Part No. OS3-609

OTARI

STATUS 18R

Audio Mixing Console

Operation and Maintenance Manual

Third Edition

Otari, Inc.

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Printed in Japan

CAUTION

To prevent fire or shock hazard:
Do not expose this unit to rain or moisture.
Do not remove panels (unless instructed to do so).
There are no user-serviceable parts inside.
Refer servicing to qualified service personnel.

PLEASE READ THROUGH THE SAFETY INSTRUCTIONS BELOW.

SAFETY INSTRUCTIONS

1. **Read Instructions:** All safety and operating instructions should be read before operation.
2. **Retain Instructions:** The safety and operating instructions should be retained for future reference.
3. **Heed Warnings:** All warnings on the device and in the operating instructions should be complied with.
4. **Follow Instructions:** All operating and use instructions should be followed.
5. **Water and Moisture:** The device should not be used near water — for example, near a bathtub, wash bowl, sink, laundry tub, in a wet basement, near a swimming pool, etc.
6. **Carts and Stands:** The device should be used only with a cart or stand that is recommended by the manufacturer.
7. **Ventilation:** The device should be situated so that its location or position does not interfere with its proper ventilation. For example, the device should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
8. **Heat:** The device should be situated away from heat sources such as a radiator, heat register, stove or other appliances (including amplifiers) that produce heat.
9. **Power Sources:** The device should be connected to a power supply only of the type described in the operating instructions or as marked on the device.
10. **Grounding or Polarization:** Precautions should be taken so that the grounding or polarization means of the device is not defeated.
11. **Power Cord Protection:** Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the device.
12. **Cleaning:** The device should be cleaned only as recommended by the manufacturer.
13. **Non-Use Periods:** The power cord of the device should be unplugged from the outlet when left unused for a long period of time.
14. **Object and Liquid Entry:** Care should be taken that objects do not enter and that liquids are not spilled into the enclosure through openings.
15. **Damage Requiring Service:** The device should be serviced by qualified service personnel when:
    A. The power supply cord or the plug has been damaged; or
    B. Objects have entered, or liquid has been spilled into the appliance; or
    C. The appliance has been exposed to rain; or
    D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
    E. The appliance has been dropped, or the enclosure damaged.
16. **Servicing:** The user should not attempt to service the device beyond what is described in the operating instructions. All other service should be referred to qualified personnel.

COMMUNICATION WITH OTARI

FOR SERVICE INFORMATION AND PARTS

All Otari products are manufactured under strict quality control. Each unit is carefully inspected and tested prior to shipment.
If, however, some adjustment or technical support becomes necessary, replacement parts are required, or technical questions arise, please contact your Otari dealer or contact Otari at:

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Fax: (818) 594-7208
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40 MacTaggart Road
Singapore 1336-368085
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Fax: (65) 284-4727
E-Mail: otarisp@sihgnet.com.sg

Another part of Otari's continuing technical support program for our products is the continuous revision of manuals as the equipment is improved or modified. In order for you to receive the information and support which is applicable to your equipment, and for the technical support program to function properly, please include the following information, most of which can be obtained from the Serial number label on the machine, in all correspondence with Otari:

- Model Number:
- Serial Number:
- Date of Purchase:
- Name and address of the dealer where the machine was purchased and the power requirements (voltage and frequency) of the machine.

DEAR CUSTOMER:

TO ALLOW US TO SERVE YOU WITH THE BEST CUSTOMER SUPPORT POSSIBLE, PLEASE TAKE THE TIME TO FILL OUT AND RETURN THE USER INFORMATION FORM OPPOSITE THIS PAGE.

THANK YOU !

Please Read This First...

Congratulations on the purchase of your new STATUS Console!
In order for Otari to maintain contact with you regarding new system features for your STATUS Console and to provide you with the best service possible, we ask that you take a moment to fill out the form below and return it to us as soon as possible. Our address is:

Otari, Inc.
7039 Tazawa,
Toyoshina-cho,
Minami-Azumi-gun,
Nagano
399-8203, JAPAN
Attn: Console Products Department

STATUS 18R Console Information

Company: _____
Contact: _____
Address: _____
City: _____
State & ZIP: _____
Phone: _____
Fax: _____
Dealer: _____
Purchase Date: _____
Console S/N: _____

Type of Business (Please check all that apply)
___Music Recording
___TV Production
___Film Production
___Broadcasting
___Other (describe) _____
_____
_____
_____
_____

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Section 5 Eagle Automation

Section 1 Introduction

1.1 System Description

The STATUS 18R is a digitally controlled analog audio console. The heart of the console is the Status Control System (SCS), a central control panel that manages most aspects of the console's operation. The SCS eliminates the need for redundant switches on the input modules and provides a simple, logical way of operating the console.
Fader levels and most switching and signal routing functions are under computer control. This provides for snapshot store and recall of console switch states and mix levels. Optional DISKMIX automation provides dynamic automation of faders and mutes. With the STATUS Image Recall feature, the position of all Input Module knobs and switches can be stored, then manually reset, guided by each module's LED display.

1.1.1 Analog Features

- 12 Track Buses split to 24 discrete Track Outputs, 8 Aux Buses and 1 Stereo Mix Bus.
- Dual Path I/O modules with 4 Band EQ that may be assigned to either path or split between the two.
- All Master Outputs are balanced +4 dBu. Module Insert Send and Direct Out are unbalanced 0.5 dBu.
- AFL, PFL or In Place Solo independently selectable on each path.
- Extensive monitoring facilities with 8 Sources and Near Field Monitor Output.
- Complete Slate, Studio and Cue Communications included.

1.1.2 Digital Control Features

- Console Snapshot storage and recall of all computer controlled Input Module switches.
- Storage of all Input Module pot and switch positions. Knobs and mechanical switches are then manually matched to the stored settings with the aid of the module LED display.
- User Programmable SoftKey for programming regularly used functions.
- Single or Multiple modules may be "Selected" and edited simultaneously.
- CompuCal™ Computer calibration of internal signal levels and meters.
- Programmable user presets for defining master switching functions.
- System software and files reside on the console's on-board floppy disk drive.

1.1.3 Dual Path Design

The STATUS 18R employs an in-line I/O MODULE design which places all input and output controls and electronics for two audio channels within a single module. This creates a compact system that is functionally versatile, yet simple to operate. The uncluttered layout provides a quick understanding of each control's location and purpose. Signal flow is straightforward and easy to follow.

1.1.4 Minimum Noise Gain Summing

All Multitrack and Aux buses employ Minimum Noise Gain Summing. When a module is not assigned, it is completely disconnected from its summing bus. Since the noise gain of a summing bus is dependent on the number of inputs summed, when only 3 channels, for example, are assigned to a Group Bus, the noise of that bus is the same as if the console had only three input modules.

1.1.5 Low Noise VCA Implementation

The STATUS 18R console uses premium grade Voltage Controlled Amplifiers (VCAs). Bias currents are set for lowest noise and optimum distortion specifications. When gain is required, it is added within the VCA circuit itself, not in the following stages, to reduce overall system noise.

1.2 Using this Manual

This manual contains all of the information that you need to connect, calibrate, operate and maintain the STATUS 18R console.

When learning to operate the console, it is recommended that you review **Section 3** to familiarize yourself with control and indicator terminology before moving on to **Section 4**, **Operation** and **Section 5**, **Eagle Automation**.

Appendix, contains an LCD Menu Reference that describes all of the LCD Menus. Refer to this for a capsule description of what each LCD selection button does.

1.2.1 Section Descriptions

Section 2 - Installation: This section contains connector pinouts and instructions for unpacking and identifying the equipment shipped with the console. Guidelines and recommendations for installing and interfacing the console are also included.

Section 3 - Controls and Indicators: Section 3 identifies each control and indicator of the STATUS 18R console. A brief description of each item and it's function is included.

Section 4 - Operation: This section describes the operation of the console and gives step-by-step examples of how various tasks are accomplished.

Section 5 - Eagle Automation: Section 5 covers all aspects of Eagle Automation from Fader modes to offline utilities. The Quick Tour section takes you through a simple mix session using Eagle Automation.

Section 6 - Alignment and Maintenance: This section contains information for installing software and setting up the console. Instructions for using the CompuCal system to align the internal levels and meters is also included.

Appendices: The Appendices contains additional reference material for operating the STATUS 18R.

1.2.2 Terminology

I/O modules on the STATUS 18R incorporate a Channel Path (CHAN) and a Mix Path (MIX). This can cause confusion when referring to the Channel Path on a given "Channel" of the console. The terms "Track" and "Group" have a similar problem. When used alone, the words "Track", "Group" and "Channel" should read in context of the section they are used in.

Where possible the following convention will be used when referring to Channels, Tracks and Groups:

- **Channel:** Used by itself, Channel usually refers to a single audio path on a console or tape machine.
- **Path:** A Path refers the route that a signal follows through the Input Module. This could be the Channel or Mix Path.
- **Channel or Chan Path:** Refers to the signal path on an I/O module that is normally used for assigning to the Track Outputs. This path is controlled by the upper fader and is color coded Light Green.
- **Mix Path:** Refers to the signal path on an I/O module that is normally used for mixing because it is closest to the engineer. This path is controlled by the lower fader and is color coded Violet.

- **Group:** Refers to a number of items related to each other for some purpose. This could be a Select Group, a Fader Group, a Group Bus or a Group (Track) Output.

- **Select Group:** Refers to a group of Input Modules attached to the Master Section of the console at the same time. Group A, B and C buttons on the Master section store preset Select Groups for recall.

- **Fader Group:** Refers to a group of faders whose levels are controlled by a Master Fader.

- **Group Bus:** One of 24 Group Buses in the console. A Group Bus sums signals that are assigned to it by the Module's Track Assign Matrix.

- **Group Output:** Refers to output of the 24 Group Buses that normally feed a multitrack recorder. The terms Group Output, Bus Output and Track Output are used interchangeably.

- **Track:** The term Track used by itself normally refers to a record/playback channel on a multitrack recorder.

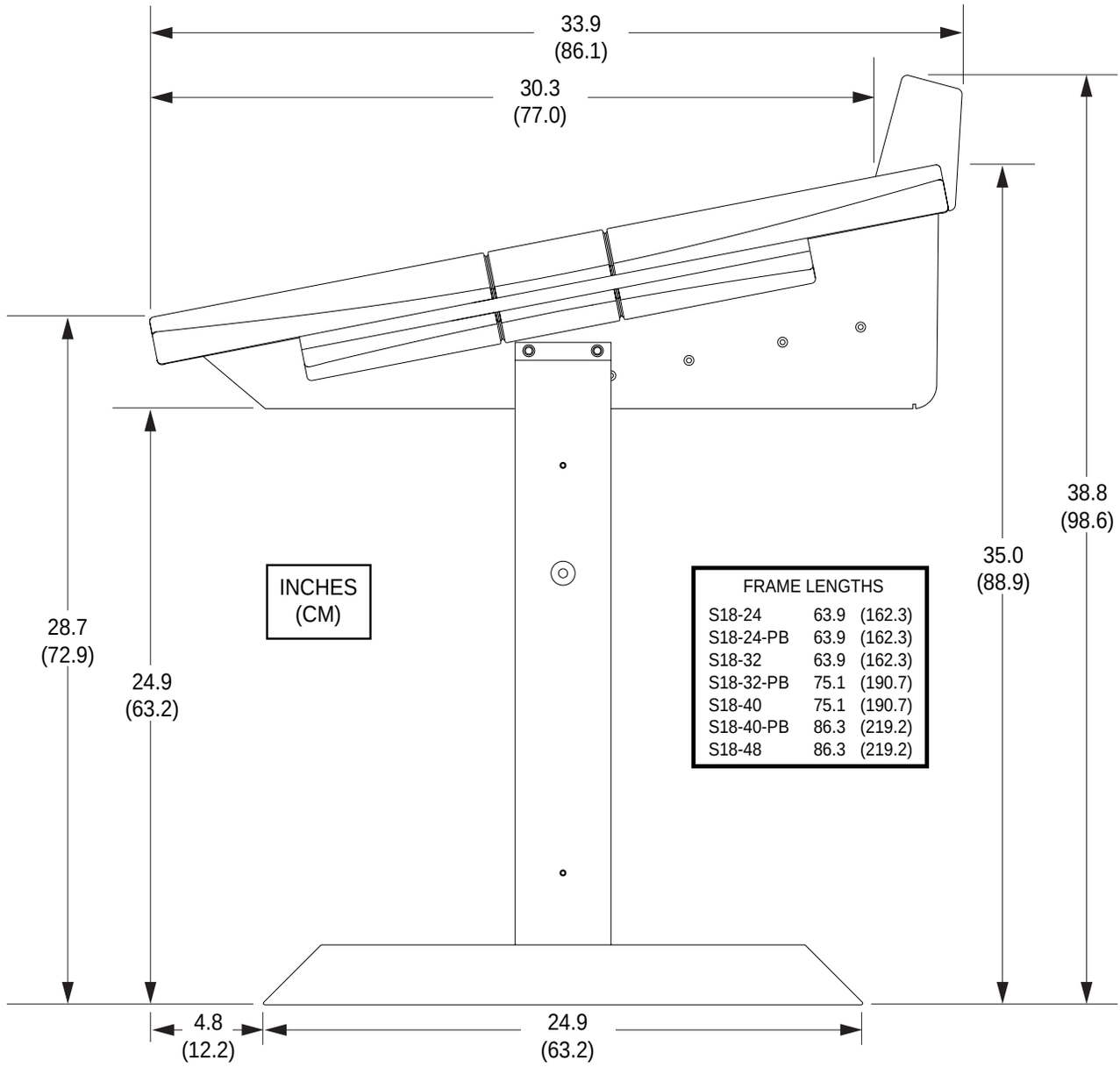
- **Track Assign:** Refers to the matrix that normally routes a signal to a track on a multitrack recorder. In reality, the signal is being routed to a Group Output which is connected to the input of a track on a multitrack recorder.

- **Track Bus:** Means the same as Group Bus.

1.3 STATUS Specifications

Input Impedance	Microphone		> 2 k Ohms
	Line Level Inputs		> 12 k Ohms
All Outputs	Impedance		< 50 Ohms
	Nominal Level (Balanced Outputs)		+4 dBu
	Nominal Level (Unbalanced Outputs)		+0.5 dBu
	Maximum Level Before Clipping (Balanced Outputs)		+26 dBu
	Maximum Level Before Clipping (Unbalanced Outputs)		+21.5 dBu
Maximum Gain	(Source to Track or Stereo Bus)		
	Microphone		74 dB
	Line		48 dB
	Tape		12 dB
Frequency Response	(At Nominal Level, Filters and EQ Out)		
	Line to Track Bus Out		10 Hz - 20 kHz, +0/-.25 dB
	Mic to Track Bus Out		20 Hz - 20 kHz, +0/-.25 dB
	Tape to Stereo Bus Out		10 Hz - 20 kHz, +0/-.25 dB
Noise	(20 Hz – 22 kHz, No Weighting, Input Termination 600Ω)		
	Mic (EIN 64dB Gain, 200 Ohms)		-127 dBu
	Track Buses (1 Path Assigned, Unity Gain)		-86 dBu
	Track Buses (16 Paths Assigned, Unity Gain)		-72 dBu
	Stereo Buses (1 Path Assigned, Unity Gain)		-86 dBu
	Stereo Buses (16 Paths Assigned, Unity Gain)		-72 dBu
Distortion	(THD+Noise, 20 Hz–20 kHz, at Nominal +4 dBu)		
	Line In to Track Out		0.05%
	Tape In to Track Out		0.05%
Crosstalk	Between Track Buses (No Panner)		> 90 dB (1 kHz)
			> 80 dB (20 Hz–20 kHz)
	Between Stereo (L/R) Buses (Panner)		> 70 dB (1 kHz)
			> 65 dB (20 Hz–20 kHz)
Current Draw	24/24 Mainframe	245 VA Typical	415 VA Max.
	32/32 Mainframe	326 VA Typical	645 VA Max.
	40/40 Mainframe	408 VA Typical	645 VA Max.
	48/48 Mainframe	490 VA Typical	645 VA Max.
Console Heat Dissipation	24/24 Mainframe	466 BTU/Hr. Typical	790 BTU/Hr. Max.
	32/32 Mainframe	621 BTU/Hr. Typical	1230 BTU/Hr. Max.
	40/40 Mainframe	777 BTU/Hr. Typical	1230 BTU/Hr. Max.
	48/48 Mainframe	932 BTU/Hr. Typical	1230 BTU/Hr. Max.
Power Supply Heat Dissipation			
	24/24 Mainframe	508 BTU/Hr. Typical	860 BTU/Hr. Max.
	32/32 Mainframe	677 BTU/Hr. Typical	1215 BTU/Hr. Max.
	40/40 Mainframe	847 BTU/Hr. Typical	1215 BTU/Hr. Max.
	48/48 Mainframe	1016 BTU/Hr. Typical	1215 BTU/Hr. Max.
Power Supply Fuses	110 VAC, 5 Volt Supply		3 Amp Slow Blow
	110 VAC, Bipolar 16 Volt Supply		3 Amp Slow Blow
	110 VAC, +48 Volt Supply		1/2 Amp Slow Blow
	220 VAC, 5 Volt Supply		1.5 Amp Slow Blow
	220 VAC, Bipolar 16 Volt Supply		1.5 Amp Slow Blow
	220 VAC, +48 Volt Supply		1/4 Amp Slow Blow

Dimensions


33.9
(86.1)
30.3
(77.0)
38.8
(98.6)
35.0
(88.9)
28.7
(72.9)
24.9
(63.2)
INCHES
(CM)
FRAME LENGTHS
S18-24 63.9 (162.3)
S18-24-PB 63.9 (162.3)
S18-32 63.9 (162.3)
S18-32-PB 75.1 (190.7)
S18-40 75.1 (190.7)
S18-40-PB 86.3 (219.2)
S18-48 86.3 (219.2)
4.8
(12.2)
24.9
(63.2)

Section 2 Installation

2.1 Introduction

The information and procedures in this section should be followed very carefully when the equipment is first uncrated and installed. Performing the inspection steps will familiarize you with the equipment and its component parts if this is your first experience with the STATUS 18R console.

Please read Section 6, Alignment and Maintenance for technical information about configuring and calibrating the console. If you need information about a specific button or LED refer to Section 3, Controls and Indicators.

2.2 Preparation

2.2.1 Physical Precautions

It is important to ensure that the console is placed on a flat, level surface and that the console is fully supported. Be sure that the structure and floor covering will support the console weight. Do not allow the console to rest on a surface that might allow it to tip over. The console should be protected from dust, dirt, smoking materials, ashes, smoke, liquids, or other contaminants before and during installation.

2.2.2 Ventilation Considerations

While the STATUS 18R is conservatively designed in terms of thermal requirements, normal ventilation and cooling precautions should be observed. the console should be operated in a well ventilated environment, away from heat sources such as electric heaters, etc. The console is not designed for unprotected outdoor use.

Be sure that the power supplies are mounted in an appropriately ventilated area. Do not mount them in a totally enclosed rack or closet unless forced air cooling is provided. A minimum of 1.75 inches clearance must be provided above and below each power supply to allow proper air flow.

2.2.3 Electrical Power Considerations

The Specifications section of this manual outlines the power requirements for each console configuration. There are no special power requirements other than supplying appropriate voltage and current. It should be noted however, that typical “house” power found in most commercial buildings exhibits noise, high voltage spikes, surges, and “brown outs”. These conditions greatly reduce the life of electronic components in the console.

Otari recommends the use of “filtered” or “conditioned” power with the STATUS 18R. Check with a local electrical contractor about filtering and conditioning the line power in your installation. As a bare minimum, power line lightning protection should be provided for the console.

As a further precaution, it may be desirable to install “drop-out” relays on the AC mains that power the console. In the event of a power outage the relays disengage, preventing the console from turning on when power is restored. This prevents a possible start-up power surge from damaging monitor amps and speakers before they can be safely turned off.

2.2.4 Cable

All audio lines should be 2-conductor cables with a shield. For ease of termination, use cables that include a separate shield drain wire. Within the cable, both signal lines and the drain wire should be stranded #22 or #24 AWG conductors.

Use the cables provided with the console for connecting the power supply assemblies to the console mainframe. If power cables are to be extended or reworked in any way, use an appropriate gauge cable to handle the current requirements of the system.

The use of improper or low quality cabling in any section of the console interconnect system may cause a noticeable reduction in system performance and audio quality. Contact your Otari representative or technical consultant for assistance in cable selection.

2.2.5 Cable Routing

In most audio system installations cables are separated into the following categories according to the signal type and level that they are carrying:
- Microphone Level Audio
- Line Level Audio
- Speaker Level Audio
- AC Power
- DC Power
- Data and Communications
- Video Coax

The following are a few guidelines that should be followed when routing cable in a studio:
- Where practical, separate different level audio cables by at least 3 inches. For example, separate Microphone cabling from Line level cabling by at least 3 inches.
- Where different types of audio cables must cross, try to cross them at right angles (90 degrees) to minimize induction between cables.
- Route AC power cables as far from audio cables as possible.
- It is good practice to separate cables that carry digital signals (e.g. SMPTE Time Code, Digital audio, etc.) from cables carrying analog audio as much as possible.
- Video coax should also be routed separately if possible. If not, route it with the DC power cables.

2.2.6 Grounding and Shielding

It is important to remember that the terms “ground” and “shield” are not the same. A ground wire is a low resistance conductor used to minimize differences in potential between circuits. A shield is a protective device against outside electrical interference, such as from stray electrostatic fields, RF or EMF.

■ Grounding Procedures
Proper earth grounding is critical for optimum system performance.

The object of any grounding system is to minimize the ground potential differences between circuits. In the ideal system installation, there is a single-point electrical ground, which is common to all input, output and power circuits. In designing the complete system, the single-point ground will help to avoid ground loops, which exist whenever there is more than one DC path to ground.

Otari recommends that the console be at the center of the grounding system. Where practical, all external equipment should have separate ground wires that are returned to this central point. These wires should be insulated, stranded (not solid), #12 AWG or larger (Belden 9912 or equivalent). For ground return wires longer than 20 feet, proportionately larger gauge wire should be used.

Audio Common and Chassis Ground wires are connected to grounding lugs on the rear of the console. A single ground wire (#2 or larger) should be run from the console ground lugs to a good earth ground, such as a metal grounding rod driven at least 10 feet into the soil. Sand, mica or crushed rock do not make satisfactory grounds. The console should be isolated from the power line ground.

If a reliable grounding rod system is impossible, a cold water pipe or a steel support that has continuity with ground may be used as a last resort. Do not use metal 2x4 studs within a wall or ceiling for this purpose.

It is important that local electrical codes and electrical safety regulations be followed when planning the ground system of an installation. Contact your Otari representative or technical consultant for assistance in the design and execution of an appropriate grounding system.

■ Microphone Shields

The shields on all microphone lines must be connected at both ends of the cable. This assures shielding continuity from the console to the microphone in the studio. Since most microphones are not otherwise connected to the electrical system, there is no danger of a ground loop occurring. Additionally, 48 Volt phantom power will not work without the microphone shield in place, as this shield is used as the return for the 48 Volt supply to the microphone. It is important that microphone connectors mounted on wall panels do not connect the shield to a metal panel or any other connection to ground.

■ Line Level Audio Input/Output Shields

In order for a shield to be effective at high frequencies (RF), it must be connected to ground at both ends. If, however, shields are connected at both ends in a complicated installation, ground loops (alternate DC paths to ground) may occur causing hum and other noise in the system. If shields are connected at one end only, they can become antennas to RF. A good compromise is to connect one end of a cable's shield directly to ground and the other end through a .068 uF capacitor to ground. This effectively provides a connection to ground at both ends at high frequencies but does not provide a DC ground at both ends of the cable at audio frequencies. This method reduces the tendency of the shield to act as an antenna to RF while eliminating the possibility of ground loops.

2.3 Uncrating

All STATUS 18R consoles are shipped in a wood and cardboard crate. The console comes completely assembled without optional legs installed.

Upon delivery of the STATUS 18R and before signing the shipping company's acceptance form, inspect the shipping crate for signs of any external damage. If damage is found, it should be noted on the shipment documents and the shipping company contacted about their rules concerning concealed damage.

To unpack the console, remove the top of the crate. This will expose the face of the console. Carefully remove the front, sides, and back of the crate. The power supplies and other accessories are packed beneath the console.

Shipping brackets are bolted to the console where the optional legs are attached. The brackets are fastened to the crate with rubber pucks to protect the console from shocks during shipping. Unfasten the brackets from the crate and remove the console with brackets attached.

We recommend that the crate and all packing materials be retained until proper operation of the system has been established. The following items, unless shipped in advance, should be found:

- Power Supplies
- Power Supply interface cables
- Installation Kit
- Owners Manual (This book)
- Optional Console Legs

2.4 Inspection

Before making any electrical connections, thoroughly inspect the console. If there is any evidence of damage, notify the transportation carrier immediately and submit a damage claim. Do not connect or use the STATUS 18R until it has successfully passed a thorough inspection.

Check to see that the console frame is level and straight. All metal frame members should be smooth and show no signs or being twisted or bent. Be sure that all Modules are firmly seated in their proper positions and all retaining screws are in place. Check to see that no loose parts or components are found anywhere around the console or packing materials.

Confirm that the console contains the appropriate number of input Modules and all options that were purchased. If anything is missing or incorrect, contact the supplier or Otari representative immediately.

2.5 Shipping Bracket Removal and Leg Installation

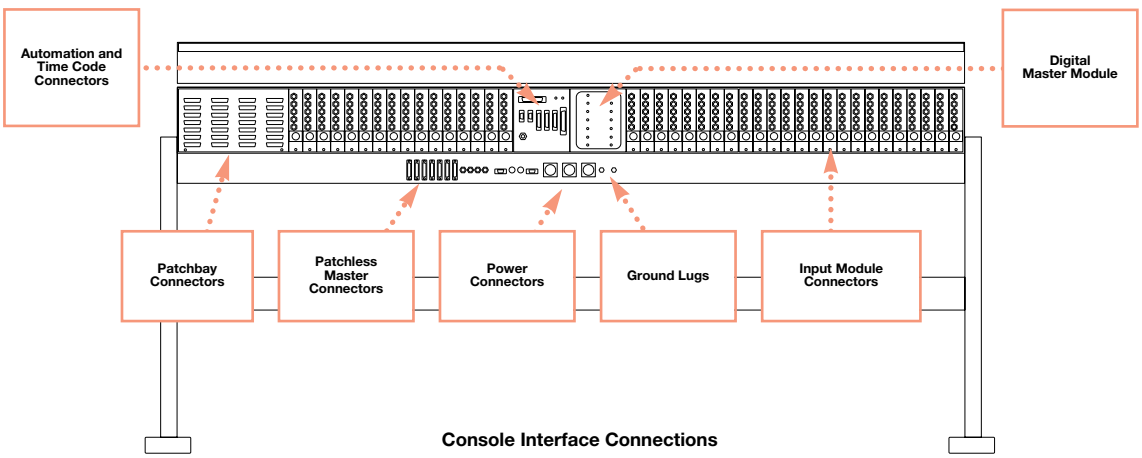
Console legs are an option on the STATUS console. To install the legs:

1. Place the console on supports so that it is higher than the leg height and there is free access to the console sides. Unfasten the shipping brackets from the sides of the console.
2. Mount the legs to each side of the console using 2 8x18 Metric Hex Wrench Bolts and lock washers.
3. Lift the console, remove the supports and rest the console on its legs. Fasten the anti-sway crossbar between the legs with 2 8x35 Metric Hex Head Bolts and lock washers. For maximum rigidity, the cross bar should be oriented in a vertical position.
4. Fasten a leg cover to each leg using the #5 Metric screws with lock washers.

2.6 Interfacing Audio

2.6.1 Cable Access

All connections to the STATUS 18R are at the rear of the console. If option Tie Line cards are purchased, the interface connectors are mounted underneath the console, below the patchbay.



Console Interface Connections

2.6.2 Interface Connectors

■ DB-25 Connectors

On consoles with patchbays, all line level audio cables are wired to industry standard 25-Pin Male Subminiature "D" connectors. On consoles without patchbays, the following cables are wired to DB-25 connectors:

- Monitor Amps
- Aux Send Out
- Multitrack Recorder

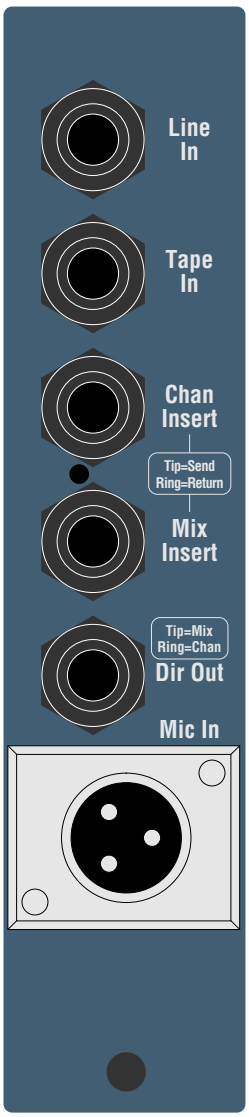
All audio lines are crimped to the connector pins supplied with the console. After crimping, the pins are inserted into the DB-25 housing assemblies, which are then plugged into the console's interface connectors. An Extractor/Insertion tool is supplied with the install kit.

Crimping is one of the easiest and most reliable methods of termination available. However, care must be taken that the crimping tool has been properly adjusted, and that the crimping procedure is carefully executed.

NOTE: A Crimp Tool is not supplied with the console. An AMP Crimp Tool can be obtained from a local electronics distributor using the part number listed below.

Connector Part Numbers

Item	Otari Part#	
Male Pins	CN7B-972	1-66506-0 (AMP)
Connector	CN225007	207464-1 (AMP)
Extractor	CN7B-962	91607-2 (AMP)
IM Extender	ZA-2GD--	---------
Connector Shell	CN7B-905	---------
Crimp Tool	--------	58448-2 (hand tool) (AMP)
		58448-3 (die set) (AMP)



Input Module Connections

■ XLR Connectors

Microphones are interfaced to all STATUS 18R consoles using standard 3- pin male XLR connectors. XLR connectors are not supplied with the console.

■ 1/4" Stereo Phone Plugs

On consoles without patchbays, module interface is via standard 1/4" Stereo Phone jacks on the rear of the module. 1/4" Stereo plugs are not supplied with the console. The following connections are available:

- Line In and Tape In (Balanced)
- Stereo Module Main In and Return In (Balanced)
- Chan and Mix Path Inserts (Send and Return, Unbalanced)
- Stereo Module Main Path Insert (Send and Return, Unbalanced)
- Chan and Mix Path Direct Out (Unbalanced)
- Stereo Module Main Path Direct Out (Unbalanced)

On consoles with patchbays, audio from the patchbay normals through the jacks on the rear of the Input module. Inserting a plug into a module input breaks the normal from the patchbay.

