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Technical Document Distribution

Brand:	**Farfisa**
Model	**Fast 3**
Product:	**Portable Organ**
Description:	**Service Manual**

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NOTE: Large original over-sized drawings will need to be taped together. We feel this is better than reducing them and losing the fine details.

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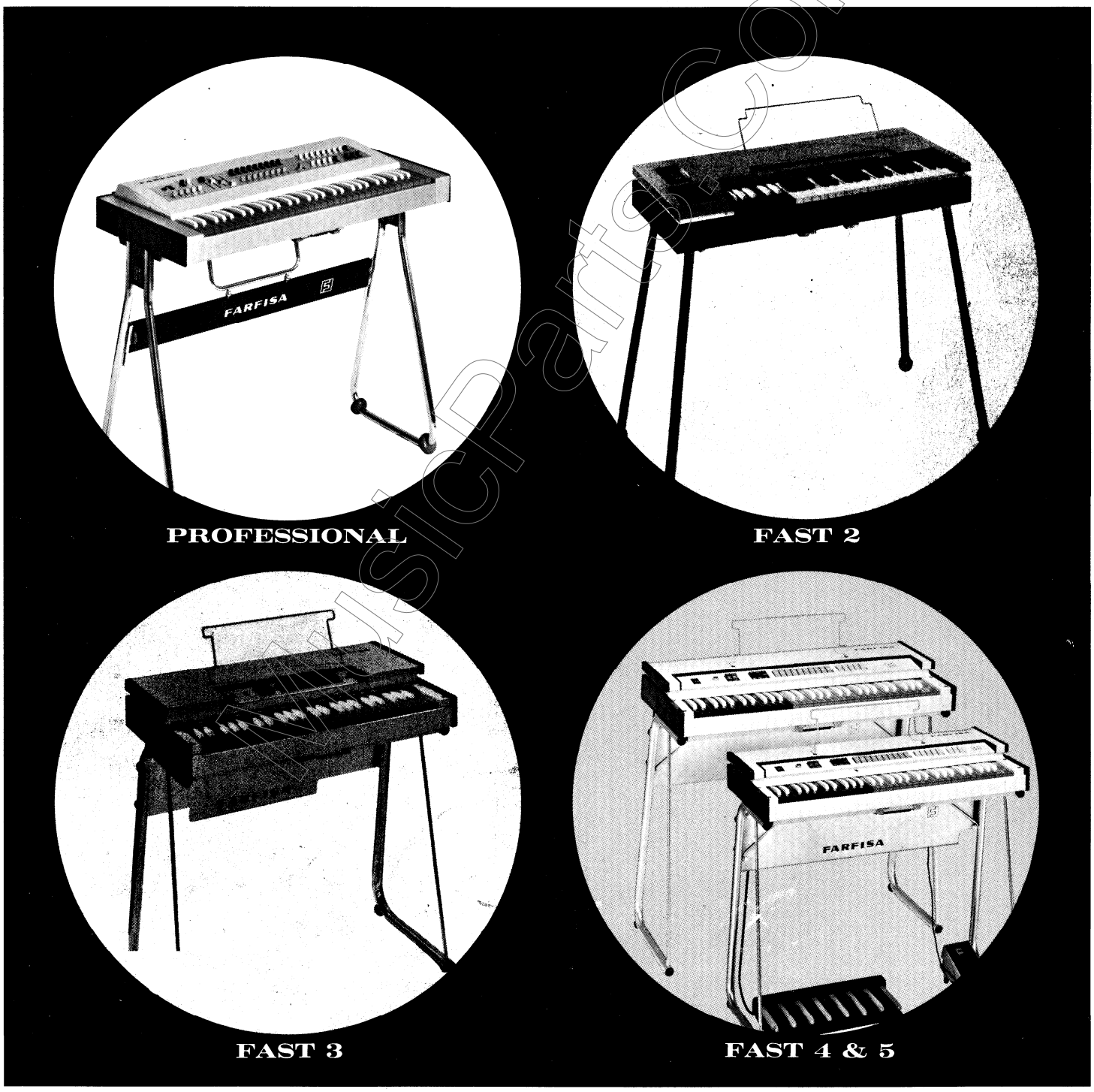
Fast 3

FARFISA
PORTABLE
ORGANS

SERVICE MANUAL



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SPECIFICATIONS

Keyboard: 49 notes C to C
Manual Bass: 12 notes C to B
Overall Volume Control
Optional Swell Pedal

Voice Stops (violet tabs):
- Bass 16′
- Clarinet 16′
- Flute 8′
- Oboe 8′
- Trumpet 8′
- Strings 8′
- Flute 4′

Vibrato Stops (blue tabs):
- Vibrato On/Off
- Slow / Fast

Manual Bass Selector tab

Manual Bass Volume Balance Control tab

Mains Switch

Pilot Light

Mains Voltage (for USA and CANADA): 117 Volt AC

Dimensions: 31″ x 17″ x 32.5″

Weight: 44 lbs. — 20 Kg.

Metal cabinet covered with washable vinyl—plastic edges—metal folding legs—retractable carrying handle—removable music rack.

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ADJUSTMENTS
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VR1 VIBRATO SPEED

Vibrato speed may be adjusted using a small regular screwdriver. Proper speed is between 6-7 Hertz with the Vibrato speed tabswitch set in the Fast position.

VR3 D. C. BALANCE

A slight amount of D C. voltage is supplied through the D C. Balance Adj to the 16′-8′-4′ manual keyswitches. This is done to minimize key click. To adjust the D. C. Balance:

1. Turn on the Flute 4′, Flute 8′ and Bass 16′ Tabswitches.
2. Repeatedly depress several manual keys while turning the D. C. Balance Adj. (Use a small regular screwdriver)
3. Set Adjustment at point of least amount of D. C. click.

