent in today's marketplace, is just part of the picture. Includes a 12" Custom British Vintage Series BV-25m that screams TONE with body and soul; This amp has excellent breakup (wait till you hear the samples). This all new circuit is housed in a lacquered TWEED pine cab with dark Tweed panels. This amp is in its own league.*
>
> *The idea of the Atomic Space Tone hit me when I was working on a vintage Gibson Scout guitar amp. It had Reverb, Tremolo, and 15 watt of pure rocking vintage tone power but only three preamp tubes and two EL-84 output tubes. I thought to my self - I have never seen an amp that could do so much with so little and sound surprisingly good. But I knew it could be even better. I knew something could be built revolving around my favorite little tone generator, the 6V6. I sent a note of thanks to my cohort for the inspiration for one of the best amplifiers I have ever built and the only thing I have found to equal the soul and amazing tone of the ST-6V6se but with MORE power.*
>
> *I call it the ATOMIC SPACE TONE. And damn if it's not a winner - this beast sounds amazing.*
>
> *This amp brings more tube soul than I thought possible, even compared to some of my favorite vintage amps. We are talking ALL TUBE circuitry, even the Tremolo and Reverb, all leading into the excellent 12" Mojotone BV-25m speaker.*
>
> *I am actually so excited by this amp both aurally and visually. It's the second in our Tweed Series which takes our excellent finger jointed pine cabinet and covers it with top quality tweed, adding a lacquer to give it durability and that vintage, timeless look. We then add a rich, dark lacquer tweed on the sides which gives this amp a totally distinctive appearance. When we play out with this beast, everyone that "knows" comes up to inquire about the AST, this on the sound AND looks. Just like the original ST-6V6se, there is nothing out there like it.*
>
> *The AC is cleaned and rectified by the reliable JJ 5AR4, this a very robust tube providing excellent sonics due to the total lack of solid-state circuits in the rectification stage (SS rectification leads to a more hard/harsh tone and slams the tubes on power-up causing excess tube wear). A heavy duty, JJ 500V Surface mount capacitor is the mains filtering device."* – Swart

FRACTAL AUDIO SYSTEMS

"It's unique character comes from the PI. It's a cathodyne phase inverter so it doesn't drive the grids as hard."

"Bias trem works by modulating the power tube grid bias. One of the side-effects is that the effect becomes less pronounced as you play harder which makes it basically "auto ducking". Also since it's modulating the bias it gives an almost Univibe like effect since the phase changes a bit too."

Reviews can be found at **Electric Guitar Review** and **Guitar Player**.

"*IMHO the Nuclear-Tone model is a real gem in the amp model collection. It combines characteristics of a Tweed and a VOX. You'll find yourself playing endless "solo" sessions and drifting away. Don't forget to turn on the Tremolo in the AMP block (set Depth at 100%). I set Input Drive around 4.00 for a clean tone with bod. Treble (remember: this is the Tone control) is around 4.*" – yek

The combo probably has a Mojotone BV-25m speaker, similar to a G12M greenback. There's a cab model of the combo in the stock cabs: 1x12 Nuclear Tone.

Amplifier Specifications	
Power	20 watt
Master Volume	Yes
Negative Feedback	No
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	6V6
Tonestack Location	PRE

ODS-100 (Dumble Overdrive Special)

Synopsis	Various models of a Dumble Overdrive Special, the most expensive amplifier available
Tips	Try the “ODS” factory preset
Clips	**1983 100-watt Dumble Overdrive Special Demo** **Robben Ford – Live Rockpalast 2007** **Mick Taylor Plays Through A Rare Dumble OD Special Amplifier** **More videos, clips and comments**
Cabinet/speaker	2x12 or 4x12 cabinet with EV-L or G12-65 speakers
Stock cabs	4x12 Rumble **– Cab Pack 17**
Amp controls	Volume (=Input Drive), Bright switch, Mid/Deep switch, Rock/Jazz switch, Treble, Middle, Bass, Overdrive Level and Ratio (=Overdrive), Master, Presence

Dumble is THE most expensive amplifier available, no.1 on **Vintage Guitar’s list of most valuable guitar amps**. Jackson Browne’s asking price for a silverface Dumble is $ 225.000. Famous Dumble players include Robben Ford, Larry Carlton, John Mayer, Carlos Santana, Keith Urban, SRV, Eric Johnson, Joe Bonamassa. Howard Alexander Dumble retired in the ‘90s. They say there are less than 300 Dumble amps. **More info on Wikipedia**.

There’s always a lot of talk on the internet forums about Robben Ford's Dumble tone. It’s an elusive tone, worshipped by a lot of jazz / blues / fusion players. Thick, mid-heavy, smooth, stable, very touch-sensitive. That trademark tone is not for everybody: hit a power chord and it may terrible to your ears. “Note flip” is a certain tonal characteristic attributed to the Dumble and some of its

clones. So what's this mysterious note flip? Quote: "*It sounds KIND of like it's starting to feed back, but it's not. It flips the note up so that a different harmonic order is heard, or something like that*".

There's more to Dumble than Robben Ford's tone. Each Dumble was voiced specifically for its buyer by Dumble. Replicating an original Dumble amp is hard. The amp's circuit often has "goop" all over it, hiding the electronics.

Cliff owns an Dumble with serial #213, 6L6 tubes and HRM circuit. The ODS-100 HRM amp models are based on this amp. The ODS-100 Ford amp models are based on schematics which supposedly represent Robben Ford's Tan Dumble, serial #102.

FRACTAL AUDIO SYSTEMS

"*They call HRM "Hot Rubber Monkey" but what it really means is "Hot Rod Marshall". The HRM Dumbles have a fixed Marshall tone stack at the output of the lead channel. This gives a little scoop to the mids.*"

"*The ODS-100 Ford 2 model is not based on the HRM model with the HRM tonestack removed. Whether or not the model matches any particular Dumble is unknown as we have not been able to procure a non-HRM Dumble yet. The model is based on schematics that were given to us that supposedly accurately represent Robben Ford's Dumble. Whether or not the schematics are accurate I do not know. The voltage divider at the output of V1B is set to 0.078 which is based on the values that are indicated on the schematic for the set-point of the trimmer. As no two Dumbles are identical it stands to reason that one person's interpretation of the ideal Dumble voicing may not agree with another's. Since V1 is running clean you can get more gain by simply increasing Input Trim. It will have basically the same effect as increasing the trimmer.*"

Robben Ford's Dumble settings:

The amp has two inputs: FET and Normal where FET has a different impedance. The models are based on the Normal input.

The amp has a Preamp section and an Overdrive section.

The controls on the original amp are: preamp Volume (model: Input Drive), Treble/Middle/Bass (shared preamp tone controls), Overdrive Level and Ratio, Master/Presence (power amp). The clean channel has a bright cap on the Master Volume which causes the tone to get brighter as MV is reduced and vice-versa. The amp has three switches which work on both channels:

- Bright: adds sparkle, less noticeable when the volume is turned up
- Mid: boosts the mids for more gain, like the FAT switch in the amp model

- Rock/Jazz: the Jazz setting adds some low-pass filtering

On the real amp the first two switches are often turned off and Rock/Jazz is often in the Rock position.

> FRACTAL AUDIO SYSTEMS
>
> "*The Mid switch, sometimes labeled "Deep", shorts out the 390 pF cap in the tone stack (which is in series with a 2 nF cap). All that is left then is the 2 nF cap. With PAB active this lowers the low cut frequency*."

Gain is controlled through Volume and OD Level (amp model: Input Drive and Overdrive). On all amps like this the first control sets the sensitivity and the second one sets the amount of distortion.

> "*Input Drive increases the gain amount as you rotate the knob clockwise. As the gain increases the tone is shifted from a treble and upper mid emphasis, which produces an up front sparkling tone, to a lower mid and bass emphasis, which produces a thick meaty tone.*
>
> *Overdrive increases the gain amount as you rotate the knob clockwise but with no alteration of the tonal balance.*
>
> *Different combinations of Input Drive and Overdrive settings will have a dramatic effect on the response of the amplifier and the personality of your instrument. It is easy to get familiar with the action of these controls and you'll be amazed with your ability to make any guitar sound mellow, fat, soulful or aggressive*."

Models with Input Drive and Overdrive controls always feel elastic and spongy, a real joy to play.

It's a Master Volume amp. This means that the amp's distortion is created in particular by the preamp tubes, not in the power amp. The Master Volume, which works in the power amp section, is still very important to the tone and feel. You have to decide for yourself what setting in the amp model works for you best. The default setting is a good point to start of course

The amp has a foot switchable Preamp Bypass (PAB) which bypasses the input tone stack.

- FORD 1 is based on the amp with PAB engaged.
- FORD 2 is based on the amp with PAB bypassed.
- FORD MD is based on the amp with PAB engaged and the Mid-switch engaged.
- HRM MID is based on the amp with Mid-switch engaged.

The Zendrive pedal was designed to mimic the Dumble tone. Robben Ford himself uses this pedal through Fender amps. We have a model: Zen Master.

Cliff's Dumble cabinet with EV speakers has been captured in IRs. Look for the 4x12 Rumble stocks cabs. More of these in **Cab Pack 2** and **Cab Pack 17**.

Alternatively, try stock cab 1x12 Bludo, the IR of a dual-ported 1x12 closed-back cab with a modern replacement for an EVL-SRO: the Blackhawk Alnico WGS.

For the Robben Ford trademark tone, you'll need the G12-65 speaker. There is no near-field IR of a G12-65 among the stock cabs. The 2x12 Double Amp stock cab also works well because it's the IR of a Two-Rock CR12 speaker which sounds similar to a G12-65.

Amplifier Specifications	
Power	100 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	HRM model: EL34 Clean and FORD models: 6L6
Tonestack Location	Clean model: MID FORD 2 model: PRE Other models: POST

Plexi models (Marshall Plexi)

Synopsis	Models of various Marshall Plexi heads, "the world's greatest rock amp" • **PLEXI 100W** – 1969 Superlead 100w • **PLEXI 100W 1970 –** 1970 Superlead 100w • **PLEXI 50W** – 1972 Lead 50w • **PLEXI 50W HI 2 –** 70's Lead 50w • **PLEXI 50W 6550 –** 1972 Lead 50w with 6550 tubes
Tips	"*My settings for a "typical" Plexi tone are Bass: 2, Mid: 8, Treble 7.5. Adjust Presence to taste.*" – Cliff
Clips	**15 Marshall Plexi Amps Comparison – Shootout – Johan Segeborn** **More videos, clips and comments**
Cabinet/speaker	4x12 Marshall cabinet with Celestion G12M (greenbacks) or G12H speakers – **Several Cab Packs**
Stock cabs	Marshall stock cabs
Amp controls	Presence, Bass, Middle, Treble, Volume

The world's greatest rock amp is a Marshall "Plexi". These came to the market in the mid '60s, when Marshall and Fender started to make loud amps. These amps are referred to as "Plexi" because of the gold Plexiglass front panel, later replaced with gold aluminum. Plexis with 4x12 cabinets gave rise to the "Marshall stack". The Plexi was built for almost 20 years and was then replaced with the JCM 800. Even today's amp builders still design amps based around the Plexi, such as the Bogner Helios. And its looks are still being copied for all kinds of guitar amps.

So why has the Plexi become such a popular amp?

> *"Many things. First and most important perhaps is the sense of dynamics and rich harmonics. No large-production amp created before or since the early Marshall plexi series has been able to capture the feel of the player through varying degrees of dynamics and coloration from the (mostly) EL34-based tube circuits of these Marshalls. Call it a lucky accident with the folks at Marshall, but they were able to create amplifiers that really responded well to the*

> *guitars that played through them. A wide palette of distortion color that is rich and full and just powerful and timeless in tone is what these amps deliver. It takes some time to really get used to playing a basic amp such as a Marshall plexi. No multi channels or reverb or effects and no master volume controls. Turn up the amp and play – play hard and the amp rewards you with fullness of tone and smooth distortion. Back off your playing and the amp will respond, and move into lighter shades of overdrive. Roll down your guitar volume a touch and you've got a warmed up clean sound. There just isn't anything like the ability to feel a set of power and preamp tubes overdriving together musically.*" – **Legendary Tones**

A Plexi is raw, unrefined, honest and touch sensitive. Hit a power chord through a Plexi and feel the explosion of sound in your face and body.

Numerous guitar heroes played some kind of Plexi: Pete Townsend, Jimi Hendrix, Jimmy Page, Angus Young, Yngwie Malmsteen, Jeff Beck and of course Eddie Van Halen.

The Plexi came in various incarnations. Many (but not all) have a JMP logo. Fractal Audio's models are listed below with the corresponding original amps:

Plexi 100W HIGH/JUMP/NRML: '69 100w SLP

Plexi 100W 1970: '70 100w SLP with jumpered inputs, darker and smoother than earlier Plexis

Plexi 50W HI 1/JUMP/NRML: '72 50w

Plexi 50W HI 2: High (Treble) channel of another 50w from the '70s. Its second triode stage has a 0.68uF cathode bypass capacitor, added in the early '70s, for a slightly brighter tone

Plexi 50W 6550: '72 50w SLP with 6550 tubes, jumpered inputs

The 1959SLP and 1987X amp models are based on Marshall's reissues.

So in what aspect is a 50w amp different from a 100 watter? Not a lot in volume because 50w also is very loud (the difference is just a couple of dB) and not a lot in gain either. The 50w Plexi is a little more aggressive and compressed. While a 100w Plexi sounds more open and bigger (more headroom) with more "kerrang".

100w Plexis have four EL34 tubes (except the 6550), 50w models have two. They have four inputs and two channels: Normal and Treble. Each channel has a high and a low gain input; the low gain input is attenuated by 6 dB.

The rhythm (Normal) channel has a flat response. It's dark and has loads of bass.

> FRACTAL AUDIO SYSTEMS
>
> "*Don't be afraid to turn the bass all the way down or the treble all the way up. Just like with the actual amp. For example, on the normal channel of a Plexi most people turn the bass way down. Otherwise it's too flubby*."

The lead (Treble) channel has a boosted bright tone, bordering on painful. A popular of the real Plexi was to clip the bright cap. In the models that's easy: you turn off Bright (not possible on the Normal models). Or adjust the Bright Cap value on the Adv page. Note that turning off Bright will result in noticeable loss of amp gain.

FRACTAL AUDIO SYSTEMS

"One of the first mods people make to real 'Plexi' Marshalls is to "clip the bright cap". The bright cap varied over the years, supposedly depending on what was lying around in the shop. The model defaults to the bright cap in the circuit. If you turn off Bright you're effectively clipping the bright cap. The bright cap in Marshalls can be very bright and harsh. However, if you crank the Master you might find the extra brightness helps compensate for the power amp getting darker."

The controls are: Volume, Bass, Middle, Treble and Presence. Plexis do not have a Master Volume, so keep the Master control in the amp model dimed. Without a Master Volume control, Plexi amps rely on power amp distortion. To achieve a nice overdriven rock tone, you need to turn up the Plexi a lot. This makes it a very loud amp in real life.

Eddie Van Halen had all controls on his Plexi dimed. To emulate his VARIAC: set the parameter AC Voltage (Variac) in the amp model to 75 or so.

> *"A VARIAC ("Variable A/C") is an unit that changes the voltage coming out of the wall to a lower amount. Like a light dimmer. When a VARIAC is used in conjunction with a SLP, it can act loosely as a Master Volume. You can crank the volume controls up to 10 on the Marshall and then bring down the overall sound using a VARIAC so it can be controlled. There is debate about whether damage can be caused when reducing the amplifier's voltage. Undoubtedly, the tone will change somewhat as the bias of the power tubes will change corresponding with the reduction of voltage."* – Legendary Tones

Some people complain that a Plexi sounds fizzy.

FRACTAL AUDIO SYSTEMS

"It's the way a Plexi is supposed to sound. That's due to the cathode follower. That raspiness helps it cut through in a mix. I own three of them and they are that fizzy."

Many players of a Plexi use patch cables to "jumper" the inputs: 2nd input of channel 1 goes into 1st input of channel 2. This enables them to have the benefits of both channels at once. This is modeled

in the jumpered models. These models have two Drive controls. Set them at the same position, or keep Normal Drive lower than Treble Drive.

If you like to experiment, turn up Supply Sag in the amp model for more compression. Note that high Sag settings may cause “ghosts notes”, similar to the real amp at high volume levels (watch the interview with J.D. Simo). If you don't want ghosts notes, set Supply Type to DC. Another tweak is to switch on Boost in the amp model to slam the amp model's input stage for more gain.

You can’t discuss Marshall amps and leave out speakers, in particular: greenbacks. Early Marshall amps were used with 4x12” cabinets with Celestion G12M speakers. These have a sweet midrange and good bass reproduction. The rear of those speakers was green, and the nickname “greenbacks” was born. They are the reason that 4x12 cabinets were designed: the G12M was only 20 of 25 watt, so you needed four of them to prevent blowing them up.

Another popular speaker: the G12H (G12 Heritage). A 30 watt Celestion speaker that compresses less than a greenback and has a flatter response. It’s the “Jimi Hendrix” speaker.

Check the wiki for the stock “greenbacks” cabs, suitable for the Marshall models.

FRACTAL AUDIO SYSTEMS

“*My settings for a “typical” Plexi tone are Bass: 2, Mid: 8, Treble 7.5. Adjust Presence to taste.*”

“*Try the Plexi 100W 1970 with Factory Cab 54. Be sure to dial it in like you would in 1970, i.e. turn the Mid, Treble and Presence way up; turn Norm Drive and Bass down a bit*.”

(Boston/Rockman) “*Plexi Jump. Everything on 7. Put a Filter block in front: Type: Peaking, Freq: ~800 Hz, Q: 0.707, Gain 12 dB.”*

(favorite classic Plexi) “50w 6550.”

“*My settings for a “typical” Plexi tone are Bass: 2, Mid: 8, Treble 7.5. Adjust Presence to taste.*”

(Plexi 100W 1970) “*I've never cared for that model nor the actual amp. IMO it doesn't have enough feedback (100K off the 4-ohm tap). Some amps of that era had 47K off the 4-ohm tap. Some had 47K off the 8-ohm tap. Some had 100K off the 8-ohm tap and some even had 47K off the 16-ohm tap! IOW all over the map. Bottom line: try adjusting Negative Feedback. I always raise it up a bit with that model. Around 4 or so.*”

Amplifier Specifications	1969 Super Lead	1970 Super Lead	1972 Lead	1972 Lead (6550)	1970's Lead
Model name:	*100W*	*100W 1970*	*50W Hi 1*	*50W 6550*	*50W Hi 2*
Year of Manufacture	1969	1970	1972	1972	1970s
Power	100 watt	100 watt	50 watt	50 watt	50 watt
Master Volume	No	No	No	No	No
Negative Feedback	Yes	Yes	Yes	Yes	Yes
Preamp Tubes	ECC83	ECC83	ECC83	ECC83	ECC83
Power Amp Tubes	EL34	EL34	EL34	6550	EL34
Tonestack Location	POST	POST	POST	POST	POST

Prince Tone (Fender Princeton)

Prince Tone (Fender Tweed Princeton)

Synopsis	Model of a Fender Tweed Princeton with 5F2-A circuit
Tips	The single Tone control is mapped to Treble. No Master so keep this at default for authenticity
Clips	**1959 Fender Princeton Tweed - 5F2-A** **More videos, clips and comments**
Cabinet/speaker	Single 8” or 10” speaker – **Cab Packs 1, 2, 10 and 21**
Stock cabs	1x10 Prince Tone
Amp controls	Tone (=Treble), Volume

Scroll down for a description.

Prince Tone NR (Fender Silverface Princeton w/o Reverb)

Synopsis	Model of a silverface Fender Princeton without Reverb, AA964 circuit
Tips	No Master so keep this at default for authenticity
Clips	**More videos, clips and comments**
Cabinet/speaker	Single 8” or 10” speaker – **Cab Packs 1, 2, 10 and 21**
Stock cabs	1x10 Prince Tone
Amp controls	Volume, Treble, Bass

Scroll down for a description.

Prince Tone Reverb (blackface Fender Princeton Reverb)

Synopsis	Model of a 1966 blackface Princeton Reverb with AA964 circuit. A Princeton Reverb has an extra gain stage due to the reverb recovery, hence more gain
Tips	"*With a Strat you only need to dial back Bass and adjust Input Drive to your liking, between 3 and 4 for a fairly clean tone, around 5 for a clean tone with balls and up to 7 - 8 for trademark Fender overdrive. With humbuckers, change Input Trim to 0.500.*" – yek
Clips	**Princeton Reverb, Baja Tele and ES335 – fenderguru.com** **Princeton Reverb shootout – fenderguru.com** **More videos, clips and comments**
Cabinet/speaker	Single 8" or 10" speaker – **Cab Packs 1, 2, 10 and 21**
Stock cabs	1x10 Prince Tone
Amp controls	Volume, Treble, Bass

- **Prince Tone –** Tweed Princeton, 5F2 circuit from the '50s
- **Prince Tone Reverb –** '66 Blackface Reverb, AA964 circuit
- **Prince Tone NR** – Silverface without reverb, AA964 circuit, modeled after an early CBS "Silverface" model, pre-CBS design and components

The small Princeton amps use two 6V6 power tubes and are low wattage. They were intended as practice amps for students, but they are also great recording amps. Ryan Adams uses Princeton amps only. Many people play them on the verge on breakup. The first MESA amp was based on the Princeton.

"A Princeton Reverb has an extra gain stage due to the reverb recovery. Hence it has more gain."

"The Fender Princeton was a guitar amplifier made by Fender. It was introduced in 1947 and discontinued in 1979. After Fender introduced the Champ Amp in 1948, the Princeton occupied the next to the bottom spot in the Fender line. Fender Princetons (as well as their sister amp the Princeton Reverb) from the early models into the 1970s models are highly valued particularly as recording amplifiers.

The first Princeton, the "Woody" (so called for its uncovered wooden cabinet), was the smallest of the original Fender line of three amplifiers, an incredibly basic 3-watt practice amp with no controls at all, not even a power switch. The first widely-produced Princeton, the 1948 tweed-covered "TV front," used one 6SL7 or 6SC7 dual-triode tube to provide two stages of RC-coupled voltage amplification in the preamplifier section; the power amplifier section used a single cathode-biased 6V6 beam power tetrode configured for Class A operation. The amplifier had a single volume control and a simple low-pass tone control to control treble response. The Princeton circuits up through 5C2 differed from the Fender Champ in having two vice one preamp stage (6SC7 dual-triode vs 6SJ7 pentode) and added the tone control that was absent in the Champs; the 12AX7-based Princeton models 5D2 through 5F2-A were essentially the Champ circuits 5D1 through 5F1 with a tone control and a somewhat larger output transformer. In 1956 the Princeton received a new cabinet roughly half again as tall and wide as the previous Champ-sized "small box."