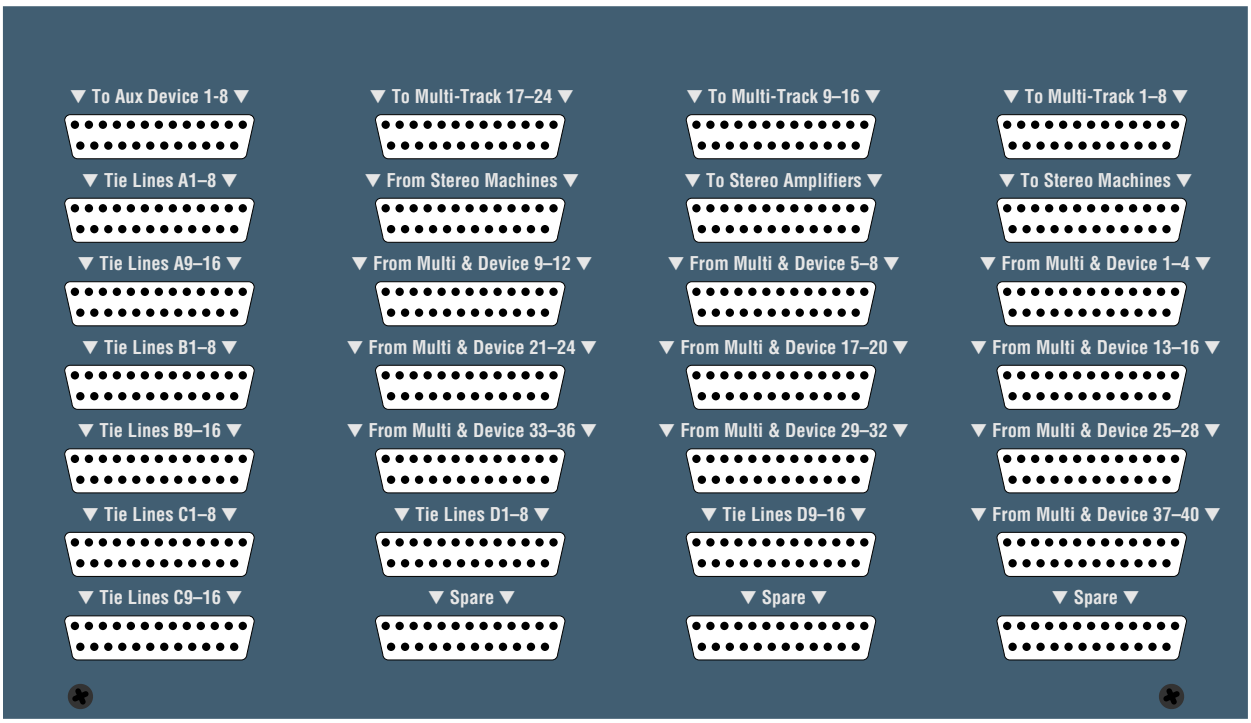
2.6.3 Interfacing Microphone Cables

Microphones are interfaced at the rear of each input module using standard 3-pin male XLR connectors. The XLR pinout for microphones is:

- Pin 1 - Shield
- Pin 2 - High (+)
- Pin 3 - Low (–)

2.6.4 Interfacing Audio to Consoles with Patchbays

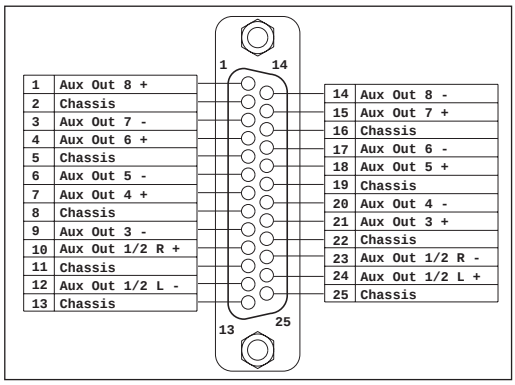
All console line level inputs and outputs are designed for +4 dBu nominal level. Input and Master Audio harnesses are plugged into female DB-25 connectors mounted on the rear of the patchbay.



Patchbay Rear Panel

■ To Aux Device 1–8

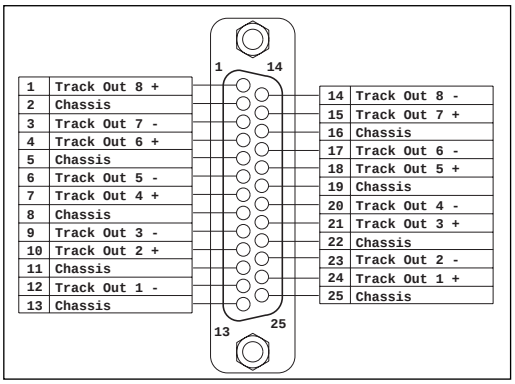
The DB-25 connector labeled To Aux Device 1–8 are the balanced Aux Send outputs of the console. The connector pinout is as follows:



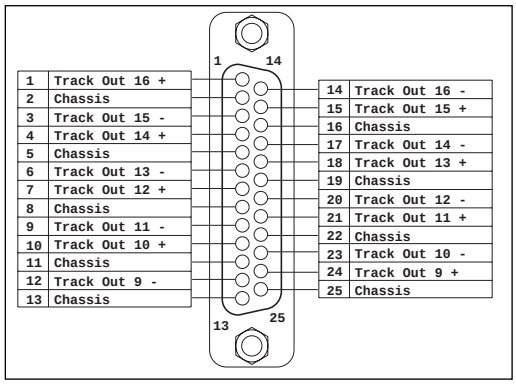
To Aux Device 1–8 Connector Pinout

■ To Multi-Track

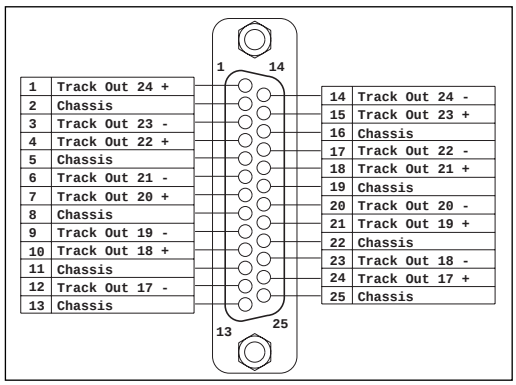
The 3 connectors labeled To Multitrack (17–24, 9–16, 1–8) are the balanced Track Outputs of the console. On the STATUS 18R console, there are 12 Track buses split to 24 discrete Track outputs. Bus 1 splits to Track outputs 1 and 13, Bus 2 splits to Track outputs 2 and 14, etc. The connector pinouts are as follows:



To Multi-track 1-8 Connector Pinout



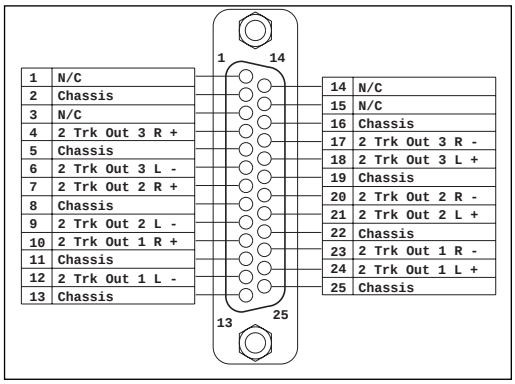
To Multi-track 9-16 Connector Pinout



To Multi-track 17-24 Connector Pinout

■ From Stereo Machines

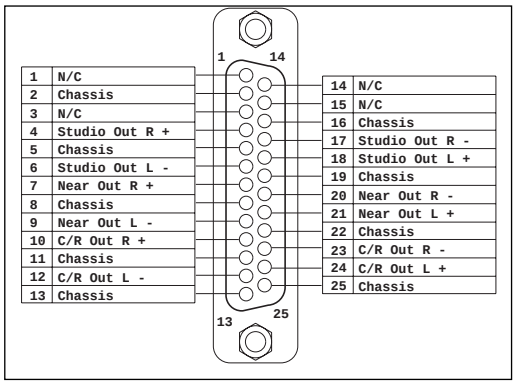
The From Stereo Machines connector interfaces the balanced outputs of 3 two-track recorders to the patchbay and monitor system. The connector pinout is as follows:



From Stereo Machines Connector Pinout

■ To Stereo Amplifiers

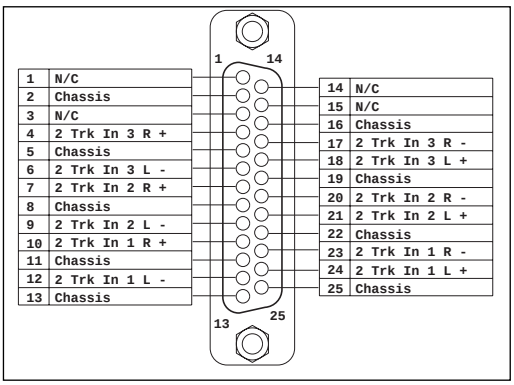
The To Stereo Amplifiers connector connects to the balanced inputs of the Control Room, Studio, and Near Field monitor amps. The connector pinout is as follows:



To Stereo Amplifiers Connector Pinout

■ To Stereo Machines

The To Stereo Machines connector interfaces the patchbay to the balanced inputs of 3 two-track recorders. The connector pinout is as follows:



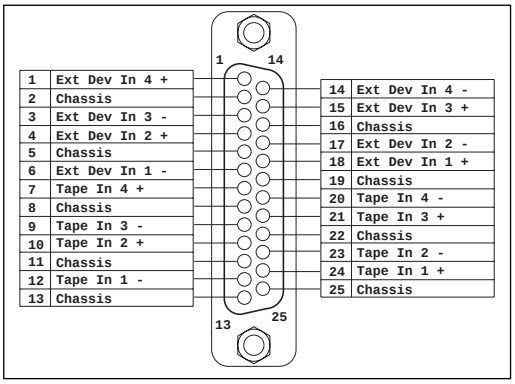
To Stereo Machines Connector Pinout

■ From Multi & Device

Each From Multi & Device connector interfaces the balanced Line and Tape inputs for 4 Input modules. Tape In would typically connect to the output of a multitrack recorder. External Device In could be wired to the output of any line level device including a sampler, synthesizer, or another multitrack recorder.

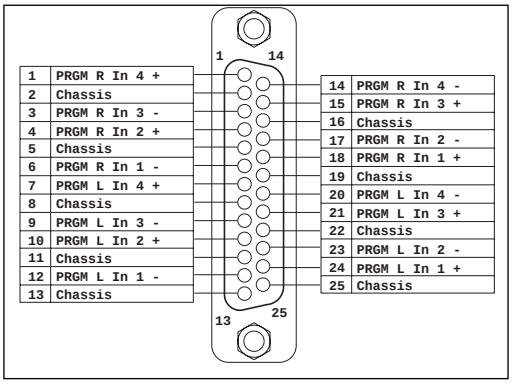
From Multi & Device is also used to interface the balanced Main path Left and Right Program In to Stereo Input modules. The Return path Left and Right Program In is interfaced to 1/4 inch phone jacks on the rear of the Stereo Input module.

The following pinouts are typical for all From Multi & Device connectors on Mono and Stereo Input modules. The accompanying chart indicates the modules interfaced for each connector.



From Multi & Device Connector Pinout (Mono Modules)

Connector # / Modules				
1	1	2	3	4
2	5	6	7	8
3	9	10	11	12
4	13	14	15	16
5	17	18	19	20
6	21	22	23	24
7	25	26	27	28
8	29	30	31	32
9	33	34	35	36
10	37	38	39	40

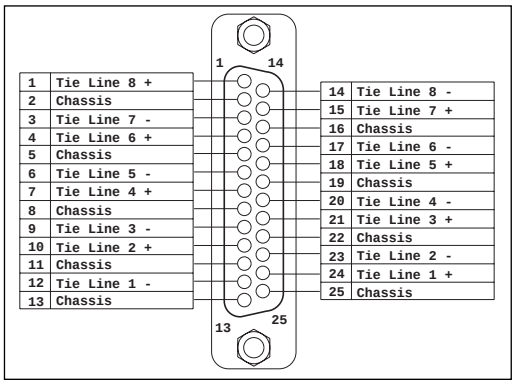


From Multi & Device Connector Pinout (Stereo Modules)

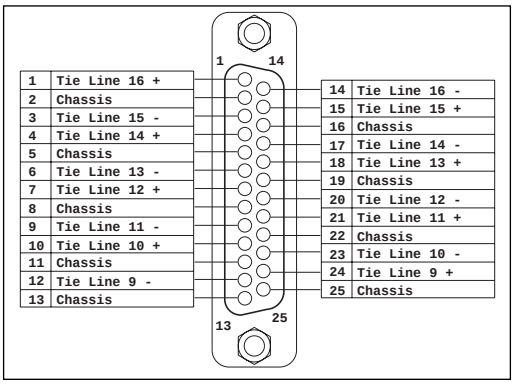
■ Tie Lines A, B, C and D

Tie Lines are non-dedicated patch points for interfacing external devices to the patchbay. The amount of Tie Lines supplied with STATUS 18R console varies with the mainframe size. 24 module mainframes have 32 Tie Lines (A and B), 32 module mainframes have 48 Tie Lines (A, B and C), and 40 module mainframes have 64 Tie Lines (A, B, C and D).

The following pinouts are typical for A, B, C and D Tie Lines 1 through 8 and 9–16.



Tie Lines A, B, C, and D 1–8 Connector Pinout

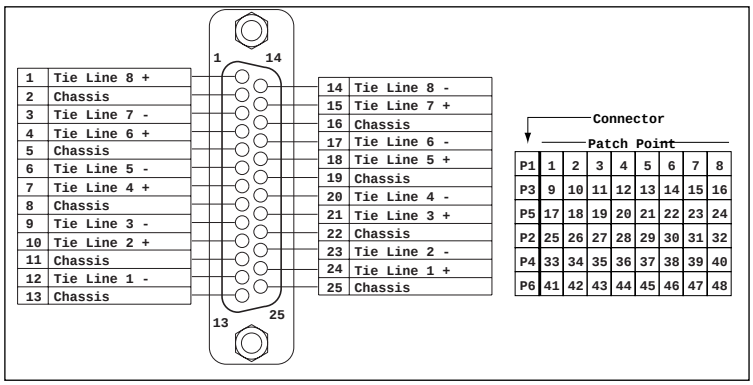


Tie Lines A, B, C, and D 9–16 Connector Pinout

■ Optional Tie Line Cards

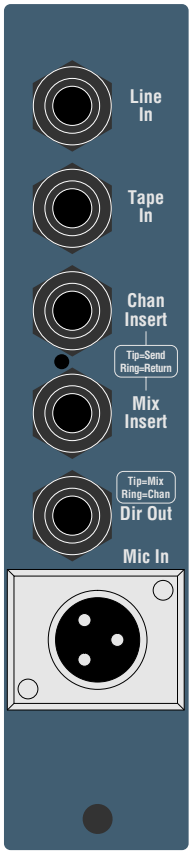
Additional Tie Line cards may be purchased for the STATUS 18R console. Each Tie Line card has 48 points that are interfaced on 6 DB-25 connectors mounted underneath the console beneath the patchbay.

The following connector pinout is typical for each of the 6 DB-25 connectors associated with each Tie Line card. The accompanying charts indicates the Tie Lines interfaced to each connector (P1–P6).

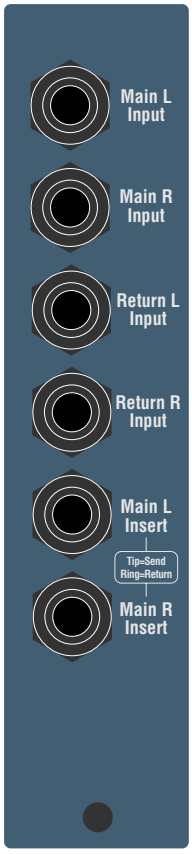


Optional Tie Line Card Connector Pinout

2.6.5 Interfacing Audio to Consoles without Patchbays

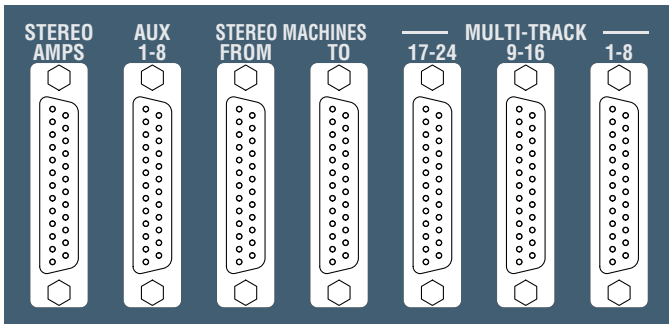


Mono Input Module Connections



Stereo Input Module Connections

All console line level inputs and outputs are designed for +4 dBu nominal level. Master Audio harnesses are plugged into Female DB-25 connectors mounted on the rear of the console.



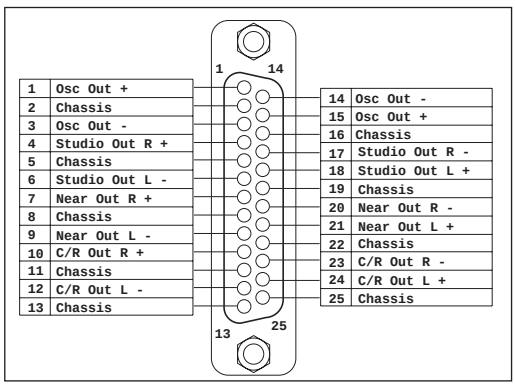
Patchless Master Connectors

The following are interfaced to 1/4" Stereo Phone jacks located on the rear panel of each module.

- Line In and Tape In (Balanced)
- Stereo Module Main In and Return In (Balanced)
- Chan and Mix Path Inserts (Send and Return, Unbalanced)
- Stereo Module Main Path Insert (Send and Return, Unbalanced)
- Chan and Mix Path Direct Out (Unbalanced)

■ Stereo Amps

The Stereo Amps connector connects to the balanced inputs of the Control Room, Studio, and Near Field monitor amps. The console's oscillator is interfaced to this connector as well.The connector pinout is as follows:

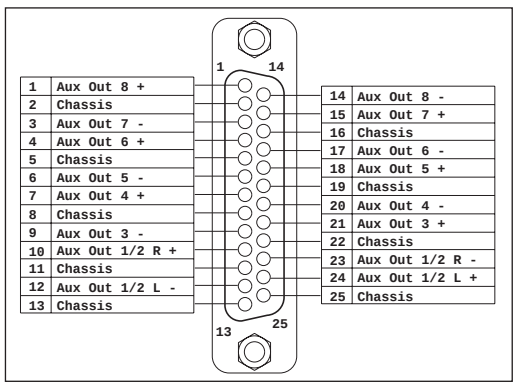


1	Osc Out +	14	Osc Out -
2	Chassis	15	Osc Out +
3	Osc Out -	16	Chassis
4	Studio Out R +	17	Studio Out R -
5	Chassis	18	Studio Out L +
6	Studio Out L -	19	Chassis
7	Near Out R +	20	Near Out R -
8	Chassis	21	Near Out L +
9	Near Out L -	22	Chassis
10	C/R Out R +	23	C/R Out R -
11	Chassis	24	C/R Out L +
12	C/R Out L -	25	Chassis
13	Chassis		

Stereo Amps Connector Pinout

■ Aux 1–8

The DB-25 connector labeled Aux 1–8 are the balanced Aux Send outputs of the console. The connector pinout is as follows:

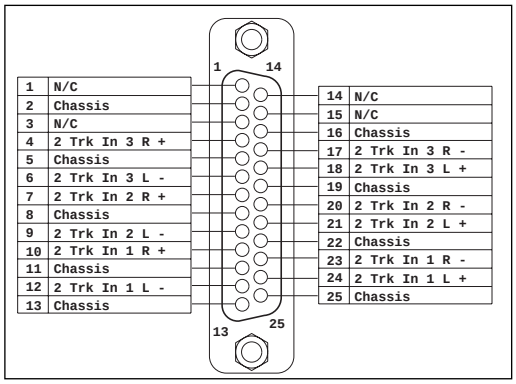


1	Aux Out 8 +	14	Aux Out 8 -
2	Chassis	15	Aux Out 7 +
3	Aux Out 7 -	16	Chassis
4	Aux Out 6 +	17	Aux Out 6 -
5	Chassis	18	Aux Out 5 +
6	Aux Out 5 -	19	Chassis
7	Aux Out 4 +	20	Aux Out 4 -
8	Chassis	21	Aux Out 3 +
9	Aux Out 3 -	22	Chassis
10	Aux Out 1/2 R +	23	Aux Out 1/2 R -
11	Chassis	24	Aux Out 1/2 L +
12	Aux Out 1/2 L -	25	Chassis
13	Chassis		

Aux 1–8 Connector Pinout

■ Stereo Machine (From)

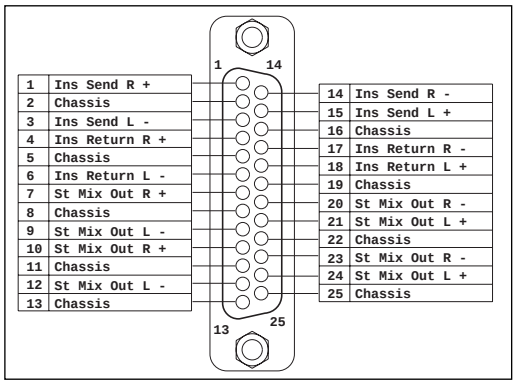
The Stereo Machine (From) connector interfaces the balanced outputs of 3 two-track recorders to the monitor system. The connector pinout is as follows:



Stereo Machine (From) Connector Pinout

■ Stereo Machine (To)

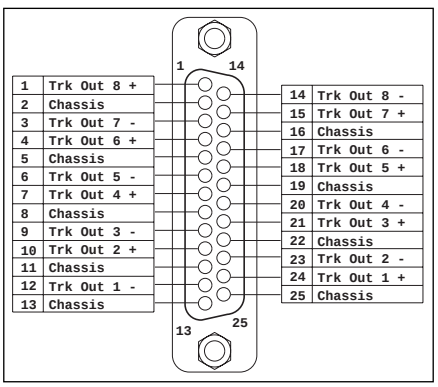
The Stereo Machine (To) connector interfaces the Stereo outputs to the balanced inputs of 2 two-track recorders; one additional balanced two track machine output can be multed from customers custom patch bay by adding the 3rd set of output jacks using parallel wiring from one of the St mix outs. Stereo Master Insert connections are provided on 1/4" phone plugs on the Master panel as described later. As shipped, the Insert Send and Return connections on the DB-25 connector are normalled inside the console. To remove Stereo Master Insert normals, remove all of the four jumper sockets from P5 on the AUDIO I/O PCB assembly. The connector pinout follows:



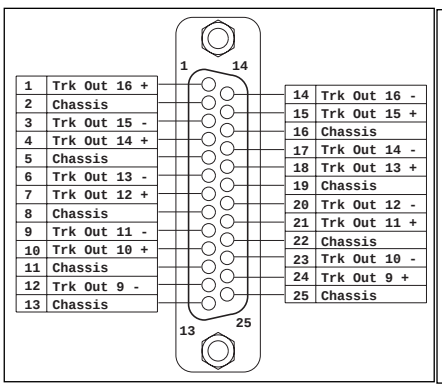
Stereo Machine (To) Connector Pinout

■ Multitrack 1–8, 9–16, 17–24

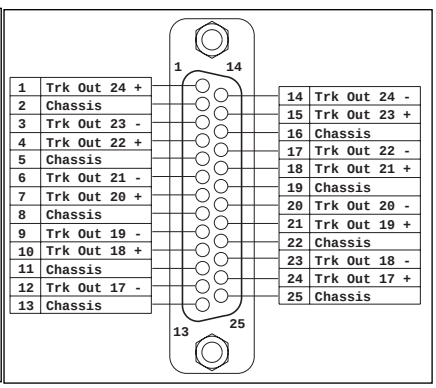
The 3 connectors labeled Multitrack (1–8, 9–16, 17–24) are the balanced Track Outputs of the console. On the STATUS 18R console, there are 12 Track buses split to 24 discrete Track outputs. Bus 1 splits to Track outputs 1 and 13, Bus 2 splits to Track outputs 2 and 14, etc. The connector pinouts are as follows:



Multitrack (1-8) Connector Pinout



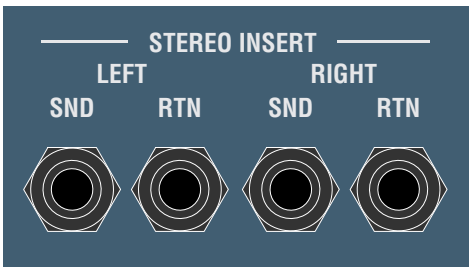
Multitrack (9-16) Connector Pinout



Multitrack (17-24) Connector Pinout

■ Stereo Insert

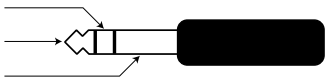
A pre fader Stereo Insert Send and Return point is provided next to the master DB-25 connectors on the rear panel.



Stereo Insert Send and Return Jacks

The Stereo Insert 1/4" Phone plugs are wired as follows:

- Ring - Low (–)
- Tip - High (+)
- Sleeve - Shield

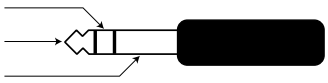


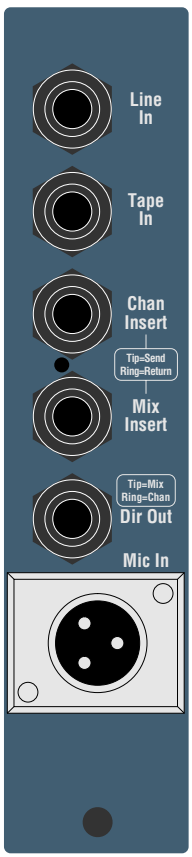
■ Line In, Tape In, Main In L, Main In R, Return In L, Return In R

The Mono module Line In interfaces the balanced Line input for the Input module. Line In could be wired to the output of any line level device including a sampler, synthesizer, or second multitrack recorder. The Mono module Tape In connector interfaces the balanced Tape inputs for the Input module. Tape In would typically connect to the output of a multitrack recorder.

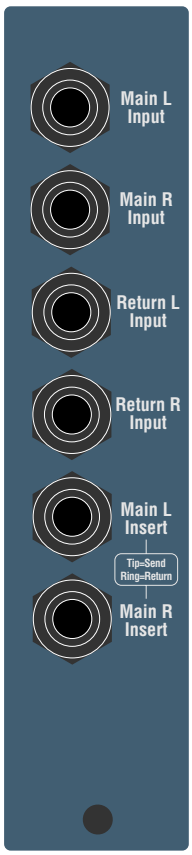
The Stereo module Left and Right Main and Return In interfaces balanced program line inputs for the Stereo Input module. The Line, Tape, and Prgm In 1/4" Phone plugs are wired as follows:

- Ring - Low (–)
- Tip - High (+)
- Sleeve - Shield





Mono Input Module Connections



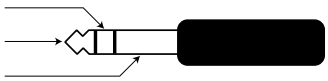
Stereo Input Module Connections

■ Chan Path Insert, Mix Path Insert, Main Path Insert

The Mix and Chan Path Insert jacks interface the unbalanced Insert Sends and Returns to Mono Input modules. The Main path Insert jacks interface the unbalanced Left and Right Main path Insert Sends and Returns to Stereo Input modules.

All Insert 1/4" Phone plugs are wired as follows:

- Ring - Insert Return (+)
- Tip - Insert Send (+)
- Sleeve - Common (–)

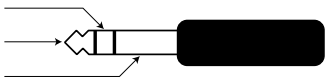


■ Direct Out

The Direct Out jacks interface the unbalanced post fader direct out signals from the Mix and Chan paths on Mono Input modules.

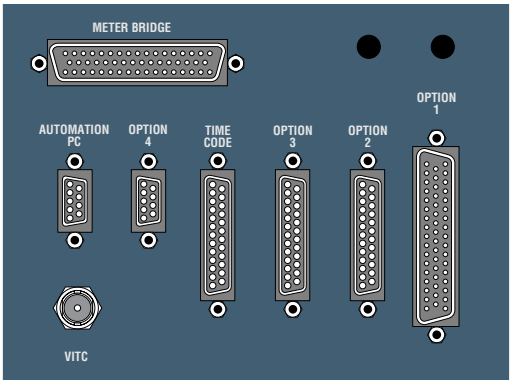
The Direct Out 1/4" Phone plug on Mono modules is wired as follows:

- Ring - Chan Path (+)
- Tip - Mix Path (+)
- Sleeve - Common (–)

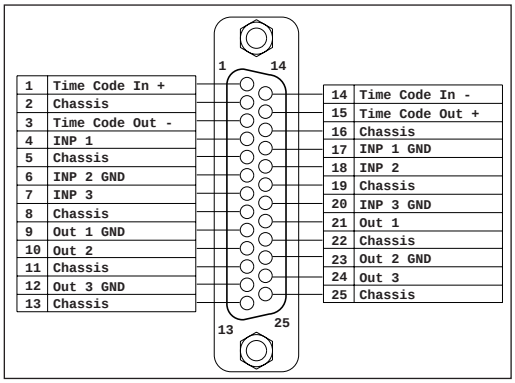


2.6.6 Interfacing Time Code

Longitudinal Time Code (LTC)
Longitudinal (Audio) Time code is interfaced on the DB-25 connector labeled TIME CODE mounted on the rear of the Auxiliary panel, next to the Digital Master Module**.** TIME CODE OUT is the output of the console's internal time code generator. TIME CODE IN is theTime Code input to DISKMIX automation.



Rear of Auxilliary Panel



Time Code and GPI Connector Pinout

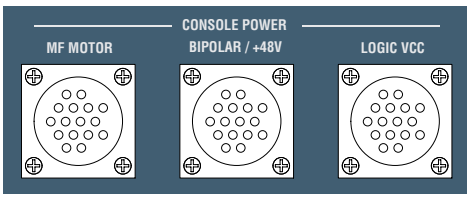
■ **Vertical Interval Time Code (VITC)**
Vertical Interval (Video) Time Code is interfaced to a coax connector labeled VITC on the rear of the Auxiliary panel, next to the Digital Master Module.
The time code rate and type being input (LTC or VITC) must be specified in the TCIN option of the Automation configuration screen of the LCD Menu System (Press **Shift**+**Automation**). See **Section 6**, **Alignment and Maintenance** for more information on configuring Time Code

NOTE: A VITC time code bus should be terminated with a 75 Ohm termination connector after the last input in the chain. As shipped, the STATUS VITC time code input is not 75 Ohm terminated. If internal termination is required, see Section 6, Alignment and Maintenance, for information on installing the 75 Ohm termination jumper on the consoles's time code board.