L1 TUNING

The 12 Tone Generator Master Oscillator circuits determine the pitch of the entire organ. Adjusting any one of the Master Oscillator tuning adjustments will tune all the notes of that tone generator. Tuning any group of 12 notes automatically tunes the entire organ

Tuning may be accomplished by using a small nonconductive screwdriver and one of the following methods:

1. Set of 12 Tuning Forks. Zero beat the note of the organ to be tuned to the sound of the corresponding tuning fork. This is a highly accurate tuning method.

2 Strobo Conn or Strobo Tuner· This is done by visual observation of a strob pattern. Simply follow directions supplied with the Strobotuner. This is a highly accurate tuning method.

3. Another instrument: Zero beat the note of the organ to be tuned to the sound of a corresponding note on an "in tune" instrument (piano, organ, accordion, etc) Accuracy is dependent upon the tuning of the other instruments. This method is especially desirable when the other instrument is to be played with the organ.

4. One Tuning Fork· One tuning fork is used to set the "temperment" (one note) The other 11 notes are set by ear using the number of beats between "4ths" and "5ths" This requires a trained ear Accuracy is dependent upon the tuner

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TRANSISTOR VOLTAGES

Q No.	Circuit	Collector	Emitter	Base
Q1	Vib. Oscillator	+5V*	+8.4V	+7.5V
Q2	Vib. Emitter Follower	ϕV	+2.5V*	+2V*
Q3	Master Oscillator	+1.8V	+7.4V	+7.4V
Q4	Buffer	+3.6V	+8.4V	+8.4V
Q5	1st Divider	+4.4V	+8.4V	+10V
Q6	1st Divider	+4.4V	+8.4V	+10V
Q7	2nd Divider	+4.4V	+8.4V	+10V
Q8	2nd Divider	+4.4V	+8.4V	+10V
Q9	3rd Divider	+4 4V	+8.4V	+10V
Q10	3rd Divider	+4.4V	+8.4V	+10V
Q11	16′ Solo Divider	+4.4V	+7.4V	+7.4V
Q12	16′ Solo Divider	+4.4V	+7.4V	+7.4V
Q13	Preamp #1	+6V	+.2V	+.1V
Q14	Preamp #2	+4.4V	+.2V	+.1V
Q15	Output Preamp	+4.4V	+1.5V	+.2V

*Pulse Voltage

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IMPORTANT

The above voltage readings were measured to ground with a Simpson Model 260 V.O.M. Voltage readings shown are intended only as a guide in troubleshooting. Voltages will vary from organ to organ due to normal manufacturing tolerances.

CAUTION

Exercise extreme care when making voltage measurements. Accidental shorting of transistor leads may damage the transistor.

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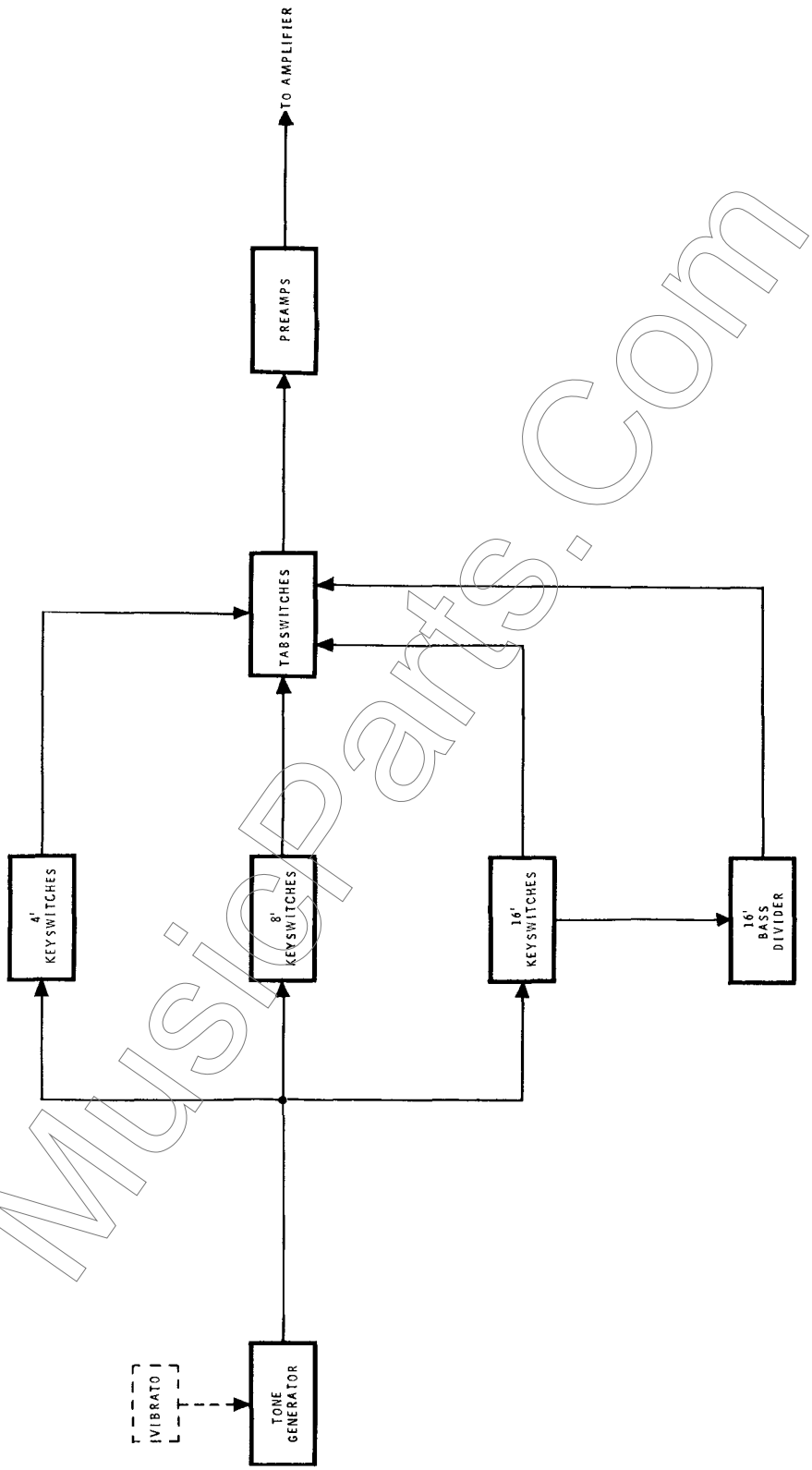
BLOCK DIAGRAM