In 1961, a new Princeton of fundamentally different design was introduced, which instead of being essentially an upgraded Champ was more like a junior Deluxe. This "brownface" version used a single 7025 dual triode in the preamplifier; a 12AX7 dual triode, one half of which operated a tremolo oscillator and the other half of which served as a split-load phase inverter; and two 6V6GT tubes, which were fixed-biased in Class AB push-pull configuration in the power section. In 1963, the single tone control was replaced with individual bass and treble control knobs, and the base Princeton was joined by the Princeton Reverb. A pull-out "boost" switch was added to the volume pot in 1978.

The Princeton is particularly famous as the basis for Mesa Boogie's Mark I, which is a heavily hotrodded Princeton equipped with modified preamp and a Bassman transformer, allowing it a higher gain output of 60 watt.

In 2006, Fender revived the Princeton name, under "Princeton Recording-Amp" (Pro-tube series) and "Princeton 650" (under Dyna-touch III series). The Princeton recording amplifier is basically a blackface Princeton with built-in overdrive, compressor and power attenuator. Fender also reissued the Princeton Reverb." – **Wikipedia**

"*The Princeton Amp is often misinterpreted as a Princeton Reverb without reverb. Just by looking at the front panel and the knob functions it might seem so. A closer study of the circuit design will reveal that the Princeton Reverb has an extra gain stage (one half of the 12AX7 V3 tube) just after the dry and the wet reverb signals are mixed. This means that there is one extra tube stage that can cause preamp gain and contribute to the tone with sustaining harmonics, compression and sag. Hence, the Princeton-Amp is cleaner than the Princeton-Reverb when the volume is pushed beyond 3-4. The volume knob is less sensitive on the Princeton Amp, and you can play them on volume 7-8 still sounding clean.*

The Princeton Reverb is the smallest blackface/silverface Fender amp with both tremolo and reverb. With a 10 inch speaker run by a 12-15W dual 6V6 amp, it delivers a true "American" Fender tone with punchy, responsive lows together with chimey highs. When it is cranked it tends to sound a bit "browner" than the bigger two-channel amps, meaning more breakup in the lower frequencies and mid-focused tone. Much of this is due to an unefficient phase inverter circuit design.

Compared to many bigger Fender amps the Princeton Reverb (PR) went through the CBS/silverface periods with very little changes. The rectifier tube was one of the tube and circuit changes where the 5U4GB was replaced by a GZ34. In build quality and component selection (brands of caps, resistors, pots) the silverfaces are not as robust as the blackface models. The glued and stapled baffles on the silverface amps is to us one of the bigger differences between the blackface and silverface amps, or should we say, the cabinets. Still, many people consider the tone of the silverface Princeton Reverb just as good as the blackface. Being almost a blackface amp with a "wrong" faceplate, the large number of silverface models became popular player's amps. Lot of value-for-the-money."
– **Fenderguru.com**

Unlike many other Fender amps, Silverface Princeton models are appreciated as much as their blackface counterparts.

The Princeton has Volume, Bass and Treble controls, reverb on some models, tremolo and two inputs. The Tweed Princeton only has Volume and Tone (mapped to Treble in the amp model) controls.

The amps have two inputs. Fractal Audio's models of Fender amps are always based on the High input on the amp. To get the equivalent of the Low input, set Input Trim in the amp model to 0.500.

Note that the range of the controls is different, so you can't copy those settings exactly to the amp model controls. To translate the settings, use the **table at the back of this guide**.

"*The Reverb model is my favorite. I recommend it to anyone looking for a simple "into your face" Fender tone, not too harsh, and with a little grit. With a Strat you only need to dial back Bass and adjust Input Drive to your liking, between 3 and 4 for a fairly clean tone, around 5 for a clean tone with balls and up to 7 - 8 for trademark Fender overdrive. With humbuckers, change Input Trim to 0.500.* – yek

We have several 10” Princeton speakers as stock cabs.

Amplifier Specifications	Tweed	Blackface	Silverface
model name:	*Prince Tone*	*Prince Tone Rev*	*Prince Tone NR*
Year of Manufacture	1955-60	1966	1968-70
Circuit	5F2-A	AA964	AA964
Power	4 ½ watt	12 watt	12 watt
Master Volume	No	No	No
Negative Feedback	Yes	Yes	Yes
Preamp Tubes	12AX7A (Syl)	7025 (12AX7A Syl)	7025 (12AX7A Syl)
Power Amp Tubes	6V6	6V6	6V6
Tonestack Location	PRE	MID	MID

PVH 6160 Block (block letter EVH 5150 = Peavey 6505)

Synopsis	Model of the Lead channel of a “block letter” EVH 5150, Eddie Van Halen’s first signature amp
Tips	Turn down mids
Clips	**Peavey 6505MH vs 5150 Block Letter**
	More videos, clips and comments
Cabinet/speaker	4x12 cabinet with 12” Sheffield speakers
Stock cabs	4x12 PVH
Web, Manual	**Peavey 6505 Series**
	6505 Tube Guitar Amplifier Owner’s Manual
Amp controls	Pre Gain (=Drive), Post Gain (=Master), Low, Mid, High, Resonance (=Depth), Presence

Peavey is a large international manufacturer and supplier of musical equipment, founded in 1957. It owns Budda and Trace Elliot.

The EVH 5150 was Eddie Van Halen’s first signature amplifier, made in collaboration with Peavey. After the endorsement ended, this amplifier was continued as Peavey’s 6505, which is the same amp as the original EVH 5150.

Why “5150”? It’s the police code for a crazy person on the loose.

“Block” refers to the first run of EVH 5150s which had “EVH” written in block letters on the right side of the face plate. After Electro-Voice complained, this was replaced with Eddie’s signature. Around the same time the original Sylvania tubes were replaced with other tubes, supposedly of lesser quality. That’s why “block letter” 5150 amps are held in higher esteem than the later signature ones. There are no other differences between “block letter” and “signature” models. More info: **The Wolfgang Registry**.

"These amplifiers (collectively the 5150 series) and speaker cabinets were the result of a collaboration with Eddie Van Halen. The 5150 has gained popularity with modern hard rock, hardcore punk and metal bands and guitarists due to its large amount of distortion. Jerry Cantrell of Alice in Chains uses this amplifier. While touring with Van Halen, Cantrell asked Eddie Van Halen, "if I could buy [one] off him at the end of the tour with them, and when I got home there were three full stacks and two guitars waiting for me. "In 2004, Peavey and Eddie Van Halen parted ways, with Eddie taking the 5150 brand name with him. This resulted in the renaming of the amplifier as the 'Peavey 6505', with slightly updated styling but original circuitry. The 5150 II, which contains an extra preamp tube for more headroom and gain on the Rhythm channel, is the old equivalent to the new 6505+. In 2010, Peavey released a new amplifier for the 6505 line, the 6534+. It is much like the 6505+, but the 6534 has EL34 power tubes instead of the 6L6 power tubes on the standard 6505 amplifiers."

"Primed by up to six 12AX7 preamp tubes and driven by four 6L6GC power tubes, the 6505 delivers the tone and high gain power that modern players demand. Plugging into the high gain input doubles the input gain for devastating overdriven tones. On top of that, you can create a second "lead" tone by engaging the Crunch option on the rhythm channel. In the master section you will find the patented Resonance and Presence controls. Resonance acts as a low-frequency boost, while Presence acts as a high-frequency boost, both allowing you to sculpt your tone. All of this tonal power is housed in an exterior that is built for the rigors of the road."

"Peavey designed and released the Peavey 6505 amplifier as the original 5150, for one specific artist. But in the hands of many other musicians and producers, it quickly took on a life of its own and redefined the sound of modern metal music. Renamed the 6505 in honor of Peavey's fortieth anniversary (1965-2005), that legacy continues today. This is the story of how the 6505 changed the sound of metal forever.

Nineteen ninety-two was a crucial year for guitar-based rock music. Thrash metal had peaked. Hair metal evaporated. Grunge went Platinum. And the guitar amplifier that would soon eviscerate them all was about to inspire a new generation of players and producers to remake metal in its image.

At the headquarters of Peavey Electronics, a team of engineers was putting the finishing touches on the 5150, a new breed of high-gain guitar amplifier outfitted with nine tubes, a hyper-responsive tone stack, and the soon-to-be patented Resonance control—the lynchpin to its groundbreaking tone.

When it finally hit stores that year, the 5150 turned a lot of influential ears around the world, especially hard rock and metal guitarists who were looking for a new sound to complement the extreme new music coming from the underground. Guitarist and budding metal producer Andy Sneap was working in a Nottingham, U.K., guitar store when the first 5150 hit the street.

"I first heard the 5150 when I was actually selling them in a guitar store in my hometown," said Sneap. "I was also working as the 'metal guy' at a local 24-track studio, so that was around the same time I started using the amp in the studio.

"The Peavey 5150 was a huge step forward for high-gain amps to me. Previously we had tried to mod amps or do little tricks with pedals before the preamp. This was the first amp you could plug straight into for that heavier, thrashier tone." ***The story continues on the Peavey website****.*

"Positioned in the amp's master section, Resonance alters the "damping factor" around the speaker's resonant peak—in effect, the amp controls the transient response of the loudspeaker. The higher an amp's damping factor, the more control the amp exerts over the speaker. Resonance reduces the damping factor at lower frequencies, causing dramatic changes to the low-end response and allowing the speaker to recreate the low frequencies with clarity and punch. The patented Peavey Resonance circuit was key to bringing metal's new lows to the masses." – **Peavey**

"A defining attribute largely responsible for the 5150 sound is the fixed bias. Commonly described analog a car engine and its respective idle, the 5150 bias was set to a lower value (lower engine "idle") which resulted in the Power Tubes running at a lower energy commonly known as "cold-biased." While the electrical theory behind this can easily be examined and theoreticized, the 5150 and its configuration resulted in a more controllable gain setting (ie. having a more forgiving sonic range than similarly "hot-biased" configurations. This engineering choice set the 5150 up to intrinsically sound its best with minimal augmentation. Since tube-amps are still uncontested in music amplification as far as tonal quality is concerned, (see hard-clipping) the optimal setting for tubes are when they are pushed to natural distortion (ie. Increases in "volume" or Bells(dB).) Thus, by allowing such a heavy amount of gain to be applied without sacrificing tonal definition, the amplifier could then be pushed due to the "colder" biasing requiring more current, versus a "hotter" setting from the beginning (volume knob or potentiometer knob "value of 1".)" – **Wikipedia**

The original 5150 head is rated at 120 watt and has 6L6 tubes. It has two inputs: Normal Gain and High Gain (twice the gain). The model is based on the High Gain input.

The amp has two channels: Rhythm and Lead. The model is based on the Lead channel. Its controls are: Pre Gain (model: Input Drive), Post Gain (model: Master), Low, Mid, High, Resonance (model: Depth), Presence.

The original 4x12 cabinet was equipped with Sheffield speakers. Use the 4x12 PVH stock cabs.

Peavey's 6505 cabinet has V30 speakers.

FRACTAL AUDIO SYSTEMS

"I have a "holy grail" Block Letter 5150 (supposedly). It sounds way better than most 5150s for some reason which is a good thing for you guys. I think it's partly due to the fact that it has a bias mod so it's biased a bit warmer than a stock version."

Amplifier Specifications	
Power	120 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A (JJ)
Power Amp Tubes	6L6
Tonestack Location	POST

PVH 6106+ (Peavey 6160+ / EVH 5150-II)

Synopsis	Models of Peavey's 6505+, which is the same amp as the 5150-II, Eddie Van Halen's second signature amp
Tips	Keep the mids low
Clips	**Peavey 6505+ Settings Demonstration**
	More videos, clips and comments
Cabinet/speaker	4x12 cabinet with V30 speakers
Stock cabs	4x12 PVH
Web, Manual	**Peavey 6505 Series**
	6505 Tube Guitar Amplifier Owner's Manual
Amp controls	Pre (=Drive), Low, Mid, High, Post (=Master), Resonance (=Depth), Presence, Bright switch, Crunch switch

Peavey is a large international manufacturer and supplier of musical equipment, founded in 1957. It owns Budda and Trace Elliot.

The EVH 5150-II was Eddie Van Halen's second signature amplifier, still made in collaboration with Peavey, as with the original EVH 5150. After the endorsement ended, Peavey continued this amp as the Peavey 6505+.

Why "5150"? It's the police code for a crazy person on the loose, which alledgedly is a reference to David Lee Rioth who had left the band.

> "*These amplifiers (collectively the 5150 series) and speaker cabinets were the result of a collaboration with Eddie Van Halen. The 5150 has gained popularity with modern hard rock, hardcore punk and metal bands and guitarists due to its large amount of distortion. Jerry Cantrell of Alice in Chains uses this amplifier. While touring with Van Halen, Cantrell asked Eddie Van Halen, "if I could buy [one] off him at the end of the tour with them, and when I got home there were three full stacks and two guitars waiting for me."In 2004, Peavey and Eddie Van Halen parted ways, with Eddie taking the 5150 brand name with him. This resulted*

in the renaming of the amplifier as the 'Peavey 6505', with slightly updated styling but original circuitry. The 5150 II, which contains an extra preamp tube for more headroom and gain on the Rhythm channel, is the old equivalent to the new 6505+. In 2010, Peavey released a new amplifier for the 6505 line, the 6534+. It is much like the 6505+, but the 6534 has EL34 power tubes instead of the 6L6 power tubes on the standard 6505 amplifiers."
– **Peavey**

"A defining attribute largely responsible for the 5150 sound is the fixed bias. Commonly described analog a car engine and its respective idle, the 5150 bias was set to a lower value (lower engine "idle") which resulted in the Power Tubes running at a lower energy commonly known as "cold-biased." While the electrical theory behind this can easily be examined and theoreticized, the 5150 and its configuration resulted in a more controllable gain setting (ie. having a more forgiving sonic range than similarly "hot-biased" configurations. This engineering choice set the 5150 up to intrinsically sound its best with minimal augmentation. Since tube-amps are still uncontested in music amplification as far as tonal quality is concerned, (see hard-clipping) the optimal setting for tubes are when they are pushed to natural distortion (ie. Increases in "volume" or Bells(dB).) Thus, by allowing such a heavy amount of gain to be applied without sacrificing tonal definition, the amplifier could then be pushed due to the "colder" biasing requiring more current, versus a "hotter" setting from the beginning (volume knob or potentiometer knob "value of 1".)"
– **Wikipedia**

The 6505+ head is rated at 120 watts and has 6L6 tubes, just like the original EVH 5150/Peavey 6505. It has a single input.

The amp has two channels: Rhythm (clean/crunch) and Lead. The "RHY" amp model is based on the Rhythm channel with the Crunch switch depressed and Bright out. The "RHY B" amp model is based on the Rhythm channel with the Crunch and Bright switches depressed. "LD" is based on the Lead channel.

FRACTAL AUDIO SYSTEMS

"*Chris Quigley's 6505+ was the reference amp. It's my amp now. It's a very good sounding one*."

The amp's controls are: Pre (model: Input Drive), Post (model: Master), Low, Mid, High, Resonance (model: Depth), Presence. It has a Bright switch (6dB at 2kHz) and a Crunch switch on the Rhythm channel that changes the Rhythm channel from clean into moderate distortion.

As shown in the **6505+ manual** turning down the mids does great things to the sound.

Try the stock 4x12 6160 cab. Peavey uses V30 speakers in its 6505 cabinet, so you can try 4x12 V30 IRs too.

Amplifier Specifications	
Power	120 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A
Power Amp Tubes	6L6
Tonestack Location	POST

Recto1 and Recto2 (MESA two-channel and three-channel Dual Rectifiers)

Synopsis	Models of MESA's two-channel and three-channel Dual Rectifiers, the sound of Nu Metal
Tips	Turn down Bass, keep Master Volume low
Clips	**MESA/Boogie Multi-Watt Rectifier Ch. 2 Vintage – Rock**
	MESA/Boogie Multi-Watt Rectifier Ch. 2 Modern – Alt Rock
	MESA/Boogie Multi-Watt Rectifier Ch. 3 Modern – Punk
	More videos, clips and comments
Cabinet/speaker	4x12 Rectifier cabinet with Vintage 30s
Stock cabs	4x12 Recto, 4x12 USA, 4x12 Cali, 4x12 Petrucci – **Cab Packs 5, 7, 13, 14, 21 and 23**
Web, Manual	**Rectifier Series**
	2-channel Dual Recto Manual
	3-channel Dual Recto Manual
Amp controls	Presence, Master, Bass, Mid, Treble, Gain (=Drive), Orange Channel Gain, Channel Style Select/Channel Cloning, Bias Switch, Rectifier Select, Power: Spongy/Bold switch

MESA is a famous amp manufacturer, founded by Randall Smith in '71 in California. **More information**.

In the '90s MESA released the Rectifier series ("Recto"). This amp's crushing tone defines an era of rock, especially Nu metal. Limp Bizkit, Linkin Park, Incubus, Korn, Metallica... All of them played Rectifiers at the time.

"Dual rectifier" refers to the possibility to choose between two forms of electrical rectification (conversion of power from AC to DC): silicon diodes or vacuum tubes. You can use the Supply SAG parameter in the amp model to emulate this behavior.

"*SILICON DIODE: (Hi Power) calls up the silicone diode rectifiers offering more punch, a tighter attack with added brightness and substantially more headroom. This would be the preferred position for loud clean playing or tight rhythmic playing with a high front end Volume setting (high gain.)*

VACUUM TUBE: (Normal) position takes a power section walk down memory lane, paying tribute to those vintage gems of yesteryear. In those early days of amplification, the only rectifiers available were tubes. Unbeknownst to their creators, these sweet sounding amplifiers would someday become relics as the demand for higher volumes and more power per package led to the abandonment of the tube rectifier in favor of the five cent silicone diode's greater efficiency. With this decision went much of the sweetness and soul, and by the mid 70s, many amps were bold, loud, and efficient, and unfortunately...sometimes lacking some of that earlier soul.

The Vacuum Tube position gives you a sweetness of sound and a liquid feel that simply cannot be duplicated in any other way. This position shines for single note lead work in either channel and delivers a warm, breathing clean sound in the Rhythm channel that was previously unavailable in all but the best vintage amps. If you are like most of the players we know, you'll probably end up leaving your RECTIFIER Solo Head, DUAL or TRIPLE set to the Vacuum Tube position all the time." – manual

FRACTAL AUDIO SYSTEMS

"Real Rectos are bassy/fizzy beasts but that tone works great for certain genres."

"The Recto1 models are based on our Rev. F (IIRC, whatever the desirable ones are). The Recto2 models are based on the latest version."

There's also a Triple Rectifier, identical to the Dual Rectifier but louder (150 watt). "Triple" probably refers to the number of channels on the amp. Later Dual Rectos also have three channels, confusingly.

Review of the 3-channel Dual Rectifier

The amp controls are: Gain (model: Input Drive), Treble, Mid, Bass, Presence, Master. Some of the controls operate differently per channel, in particular Presence. It's worth the effort to read the tips in the manuals about the controls. There are also suggested settings in there and entertaining explanations of diodes, triodes and pentodes (which indicate the number of elements within a vacuum tube: 2, 3 or 5), wiring speaker cabinets etc.

Other amp switches (not modeled): Rectifier Select, Channel Style Select/Channel Cloning, Bias Select, Power: Spongy or Bold.

The RECTO1 models are based on a two-channel Dual Rectifier, revision F, with 6L6 tubes (100 watt).

The RECTO2 models are based on a three-channel Dual Rectifier (exact model unknown).

Many people prefer the older two-channel Recto, and that applies to the models too.

On the original amp Channel 1 is the Orange Vintage channel, softer and sweeter than Channel 2. It's switchable between two gain modes: Clean Rhythm (not modeled) and Variable High Gain. It also has an alternate voicing: Modern, which copies (or clones) the Red channel's "Modern" voicing.

The second channel is Red Modern. It also has an alternate voicing: Vintage (or "Blues"), based on the Orange Vintage channel. This "mode/cloning" business is explained in an extremely confusing way in MESA's manual, with inconsistent terminology and conflicting diagrams.

MESA added a different channel 1 to the later three-channel Recto, designed for rhythm tones, from clean to rock. This channel has not been modeled by Fractal Audio. MESA also added a low-gain "Raw" mode to the Orange and Red channels in the 3-channel Recto, so these channels now have three modes: Vintage, Modern and Raw. The Raw mode has not been modeled either. Basically channels 2 and 3 are identical, but their controls work differently.

RECTO1 amp models:

- ORANGE NORMAL model is based on the Orange Vintage channel, set to Variable high gain
- ORANGE MODERN is based on the Orange channel with Channel Cloning / Channel Style Select set to Modern
- RED MODERN is based on the Red channel in regular Modern mode

RECTO2 amp models:

- RECTO2 ORANGE VINTAGE is based on Channel 2 Orange, Vintage mode
- RECTO2 ORANGE MODERN is based on Channel 2 Orange, Modern mode
- RECTO2 RED MODERN is based on Channel 3 Red, Modern mode
- RECTO2 RED VINTAGE is based Channel 3 Red, Vintage mode

For another take on Rectifier models, try the Thordendal amp models. These are older Fractal Audio models of the Rectifier, created before Fractal Audio introduced G3 modeling.

"*If you are using the Modern modes be very careful with the MV. If you turn it up too high it will flub out really quick. If in doubt reduce the MV. Compensate with the Level control*."

"*The Modern mode in Rectos has no negative feedback so there's a huge bass boost from the speaker impedance. Fortunately you can reduce this by reducing the LF Resonance on the Spkr tab which is something you can't do with the real amp without trying different speakers or cabinet.*

If you are using the Modern mode then it's all about the Spkr page. Since that mode has no negative feedback the speaker resonance has a tremendous effect on the sound. Adjust LF Res, Freq and Q to get desired response.

Depth works by varying the negative feedback at low frequencies. There is no NFB in the Modern Red mode so the Depth knob won't do anything. NFB is set to 0.01 just to fool the GUI into displaying Presence instead of Hi Cut below the left knob.

When you put a Recto into Modern Red mode it opens a relay which removes the NFB.

All passive tone controls interact and all the Axe-Fx tone stacks replicate this behavior. The unique thing about a Dual Recto tone stack is that the Presence control is part of the tone stack. So the Recto tone controls also interact with the presence control.