■ **House Sync Capability**
The Time Code Generator menu page has two frame rate options for syncing longitudinal time code to "House Sync". The H29D and H30D options allow the internal timecode generator to synchronize outgoing Longitudinal Time Code (LTC) frames with an external video sync signal by connecting a Black Burst generator or other commonly used "House Sync" source to the console's VITC jack. See Section 4.17 for more information on operating the Time Code generator.

NOTE: House Sync capability requires a hardware modification to the Time Code Processor card located inside the Status console. This modification must be performed by a competent technician. Contact your Otari representative for modification documentation if you require the use of this feature.

2.7 Connecting Power Supply Cables



Console Power Supply Connectors

IMPORTANT: Be sure that all external power supplies are turned OFF before connecting them to the STATUS 18R mainframe. The supplies must have a minimum of 1.75 inches space between them for ventilation.
Power is interfaced via 16-pin circular plastic (CPC) connectors to the rear master panel of the console. All consoles have at least two cables, Bipolar and Logic VCC.
If the console has Moving Faders, an additional rack supply and cable will be included with the console.
The power supply cables are labeled at the connector ends.Plug the Bipolar cable into the corresponding connectors on the console and power supply. Twist the locking ring until it stops.
Follow the same procedure for the Logic VCC and Moving Fader power cables (if supplied).

2.8 Connecting Eagle Automation

In order to use Fader and Mute automation, an IBM compatible computer must be connected to the console. This PC is not included with the console and must be supplied by the user.

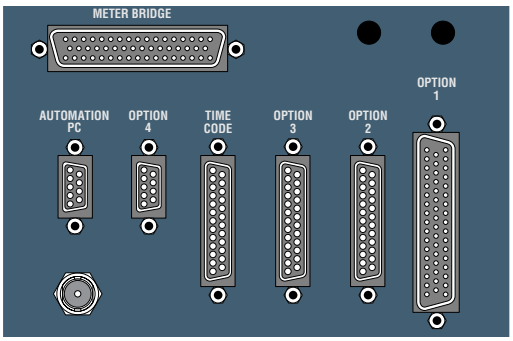
2.8.1 Automation PC Specifications

The minimum specifications for the automation PC are:

- 486DX2-66 processor or higher operating on a Video Local Bus (VLB) or PCI Bus motherboard (PCI Preferred)
- 15" or larger Color monitor capable of 800x600 resolution
- SVGA Video card with 1 Meg Ram. (VLB or PCI interface)
- 16 Meg System Ram
- 250 Meg Hard Disk Drive
- At least 1 COM Port using a 16550A High Performance UART. The presence of this UART can be determined by running MSD at the C:> prompt of the PC in question.
- A Pointing Device such as a Mouse or Trackball. A second COM port is required if the pointing device has a serial interface. If you have the Dynamics option and wish to use the Graphical User Interface, you must use a COM port for Dynamics and have a bus-type mouse or trackball.
- 20-foot (610 cm) maximum 9 pin serial cable (straight-pinned or extension-type). Do not use a PC-to-PC serial cable.

2.8.2 Console Connection

The console communicates to the Automation PC using an RS-232 (COM) port. Connect one end of the 9 pin serial cable to the DB-9 connector labelled **AUTOMATION PC** on the rear of the Auxilliary panel. Connect the other end to the 9 pin DB-9 connector on the PC labelled COM 1 or COM 2.



Rear of Auxilliary Panel

For information on installing and configuring automation software, see **Section 6**, **Alignment and Maintenance**.

2.9 Interfacing the Optional PicMix Surround Monitor System

Version 1.2 console software supports the optional GPI interface card that is required for console to PicMix communications. The GPI card provides three general-purpose outputs to the PicMix Multi-Format Monitor system:

- **Communication** - COMM or TB/SLATE pressed.
- **Solo** - Any Solo button pressed
- **In-Place** - Chan In-Place or Mix In-Place Solo is active.

Connection to the PicMix system is via a 37 pin D-sub connector present on the PicMix Controller rack option for the Status Console.
For further information about PicMix and the Status General Purpose Interface card, contact your Otari representative.

2.10 Set-up And Initial Turn-on

The following procedures should be performed under the supervision of your authorized Otari representative.

2.10.1 Normalizing the Console

It is good operating procedure to completely normalize the console before starting a session or performing system tests. All controls are placed in their “neutral” position (off, centered, released, etc., depending on the specific function). This reduces the possibility that a signal will be misrouted by some switch or knob being left in an improper position. This normalization procedure should also be followed before turning the console on for the first time. When console normalization is performed on an operating console, make sure that the monitor system is set at a low level to prevent unexpected high level signals from damaging the monitor speakers.

To normalize the console, follow this procedure:

1. **Place all manual console switches in the Up (released) position.**
2. **Turn all Level controls fully counter-clockwise (off).**
3. **Turn all Pan Pots to their center position.**
4. **Place the STEREO MASTER fader at its “0” position (unity gain).**
5. **Place all other linear faders in their lowermost position (off).**
6. **Remove all patch cords from the patch bay.**

2.10.2 Powering the Console

The console's floppy disk is located below the Digital Master Module. Insert the STATUS master floppy disk into the drive.

Have someone stationed near the power supplies, so they may be easily reached during the initial check-out procedure. Check that the A.C. line voltage for the supplies is correct. **Do NOT turn on any supplies yet.**

Make sure that all supply fuse caps are in place and that all front panel power switches are off. Plug in the power supply AC power cords. Turn the power supplies on, one at a time, and verify that all supply switches are lit. Should any of the supply switches do not light, it is an indication of a possible problem with the console or the power supplies. Turn off all console power supplies IMMEDIATELY and check all power connections.

The console will not be functional until the console processors have loaded software into the console. During boot-up, the LCD display shows the Otari Logo and some startup messages. When boot-up is complete, the Recall function is displayed in preparation for recalling a snapshot or console image. If all appears to be normal, proceed to the next section.

2.10.3 Monitor System Setup

For optimum system operation, it is essential that the gain staging between the console and the monitor amplifiers is given careful attention. The following procedure will verify that your monitor system is properly interfaced with the console output. Before beginning this procedure, make sure that your monitor speakers are capable of withstanding the power and listening levels that may be delivered to them. Proper speaker protection is the responsibility of the console owner.

The optimum setting for the Monitor level controls is between 12:00 and 3:00 o'clock. At this position, the monitoring level should be very loud. When the console's Monitor Level control is at the 3:00 o'clock position and the Stereo Master Meters read zero VU, the level at the Monitor outputs will be a nominal +4 dBu. When the Monitor Level control is fully clockwise, the level at the Monitor outputs will be +10 dBu.

To begin, turn the Studio and Control Room Monitor level controls, and the power amp sensitivity controls, to their minimum (counter-clockwise) position. If your power amp does not have input level controls, it may be necessary to install an in-line attenuator between the console outputs and the amplifier inputs.

On the console, set the Control Room Monitor Level control to the 3:00 o'clock position. Using some representative program material, raise the monitor amp's input level controls until the listening level is very loud. Adjust the controls for proper balance between channels.

Repeat the procedure for the Near Field, Studio and Cue System amplifiers.

Section 3 Controls and Indicators

3.1 Overview

From a control standpoint, the STATUS 18R can be thought of as four basic modular components:
- Digital Master Module
- Input Module
- Analog Master Section
- Patch Bay

The design of the STATUS 18R is such that the Digital Master Module provides central switching for most of the Input module functions, minimizing the need for local switching on the modules themselves. Computer control of the console allows module switch settings to be stored and recalled as “Presets” and “Snapshots”, and module knob settings to be stored for computer assisted recall.

Many of the console’s master functions are controlled using the LCD display on the Digital Master Module. The following functions are controlled using the LCD and its 8 selection buttons:
- Meter sourcing and ballistics
- Solo type, sourcing and operation
- Fader group setup and editing
- Snapshot and console image recall
- Fader and switch automation master controls
- Miscellaneous master functions

The operation of many of the console’s computer controlled functions can be modified by settings in the User Preference System (UPS). This enables the user to set switch timeouts and change the way certain functions operate.

Because the Digital Master Module is pivotal to the operation of the Input and Analog Master Modules, it will be described first. Module function descriptions later in the section will reference the corresponding control on the Master Section.

■ Computer Control

Most of the switches on the STATUS 18R console are under computer control, meaning that the Status Control System (SCS) can actually change the switch’s state from the Master module.
Input Module controls that are not computer controlled are:
- Rotary Level Controls and Pan Pots
- +48 Volt Phantom Power Switch
- EQ Frequency Select, Path Select and Curve Switches

Analog Master functions not under computer control are:
- Rotary Level Controls and Pan Pots
- Oscillator Select Switches
- Control Room (C/R) to Meters Selector
- Studio/Effects Section On and Source Select Switches
- Control Room Mono, Meters, and Source Select Switches
- Stereo Master Fader

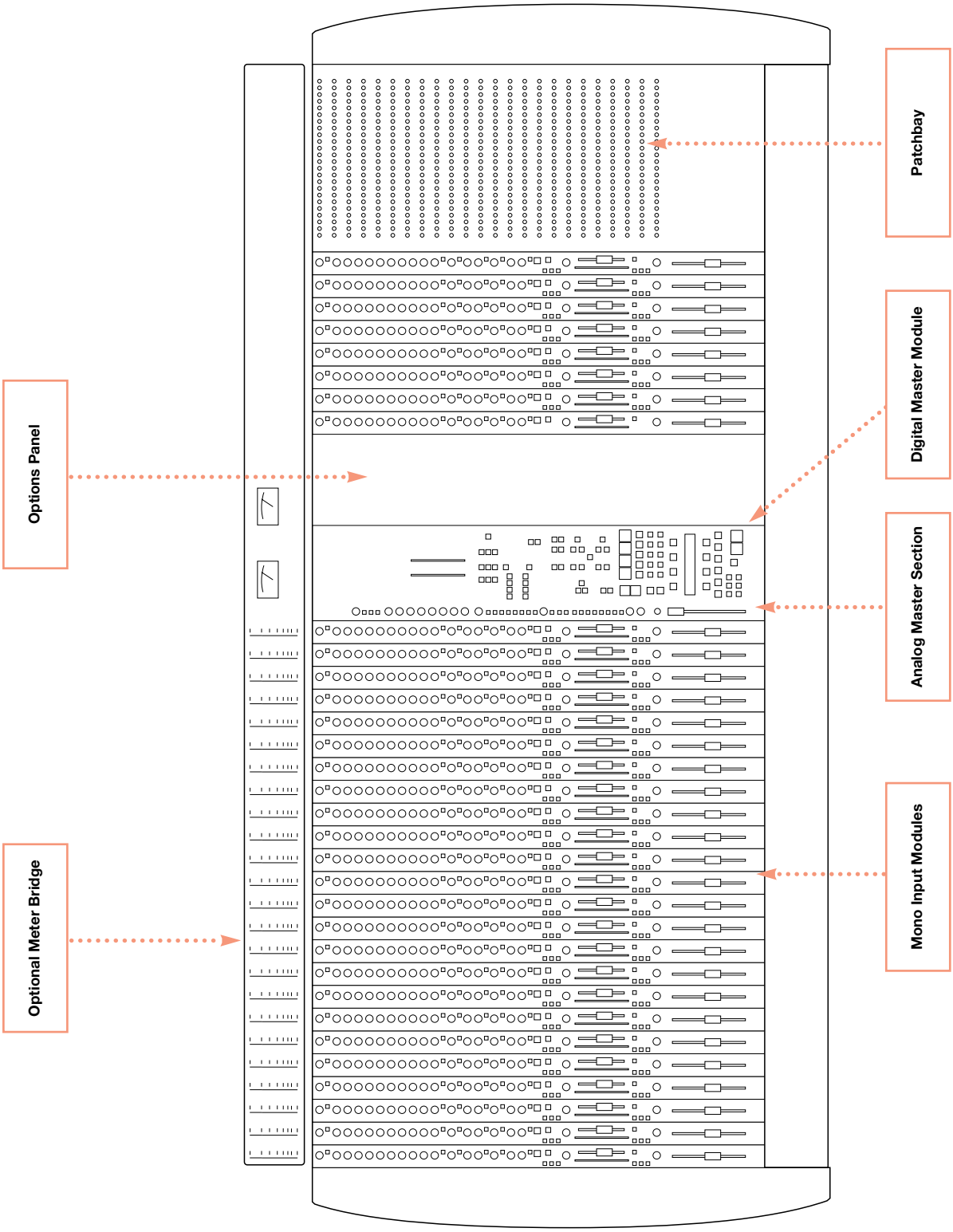
In general, computer controlled functions have momentary switches with LED indicators.

■ Computer Assisted Recall

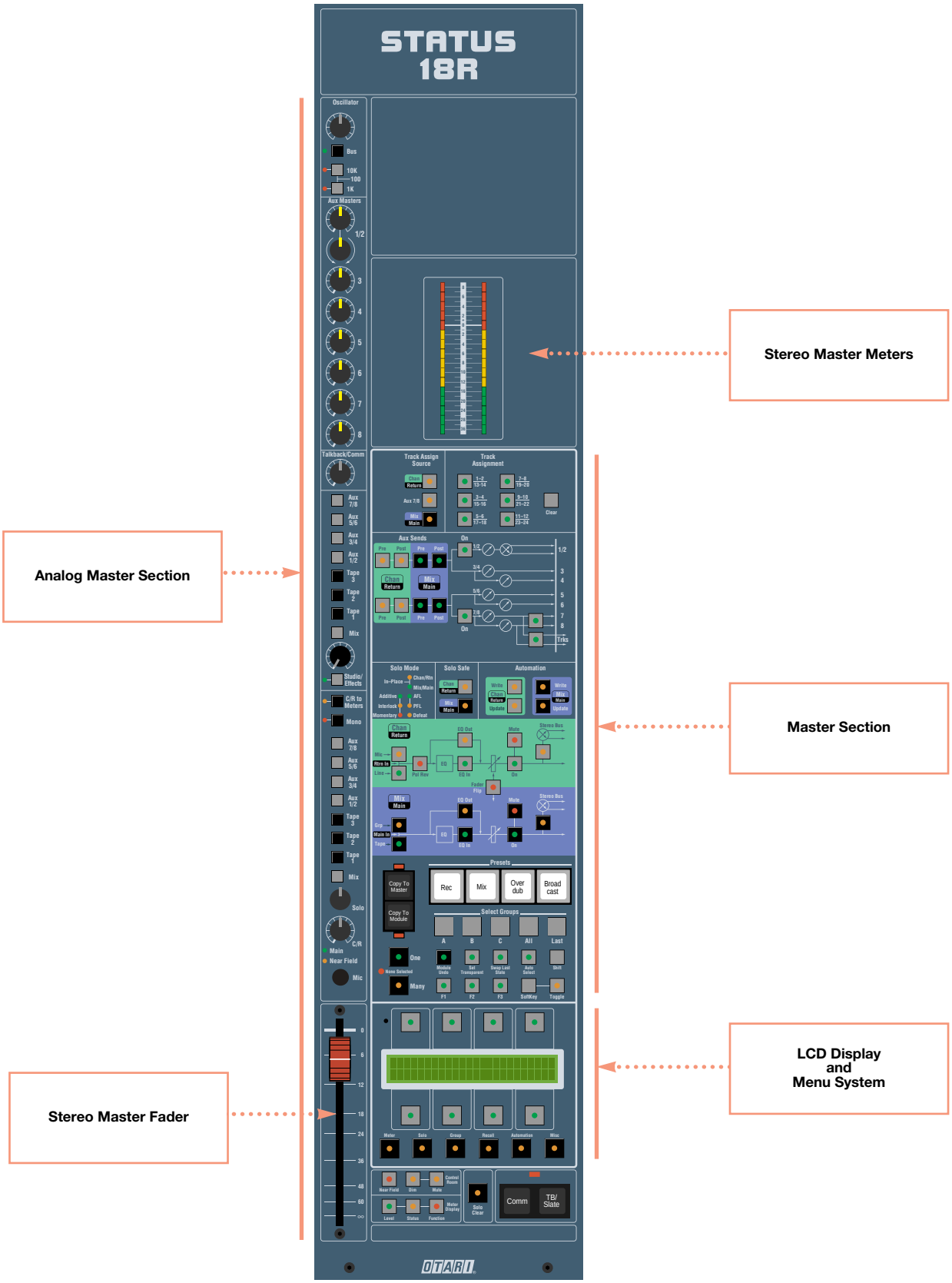
Using the STATUS Recall System (SRS), the settings of <u>all</u> Input Module knobs and switches can be stored so that the console can be precisely reset at any time.

During recall, computer controlled switches are automatically set to their stored states. Knobs and manual switches are manually reset guided by each module’s LED display. Multiple modules can be reset at the same time, allowing more than 1 person to participate in the resetting process.

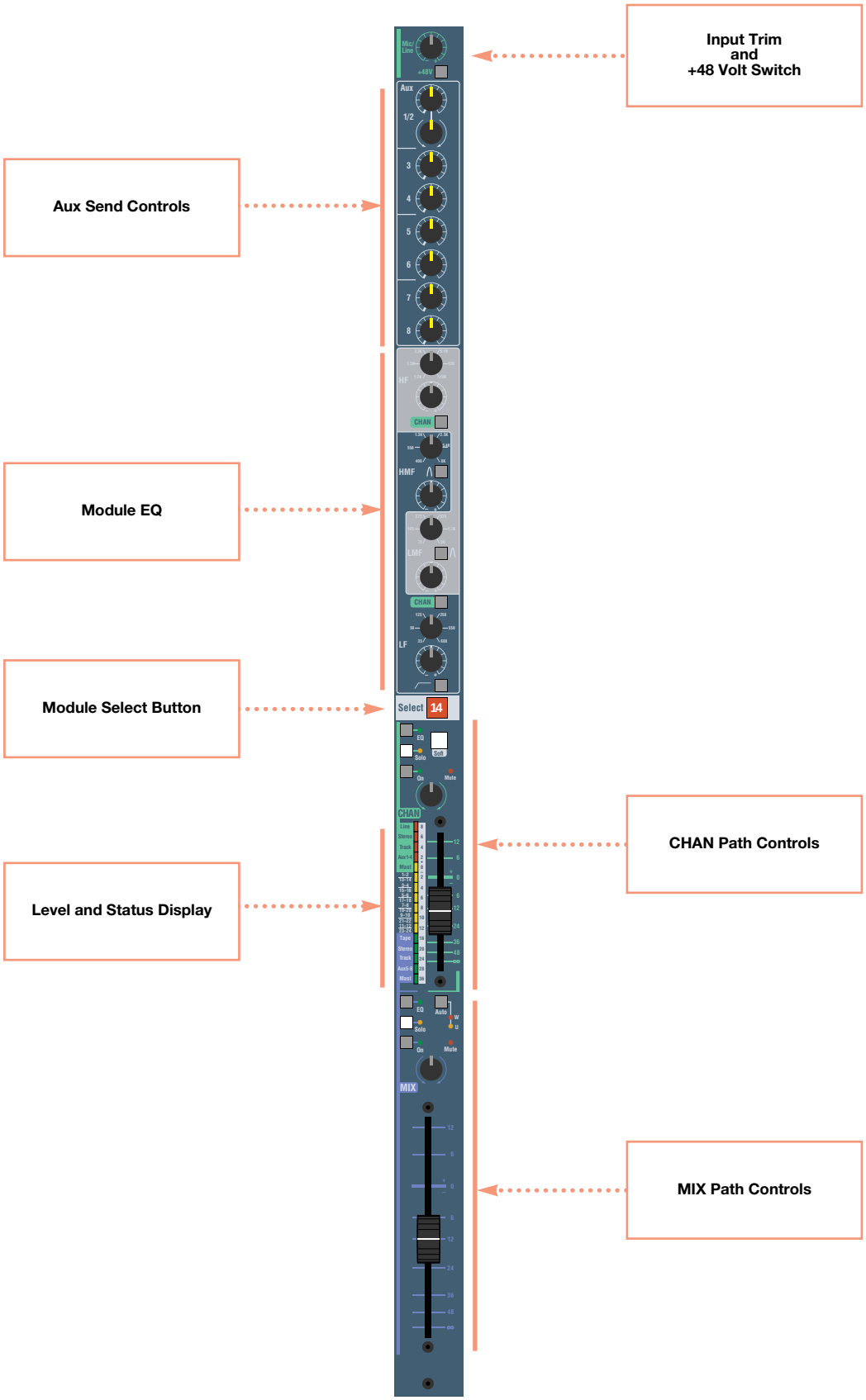
3.1.1 Console Layout



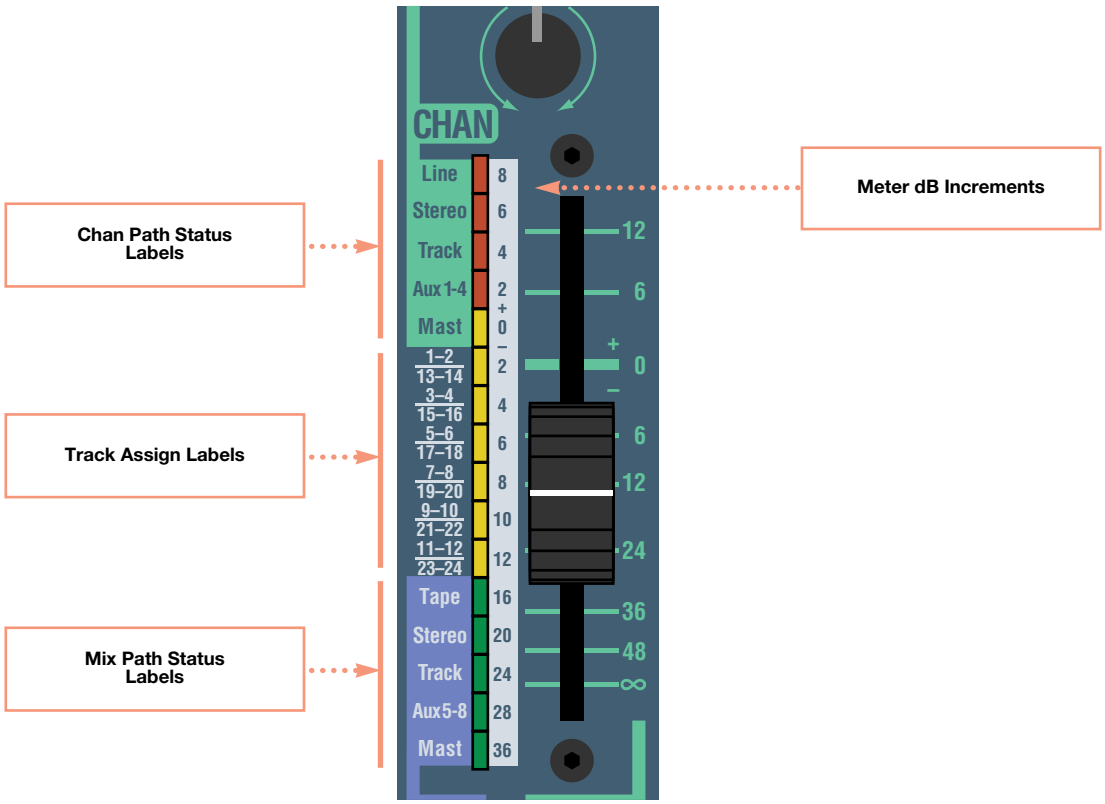
3.1.2 Digital Master Module



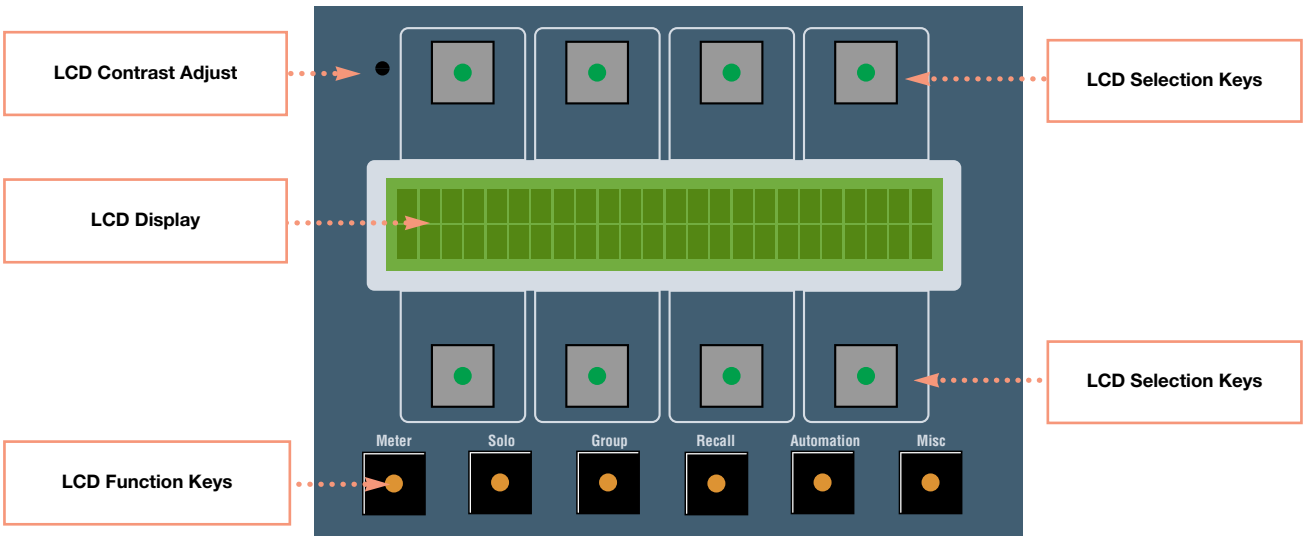
3.1.3 Input Module



3.1.4 Input Module LED Meter and Status Display

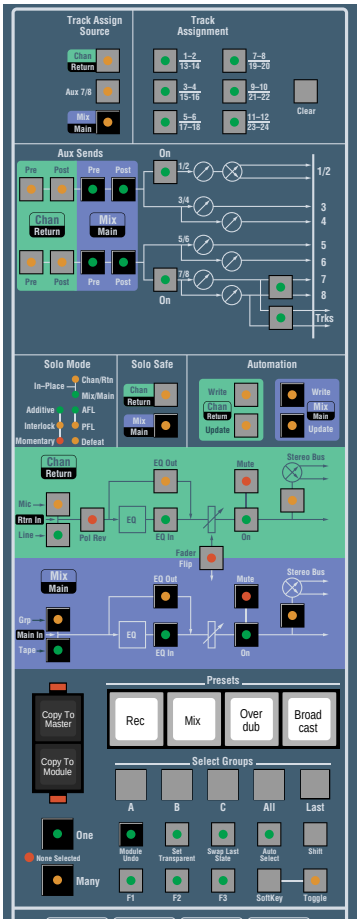


3.1.5 LCD Menu System



3.2 Master Section

3.2.1 Overview



Master Section

The Master Section is defined by a bold white border on the Digital Master Module. Contained here are the switches for controlling functions on the Input Modules.

The switches and panel graphics have been arranged as an active “Block Diagram” to aid in understanding the signal flow that is being affected. Color coding defines switches that affect the Channel Path (Light Green) or the Mix Path (Violet).

The following symbols are used throughout the Master Section to show various circuit elements:

Fader

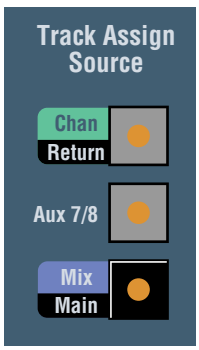
Level Control

Pan Pot

The Master Section switches have LED indicators to show that a switch is active. If a switch has a toggle function, the LED being On indicates that the function is On or Assigned. If the LED is Off, the function is Off or unassigned. If a switch’s LED is flashing it is “transparent”, a switch state that will be discussed in **Section 4**, **Operation**.

Selecting Modules: When an Input Module’s **Select** button is lit, it is logically attached to the Master Section. This means that while attached, the Master Section becomes that module’s switch control surface. Changes made to the Master Section affect the Module switches and changes made to module switches are reflected on the Master Section. Understanding Module selection is central to operating the STATUS 18R. For more information about selecting modules, see **Section 4**, **Operation**.

3.2.2 Track Assign Source



Track Assign Source Controls

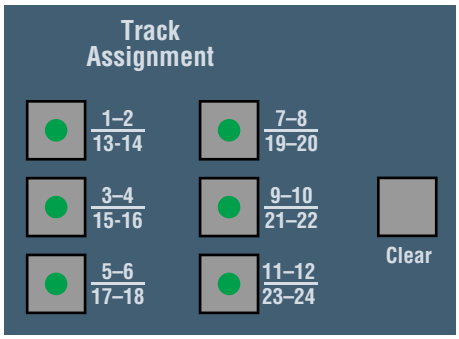
Each Input Module has one Track Assign Matrix for routing signals to the console’s 12 Track Buses. In conventional designs this matrix is normally sourced from one input path of the console. In the STATUS 18R, each Input Module’s Track Assign Matrix may be sourced from one of three places; the Channel Path Fader (CHAN), The Mix Path Fader (MIX) or Aux 7/8 (AUX 7/8).

Pressing **Chan** or **Mix** allows the Channel or Mix Path to be assigned to the Track Buses. Pressing **AUX 7/8** allows the Input Module’s AUX 7/8 Send to be assigned to the Track Buses.

The three Track Assign Source buttons are normally interlocked. The track assign may be sourced from the Mix and Chan paths simultaneously by holding the **Mix** button while pressing the **Chan** button (or vice-versa).

The track assign can not be sourced from Aux 7/8 and the Mix or Chan path at the same time.

3.2.3 Track Assignment



Track Assign Source Controls

The STATUS 18R console has 12 Track buses that "split" to 24 discrete Track Outputs. Paths assigned to Track 1 appear on Track 13, Track 2 on Track 14, and so on.