F.A.S.T. 3



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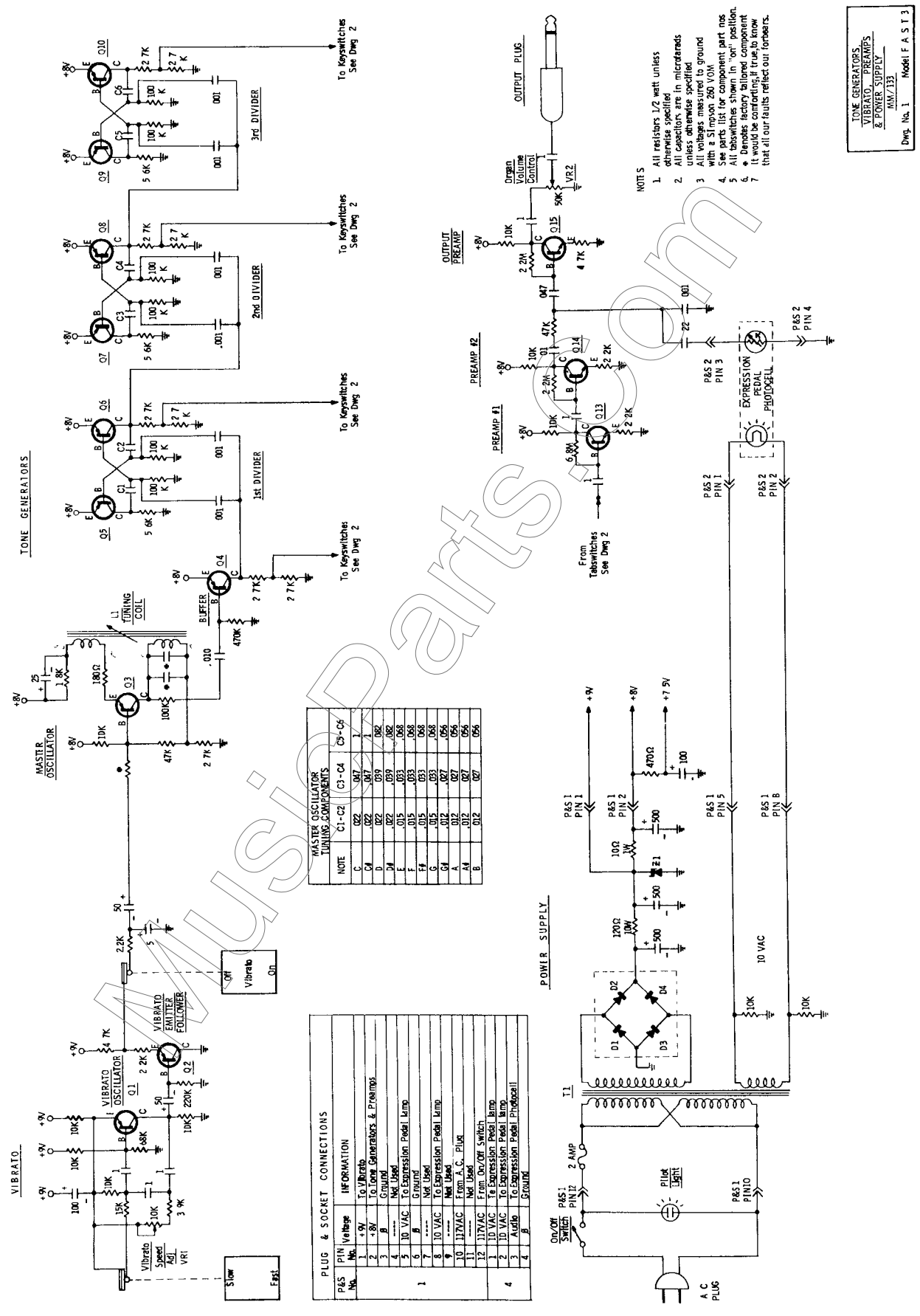