Another thing with the Modern modes is that the power amp distorts early (again since there is no negative feedback and, therefore, the power amp has a lot more gain). At 9:00 on the Master the power amp is distorting (it's probably a linear taper pot for the ol' "Wow, this amp is loud bro!"). The taper of the Axe-Fx Master Volume is not the same and you have to turn it up higher to get the same amount of virtual power amp distortion.

Another thing is that if you put ANYTHING in the loop of a Recto it changes the tone significantly. Even just a short cable. All the models were made with the loop off. And another thing is that Rectos changed a lot. I have three of them and they all sound completely different. One of them has a different value Gain pot than the others. One of them has a different value bright cap than the one with the same Gain pot. Since the gain pot and bright cap interact this makes a HUGE difference. Experiment with the Bright Cap value."

"If you want that Recto crunch but not so flubby and fizzy try the SOLO models. They're much brighter so I turn the treble down quite a bit."

Rectifiers can have an enormous amount of bass. Especially in Modern mode, because the lack of negative feedback. Some players deal with this by adding a low-gain Drive pedal before the amp. This has a similar effect as engaging the Cut switch or increasing Low Cut in the amp model.

MESA's Rectifier cabinets have V30 speakers. The 4x12 Recto and 4x12 USA stock cabs are IRs of MESA cabinets.

Amplifier Specifications	
Power	100 watt
Master Volume	Yes
Negative Feedback	Yes Modern modes: No
Preamp Tubes	12AX7A
Power Amp Tubes	6L6GC
Tonestack Location	POST

Ruby Rocket (Paul Ruby Rocket)

Synopsis	Models of a Ruby Rocket, based on a Trainwreck Rocket, which in turn is based on a VOX
Tips	"*I especially like the on-the-edge-of-breakup tone of the models. Volume around 2.50, Bass at 3 (both models)*" – yek
Clips	**More videos, clips and comments**
Cabinet/speaker	Single or double Celestion G12M
Web, Manual	**Paul Ruby Amplifiers**
Amp controls	Volume (=Drive), Treble, Middle, Bass, Cut (=Hi Cut), Bright switch

After Dumble the most expensive guitar amplifiers are Trainwrecks. Paul Ruby hand-builds amplifiers based on these Trainwreck amps. He is – in his own words – an amp hobbyist, a weekend warrior who builds just a small number of amps each year.

His Rocket amp is based on the Trainwreck Rocket, the top Trainwreck model. Some say that the Trainwreck Rocket is the best-sounding (Trainwreck) amp ever made.

Powered by EL84 tubes, the Trainwreck Rocket and Ruby Rocket sound like a VOX AC30 Top Boost. And as with the Morgan and Matchless amps, many people think that the Ruby is a better version of that British amp.

FRACTAL AUDIO SYSTEMS

"*The Ruby Rocket is not the same as an actual Trainwreck Rocket. There are topology differences and the amps don't sound the same*."

It's a simple amp: Volume (model: Input Drive), Bass, Treble, Cut (model: Hi Cut). Unlike the Trainwreck Rocket, there's also a Bright switch which adds gain.

There's no Master, so the Volume control not only sets the volume level but gain as well.

We have two models: one with Bright engaged and one without.

"*I especially like the on-the-edge-of-breakup tone of the models. Volume around 2.50, Bass at 3 (both models).*" – yek

"The Bright switch changes a coupling cap and the treble cap in the tone stack. This cuts the bass, shifts the midrange and lowers the gain slightly. That's why there are two separate models. Otherwise you would just engage the Bright switch under the Treble knob."

Amplifier Specifications	
Master Volume	No
Negative Feedback	No
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	EL84
Tonestack Location	POST

Shiver (20th Anniversary Bogner Shiva)

Synopsis	Models of the Clean and Lead channels of a Bogner Shiva, 20th Anniversary model, known for its warm clean tone and woody, thick Bogner gain sound
Tips	*For beefy clean and overdrive tones, turn up Input Drive. Turn up Treble a lot to make it less dark* – yek
Clips	**Tom Anderson Drop Top Guitar with Bogner Shiva 20th Anniversary Amplifier** **Shiva 20th Anniversary Head – BadAxe Boutique** **More videos, clips and comments**
Cabinet/speaker	Bogner cabinet with Classic Lead 80 or V30 speakers
Stock cabs	1x12 Shiver – **Cab Packs 9 and 17**
Web, Manual	**Bogner Shiva** **Shiva User Manual**
Amp controls	Volume/Gain (Drive), Bass, Middle, Treble, Bright switch, Master, Presence, Excursion (=Depth), Boost switch, Shift switch, Mode switch

Bogner is a guitar amplifier manufacturing company, founded by the entertaining and eccentric Reinhold Bogner. The two-channel Shiva has been a very popular amp in Bogner's line-up for a long time. It's known for its warm clean tone and signature Bogner thick distortion.

Fractal Audio modeled the 20th Anniversary edition of the Shiva with KT88 tubes, which is rated at 90 watt.

The KT88 model has less gain than EL34-equipped Shiva models.

FRACTAL AUDIO SYSTEMS

"*The original Shiva models were based on a borrowed amp. We now have a 20th Anniversary Shiva (with KT88s) and the new models are based on that amp. We did notice that this amp has less gain than the one used originally but the model is faithful to the amp*."

"*Historically, the KT88 has been far more popular with high fidelity stereo manufacturers than guitar amplifier builders, given its characteristics of high-power and low-distortion. Due to these characteristics, it is regularly used to replace 6550 tubes by end users seeking a guitar amplifier tone with less distortion.*" – **Wikipedia**

> "*Years of Bogner designs distilled down to its purest form, is the SHIVA. Featuring two highly evolved channels, capable of clean tones that shimmer like icicles in the deep of winter moonlight and tube saturation that is so rich and powerful it should be illegal in the free world. The Shiva is a masterful study of refined elegance, providing the synergy of one's heart and hands.*
>
> *20th Anniversary Shiva - comes with a pair of KT88's and the amp is rated at 90 watt. The clean channel has an entire new boost circuit. Unlike the tone stack bypass boost on the other Shiva model this boost has a separate gain stage which brings this channel into Plexi territory when boost is engaged. The tone controls stay in the circuit and affect the sound.*
>
> *The gain channel features higher gain and a slightly more refined type of gain. Two push button switches have been added to further shape the tone. The Shift button will as it is labeled shift the EQ, pushed in you will have a more Fender or type tone, less mids softer feel. One could say it will please the Dumble favoring players. The Mode button if pushed in will give a more aggressive in your face feel.*
>
> *A power amp dampening control was added located on the back panel. This control labeled Excursion is great to dial in a full sound at low volumes or adjust the right balanced bass to a cabinet. Be careful as this can add massive bottom to your sound which might overpower other frequencies and cover up an overall balanced sound. Best to keep low at higher volumes.*" – **Bogner**

Fractal Audio has modeled the Clean and Lead channels.

There are Volume, Bass and Treble controls on the Clean channel. The Lead channel has Gain, Bass, Middle and Treble controls. Both channels have a Bright switch, which is less effective the higher Volume/Drive is set. Shared controls are: Presence, Master, Excursion (model: Depth). The "Boost" (bypasses the tone stack), "Mode" (more aggressive) and "Shift" controls on the original amp have not been modeled (use Input Trim as Boost).

> "*The Clean channel stays clean until very high Volume settings. It's a beefy clean tone, especially when turning up the Master (which I always do). Although quite dark at default settings, the right combination of Treble, Bright and Presence results in shimmering cleans. To achieve a crunchy overdrive on the clean channel, turn up Volume to 7 or higher and Master to 7. It sounds really good when overdriven. This applies to the model too. The Lead channel offers the Bogner's trademark thick. Saturation only happens in the upper region of the gain control. This makes it a great amp for classic rock tones. Metal ain't its thing. At default settings the Lead channel is also dark, but it works well in a band context. Don't hesitate to turn up Treble and Presence to add bite and clarity to the sound*." – yek

"*People think Bogners are dark but they really aren't. The reason they seem that way is the pot tapers. Most people assume knobs should be set somewhere around noon. If you do this on a Bogner it's like turning the treble way down on a Marshall. Close your eyes and adjust the tone controls with your ears. Don't be afraid to turn them way up or way down*."

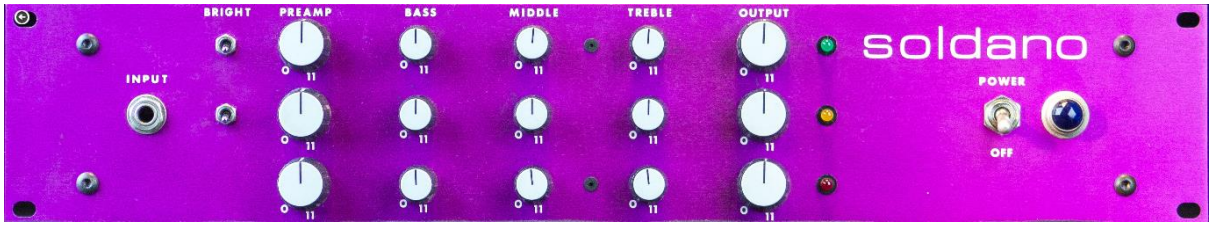
"*Human nature is to put the knobs near noon. We are reticent to deviate much from noon. Amp designers exploit this and use different tapers to change the sound of their amps WITH THE KNOBS AT NOON. A prime example are Bogner amps. Everyone says "Bogner amps are dark". No they aren't. But he uses a Log10A taper for the treble pot. It's a standard Marshall tone stack. Usually a linear taper pot is used for the treble. The treble knob at 5.0 (noon) on a Bogner is equivalent to the treble knob at 1.0 on a Marshall. People put the knob at 5.0 and go "wow, this amp is dark". No it isn't. If you turned the treble up to 8 or 9 it would sound a lot like a Plexi but humans are reticent to turn the knobs to extremes. Amp designers know this and exploit it to give their amps a signature sound*."

Audio clips are available on the Bogner website. **Premier Guitar review.**

Shiva's accompanying cabinets are a 1x12, 2x10 or 2x12 with Classic 80 speakers or V30s. We have IRs of forum member Austinbuddy's 1x12 Shiva cabinet: 1x12 Shiver.

Amplifier Specifications	
Power	90 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	ECC83
Power Amp Tubes	KT88
Tonestack Location	MID (Clean) POST (Lead)

Solo 88 and Solo X99 (Soldano X88R and X99 preamps)



Synopsis	Models of Soldano X88R preamp and X99 preamps
Clips	**Soldano Preamp x88 Fender Telecaster**
	Soldano X88R Guitar Preamp with Celestion G12t-75, G12H-30, Vintage 30
	More videos, clips and comments
Web, Manual	**Soldano website**
Amp controls	Preamp (=Drive), Bass, Middle, Treble, Output, Bright switch

> "*We make the best guitar amplifiers in the world*." – **Soldano**

Famous Soldano players include Eric Clapton, EVH, Steve Vai, Warren Hayes, Ian Thornley (Big Wreck), Prince, Steve Lukather, Gary Moore and Mark Knopfler.

Soldano's most famous amp is the SLO-100 head. The X88R and X99 are preamps which provide part of the SLO-100 sound. The models use the SLO-100 power amp model.

The X88R and X99 are easily recognizable by their purple color. The preamps have Clean, Rhythm and Lead channels, which all have been modeled, except for the Rhythm channel on the X99.

The controls are Preamp (gain), Bass, Middle, Treble, Volume, and a Bright switch on the Clean and Rhythm channels.

According to Bob Bradshaw, the X88R was the result of collaboration between Soldano and Bob Bradshaw and the basis for the CAA 3+ preamp.

> "*From 1985 to 1990 I toured with Steve Lukather on all the Toto shows. We were taking a lot of equipment to Europe and it got to the point where we needed to scale down and change things a lot. I go well: here we are with this big rack full of amplifiers that we're basically using as preamps. It was a Mesa-Boogie for a clean sound, a Marshall for a crunch sound and a Soldano for a solo sound. We were just using the preamp section of those amps, so I thought, why can't we make a three channel preamp with clean, crunch and overdrive and*

we'll use power amps that were using anyway. So I went to Mike Soldano and explained him the situation that we needed to scale our rig down to take overseas. Hence the Soldano X-88 R. Which was my concept, Soldano came up with the circuitry and everything, but it was my thing. The amp came out and it was a big hit. $1800 a piece. Soldano sells em to me for $1700. I only make a $100 for each amp I sell myself, it's like, com' on you now. But I own the prototype. In the meantime I start working with John Suhr. John is building great guitars at the same time, he's interested in doing amp work. John was on the eastcoast. The Soldano preamp needed help, it always needed an extra EQ to breathe some life into it. It was a great basic thing, but it needed some top, some bottom. There were things about it that we wanted to change. Mike Soldano was kind of reluctant to make any of these big changes, he had something going and was happy the way things went. (…)" – **Bob Bradshaw**

The X99 is similar to the X88R, with the addition of MIDI-controlled motorized pots, designed by Caswell.

"*Tim teamed up with Soldano Custom Amplification - a California-based amp manufacturer - to design and produce a preamp: the Soldano/Caswell X99 MIDI Motorized Preamp, featuring Tim's innovative system of real-time-controllable motorized knobs*." – **Caswell Amplification**

"*Solo 88 RHY is based on an X88R since the rhythm channel of an X99 is identical to an SLO 100. FWIW, I have two X88Rs and the model agrees with both*."

"*Power amp: same as SLO100.*"

Amplifier Specifications	
Preamp Tubes	12AX7A

Solo 100 (Soldano SLO-100)

Synopsis	Models of all channels of Soldano's SLO-100 head, an amp used by Gary Moore, Eric Clapton and Mark Knopfler
Tips	"*I like to run the Master high on the Lead model, keep Input Drive real low, increase the mids and turn down Treble. This results in a very meaty and solid rock tone. which makes high push-ups really thick.*" – yek
Clips	**Soldano SLO 100 Crunch and Lead** **Soldano SLO 100 amp demo** **More videos, clips and comments**
Cabinet/speaker	4x12 cabinet with Eminence V12 speakers
Stock cabs	4x12 Solo (RW)
Web, Manual	**Super Lead Overdrive 100-watt Guitar (SLO-100)** **Amplifier Manual**
Amp controls	Preamp (=Drive), Bass, Middle, Treble, Master, Presence, Bright switch

> "*We make the best guitar amplifiers in the world*." – **Soldano**

Famous Soldano players include Eric Clapton, EVH, Steve Vai, Warren Hayes, Ian Thornley (Big Wreck), Prince, Steve Lukather, Gary Moore and Mark Knopfler.

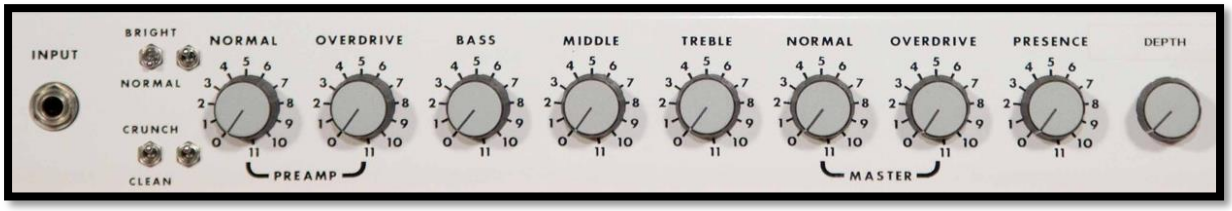
The most famous Soldano amp is the SLO-100 head (Super Lead Overdrive). It has 6L6 tubes, a single input and is rated at 100 watt. Although often linked to hard rock, it's also being used as a blues amp.

> "*The 100 Watt SUPER LEAD OVERDRIVE sets not only the standard, but the benchmark, for high-gain tube amp overdrive & distortion.*
>
> *While setting that standard (we've been told) we created a modern classic. Unchanged in over twenty years, the SLO's remarkable sound, award-winning innovative design, and flawless construction make it simply the finest amplifier money can buy. And the SLO's tone,*

construction, and reliability have made it the heart and soul of many of Rock, Metal, and Electric Blues' most creative and celebrated players. It's because of this that you've been hearing the SLO 100 on your favorite records since 1987. From Clapton to Van Halen, from Warren DeMartini to Lou Reed – and from you to Mike Soldano himself, the SLO is simply the player's choice.

The SLO-100 offers two channels, Normal and Overdrive, each with independent Preamp gain and Master Volume controls. A footswitch is also provided for effortless noise-free switching between the two channels. The Normal channel has a Bright switch and a Clean / Crunch gain selector switch. Standard features include a tube-buffered effects loop and a slave output. Bass, Middle, Treble, and Presence controls provide the tone shaping." – **Soldano**

The SLO is a two-channel head with Normal and Overdrive channels. The Normal channel can be switched between Clean and Crunch modes. All three sounds have been modeled.



The controls are: Preamp Normal, Preamp Overdrive (gain), Bass, Middle, Treble, Master Normal, Master Overdrive, Presence and a Bright switch on the Normal channel.

> "*Personally I like to run the Master high on the Lead model, keep Input Drive really low, increase the mids and turn down Treble. This results in a very meaty solid rock tone, that makes high push-ups really thick*." – yek

There are some popular mods. The "Depth mod" increases depth for low-tuned guitars. You can emulate this by increasing Depth in the amp model. The "Warren Hayes mod" prevents the amp from getting too bright and harsh at low gain levels. You can emulate this by disabling the Bright switch in the model.

FRACTAL AUDIO SYSTEMS

"*Many people find SLOs too bright. The "Warren Haynes" mod is a popular mod to reduce the brightness*."

(talking about the Depth control):
"*Mine doesn't have the depth mod but I used the values from the schematic I have and I believe the schematic is correct*."

"*The secret of the SLO is the arch enemy of most you guys, volume. It has to be run hard with less preamp gain. It transforms into a gorgeous amp like that. It was designed as a large stage/stadium amp. Cue Warren Haynes. Running one at your local pub is going to give results that are very thin and buzzy. I would imagine the best tones from the axe model will probably be achieved by*

increasing the master and backing off the preamp, just like the real deal." – Carol-Ann Amps

"*Yup, this is why the MV defaults to a higher setting than other MV amps*."

"*The SLO-100 is the loudest amp I've ever used. It feels like there's a small nuclear explosion going off inside whenever you hit a power chord. It's a wicked amp but not something I would recommend for anything but large gigs. If you like the SLO-100 model you might want to try the Recto models too. It's not widely known but the Rectifier preamp is a derivative of the SLO-100. Some minor changes but the basic topology is identical*."

"*I have a really good SLO-100. An original black faceplate version. Pristine condition. That amp was one of the primary amps used in the G2 modeling development. It was by studying that and a really nice JCM-800 that I finally figured out the secret to cathode follower*."

"*Those amps are all designed to get their character from power amp distortion. If you don't push the power amp all you are hearing is the preamp which is voiced to be trebly. The power amp then compresses the highs and the sound gets fatter*."

"*SLOs are brittle at low volumes. When you crank them up it smooths out. The problems is at cranked volumes they can kill small animals*."

"*The key to an SLO100 is to run the MV high so that the mids thicken up. Otherwise it's a shrill mess. In certain contexts with the right IR it can be a cool sound*."

"*Note that the knobs on '5' on the Axe-Fx correspond to '6' on an SLO because they go to 11. 'Noon' on an SLO isn't actually the knobs at half-way. The range of the knobs is like 8:00 to 6:00 as opposed to 7:00 to 5:00. They're biased clockwise*."

"*Another caveat when comparing amps: many times the knobs aren't "centered". IOW if you put the Treble knob at noon it isn't actually at 50%. You can see this by turning the knob all the way down and all the way up. It may not be symmetrical. This happens when the pots don't have a flat spot and/or the pot is rotated within the mounting hole. Or in the case of an SLO100 it is intentional. On an SLO100 all the way down is around 8:00 and all the way up is 6:00 so 50% is around 1:00 not noon*."

Click here for Mark Knopfler's Soldano settings

About Eric Clapton and Soldano:

> "*The California custom amp builder Michael Soldano was commissioned to build two of his SLO-100 amplifiers for Clapton in 1988. When interviewed in November 1988 for the Japanese Young Guitar magazine while on tour in Japan, Eric Clapton spoke about his newly acquired Soldano amps. Clapton commented that he had been using Fender Dual Showman amps when he heard Mark Knopfler at rehearsals and was impressed by his sound. He realised it was Knopfler's amp rather than the guitar that was responsible for the sound character. Clapton tried Knopfler's amp and liking its sound which he described as 'warm' and 'round', immediately placed an order with Michael Soldano. Clapton went on to explain that although he was allowed to go on top of the waiting list, he waited two months before he received his amps because they were all handmade and not mass-produced. Clapton went*

on to say that Soldano was the best amp for him and thought it would be a classic. He added that he would be recording the next album with Soldano amps.

Clapton's guitar technician stated in an interview in 1994 Guitar Techniques magazine:

The Soldanos are the original amps that Mike Soldano built for us in a hurry. Of course we bought them, but because Mike dropped everything else he was doing, Eric gave him a signed Clapton Strat, which we thought was a fair deal. Eric said, "In return, why don't you sign my amps?" so that's what he did. We have two, one as a spare, but I like to alternate them so that valves are properly burnt in on both." – **Bonham**

Soldano uses 12" Eminence V12 speakers in its cabinets. We have these as stock cabs: 4x12 Solo V12 (RW). Note that the Red Wirez stock cabs have been captured using an neutral microphone, so consider adding a mic model in the Cab block.

Amplifier Specifications	
Power	100 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A
Power Amp Tubes	6L6
Tonestack Location	POST

Spawn Nitrous (Splawn Nitro)

Synopsis	Models of the Rhythm and Lead channels of a Splawn Nitro with KT88 tubes, voiced for a bigger low end and low mids
Tips	Use IRs with a lot of midrange, such as a Classic Leads 80 (Cali stock cab) and/or G12M, and decrease Bass
Clips	**Splawn Amplifier Nitro EL34 Head at SoundsGreatMusic.com** **Splawn Nitro HD demo (with KT88s)** **More videos, clips and comments**
Cabinet/speaker	4x12 cabinet with G12M, G12-65 or V30 speakers
Web, Manual	**Splawn Amps** **Nitro & Super Comp Owners Manual**
Amp controls	Resonance (=Depth), Presence, Bass, Middle, Treble, Volume, Gain (=Drive)

Splawn is into the Marshall-modding business and builds its own hot-rodded versions.