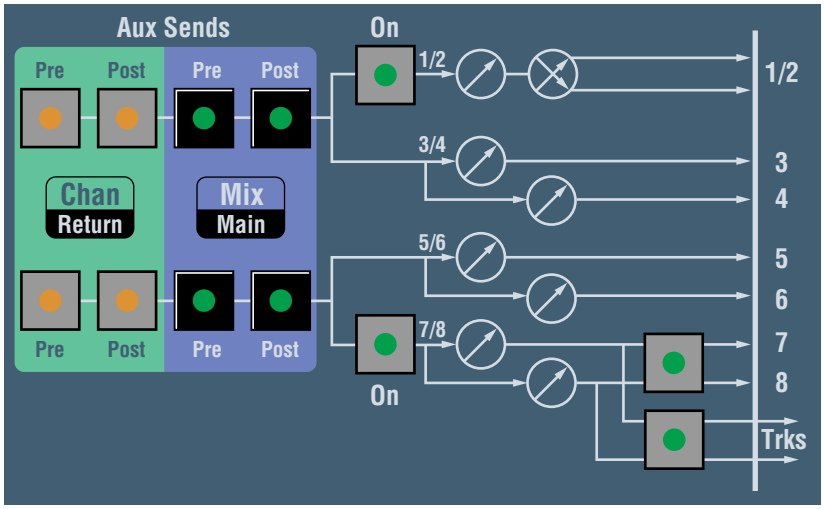
The **Track Assignment** Section is a 6 button matrix with a **Clear** button. Each Track Assign button routes the Input Module's Track Assign Source to a pair of Track Buses. Assigning to a single Track Bus is accomplished by adjusting the Track Assign Source's Pan Pot. Panning Left assigns to odd numbered channels, panning Right assigns to even numbered channels. Panning between a pair of buses allows the Bus pair to be used as a Stereo pair during recording.

When the Track Assign is sourced from Aux 7/8, the Aux Send Level Controls adjust the levels to the Track Bus pairs.

Track Assignment is displayed on the Input Module's LED Meter and Status Display by pressing the **Status** button in the **Meter Display** Section of the Digital Master Module. The **Meter Display** buttons will be described later in this section.

Any or all Track Assign buttons may be selected at one time. The **Clear** button deselects all Track Assign buttons.

3.2.4 Aux Sends



Aux Send Source Controls

The Aux Sends Section controls sourcing, muting and assignment of an Input Module's Aux Sends.

Each Input Module can feed eight Aux Buses via eight Aux Send level controls. The eight Aux Send level controls are configured as four send pairs. Aux 1/2 is a Stereo send with a Level Control and Pan Pot, Auxes 3/4, 5/6 and 7/8 are Mono sends, each with its own Level Control.

The four Aux Send pairs may be sourced pre or post the Channel and/or Mix Path fader. The source for Auxes 1/2 and 3/4 is selected by the upper set of **Pre/Post** and **Mix/Chan** buttons, the source for Auxes 5/6 and 7/8 is selected by the lower **Pre/Post** **Mix/Chan** buttons.

Auxes 1/2 and 7/8 each have an Aux **On** button.

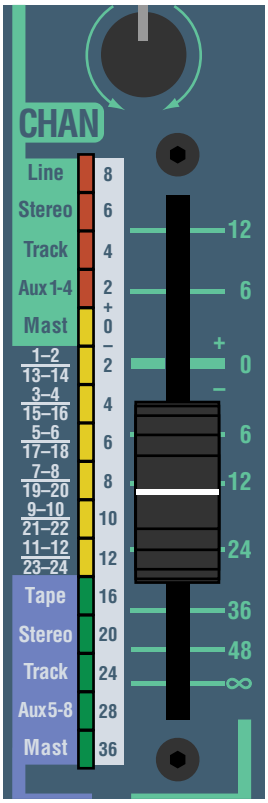
■ **Pre and Post:**
Pressing **Pre** sources an Aux Send from before the path's fader. This is desirable when using the Aux as a Cue Send for studio headphones or a pre-fader effects send. While **Pre** is selected, a path's fader levels have no effect on the levels heard in the headphones.

Pressing a **Post** switch sources an Aux Send after the path's fader and its associated **On** switch. This is desirable when using the Aux as an Effects Send where the effect return should change level and mute with its source material.

Aux sends may be sourced from the Chan and Mix paths simultaneously. When the Aux send is sourced from both paths, the Mix and Chan path signals are summed before the feeding the Aux controls.

The four **Pre** and **Post** buttons are normally interlocked. To assign from both paths simultaneously, hold one path's **Pre** or **Post** select button while pressing the other path's **Pre** or **Post** button.

Pre and Post may not be selected simultaneously on the same path. Different Pre and Post sourcing may be selected on the Mix and Chan path selectors, however. For example, Auxes 1 through 4 may be sourced from Pre Chan path and Post Mix path, but not from Pre and Post the Mix path only.



Module Level and Status Display

■ Pre Fader Aux Muting (Tracking Mode)

Normally, Pre fader Aux Sends mute when their associated path is muted. Pre fader Aux muting is desirable when using a pre-fader Aux Send as an effects send. It is undesirable when using the send as a feed to a musician's headphones. When "Tracking mode" is in effect on a pre-fader Aux Send, the send will not mute when its associated path is muted.

A UPS setting in the MISC Options menu (**Shift-Misc**) of the LCD Menu System determines if Tracking mode is active on the Channel and Mix path pre-fader Aux Sends. When tracking mode is on, selected pre-fader Auxes will not mute when their associated path is muted.

Tracking Mode has no effect on Post-fader Aux Sends.
Tracking mode is described further in **Section 4**, **Operation**.

■ Trks, 7/8

AUX 7/8 may alternately be routed to the Input Module's Track Assign Matrix for output to the multitrack. Pressing **Trks** sources the track assign from the module's Aux 7/8 controls. Pressing **7/8** sources Aux buses 7/8 from the Aux 7/8 controls.

The **Trks** and **7/8** buttons are independently assigned. The Aux 7/8 controls can feed Aux send 7/8 and the module's Track Assign simultaneously by holding either button and pressing the other.

■ On

Auxes 1/2 and 7/8 each have an Aux **On** button. Pressing an Aux Send's **On** button connects the Aux Send pair to its assigned buses. When the button is lit, the Aux Send is On.

Aux Sends 3/4 and 5/6 do not have **On** buttons and are therefore always On.

■ Module Indication

An Aux Send's assignment is also displayed on the Input Module LED Meter and Status display by the **AUX 1-4** and **AUX 5-6** LEDs. The LEDs have a different meaning depending on whether the Aux is sourced from one or both module paths.

Auxes sourced from a single source:

- When **Aux 1-4** is lit, Auxes 1 through 4 are sourced from the Chan path. When off, Auxes 1-4 are sourced from the Mix path.
- When **Aux 5-8** is lit, Auxes 5 through 8 are sourced from the Mix path. When off, Auxes 5-8 are sourced from the Chan path.

Auxes sourced from both paths:

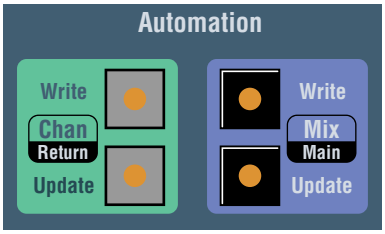
- When **Aux 1-4** is lit, Auxes 1 through 4 are sourced from both paths. When off, Auxes 1-4 are not sourced from the Chan path.
- When **Aux 5-8** is lit, Auxes 5 through 8 are sourced from both paths. When off, Auxes 5-8 are not sourced from the Mix path.

Solo Safe Controls

3.2.5 Solo Safe

Pressing **Solo Safe** prevents a path from being muted during an In-Place solo operation. This is useful during a mix when reverb and effects devices need to be heard during an In-Place solo.

The **Solo Safe** switch has a toggle function. If the button is lit, the path will not mute during an In-Place solo.



Write and Update Buttons

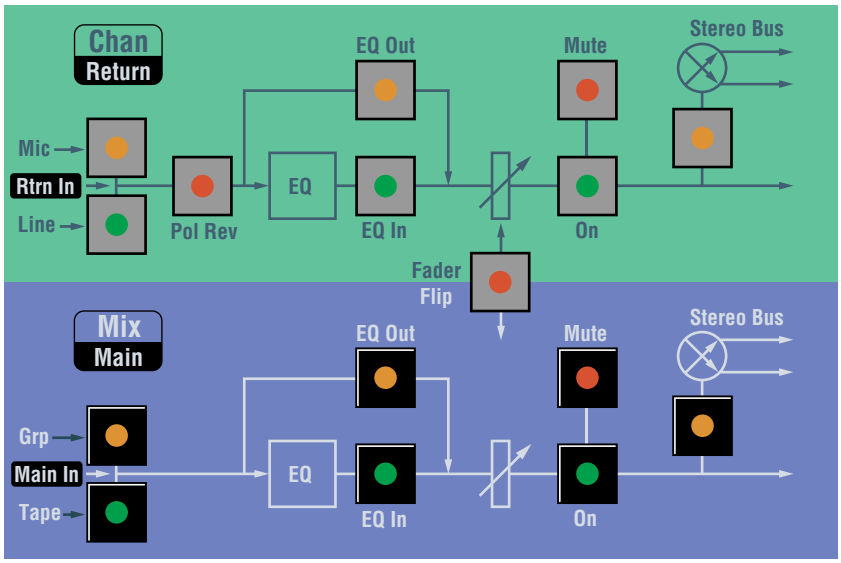
3.2.6 Write, Update

The **Write** and **Update** buttons are used in conjunction with Fader Automation. See **Section 5** for information using Fader Automation.

The Input Modules have a local **Auto** button and LEDs that work in conjunction with the Master Section **Write** and **Update** switches.

3.2.7 Channel Path and Mix Path

The Channel and Mix Paths of the Input Module are almost identical. Differences will be noted as necessary.



Channel Path and Mix Path

■ **Mic and Line**

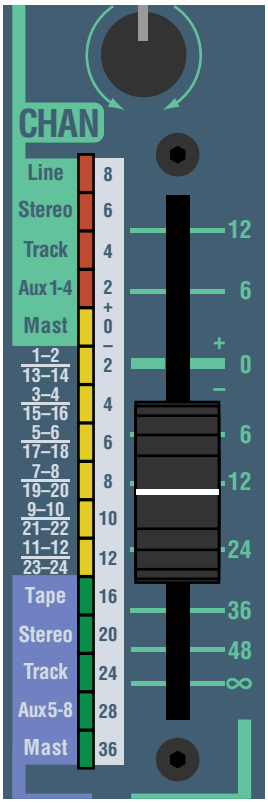
Each Input Module has four inputs that are grouped into two input pairs; the Mic and Line inputs, and the Group and Tape inputs.The Channel Path is sourced from either Mic or Line while the Mix Path is sourced from either the Group or Tape input. Pressing **Mic**, **Line**, **Group** or **Tape** selects the input for a given path.

Mic is a low level input for connecting Microphones, Mic Level Direct Boxes and low level Synthesizers.

Line is a high level input for any line level device. It may be calibrated for a +4 dB or -10 dB input level.

Mic and **Line** are interlocked, only one source may be selected at a time.

The Chan path's source is also displayed on the Input Module LED Meter and Status display by the **Line** LED. If the **Line** LED is on, the Chan path is sourced from the Line input, if it is off, the Chan path is sourced from the Mic input.



Module Level and Status Display

■ Group and Tape

Pressing **Group** selects the internal Group Bus associated with that Input Module. For example, selecting **Group** on the Mix Path of Input Module 5 would cause all signals assigned to Track Bus 5 to show up on the Mix Path Fader of Input Module 5. Input Modules 25 and above have no Group Buses, therefore audio will not appear when the Group input is selected on those Modules.

Because Status' 12 Track buses are split to 24 Track Outputs, the Group input on Modules 1 through 12 will be the same as the corresponding Group Inputs on modules 13 through 24.

The Tape input is a high level input normally used for connecting the output of a multitrack recorder to the Input Module. It may be calibrated for a +4 dB or -10 dB input level.

Group and **Tape** are normally interlocked. Both inputs can be summed into the Mix path by holding **Group** and pressing **Tape**, or vice-versa.

The Mix path's source is also displayed on the Input Module LED Meter and Status display by the **Tape** LED. The LED has a different meaning depending on whether the path is sourced from one or both inputs.

- **Mix path sourced from a single input:** If the **Tape** LED is on, the Mix path is sourced from the Tape input, if it is off, the Mix path is sourced from the Group input.
- **Mix path sourced from both inputs:** If the **Tape** LED is on, the Mix path is sourced from both inputs, if it is off, the Mix path is not sourced from the Tape input.

■ Pol Rev

Pressing **Pol Rev** reverses the polarity of the input selected on the Channel Path. This is useful for correcting an electrically "Out of Phase" condition caused by different wiring standards. Pressing **Pol Rev** again returns the polarity to its normal state. The Mix Path is not affected by **Pol Rev**.

■ EQ In and EQ Out

Pressing the **EQ In** button on the Channel or Mix Path inserts the EQ sections selected for that path into the circuit. Pressing **EQ Out** bypasses the EQ circuit. If there are no EQ sections assigned to a path, the path's EQ switch has no effect.

The Input Modules have a local **EQ In** switch and LED on each path that works in parallel with the Master Section **EQ In** and **EQ Out** switches.

■ Fader Flip

Pressing **Fader Flip** swaps the fader control of the Channel and Mix Paths of the Input Module. This causes the lower Mix fader to control the upper Channel path's gain and vice-versa. This feature allows either path's fader to be in easy reach of the engineer without changing the module's configuration. Playback of automation and snapshot data does not change when Fader Flip is engaged.

■ Chan Off and Chan On, Mix Off and Mix On

Chan Off and **Mix Off** mute the signal of their respective paths after the fader. **Chan On** and **Mix On** restore them to an On state.

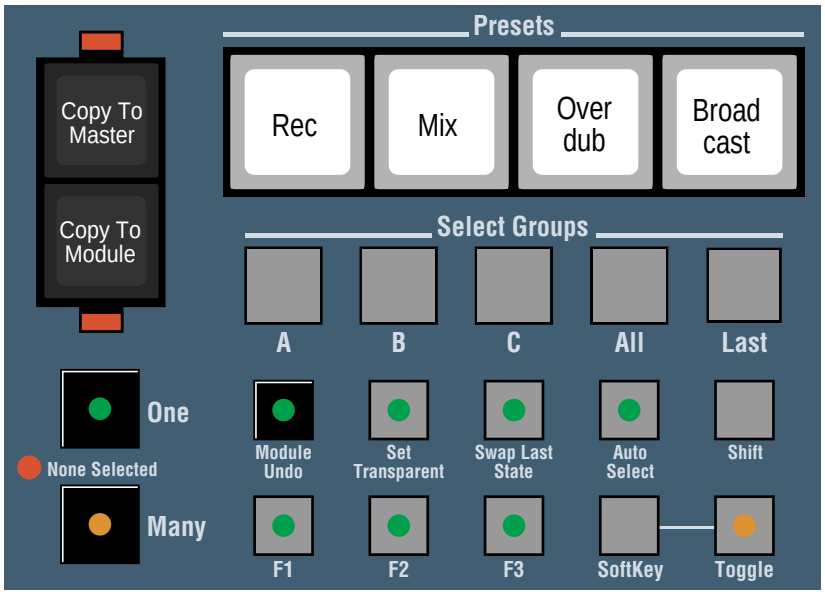
The Input Modules have a local **On** switch that toggles audio on and off. The local **On** switch and LED work in parallel with the Master Section **Chan** and **Mix On/Off** buttons.

■ Stereo Bus

The STATUS 18R has one Stereo Mix Bus. Pressing the **Chan** button assigns the post fader signal of the Channel Path to the Stereo Bus, pressing **Mix** assigns the post fader signal of the Mix Path to the Stereo Bus. Both paths of the Input Module may be assigned simultaneously.

The Stereo Bus Assignment is also displayed on the Input Module LED Meter and Status display by the **Mix** and **Chan Stereo** LEDs.

3.2.8 Edit Buttons



Edit Buttons

The Edit Buttons include:

- Copy To Master
- Copy To Module
- Module Undo
- Set Transparent
- Swap Last State

These buttons are used for copying Input Module switch states to and from the Master Section. Information for using the edit functions can be found in **Section 4**, **Operation**.

■ **Copy To Master**

When **Copy To Master** is lit and the **Select** button on an Input Module is pressed, the module becomes logically "attached" to the Master Section and its switch states are displayed. While the Input Module is attached, any changes made to the Master Section will be immediately enacted upon the Input Module and vice-versa. Single or multiple Input Modules may be attached to the Master Section by pressing **One** or **Many** before selecting Input Modules.

Copy To Master is the default edit mode of the console. Pressing **Copy To Master** clears all Input Module selections and retains the current switch settings.

■ **Copy To Module**

When **Copy To Module** is lit, the switch states that appear on the Master Section will be copied to any Input Module selected. The Master Section may be copied to single or multiple Modules by pressing **One** or **Many** before selecting Input Modules.

The copy function can be performed on cue to a number of modules by holding **Copy To Module** and pressing **Many**. While **Copy To Module** and **Many** are flashing, select the desired Input Modules and press **Copy To Module** to execute the copy.

■ **Module Undo**

Pressing **Module Undo** removes changes made to selected Modules since they were selected for editing. When **Undo** is lit, changes have been made that may be undone.

Pressing **One** or **Many** (whichever is lit) while editing updates the Undo switch states to the current state of the Master Section, clearing the previous Undo states and turning off the **Undo** LED.

■ **Swap Last State**

Pressing **Swap Last State** while an Input Module is selected exchanges the Module's current state with the Module's previous state. Besides providing a local Undo function, the Previous State can be set and recalled on cue. When **Swap Last State** is lit, the selected Input Modules are in their previous state. If additional modules are selected while **Swap Last State** is lit, their current state remains and will be opposite the state of the originally selected modules.

■ **Set Transparent**

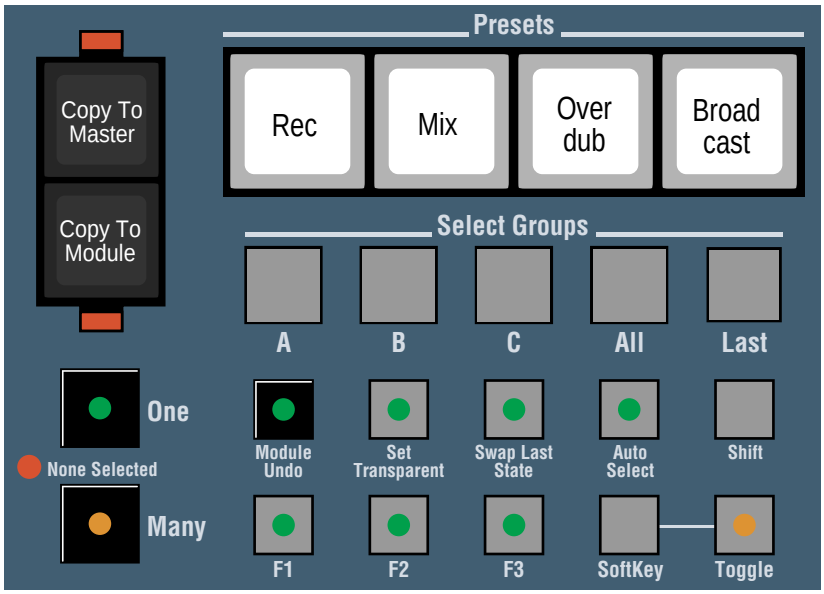
The **Set Transparent** button provides a means of copying one or a few of a module's settings to another module.

Pressing **Set Transparent** once puts the Master Section into Transparency mode. Pressing a switch on the Master Section will cause that function to become transparent (flash), meaning that it will not be copied during a copy operation. Pressing a function's button repeatedly toggles the function in and out of the transparent state.

Pressing **Set Transparent** twice causes all functions to become transparent (flash). Pressing a switch on the Master Section will turn off transparency for that function, meaning that it will be copied during a copy operation. Pressing a function's button repeatedly toggles the function in and out of the transparent state.

Transparency mode is a timed function and will time out after approximately 6 seconds. This timeout can be changed in the MASTER option of MISC Menu of the LCD Menu System.

3.2.9 Selection Buttons



Selection Buttons

The Selection buttons include:
- Group A
- Group B
- Group C
- All
- One
- Many
- Last
- Shift
- None Selected LED

The Input Module **Select** buttons work in conjunction with the Master Section Selection buttons.

■ **One**
One and **Many** determine how Module selection operates. When **One** is pressed, Module **Select** buttons are interlocked. Pressing a Module's **Select** button selects that module and deselects all others.

When used with **Copy To Master** and **Copy To Module**, pressing **One** allows only one Input Module to be attached to the Master Section at a time.

Pressing **One** before a **Group A**, **B**, or **C** button causes only that group to be selected, all other Modules are deselected.

■ **Many**
Pressing **Many** causes the Module **Select** buttons to operate in an additive mode. Pressing a Module's **Select** button selects the Module and adds it to any Modules already selected. Pressing the **Select** button again deselects it from the selected Modules.

When used with **Copy To Master** and **Copy To Module**, pressing **Many** allows multiple Modules to be attached to the Master Section at the same time.

Pressing **Many** before **All** or a **Group A**, **B**, or **C** button causes the Group to be added to any Modules already selected. Pressing the **Group** button again deselects that Group from the selected Modules.

■ **All**

Pressing **All** selects all Input Modules in the console. **All** selects all Modules even if Modules are already selected. If **Many** is active, pressing **All** alternately selects and deselects all modules.

All Modules can be deselected by pressing **Copy To Master**.

■ **A, B, C**

The **A**, **B** and **C** buttons store Module Select Groups for recall. The **A**, **B**, **C** *and* **All** buttons have shifted versions, allowing up to 7 Select Groups to be saved. Each select button is identical in function.

Select Groups are useful for storing commonly used module selections for recall with one button.

To store a Select Group, select the modules desired, hold **Many**, then press **A**, **B**, or **C**. To store a shifted select group, select the modules desired, hold **Many**, press **Shift** and release, then press **A**, **B**, **C**, or **All**.

■ **Last**

Pressing **Last** recalls the last set of module selections. If a module selection has been cancelled by a time out, pressing **Last** will restore the cancelled selection.

Holding **Shift** and pressing **Last** inverts the *current* module selection. All modules that are selected will be deselected and vice-versa.

■ **Auto Select**

Pressing **Auto Select** puts the console in Auto Select mode. When any computer controlled button is pressed on an Input Module, that module is attached to the Master Section for editing.

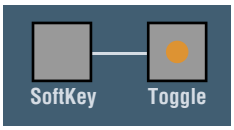
Auto Select only works in Copy To Master - One mode.

■ **None Selected Indicator**

The **None Selected** indicator lights when there are no modules selected. This can occur when **Copy To Master** or **Copy To Module** is pressed or when **Set Transparent** is pressed twice.

This is an LED indicator only. There is no button associated with this function.

3.2.10 Soft Key



Soft Key

The SoftKey buttons include:
- SoftKey
- Toggle

The Master Section Softkey buttons work in conjunction with the SOFT button on the Input Modules.

■ **SoftKey**
The **SoftKey** can be programmed to execute any function on the Master Section. A programmed function can then be executed on individual Input Modules by pressing the module's **Soft** button.

Once programmed, Pressing **SoftKey** executes the programmed function on all selected Input Modules. If no modules are selected, the programmed function is executed on the Master Section only.

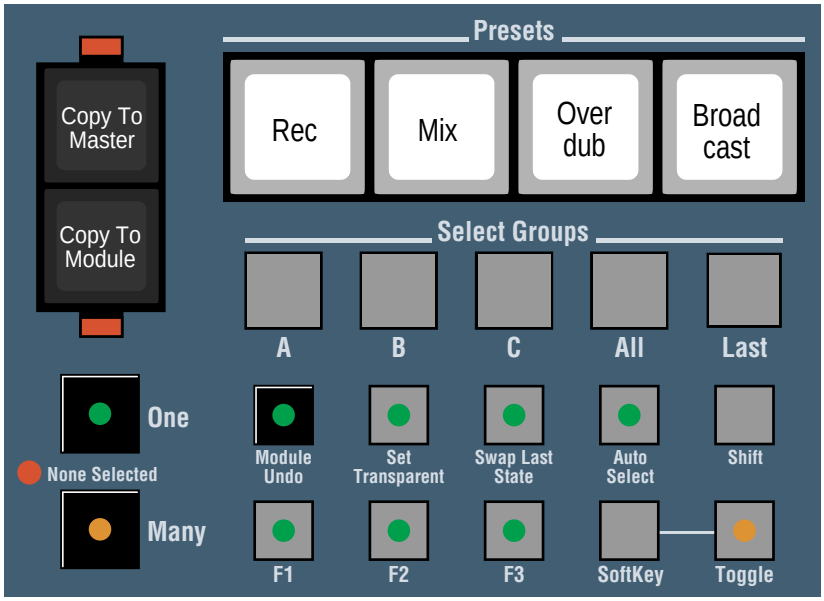
■ **Toggle**
Pressing **Toggle** while programming the **SoftKey** defines the **Softkey** as a toggle function. When programmed as a toggle, the function switches to its alternate state each time **SoftKey** is pressed.

When **Toggle** is not selected, an absolute switch state is programmed into the SoftKey. Every time the **SoftKey** is pressed the same state is executed.
Certain functions cannot be programmed as a Toggle. These include Track Assign Source and the Track Assign Matrix.

■ **Programming a SoftKey**

1. Press **Copy To Master** or **Copy To Module** to clear module selections.
2. Press **Clear Master** twice to clear all functions.
3. Press **Toggle** if the **SoftKey** should have a toggle function.
4. Press the desired function's switch, if the softkey is not a toggle, select the switch state desired.
   Multiple functions can be selected.
5. Hold **Copy To Module** and press **Softkey**.

3.2.11 Presets



Preset Buttons

The Preset buttons include:
- Rec
- Mix
- Overdub
- Broadcast
- Shift

Presets are a collection of Input Module switch states. Like Input Modules, Presets can be copied to the Master Section and the Master Section copied to Presets. The purpose of Presets is to maintain a library of module states that can be accessed quickly and copied to the Master Section with the push of a button.

Presets can also store “Transparent“ states, allowing only a few switch states to be stored. For example, a “Mute All” preset could be created, storing only the Mix and Chan Off switches. The whole console could then be muted with three keystrokes - the “Mute All” preset, **Copy To Module**, and **All**. Pressing **Swap Last State** would return all modules to their original condition.

Transparent switches are discussed further in **Section 4**, **Operation**.

The labels on the Preset buttons represent Presets configured at the factory. In reality, all of the Preset buttons can be programmed by the user. The labels under the button caps may be changed if desired.

■ Preset Buttons

Each of the Preset buttons except **Shift** stores two Presets, the first Preset is selected by pressing the Preset button alone, the second by holding **Shift** and pressing the Preset button.

Pressing a Preset button deselects any selected modules and copies the Preset into the Master Section. From here the Preset can be copied to Input Modules or modified.

■ Storing a Preset

1. **Set the Master Section to the desired state.**

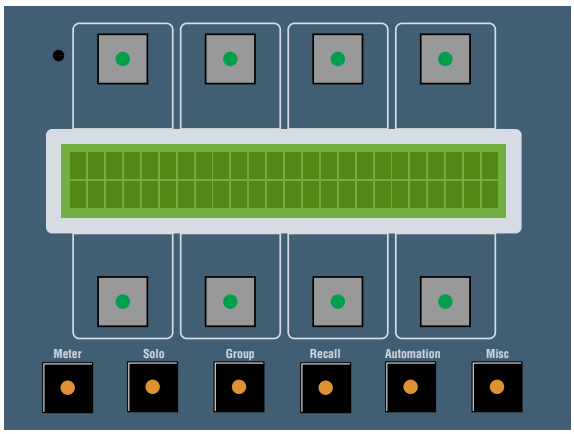
2. Hold **Copy To Module** and press the desired Preset button.
To store to a shifted Preset, hold **Copy To Module**, press **Shift** and release. Then press the desired Preset button.

3.3 Digital Master Module

Following is a description of the Digital Master Module controls and indicators that are not a part of the Master Section. These include:

- The LCD Display and Associated Buttons
- F1 through F3
- The Solo Modes Section
- The Talkback Section
- The Control Room Switches
- The Meter Display Switches
- Solo Clear

3.3.1 LCD Display



LCD Display

The LCD display and its associated keys provide access to most of the console's master functions. The main components include:

- The 48 character backlit Liquid Crystal Display (LCD)
- The 8 selection buttons with LEDs surrounding the display
- The 6 function buttons with LEDs - Meter, Solo, Group, Recall, Automation, and Misc

The panel graphics delineate the display into 8 sections, each with an associated selection button. When a function key is pressed, the LCD displays options for some or all of the selection keys.

The selection keys have different modes of operation depending on the option being displayed. A selection button may operate as any of the following:

- **Toggle:** Toggles the displayed option On or Off. The button's LED indicates the On state of the option. (ie. Solo Defeat On/Off)
- **Scroll:** The button is used to increment or decrement a number or move through a list. (ie. Adjust snapshot ramp time)
- **Execute:** The button executes the function displayed. (ie. Load a snapshot)
- **Menu Option:** Pressing the button goes to a second menu or returns to the previous menu. (ie. Done).

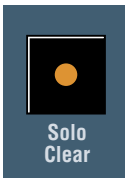
Operation of the LCD Menu System is described in **Section 4**, **Operation**.

Function Keys F1 - F3

3.3.2 Function Keys F1–F3

There are three buttons labeled **F1** through **F3** next to the **Many** button on the Digital Master Module. The **F1** and **F2** buttons are used to start and stop the internal time code generator.

3.3.3 Solo Clear

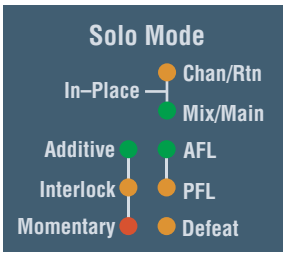


Solo Clear

The **Solo Clear** button is located at the bottom of the Digital Master Module. Pressing **Solo Clear** unsolos all Channel and Mix Paths that are being Soloed. This is useful for unsoloing a number of soloed paths or for cancelling a solo when the buttons causing the solo are not immediately apparent.

The **Solo Clear** LED flashes whenever solos are active.

3.3.4 Solo Mode



Solo Mode

The Solo Mode Section contains the following LEDs:
- Defeat
- In-Place (Chan)
- In-Place (Mix)
- AFL
- PFL
- Additive
- Interlock
- Momentary

The following abbreviations will be used when describing solo modes:
- **IPS or In Place Solo:** A “Destructive” solo mode where unsoloed paths are muted during the solo operation.
- **MIS or Monitor Interrupt Solo:** A “Non-destructive” solo mode where soloed paths are summed to a separate Solo Bus and routed to the monitors while the solo is in effect.
- **AFL or After Fader Listen:** An MIS solo mode where the item being soloed is monitored after the path’s fader and Pan Pot.
- **PFL or Pre Fader Listen** - An MIS solo mode where the item being soloed is monitored before the path’s fader and its associated **On** switch.