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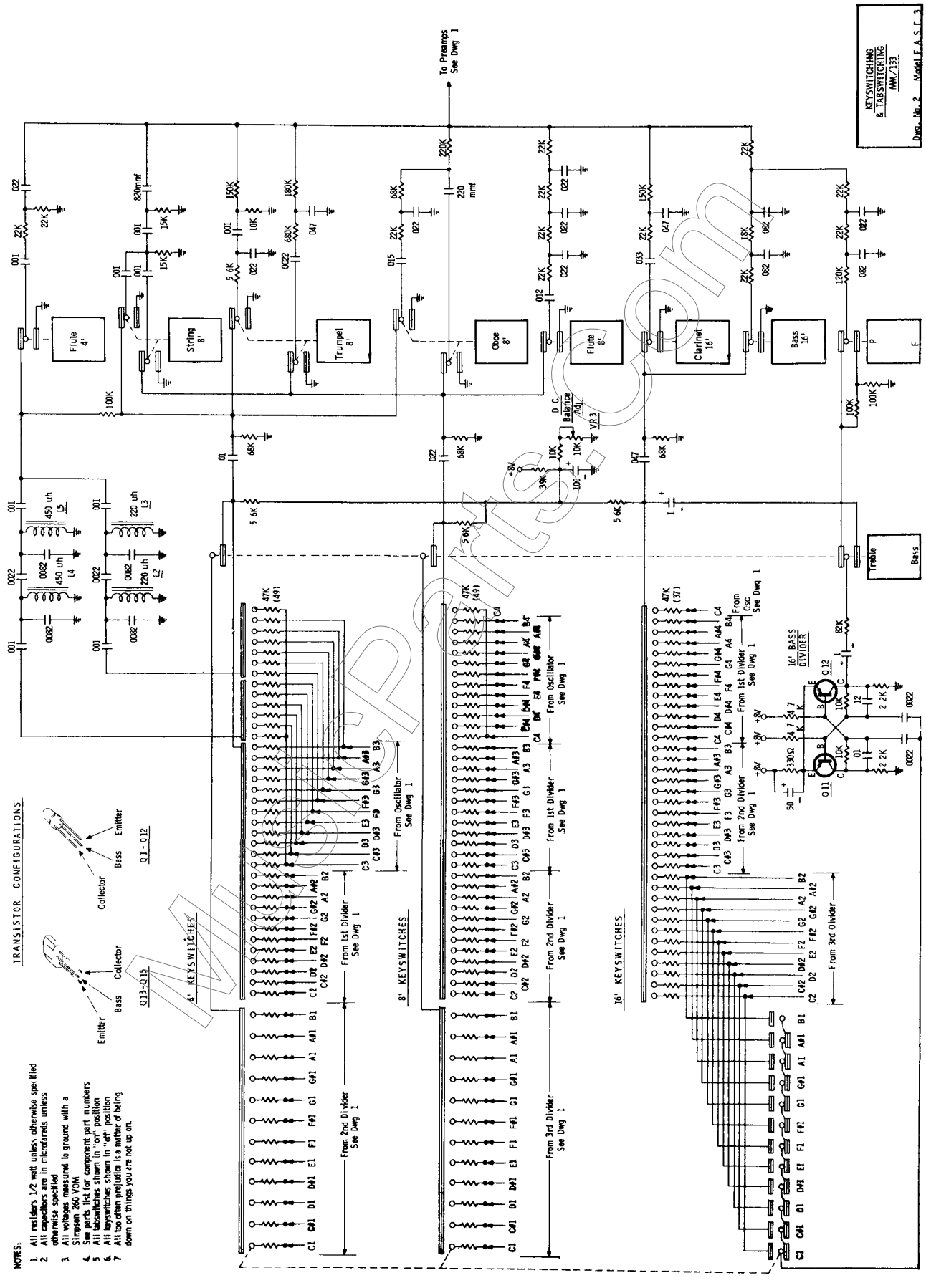

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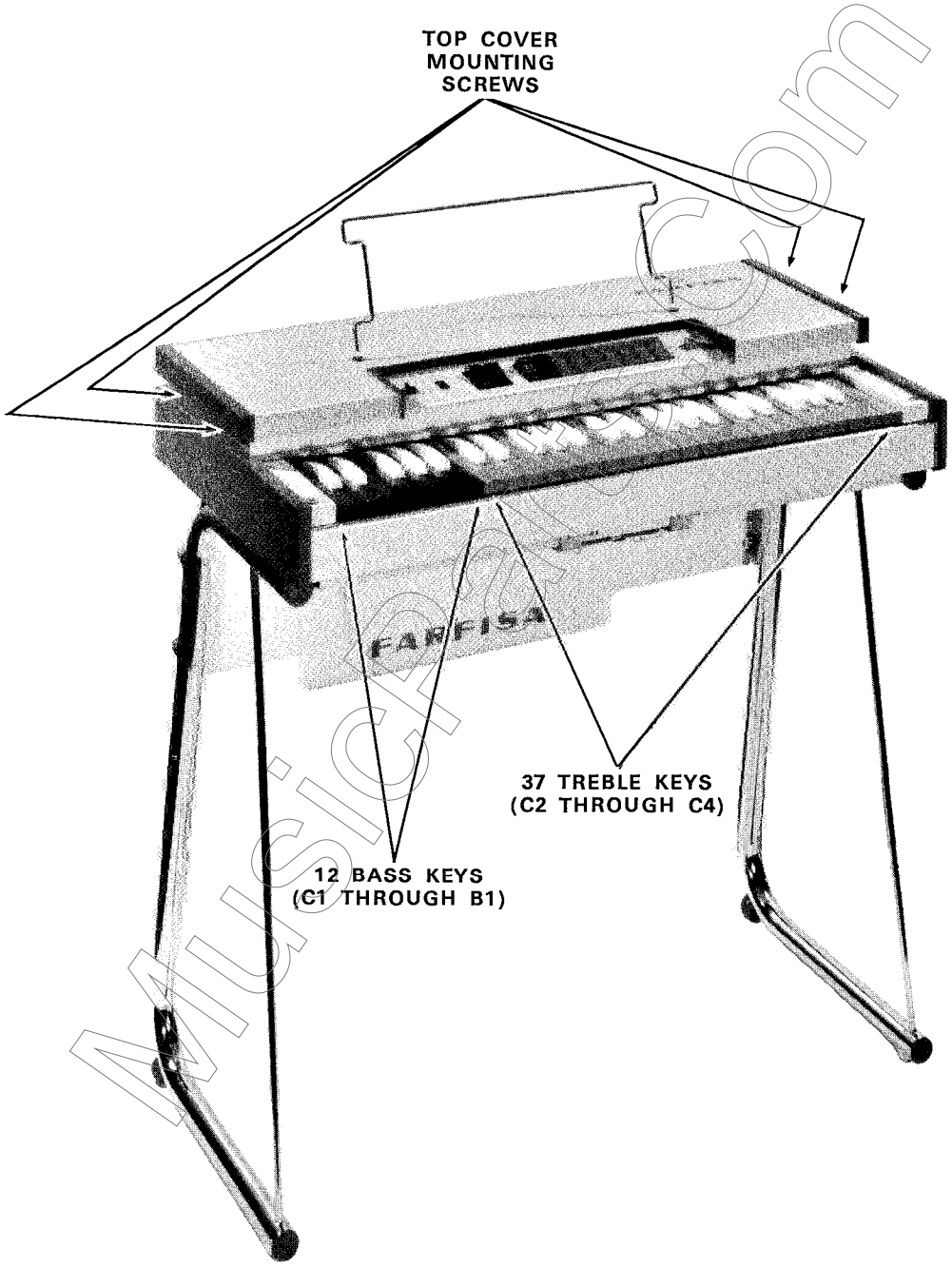
FRONT VIEW
FAST 3