The Nitro is a 100 watt amp. It usually has EL34 or 6L6 power tubes, but the modeled amp is equipped with KT88 tubes. The Nitro has more saturation than the Quickrod, Splawn's most popular amp, and is voiced for a bigger low end and low mids, according to **Splawn**. Think Recto, EVH, Peavey etc.

It has two channels: Clean (not modeled) and Overdrive. The Overdrive channel has two modes: OD1 (rhythm) and OD2 (Lead), which both have been modeled.

Controls on the amp: Resonance (amp model: Depth), Presence, Bass, Middle, Treble, Master, Gain.

Splawn cabinets are equipped with G12M, G12-65 or V30 speakers.

IRs with a lot of midrange pair well with this model, such as 4x12 Cali and/or greenbacks.

Amplifier Specifications	
Power	100 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A
Power Amp Tubes	KT88
Tonestack Location	POST

Spawn Qrod (Splawn Quickrod)

Synopsis	Six models of the Overdrive channel of a Splawn Quickrod, a hot-rodded Marshall-type amp
Tips	So easy to dial in: everything at stock. Use an IR of a cabinet with G12-65 speakers
Clips	**Splawn Quick Rod EL34 Head review at Soundsgreatmusic.com**
	Splawn Quickrod
	More videos, clips and comments
Cabinet/speaker	4x12 cabinet with G12-65 Creamback, Vintage 30 or G12M speakers
Web, Manual	**Splawn Amps**
	Quick Rod & Pro Mod Owners Manual
Amp controls	Presence, Bass, Middle, Treble, Volume, Gain (=Drive), Mode

Splawn is into the Marshall-modding business and builds its own hot-rodded versions. The Quickrod is probably their most famous model, considered by some a "Brown Sound" amp.

> "*Signature Splawn tone with lots of bite, strong mids and 3 gear versatility.*" – **Splawn**

The Quickrod is a 100 watt amp with EL34 tubes. It has two channels: Clean (not modeled) and Overdrive.

The Overdrive channel has three "gears". The 1st gear is designed to sound like a Plexi, 2nd gear like a hot-rodded JCM 800 and 3rd gear like a super hot-rodded JCM 800. All three gears have been modeled (OD1 models). The OD2 models are the same with an additional gain boost.

Controls on the amp are: Presence, Bass, Middle, Treble, Master, Gain.

FRACTAL AUDIO SYSTEMS

"*OD2 switches in a cathode bypass cap which increases the gain of that stage*."

"*The reason Splawn's sound weird is because the tone stack is plate driven. You lose the cathode follower compression and the high source resistance of the plate alters the tone stack frequency response. The plate driven tone stack in the Splawn reduces the highs considerably. You can see this is you run Tone Stack Calculator for the Marshall tone stack and increase the source resistance*."

"*The Quick Rod is a bit odd in that the Drive pot is linear taper. Most amps use an audio taper pot. This means that at noon the amp is nearly at full gain. Not sure why they did it that way but it is what it is*."

Splawn cabinets have G12M, V30, or G12-65 Creamback speakers. G12-65 speakers are said to be the best-sounding ones, possibly because they're more mid-focused than others.

Amplifier Specifications	
Power	100 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A
Power Amp Tubes	EL34
Tonestack Location	POST

Suhr Badger

Suhr Badger 18

Synopsis	Model of a Suhr Badger 18, an 18 watt EL84-powered amp, capable of achieving clear cleans to saturated leads
Tips	For maximum headroom turn up the Master and keep Drive low, for an overdriven tone lower the Master and turn up Drive. Lower bass and turn up mids
Clips	**Suhr Badger 18 amplifier (Pete Thorn)** **Suhr Badger 18 Tube Amp Head demo** **More videos, clips and comments**
Cabinet/speaker	1x12 or 2x12 cabinet with WGS Veteran 30 speaker(s)
Stock cabs	None – **Cab Pack 17**
Web, Manual	**Suhr Badger** **Badger 18 User Guide**
Amp controls	Drive (=Master), Bass, Middle, Treble, Gain (=Drive)

Suhr Badger 30

Synopsis	Model of a Suhr Badger 30, a 30 watt EL34-powered amp, capable of achieving clear cleans to saturated leads.
Tips	Turn up the Master and mids
Clips	**Suhr Badger 30 amp (Pete Thorn)**
	Suhr Badger 30 – Melodic Rhythm
	Suhr Badger 30 – Featuring Classic Antique
	More videos, clips and comments
Cabinet/speaker	1x12 or 2x12 cabinet with WGS Veteran 30 speaker(s)
Stock cabs	None – **Cab Pack 17**
Web, Manual	**Suhr Badger**
	Badger 30 User Guide
Amp controls	Drive (=Master), Bass, Middle, Treble, Gain (=Drive)

John Suhr started his own company JS Technologies after working with Bob Bradshaw and for Fender. He builds high-end guitars, amps, pedals, pickups etc. He also sells his version of the OD-100, designed when he worked with Bradshaw. **More information**.

Suhr builds a line of small amps under the name of Badger. Used by Pete Thorn, Guthrie Govan and others. Two of these have been modeled by Fractal Audio: 18 watt and 30 watt.

> "*This 18-watt, all-tube amplifier offers a wide range of classic guitar sounds. Driven by a cathode biased EL-84 power section and features a 5Y3GT tube rectifier, the Badger 18 delivers a variety of warm, sparkling cleans and rich, dynamic overdrive tones.*" – **Suhr**

> "*This 30-watt, all-tube amplifier offers a wide range of classic guitar sounds. Driven by a cathode biased EL-34 power section and features a solid state rectifier, the Badger 30 delivers a variety of full, punchy cleans and rich, tight dynamic overdrive tones.*" – **Suhr**

These are great, versatile amps, capable of achieving clear cleans to saturated leads. The 30 watt model has more headroom and is more versatile than the Badger 18. 18 watt amps are mostly used for crunchy tones at low volume levels. If you want a full-bodied clean tone from it, crank the Master and use little gain.

Review in Premier Guitar

Controls on both amps: Gain (Input Drive), Drive (Master), Bass, Middle, Treble, and Power Scaling (not modeled).

These amps/models, especially the 18 watt one, have a lot of bass because of the lack of negative feedback. Dial down Bass or use the Cut switch in the amp model. The Hi Cut control in the model is non-functional.

Visit the **website** for sample settings.

FRACTAL AUDIO SYSTEMS

"*The Badgers were MIMIC'd with power scaling at full. The knobs are a bit confusing on a Badger. The knob closest to the input jack is labeled "Gain". It is equivalent to the Drive knob in the Axe. The knob labeled Drive is the Master Volume*."

> "*Bass, Middle and Treble tone controls for each channel are post-gain and passive cut-style. We recommend starting around 5 and dialing to taste. As you increase Gain and/or Drive we recommend dialing back the Bass to retain clarity and definition in the low-end.*" – **Manual**

These amps/models, especially the 18 watt one, have a lot of bass because of the lack of negative feedback. Dial down Bass or use the Cut switch in the amp model. The Hi Cut control in the model is non-functional.

The Badger combos contain one or two WGS Veteran 30 speakers, similar to a Celestion V30.

Amplifier Specifications	Badger 18	Badger 30
Power	18 watt	30 watt
Master Volume	Yes (marked Drive)	Yes (marked Drive)
Negative Feedback	No	No
Preamp Tubes	12AX7A Syl	12AX7A Syl
Power Amp Tubes	EL84	EL34
Tonestack Location	POST	POST

Super Verb ('64 blackface Fender Super Reverb, AB763)

Synopsis	Models of a modded 1964 Fender Super Reverb, popular for the SRV sound
Tips	Try the “magic six” settings
Clips	**Fender Super Reverb (Full Volume)**
	Fenderguru.com's tricks to the holy grail of Fender tone
	More videos, clips and comments
Cabinet/speaker	Cabinet with four 10” speakers
Stock cabs	4x10 Super, 2x10 Super – **Cab Packs 1 and 22**
Amp controls	Volume (=Drive), Bright switch, Treble, Middle, Bass

A legendary Fender amp with the famous AB763 circuit (same as Bandmaster and Deluxe Reverb): ’64 blackface Super Reverb. The Super Reverb has its own thing going. It sounds big with lots of bass and treble. Super Reverbs are sought-after to achieve the SRV sound.

Blackface Fenders were produced between 1964 and 1967. Pre-CBS blackface Fenders are in high demand and are not as expensive as Tweed and Brown models. The blackface label refers to the black tolex and control panel. **More information.**

> “*This faithful recreation of the legendary Blackface Super Reverb of 1963-1968 is a must-have for vintage enthusiasts and Stratocaster guitar slingers, but players of all styles enjoy its shimmering tone. The 45-watt Super Reverb’s medium output and stage-filling sound make it the perfect amp to crank up for club gigs or the concert stage. Features include dual 6L6 Groove Tubes output tubes, one 5AR4 rectifier tube, four 12AX7 preamp tubes, two 12AT7*

tubes, four 10" 8-ohm Jensen P10R speakers with alnico magnets, dual channels (normal and vibrato), tube-driven Fender reverb, tube vibrato, two-button footswitch for reverb and vibrato on-off, black textured vinyl covering with silver grille cloth, and tilt-back leg."
– Fender's description of their re-issues of the '65 Super Reverb

"*The AB763 Super Reverb is a very popular Fender amp due to the huge tone, robustness and the pure tone from the traditional blackface AB763 amp design. The AB763 design is also to be found in some silverface amps between 1967 and 1969. The later silverface circuits were changed further by CBS to become cleaner, harder and thinner sounding, especially if one compares amps at the same volume and EQ setting. If you're into sparkling clean tones, a silverface can do the job just as well as a blackface amp. The blackfaces have more growl and a distorted, cranked tone. It is heavy to carry with the 4×10" speakers and massive iron transformers. The height also makes it difficult to carry, making you sweat when hauling it between gigs. It's a big sounding amp with a potential for being very loud and bassy given the right (wrong) speakers. The nature of the 4×10" speaker configuration is a directional tone with screaming treble right forwards and backwards and unfortunately little spread. A lot of deep bass is produced by the big cabinet while the important mids are fairly low, a scooped tone. Many players are stupid and increase the volume to compensate for the lack of spread and mids. This will introduce even more bass and sharp treble. Playing the Super Reverb is not supposed to be easy… Despite all the difficulty with this amp there will occasionally be gigs, perhaps outdoors or at a big stage, where the amp won't hurt anyone in a radius of 3 meters. You are allowed to turn the volume beyond 4 where the amp comes alive. We remember these occasions as our happiest musical moments. The notes bounce off our strings and we are musically and physically connected with the amp just using the pick attack and guitar volume to roll back and switch between rhythm and solo. Perhaps a transparent boost pedal to take us into David Gilmour land with sustain, harmonics and a creamy tone. You can physically feel the dynamic response from one of the best vintage Fender amps of them all. But only if you know how to tame this beast.*

Fender sold these amps with several speakers. The first AA763 models in 1964-65 had Jensen C10r. Then there were CTS ceramics and alnicos as well as Oxford 10L6 in the blackface AB763 amps. In the silverface amps Fender continued with Oxford and CTS but also used Utah, Rola and Eminence. This is one important reason why two Super Reverbs can sound very different. In our opinion the Super Reverbs with Jensen and CTS are valuable as both collectors and players' amps today. These speakers perform very well and one does not need to upgrade to modern, efficient speakers like for many other vintage speakers. The CTS alnicos are also very popular speakers even if they are little efficient. During the years the Alnico magnets get weaker too. The CTS Alnico require you to increase the volume a lot and you'll see players that dial in their amps at 6 or 7 on the volume knob. With ceramic speakers this is enormously loud. With vintage Alnico speakers you will get more breakup from the amp due to their low efficiency. On the other hand, the CTS ceramics are known for their power, efficiency and full low end. They also have lots of sparkle and treble and are very good speakers in our opinion." – **Fenderguru.com**

"*The Super Reverb is commonly used by blues guitarists due to its ability to deliver loud, warm tube distortion through its four 10" speakers.[3] It is also known as having a scooped mids tonality, meaning that there is less midrange and an emphasis of sparkly treble and full, round bass frequencies.*" – **Wikipedia**

FRACTAL AUDIO SYSTEMS

"I modeled the Super with V1 pulled as most people pull V1 so the amp has more grunt. Turn down the MV to make it cleaner."

"The Super Reverb model is "Diaz Modded". IOW, I pulled V1 (see below)*. This gives the amp a lot more gain so it's not surprising you're getting breakup at around 1.5. You can un-mod the model by turning down the MV Trim to around 0.5."*

"A Pro Reverb is basically identical to a Super Reverb except for the speakers (and faceplate)."

"The Blackface Pro Reverb, model AA165, was virtually identical to the AB763 Super Reverb except for the speakers and tone stacks. If you use the Super Verb model and set the Tone Stack type to Blackface you'll basically have a Pro Reverb. Set the Mid control fairly high to emulate the fixed 6.8K mid resistor. I'd say around 7 or 8."

The amp has 6L6 tubes, is rated at 40 watt, has low and high inputs and a Normal and a Vibrato channel. We have models of both channels.

Fractal Audio's models of Fender amps are always based on the High input on the amp. To get the equivalent of the Low input, set Input Trim in the amp model to 0.500.

The original modeled amp has been modded for more drive, see sidebar.

The amp has Volume, Bass, Middle (not on Normal channel) and Treble controls, a Bright switch and controls for reverb and vibrato. "**Magic Six**" settings work well: Volume 6, Bass 2, Middle 3, Treble 6 (6, 2x3, 6).

Note that the range of the controls is different, so you can't copy those settings exactly to the amp model controls. To translate the settings, use the **table at the back of this guide**.

The amp has four 10" speakers, just like a Bassman or Concert. We have stock cabs of a 4x10 Super cabinet: 4x10 Super.

Amplifier Specifications	
Year of Manufacture	1964
Circuit	AB763
Power	40 watt
Master Volume	No
Negative Feedback	Yes
Preamp Tubes	7025 (12AX7A Syl)
Power Amp Tubes	6L6
Tonestack Location	PRE

Supertweed (FAS custom model)

Synopsis	Custom amp model by Fractal Audio, based on a Tweed Deluxe
Tips	"*Don't hesitate to set Input Drive really low (below 2) and everything else at stock*" – yek
Clips	**Haiko Heinz – SoloKidCharlemagne**
	Steadystate – Heartbreaker solo using the Fractal Audio Axe FX Ultra
	More videos, clips and comments

Fractal Audio has added a considerable number of custom amp models to the collection. These virtual amps have no real-life equivalents. They solely exist within the Axe-Fx II and AX8, surpassing the electronical limitations of traditional amps.

The Supertweed is such a custom model. It was ported from the Standard/Ultra, after users kept asking for it. It's been called a "Tweed on steroids", referring to a Fender Tweed.

You can use a 1x12 Tweed Deluxe stock cab but other ones, such as a greenback or Alnico, also work well.

> "*An awesome model if you're looking for a vintage tone.*" – yek
>
> "*Starts to distort early, so don't hesitate to set Input Drive really low, below 2.*" – yek

Supremo Trem (Supro 1964T Dual-Tone)

Synopsis	Model of (what's assumed to be) a reissue series 1624T Dual Tone, a mid-heavy edgy and dirty amp, supposedly used by Jimmy Page on early Zep albums
Tips	"*I keep all controls pretty much at default, except for Treble (= Tone)*" – yek
Clips	**J.D. Simo Supro 1624T Dual-Tone Slide Guitar Demo with 1960 Gibson Les Paul**
	J.D. Simo –FUNKY jive guitar on a vintage 1960 Gibson Les Paul and 1624T Supro Dual-Tone Re-issue
	More videos, clips and comments
Cabinet/speaker	1x12" Supro DT12
Stock cabs	1x6 Oval, 1x15 Thunderbolt (RW), 2x12 Supremo – **Cab Pack 2**
Web, Manual	**1964 Reissue Series**
Amp controls	Volume (=Drive) and Tone (=Treble)

Supro is a legendary amp manufacturer. Supposedly Jimmy Page used a Supro to record the early Zep albums. Supro was bought by **Valco**. In 2013 the Supro brand was revived by Absara Audio. Users of the current Supro models include Snarky Puppy, JD Simo, Steve Stevens.

> "*The legendary Supro logo with signature lightning bolt stirs several images simultaneously for most guitarists. Sum these up as unique looks, individual tone, and a near-mythic cool factor that is unmatched in the world of vintage tube guitar amplifiers; but the most common reactions to all of these sensations are best rendered simply as, "I want one!" Jimi Hendrix, Jimmy Page, Albert Lee and countless other stars wanted one too—and got 'em, using Supro amps to lay down the foundations of blues and rock. But the roots of the Supro*

brand go way back to a time well before the period for which we best know them now, to the very birth of the electric guitar.

Supro's origins date to the pre-electric guitar days and the formation of the National Resophonic guitar company around 1926, with roots in the resonator guitars that became a blues tone standard prior to amplification. National and Dobro merged in the early '30s to form Valco, and Supro. Soon, Valco-made Supro amps were tearing it up on Chicago's south-side scene, establishing a tone that has been synonymous with gritty blues ever since. By the mid 60's, Jimi Hendrix was playing a Supro Thunderbolt amp on tour with Little Richard and the Isley Brothers. A few years later, Jimmy Page, inspired by the raw tones of the Chicago blues scene, cut seminal Led Zeppelin tracks on a Supro Model 24… and so the chain of influence goes, full circle from Chicago blues, to London blues-rock, with Supro the hip tone to beat.

Player upon player has since discovered the sonic splendor of Supro's extremely original circuits and unique build style, as well as the surprising versatility hidden within the appealing simplicity of these amps. Plug into one of these beauties, and you know you are striding out onto original and inspiring sonic ground. There's a girth, depth, and dimension to the tone of these old circuits that is simply unattainable from the other brands, and a dynamic playing feel that definitely puts a smile on my face every time. Keep them clean, and they are sweet and rich; crank them up, and even the smaller Supro models issue a bold, furious roar that retains its edge and cutting power amid heavy overdrive.

From authentic Chicago blues to all-out rock'n'roll, the Supro brand has distinguished itself as a sound for players who want to make their own mark on music, rather than merely chasing some tired standard that has gone before. Players who know Supro amps and understand what they can do have always appreciated them for their ability to help you sound like you. Supro has always presented a great alternative way to get your music made, and to get it noticed. For years, the only way to achieve that legendary Supro tone was to track down an original amp, get it running well, and hope it stayed that way. Not anymore. Supro is back—and the lore, the legend, the tone, and the total attitude is back with it. Check out Supro's growing lineup of American-made amplifiers that honor the original circuits, while presenting value and performance unparalleled in today's market, and a tone that is truly all your own." – **Supro**

We have a model of what's believed to be a reissue of the 1964T Dual-Tone, Supro's flagship amp. "T" stands for tremolo.

"*The "Dual-Tone" 1×12 combo amplifier is the undeniable rock star of the mid 60's Supro amplifier lineup. Vintage 1624T amps have been sought-after for decades because they embody the most desirable aspects of the Supro sound. As the Dual-Tone's volume knob is turned beyond noon, a fat and compressed clean tone evolves into an immediately recognizable grind that remains articulate and listenable even when turned up to full blast.*

This 24-Watt, 1×12 tube combo can easily be driven to glorious saturation at a manageable gigging volume while retaining exceptional clarity and bandwidth, at any level of gain. This amp's unique mojo is largely defined by the use of 6973 power tubes in the amplifier's output stage. These robust 9-pin tubes were employed extensively in the mid- and low-power Supro amps made 50 years ago. 6973 tubes look like EL84s but they deliver a distinctly American voice that has been missing from the world of tube amplifiers for far too long.

The Dual-Tone's linkable channels each sport volume and tone controls as well as a shared tremolo circuit. Plugging into IN 1+2 links both preamp channels in parallel for double the

input signal and double the gain. This clever topology lets you hit the power amp as hard as necessary and even allows "channel switching" in its purest form, using a simple A/B switch.

The 1964 reissue Supro Dual-Tone's vintage-correct, lightweight cabinet—combined with our breathtaking custom 12" Supro speaker—kicks out surprisingly plump low end with all the detailed midrange and high end articulation that defines the Supro tone players have been chasing for decades. Loud enough to gig with a band, yet easy to haul around town, the Supro Dual-Tone is the perfect small club and recording amplifier." – Supro

Review of the current model in Guitar World

The amp has two channels which are identical. On the original amp these channels can be linked for more gain.

Old and current versions of the Dual Tone offer only Volume and Tone controls on each channel, plus shared tremolo controls. The tone control is mapped to Treble in the amp model.

The speakers in Supro amps range from very small to very large. We have a couple of them as stock cabs: 1x6 Oval, 1x15 Thunderbolt (RW), 2x12 Supremo.

"I love this model. It's vintage and simple. Has lots of mids. Sounds edgy and dirty, recognizable and has its own character. I could easily do an entire gig with just this model. I keep the controls pretty much at default with Treble turned down." – yek

Amplifier Specifications	
Power	24 watt
Master Volume	No
Negative Feedback	No
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	6973
Tonestack Location	PRE

SV Bass (Ampeg SVT)

Synopsis	Model of a 300 watt Ampeg SVT, maybe world's most popular bass amp
Clips	**Ampeg SVT**
	More videos, clips and comments
Cabinet/speaker	Cabinet with eight 10" speakers
Stock cabs	8x10 SV Bass, 1x15 SV Bass, 4x10 SV Bass – **Cab Packs 11 and 22**
Web, Manual	**Ampeg Classic Series**
Amp controls	Volume, Treble, Midrange, Bass. Some models also have a Master control, a Mid-Frequency selector and Ultra Lo / Hi switches

Ampeg is a big name in the world of amplification. While their guitar amps are praised (used by Josh Homme and others), they are not nearly as popular as their bass rigs. Sometimes it seems that every bass player uses an Ampeg SVT rig. **The list of Ampeg artists** is mind-blowing.

> *"In 1946, Everette Hull, an accomplished pianist and bass player, organized a partnership with Stanley Michaels under the name "Michaels-Hull Electronic Labs." Their mission was to produce a new microphone pickup that Hull designed. The pickup was fitted on the end of an upright bass and was dubbed the Amplified Peg or "Ampeg" for short.*
>
> *In 1949, Hull became the sole proprietor and changed the name of the company to the Ampeg Bassamp Company. Since that time, Ampeg has produced some of the music industry's most innovative and memorable products, satisifying the needs of musicians all over the world. Many of these products feature incredibly unique features and performance capabilities resulting in six U.S. patents under the Ampeg brand name.*
>
> *Also in the early 60's, Ampeg was the first company to incorporate reverb in an amplifier. The Reverbrocket preceded Fender's Vibroverb (often thought of as the original) by nearly 2 years. In 1969, Ampeg set out to design the most powerful amplifier ever made. At that time, 50-watt amps were considered more than adequate. 100-watt amps were considered "plenty*

loud." Ampeg, however, not only harnessed 300 watt of pure tube power but actually created a new valve (tube) technology - Super Valve Technology, or the SVT. Now the most sought after stage amplifier, the SVT has proven its road worthiness on stages around the world." **More Ampeg history.**

The SVT still is Ampeg's flagship product. SVT stands for "Super Valve Tube" or "Super Vacuum Tube", even Ampeg doesn't know for sure.