Operation of the Solo system is described in detail in **Section 4**, **Operation**. The following descriptions show how the Solo LEDs are affected when solo functions are executed from the LCD Menu System.

■ Defeat

Pressing DEFEAT on the SOLO LCD Menu overrides an MIS solo in effect, but does not cancel soloed channels. Pressing DEFEAT again restores the Solos that were previously in effect. When Solo Defeat is in effect and no paths are soloed, the **Defeat** LED is lit. If Solo Defeat is in effect and a path is soloed, the **Defeat** LED flashes.

Solo Defeat is useful during a session when a solo prevents communication between the Studio and the Control Room. The Solo can be temporarily overridden then returned to its previous state when desired.

An option in the SOLO LCD Menu (**Shift-Solo**) allows In Place solos to be defeated whenever MIS solos are defeated.

■ In-Place (Chan and Mix)

Pressing MIXIP or CHANIP on the SOLO LCD Menu configures the selected path for IPS (In-Place) soloing. Both paths may be selected simultaneously. If the path’s **In-Place** LED is not lit, the path is configured for MIS (Monitor Interrupt) soloing.

An option in the SOLO LCD Menu (**Shift-Solo**) prohibits In Place solos from being selected for the Mix or Chan path. This option prevents a “destructive” IPS solo mode from being selected when the console is being used live or on air.

■ **AFL, PFL**

When MIS soloing is selected, pressing AFL on the SOLO LCD Menu causes soloed items to be sourced post fader and its associated **On** button and Pan Pot. Pressing PFL causes soloed items to be sourced before the path's fader and associated **On** button. AFL solos are heard in Stereo as determined by the path's Pan Pot. PFL solos are heard in Mono.

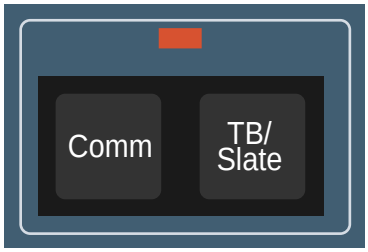
■ **Additive, Interlock, Momentary**

Pressing ADD on the SOLO LCD Menu causes the **Solo** buttons to operate in an additive fashion. When a **Solo** button is pressed, it is added to the other paths being soloed. In order to clear the solo, each Solo button must be unsoloed or the **Solo Clear** button pressed.

Pressing INTRLK causes the **Solo** buttons to interlock when pressed. When a **Solo** button is pressed, the path is soloed and previously soloed paths are unsoloed. Pressing a **Solo** button that is already soloed, unsolos it. If any **Solo** button is held while in Interlock mode, the system operates as if it were in Additive mode, allowing multiple paths to be soloed without leaving Interlock mode.

Pressing MOMEN on the SOLO LCD Menu causes the **Solo** buttons to operate in a Temporary mode. Pressing a **Solo** button solos the path only while the **Solo** button is pressed. Paths soloed previous to entering Temporary mode remain soloed while Momentary mode is in effect.

3.3.5 Talkback



Talkback

The buttons that control Communications and Slate functions are located in the lower right-hand corner of the Digital Master Module.

■ **TB/Slate**
Pressing **TB/Slate** dims the Control Room audio and connects the Talkback Microphone to the following outputs:
- Track Out
- Stereo Mix Out
- Studio Out
- (Aux Out)

When **TB/Slate** is pressed, the frequency selected on the oscillator is fed to the console's Track and Stereo Mix outputs at a low level. When recorded on tape during a slate, a 100 Hz tone becomes an audible "blip" when winding tape at high speeds, making slates easier to locate.

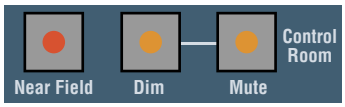
The Talkback Mic level is controlled by the Talkback/Comm pot on the Analog Master Section of the Digital Master. Jumpers on the console motherboard determine if the Talkback Mic will be fed to individual Aux Sends. See **Section 6**, **Alignment and Maintenance** for information about configuring these jumpers.

■ **Comm**
Pressing **Comm** dims the Control Room audio and connects the Talkback Microphone to the Aux outputs.

The Comm function is useful for communicating with talent during recording. The Talkback Mic can be mixed into a Cue Send so that vocal cues and direction from the Control Room can be heard in the musician's headphones without printing it to tape.

The Talkback Mic level is controlled by the Talkback/Comm pot on the Analog Master Section of the Digital Master. Jumpers on the console motherboard determine if the Talkback Mic will be fed to individual Aux Sends. See **Section 6**, **Alignment and Maintenance** for information about configuring these jumpers.

3.3.6 Control Room



Control Room

■ **Mute**
Pressing **Mute** mutes Control Room audio. The **Mute** button LED is lit when C/R Mute is active. Pressing **C/R Mute** again unmutes the Control Room audio.

C/R Mute supersedes all other Control Room functions including MIS Solos and Dim.

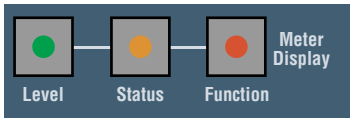
■ **Dim**
Pressing **Dim** lowers the Control Room level by approximately 20 dB. This is useful for lowering the Control Room level temporarily during conversation then restoring it to its previous level.

While active, the **Dim** button LED is lit. Pressing **C/R Dim** again restores the Control Room level to normal.

Dim and **Mute** operate independently. If **Mute** is pressed while Dim is in effect, the Control Room audio will be muted. When **Mute** is unmuted, Dim will still be in effect.

3.3.7 Meter Display

The Meter Display buttons control what is being viewed on the input module's LED Meter and Status Display.



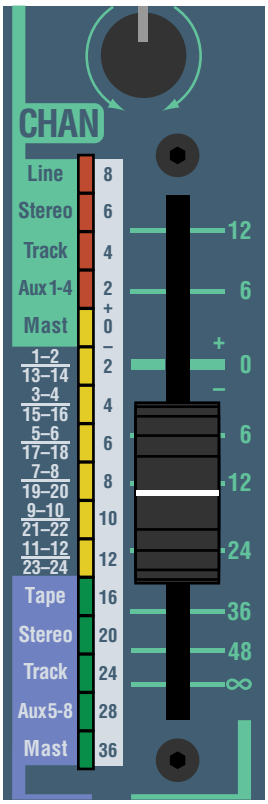
Meter Display

■ **Level**

Level is the default mode for the LED Meter and Status Display. When active, all Input module meters display the signal level of the source selected by the Meter function of the LCD Menu System.

■ **Status**

When **Status** is pressed, the Input module meter displays module status information. While in Status display, the labels to the left of the LEDs describe the LED function. From the top down, these are:



Line	Chan path sourced from the Line Input
Stereo	Chan path assigned to the Stereo Mix bus
Track	The Track Assign is sourced from the Chan path
Aux 1-4	Aux 1 through 4 is sourced Pre or Post the Chan path
Mast	The Chan path is the Master of a fader group
1-2/13-14	Module is assigned to Track Out pairs 1/2 and 13/14
3-4/15-16	Module is assigned to Track Out pairs 3/4 and 15/16
5-6/17-18	Module is assigned to Track Out pairs 5/6 and 17/18
7-8/19-20	Module is assigned to Track Out pairs 7/8 and 19/20
9-10/21-22	Module is assigned to Track Out pairs 9/10 and 21/22
11-12/23-24	Module is assigned to Track Out pairs 11/12 and 23/24
Tape	Mix path sourced from the Tape Input
Stereo	Mix path assigned to the Stereo Mix bus
Track	The Track Assign is sourced from the Mix path
Aux 5-8	Aux 5 through 8 is sourced Pre or Post the Mix path
Mast	The Mix path is the Master of a fader group

Status is a timed function. After a preset amount of time the meter display returns to Level mode. Pressing **Status** twice locks the Meter Display in Status mode. Pressing **Level** or **Function** returns the meter display to normal operation

■ **Function**

When **Function** is pressed, the module LED Meter and Status Displays are used to display a module's state **for one function only**. This provides a way to quickly view the switch state of a single function on all modules.

Function is a timed display. After a preset amount of time the meter display returns to Level mode. Pressing **Function** twice locks the Meter Display in Function mode. Pressing **Level** or **Status** returns the meter display to normal operation. The timeout can be changed in the MASTER option of MISC Menu of the LCD Menu System.

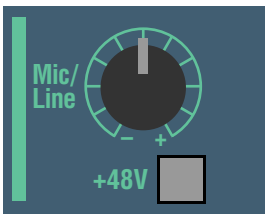
3.4 Input Module

A typical STATUS 18R console contains between 24 and 48 Input Modules, depending on the mainframe size and configuration.

Each Input Module contains two input paths. The path in the upper section of the module is referred to as the Channel Path (CHAN). The path in the lower section is referred to as the Mix Path (MIX). Throughout the console Channel Path controls are color coded Light Green, Mix Path controls are color coded Violet.

Controls and indicators that are common to both paths will be described once.

3.4.1 Input

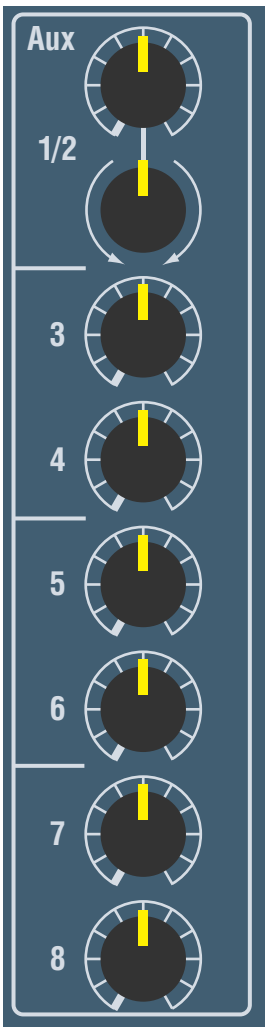


Input Controls

■ **Mic/Line**
The **Mic/Line** Trim Control adjusts the gain of the input selected on the Chan path. The trim has a range of 54 dB.

■ **+48V**
When the **+48V** button is depressed, +48 Volt Phantom power in applied to the module's Mic connector for powering Condenser microphones.

3.4.2 Aux



Aux Controls

Each Input Module has eight Aux Send level controls configured as four send pairs. Aux 1/2 is a Stereo send with a Level Control and Pan Pot, Auxes 3/4, 5/6 and 7/8 are Mono sends with Level Controls only. Mono sends 7 and 8 can alternately be routed to the Input Module's Track Assign Matrix for output to the multitrack.

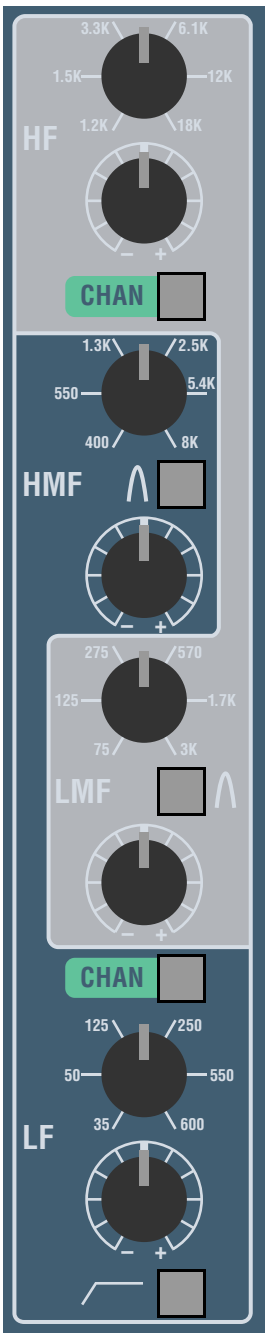
Aux Send sourcing and assignment is controlled by switches in the Master Section of the Digital Master Module.

■ **Aux Send Level and Pan Controls**
Level and panning to the Aux Buses are controlled by the eight AUX Send knobs near the top of the module.

Aux 1/2 is configured as a Stereo Aux Send. On this send, the top knob controls level to the Aux Send pair while the bottom knob pans between the Aux 1 (left) and Aux 2 (right). Auxes 3 through 8 are configured as Mono sends and have individual level controls.

Auxes 7 and 8 have the option of assigning to Aux Buses 7 and 8 or the module's Track Assign. Aux routing is controlled in the Aux Sends section of the Digital Master module.

3.4.3 EQ



EQ Controls

The module's wide-range 4-band EQ may be assigned to either module path or split between the two. When split, the High Frequency (HF) and Low Mid Frequency (LMF) sections are switched as a pair as are the High Mid Frequency (HMF) and Low Frequency (LF) sections. Each path's EQ In/Out switch controls only the EQ sections assigned to its path. The HF and LF sections are shelving filters. The HMF and LMF sections are peak/dip filters with selectable bandwidth.

■ HF Frequency Select Control
The HF frequency select is continuously variable from 1.2 kHz to 18 kHz.

■ HF Boost/Cut Control
The HF Boost/Cut Control is a center detent knob that provides 15 dB of boost or cut at the shelving frequency selected on the HF frequency select. Turning the knob left of center cuts the selected frequency, turning it right of center boosts the selected frequency.

■ CHAN (HF/LMF Assignment Switch)
When depressed, the HF and LMF EQ sections are assigned to the Chan path of the module. When in the Up position the HF and LMF sections are assigned to the Mix path.

■ HMF Frequency Select Control
The HMF frequency select is continuously variable from 400 Hz to 8 kHz.

■ HMF Bandwidth Switch
The Hi Mid Bandwidth switch selects the bandwidth or "Q" of the Hi Mid filter. When depressed (Narrow), the bandwidth is .2 octaves. When it is not depressed, the bandwidth is approximately 1 octave.

■ HMF Boost/Cut Control
The HMF Boost/Cut Control is a center detent knob that provides 15 dB of boost or cut at the frequency selected on the HMF frequency select control. Turning the knob left of center cuts the selected frequency, turning it right of center boosts the selected frequency.

■ LMF Frequency Select Control
The LMF frequency select is continuously variable from 75 Hz to 3 kHz.

■ LMF Bandwidth Switch
The Lo Mid Bandwidth switch selects the bandwidth or "Q" of the Hi Mid filter. When depressed (Narrow), the bandwidth is .2 octaves. When it is not depressed, the bandwidth is approximately 1 octave.

■ LMF Boost/Cut Control
The LMF Boost/Cut Control is a center detent knob that provides 15 dB of boost or cut at the frequency selected on the LMF frequency select control. Turning the knob left of center cuts the selected frequency, turning it right of center boosts the selected frequency.

■ CHAN (HMF/LF Assignment Switch)
When depressed, the HMF and LF EQ sections (and HPF) are assigned to the Chan path of the module. When in the Up position the HMF and LF sections are assigned to the Mix path.

■ LF Frequency Select Control
The LF frequency select is continuously variable from 35 Hz to 600 Hz.

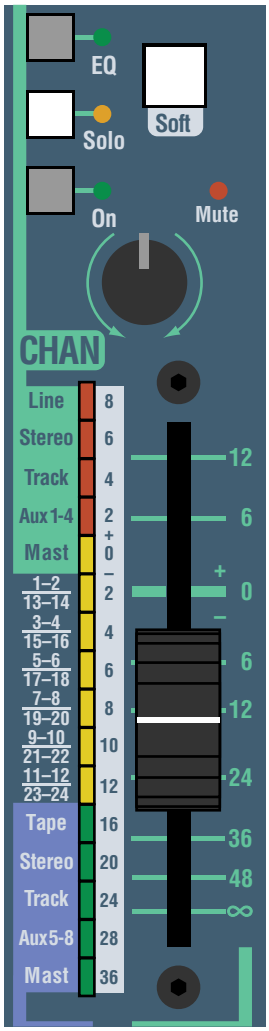
■ LF Boost/Cut Control
The Lo Boost/Cut Control is a center detent knob that provides 15 dB of boost or cut at the shelving frequency selected at the frequency selected on the LMF frequency select control. Turning the knob left of center cuts the selected frequency, turning it right of center boosts the selected frequency.

■ High Pass Filter Switch
Depressing the High Pass Filter switch inserts a 18 dB/oct. low frequency cutoff starting at 80 Hz. The High Pass filter is associated with the HMF/LF EQ section and is assigned to the path determined by the HMF/LF CHAN switch. The High Pass filter will not be heard unless the path's EQ switch is on.

3.4.4 Fader Section

The Mix and Chan Path Fader Sections have the following controls in common:
- Fader
- Pan Pot
- Solo Button and LED
- On Switch and LED
- EQ Switch and LED
- Mute LED

Controls that are not common to both faders are:
- Softkey Button (Soft)
- Automation Button and LEDs (Auto)



Chan Path Fader Section

■ EQ
Each path's EQ switch operates in conjunction with the Master Section **EQ In** and **EQ Out** buttons. The Input Module provides local switching of EQ section without the need to attach the module to the Master Section.

When the **EQ In** switch is depressed, the four band EQ is inserted in signal path as determined by the **HF/LMF** and **HMF/LF CHAN** switches. When not depressed the EQ circuit is removed from the Path.

■ Solo
When a **Solo** button is pressed, all paths without **Solo** pressed are muted, allowing only the soloed channels to be heard. The **Solo** LED lights to indicate that the path is soloed. Whether an unsoloed path is actually muted or just not heard depends on whether an IPS (In Place Solo) or MIS (Monitor Interrupt Solo) is being executed.

Paths can be exempted from muting during a solo by selecting the Solo Safe function for that path on the Digital Master.

The Interlock, Additive and Temporary Solo modes change the way that the Solo buttons interact with each other. For more information about Solo modes, see **Section 4**, **Operation**.

■ On
Pressing **On** toggles a path's audio On and Off. If the **On** LED is Off, the Path will not pass audio.

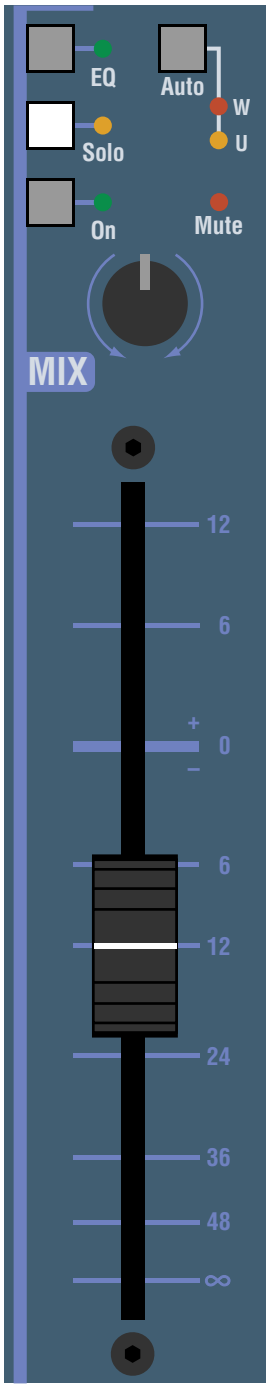
If the **On** LED is lit, the state of the **Mute** LED determines if audio will be heard through the path.

The **On** Switch works in conjunction with the **Chan** and **Mix On/Off** buttons in the Master Section.

■ Mute
The **Mute** LED indicates if a path is being muted by either the **On** switch, an automation mute or an In Place Solo. If the **Mute** LED is On, the path will not pass audio.

■ Fader
The Fader is the level control for the associated path. In the STATUS console, the fader controls a VCA (Voltage Controlled Amplifier) which in turn controls the audio level in the path.

When the fader knob is at the top of the fader (**+12**), 12 dB of gain is being added to the signal in the path. When the fader is set to the "**0**" mark (unity gain), gain is neither added to or subtracted from the signal in the path.



Mix Path Fader Section

■ **Pan Pot**

When a path is assigned to the Stereo Mix Bus or the Track Assign Buses, the Pan Pot determines how the signal is sent to the bus pairs.

When the Pan Pot is turned fully left, the signal will only appear on the Left or Odd numbered buses. If turned fully to the right, the signal will only appear on the Right or Even numbered buses.

Turning the Pan Pot to center sends the signal equally to the Left and Right buses. The signal may be “panned” anywhere between the Left and Right buses to create a Stereo image.

■ **Soft (SoftKey)**

Pressing **Soft** executes the function programmed for the SoftKey. If the function is programmed as a Toggle function, pressing **Soft** repeatedly will toggle the function On and Off.

The SoftKey is programmed in the Master Section of the Digital Master Module. For more information on programming and using the SoftKey, see **Section 4**, **Operation**.

■ **Auto**

The **Auto** button provides local control of automation modes for one path of the input module. Path assignment and operating style are set in the Automation Opts Menu of the LCD Menu System.

The **Auto** buttons work in conjunction with the Master Section **Write** and **Update** buttons. Each time the **Auto** button is pressed, the assigned path changes to the next programmed automation mode.

See **Section 5**, **Automation**, for more information on using the **Auto** button.

3.4.5 Select Button

The **Select** button is used to select an Input Module for Copy and Editing functions. When an Input Module is selected, it is logically attached to the Master Section of the Digital Master Module.

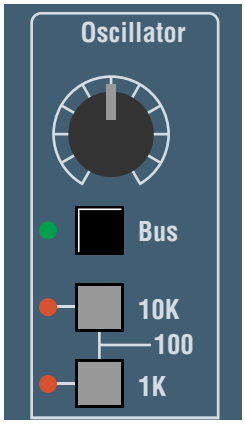
When the **Select** button is pressed, it lights up indicating that the Input Module is selected. If **Many** is in effect, pressing **Select** again deselects the module.

Input Modules may also be selected using the Select Group buttons (**Group A**, **B**, **C**, **All** and **Last**). The Auto Select function causes a module to automatically be selected when any computer controlled button is pressed on the module.

See **Section 4**, **Operation**, for more information about selecting and editing Input Modules.

Module Select Button

3.5 Analog Master Section



Oscillator

The Analog Master section of the Digital Master module controls most of the master analog outputs of the console. The Analog Master incorporates the following functions:

- Internal Oscillator Selection, Level and Assignment
- The Aux Send Master Output Levels
- The Communications Mic Level
- The Studio Monitor Level and Source Controls
- Stereo Meter Source Selection
- The Control Room Level and Source Controls
- The Stereo Master Fader

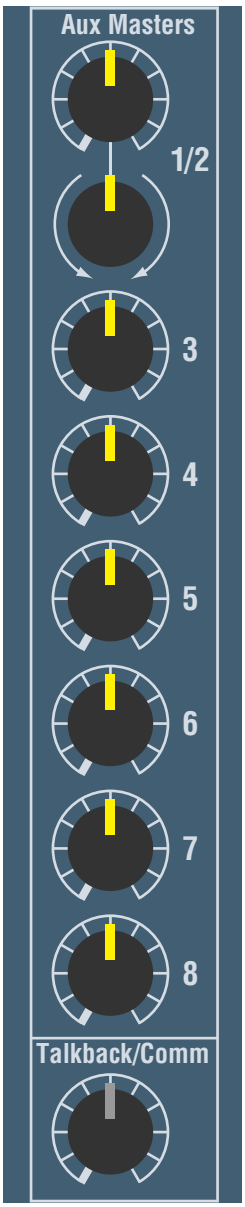
3.5.1 Oscillator

The Oscillator Section controls the operation of the console's internal Sine Wave Oscillator. The Oscillator provides test tones for calibrating the console's internal levels and the levels of devices connected to the console. The Oscillator Section has an output point on the patchbay that allows the oscillator to be patched to any input for troubleshooting purposes.

■ **Level**
The **Level** Control adjusts the oscillator output level.

■ **Bus**
Pressing the **Bus** button assigns the Oscillator output to the Track Buses and Stereo Mix Bus. This is useful for calibrating recorders to the Track and Mix Bus outputs of the console.

■ **10K, 1K, 100**
The **10K** and **1K** buttons select the frequency of the tone being output by the Oscillator. Pressing **10K** alone selects a 10 kHz tone, Pressing 1K alone selects a 1 kHz tone. Pressing **10K** and **1K** together selects a 100 Hz tone at the output of the Oscillator. When **TB/Slate** is pressed, the frequency selected on the oscillator is fed to the console's Track and Stereo Mix outputs at a low level. When recorded on tape during a slate, a 100 Hz tone becomes an audible "blip" when winding tape at high speeds, making slates easier to locate.



Aux Masters and Talkback/Comm

3.5.2 Aux Masters

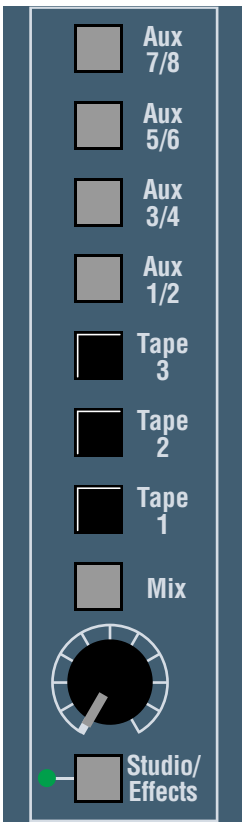
The Aux Masters Section controls the master output levels of Aux Sends 1 through 8. Aux Masters can be muted by selecting the Aux Send Master Mute parameter in the MISC section of the LCD Menu System. An Aux Send master mute is executed by logically muting each Input Module's Aux Send that is assigned to the Aux Send pair.

Aux Send 1/2 is configured as a Stereo send. On Aux Master 1/2, the lower knob controls the master level of the Aux Send pair, the upper knob controls the stereo balance of the pair.

Aux Sends 3/4, 5/6, and 7/8 are configured as Mono sends. On Aux Masters 3/4, 5/6, and 7/8, the lower knob controls the master level of the Even numbered Aux Send, the upper knob controls the master level of the Odd number Aux Send. Turning a Level Control Clockwise raises the output level.

3.5.3 Talkback/Comm

The Talkback/Comm Control adjusts the Talkback Mic level into the Slate and Communication Sections of the console. Talkback and Slate are activated by pressing the **TB/Slate** button in the lower section of the Digital Master Module. Jumpers on the console motherboard determine if the Talkback Mic will be fed to individual Aux Sends. See **Section 6**, **Alignment and Maintenance** for information about configuring the Aux Send jumpers.



Studio/Effects Section

3.5.4 Studio/Effects

The Studio/Effects Section controls the output to the Studio Monitor speakers.

■ Studio Source Selectors

The Studio/Effects Source selector buttons consist of:

- AUX 7/8
- AUX 5/6
- AUX 3/4
- AUX 1/2
- TAPE 3
- TAPE 2
- TAPE 1
- MIX

These switches select the audio source that is fed to the Studio Monitor outputs. The Studio Source buttons are independently selected; one or more may be selected simultaneously. When more than one source is selected, the sources are summed equally.

■ Level Control

When the **Studio/Effects** LED is lit, the Level Control adjusts the output level of the Studio Section. Turning the Level Control Clockwise raises the output level.

The Talkback Mic feed is not affected by the Studio Level Control.

■ Studio/Effects

The **Studio/Effects** button toggles the output of the Studio Section On and Off. When the **Studio/Effects** LED is lit, the Studio output is On.

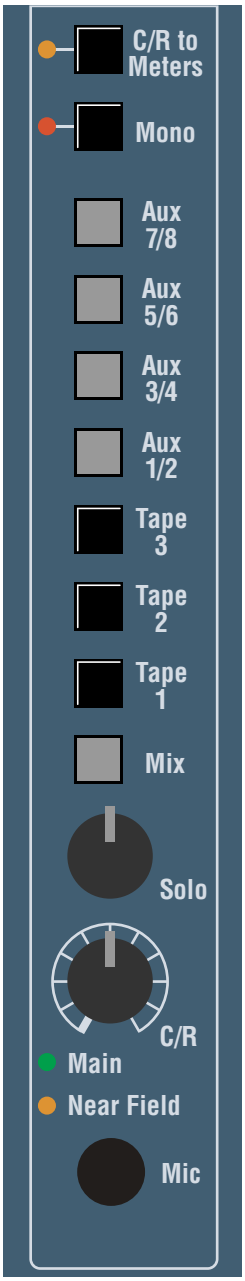
The Talkback Mic feed is not affected by the **Studio On** button.

3.5.5 Control Room

The Control Room Section controls the output to the Control Room Monitor speakers. An additional output is provided for controlling a pair of Near Field monitor speakers. Near Field Monitors are an additional pair of Control Room Monitors which are normally mounted on top of the console meter bridge. Near Field monitors are selected by pressing the **Near Field** button in the Control Room/Meter Display section of the Digital Master module.

The Control Room **Solo** control and **Mono** switch affect both the Main and the Near Field Monitors. When **TB/Slate** or **Comm** is pressed the control room monitors are muted to prevent feedback.

■ Meters
Normally the Stereo Master Meters display the level of the output of the Stereo Mix bus. Pressing the **Meters** button causes the level of the Control Room source (or sources) to be displayed on the Stereo Master Meters.



Control Room Section

■ Mono
Pressing **Mono** sums the Left and Right channels of the Main and Near Field Monitor outputs. If the **Mono** LED is lit, the outputs are summed.

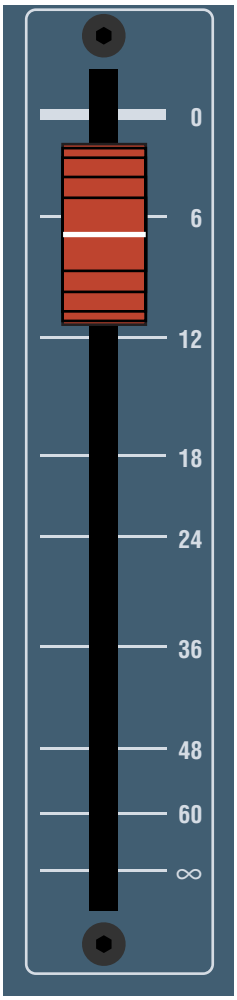
■ Control Room Source Selectors
The Studio/Effects Source selector buttons consist of:
- AUX 7/8
- AUX 5/6
- AUX 3/4
- AUX 1/2
- TAPE 3
- TAPE 2
- TAPE 1
- MIX

These switches select the audio source that is fed to the Control Room Monitor outputs. The Control Room Source buttons are independently selected; one or more may be selected simultaneously. When more than one source is selected, the sources are summed equally.

■ Solo
The **Solo** Level Control adjusts the monitoring level of MIS (Monitor Interrupt) soloed paths relative to the Control Room level. This control has no effect during an IPS (In Place) Solo. Turning the Solo Control Counter-Clockwise lowers the Solo monitor level.

■ Level Control
When the **On** LED is lit, the Level Control adjusts the output level of the Main or Near Field Monitor Speakers. Turning the Level control Clockwise raises the output level of the Main Monitor Speakers.

■ Mic
The **Mic** Label indicates the location of the console's Talkback microphone.