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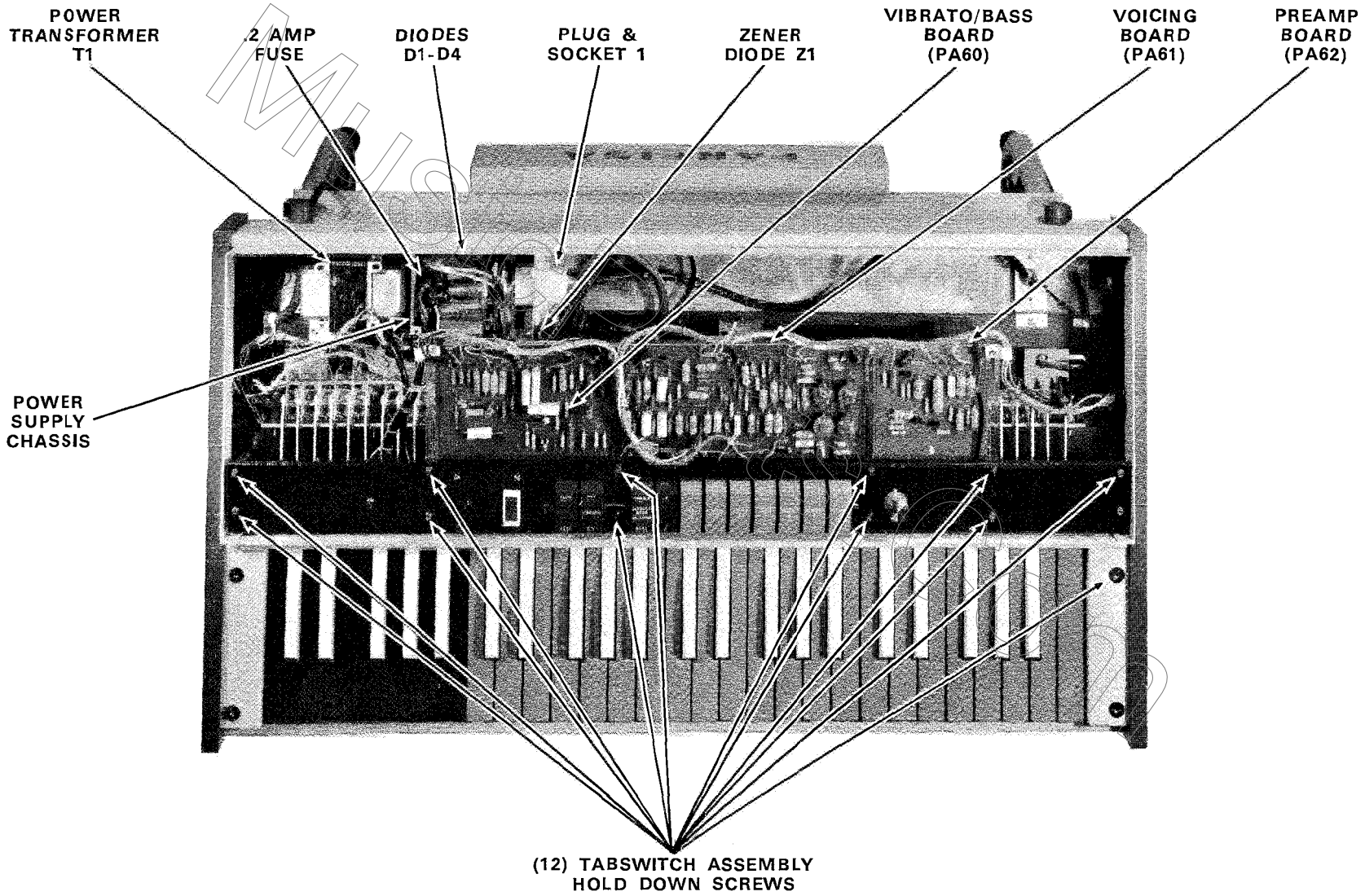