The size of a SVT rig (head plus accompanying 8x10 cabinet) made people refer to it as "the fridge".

"1969 was a year giants rocked the earth, and they wanted big amps. By that point in history, rock music was the baddest man in the whole damn town. Stadiums and outdoor festivals was where the action was—Madison Square Garden for chrissakes. Fifty watt just wasn't enough to move that chick in the 61st row in her hand-embroidered bellbottoms. It wasn't as if nobody was filling the void—witness the stacks of Marshalls, mountains of Hiwatt, and truckloads of Dual Showmans doing more to promote tinnitus in a single generation since WWII.

Ampeg needed to compete. The team of amp designer Bill Hughes and Roger Cox—with input from Bob Rufkahr and Dan Armstrong—set about to create what Cox referred to as "the biggest, nastiest bass amplifier the world had ever seen." Using the same sort of madness that drove Dr. Frankenstein, the team came up with a 300-watt all-tube phantasmagoria they called the Super Vacuum Tube—or SVT, to save on vowels. To fully grasp the monstrosity of their creation, the SVT's 300-watt output stomped the deafening 200-watt Marshall Major by a full 100-watt!

Unveiled at the 1969 NAMM show in Chicago, the SVT head alone weighed 95 lbs and contained fourteen tubes, six of which were massive 6146 power tubes. To heat all those tubes, massive transformers with magnetic fields powerful enough to cause genetic mutations were necessary. And what kind of speakers were able to handle all that power? Nothing less than two cabinets sporting eight ten-inch speakers and weighing 105 lbs. each.

After surveying his creation, Cox was actually concerned about potential liability—when your engineers warn of the possible harm their designs could cause, you'd better listen. Ampeg's management did and devised a warning label which read: "THIS AMP IS CAPABLE OF DELIVERING SOUND PRESSURE LEVELS THAT MAY CAUSE PERMANENT HEARING DAMAGE."

Some say we make our own luck, but they're usually the people with all the luck. Luck came to Ampeg, not from their own doing, but by the lack of knowledge concerning international voltages on the part of the Rolling Stones. It seems the Stones shipped their Fender amps over to the States to rehearse for their soon-to-be-legendary '69 world tour, plugged them in, switched them on, and the resulting smoke and burn first made the roadies think Keith had nodded out again, until they remembered that the amps were set up for UK voltage.

The Stones may have been "The Greatest Rock n' Roll Band In The World," but like all bands, they liked to get free gear. In a panic, now deceased Stones keyboard player and road manager Ian Stewart contacted Rich Mandella, Ampeg's Hollywood liaison, desperately begging for amps for the tour that was now only weeks away.

Mandella, knowing a good thing when he saw it, loaded up all the SVT prototypes and some old 4x12 cabs into his pickup and headed down to the Warner Brothers lot where the Stones were rehearsing in an unused soundstage. Keith, Mick Taylor and Bill Wyman plugged in to the SVT prototypes and proceeded to turn them up to a level that reduced the un-hip to

flaming piles of goo. The Stones may have had sympathy for the devil, but they gave no such kindness to the SVT prototypes. Mandella began to notice that the prototypes were getting close to meltdown under Keith's relentless bashing. According to Mandella, "Everything he was doing in rehearsal just kept getting louder and bigger and crazier, with two or three heads per person. I'd watch the amps, and when I could see one was about to explode, I'd just switch heads."

Since those prototype SVT heads were the only ones in existence—production was still a ways away—it was decided in a very smokey room that Mandella would accompany the Stones on the tour as their personal Ampeg technician. While the Stones rocked, and the audience grooved, and the Hell's Angels kicked the living crap out of everybody within a pool cue's length, Rich Mandella was behind the backline making sure everything was sorted. If you want a sample of the mayhem, check out Gimme Shelter, the Stones' own documentary of the 1969 world tour. But if you wanna hear those early SVTs blasting for all they're worth, rush right down and pick up Get Yer Ya Ya's Out, the best live album ever made.

Since then, the SVT has become the bass amp that all rock bassists dream of, whether they're famous or completely unknown. Ampeg has modified the SVT concept for a wider variety of sounds, but fortunately, they still make the SVT-VR, which are virtually identical to the ones the Stones used to put their Jack Daniels bottles on top of. (The SVT-Classic is also available, and is very similar to the original.)

Former Bass Player editor Scott Malandrone put the SVT in perspective this way: "The SVT has done for the sound of electric bass what the Marshall Super Lead had done for the electric guitar—it would give the instrument an identity." We couldn't say it better ourselves." – Ampeg

We don't know which specific SVT amp has been modeled by Fractal Audio. A vintage one, or maybe a current **SVT-CL** or **SVT-VR** version. Either way, the SVT is a 300 watt rig, powered by six 6550 tubes, with inputs for passive (0 dB) and active (-15 dB) instruments. Controls are Volume, Bass, Mid and Treble. The tone controls are flat at noon, according to the manual. Some models have a Master control, a Mid-Frequency selector and Ultra Lo / Hi switches to emphasize low or high frequencies. The manuals of the **current SVT-models** provide sample settings.

We have IRs of various Ampeg bass cabs as stock cab(s): 1x15 SV, 4x10 SV, 8x10 SV. **Dr Bonkers also produced IRs of an Ampeg 8x10**.

Amplifier Specifications	
Power	300 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7 (Syl)
Power Amp Tubes	6550
Tonestack Location	PRE

Thordendal (pre-G3 Recto models)

Synopsis	Alternative (pre G3 modeling) models of MESA's Dual Rectifier
Tips	See Recto models
Clips	**More videos, clips and comments**
Cabinet/speaker	See Recto models
Stock cabs	See Recto models
Web, Manual	See Recto models

Fredrik Thordendal is the guitar player of the metal band Meshuggah. Not only known for djent-style metal, he's also an accomplished fusion-type lead player.

Originally Fractal Audio's Thordendal models were custom models, based on Thordendal's own specifications.

Then this happened:

> "*The old Recto models weren't terribly accurate. When G3 came out the models were accurate but Fredrik contacted me and said something like "ahhhhh, I loved the old Recto model". So I took the old Recto models and made them "Thordendal" models*."

So there you have it, the Thordendal models are older models of the Dual Rectifier, before Fractal Audio introduced G3-modeling.

For more information about the Dual Rectifier and its models, read the Recto articles.

Tremolo Lux (blackface Fender Tremolux, AA763)

Synopsis	Model of a 1960's Fender Tremolux, smaller than the Bandmaster, larger than the Deluxe
Tips	Sounds great at stock settings
Clips	**1964 Fender Tremolux**
	1965 Fender Tremolux Amp Demo
	1965 Fender Tremolux Amp Demo Part 2
	More videos, clips and comments
Cabinet/speaker	Cabinet with two 10" speakers
Amp controls	Volume (=Drive), Bright switch, Treble, Bass

According to Fenderguru.com the Tremolux is a smaller version of the Bandmaster.

> "*The blackface Fender Tremolux was produced just a few years between 1963 and 1966 and had one circuit model; the blackface Tremolux AA763. In terms of power and clean headroom it is the smallest of all the Fender piggy back amps. Its history is much less complex than the bigger Bassman and Bandmaster amps who experienced a rapid development in terms of different circuit models and tube configurations.*
>
> *The blackface Tremolux and Bandmaster (AB763) are almost identical amps, just that the Tremolux is sized for smaller events and gigs. The Tremolux had tube rectifier, while the blackface Bandmaster had diode. Both amps had tremolo but no reverb. The Tremolux speaker cabinet was 2×10" and not 2×12". The Tremolux had smaller transformers (power and output) than the Bassman and Bandmaster. All these things add up to an amp with less volume, less clean headroom and more sag/compression; a more forgiving tone. What does the blackface Tremolux sound like? It feels very much like the blackface Bandmaster, the normal channel of the Vibrolux Reverb and Pro Reverb or the normal channel of the earliest blackface Bassman (AA864). The sound is nice and clean and the tone remains relatively clean when one turns the volume knob. One does not reach the sweet spot as early as with the Reverb-amps with an additional gain stage in the preamp section. The Tremolux uses only one 12ax7 tube in the preamp section in both channels before the signal enters the*

phase inverter. The Tremolux is appreciated for its simple and basic circuit. A less complicated circuit means fewer things that can go wrong, less component drift issues, it's easier to service and has less potential for noise problems. The Tremolux is rarer than the other blackface piggy back amps since it was produced over a shorter period of time. It was discontinued in 1966 and had no silverface models to follow. All the narrow-panel tweed, blonde and blackface Tremoluxes are very valuable today with a well-deserved collector status. The 2×10" closed cabinet that came with the Tremolux is practically sized and performs well on most stages. Oxfords or CTS speakers were delivered with these cabinets in the blackface years. A 2×10" cabinet is easier to carry around than a 2×12" cabinet, and with the right (wrong) speakers it can almost get as loud as the twelves just with less spread, lower bass and mids. Jumping channels in the AA763 Tremolux can give you a wider spectrum of tones than by using just one channel. You may for example use the normal channel to deliver the bass tones and the vibrato channel for sparkling clean sound with bright switch on and zero bass. This will give you an full and meaty tone which you won't get using just one channel. The Tremolux came without a mid pot." – **Fenderguru**

According to **Wikipedia** it was Fender's first amp with built-in tremolo (vibrato). It has been described as a larger version of Fender's Tweed Deluxe.

Fender released a re-issue around 2011: the EC (Eric Clapton) Tremolux, with a single G12-65 speaker. **Here's a clip**.

Review of a 6G6 Tremolux in Vintage Guitar

This head is rated at 35 watt. It has two 6L6 power tubes and two channels: Normal and Vibrato. The model is based on the Vibrato channel. No reverb.

The Tremolux provides two inputs per channel. Fractal Audio's models of Fender amps are always based on the High input on the amp. To get the equivalent of the Low input, set Input Trim in the amp model to 0.500.

The original amp controls are: Treble, Bass, Volume Bright and Volume Normal and a Bright switch. There's no Middle tone control, so keep this at "5" in the model for authenticity. No Master Volume either, so keep the Master control in the model dimed.

Note that the range of the controls on this amp is 1 to 10, while the model's controls range 0 to 10. To translate the settings, use the **table at the back of this guide**.

> *"Even though we already have an excellent collection of models of legendary Fender amplifiers, the Tremolux deserves your attention. It's a great model IMHO. It stays rather clean (with single coils) for the most part of the volume control."* – yek

The Tremolux was a “piggy-back” amp: a head and a horizontal 2x10” cabinet.

Amplifier Specifications	
Year of Manufacture	1963-66
Circuit	AA763
Power	35 watt
Master Volume	No
Negative Feedback	Yes
Preamp Tubes	7025 (12AX7 Syl)
Power Amp Tubes	6L6
Tonestack Location	PRE

Tube Pre

Synopsis	Model of a 12AX7 preamp tube, plus a power amp model
Tips	Use this to warm up a source

This is not the model of a guitar amplifier. It's a generic model of a 12AX7 preamp tube, neutral and low-gain, with a power amp model added.

You can this model to warm up a source, such as vocals, an acoustic guitar or a synth, without much distortion.

You can also use it as a flat power amp-only model by keeping all tone controls at default. For example if use a separate preamp with your AX8 or Axe-Fx II.

> FRACTAL AUDIO SYSTEMS
>
> *"The Tube Pre model is neutral. The "Vintage" tone stack is flat. The Tube Pre model uses the Vintage tone stack. The Vintage tone stack is a passive EQ model but it has a flat response when the controls are at noon. If you want "active" EQ you need to set the type to Active."*
>
> *"If you only need power amp modeling, for example when using an external pre-amp through the Axe-Fx, use the Tube Pre model. It uses the Vintage tonestack which is flat when the tone controls are at noon."*

Two Stone J35 (Two-Rock Jet 35)

Synopsis	Models of the Two-Rock Jet 35, a Dumble-style amp with a unique 'chirp' on the pick attack and is said by Cliff to be one of the most unique amps he has modeled
Tips	Keep all tone controls at default when using the "1" model, for authenticity
Clips	**Two Rock Jet 35 Clean Jazzy Cat Pickups**
	Two Rock Jet 35 Lead Channel w/Jazzy Cat Pickups
	More videos, clips and comments
Cabinet/speaker	Cabinet with Celestion G12-65 speakers
Stock cabs	2x12 Double Amp – **Cab Pack 17**
Web, Manual	**Jet 22/35 Owners Manual**
Amp controls	Treble (pull: Bright), Mid (pull: boost), Bass (pull: Deep), Gain (pull: Bypass), Master (pull: Lead), Lead Gain, Lead Master

Two-Rock is most famous for being the manufacturer of amps used by John Mayer. Their Jet 35 is a Dumble-style 35 watt head with 6L6 power tubes. It has a single input and two channels: Clean and Lead.

> *"A peerless small venue or studio amp, specifically designed to deliver killer Two-Rock tone at a lower volume than any other series in the line. It can produce 22W through 2 6v6's or 35W through 2 6L6's. The Jet 22 and 35 have a Custom Reverb-type circuit but are more basic in their features. The Jet does not include the EQ1/EQ2 switch and has a simpler feature layout than the CR V3. It offers the basic EQ settings - bass, mid & treble - and it is closer to the EQ2 or the CR Sig in voicing. Same serial effects loop as the Custom Reverb, and same all-tube spring reverb. The Jet 35 has a pull bright, mid and deep boost, as well as the bypass and lead switches available by a "pull" pot on the front of the amp. "* – **Two-Rock**

We have two models of the Jet 35, both covering its Lead mode. “1” is based on the amp with Bypass engaged which cuts the EQ section out of the signal path, allowing more input signal to hit the gain stage. In the “2” model Bypass is off.

FRACTAL AUDIO SYSTEMS

“It's very smooth but there's this unique chirp or something that I've never heard in an amp before. When you hit the note there's this blast of high end that rapidly decays so it has an almost vocal quality. The frequency shaping is very different than most other amps.”

“The Two Rock is the most unique amp I've ever modeled. Almost like a violin but with this really cool chirp on the pick attack.”

“I prefer the “1” model.” – yek

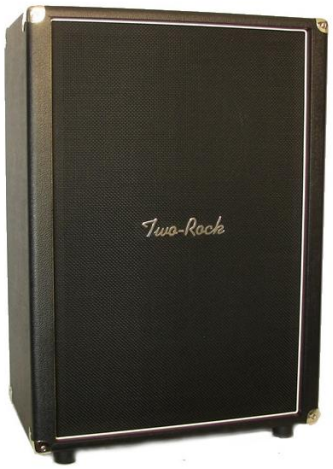
“Even though the J35 model is supposed to be a D-style amp model, I've used it successfully for rock leads. It cuts through the mix nicely and it's easy to generate musical feedback.” – yek

Controls on the Jet 35: Treble (pulled: Bright), Mid (pulled: boost), Bass (pulled: Deep), Gain (pulled: Bypass), Master (pulled: Lead mode), Lead Gain, Lead Master and Reverb.

If you want to keep amp model “1” authentic, keep the tone controls at default.

Two-Rocks cabinets are usually equipped with G12-65 speakers. You can use the 2x12 Double Amp stock cab because it’s the IR of a Two-Rock CR12 speaker which sounds similar to a G12-65.

Amplifier Specifications	
Power	35 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	6L6
Tonestack Location	PRE



TX Star (MESA Lone Star)

Synopsis	Models of the Clean and Drive channels of a MESA Lone Star, Andy Timmons' favorite amp
Tips	Clean model: turn down mids and bass and turn up Drive. In the Lead model follow the standard MESA procedure: turn down bass and mids and turn up Overdrive
Clips	**Andy Timmons w/his Mesa Boogie Lone Star Rig Part 1**
	Andy Timmons w/his Mesa Boogie Lone Star Rig Part 2
	More videos, clips and comments
Cabinet/speaker	Cabinet with Celestion C90 speakers
Stock cabs	2x12 TX Star, 1x12 Shadow – **Cab Pack 10**
Web, Manual	**Lone Star Series**
	Mesa/Boogie Lonestar Owner's Manual
Amp controls	Gain (=Drive), Drive (=Overdrive), Voicing switch (Normal/Thick/Thicker), Treble, Mid, Bass, Presence, Master, Tube/Diode Rectifier switch

MESA is a famous amp manufacturer, founded by Randall Smith in '71 in California. Smith started off with the "snakeskin" Mark amp, a modded Fender Princeton with increased gain and sustain). **More information**.

MESA's Lone Star amp is famous for being used by **Andy Timmons**.

> "*THE MOST RIDICULOUSLY AMAZING CLEANS, CLASSIC BREAKUP AND HIGH GAIN TONES WE HAVE EVER OFFERED IN A SINGLE AMPLIFIER*
>
> *From its conception, the Lone Star was targeted directly at exceeding players' expectations of both tone AND versatility from a vintage and/or modern boutique amp, without accepting compromise. Tonally it must be experienced to believe, as there are not enough adjectives*

and expletives to remotely do it justice. Simply put, the Lone Star is a sonic flood of Texas-sized proportions! The most ridiculously amazing cleans, classic breakup and high gain tones we have ever offered in a single amplifier! It is "stranded island" good and if you only try one amplifier, make sure it's the Lone Star – But be forewarned, prepare yourself for a new vice because it's not just an amp – IT'S AN ADDICTION! The Lone Star will change the standard by which you measure all other amps!" – **MESA**

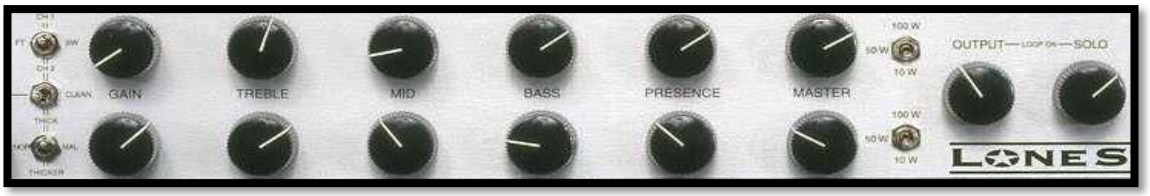
Review in Guitar Player

As far as I know, Fractal Audio modeled the original Lone Star ("Classic"), not the Special edition.

The Lone Star is a two-channel amp with a single input. Channel 1 is similar to a blackface Fender and capable of blues-like distortion. Channel 2 is either a clone of channel 1 with slightly more gain, or adds extra gain stages ("high gain" Drive mode: enables an additional gain control) by flipping a switch. A Voicing switch (Normal / Thick / Thicker) lets you fine-tune the Drive mode.

Fractal Audio modeled the Lone Star's clean tone as well as channel 2's Drive mode.

The current version of the Lone Star amp is driven by 6L6 (modeled) or EL34 tubes, and lets the player choose between 10 watt (Class A), 50 or 100 watt (Class A/B) power. Just like the Rectifier, the player can choose between Tube and Diode Rectifier Tracking. The Lone Star has a built-in Variac ("Tweed" setting) and reverb.



Each channel has Gain, Treble, Mid, Bass, Presence and Master controls. There's a separate Drive control for channel 2's Drive mode.

Check the videos **in the original thread** for Andy Timmons' clean and dirty amp settings.

The **manual** provides further in-depth information and sample settings.

MESA equips the Lone Star with Celestion C90 speakers, just like its Boogie series. We have a couple of those as stock cabs: 1x12 Shadow and 2x12 TX Star.

Amplifier Specifications	
Power	10/50/100 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A
Power Amp Tubes	6L6
Tonestack Location	PRE

USA Bass 400 (MESA Bass 400)

Synopsis	Models of a MESA Boogie Bass 400, with Bass Shift disabled/enabled
Clips	**Mesa Boogie Bass 400 Mic vs DI**
	More videos, clips and comments
Cabinet/speaker	MESA bass cabinet with eight 10” speakers
Web, Manual	**Bass 400 Plus Operating Instructions**
Amp controls	Middle, Bass (pull:Shift), Treble (pull:Shift), Master, Volume (pull: Bright), 7-band GEQ

MESA, the famous guitar amp manufacturer, also builds bass amps. The Bass 400 and 400+ models are tube-based rack amps. There's sparse information about the 400 model and about the differences between the 400 and 400+. The information below is mainly based on the 400+ model.

> “*Artists often call to rave about the Bass 400+ after switching from bi- or tri- amped rigs of up to a thousand watt—exclaiming the joy of stepping forward in the mix, even to the point of leading the band. String definition so articulate that the rhythm section locks together to become one machine of unstoppable momentum.*
>
> *Traditional style rotary tone controls, which shape the Bass 400’s all-tube character are fed from dual Inputs, one for modern active basses and the other for classic passive instruments. Each of these has its own separate tube input stage and volume control. A seven-band Graphic Equalizer further details the amp’s inherent musicality, making subtle or radical tonal changes possible and foot switchable.*
>
> *No less than twelve fan-cooled 6L6 output tubes deliver 500 watt of transient power peaks with cool reliability. And this is no dirty dozen: this is a four-rack, twelve-pack of pure mean punch. You’ll be happy to know that tube life is commonly reported to range from three to five years, and often longer.*” – **MESA**

This amp has separate inputs for passive and active instruments and offers two channels.

> “*CHANNEL ONE: Input 1 and Volume 1 offer a high-headroom preamp that you might find preferable for active type basses. The gain is slightly lower than Channel 2 and the tonal*

personality is slightly different. The Pull Bright switch built into Volume 1 can be great for funk bass, as it accentuates the harmonics above the Treble control region.

CHANNEL TWO: Input 2 and Volume 2 recreate the classic sounds of the D-180, predecessor to your Bass 400. The gain is slightly higher and may be better suited for traditional basses than Channel One." – **Manual**

Controls on the original amp: Middle, Bass (pull:Shift), Treble (pull:Shift), Master, Volume (pull: Bright), 7-band GEQ.