Stereo Master Fader

3.5.6 Stereo Mix

The Stereo Mix section contains the Stereo Master Fader. The Stereo Master fader is the final level control for the Stereo Mix Bus. The normal position for this fader is at the “0” mark on the fader panel, its uppermost position. Setting the fader to this position sets the proper gain staging for the Stereo Mix bus and provides a fixed reference point to return the fader to after a fade.

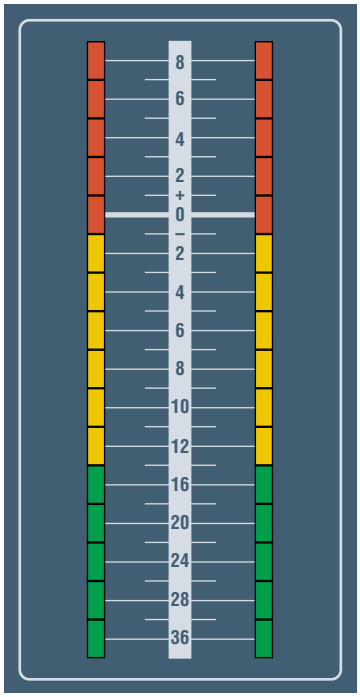
The Stereo Mix fader is not automated.

3.6 Master Meter

The Master Meter is located above the Master Section of the Digital Master module. These stereo meters are 16 segment multi-colored LED displays. They only display signal levels of the Stereo Mix Bus or the Control Room Monitor Source and are not affected by Status or Function modes.

The LEDs display signal levels from -36 dBu to +8 dBu. The labels +8 through -36 in the center of the LED segments indicate the signal level in dBu.

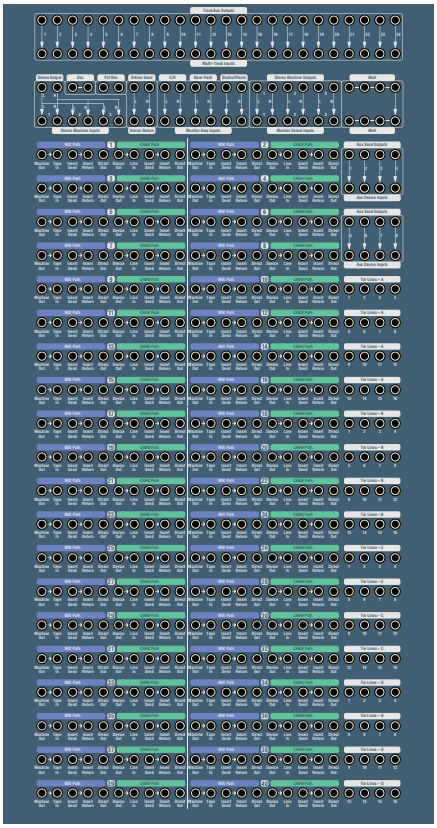
Sourcing of the Stereo Meters is controlled by the **Meters** switch on the Analog Master section. Meter ballistics for all meters are selected in the Meter option of the LCD Menu System.



Master Meter

3.7 Patchbay

3.7.1 Introduction



Patchbay

Patchbay versions of the STATUS 18R console are supplied with an all metal patchbay with standard TT jacks. The Patchbay is made up of four general sections:

- Input Module Patch Points
- Master Patch Points
- Tie Line Patch Points
- Optional Tie Line Patch Points

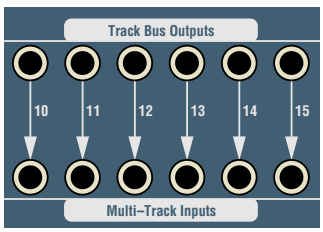
All console patch points are active balanced with a nominal level of +4 dBu except each path's Insert Send and Direct Out, which are unbalanced, +4 dBu.

■ Normals

When two patch points are "normalled" it means they are connected internally. A patch cord is not required to get signal from one jack to the other. Normals are wired in a conventional "half normal" standard, meaning that patching into an output does not "break" a normal while patching into an input does.

For example, **Track Bus Outputs → Multitrack Inputs #5** indicates that the Bus Output of Input Module #5 is "normalled" to the Tape Input of Track 5 on the multitrack recorder. Plugging a patch cord into the **Track Bus Output** jack (an output) will not break the feed to the **Multitrack Input** jack below it. The other end of the patch cord may be patched into **Multitrack Input #6** so that both Tape Inputs are fed from **Track Bus Output #5**. Patching into **Multitrack Input #6** (an input) breaks the normal from **Track Bus Output #6**, allowing **Track Bus Output #5** to be recorded on Tracks 5 and 6 of the multitrack recorder without interference from **Track Bus Output #6**.

On the patch bay panel, all normalled patch points are indicated by an arrow between the normalled jacks. The jack that is pointed to will break the normal when a patch cord is inserted.



Normalled Patch Points

3.7.2 Master Section Patch Points

The Master Section contains input and output jacks for the analog master functions of the console. The patch point's function is indicated above or below the applicable jack. All normalled patch points are indicated by an arrow between normalled jacks.

The following is a description of each Master Section patch point. (Int) refers to a patch point that connects to an internal point in the console, (Ext) refers to a point that is wired to equipment external of the console.

■ Track Bus Outputs (Int)

The **Track Bus Output** jacks are the +4dBu outputs of the console's 12 Track buses. The 12 Track buses are internally split to tracks 1 and 13, 2 and 14, 3 and 15, etc.

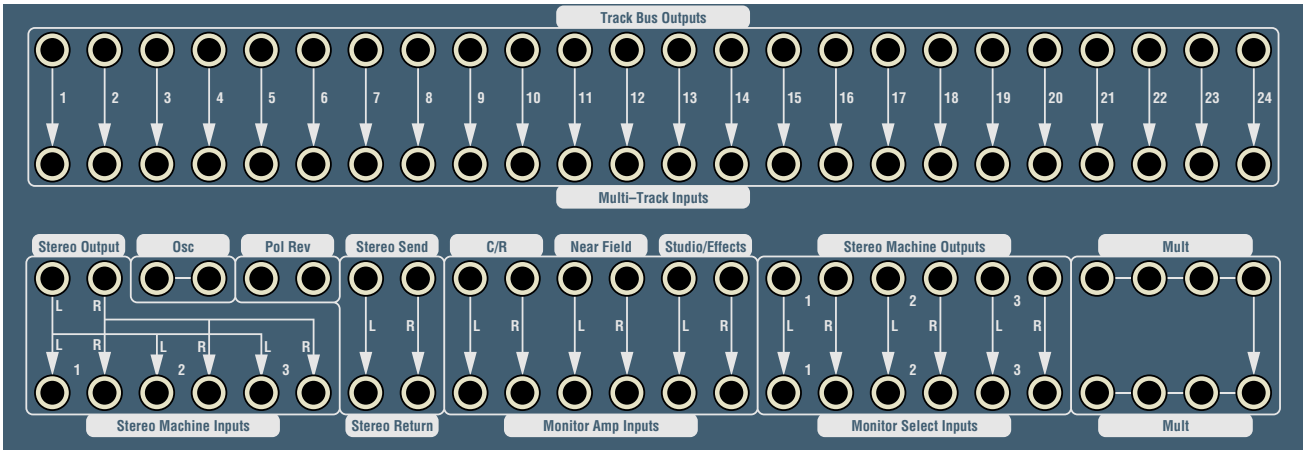
The Track Bus Outputs normal to the Multi-Track Inputs directly below.

■ Multi-Track Inputs (Ext)

The Multi-Track Inputs interface to the inputs of an external multi-track recorder.

■ Stereo Output (Int)

The output of the Left and Right Stereo Mix Bus shows up at these patch points. These jacks are normalled to the adjacent Stereo Machine Inputs 1, 2, and 3 jacks.



Master Section Patch Points

■ Stereo Machine Inputs 1, 2, and 3 (Ext)

The Stereo Machine Inputs interface to the inputs of external 2 track recorders.

■ Osc (Int)

The two **Osc** jacks is connected to the output of the console's internal oscillator. From here, the oscillator can be patched to any input jack for calibration or troubleshooting.

■ Pol Rev (Int)

The **Pol Rev** (Polarity Reverse) jacks are used to electrically reverse the polarity of the device patched through it.

■ Stereo Send (Int)

The Left and Right Mix Bus **Stereo Send** jacks are a pre Master Fader output of the Stereo Mix Bus. They are normalled to the **Insert Return** jacks directly below them.

The Stereo Send is typically used as the send to an external device that is to be inserted into the signal path of the Stereo Mix Bus. It may also be used as an additional Pre Master Fader output to a recorder.

■ Stereo Return (Int)

Normalled from the **Stereo Send** jack, the **Stereo Return** jack is the input to the Stereo Mix Bus Insert Point. The Insert Return is normally used as a return for the output of external device being fed by the Insert Send.

The **Stereo Send** and **Stereo Return** patch points are normalled. Patching into the **Return** jacks breaks the normal, inserting the external device into the signal path.

■ C/R (Int)

The Left and Right **C/R** (Control Room) jacks are connected to the Main outputs of the Control Room Section in the Analog Master Section of the Digital Master module. They are normalled to the Left and Right **Monitor Amp Inputs** jacks directly below them.

■ Near Field (Int)

The Left and Right **Near Field** jacks are connected to the Near Field outputs of the Control Room Section in the Analog Master Section of the Digital Master module. They are normalled to the Left and Right **Monitor Amp Inputs** jacks directly below them.

■ Studio/Effects (Int)

The Left and Right **Studio/Effects** jacks are connected to the Studio outputs of the Studio Section in the Analog Master Section of the Digital Master module. They are normalled to the Left and Right **Monitor Amp Inputs** jacks below them.

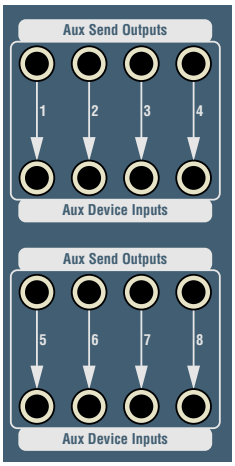
■ **Monitor Amp Inputs (Ext)**
The six jacks in this section are for connection to power amplifier or external device inputs associated with the Main, Near Field, and Studio/Effects outputs.

■ **Stereo Machine Outputs (Ext)**
The **Stereo Machine Outputs** jacks are for connection to recorder outputs. These jacks are normalled to the **Monitor Select Inputs** jacks directly below them.

■ **Monitor Select Inputs (Int)**
Normalled from their corresponding **Stereo Machine Outputs** jacks, the **Monitor Select Inputs** jacks are inputs to the Source Selectors of the Studio/Effects and Control Room sections of the Analog Master Section.

■ **Mult (Int)**
A "Mult" is a series of jacks connected in parallel. It allows a single output to be "Multiplied" and patched to a number of inputs.

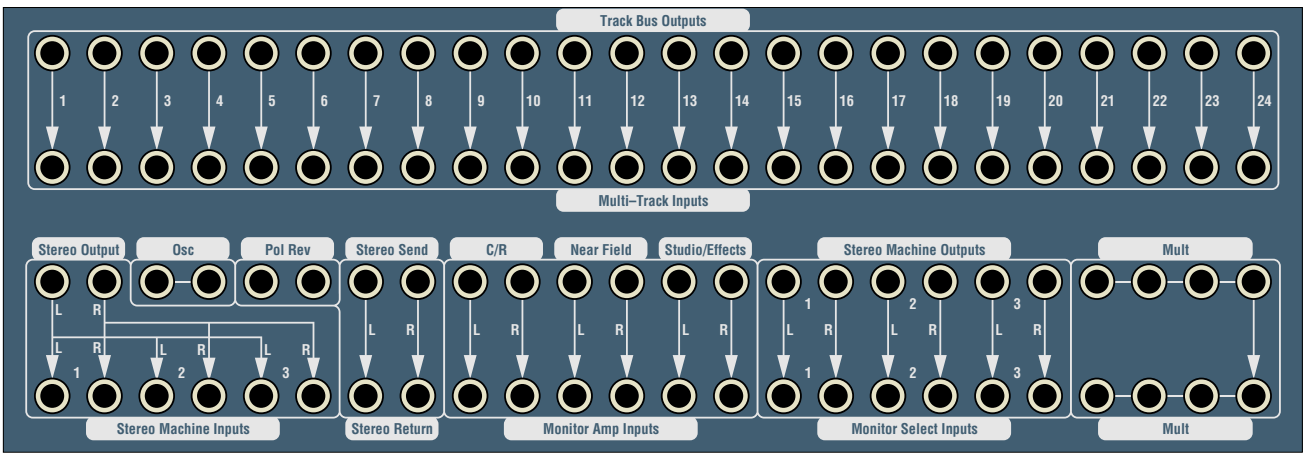
The **Mult** Section on the STATUS 18R console provides two sets of Mults which are normalled at one jack. This allows the section to used as one 7-way Mult or two 4-way Mults. By patching into each jack except the bottom right input jack, a single signal can be "multed" six ways. Patching into the bottom right input jack breaks the normal between the top and bottom rows, allowing two separate signals to be multed three ways.



Aux Send Outputs
Aux Device Inputs

■ **Aux Send Outputs 1 through 8 (Int)**
The **Aux Send Outputs** jacks are connected to the outputs of the **Aux Masters** Section in the Analog Master Section. They are normalled to the **Aux Device Inputs** jacks directly below them. All of the **Aux Send Outputs** jacks are functionally identical.

■ **Aux Device Inputs 1 Through 8 (Ext)**
The eight jacks in this section are for connection to power amplifier or external device inputs associated with each Aux output.



Master Section Patch Points

3.7.3 Input Module Patch Points

Each row in the Input Module Patch Bay Section contains jacks for two Input Modules. The Input Module number is indicated in the center of each module's patch row.

The following is a description of each Input Module patch point. (Int) refers to a patch point that connects to an internal point in the console, (Ext) refers to a point that is wired to equipment external of the console.

■ **Machine Out (Ext)**
This jack is typically wired to the output of a multitrack recorder. It is normalled to the Input Module's **Tape In** jack.

■ **Tape In (Int)**
Normalled from the **Machine Out** jack, **Tape In** is connected to the Tape Input of the Input Module.

■ **Mix Insert Send (Int)**
The **Insert Send** jack is the output of the Mix Path's Insert Point. It is normalled to the **Insert Return** jack. The Insert Send is typically used as the send to an external device that is to be inserted into the signal path of an Input Module. It may also be used as a Pre Fader send to a recorder or effects device.

■ **Mix Insert Return (Int)**
Normalled from the **Insert Send** jack, the **Insert Return** jack is the input to the Mix path's Insert Point. The Insert Return is typically used as a return for the output of external device being fed by the Insert Send.

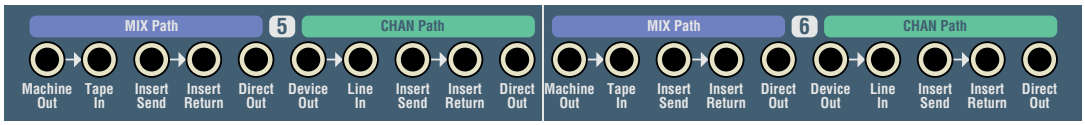
■ **Mix Direct Out (Int)**
The **Direct Out** jack is an independent Mix path post fader output. Typically the Direct Out is used to feed an external device that is being returned to another input.

■ **Device Out (Ext)**
This jack may be wired to any external device output such as a keyboard, an effects device, a second multitrack or an editing system. It is normalled to the Input Module's **Line In** jack.

■ **Line In (Int)**
Normalled from the **Device Out** jack, the **Line In** is connected to the Line Input of the Input Module.

■ **Chan Insert Send (Int)**
The **Insert Send** jack is the output of the Chan Path's Insert Point. It is normalled to the **Insert Return** jack. The Insert Send is typically used as the send to an external device that is to be inserted into the signal path of an Input Module. It may also be used as a Pre Fader send to a recorder or effects device.

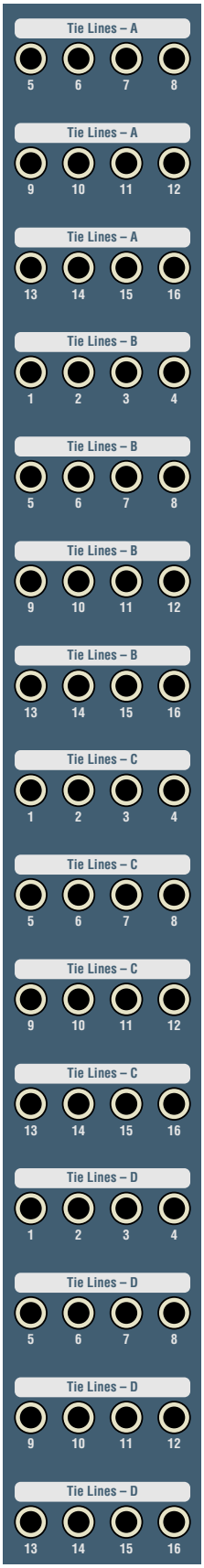
■ **Chan Insert Return (Int)**
Normalled from the **Insert Send** jack, the **Insert Return** jack is the input to the Chan path's Insert Point. The Insert Return is typically used as a return for the output of external device being fed by the Insert Send.



Input Module Patch Points

3.7.4 Tie Lines

These patch points provide additional jacks for wiring tie lines between studios or for interfacing additional external devices.
The number of Tie Lines supplied with the console is determined by the mainframe size. Additional Tie Line cards may be purchased as necessary.



Tie Lines

3.8 Stereo Input Module

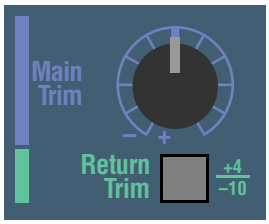
3.8.1 Introduction

Stereo Input Modules are an option on the STATUS 18R console. Even though they are designed to compliment Mono Input Modules, some important differences do exist.

■ Module Configuration
To operate correctly, the console software must know where Stereo Modules are located. In most cases this will already be done by the factory or your Otari representative. Instructions for configuring console hardware can be found in **§6.8**, **Setting Module Types**, later in this manual.

■ The Master Section
All computer controlled switches on Stereo Input Modules map to like functions on Mono Input Modules. Stereo Module Return path switches map to Mono Module Chan path switches, while Stereo Main path switches map to Mono Mix path switches. Stereo path functions are shown on the Master Section by screened white on black labels, or by a plastic overlay installed over the Master Section.

■ Image Recall
When recalling knob and switch settings, Stereo Modules are reset separately from Mono modules. This allows the LED and LCD displays to show uniform information for each module type being reset.



Input Section

3.8.2 Input Section

The Input section of the Stereo Module is designed to accept inputs from -10 to +4 dBu. Each Stereo module accepts two stereo inputs, one for the Return path and one for the Main path.

■ Main Trim Knob
The **Main Trim** knob adjusts the Main path input level over a range of 30 dB.

■ Return Trim Switch
The **Return Trim** switch provides 14 dB of gain to the Return path level for -10 dBu input sources.

3.8.3 Aux Section

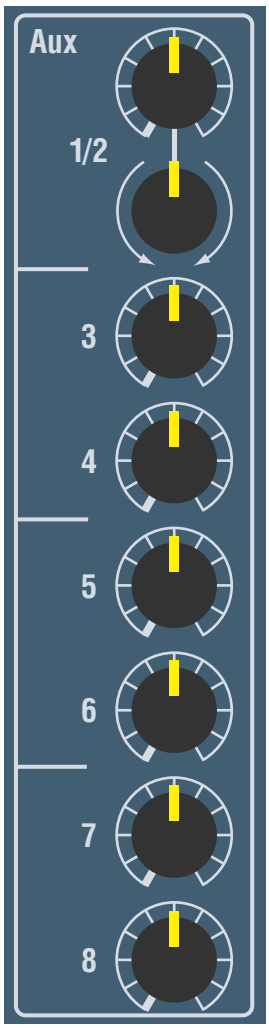
Each Stereo Module has eight Aux Send level controls configured as four send pairs. Aux 1/2 is a Stereo send with a Level Control and Balance Pot, Auxes 3/4, 5/6 and 7/8 are Mono sends with Level Controls only. Odd numbered Aux sends are sourced from the aux source's Left channel, Even numbered Aux sends are sourced from the aux source's Right channel.

Aux Send sourcing and assignment is controlled by switches in the Master Section of the Digital Master Module.

■ Aux Send Level and Pan Controls
Level and balance to the Aux Buses are controlled by the eight **Aux Send** knobs near the top of the module.

Aux 1/2 is configured as a Stereo Aux Send. On this send, the top knob controls level to the Aux Send pair while the bottom knob controls the balance between the Aux 1 (left) and Aux 2 (right).

Auxes 3 through 8 are configured as Mono sends and have individual level controls.



Aux Section

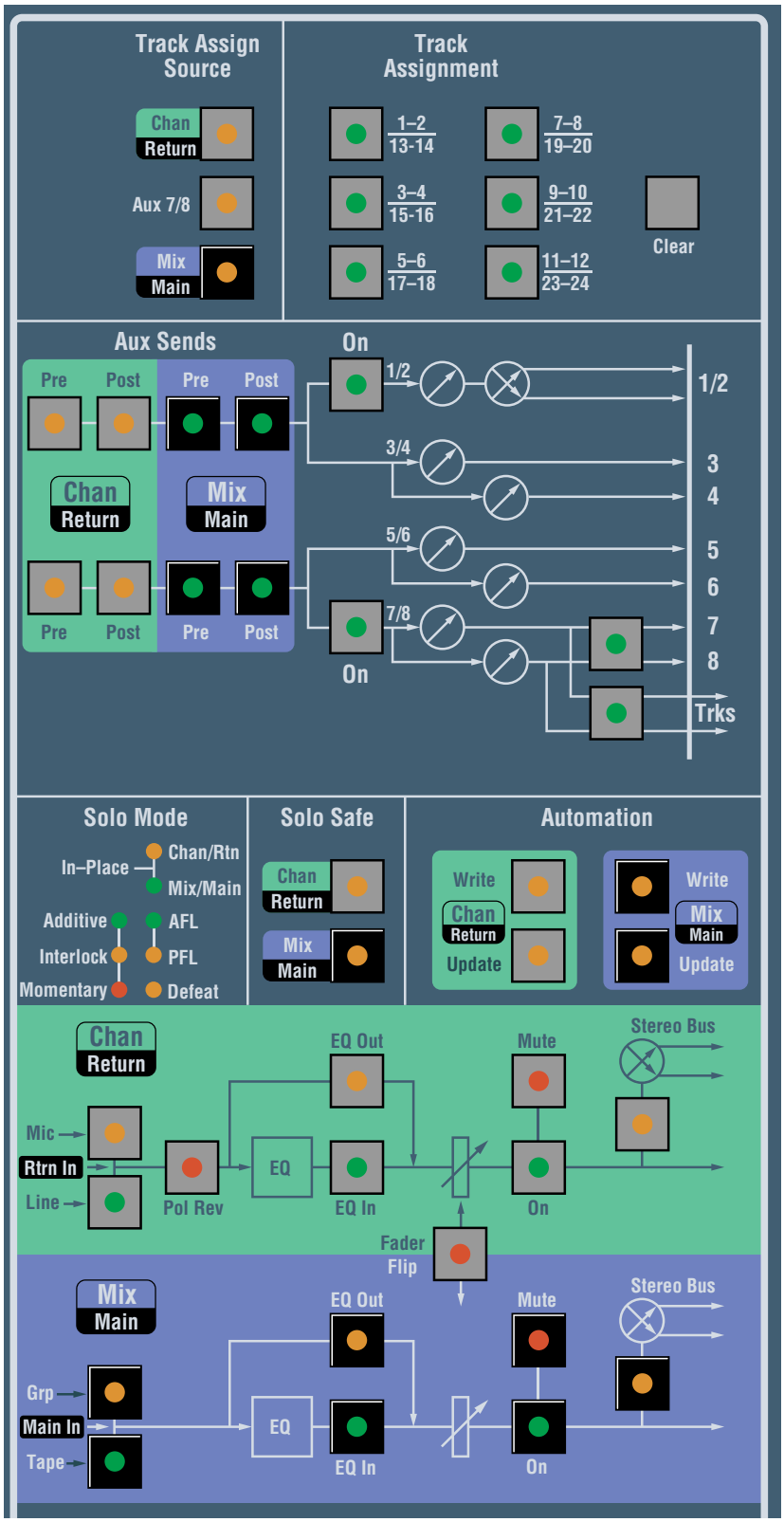
3.8.4 Return Path EQ

The Return path EQ is a two band shelving EQ designed for program equalization.

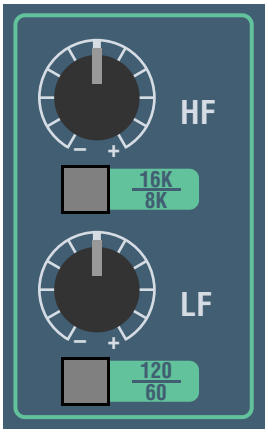
■ **HF Knob**

The **HF** knob provides 15 dB boost or cut starting at the frequency selected on the HF Frequency selector switch.

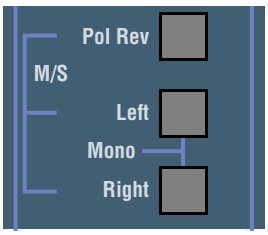
Stereo Input Module



Master Section Stereo Labeling



Return Path EQ



M/S (Mono/Stereo) Section

■ **HF Frequency Selector Switch**
The HF Frequency Selector selects the frequency that is affected by the **HF** Knob. In the up position, shelving begins at 16 kHz, when depressed, shelving starts at 8 kHz.

■ **LF Knob**
The **LF** knob provides 15 dB boost or cut starting at the frequency selected on the LF Frequency selector switch.

■ **LF Frequency Selector Switch**
The LF Frequency Selector selects the frequency that is affected by the **LF** Knob. In the up position, shelving begins at 120 Hz, when depressed, shelving starts at 60 Hz.

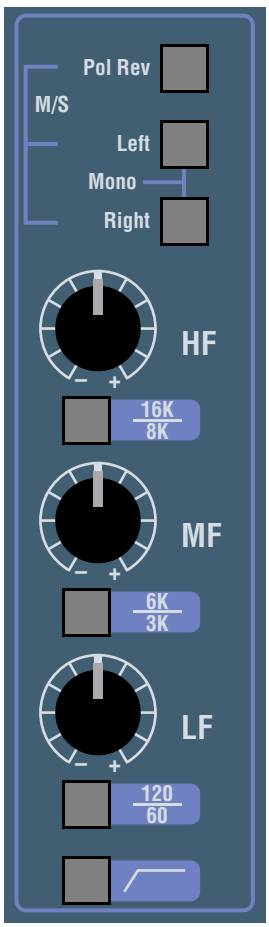
3.8.5 M/S Section

The M/S (Mono/Stereo) determines the Stereo mode of the Main path.

■ **Pol Rev**
Pressing **Pol Rev** reverses the polarity of the right channel of the main path to correct out of phase stereo signals. When **Pol Rev** is depressed, the right channel is reversed.

■ **Left/Right/Mono Buttons**
The **Left** and **Right** buttons determines how the Main inputs appear in the Main path. The following shows how the input is affected by the M/S switches:

Left and **Right** Up	Normal Stereo (Left to Left, Right to Right)
Left Depressed only	LEFT Input to both channels
Right Depressed only	RIGHT Input to both channels
Left and **Right** Depressed	Mono (Left and Right summed to both channels)



Main Path EQ

3.8.6 Main Path EQ

The Main path EQ is a 3 band EQ designed for program equalization. The Main path EQ section also includes a High Pass Filter.

■ **HF Knob**
The **HF** knob provides 15 dB boost or cut starting at the frequency selected on the HF Frequency selector switch.

■ **HF Frequency Selector Switch**
The HF Frequency Selector selects the frequency that is affected by the **HF** Knob. In the up position, shelving begins at 16 kHz, when depressed, shelving starts at 8 kHz.

■ **MF Knob**
The **MF** knob provides 15 dB peak boost or cut starting at the frequency selected on the MF Frequency selector switch.

■ **MF Frequency Selector Switch**
The MF Frequency Selector selects the frequency that is affected by the MF Knob. In the up position, peak eq begins at 6 kHz, when depressed, shelving starts at 3 kHz

■ **LF Knob**
The **LF** knob provides 15 dB boost or cut starting at the frequency selected on the LF Frequency selector switch.

■ **LF Frequency Selector Switch**
The LF Frequency Selector selects the frequency that is affected by the LF Knob. In the up position, shelving begins at 120 Hz, when depressed, shelving starts at 60 Hz

■ **High Pass Filter**
The Main path filter is an 18 dB/oct. high pass filter with a 3 dB down point of 80 Hz.

3.8.7 Select Button

Select Button

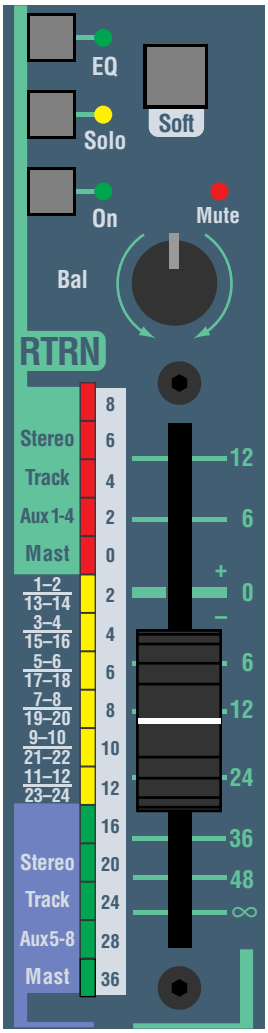
The **Select** button is used to select a Module for Copy and Editing functions. When a module is selected, it is logically attached to the Master Section of the Digital Master Module. Switches that affect Stereo modules have white on black legends on the Master Section.

When the **Select** button is pressed, it lights up indicating that the Input Module is selected. If **Many** is in effect, pressing **Select** again deselects the module.

Input Modules may also be selected using the Select Group buttons (Group A, B, C, All and Last). The Auto Select function causes a module to automatically be selected when any computer controlled button is pressed on the module.

See **Section 4**, **Operation**, for more information about selecting and editing Input Modules.

3.8.8 Fader Section



Return Fader Section

The Mix and Chan Path Fader Sections have the following controls in common:
- Fader
- Balance
- Solo Button and LED
- On Switch and LED
- EQ Switch and LED
- Mute LED

Controls that are not common to both faders are:
- Softkey Button (Soft)
- Automation Button and LEDs (Auto)

■ EQ
Each path's **EQ** switch operates in conjunction with the Master Section **EQ In** and **EQ Out** buttons. The Input Module provides local switching of EQ section without the need to attach the module to the Master Section.