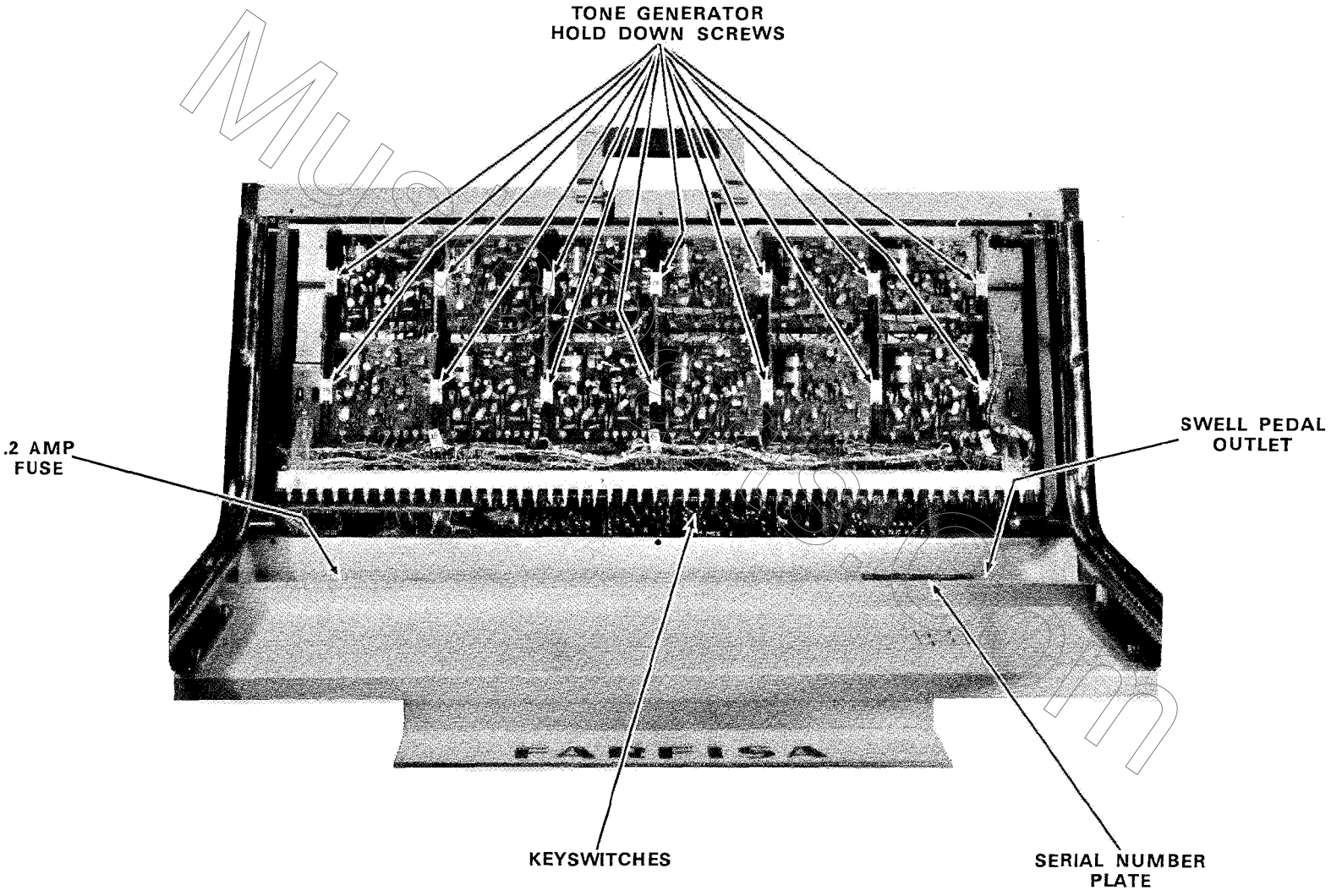
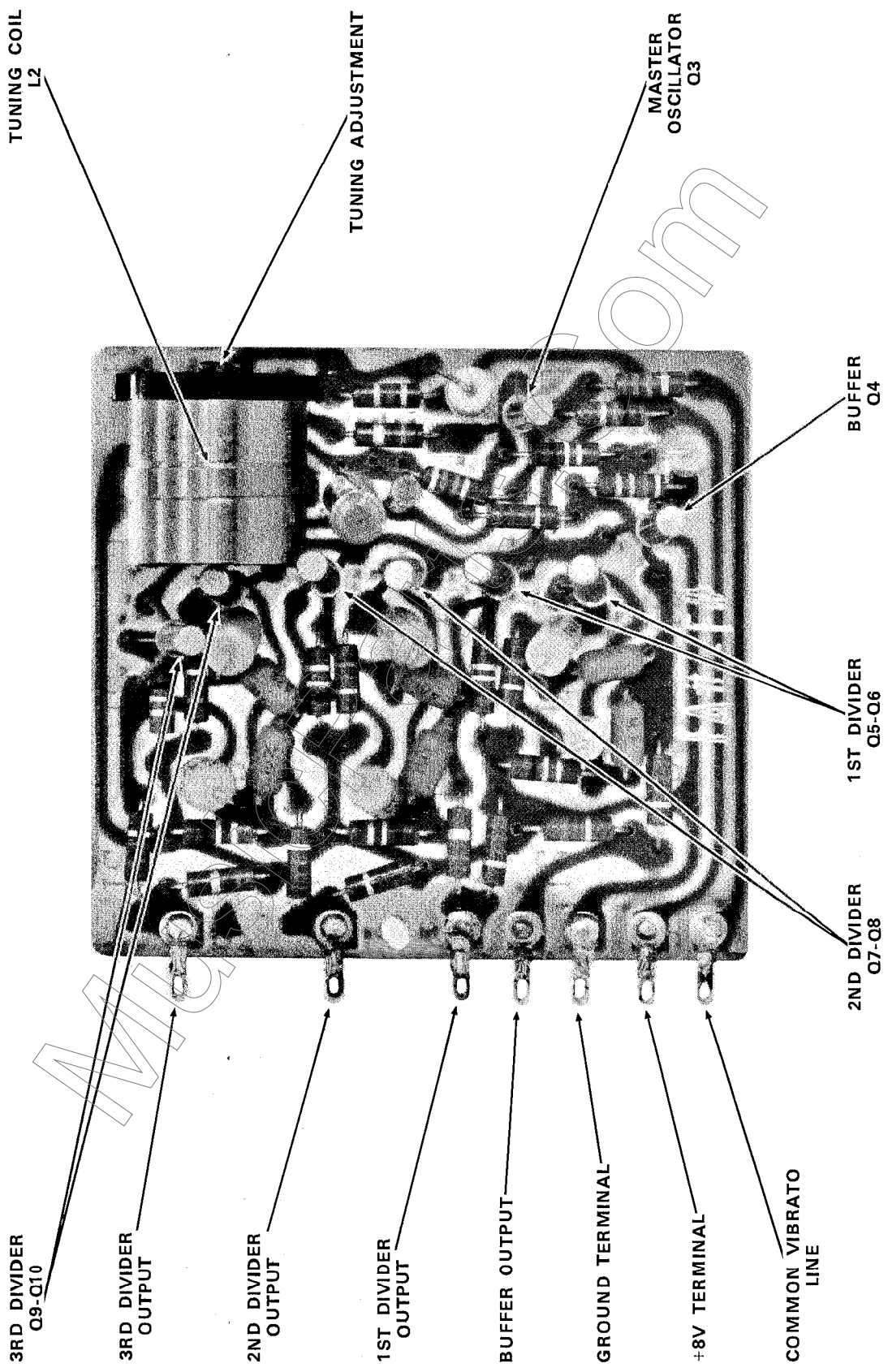
TOP VIEW
FAST 3
(With Cover Removed)