"*The Bass 400 Plus uses traditional type tone controls which have been especially tailored for bass, and whose ranges can be extended by use of the "Pull Shift" switches.*

The Treble control, when set high, becomes the most powerful of the three. At settings of 7 and above it will minimize the effect of the Bass and Middle, but they will become the stronger controls when the Treble is below 5. Most players find a "sweet spot" between 2 and 5 where the tonal balance is just right for them. Pulling out the Treble Shift alters its frequency center-point downward, toward the upper mid-range. (And since there is more musical energy at these frequencies, your amp will seem to get a little louder as well.) Using either Bright switch injects an extra dose of high treble.

The Bass control is wide-ranging and using the Pull Shift can boost its power. Your Bass 400 Plus (especially when used with our speaker cabinets) can produce more true fundamental tone than just about anything else. Its bottom-end response is truly "profound" and yet it avoids boominess and muddiness.

The Middle control is the subtlest of the three. Its purpose is filling the gap between the treble and bass frequencies." – manual

We have two models of this bass amp. Model "1" has Bass Shift disabled, while model "2" has Bass Shift engaged.

We have no MESA bass cabinets as stock cabs.

Amplifier Specifications	
Power	500 watt
Master Volume	Yes
Negative Feedback	No
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	6550
Tonestack Location	POST

USA Clean / USA Lead / USA Rhythm (MESA/Boogie Mark IV)

Synopsis	Multiple models of MESA/Boogie's Mark IV, famous for its smooth high gain tones and endorsement by John Petrucci
Tips	Keep bass and mids low, turn up both drives and use the 5-band GEQ (pre power amp) to fine-tune
Clips	**Mesa Boogie Mark IV – Playthrough** **Mesa Boogie Mark IV vs. Fender Twin Amp** **More videos, clips and comments**
Cabinet/speaker	Cabinet with Celestion C90 speakers
Stock cabs	4x12 USA, 4x12 Petrucci – **Several Cab Packs**
Web, Manual	**Mesa/Boogie Mark IV Owner's Manual**
Amp controls	Gain (=Input Drive), Treble, Bass, Mid, Lead Drive (=Overdrive), Presence, Master, various "pull" switches: Bright / Fat / Shift Presence, and Voicing (Mid Gain/Harmony)

MESA (or: MESA/Boogie) is a famous amp manufacturer, founded by Randall Smith in '71 in California. More company information is available on the **Mesa website.**

Some of the amps carry the MESA name (Rectifiers, Lone Star), while others are branded MESA/Boogie (Bass 400+, Mark series, TriAxis).

Randal Smith started MESA with the "snakeskin" Boogie amp, a modded Fender Princeton with increased gain and sustain, which made Santana famous (or was it the other way around?). Nowadays this amp is referred to as the Mark I. It was recently **re-issued**.

Since those early days the series has evolved. No longer called Boogie, they're now referred to as the Mark series. Mainly known for their smooth high gain tones, loved by metal heads as well as fusion

guitar players. John Petrucci from Dream Theater is probably the most famous endorser of the Mark series. Add Santana, Metallica, Keith Richards etc.

The current Mark model is the Mark Five, plus various low-powered versions and John Petrucci's JP-2C signature model. More information on **Wikipedia.**

Fractal Audio modeled the Mark IV ("USA" models). These are high on the list of favorite models of many owners of Fractal Audio gear.

> "*The MK V is basically a compendium of previous Mesa amps. There may be minor differences in tone due to circuit layout but nothing a few tweaks to the EQ can't fix*."
>
> "*I have a Mark IIC+, a Mark IV, a Mark V and a Triaxis. They're all completely different. Mesa always says things like "sounds the same as a IIC+" but the circuits are different and, probably most important, the knob tapers are completely different*."

Like all MESA amps, the Mark amps feature a LOT of knobs and switches. MESA states in the manual: "*Every possible useful feature is included*". This can make them difficult to dial in for those who suffer from Option Anxiety, Parameter Paralysis or Agony of Choice. Also, this is why modelling this amp requires a number of separate models.

The Mark IV is a 85 watt amp with a single input, 6L6 power tubes and reverb. It has three channels: Rhythm 1 (clean), Rhythm 2 (crunch) and Lead.

> "*Their compact size, stunning power and ultimate versatility have served legions of proud owners who see the Mark IV as the culmination of guitar amp evolution. The fifty thousand, II, III and IVs still in active duty are testament to this heritage.*
>
> *Three Big Sounds …with individual control and total conviction: Rhythm 1 feels bouncy and shimmers with freshness. The Lead Mode is blistering high-gain focus. And Rhythm 2 covers that elusive middle ground. This mode alone can produce an alternate Clean, a purring Blues or a grinding Crunch.*" – **MESA**

The amp's main controls are Gain, Bass, Mid, Treble, Presence and Master. "Pull" controls are:

- Rhythm I: Bright
- Rhythm II: Fat (more gain) and Shift Presence (higher frequency area)
- Lead: Fat (more gain), Bright (adds sizzle and gain) and Shift Presence (higher frequencies)

The Lead channel also as a Voicing Switch, where Mid Gain delivers more gain (meant for low volume levels), and Harmonics sounds more balanced (meant for high volume levels). It has an additional gain control (Lead Drive).

Models with two gain controls (Input Drive and Overdrive), such as USA Lead, always feel elastic and spongy, a real joy to play.

Most amps in the Mark series feature a graphic EQ (GEQ). This is an important part of the magic. The regular tone controls are used to dial in the "feel" and the GEQ is used to shape the tone. On many MESA amps, including the Mark series, you'll want to keep Bass really low to prevent flubbiness and then boost the low frequencies in the GEQ to compensate. That's why many users set the GEQ in a V-shape, mostly on the Lead channel only. In the models of the Mark IV make sure that the location of the GEQ is set to Pre Power Amp, to correctly simulate the real amp.

> FRACTAL AUDIO SYSTEMS
>
> "*Having owned multiple Mark IV's, multiple Triaxis's and a variety of other Boogie products, I can tell that the Mark series in general are a bitch to dial in. Once you figure them out though they are great amps. IMO, the key to a MKIV is to use the TMB to get the feel and the EQ to get the tone*."
>
> "*With the presence control at noon it's roughly neutral. Turn it down and you are actually boosting bass and reducing treble*."
>
> "*The key to a good Boogie sound, IMO, is the Fat Switch. This is the Treble Pull Shift on the IIC+ and the Pull Fat on the Mark IV. Mesa knew this and the Lead 2 modes on the Triaxis all had the treble shift engaged by default*."

The Mark IV has a built-in "Variac" Switch ("Tweed Power"), just like the Lone Star. It can be switched between Pentode (increases power and punch, clips harder) and Triode (softer and smoother, less headroom) mode. The amp runs in Class-A (2 power tubes, 30-50 watt) or in Simul-Class (simultaneous Class A and Class A/B, 70-85 watt).

The **manual** provides further in-depth information about each control and sample settings.

> FRACTAL AUDIO SYSTEMS
>
> *"There isn't any way to run the virtual power tubes in triode mode... but you can change the Power Tube Type to "300B" which is a triode. When you run a pentode (or beam tetrode) in triode mode you connect the screen to the anode which effectively defeats the screen. This lowers the output impedance of the plate significantly which, in turn, lowers the output impedance of the amp itself making the voltage output less dependent on the speaker impedance. Using the 300B tube type should get you pretty close."*

The amp models:

USA Clean: Rhythm 1 channel, which is the clean tone. It stays really clean for the most part of its Gain range. Use the Bright switch for Pull Bright.

USA Lead: Lead channel, with Voicing set to Harmonics, and Pull Bright off. Use the FAT switch for Pull Fat. Presence Shift is available as a switch under Presence. This is the model you may want to select when playing loud.

USA Lead+: Lead channel, with Voicing set to Mid Gain, and Pull Bright off. Use the FAT switch for Pull Fat. Presence Shift is available as a switch under Presence.

USA Lead Brt: Lead channel, with Voicing set to Harmonics, and Pull Bright on. Use the FAT switch for Pull Fat. Presence Shift is available as a switch under Presence.

USA Lead Brt+: Lead channel, with Voicing set to Mid Gain, and Pull Bright on. Use the FAT switch for Pull Fat. Presence Shift is available as a switch under Presence. This is the model you may want to select when playing at low volume levels.

USA Rhythm: Rhythm 2 channel. Use the FAT switch for Pull Fat. Presence Shift is available as a switch under Presence.

A large portion of the bandwidth of the internet these days is occupied by guitar players looking for ways to either replicate Van Halen's Brown Sound or John Petrucci's saturated high gain tones. You'll find many Petrucci-oriented threads and clips on Fractal Audio's forum and Axe-Change.

- **Petrucci's Mark IV settings**
- **Mikko's "Petrucci" presets for Axe-Fx II and AX8**
- **Cooper Carter's Petrucci "Astonishing" preset**

MESA equips its cabinets with Celestion C90 speakers. Look for the 4x12 USA stock cabs. Or you can try the Rectifier with V30s stock cabs. More of these IRs in several Cab Packs.

There's also a stock cab of Petrucci's own cab with V30s.

Amplifier Specifications	
Power	85 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	6L6
Tonestack Location	PRE

USA IIC+ and USA IIC++ (MESA/Boogie Mark IIC+)

Synopsis	Models of a MESA/Boogie Mark IIC+, the amp that introduced guitar players to liquid, smooth lead tones and scooped high gain
Tips	(IIC+) "*My settings for a killer high-gain tone: Input Drive 8.1 / Overdrive 9-10 / Bass 1 / Midrang 1.8 / Treble 8.9 / Presence 4.5 / MV 4 / Bright Switch:ON / 80 4.8 / 240 2.6 / 750 -4.5 / 2200 -0.2 / 6600 0.*"
	(IIC++) Turn down bass and mids, compensate bass with 5-band GEQ (pre power amp) if necessary
Sound Clips	**Mesa Boogie Mark IIc+ vs Mark III vs Mark IV**
	John Petrucci Mark Five vs Mark IIC+ Comparison
	More videos, clips and comments
Cabinet/speaker	Cabinet with EV-12L speakers
Stock cabs	None – **Cab Pack OBOT The Robot**
Web, Manual	**MESA/Boogie Mark II-C Operating Manual**
Amp controls	Volume (=Drive) with Pull:Bright, Treble with Pull:Shift (=FAT), Bass with Pull:Shift, Middle, Master Rhythm with Pull:Deep, Master Lead with Pull:Bright, Lead Drive (=Overdrive)

MESA (or: MESA/Boogie) is a famous amp manufacturer, founded by Randall Smith in '71 in California. More company information is available on the **Mesa website.**

Some of the amps carry the MESA name (Rectifiers, Lone Star), while others are branded MESA/Boogie (Bass 400+, Mark series, TriAxis).

Randal Smith started MESA with the "snake skin" Boogie amp, a modded Fender Princeton with increased gain and sustain, which made Santana famous (or was it the other way around?). Nowadays this amp is referred to as the Mark I. It was recently **re-issued**.

Since those early days the series has evolved. No longer called Boogie, they're now referred to as the Mark series. Mainly known for their smooth high gain tones, loved by metal heads as well as fusion guitar players. John Petrucci from Dream Theater is probably the most famous endorser of the Mark series. Add Santana, Metallica, Keith Richards etc. The current Mark model is the Mark Five, plus various low-powered versions and John Petrucci's JP-2C signature model. More information on **Wikipedia.** The Mark IIC+ introduced guitar players to liquid and smooth lead tones, and scooped high gain.

Fractal Audio modeled a couple of vintage Mark IIC+ amps: "USA IIC+" and "USA IIC++" models.

> "*And YES… it's a MARK IIC+! A next generation Re-Issue of the legendary amp so many Recording Artists, MESA enthusiasts and Tone Freaks the world over covet, often searching high and low to find.*" – **MESA**

The quote above refers to the JP-2C, John Petrucci's signature amp, demonstrating that the Mark IIC+ still is king of the hill.

> "*The Mark IIC also featured a new Pull Bass shift on the front panel, which slightly extended the low frequencies in the preamp.*
>
> *The Mark IIC+ was the last of the Mark II series and featured a more sensitive lead channel, because it features a dual cascading drive stage, whereas the IIA and IIB had a single stage drive circuit.*
>
> *Some owners/dealers/sellers say the "+" refers to an amp having an EQ, but they are mistaken. The mistake may have originated in the mid-1980s, when Mesa/Boogie issued their Studio .22 model and then changed the name to Studio .22+, which featured improved wiring, etc. All the Mark II models could be made with EQ as an option, but not all of them did. A Mark IIC+ could, for example, refer to a 100 watt amp without EQ or reverb.*
>
> *One can tell if a particular amp is a "+" by looking for a hand-written black "+" mark directly above where the power cord attaches to the back of the amp. Many dealers increase the price on a Mark IIC+ but often don't know anything about what the "+" means--they often don't even know where to find the "+" mark. Indeed, the mark itself can be forged. An owner can call Mesa/Boogie and ask them to check his or her serial number against their records. Mesa/Boogie only made about 1,400 Mark IIC amps before going to the Mark IIC+. Another cosmetic way of distinguishing a IIC from a IIC+ is the front panel. A IIC has the traditional "Gain Boost" pull switch integrated into the master volume, while a IIC+ replaced the switch with a Pull Deep bass booster.*
>
> *The Mark IIC+ Is currently the most coveted vintage Boogie, selling for twice its original price on average, because of its much praised "Liquid Lead" mode, and also, its warm, clean rhythm mode.*" – **Wikipedia**

Review in Vintage Guitar

The modeled amp has no graphic EQ. Unlike the original amp, you can use the GEQ in the amp model.

> "*Back when I was testing II C+'s every day in the burn-in room, I always thought the non-graphic amps had a certain attack and purity to the sound that the amps that had Graphic*

EQ on them just didn't have. There was an urgency and bold punch to the sound…they seemed tighter and more cohesive. Now granted, we made far more amps with the on-board EQ than without…probably 70% had the EQ, but not many people had the opportunity to compare day-in and day-out as I did. The EQ model had the shaping advantage…no doubt about it, and certainly all the sounds that II C+ are famous for were created with the EQ being an integral part of that sound, but when it came to the straight sound – no EQ – the non-graph model always got to me with its speed and authority. So it was that I came to be the obsessive/compulsive owner of no less than 8 of the II C+ Simul-Class, Reverb (non-graphic) heads. I hand picked these as being the best sounding amps - for me - out of the thousands of II C+ we made. Out of these eight amps I immediately found my favorite - which I dubbed "His Highness the C-ness" and which I used as a reference model to have our Chief Tech and Archival Guru Michael Bendinelli, copy exactly on the other 7 amps. Everything was measured and scrutinized (pot values, resistors, caps, transformers swapped, etc.) and duplicated, and in the end… all 8 sounded alike. (...) In our endless comparisons of many original II C+'s - both EQ and non-EQ samples - alongside this golden reference, we discovered that I wasn't just Tone-dreaming. There was actually a difference between the EQ model and those non-EQ models. It all came down to a coupling capacitor at the end of the EQ circuit that feeds the driver. In the EQ model, it was a great big cap that let a lot of sub-low pass, slowing down the sound and making it fatter. In my amp - a non-EQ version - this cap was smaller and didn't let as much sub-low through - which speeds up the sound and makes everything tighter and more urgent. There it was, a simple part…but it made all the difference in the time domain. Yet there were so many more of these slower, fatter sounding EQ versions out in the world… that many more people were used to hearing as their reference. It would not do well to set the MARK V permanently to this faster, tighter way. Too many players would have a tough time adjusting and when they compared the two amps side by side, the V would sound faster and tighter yes, but also stripped of sub-low and therefore maybe not as fat in comparison to their trusty II C+ Graphic model or MARK IV - which also had the bigger coupling cap."
– Douglas West

The original IIC+ operates in Class-A (two power tubes) or Simul-Class (two power tubes in Class-A and the others in Class A/B). It has a single input, 6L6 power tubes, reverb and 2 channels: Rhythm and Lead. It has been modeled in Simul-Class mode.

"*If you want the sound of the non-SimulClass version set Triode 1 Plate Freq to 1350 Hz*."

The main controls are Volume (pull: Bright), Treble (pull: Shift = Fat), Bass (pull: Shift), Middle, Master rhythm (pull: Deep), Lead Drive and Master Lead (pull: Bright).

The Rhythm (clean) channel hasn't been modeled, so all models refer to the Lead channel:

USA IIC+: Lead Master Pull Bright off, Pull Deep off

USA IIC+ Bright: Lead Master Pull Bright on, Pull Deep off

USA IIC+ Deep: Lead Master Pull Bright off, Pull Deep on

USA IIC+ BRT/DP: Lead Master Pull Bright on, Pull Deep on

"*The Pull Bright on the Volume knob is the classic "Bright Cap" which engages a capacitor across the potentiometer. This is already modeled in the Axe-Fx via the Bright Switch. The Pull Bright on the Lead Master knob engages a 0.22uF cap on the cathode of the last triode in the overdrive circuit. As there is no switch for this in the Axe-Fx it requires a separate model. Cathode caps are very common in tube amps. If the value is large the stage has more gain and the response is relatively flat. If the value is small the stage has more gain at higher frequencies. Amp designers use cathode caps to shape the frequency response. Caps in the range of 0.1 to 1.0 uF are commonly used to reduce bass response. A cathode cap works by decreasing the amount of negative feedback through shunting higher frequencies to ground. This reduced negative feedback increases the gain (and reduces linearity). FWIW the Axe-Fx is the only modeler of which I'm aware that actually models triodes using a feedback technique. Other modelers use static waveshapers. The Axe-Fx triode models incorporate feedback so if there is a virtual cathode cap the stage is less linear in addition to having more gain*."

"*The key to a good Boogie sound, IMO, is the Fat Switch. This is the Treble Pull Shift on the IIC+ and the Pull Fat on the Mark IV. Mesa knew this and the Lead 2 modes on the Triaxis all had the treble shift engaged by default*."

"*The IIC+ does not have a gain boost and doesn't need one. There is plenty of gain. The Pull Deep switch engages a large cathode cap on the final triode stage. With Pull Deep off there is actually a shelving response into the power amp (bass is reduced)*."

"*To emulate Pull Shift on the Bass control: "Put a Tilt EQ before the amp block with a frequency of 320 Hz and a gain of -3 dB. Set the Level to +3 dB*".

For another take on the IIC+ sound, try the USA PRE Yellow model. This is the IIC+ mode of MESA's TriAxis preamp. It has Pull Shift and Pull Bright enabled by default. Some players find this model easier to dial in and prefer its sound to the IIC+.

"*I have a Mark IIC+, a Mark IV, a Mark V and a Triaxis. They're all completely different. Mesa always says things like "sounds the same as a IIC+" but the circuits are different and, probably most important, the knob tapers are completely different*."

Quantum firmware 3.03 brought us the ”IIC++” model, also referred to as “Metallica’s IIC+”. As far as we know this is not a model of an original IIC++ (which is a modded IIC+), but rather a different original IIC+, probably non-SimulClass.

According to a Metallica sound engineer this model is part of Metallica’s live sound:

> “*This model is part of our live sound. This amp was removed when the new MKII models were added and firmware updated. I asked if it could be ported for Q3 as I was having a difficult time migrating to the updated firmware and retaining our earlier work.*”

IIC+ amps do not have as many features as the later Mark IV and V models. Still, they aren’t easy to dial in.

(IIC+ model)

“*The old version of the model incorrectly referenced the Mark IV tone stack. These tone stacks are identical except for the taper of the mid pot. The IIC+ has a linear pot and the Mark IV has a Log10 pot. I had it backwards in my earlier comments. My guess is that Mesa found that turning the midrange down sounds best (and it does) so they changed the pot taper to do this automatically since noon on a Log10 pot is equal to a 1.0 on a linear pot.*

Commensurate with (1) I found myself turning the midrange down as well as the bass and turning the treble up.

I think the default Master Volume value is a bit high so you may want to turn that down. I’ve reduced the default for Quantum 2.03.

Turn the bright switch on. Every bit of information I’ve found says that people typically used the Pull Bright on the Volume knob. This is equivalent to the Bright switch under the Treble control on the model. I always turn it on and I’ve set it on by default for Q2.03.

USE THE EQ. The tone stack is pre-distortion which is atypical for a high-gain amp. Tone stacks are almost always post-distortion. Since the tone stack is pre-distortion you need to do your post distortion tone shaping using the EQ. The tone controls set the feel and the distortion texture, the EQ shapes the final tone. I like to do a gentle V-curve.

These were my settings for a killer high-gain tone: Model: USA IIC+ / Input Drive: 8.1 / Overdrive: 9-10 / Bass: 1.0 / Midrange: 1.8 / Treble: 8.9 / Presence: 4.5 / MV: 4.0 / Level: -20 dB / Bright Switch ON / 80 Hz: 4.8 / 240 Hz: 2.6 / 750 Hz: -4.5 / 2200: -0.2 / 6600: 0.”

The IIC++ is easier to dial in. Turn down the mids and bass, and compensate by using the GEQ if necessary.

MESA put EV-12L speakers in the IIC+. Try stock cab 1x12L (RW). Note that the Red Wirez stock cabs have been captured using an neutral microphone, so consider adding a mic model in the Cab block. Red Wire sells more IRs of original IIC+ cabinets.

Amplifier Specifications	
Power	100 watt
Master Volume	Yes
Negative Feedback	Yes
Preamp Tubes	12AX7A
Power Amp Tubes	6L6
Tonestack Location	PRE

USA IIC++ (modded MESA/Boogie Mark IIC+)

Please refer to the section on the **USA IIC+ model**.

USA Pre (MESA/Boogie TriAxis preamp)

Synopsis	Models of a Mesa/Boogie TriAxis preamp, which covers tones from Mark I, Mark IIC+ and Mark IV
Tips	Dial down bass and mids, increase Treble, keep Presence at default and turn down the Bright knob, and change the 5-band GEQ into a V-shape
Clips	**John Petrucci Dream Theater Triaxis / 2:90 / 2014 Rig Tour Demo**
	More videos, clips and comments
Web, Manual	**TriAxis programmable pre-amp**
	TriAxis Owner's Manual
Amp controls	Gain (=Drive), Treble, Middle, Bass, Lead Drive (=Overdrive), Master, Presence (=Bright), Dynamic Voice (=GEQ)

The TriAxis is the preamp-only rackmount version of the Mark series, with tubes, an analog path, digital controls and MIDI-programmable. According to MESA it covers tones from the Mark I, Mark IIC+ and Mark IV.