■ Solo
When a **Solo** button is pressed, all paths without **Solo** pressed are muted, allowing only the soloed channels to be heard. The **Solo** LED lights to indicate that the path is soloed. Whether an unsoloed path is actually muted or just not heard depends on whether an IPS (In Place Solo) or MIS (Monitor Interrupt Solo) is being executed.

Paths can be exempted from muting during a solo by selecting the Solo Safe function for that path on the Digital Master.

The Interlock, Additive and Temporary Solo modes change the way that the Solo buttons interact with each other.

For more information about Solo modes, see **Section 4**, **Operation**.

■ On
Pressing **On** toggles a path's audio On and Off. If the **On** LED is Off, the Path will not pass audio.

If the **On** LED is lit, the state of the **Mute** LED determines if audio will be heard through the path.

The **On** Switch works in conjunction with the **Chan** and **Mix On/Off** buttons in the Master Section.

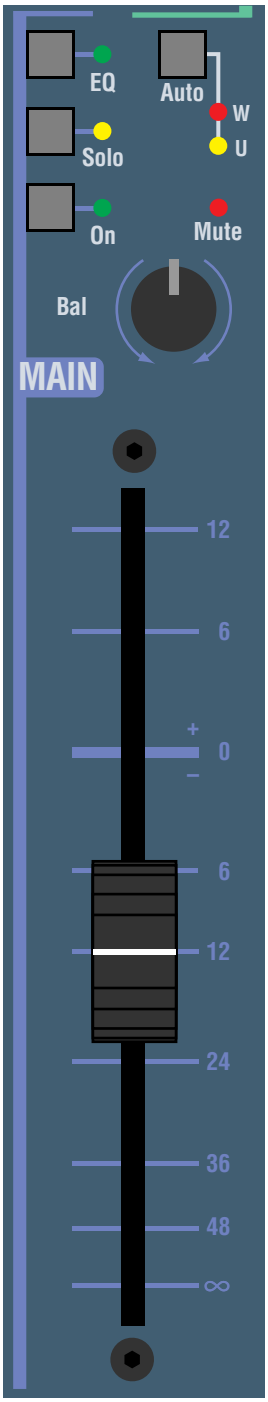
■ Mute

The **Mute** LED indicates if a path is being muted by either the **On** switch, an automation mute or an In Place Solo. If the **Mute** LED is On, the path will not pass audio.

■ Fader

The Fader is the level control for the associated path. In the STATUS console, the fader controls a VCA (Voltage Controlled Amplifier) which in turn controls the audio level in the path.

When the fader knob is at the top of the fader (**+12**), 12 dB of gain is being added to the signal in the path. When the fader is set to the "**0**" mark (unity gain), gain is neither added to or subtracted from the signal in the path.



Main Fader Section

■ Balance

When a path is assigned to the Stereo Mix Bus or the Track Assign Buses, the **Balance** knob determines the stereo balance of the Left and Right channels.

When the **Balance** knob is turned fully Left, the Left channel signal only will appear on the Left or Odd numbered buses. If turned fully to the Right, the right channel signal only will appear on the Right or Even numbered buses.

Turning the **Balance** knob to center sends the Left signal to the Left bus and the Right signal to the Right bus at equal levels.

■ Soft (SoftKey)

Pressing **Soft** executes the function programmed for the SoftKey. If the function is programmed as a Toggle function, pressing **Soft** repeatedly will toggle the function On and Off.

The SoftKey is programmed in the Master Section of the Digital Master Module. For more information on programming and using the SoftKey, see **Section 4**, **Operation**.

■ Auto

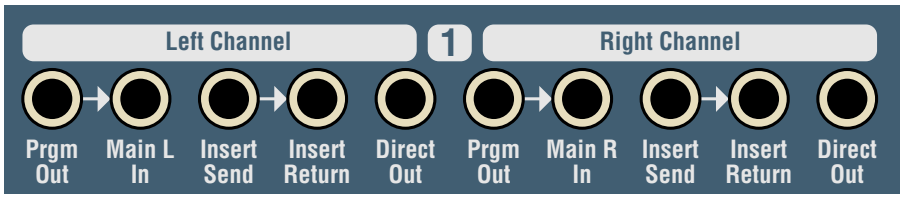
The **Auto** button provides local control of automation modes for one path of the input module. Path assignment and operating style are set in the Automation Opts Menu of the LCD Menu System.

The **Auto** buttons work in conjunction with the Master Section **Write** and **Update** buttons. Each time the **Auto** button is pressed, the assigned path changes to the next programmed automation mode.

See **Section 5**, **Automation**, for more information on using the **Auto** button.

3.8.9 Stereo Patch Points

When Stereo Modules are installed, each row in the Input Module Patch Bay Section contains jacks for two Stereo Input Modules. The Input Module number is indicated in the center of each module's patch row. Identical patch points are provided for the Left and Right channels of the Stereo module's Main path.



The following is a description of each Stereo Input Module patch point. (Int) refers to a patch point that connects to an internal point in the console, (Ext) refers to a point that is wired to equipment external of the console. Each patch point has a corresponding Left and Right channel.

Prgm Out (Ext)
This jack is wired to the output of the Main path program source . It is normalled to the Input Module's **Main In** jack.

Main In (Int)
Normalled from the **Prgm Out** jack, **Main In** is connected to the Main Input of the Stereo Input Module.

NOTE: The Return path inputs do not appear as points on the Patch Bay. The Return path inputs are accessed on 1/4 inch jacks on the rear of the Stereo Input module.

Insert Send (Int)
The **Insert Send** jack is the output of the Main Path's Insert Point. It is normalled to the **Insert Return** jack.
The Insert Send is typically used as the send to an external device that is to be inserted into the signal path of the Stereo Input Module. It may also be used as a Pre Fader send to a recorder or effects device.

Insert Return (Int)
Normalled from the **Insert Send** jack, the **Insert Return** jack is the input to the Main path's Insert Point.
The Insert Return is typically used as a return for the output of external device being fed by the Insert Send.

Main Direct Out (Int)
The **Direct Out** jack is an independent Main path post fader output.
Typically the Direct Out is used to feed an external device that is being returned to another input.

Section 4 Operation

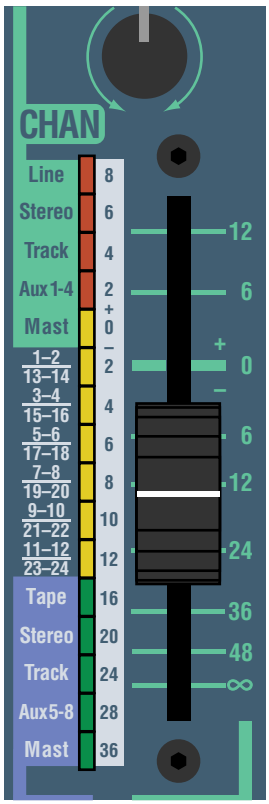
4.1 Introduction

The STATUS 18R is a digitally controlled analog console. Most of the console's switching and routing functions are under computer control, allowing console switches to be configured from a central Master module. Input module switch states can be stored in "Presets" and "Soft Keys" for push button recall, while switch settings for the entire console can be stored as "Snapshots" for keystroke or event driven recall. Eagle Automation is integrated into the Status Control System (SCS) and handles dynamic fader level and switch automation.

The User Preference System (UPS) determines the default operating parameters of the console. With the UPS, different engineers can configure console operation to their liking by loading their personal UPS configuration.

4.2 Console Components

The following is a description of the basic console components and their function in the console. For a detailed description of each component, see **Section 3** - **Controls and Indicators**.



Level and Status Display

4.2.1 Input Module

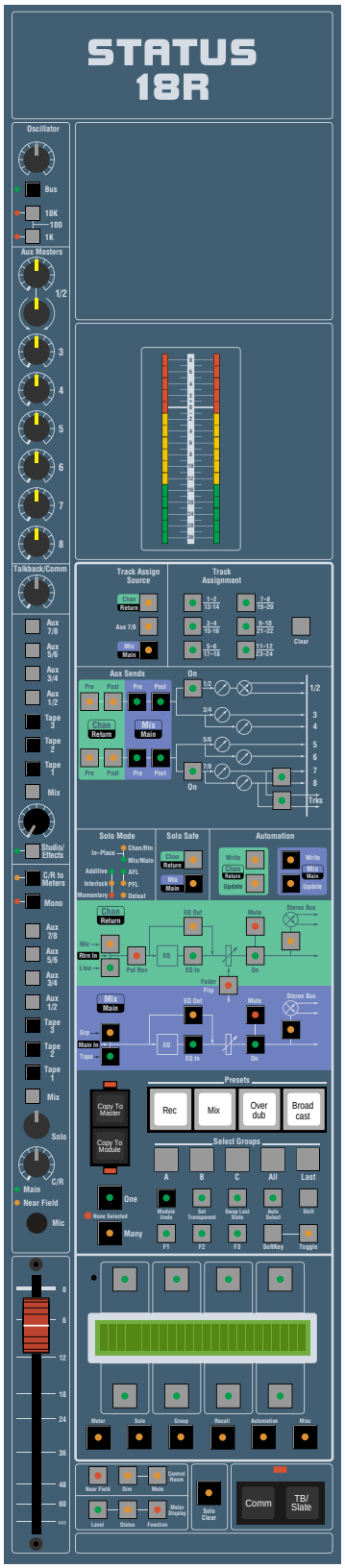
The Input modules control and route individual audio signals in the console. An Input module contains two separate audio paths, each with its own fader. Except for EQ, input sourcing and Polarity Reverse, both paths are functionally identical.

Audio switching and routing for both paths is done by electronic switches under computer control of the SCS. Most of the Input module's functions are controlled from a central "Master Section" in the console, minimizing the need for local switches on the modules themselves.

■ Level and Status Display

Each Input module has a Level and Status Assign Display. In Level mode, the display is a 16-segment LED meter that displays the signal level of a selected source. In Status mode, the display shows the Track Buses that the module is assigned to, as well as path sourcing and assignment.

During Image Recall, the Level and Status display is used as an indicator for "nulling" the module knobs to their recalled position.



Master Section, LCD Menu System, and Analog Master Section

4.2.2 Digital Master Module

The Digital Master module is the main control section of the STATUS 18R console. Contained here are the switches that control the SCS. The Digital Master module is comprised of three major sections, the Master Section, the Analog Master Section, and the LCD Menu System.

■ Master Section

The area of the Digital Master module defined by a bold white border is referred to as the Master Section. This section contains the switches and LEDs that specifically control the Input module functions. The Master Section is a control section only; there is no audio routed through it.

The Master Section also contains Edit buttons that are used to copy, store and recall module switch states. Copying switch states to and from the Master Section is central to the operation of the STATUS 18R console.

■ Analog Master Section

Located on the left side of the Digital Master module, the Analog Master Section handles the master analog functions of the console. These include the Aux Master output levels, Control Room and Studio Monitoring, the Stereo Master Fader and the Oscillator.

■ LCD Menu System

The LCD display and its associated buttons are used to control the following functions:

- Meter sourcing and ballistics
- Solo type and selection mode
- Fader Group creation and editing
- Snapshot and Image recall
- Automation master modes and operation

Pressing one of the six LCD function keys displays options for that function, which can be selected using the eight selection keys surrounding the display.

A more detailed description of the LCD Menu System can be found in the LCD Reference, later in this section.

4.2.3 Patch Bay

The Patch Bay provides plug-in access to the various inputs and outputs of the console. Recorders and other external devices are also wired to points in the Patch Bay.

4.3 Getting Started

4.3.1 Booting the Console

Because the STATUS 18R is computer controlled, system software must be loaded for the console to function. In computer jargon this is known as “bootstrapping” or “booting” the computer.

System Software is stored on Read Only Memory (ROM) inside the console. Updated software and storage files are stored on a master floppy disk. Insert the master floppy into the disk drive located below the Digital Master module.

Turn on the console power supply. None of the console’s switches or meters will respond at this point.

The console has been pre-configured to load system software when it is turned on. This should take 15 to 30 seconds to complete. After some startup messages, the Recall Menu will appear on the LCD display. The console is now operational.

4.3.2 Initial Setup

When the STATUS 18R is booted for the first time, factory defined switch settings are loaded to configure the console initially. If you cannot hear audio through the console, follow this basic setup procedure. This procedure assumes that audio is connected to the Tape inputs of the Input modules and is active.

1. **Pull all faders down to the bottom of their travel.**

2. Press **All** in the “**Select Groups**” area of the Master Section.
   The **Select** buttons on all modules should light.

3. Press **Tape** and **Mix On** in the “**Mix Path**” area of the Master Section. Press **Stereo Bus** in the “**Mix Path**” area until it is lit.

4. Press **Meter** in the LCD Display area of the Digital Master module. Press the button directly beneath the word MIX on the LCD Display.
   The meters should now display the levels coming from tape. If they don’t, press **Level** in the “**Meter Display**” area at the bottom left-hand corner of the Digital Master module.

5. In the **C/R** section of the Analog Master module (directly above the Master Fader), depress **Mix** and turn the **C/R** level control to the 11 o’clock position.

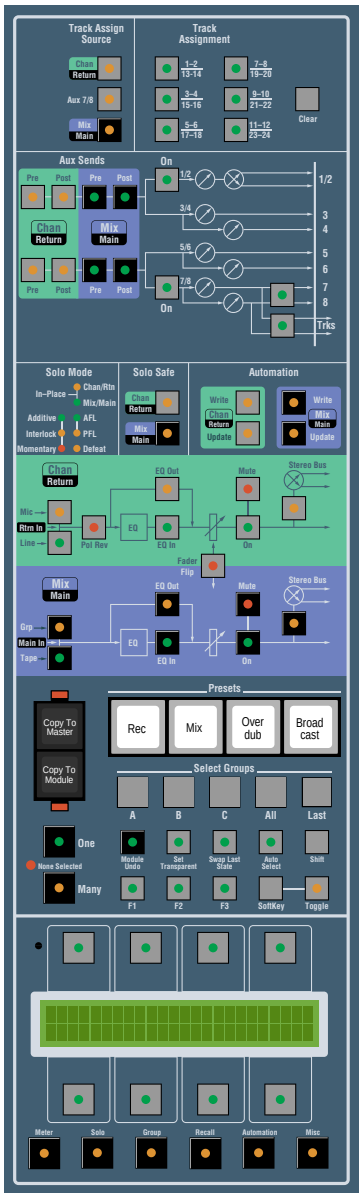
6. Leaving the Stereo Master Fader down, raise all Mix path faders (the ones closest to you) to the “0” mark on the fader panel.

7. Raise the red Stereo Master Fader slowly.
   Audio should be heard and displayed on the Stereo Master Meters.
   Raise the fader to the top of its travel, turning the Control Room level down as necessary.

8. Press **Copy To Master** in the Master Section.
   The **Select** buttons on all modules should go out.

4.4 Module Editing Basics

4.4.1 Introduction



Master Section

On the STATUS 18R as with any console, most operations are centered around configuring Input modules to do a certain task. This job has become much easier because most module functions are switched from a central area and copied to a module or group of modules.

All computer controlled switches on the STATUS 18R can be set from the Digital Master module. Switches specific to the Input modules are grouped together and defined by a bold white border. This area is referred to as the Master Section. The switches in the Master Section have been arranged in an Active Block Diagram™ to aid in understanding the signal flow being controlled. Most switches in the Master Section have an LED that indicates if the switch is active.

Input module functions that can be controlled from the Master Section include:

- Input Sourcing
- Polarity Reverse
- EQ In
- Audio Path Muting
- Fader Flip
- Stereo Bus Assign
- Aux Send Routing and Muting
- Track Assignment
- Track Assign Source

Input module switches may be changed in the following ways:

- By pressing a switch on the Input module. (i.e. EQ In, Mix On, Chan On)
- By “selecting” a module and editing its switch states on the Master Section. (Copy to Master)
- By configuring switches in the Master Section and copying their states to the Input module. (Copy to Module)

The Input module LEDs and associated Level and Status Display always show the current status of the module’s routing and switch states, regardless of whether it is attached to the Master Section or not.

4.4.2 Module States

Editing the “Module State” refers to all module related functions that can be edited with the Master Section. This includes fader automation modes, but does not include Solo status, Switch Write modes or VCA levels.

Two module states are stored for each module, the Current state and the Previous state. This provides an alternate module state that can be recalled on Selected modules by pressing **Swap Last State** in the Master Section.

When an Input module is selected and edited, it has an additional “Undo” state that can be returned to by pressing **Module Undo** during editing.

4.4.3 Switch States

Input module switches are always set to a “state”. This may be On or Off, In or Out, or in the instance of the Track Assign, a selection.

Switches in the Master Section may be either set to a state *or* “transparent”, meaning that the state of the switch is undetermined. Transparency becomes important when a number of modules are selected or switch states are copied to and from the Master Section.

Transparent switches will be covered in greater detail later in this section.

4.4.4 Selecting a Module

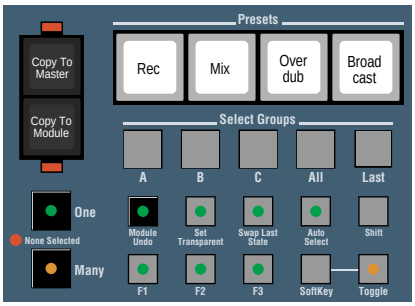
In order for the Master Section to control an Input module, the module must be *Selected*. Selecting an Input module "attaches" it to the Master Section which then becomes the module's control surface. While a module is Selected, any changes made to the Master Section will immediately affect the module, while any changes made on the module will immediately be reflected on the Master Section.

An Input module is selected by pressing its numbered **Select** button. If the **One** button is lit, pressing an Input module's **Select** button selects that module and deselects any previously selected modules. If the **Many** button is lit, pressing a **Select** button selects or deselects the module, allowing multiple modules to be selected at one time.

Modules are also selected using the Selection buttons described later in this section.

Module selections can be cleared at any time by pressing the **Copy To Master**, **Copy To Module**, or **Set Transparent** buttons in the Master Section.

4.4.5 Edit Buttons



Edit and Selection Buttons

The Edit Buttons are used to edit and copy switch states between the Master Section and the Input modules. The following is a brief explanation of each of the Edit buttons, examples of their use are given later in this section.

The Edit Buttons include:
- Copy To Master
- Copy To Module
- Module Undo
- Swap Last State
- Set Transparent

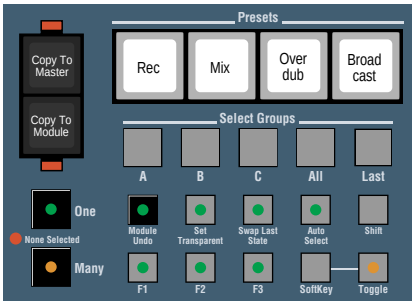
■ Copy To Master
When **Copy To Master** is lit and the **Select** button on an Input module is pressed, the module becomes logically "attached" to the Master Section and its switch states are displayed. While the Input module is attached, any changes made to the Master Section will be immediately enacted upon the Input module and vice-versa. Single or multiple Input modules may be attached by pressing **One** or **Many** before selecting Input modules.

Copy To Master is the default edit mode of the console. Pressing **Copy To Master** clears all Input module selections and retains the current switch states of the Master Section.

■ Copy To Module
When **Copy To Module** is lit, the switch states that appear on the Master Section will be copied to any Input module selected. Single or multiple Input modules may be copied by pressing **One** or **Many** before selecting Input modules.The copy function may be performed on cue (delayed) to a number of modules by holding **Copy To Module** and pressing **Many**. While **Copy To Module** and **Many** are flashing, select the desired Input modules, then press **Copy To Module** to execute the copy.

■ Module Undo
Pressing **Module Undo** reverts each Selected module to its state at the time it was selected for editing. Pressing **One** or **Many** (whichever is lit) while making changes updates the module's Undo state to the current state of the Master Section. When **Module Undo** is lit, changes have been made that may be undone.

■ Swap Last State
Pressing **Swap Last State** while Input modules are selected exchanges a Selected module's current state with its previous state. When **Swap Last State** is lit, the selected Input modules are in their previous state.



Edit and Selection Buttons

■ **Set Transparent**

Set Transparent allows the Master Section to be configured independently before copying it to modules, Presets or Soft Keys.

When **Set Transparent** is pressed once, all modules are deselected. Pressing any button in the Master Section toggles the function in and out of transparent mode. Transparent functions will not be copied to Input modules.

When **Set Transparent** is pressed a second time within three seconds of the first press, all switches in the Master Section become transparent. While the Master Section is in this condition, no switch states can be copied to a module. Pressing any button in the Master Section toggles the function in and out of transparent mode. Individual functions can now be recalled and copied without affecting the rest of the switches on a module.

4.4.6 Selection Buttons

Module Select Button

The Selection buttons are used in conjunction with the Edit buttons to select modules for editing. The following is a brief explanation of each of the Selection buttons; examples of their use are given later in this section.

The Selection buttons include:
- Input Module Select Buttons
- Group A
- Group B
- Group C
- All
- One
- Many
- Last
- None Selected LED Indicator

■ **One**

Pressing **One** causes module selection to operate in an interlocked mode. When **One** is active, pressing a module **Select** button selects the module and deselects all previously selected modules. Holding any Select button while pressing other Select buttons allows multiple modules to be selected while in One mode. Select button operation is the same as Many mode.

■ **Many**

Pressing **Many** causes module selection to operate in an additive mode. When **Many** is active, a number of Input modules may be selected simultaneously. Pressing an Input module's **Select** button selects or deselects the module from currently selected modules.

■ **All**

Pressing **All** selects all Input modules in the console. **All** selects all Input modules even if there are modules already selected. If **Many** is active, pressing **All** alternately selects and deselects all modules.

■ **Group A, Group B, Group C**

The **Group A**, **B** and **C** buttons store user-defined Select Groups for recall. They are identical in function.
Three additional Select Groups are available by holding the **Shift** key while pressing **Group A**, **B** or **C**.
Select Groups are described in greater detail later in this section.

■ **Last**

Pressing **Last** recalls the last set of module selections. If a module selection has been cleared or cancelled by a time out, pressing **Last** will reselect the last modules selected.

■ **Auto Select**

Pressing **Auto Select** puts the console in Auto Select mode. When any computer controlled button is pressed on an Input module, that module becomes selected and is attached to the Master Section for editing.

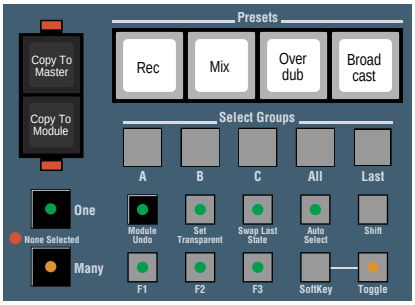
Auto Select only works in Copy To Master and One mode.

■ **None Selected Indicator**

The **None Selected** indicator lights when there are no modules selected. This can occur when **Copy To Master**, **Copy To Module** or **Set Transparent** is pressed, or when a selection is cancelled by a timeout.

4.5 Editing Input Module Switches

4.5.1 Setting Switches on One Module



Edit and Selection Buttons

Copy To Master – One allows a single module's switch states to be copied to the Master Section and edited. While a module is selected, any changes made to the Master Section will affect that module immediately.

Copy To Master is the default editing mode of the console. If the **Copy To Master** button it lit, it does not need to be pressed before selecting a module.

One is the default selection mode. If one is lit, it does not need to be pressed before selecting a module.

The following example shows how an Input module is Selected and how it operates with the Master Section:

1. **Select module 24 by pressing its numbered Select button.**
   The **Select** button will illuminate.

2. **Press EQ In then EQ Out in the Mix path area of the Master Section.**
   The **EQ In** LED in the Mix path of module 24 will turn on and off, reflecting the EQ in state of the module.

3. **Press EQ In on module 24 repeatedly.**
   The **EQ In** and **EQ Out** switches on the Master Section alternately light to indicate the EQ in state of the module.

4.5.2 Setting Switches on a Number of Modules

Copy To Master – Many allows a number of modules to be Selected and edited on the Master Section.

Pressing **Many** allows a number of Input modules to be Selected at the same time. When **Many** is lit, pressing **Select** on an Input module selects or deselects it from the other Selected modules. Changes made to the Master Section will affect all modules that are selected.

Another way of selecting multiple modules is by pressing and holding a **Select** button while other **Select** buttons are pressed. This feature operates in both One and Many selection modes.

Multiple modules may also be selected for editing by pressing a **Select Group** button, a topic covered later in this section.

NOTE: Selecting multiple modules may cause some Master Section buttons to flash. A flashing switch means that the associated function is set to different states on the selected modules. See the section on Transparent Switches that follows.

■ Transparent Switches

If two or more Selected modules have different settings for a given function, the associated LEDs on the Master Section flash, indicating that different states exist for that function on the Selected modules. Switches with flashing LEDs are said to be "transparent" or of an undetermined state. If you set a transparent switch on the Master Section, the newly defined switch state is applied to all Selected modules.

The following example shows how a number of modules are selected and how transparency affects them:

1. **Press Copy To Master to clear all module selections. Press Many, then select Input modules 22, 23 and 24.**

2. **Press EQ In in the Mix path area of the Master Section.**
   This switches the EQ in on modules 22, 23 and 24.

3. **Press EQ In on the Mix path of module 22.**
   This causes the **EQ In** and **EQ Out** buttons in the Mix path area of the Master Section to flash, indicating that the **EQ In** switches of the Selected modules are set differently.

4. **Press EQ In in the Mix path area of the Master Section.**
   This switches the EQ in on modules 22, 23 and 24. The **EQ In** and **EQ Out** buttons on the Master Section stop flashing indicating that the EQ In states on the Selected modules are the same.

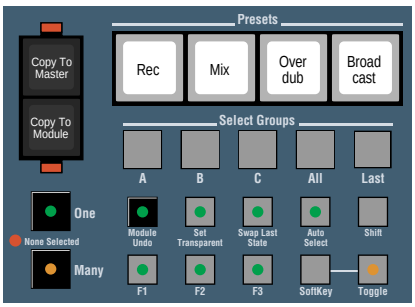
Only the Master Section can have transparent switches. Transparent switches cannot be copied to modules. This becomes important as you learn to copy the Master Section to Input modules.

4.6 Undoing Changes

4.6.1 Module Undo

The Master Section **Undo** button performs an Undo/Redo function when editing module states. This is useful for canceling changes made to selected modules or to toggle selected modules between two settings.

Whenever the module selection is changed, the currently selected module states are stored in the console's Undo buffer. Any changes made to the Master Section or the selected modules after that point can be undone and redone by toggling the **Undo** button's state.



Edit and Selection Buttons

Whenever module changes have been made, the **Undo** LED lights. When the **Undo** button is pressed, the **Undo** LED goes out, indicating that the original states have been restored. Pressing the **Undo** button again restores the changes and lights the **Undo** LED.

The following example demonstrates the Undo function:

1. **Select Input module 24.**

2. **Change the EQ In state of the module by pressing the EQ In or EQ Out button in the Mix path area of the Master Section.**
   The **Module Undo** button lights to indicate that a change has been made.

3. **Press Module Undo.**
   The **EQ In** switch returns to its original state (Undo).

4. **Press Module Undo again.**
   The **EQ In** switch returns to its changed state (Redo).

4.6.2 Swap Last State

Each Input module has two states associated with it, its current state and an alternate "Last State". Pressing **Swap Last State** toggles the module between its current state and the last state. The **Swap Last State** button lights when the "Last" state is active on the Selected modules.

The Previous State provides an alternate module state that can be configured and exchanged with the current state of the module.
The Previous State of a module is updated whenever the **Swap Last State** LED is On and:

- A Snapshot is recalled
- The module is deselected and changes have been made.
- The Master Section is copied to the module and changes have been made.

The Swap Last State function can be used to store two setups for each module. The following example shows how this can be done:

1. **Press Swap Last State until its LED is lit.**

2. **Select module 24 to copy its switch states to the Master Section. Clear the selection by pressing Copy To Master.**

3. **Set the Track Assign to tracks 1 through 6 by pressing 1-2, 3-4 and 5-6 in the Track Assign area of the Master Section.**
   All other Track Assign LEDs should be Off. We will call this Setup 2.

4. **Press Copy To Module, then press All to apply the change to all modules.**

5. **Press Copy To Master to clear all selections.**

6. **Press Swap Last State until its LED is Off.**

7. **Press Clear in the Track Assign area of the Master Section. Assign to tracks 7 through 12 by pressing 7-8, 9-10 and 11-12.**
   All other Track Assign LEDs should be Off. We will call this Setup 1.

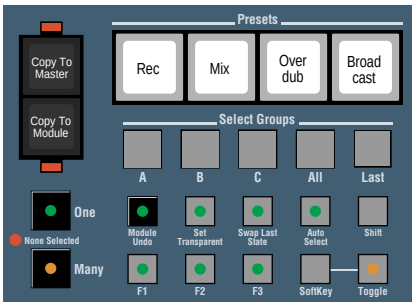
8. **Press Copy To Module, then press All.**

9. **With all modules selected, press Swap Last State repeatedly.**
   All Track Assigns toggle between 7 through 12 (Setup 1) and 1 through 6 (Setup 2).

If additional modules are selected while **Swap Last State** is lit, the previous states of the originally Selected modules will be “out of sync” with those of the newly Selected modules. The **Swap Last State** LED always displays the state of the original selections. The **Swap Last State** LED is reset and turned off when all modules are deselected.

4.7 Copying Master Section Switch Settings to Input Modules

4.7.1 Copying Switch Settings to One Module



Edit and Selection Buttons

The **Copy To Module** button allows the switch states of the Master Section to be copied to Selected Input modules. Pressing **Copy To Module** followed by an Input module's **Select** button immediately copies the Master Section switch states to that module.

Copy To Module is a timed function. After 5 seconds, the Master Section returns to Copy To Master mode.

The following example shows how switch settings can be copied from one module to another:

1. **Select module 24 to copy its switch states to the Master Section. Clear the selection by pressing Copy To Master.**

2. **Make any desired changes to the switches in the Master Section.**

3. Press **Copy To Module**.
   The **Copy To Module** LED lights.

4. **Select module 23.**
   The Master Section switch states are immediately copied to module 23. The Master Section returns to the Copy To Master mode.

4.7.2 Copying Switch Settings to a Number of Modules

While **Copy To Module** is lit, pressing **Many** before selecting modules allows the Master Section switch states to be copied to a number of modules. As the modules are selected, the switch states are copied.

The following example demonstrates how the Master Section can be copied to a number of modules:

1. **Select module 24 to copy its switch states to the Master Section. Clear the selection by pressing Copy To Master.**

2. **Make any desired changes to the switches on the Master Section.**

3. Press **Copy To Module**, then press **Many**.
   The **Copy To Module** button lights.

4. **Select modules 22, 23 and 24.**
   The Master Section switch states are copied to those modules as they are selected.