BOTTOM VIEW
FAST 3



TONE GENERATOR BOARD
FAST 3
(PA23)



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VIBRATO/BASS, VOICING & PREAMP BOARDS
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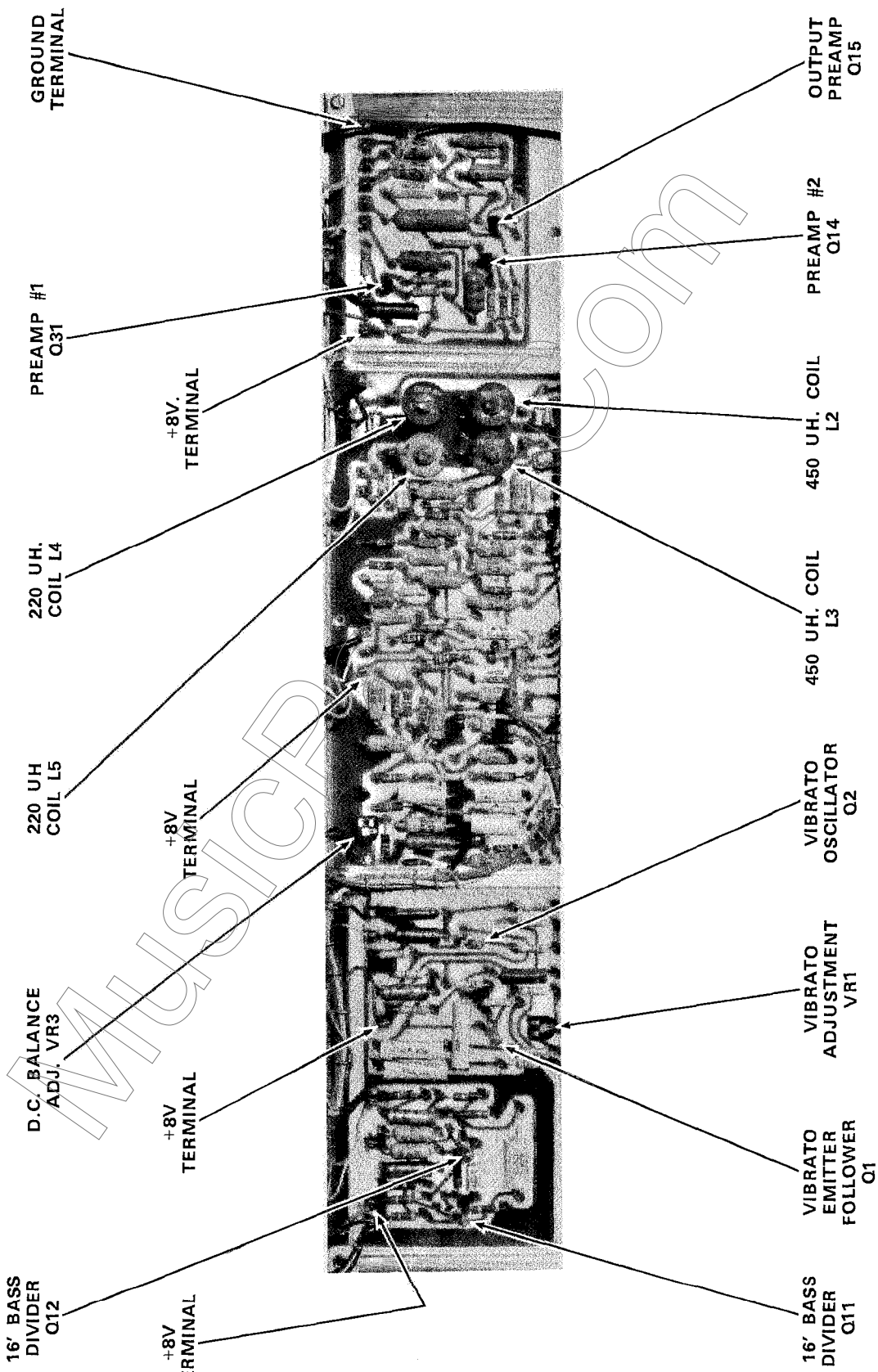