> "*Digital disbelievers scoffed at the very idea of packing five 12AX7's and 25 years of tube tone heritage into one rack space of pure magic...but there they are...five little tone bottles, glowing quietly-all too ready to rock the house. Eight separate modes deliver the elusive creamy gain of the Mark I, the heralded focus of the Mark IIC+, the scooped Rhythm of the Mark IV, and a modified British lead mode. But these are just a few of the classic sounds at your fingertips.*" – **MESA**

For a long time John Petrucci has relied on a couple of TriAxis units to get his favorite Mark IIC+ tones on the road, as did Metallica. The TriAxis also was the amp in the live rig of an unknown guitar player, named Cliff Chase.

The TriAxis has these modes:

- Rhythm/Green: vintage fat clean (Mark I, Blackface)
- Rhythm/Yellow: modern hyper-clean (Mark IV)
- Lead 1/Green: vintage Mark I Lead
- Lead 1/Yellow: vintage Mark 1 gain boost
- Lead 1/Red: classic British lead
- Lead 2/Green: medium Mark IV Lead gain
- Lead 2/Yellow: classic Mark IIC+ Lead
- Lead 2/Red: "shred"

FRACTAL AUDIO SYSTEMS

"I used a Triaxis for, shoot, I dunno, over a decade before designing the Axe-Fx. I have two of them. So I'd say I'm pretty familiar with the tones. To my ears (and my measurement equipment), the Axe-Fx models are spot-on."

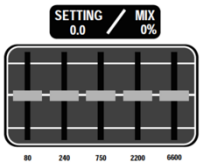
Its digital controls are: Gain (model: Input Drive), Treble, Middle, Bass, Master, Presence. The Lead modes have another gain control: Lead Drive 1 / 2 (model: Overdrive).

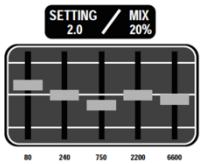
Here's what the **manual** states about the Presence control:

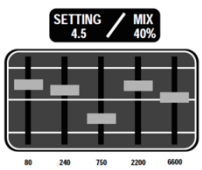
> "*This control usually regulates either brightness or negative feedback in the power section of an amplifier. In the TriAxis a whole new approach to this traditional circuit was taken. An actual dynamic feedback loop that compresses the highs and upper treble frequencies makes this PRESENCE control the first of its kind.*
>
> *As the PRESENCE control is increased, more highs are allowed to pass. The lower the signal strength at the input of this control, the more highs pass through it. The lower region of the PRESENCE control dampens these high harmonics. The greater the signal strength at the circuit input becomes, the darker the sound becomes. So...if you set the PRESENCE control high and pick softly (sending a small signal through the PRESENCE control circuit) the highs will be very prominent in the mix.*
>
> *If you decrease the PRESENCE control and pick harder (increasing the signal strength at the PRESENCE control circuit input) the high harmonics will be very subtle. In other words, the PRESENCE control helps enhance whichever direction you're trying to go in with your sound and it does so dynamically! Most players love the way tube circuits react to subtle nuances in style...This PRESENCE control circuit takes that idea a few steps further. When you're "going off" on the treble strings in a solo and you go for an expressive bend and lay hard into the note...TriAxis works with you! If you picked the note hard with the PRESENCE control set low, that note would become bigger, rounder and more compressed.*
>
> *Likewise, if you were doing some low growling work on the bass strings and the PRESENCE control was set high...you could relax into this segment and let the PRESENCE control make the edge. Most everyone that we know always wishes their high notes could be fatter and their low notes to be more discernible and articulate...highs where you need them, lack of highs where you don't. Make sense...? If not on paper, then you need to plug in and experience the way this dynamic PRESENCE control can enhance your playing, especially when you are soloing.*"

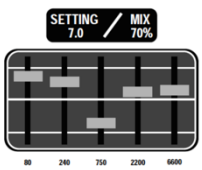
The TriAxis was the reason for Fractal Audio to add a Bright knob (not the Bright switch under treble) to the amp models. That Bright knob represents the Presence parameter in the TriAxis; leave the Presence parameter in the amp models at default.

> "*It's just speculating but the Presence circuit in the TriAxis may have been the inspiration for Fractal Audio to develop the Dynamic Presence and Dynamic Depth parameters."* – yek









The TriAxis features Dynamic Voice, which is a preset EQ curve. This is not modeled. You can use the graphic EQ in the Amp block to simulate the 5-band "pre power amp" graphic EQ, present on Mark amps.

FRACTAL AUDIO SYSTEMS

"I have a Mark IIC+, a Mark IV, a Mark V and a Triaxis. They're all completely different. Mesa always says things like "sounds the same as a IIC+" but the circuits are different and, probably most important, the knob tapers are completely different."

"Mesa claims it's based on the IIC+ but it's different. The bright cap is different, the mid resistor is much greater, the source impedance of the drive "pot" is different, etc."

USA Pre Clean: Rhythm/Green mode, a vintage fat clean (Mark I, blackface)

"More vintage, "old Black Face" style circuit. A beyond-vintage clean sound with bubbly, elastic highs and big breathy lows. This mode also shines at many other settings as well. As the GAIN and MIDRANGE controls are increased, 5.5 – 7.5 a whole new flavor appears. This hotter region performs as a killer driving, yet still clean, rhythm sound. Bold and pushed, this dynamic range of tones works great for Blues rhythm grooves or more aggressive "alternative" clean parts or lines. This is probably the most powerful and widest of possible rhythm sounds aboard TriAxis, perfect for when it's your turn in the spotlight. Go ahead...Crank it! Rhythm Green loves to rock.

With the GAIN Control at 10 and the Midrange also high, this mode is one of the coolest solo sounds around. Reduce the Bass a little and dial in the Treble to set your pick attack, and you have a touch-sensitive lead mode that won't completely saturate your guitars' natural sound.

This is the sound that helped put Boogies in the hands of widely acclaimed guitar heroes of the 70's and early 80's, when Blues/Fusion changed and revoiced rock with tasty medium gain sounds. This circuit was sired by the classic 4x10 Fender Bassman and later redefined in Mark 1 Boogies. Classic, bare-bones, roots players will love how well this setting responds to pickup output. These virtuosos of the volume knob can take or leave foot switching in favor of a circuit that lets them ride the gain from their guitar. Rhythm Green works extremely well for this and will surprise even the most hardcore vintage heads.

NOTE: With a very high GAIN control setting in Rhythm Green, it will probably be necessary to reduce the MASTER Control substantially. The dynamic response of this mode makes it the hottest, output-wise, of the eight modes.

NOTE: The GAIN control has a Dynamic "Bright" circuit built into it. At low Gain settings the upper harmonics will pass freely through this control, producing the sweetest, brightest sounds. The more the GAIN control is increased, the less of these upper harmonics pass through this control and the warmer the sound becomes. All the way up on the GAIN control virtually removes these frequencies from the mix. You may want to use the PRESENCE control to put some of them back at the highest Gain settings. Use the MIDRANGE control in conjunction with the BASS control to balance the warmth with the upper harmonics at low Gain settings and possibly reduce the PRESENCE control until you achieve the desired blend."

USA Pre LD1 RED: classic British lead, based on the TriAxis "TX-4 board"

"(..) pre-tone-control gain circuits. This means the boosting of gain by progressively "slamming" the 12AX7 tubes occurs before the tone controls. This method of squeezing gain through the tone controls tends to lend itself to a larger, yet slightly less focused sound. Many players rely on this looser, more spread out sound to be able to get emotional with their soloing style. This circuit also delivers large amounts of bass very well. As opposed to a "rear end" style circuit, this type of circuit lets you pump larger quantities of bass through the tone controls without increased flub or cloudiness. Players that lean toward extremely high gain metal or hard rock sounds will find the LEAD 1 modes much more suited to the maxed out regions of gain required to produce over the top, believable crunch and grind.

We especially recommend the Lead1 Red mode for this application. (…) This aggressive mode shares much of the circuitry with both Lead 1 Green and Yellow and then adds extra focus and punch in the upper midrange. This mid-forward voicing lends a more urgent, tight character to the mix and is perfect for showcasing Lead 1's heavier side. Because of this added midrange, the Red mode slices through a mix in the sonic region where the rock snare lives and is especially great for crunch rhythm in either classic or modern gain realms. Another attribute of this EQ'ing is that higher settings of the Bass control remain tighter and track better at higher gain settings than in the other two Lead 1 modes. This additional bump in the mid frequencies also allows more Treble to be dialed in which increases the gain without sounding thin. Try setting the GAIN to 8.0, BASS on 6.5, the TREBLE on 7.0 and LEAD 1 DRIVE on 6.0 to audition this scheme."

USA Pre LD2 GRN: medium Mark IV Lead

"(…) post-tone control gain circuit. (...) With heralded veterans of this design the Mark II-B, II-C+, Mark III, and Mark IV...the rear-end lead legacy lives on...stronger than ever! It is in LEAD 2 that we celebrate these classic lead sounds and offer up a couple variations on the theme. Again, these are the more articulate and focused lead sounds. Some players that grew up playing non-MESA amplifiers may find these dry and stiff at first, but have patience, and you will come to enjoy these modes. There is simply less "slop around the note" in these modes making them a sort of magnifying glass for inaccurate playing. Though at times they are more revealing, you will find that they hold up better in a mix and are much more behaved on a stage full of live microphones. Usually they are also much better for any kind of rhythmic high gain playing where you need urgent attack and tight cut-off points.

The Green circuit is taken directly from a Mark IV Lead channel. Green is focused gain. It uses the concept of the Mark IV's Mid Gain, a feature added in 1989, to enhance the attack and to lower the medium midrange "meat" of the sound. By enhancing this part of the spectrum a rich, bold, yet singing quality is produced. Thick would be the best way to describe its' character, while Punchy would accurately describe its' attack. It does saturate the note fairly completely, especially at high gain settings, but the attack envelope is so right at lower gain settings, that roots players usually love this Green mode. Its' thicker midrange punch really helps melody lines played on the high strings, particularly high on the neck. With higher Gain and Drive settings the high notes soar and sing, yet don't get too soupy to be heard in a big mix. Green is especially helpful in getting rid of unwanted fret buzz or other annoying idiosyncrasies of an instrument that may be set up wrong. It tends to cover up buzz leaving just the note with greater purity. This is most apparent when a weak single coil is used for soloing. LEAD 2 Green is the cure for this dilemma. It adds the needed frequencies and its' gain is the steroid habit these weaklings need to deliver a bold lead voice. Green is the mode

of choice anytime you need to deliver a statement and you don't have the luxury of several tracks. It is single note authority at its' expressive best.

NOTE: As we mentioned earlier in the Lead 1 Red description, the setting of the GAIN control in all modes is crucial to achieving the sound you are looking for. Each mode has its' magical optimum setting for this control and we can only give you our view and a few factory settings to demonstrate our thinking on this. Ultimately, it may vary for each mode, guitar, player, and environment and it's on you to discover what fits your situation. In Lead 2 we have come to a simple "rule of thumb" you might say as to where we prefer the GAIN control to achieve the best blend of attack and quality of tone. Try this first, then deviate from there in all three Lead 2 modes. We like to see the Gain at either 7.0 or 7.5 (depending on your instruments output) for lower gain blues sounds or very articulate medium gain solo sounds. When higher gain or straight up radical rock sounds are in demand, a GAIN control setting of 7.5 or 8.0 again depending on pickup output) should be more than enough.

With higher than recommended Gain settings a flubby, indistinct attack will occur that the BASS control will have difficulty in removing. Lower than optimum Gain settings will produce excessive high harmonic content, thin the notes out and even add a buzzy quality to the sound."

USA Pre LD2 YLW: Mark IIC+ Lead

"*This is Boogie. This mode is the sound that started the craze that became what is slanged as the "California" sound or the "L.A." guitar tone. Lukather, Landau, Keaggy, Lynch, Gillis, Prince, and Metallica catapulted this sound into the forefront of hit making guitar sounds throughout the eighties. Metallica continues to search high and low for pristine C+ Heads to add to their amplifier collection – deeming them essential for recording, but you don't have to! The Yellow mode is the reincarnation of the fabled Mark II-C+ Lead mode. Its blend of bold punch and evenly stacked liquid harmonics produces a lead voice that transforms any player who spends enough time to let it...into a virtuoso of feeling, soul, and statement. It growls with ferocity in the low range, staying tight and urgent. A "thonk and chirp" is experienced traveling through the midrange frequencies. Then suddenly, as if someone redialed for the highs, an explosive, yet liquid, top end comes ripping out as you squeeze every luscious note out of the treble strings. Sound almost sexual? Primal? Well many a II-C+ junkie...(there are roughly 4500 of them,) will confess...broken hearts are often cured from a couple weeks rocking with a C+. Seriously, the blend of this mode is so amazing that most players are finding new great sounds 2 and 3 years after their first ear to ear grin.*

While the Yellow mode excels at medium to high gain settings because of these nicely stacked harmonics, don't underestimate Yellow for the rootsier low gain sounds. Sure as you can make high gain sounds chirp and squeal on command, low gain sounds possess the sting essential to tortured blues soloing. Yellow doesn't get as saturated as the Green mode in LEAD 2 making it the choice for skinnier, more cutting and clean blues lines. The PRESENCE control works extremely well in the Yellow mode dialing in and out the harmonic content of a given preset. At low PRESENCE and TREBLE control settings the sound is more horn or voice like. With higher settings of the Presence and possibly Treble the character becomes much more searing and harmonic."

USA Pre LD2 RED: "shred"

"This mode is made for shred. In fact, it might be better named LEAD 2 Shred. It is much more aggressive in the top end than its' yellow counterpart, boasting much enhanced upper

harmonics. Though it shares almost identical basic architecture...additional parts switch in when Red is chosen that give this once balanced, well behaved mode a downright ugly attitude. Harmonics are boosted and a bit of lower treble is dipped to give this Red a sizzling edge that is unique to this mode only. The harmonic edge not only benefits high notes...It does wonders for the grinding "Z's" needed for bodacious low end crunch. This enhances the growl on the low strings as well as it adds cut and sizzle to the higher strings. The frequencies enhanced by this circuit are slightly higher than those found in conventional power section PRESENCE controls. They are also higher, more rebellious and defined than those adjusted by the action of TriAxis' PRESENCE control. These highs have that out-of-control-vibe to them, that falling-apart-yet-loosely-held-together quality that is often associated with modified early British heads using Euro-style EL34 power tubes for their ponies. This elusive sound affects the feel of the strings and players accustomed to such sounds have difficulty feeling at home on an amp that doesn't deliver these loose highs."

"*LD2 Yellow is my absolute favorite. It's the IIC+ mode. It has Pull Shift and Pull Bright enabled by default. I find this model easier to dial in than the IIC+ models, and it sounds awesome*." – yek

FRACTAL AUDIO SYSTEMS

"*I have a Mark IIC+, a Mark IV, a Mark V and a Triaxis. They're all completely different. Mesa always says things like "sounds the same as a IIC+" but the circuits are different and, probably most important, the knob tapers are completely different.*"

"*The key to a good Boogie sound, IMO, is the Fat Switch. This is the treble Pull Shift on the IIC+ and the Pull Fat on the Mark IV. Mesa knew this and the Lead 2 modes on the Triaxis all had the treble shift engaged by default*."

"*Added the "Bright" control to the Amp block. This high treble control is a shelving filter between the preamp and power amp and may be used to darken or brighten the output of the preamp. This control also accurately replicates the "Presence" control found in the Mesa Triaxis preamp when set to negative values (the Presence control in the Triaxis is actually a high frequency cut shelving filter)*."

"*I can nail the sound of my Triaxis now by setting it (Bright) around 9:00 – 10:00.*"

"*10 on the Triaxis would be 0 dB on the Bright parameter. Anything below 10 is equivalent to less than noon on the Bright parameter. The "Presence" control on a Triaxis is always a hi cut, it never boosts. The Bright parameter is not an exact match to the Triaxis Presence control though. It is a fixed shelving filter. The Triaxis Presence control is passive so the center frequency changes with the amount of cut. It also changes the load on the plate which distorts the frequency response a bit too. The Presence parameter should be set to 5.00, which is neutral (see the manual for details).*"

"*I used a Triaxis for, shoot, I dunno, over a decade before designing the Axe-Fx. I have two of them. So I'd say I'm pretty familiar with the tones. To my ears (and my measurement equipment), the Axe-Fx models are spot-on*."

"Note that these were modeled with the Triaxis Presence control at maximum as this control is actually a hi-cut control. Also note that the mid control in the model has far more range than the preamp. At a value of 5.0 the responses will match but the amount of mid cut on the Axe-Fx is greater."

"Mesa claims it's based on the IIC+ but it's different. The bright cap is different, the mid resistor is much greater, the source impedance of the drive "pot" is different, etc."

(Quantum 7) "The USA Pre models now all use a MarkIV power amp model. The 2:90 power amp is basically the same as a MarkIV and does have a presence shift but it's accessed through a jack on the back (Voicing)."

Taken from the forum: there are four revisions of the TriAxis. The hardware changes only affect LD1 Red mode. The original mode was **LD1 Red "British Shred**". It was aggressive and shrill in the upper highs. A new board (TX-4) was made which emulated the Rectifier sound and was named **LD1 Red "Recto Vintage"**. After that MESA modified the TX4 board to sound warmer and more balanced like the Rectifier's Orange and called that "Fat Mode". This TX-4 board alone has had four different revisions (A, B, C, D). Some people claim that the "D" revision is the best sounding. Then TX-4 was replaced TX-5 and named **LD1 Red "Searing Boogie Lead"**. That's based on the Lone Star and the least popular of all.

The power amp model in the USA Pre models is the same as in the USA Lead models (Mark IV). That power amp is similar to MESA's 2:90 power amp and therefore offers the Presence Shift option (switch under Presence).

Amplifier Specifications	
Preamp Tubes	12AX7A (Syl)

USA Sub Blues (MESA/Boogie Subway Blues)

Synopsis	Model of MESA's Subway Blues, a simple blues
Clips	**Mesa Boogie Subway Blues**
	Subway Blues Tinkering
	More videos, clips and comments
Cabinet/speaker	Single Eminence 10" Black Shadow
Web, Manual	**Mesa/Boogie Subway Blues**
Amp controls	Volume (=Drive), Treble, Middle, Bass

MESA is known for amplifiers with loads of features. The Subway Blues is something else. It's part of the Subway series of portable, simple amps. Targeted at the blues and often compared to amps such as the Fender Blues Junior.

> "*New York City. Here are a few combos so compact, you can carry one on your right shoulder, your guitar on the left, your subway change in one hand and still have one hand free...for your weapon of choice. And if you get where you're going, you'll be amazed at how huge it sounds.*" – MESA

It uses two EL84 tubes to generate 20 watt of power and has built-in reverb.

The controls are Volume, Bass, Middle, Treble and Reverb.

The amp has a Bright and a FAT voicing, through separate inputs (later models have a switch). It's not been disclosed whether the FAT voicing can be recalled by engaging the FAT switch in the amp model.

> "*A nice amp for clean tones. When turned up, the overdrive gets boxy.*" – yek

The Subway Blues combo has a 10" Eminence Black Shadow speaker. Try the stock 1x10 Prince tone cabs, or the Blues Junior cab.

Amplifier Specifications	
Power	20 watt
Master Volume	No
Negative Feedback	Yes
Preamp Tubes	12AX7A
Power Amp Tubes	EL84
Tonestack Location	PRE

Vibra-King (custom Fender Vibro-King)

Synopsis	Models of a Fender Vibro-King, called by some "The King of Fender Amps", and the favorite amp of Gary Clark Jr. and Robert Cray
Tips	Use the FAT model and set the desired gain with Input Drive between 3 and 6
Clips	**Review Demo – Fender Vibro-King 20th Anniversary Edition**
	Guthrie Trapp Demos the Fender Vibro-King
	More videos, clips and comments
Cabinet/speaker	Cabinet with three 10" speakers
Stock cabs	3x10 Vibrato King – **Cab Pack 2**
Web, Manual	**Vibro-King 20th Anniversary Edition**
Amp controls	Volume (=Drive), Treble, Bass, Middle, FAT switch

> *"Fender introduced the Vibro-King in 1993 to great acclaim, marking a return to a great hand-wired amp tradition while including a previously unavailable selection of sought-after features. In the two decades since, guitarists and amp aficionados everywhere have prized the enduringly classic Vibro-King as one of the most touch-sensitive amps ever, with sparkling-clean shimmer at lower volumes and powerfully thick overdrive when cranked up."* – **Fender**

The Vibro-King is called the "King of Fender amps" by some. It's a modern take on classic blackface Fender tones. Vibro-King players include Gary Clark Jr., Eric Clapton, Pete Townsend and Robert Cray. Fender manufacturers an expensive 20th Anniversary edition.

> *"Players seem to either love or hate the Vibro-King. If you're not into reverb or tremolo you can steer away from this amp. 56% of the controls on the faceplate is about reverb and*

tremolo. The reverb has the same controls as a Fender standalone reverb unit offering a wide selection of reverb tones. Personally we like to reduce the tone and mix and go for a longer dwell. The tremolo can go really deep and slow, more than you might be used to with the blackface and silverface Fenders." – **Fenderguru**

The amp has two 6L6 tubes for 60 watt power, a solid-state rectifier and built-in reverb and vibrato. It's said to be an very heavy amp.

As usual this amp has two inputs. Fractal Audio's models are always based on the High input on the amp. To get the equivalent of the Low input, set Input Trim in the amp model to 0.500.

FRACTAL AUDIO SYSTEMS

"*The model is based on the custom version which has higher plate voltages which causes more overdrive on the power tubes.*"

Controls: Volume, Treble, Bass, Middle and a FAT switch, plus vibrato and reverb. There's no Bright switch.

Note that the range of the controls is different, so you can't copy those settings exactly to the amp model controls. To translate the settings, use the **table at the back of this guide**.

The FAT switch switches the amp from clean into a cranked mode for soloing. We have models of this amp with the FAT switch engaged and one with the FAT switch disengaged. As mentioned in this **Premier Guitar** article, some players only play with FAT engaged.

The Vibro-King has three 10" speakers. We have got these as a stock cab: 3x10 Vibrato.