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PART	DESCRIPTION	SCHEMATIC REFERENCE	PART NUMBER
CONSOLE ASSEMBLY			
Cord	A.C. Power		989-011268
Handle	Cabinet		930-013024-1
Knob	Organ Volume (Gray/Silver Cap)		915-011324
Leg (Left)	Cabinet		939-013024-1
Leg (Right)	Cabinet		939-013024-2
Light	Pilot		939-013025
KEYSWITCH ASSEMBLY			
Actuator	Keyswitch		964-013026
Key	C Natural Dark Gray (Bass)		964-013027-C
Key	D Natural Dark Gray (Bass)		964-013027-D
Key	E Natural Dark Gray (Bass)		964-013027-E
Key	F Natural Dark Gray (Bass)		964-013027-F
Key	G Natural Dark Gray (Bass)		964-013027-G
Key	A Natural Dark Gray (Bass)		964-013027-A
Key	B Natural Dark Gray (Bass)		964-013027-B
Key	C Natural Gray (Treble)		964-013028-C
Key	D Natural Gray (Treble)		964-013028-D
Key	E Natural Gray (Treble)		964-013028-E
Key	F Natural Gray (Treble)		964-013028-F
Key	G Natural Gray (Treble)		964-013028-G
Key	A Natural Gray (Treble)		964-013028-A
Key	B Natural Gray (Treble)		964-013028-B
Key	All Sharps (White)		964-013029
Spring	Key Contact		975-013030
Spring	Bass Contact		975-013031
Spring	Pull Down Actuator		975-013032
Spring	Pull Down Key		975-013033
POWER SUPPLY CHASSIS			
Capacitor	Electrolytic 500 UF 15V		945-011203-23
Capacitor	Electrolytic 500 UF 50V		945-011203-24
Diode	Rectifier	D1-4	919-013036
Diode	Zener (5524)	Z2	919-013035
Fuse	.2 Amp		939-013034
Holder	Fuse		906-006303
Resistor	120 Ohm 10W		924-011330-5
Transformer	Power (T-1042)	T1	954-013037
PREAMP BOARD			
Assembly	Preamp Board (PA-62)		996-013020
Capacitor	Electrolytic 100 UF 12V		945-011203-10
Transistor	Preamp #1, #2 & Output (BC 149)	Q13-15	991-013316
TABSWITCH ASSEMBLY			
Spring	Tabswitch Contact		975-011243
Tab	Manual Bass Selector Treble-Bass		915-011344-7
Tab	PF		915-011344-8
Tab	Bass 16′		915-011344-9

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PART	DESCRIPTION	SCHEMATIC REFERENCE	PART NUMBER
Tab	Clarinet 16′		915-011344-10
Tab	Flute 8′		915-011344-11
Tab	Oboe 8′		915-011344-12
Tab	Trumpet 8′		915-011344-13
Tab	Strings 8′		915-011344-14
Tab	Flute 4′		915-011344-15
Tab	Vibrato Off-On		915-011344-5
Tab	Slow-Fast		915-011344-6

TONE GENERATOR BOARDS

Assembly	A Generator Board Complete (PA-23)		996-013021-C
Assembly	A# Generator Board Complete (PA-23)		996-013021-C#
Assembly	B Generator Board Complete (PA-23)		996-013021-D
Assembly	C Generator Board Complete (PA-23)		996-013021-D#
Assembly	C# Generator Board Complete (PA-23)		996-013021-E
Assembly	D Generator Board Complete (PA-23)		996-013021-F
Assembly	D# Generator Board Complete (PA-23)		996-013021-F#
Assembly	E Generator Board Complete (PA-23)		996-013021-G
Assembly	F Generator Board Complete (PA-23)		996-013021-G#
Assembly	F# Generator Board Complete (PA-23)		996-013021-A
Assembly	G Generator Board Complete (PA-23)		996-013021-A#
Assembly	G# Generator Board Complete (PA-23)		996-013021-B
Capacitor	Electrolytic 25 UF 25V		945-011203-25
Coil	Tuning (C—F# Yellow Dot)	L1	952-011207-1
Coil	Tuning (G—B Green Dot)	L1	952-011207-2
Transistor	Oscillator (Y 363)	Q3	991-011224
Transistor	Divider (SFT 352)	Q5-10	991-011222

VIBRATO/BASS BOARD

Assembly	Vibrato/Bass Board (PA-60)		996-013018
Capacitor	Electrolytic 1 UF 40V		945-011203-1
Capacitor	Electrolytic 5 UF 25V		945-011203-2
Capacitor	Electrolytic 50 UF 12V		945-011203-8
Capacitor	Electrolytic 100 UF 12V		945-011203-10
Potentiometer	Vibrato Speed (10K)	VR1	925-011232
Transistor	Vibrato Oscillator (SFT 353)	Q1	991-011223
Transistor	Vibrato Emitter Follower (SFT 367)	Q2	991-011217
Transistor	Bass Divider (SFT 352)	Q11, 12	991-011222

VOICING BOARD

Assembly	Voicing Board (PA-61)		996-013019
Capacitor	Electrolytic 1 UF 40V		945-011203-1
Capacitor	Electrolytic 100 UF 12V		945-011203-10
Coil	Filter (220 MH)	L2, 3	952-013022
Coil	Filter (450 MH)	L4, 5	952-013023
Potentiometer	D.C. Balancing (10K)	VR3	925-011232

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PARTS INFORMATION

STANDARD PARTS
Replacements for all standard electronic parts and hardware may be purchased directly from local suppliers generally in less time than would be required to obtain them from the factory.

SPECIAL PARTS
In addition to the standard replacement parts, special electronic and mechanical parts are also used. These parts are manufactured by and to the specifications of the factory. Order these parts directly from the factory since they would be difficult or impossible to obtain from other sources.

PARTS ORDERING INFORMATION
When ordering parts be sure to include the following information:

1. Model and Serial Number
2. Part Number
3. A description of the part
4. Specify how you want the part shipped.

Most special electronic parts and mechanical parts will have a part number stamped on them. In the event that the part number is missing, or you are unable to read the part number, a complete description of the part and where it is used will allow the factory to fill your parts order. When parts are ordered in the proper manner the factory is able to fill your orders promptly—delays that might result are avoided.

ADDRESS PARTS ORDERS TO:

C.M.I. SERVICE DEPT.
7373 No. Cicero Ave.
Chicago, Illinois 60646

IMPORTANT

IN ANY CORRESPONDENCE CONCERNING THIS INSTRUMENT ALWAYS INCLUDE MODEL AND SERIAL NUMBERS

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PARTS LIST

THE PARTS LIST CONTAINS THE FOLLOWING INFORMATION:

1. Name of Part
2. Value, Tolerance and Code (when important)
3. Brief description
4. Where the part is found (assembly, printed circuit board and etc.)
5. Schematic Reference Number
6. PART NUMBER — USE IT!

This parts list includes all standard stock replacement parts. No attempt has been made to include every nut, bolt and screw. If the necessity for a non-listed part arises, please write describing the part's location and function as well as model and serial number of the unit.

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