"*This amp came originally in 1993 with the vintage style blue Eminence Alnicos, and after that Jensen P10r followed by different sorts of speakers from Celestion. Changing the speakers is an easy move for Fender to attract new and old customers again by altering the tone a little bit and calling the new model for "Anniversary model" etc. We find that the original blue frame Eminence give you more of a brownface tone while modern and louder speakers, (like the Weber 10a125/f125) points you into a more scooped blackface direction. We have found some of the best modern Jimmie Vaughan and Robert Cray tones with the blue frame Eminence Alnicos in this amp (maybe also with the Jensen P10r). The tone is very direct, snappy, responsive and you will hear all the trebly details from your fingers and strings. This tone is not for beginners but for those with a serious attitude for tone. If you are into more rock'n'roll, or a fat, chunky clean sound, you should go for other speakers with more low end.*" – Fenderguru.com

Amplifier Specifications	
Power	60 watt
Master Volume	No
Negative Feedback	No
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	6L6
Tonestack Location	POST

Vibrato Lux (Fender Vibrolux, 6G11)

Synopsis	Model of a 1963 brown Fender Vibrolux, the amp used on Dire Straits' first album
Tips	"*I turn down Bass a little, increase Treble a little and that's it: a great vintage Fender tone*" – Yek
Clips	**1961 Fender Vibrolux Demo & Teardown**
	1963 Vibrolux
	More videos, clips and comments
Cabinet/speaker	Combo with 10" or 12" speaker(s)
Stock cabs	1x12 Brown, 1x12 Vibrato Lux, 2x10 Vibrato Lux – **Cab Packs 1 and 10**
Amp controls	Volume (=Drive), Treble, Bass

This model is based on a rare brownface Fender Vibrolux (not Vibrolux Reverb), which were produced between 1961 and 1963 only.

"Brown" refers to the period between the Tweed and blackface models: '59 – '63. Brown Fenders typically are cleaner than the Tweed versions, but still warmer and dirtier than the blackface models. Like the Tweed amps, brown models are very collectible. **More information.**

The Vibrolux is famous because Mark Knopfler used it to record the Sultans of Swing album. Rory Gallagher also played one. More info: **Ingo Raven**.

It is rated at 35 watt and has 6L6 power tubes, two inputs and a Normal and a Bright channel. The Bright channel has been modeled.

Fractal Audio's models of Fender amps are always based on the High input on the amp. To get the equivalent of the Low input, set Input Trim in the amp model to 0.500.

The controls on the Bright channel are: Volume, Bass and Treble, plus vibrato controls. There's no Bright switch.

Note that the range of the controls is different, so you can't copy those settings exactly to the amp model controls. To translate the settings, use the **table at the back of this guide**.

About the circuit numbers: in general the first number indicates the decennium (6 is 60s). The letter indicates the circuit revision, and the last number indicates the amp model.

FRACTAL AUDIO SYSTEMS

"Early Dire Straits tone is a Vibrolux (Vibrato Lux model). The Vibrato Lux model is based on the same model and year amp used on the eponymous album. There's a cab in there too."

The Vibrolux was available as a 1x12 combo or with a single or double 10" speakers. We have these as stocks cabs: 1x12 Brown, 1x12 Vibrato Lux, 2x10 Vibrato Lux.

"I turn down Bass a little, increase Treble a little and that's it: a great vintage Fender tone. Increase Drive for more, eh, drive." – yek

Amplifier Specifications	
Year of Manufacture	1963
Circuit	6G11
Power	35 watt
Master Volume	No
Negative Feedback	Yes
Preamp Tubes	7025 (12AX7A Syl)
Power Amp Tubes	6L6
Tonestack Location	PRE

Mark Knopfler's (far right on left picture) and Rory Gallagher's (rightpicture) Vibroluxes:

Vibrato Verb (Fender Vibroverb)

Synopsis	Models of various Fender Vibroverb amps, Stevie Ray Vaughan's favorite
Tips	"*I use the AA model with 1x15 Empire and Vibrato Verb cabs, dial back Bass and use Input Drive to set the desired amount of drive. If you find the AA or CS model too dark, engage the Bright switch*" – yek
Clips	**SRV '64 Fender Vibroverb "Cesar Diaz" Modded Amplifier** **fenderguru.com – Vibroverb and Super Reverb** **More videos, clips and comments**
Cabinet/speaker	Single 15" speaker (Jensen, JBM or Eminence)
Stock cabs	1x15 Thunderbolt, 1x15 Tweed Pro, 1x15 Empire, 2x12 Doubleshow – **Cab Pack 21**
Amp controls	Volume (=Drive), Bright switch, Treble, Bass

The Vibroverb is one of the most sought-after vintage Fender amps. Mainly because Stevie Ray Vaughan (SRV) used to play two of them. And **Mark Knopfler** played a '63 brownface model.

> "*Stevie Ray Vaughan's musical influence has made the Fender Vibroverb the most sought after and hyped of all Fender amps. He played many other amps too, Super Reverb, Dumble and Marshalls. In studio he used dozens of amps that were thrown at him. For some reason the Vibroverb has become the most famous and is now widely associated with his signature tone (though you can reproduce his tone with most Fender amps with the right speakers). On the vintage amp market the blackface Vibroverb sells for three to four times as much as the price for other 6L6 Fender amps, sometimes even more than the legendary 4×10" narrow panel tweed Bassman. Since Fender did not continue the Vibroverb after the CBS takeover in 1965, most likely because players didn't desire 1×15" amps at that time, there are only a few*

blackface Vibroverb amps out there. Given the hype and popularity, these few Vibroverbs are extremely valuable and collectible. So, what is so special with the Vibroverb? First, the 15" speaker sets it apart from most guitar amps. While most guitar amps have multiple 10" and 12" speakers the Vibroverb came with one big Jensen C15n or JBLd130f, the last one with a aluminium dust cap that can be hard to tame. Otherwise the blackface Vibroverb is very similar to the other blackface and silverface AB763 Fender amps. In fact, there aren't any different features or technical improvements in the Vibroverb that justifies its popularity. It's all about emotions. But that's what music is all about; emotions.

The Vibroverb belongs to the 6L6 Fender family. It is powerful and loud, but in a different way than the 10" and 12"-amps. The Vibroverb did not sell very well in 64 and 65. Players probably thought the amp was suited for bass amps, we're not sure. The Vibroverb did score among steel guitar players at the time. The 15" speakers are firm in the bass and have lots of sparkle but most importantly, they have an enormous spread carrying the lower mids to anyone on stage. Mid frequencies is exactly what you need on stage in an electrical band. The mids will blend in nicely with the bass, drums, piano and horns. It will not interfere with the bass like a 4×10" setup does. Of course this is a matter of taste, but a guitar tone with strong mids will contribute to a rich overall melodic footprint in an electrical band."
– **Fenderguru.com**

"*The Fender Vibroverb was a 40-watt combo guitar amplifier originally manufactured in 1963 and 1964. It was the first Fender amplifier to incorporate on-board reverb which became a standard feature on many high-end Fender tube amps during the 1960s and 1970s.*

(Blackface era) The Vibroverb, likewise, was given the new blackface cosmetics and somewhat different circuitry (AA763). Still rated at 40 watt, the new design possessed the new blackface "optical coupler" vibrato circuit (in place of the tweed-style vibrato found in its immediate predecessor), and a bright switch. Gone also were the two ten-inch Oxford speakers; in their place was a single fifteen-inch speaker. Both JBL and Jensen speakers were used, depending what was on hand at the time of production.

Production on the blackface Vibroverb was discontinued in late 1964.

Due to low production numbers and their use by Stevie Ray Vaughan, 1964 (blackface) Vibroverbs have become highly collectable. Vaughan acquired two 1964 blackface Vibroverbs in the late 1970s or early 1980s at two different times and locations, with sequential serial numbers. The Vibroverbs used by Vaughan were also modified by Cesar Diaz in a number of ways." – **Wikipedia**

The blackface Vibroverb has 6L6 power tubes, low and high inputs, and a Normal and a Bright channel (model: Bright channel). It has Volume, Bass and Treble controls and a Bright switch, plus reverb and vibrato controls. The Bright switch is engaged only in the AB model.

Fractal Audio's models of Fender amps are always based on the High input on the amp. To get the equivalent of the Low input, set Input Trim in the amp model to 0.500.

Note that the range of the controls is different, so you can't copy those settings exactly to the amp model controls. To translate the settings, use the **table at the back of this guide.**

We have models of these Vibroverbs:

Vibrato Verb: the Axe-Fx Ultra model.

Vibrato Verb AA: based on Cliff's'64 blackface Vibroverb with the AA763 circuit.

Vibrato Verb AB: based on AB763 circuit.

Vibrato Verb CS: based on the '64 Vibroverb Custom, which was produced between 2003-2008, with the Mod switch on.

About the Custom re-issue: Fender produced a this amp, in collaboration with Cesar Diaz, between 2003 and 2008. It was a modified version of the SRV's blackface Vibroverb. It was switchable between tube (original) and solid-state (diode) rectification and the Normal channel and Vibrato effect could be disabled for more preamp gain.

"I use the AA model with a 1x15 cab, dial back Bass and use Input Drive to set the desired amount of drive. If you find the AA or CS model too dark, engage the Bright switch." – yek

Blackface Vibroverbs and re-issues were paired to a 15" speaker (Jensen C15N, JBL D130 or Eminence. Try the 1x15 Empire and/or 1x15 Vibrato Verb stock cab.

Cliff's original '64 Vibroverb:

FRACTAL AUDIO SYSTEMS

"The Transformer Matching value for the CS model is based on the output transformer in the actual amp. Legend has it that SRV used a Bassman transformer which would lead to significant overmatching. To replicate this increase Xfrmr Match to around 1.8."

Amplifier Specifications	1964 BF AA	AB763	'64 Custom Shop Re-issue
Year of Manufacture	1964	1963-64	2003-08
Circuit	AA763	AB763	N/A
Power	40 watt	40 watt	50 watt
Master Volume	No	No	No
Negative Feedback	Yes	Yes	Yes
Preamp Tubes	7025 (12AX7A Syl)	7025 (12AX7A Syl)	12AX7A (Syl)
Power Amp Tubes	6L6	6L6	6L6
Tonestack Location	PRE	PRE	PRE

Wrecker Express (Trainwreck Express)

Synopsis	Model of a Trainwreck Express, one of the most valuable amps on the world
Tips	Turn down Bass and turn off Bright
Clips	**Trainwreck Express & Liverpool Demos**
	1959 Les Paul & Trainwreck Amp
	65amps Lunch with Dan – A real Trainwreck Express
	More videos, clips and comments
Cabinet/speaker	4x12 cabinet with Celestion G12Ms (greenbacks)
Web, Manual	**Trainwreck**
Amp controls	Volume (=Drive), Bright switch, Treble, Mid, Bass, Presence

After Dumble the most expensive guitar amplifiers are Trainwrecks. Those boutique amps were created by (the late) Ken Fischer. **The Amp Garage** provides more Trainwreck info. Cliff owns a Trainwreck. AFAIK the exact model is unknown

> "*What makes Trainwreck amps so good*?
>
> *To start, they are so responsive. You can set up a Trainwreck so that you can control the amount of distortion in your sound with the volume knob but, depending on how much overdrive you like, you can go from gorgeous clean to gorgeous crunch by merely altering your touch.*
>
> *The tone of these amps is incredible but if you don't have tone in your fingers, don't expect a 'wreck to make you sound good. Remember, they are totally responsive. If you have a bad sounding guitar or you put bad sounding tubes in the amp, don't expect it to sound great.*
>
> *The unprecedented clarity of these amps makes it possible to hear the tonal differences created by your guitar cable, your speaker cable, removing your pick-guard, or whatever. A*

Trainwreck head will allow you to distinguish the quality of every link in your signal chain. Clarity also means that when the amp is distorting, you can still hear all the nuances of your playing. That Ken made amps with this degree of clarity that still sounded beautiful, even under distortion, was his unique genius. As a result of the incredibly nuanced high-end of a Trainwreck head, the guitar tends to cut through the overall mix of the band.

Trainwreck amps are also built incredibly well, built to last. They very rarely need servicing." – **Trainwreck.com**

The Trainwreck Express sounds like a Marshall Plexi.

The Express has either EL34 or 6V6 tubes. The model is based on EL34s.

Like all Trainwreck amps, the Express is a simple amp. Its controls are: Volume, Treble, Mid, Bass, Presence and a Bright switch (switched on at default, try turning it off). Because there's no Master the Volume control not only sets the volume level but gain as well.

Premier Guitar: The Last Trainwreck

FRACTAL AUDIO SYSTEMS

"*The secret to a Trainwreck is the output transformer. The impedance ratio is about twice that of other amps. I.e. typical 50W Marshall has a primary impedance of about 3200 ohms. A Trainwreck is about 6500 ohms. The causes the power tubes to clip much sooner*."

G12M (greenback) speakers are a logical choice for this amp and amp model.

Amplifier Specifications	
Master Volume	No
Negative Feedback	Yes
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	EL34
Tonestack Location	PRE

Wrecker Liverpool (Trainwreck Liverpool)

Synopsis	Model of a Trainwreck Liverpool, a fusion between the Express (preamp) and Rocket (power amp), sort of Marshall meets VOX
Tips	Maybe turn down Bass a little and you're done
Clips	**Trainwreck Express & Liverpool Demos**
	Trainwreck Liverpool – Daisy '91 with '59 Les Paul & '62 Stratocaster
	Carter Vintage Guitars – J.D. Simo on a '62 Strat through a Trainwreck Liverpool
	More videos, clips and comments
Cabinet/speaker	4x12 cabinet with Celestion G12Ms (greenbacks) or Alnicos
Web, Manual	**Trainwreck**
Amp controls	Volume (=Drive), Bright switch, Treble, Mid, Bass, Presence

After Dumble the most expensive guitar amplifiers are Trainwrecks. Those boutique amps were created by (the late) Ken Fischer. **The Amp Garage** provides more Trainwreck info. Cliff owns a Trainwreck. AFAIK the exact model is unknown.

Read the Wrecker Express article for more details on Trainwreck amplifiers.

This model is a fusion between the Trainwreck Express preamp and Rocket power amp. In other words: Marshall meets VOX. The amp has EL84 power tubes.

Like all Trainwreck amps, the Liverpool is a simple amp. Its controls are: Volume, Treble, Mid, Bass, Presence and Bright switch. Because there's no Master the Volume control not only sets the volume level but gain as well.

G12M (greenback) speakers are a logical choice for this amp and amp model.

Amplifier Specifications	
Master Volume	No
Negative Feedback	Yes
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	EL84
Tonestack Location	PRE

Wrecker Rocket (Trainwreck Rocket)

Synopsis	Model of a Trainwreck Rocket, a boutique amp based on a VOX AC30 Top Boost, with a tube rectifier
Tips	"*The model is quite bass-heavy, I have to turn Bass down and use Hi Cut to control the highs. Other than that, I can pretty much leave all controls at default*" – Yek
Clips	**Trainwreck Rocket VS Express Amp Builds**
	Trainwreck Rocket – with Les Paul
	More videos, clips and comments
Cabinet/speaker	4x12 cabinet with Celestion G12Ms (greenbacks) or Alnicos
Web, Manual	**Trainwreck**
Amp controls	Volume (=Drive), Treble, Bass, Cut (=Hi Cut)

After Dumble the most expensive guitar amplifiers are Trainwrecks. Those boutique amps were created by (the late) Ken Fischer. **The Amp Garage** provides more Trainwreck info. Cliff owns a Trainwreck. AFAIK the exact model is unknown.

The model is based on the Trainwreck Rocket. Only a few Rockets exist. Some say that it's the best-sounding (Trainwreck) amp ever made.

Read the Wrecker Express article for more details on Trainwreck amplifiers.

Powered by EL84 tubes, the Trainwreck Rocket sounds like a VOX AC30 Top Boost with a rectifier.

> "*While all Trainwreck models are quite rare, the Rocket is by far the rarest with only about 8 ever made. The Rocket was the 3rd and last official Trainwreck model built by Ken and his increasing illness prevented him from building very many. This is a real shame because she is truly the finest, most magical sounding British style EL84 amp ever made. The clean tones are rich and gorgeous with a crystal airiness enveloping the chime that no other EL84 amp*

possesses. The overdrive is warm and creamy with singing sustain and magnificent harmonic complexity. Ken often referred to his personal Rocket amp as Reality Check because once you played her all the other great amps sounded less special. "Marcy" sets the tonal benchmark and is deservedly one of the most valuable guitar amps in the world.

Trainwrecks are very responsive amps with rich harmonic complexity and beautifully balance tone. The amp's gorgeous clean and benchmark overdrive tones can be controlled with the guitar's volume control or by merely altering your touch. Trainwrecks set the standard for warmth, fullness, responsiveness, note articulation, touch sensitivity, string to string separation, fret board feel, clarity, dynamics and singing sustain. Most people feel a Trainwreck Rocket is the finest sounding, tube rectified British style EL84 amp ever built and finding one has become next to impossible." – Ultra Sound

We also have a Ruby Rocket model, which is also based on the Trainwreck Rocket. The models sound different though and need different tone settings.

The Rocket is a simple amp: Volume (model: Input Drive), Bass, Treble, Cut (model: Hi Cut). Cut is a passive tone control in the output stage of the amplifier, to adjust the contour of treble frequencies. Because there's no Master the Volume control not only sets the volume level but gain as well.

G12M (greenback) speakers are a logical choice for this amp and amp model.

"*Note that the model is quite bass-heavy, I have to turn Bass down and control the highs with Hi Cut. But other than that, I can pretty much leave all controls at default*." – yek

Amplifier Specifications	
Master Volume	No
Negative Feedback	No
Preamp Tubes	12AX7A (Syl)
Power Amp Tubes	EL84
Tonestack Location	PRE

Amp Categories

Fender Circuits

Circuit	Amp	Model
5E3	Deluxe	DELUXE TWEED
5F1	Champ	5F1 TWEED
5F2-A	Princeton (Tweed)	PRINCE TONE
5F6-A	Bassman 1959	59 BASSGUY
5F8	Twin 1959 High Power	5F8 TWEED
6G11	Vibrolux 1963	VIBRATO LUX
6G12	Concert 1960	6G12 CONCERT
6G4	Super 1960	6G4 SUPER
AA763	Tremolux	TREMOLO LUX
	Vibroverb (Blackface)	VIBRATO VERB AA
AA964	Princeton (Non-Reverb)	PRINCE TONE NR
	Princeton Reverb 1966	PRINCE TONE REV
AB165	Bassman 1965	65 BASSGUY BASS
		65 BASSGUY NRML
AB763	Band Master 1968	BAND-COMMANDER
	Deluxe Reverb	DELUXE VERB NRM
		DELUXE VERB VIB
	Super Reverb	SUPER VERB NRM
		SUPER VERB VIB
	Twin Reverb 1966	DOUBLE VERB NRM
		DOUBLE VERB VIB
	Vibroverb (AB763 circuit)	VIBRATO VERB AB
AC561	Twin Reverb 1971	DOUBLE VERB SF

VOX-type Amps

The following amp models have no negative feedback, are equipped with EL84 power tubes (in some cases: EL34) and sound similar to a VOX.

Manufacturer	Amp	Model
Budda	Twinmaster	BUTTERY
Orange	AD30HTC	CITRUS A30 CLN
		CITRUS A30 DRTY
Matchless	DC30	MATCHBOX D-30
	Chieftain	BOUTIQUE 1
		BOUTIQUE 2
Morgan	AC20 Deluxe	AC-20 12AX7 B
		AC-20 12AX7 T
		AC-20 EF86 B
		AC-20 EF86 T
Paul Ruby	Rocket	RUBY ROCKET
		RUBY ROCKET BRT
Trainwreck	Rocket	WRECKER ROCKET
VOX	AC15 Top Boost	CLASS-A 15W TB
VOX	AC30	CLASS-A 30W
		CLASS-A 30W BRT
		CLASS-A 30W HOT
		CLASS-A 30W TB

D-type Amps

Manufacturer	Amp	Model
Bludotone	Ojai	BLUDOJAI
Carol-Ann	OD2	CA OD-2
Dumble	Overdrive Special	ODS-100
Fuchs	Overdrive Supreme	FOX ODS
Two-Rock	Jet 35	TWO STONE J35

Preamps

Models of preamps (combined with a generic or matched power amp model).

Manufacturer	Preamp	Model
Bogner	Fish	BOGFISH BROWN
		BOGFISH STRATO
Marshall	JMP-1	BRIT PRE
		JMPRE-1 OD1
		JMPRE-1 OD1 BS
		JMPRE-1 OD2
		JMPRE-1 OD2 BS
CAE	3+ SE	CA3+ CLEAN
		CA3+ LEAD
		CA3+ RHY
Soldano	X88R	SOLO 88 CLEAN
		SOLO 88 LEAD
		SOLO 88 RHYTHM
Soldano	X99	SOLO 99 CLEAN
		SOLO 99 LEAD
MESA/Boogie	TriAxis	USA PRE CLEAN
		USA PRE LD1 RED
		USA PRE LD2 GREEN
		USA PRE LD2 RED
		USA PRE LD2 YLW

References

Amplifier Information

- **The Amp Garage**
- **Ampwares.com**
- **Fender Amp Field Guide**
- **Fenderguru**
- **Legendary Tones**
- **Premier Guitar**
- **Vintage Guitar**

YouTube

- **Johan Segeborn**

Commercial Impulse Responses

Established manufacturers of commercial impulse response libraries:

- **3 Sigma Audio**
- **CabIR.eu**
- **Fractal Audio**
- **ML Sound Lab**
- **OwnHammer**
- **The Amp Factory**
- **RedWirez**
- **York Audio**

Fan sites, articles and more

- **Rory Gallagher's official site** (source for pictures of the '59 Bassman, Concert and Vibrolux amps – because I'm a fan, simviz)
- **Ingo Raven's Mark Knopfler site**
- **Inside Joe Bonamassa's Home Collection**

Fractal Forum Content

“Fender/Amp Model“ translation table, created by Barhrecords:

Real Amp Settings To Fractal Settings

Amp	Fractal If Amp 1 to 10	Fractal If Amp 0 to 11	Fractal If Amp 1 to 12
0.00		0.00	
0.50		0.45	
1.00	0.00	0.91	0.00
1.50	0.56	1.36	0.45
2.00	1.11	1.82	0.91
2.50	1.67	2.27	1.36
3.00	2.22	2.73	1.82
3.50	2.78	3.18	2.27
4.00	3.33	3.64	2.73
4.50	3.89	4.09	3.18
5.00	4.44	4.55	3.64
5.50	5.00	5.00	4.09
6.00	5.56	5.45	4.55
6.50	6.11	5.91	5.00
7.00	6.67	6.36	5.45
7.50	7.22	6.82	5.91
8.00	7.78	7.27	6.36
8.50	8.33	7.73	6.82
9.00	8.89	8.18	7.27
9.50	9.44	8.64	7.73
10.00	10.00	9.09	8.18
10.50		9.55	8.64
11.00		10.00	9.09
11.50			9.55
12.00			10.00

the end