4.7.3 Copying Switch Settings to Modules on Cue

Sometimes it is desirable to make switch changes to a number of modules synchronized to a music cue or scene change. Normally, **Copy To Module** copies Master Section switch states to a module as they are selected. Copy To Module - Delayed mode allows the copy action to be delayed until **Copy To Module** is pressed a second time.

Switch settings can be copied to Selected modules on cue by *holding* **Copy To Module** and pressing **Many** before selecting Input modules. The **Copy To Module** and Selected modules' **Select** buttons flash to indicate that the copy has not been made. Pressing **Copy To Module** again while it is flashing copies the Master Section switch states to all Selected modules simultaneously.

The following example shows how Copy To Module - Delayed operates:

1. **Select module 24 to copy its switch states to the Master Section. Clear the selection by pressing Copy To Master.**

2. **Make a number of changes to switches in the Master Section.**

3. **While pressing Copy To Module, press Many. Release the Copy To Module and Many buttons.**
   The **Copy To Module** button flashes, indicating that the delayed mode is active.

4. **While Copy To Module is flashing, select modules 22, 23 and 24.**
   The module **Select** buttons flash to indicate that the copy has not been executed.

5. **Press Copy To Module to copy the Master Section to all Selected modules simultaneously.**
   The Master Section returns to Copy To Master mode.
   Pressing **Many** instead of **Copy To Module** after selecting modules executes the copy and keeps the Master Section in Copy To module mode for additional copy operations.

4.7.4 Copying One or a Few Switches to a Module

Sometimes it is necessary to copy only a few switches to a module, leaving the rest unchanged. Transparent switches provide this capability when copying switch states to modules.

■ **Set Transparent**
When **Set Transparent** is pressed once, the **Set Transparent** LED flashes and all modules are deselected. Pressing any button in the Master Section toggles the function in and out of transparent mode. Transparent functions will not be copied to Input modules.

When **Set Transparent** is pressed while the button LED is flashing, the **Set Transparent** LED lights and all switches in the Master Section become transparent. While the Master Section is in this condition, no switch states can be copied to a module. Pressing any button in the Master Section toggles the function in and out of transparent mode. Individual functions can now be recalled and copied without affecting the rest of the switches on a module.

While the **Set Transparent** LED is lit or flashing, pressing a Master Section button toggles it between transparent and its original state. If the Master Section is then copied to a module, only transparent switches will be copied.

Pressing **Set Transparent** while it is lit returns all Master Section switches to their original, non-transparent states.

An example of **Set Transparent** operation is as follows:

1. **Set the Master Section so that EQ is IN on both paths.**

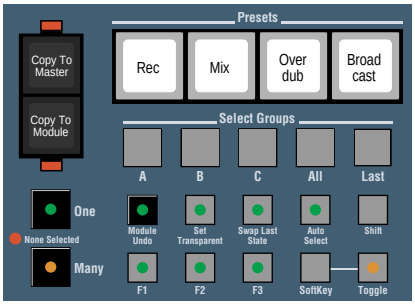
2. **Press Set Transparent twice.**
   All of the Master Section switches flash.

3. **Press EQ In in the Mix and Chan path areas of the Master Section.**
   The path **EQ In** is lit and the **EQ Out** switch is Off. All other switches are still flashing (transparent).

4. **Press Copy To Module, then press Many. Select modules 22, 23 and 24.**
   The EQ has been switched into the Mix and Chan path of the Selected modules; no other switches on the modules have changed.

NOTE: While the **Set Transparent** button is flashing, a switch can only be toggled between a transparent state and its previous state. To select a different state for a switch, either set the state before pressing **Set Transparent**, or press **Copy To Module** to exit Set Transparent mode.

4.7.5 Copying One or a Few Switches from One Module to Another



Edit and Selection Buttons

The following example demonstrates how a Track Assignment can be copied from one module to another. Prepare a module for copying as follows:

1. **Select module 24.**

2. **Assign the module to buses 1 through 8 by pressing 1-2, 3-4 and 5-6 in the Track Assign area of the Master Section.**
   All other Track Assign switches should be Off.

3. **Select module 23 and press Clear in the Track Assign area of the Master Section.**
   No Track Assign switches should be lit.

To copy the Track Assignment from module 24 to module 23:

1. **Select module 24.**
   Track Assign switches **1-2**, **3-4** and **5-6** should be lit.

2. **Press Set Transparent twice.**
   All Master Section LEDs should be flashing.

3. **Press the Track Assign Clear button.**
   The Track Assign will stop flashing and Switches **1-2**, **3-4** and **5-6** will be lit. All other functions will remain transparent.

4. **Press Copy To Module and select module 23.**
   Only the Track Assign setting will be copied.

NOTE: The Track Assign switches are a special case when the **Set Transparent** button is active. Each Track Assign button can be made individually transparent or the whole track assign can be made transparent by pressing the **Clear** button.

4.8 Select Groups

One of the most powerful features of the STATUS 18R is the ability to define master switch settings and execute them on all or a few modules. Select Groups provide a way to select groups of modules with one button push. You may already have experience with the **All** button, a Select Group button that selects all modules.

4.8.1 Select Group Buttons

The six Select Group Buttons are adjacent to the **Copy To Module** button in the Master Section of the Digital Master module. The Select Group Buttons are:

- Group A, B, C
- All
- Last Select Group
- Shift

Group A, **B** and **C** are user-defined buttons. Holding **Shift** while pressing **Group A**, **B** or **C** provides 3 more Select Groups for a total of 6. The **All** button is permanently defined to select all modules. The **Last Select Group** button recalls the last module selection in effect on the console.

4.8.2 Defining a Select Group

The **Group A**, **B** and **C** buttons are defined as follows:

1. **Press Copy To Master to clear all module selections.**

2. **Press Many. Select modules 22, 23 and 24.**
   Pressing a module's **Select** button selects or deselects it from the group.

3. **Hold Many and press Group A to store the current module Selection in that Select Group.**
   To store a shifted Select Group, hold **Many**, press and release **Shift**, then press the desired Select Group button

4. **Press Copy To Master to clear all selections.**
   Pressing **Group A** selects modules 22, 23 and 24. If **Many** is active, pressing **Group A** again will deselect modules 22, 23 and 24.

4.8.3 Using Select Groups

Select Group buttons operate like module **Select** buttons do. In all of the previous examples, pressing a Select Group button can be substituted for pressing **Many** and a number of **Select** buttons. The following example uses the **Group A** button that was programmed in the previous example:

1. **Press EQ In in the Mix path area of the Master Section.**

2. **Press Set Transparent twice.**
   All of the Master Section switches flash.

3. **Press EQ In in the Mix path area of the Master Section.**
   The Mix path **EQ In** is lit and the **EQ Out** switch is Off. All other switches are still flashing (transparent).

4. **Press Copy To Module, then press Group A.**
   The EQ has been switched into the Mix paths of modules 22, 23 and 24.

Groups A, B and C can be used for predefining sections of the console. Doing this allows you to switch blocks of modules quickly. **All** is used for setting switches on the whole console, and is especially useful during setup and troubleshooting.

Last Select Group is useful for recalling the last module selection should it be cleared accidentally or by a copy operation. Pressing **Last Select Group** recalls the module selection in effect before the current selection. Pressing **Shift**-**Last Select Group** inverts the current module selection (selected modules are deselected and vice-versa).

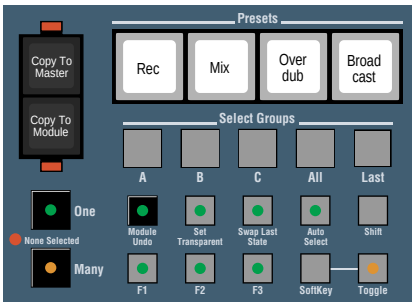
4.8.4 Loading and Saving Select Group Banks

The 6 user-defined Select Group definitions can be loaded from or saved to disk using the PRSTS option of the Misc LCD Menu. Both Select Groups and Presets are saved to the console master disk.

4.9 Presets

Presets are used to store Master Section switch configurations. Once stored, these configurations can be recalled and copied to modules to perform master setups for different applications. In practice, a Preset can be thought of as an Input module without switches or knobs, but because a Preset can store transparent states, all or a few switch functions can be stored for recall.

4.9.1 Preset Buttons



Edit and Selection Buttons

The Preset buttons include:

- Rec
- Mix
- Overdub
- Broadcast
- Shift

When used in combination with the **Shift** button, each Preset button stores two Presets, allowing a total of 8 Presets to be stored. As shipped, the STATUS 18R comes with four predefined Presets (Rec, Mix, Overdub, and Broadcast). In reality, all 8 Presets are user programmable, the button caps being removable to allow them to be relabeled.

4.9.2 Storing the Master Section in a Preset

To store a Preset:

1. **Set the switches in the Master Section to the desired states.**

2. Hold **Many** and press the desired Preset button.
   To store the Master Section to a shifted Preset, hold **Many**, press **Shift** and release. Then press the desired Preset button.

4.9.3 Storing One or a Few Switches in a Preset

To store one or a few switches in a Preset:

1. **Set the switches in the Master Section to the desired states.**

2. Press **Set Transparent** twice.
   All Master Section switches will flash.

2. **Select the switches to be saved in the Preset.**

3. Hold **Many** and press the desired Preset button.
   To store the Master Section to a shifted Preset, hold **Many**, press **Shift** and release. Then press the desired Preset button.

4.9.4 Using Presets

Selecting a Preset (pressing a Preset button with or without the **Shift** button) deselects any Selected Input modules and copies the Preset to the Master Section. From here, the Master Section may be copied to a Select Group or individual modules.

The following example creates a Preset that contains just the Mix and Chan path **EQ Out** buttons. It then uses this Preset and **Swap Last State** to toggle all module EQs between Off and their original state.

First create the EQ Out Preset:

1. **Press EQ Out in the Mix and Chan path areas of the Master Section.**

2. **Press Set Transparent twice. Select the Mix and Chan EQ switches by pressing EQ In or EQ Out in the Mix and Chan path areas of the Master Section.**
   EQ Out will be lit for each path; all other switches will be flashing.

3. **Hold Many and press Rec.**
   The Master Section is now stored in the **Rec** Preset button.

To use the Rec Preset:

1. **Press Rec.**
   In the Master Section **EQ Out** will be lit for each path, **EQ In** will not be lit, and all other switches will be flashing.

2. **Press Copy To Module, then press All.**
   The EQ will be switched out of the Mix and Chan path of every module. All modules will still be selected.

3. **Press Undo to return all EQs to their original states.**
   Pressing **Undo** repeatedly will now toggle the EQs In and Out.

4.9.5 Loading and Saving Preset Banks

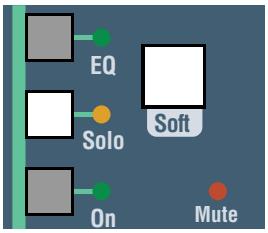
The 8 user-defined Presets definitions can be loaded from or saved to disk using the PRSTS option of the MISC LCD Menu. Both Select Groups and Presets are saved to the console master disk.

4.10 Soft Key

On the STATUS 18R console, most Input module functions are switched on the Digital Master module. Occasionally, these functions need to be available locally, on the module itself, so that they can be accessed quickly and easily. Soft Keys provide this accessibility.

The Soft Key can be programmed to execute the same function when pressed or to toggle between two switch states.

4.10.1 Soft Key Buttons



Module Soft Key

The Soft Key buttons include:
- SoftKey
- Toggle
- The Input Module Soft button

SoftKey and **Soft** execute the Soft Key function. A module's **Soft** button executes a function on individual modules only. The **SoftKey** button executes a function on Selected modules only.

4.10.2 Programming a Soft Key

SoftKey and **Toggle** on the Master Section are used for programming the Soft Key.

To program the SoftKey:

1. **If the SoftKey is to execute an absolute state (ie. EQ In), set the desired switches on the Master Section to that state.**

2. Press **Set Transparent** twice.
   All Master Section LEDs will flash to indicate that all Master Section switches are "transparent" or undefined.

3. **If the SoftKey will be used to toggle between two states (ie. Mix and Chan EQ In and Out), press the Toggle button until it is lit. If the SoftKey will be used to execute a specific button press (ie. the Track Assign Clear button), do not press Toggle.**

4. **Press the Master Section switches that are to be switched by the SoftKey.**
   The switch function stops flashing to indicate that its state has been defined. Multiple functions can be switched simultaneously by the same Soft Key.

5. Press and hold **Many**, then press **SoftKey**.
   If a toggle function has been defined for a non-toggling switch, the function will become transparent again.

4.10.3 Using Soft Keys

SoftKeys can be thought of as specialized Presets. When a module's **SoftKey** is pressed, the Soft KeyPreset is immediately copied to the module. This is the same as selecting a Preset on the Master Section, pressing **Copy To Module** and selecting the module, only faster.

If the **SoftKey** is defined as a Toggle, all defined switches with a toggle function switch to their alternate state whenever the **SoftKey** is pressed.

4.11 Solo System

4.11.1 Introduction

The STATUS 18R allows independent selection of Solo modes for the Channel and Mix paths. The buttons for controlling these modes are located in the LCD Display section of the Digital Master module. A number of options are available in UPS that change the way the Solo system operates.

4.11.2 Solo Modes

Solo LCD Menu

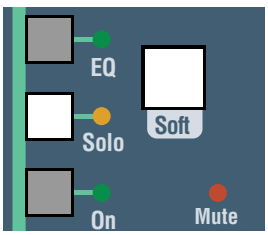
Two types of Solo are available on the STATUS 18R, In-Place Solo (IPS) and Monitor Interrupt Solo (MIS). Each has its advantages and disadvantages in a given application.

NOTE: The term “IPL” (In-Place Listen) is sometimes used in place of “IPS” when defining In-Place Solo. The terms are identical and can be used interchangibly.

■ In Place (IPS)

In Place Solo means that when a path is soloed, it remains in place in the Stereo image. This happens because all unsoloed paths are actually muted while the path is soloed. For this reason, In-Place solo is called a “destructive” solo, meaning that program output of the console changes as paths are muted during the solo operation.

Because it is “destructive”, IPS soloing would not be a wise choice during music recording or a broadcast. Executing a solo could mute channels in the cue headphones or the program feed. IPS soloing is useful during mixing, however, because an instrument can be soloed with effects exactly as it is heard in the mix.



Path Solo Button

■ Monitor Interrupt (MIS)

Monitor Interrupt Solo is “non-destructive”. A separate Solo bus in the console sums all soloed paths. When a solo is executed, the Control

Room section temporarily selects this Solo Bus for monitoring. No channels are muted.

paths soloed by MIS soloing can be sourced Pre (PFL or Pre Fader Listen) or Post (AFL or After Fader Listen) the path’s fader. If set to AFL, soloed paths are in Stereo, as defined by the path’s pan pot. If set to PFL, soloed paths are in mono. PFL soloing allows a path to be soloed while the fader is down so that it can be raised on cue. AFL soloing preserves the mix relationship when multiple channels are soloed.

Because of its non-destructive nature and PFL function, MIS soloing is ideal for broadcast and tracking purposes. For mixing however, IPS soloing is usually more desirable than MIS soloing.

4.11.3 Selection Modes

Solo Mode Section

Selection modes determine how the module **Solo** buttons operate. Three different selection modes are offered on the STATUS 18R; Additive, Interlock and Momentary. Like Solo modes, different Selection modes have advantages and disadvantages in a given application.

Selection modes work in both IPS and MIS solo modes. Both paths are affected by the selection mode in effect.

■ **Additive**
The Solo systems on most consoles operate in Additive mode. When a **Solo** button is pressed, its path is soloed and added to the paths already soloed. To unsolo a path, press its **Solo** button again.
To clear an Additive solo, press **Solo** on soloed channels or press **Solo Clear** on the Digital Master module.
Additive mode is most useful during mixing when multiple paths must be soloed for EQ or balance.

■ **Interlock**
While in Interlock mode, pressing a **Solo** button soloes its path and unsolos any paths previously soloed. Holding a **Solo** button while soloing other paths allows you to solo multiple paths at the same time.
To clear an Interlock solo, press the soloed path's **Solo** button or press **Solo Clear** on the Digital Master module.
Interlock mode is useful when single paths need to be quickly soloed and adjusted, such as live broadcasts.

■ **Momentary**
While in Momentary mode, pressing a **Solo** button solos the path. Releasing the button unsoloes it.
Momentary mode is also useful in broadcast applications for cueing or spot checking paths for problems.

4.11.4 Using the Solo System

Solo LCD Menu

The LCD Menu System contains most of the controls for the Solo system. The modes in effect are displayed in the Solo Mode section of the Digital Master module.

The dedicated **Solo Clear** button is located in the bottom section of the Digital Master module.

The Mix and Chan **Solo Safe** buttons are located next to the Solo Modes LEDs on the Master Section.

■ **MIXIP and CHANIP (Mix In-Place and Chan In-Place)**
The **In-Place** buttons determine if the Solo Mode for a given path is In-Place Solo (IPS) or Monitor Interrupt Solo (MIS). If the **In-Place** LED is lit, the path will operate in IPS mode. If it is Off, the path operates in MIS mode. The Chan and Mix paths may be set to different Solo modes if desired.
When only one console path is in IPS mode, only that path will be affected by mutes from an IPS solo. For example, If the Mix path of the console is set to IPS soloing and Mix path number 24 is soloed, all other Mix paths (except those in Solo Safe) will mute. No Channel paths will be muted.
If both console paths are in IPS mode, the paths are linked. Soloing a Mix path number 24 mutes all other Channel and Mix paths (except those in Solo Safe).
While in IPS mode, if a path is muted when soloed, the path will be temporarily unmuted so that the soloed path may be heard. The **On** LED of the muted paths that are soloed flash, indicating this temporary unmuted state.

If a solo operation is in effect and a path is switched to IPS soloing, the solo operation is cleared to prevent unexpected muting of paths. If a path is switched to MIS soloing during a solo operation, the unsoloed paths are unmuted and the Monitor Interrupt Solo goes into effect.
An MIS solo has priority over an IPS solo. If an IPS solo is in effect when an MIS solo is executed, the IPS soloed paths **Solo** LEDs flash, indicating that the mutes caused by the IPS solo may be affecting what is heard in MIS solo. When the MIS solo is cancelled, the IPS solo will still be in effect.

■ AFL and PFL

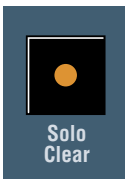
The **AFL** and **PFL** buttons apply only to paths set for MIS soloing. If AFL (After Fader Listen) is selected, soloed paths are sourced after the Fader. Paths soloed in AFL will be the same level and stereo position as when they are unsoloed.
If PFL (Pre Fader Listen) is selected, soloed paths are sourced before the Fader and Pan Pot. Paths soloed in PFL are summed at their pre fader levels and will be heard if the fader is down or the **On** switch is Off.
MIS solo must be either AFL or PFL. The Chan and Mix paths can not be sourced independently.

■ Add, Intrlk, and Momen (Additive, Interlock and Momentary)

These buttons determine the selection mode of the Solo system.
Pressing INTRLK causes the **Solo** buttons to operate in an interlocked fashion. Soloing a path unsolos any previously soloed paths. While in Interlock mode, holding a **Solo** button allows multiple paths to be Soloed at one time.
Pressing ADD causes the **Solo** buttons to operate in Additive mode. Pressing a **Solo** button solos the path and adds it to those already soloed. Pressing the **Solo** button again unsolos the path.
Pressing MOMEN causes the **Solo** buttons to operate in Momentary mode. Pressing a **Solo** button solos the path, releasing the **Solo** button unsolos it.
Additive, Interlock, and Momentary modes can be used in conjunction. Soloing a number of paths in Additive mode and then changing to Momentary mode keeps the paths soloed in Additive mode soloed while Momentary solos are executed. Pressing **Solo Clear** cancels all solos.

■ Defeat

The DEFEAT button temporarily defeats a Monitor Interrupt Solo. This is useful should communications between the Control Room and Studio be blocked by a Monitor Interrupt Solo operation.
Pressing DEFEAT restores the monitor system to its normal state while retaining the soloed paths. When DEFEAT is pressed again, the monitor system returns to the MIS Solo operation previously in effect.
When Defeat is in effect, the **Defeat** LED and the **Solo** LEDs on all MIS soloed paths flash, indicating that an MIS solo operation is in effect but being defeated.
You can defeat IPS solos as well as MIS solos by setting the “Include IPL Solo in Solo Defeat” option in the Shift-Solo LCD Menu.



Solo Clear Button

■ Solo Clear

Pressing **Solo Clear** unsolos all soloed paths.When any path is soloed, the **Solo Clear** button flashes.
Solo Clear is useful for clearing solos when soloed paths are not immediately visible or if multiple channels are soloed in Additive mode.

■ Solo Safe

The Mix and Chan **Solo Safe** buttons cause selected paths to be excluded from muting when any path is soloed. This is useful during IPS solo when a path is being used to return an effects device that you wish to hear whenever a path is soloed.
Solo Safe operates like any other Master Section switch and can be used in Presets and the Soft Key.

Solo Safe Buttons

4.12 Aux Send Operation

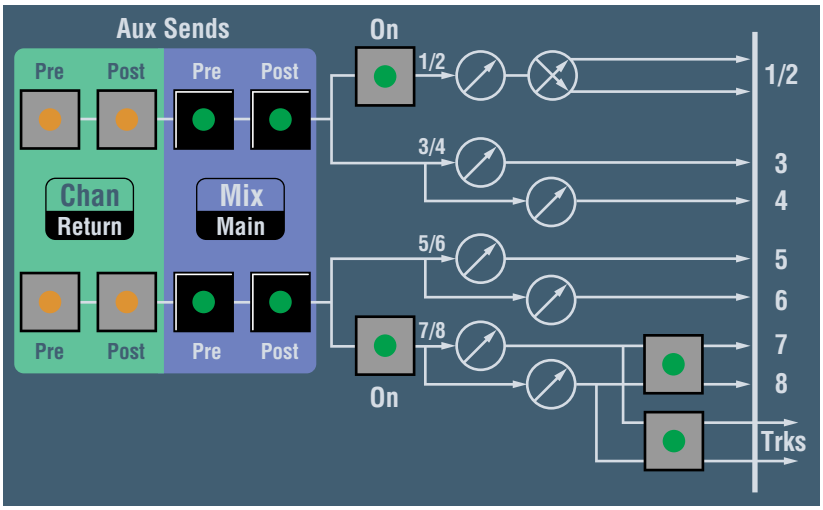
The Aux Sends Section controls sourcing, muting and assignment of an Input module's Aux Sends.

Each Input module can feed eight Aux Buses via eight Aux Send level controls. The eight Aux Send level controls are configured as four send pairs. Aux 1/2 is a Stereo send with a Level Control and Pan Pot, Auxes 3/4, 5/6 and 7/8 are Mono sends, each with its own Level Control.

The four Aux Send pairs may be sourced pre or post the Channel and/or Mix path fader. The source for Auxes 1/2 and 3/4 is selected by the upper set of Pre/Post and Mix/Chan buttons; the source for Auxes 5/6 and 7/8 is selected by the lower Pre/Post Mix/Chan buttons.

Auxes 1/2 and 7/8 each have an Aux ON button.

4.12.1 Pre and Post



Master Section Aux Send Controls

Pressing PRE sources an Aux Send from before the path's fader. This is desirable when using the Aux as a Cue Send for studio headphones or a pre-fader effects send. While PRE is selected, a path's fader levels have no effect on the levels heard in the headphones.

Pressing a POST switch sources an Aux Send after the path's fader and its associated ON switch. This is desirable when using the Aux as an Effects Send where the effect return should change level and mute with its source material.

Aux sends may be sourced from the Chan and Mix paths simultaneously. When the Aux send is sourced from both paths, the Mix and Chan path signals are summed before feeding the Aux controls.

The four PRE and POST buttons are normally interlocked. To assign from both paths simultaneously, hold one path's Pre or Post select button while pressing the other path's Pre or Post button.

Pre and Post may not be selected simultaneously on the same path. Different Pre and Post sourcing may be selected on the Mix and Chan path selectors, however. For example, Auxes 1 through 4 may be sourced from Pre Chan path and Post Mix path, but not from the Pre and Post Mix path only.

4.12.2 Pre Fader Aux Muting

Normally, Prefader Aux Sends mute when their associated path is muted. Prefader Aux muting is desirable when using a pre-fader Aux Send as an effects send; it is undesirable when using the send as a feed to a musician's headphones. When "Tracking mode" is in effect on a pre-fader Aux Send, the send will not mute when its associated path is muted.

A UPS setting in the MISC menu of the LCD Menu System determines if Tracking mode is active on the Channel and Mix path pre-fader Aux Sends. When tracking mode is on, selected pre-fader Auxes will not mute when their associated path is muted.

Tracking Mode has no effect on Post-fader Aux Sends.

4.12.3 Module Indication

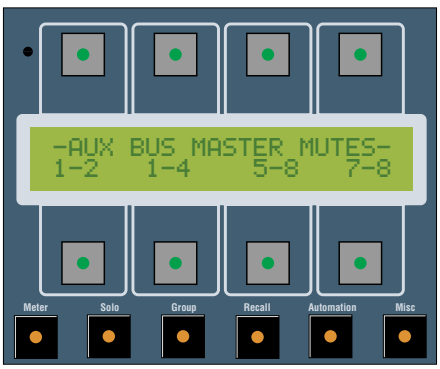
An Aux Send's assignment is also displayed on the Input module LED Meter and Status display by the **AUX 1-4** and **AUX 5-6** LEDs. The LEDs have a different meaning depending on whether the Aux is sourced from one or both module paths.

Auxes sourced from a single source:
- When **Aux 1-4** is lit, Auxes 1 through 4 are sourced from the Chan path. When off, Auxes 1–4 are sourced from the Mix path.
- When **Aux 5-8** is lit, Auxes 5 through 8 are sourced from the Mix path. When off, Auxes 5–8 are sourced from the Chan path.

Auxes sourced from both paths:
- When **Aux 1-4** is lit, Auxes 1 through 4 are sourced from the Chan path. When off, Auxes 1–4 are not sourced from the Chan path.
- When **Aux 5-8** is lit, Auxes 5 through 8 are sourced from the Mix path. When off, Auxes 5–8 are not sourced from the Mix path.

4.12.4 Aux Master Mutes

The Aux Send master output levels are controlled by the Aux Master pots on the Analog Master section of the Digital Master module. The Aux Masters can be muted using the AUXMUTE option in the Misc LCD Menu.

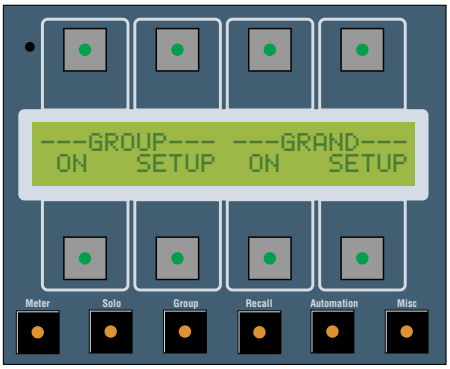


MISC-AUXMUTE Menu

Aux Masters can be muted in the following combinations:
- Auxes 1 and 2
- Auxes 1 through 4
- Auxes 5 through 8
- Auxes 7 and 8

4.13 Fader Grouping

4.13.1 Overview



GROUP LCD Menu

Fader Grouping allows one or more faders to be controlled by a single “Master fader”. Groups are created, viewed, edited and deleted using the Group function of the LCD Menu System and the Input module ON buttons.

■ Functions Affected by Group Masters

When Master Section GROUP LED is ON, the following group master changes affect member faders of the group:

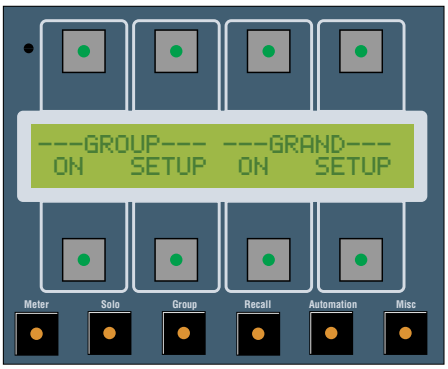
- Changes in Fader Level (Master Offset)
- Fader Mode (Member follows master exactly)
- Solo Status
- Mute Status

When Grouping is Off, no group master changes are sent to group members.

■ Grouping and Fader Automation

Eagle Automation stores fader levels and mutes of individual paths, irregardless of their group assignments. This means that any “fader moves” recorded into the Eagle automation system via a group master are written to the individual members and will be maintained whether or not the group currently exists. This allows you to write “grouped” automation moves, yet still have the freedom to delete and change group assignments as the mix progresses.

4.13.2 Normal Operation



GROUP LCD Menu

The MAST LEDs on the module Level and Status Display always indicate which paths are Group Masters. A Group Master may or may not have additional members assigned to it, although in practice it always does.

The GROUP Menu on the LCD Menu System indicates whether Grouping is On or Off. Press the ON button to toggle the state of the Group Status.

When Grouping is ON:

- The LCD Menu ON LED is On.
- Groups are Active.
- Group Master changes (mute, solo, fader modes, etc.) will affect group members.

When Grouping is OFF:

- The LCD Menu ON LED is Off.
- Groups are not active.
- Master fader moves and relevant button hits (mute, solo, fader modes, etc.) will affect only the local path and not be sent to the group members.
- Moving the master fader will only affect the Master fader level without affecting either current group members or the master offset that will be applied to group members when Group mode is turned On again. This allows the user to set the Master fader level, (with Grouping Off), then restore the grouping relationship (Grouping On).

4.13.3 Group Setup Mode

■ Purpose

- To display group masters and members
- To allow the creation, editing and deletion of groups

NOTE: Grouping is turned On as soon as you enter Group Setup mode. If this is not desirable, press GROUP ON after you return to the top GROUP Menu.

GROUP Setup LCD Menu

■ To Enter Group Setup Mode

- Press GROUP on the LCD Menu System.
- Press SETUP under the GROUP label.

■ Indication

The path's ON LEDs indicate if the path is a Group Master, Group Member, or not assigned:

BLINK	indicates a master fader
ON	indicates a group member (of some group)
OFF	indicates the fader is not a master or member of any group.

To identify individual groups use the Display Groups function described next.

4.13.4 Group Setup Mode Functions

■ Group Edit

The Group Edit mode is used to:

- Create a new group
- Add or remove members from an existing group
- Change the master of an existing group
- Delete an existing group

CREATE GROUP LCD Menu

■ To Enter Group Edit Mode:

1. Make sure you are in Group Setup mode (Press the SETUP button in the GROUP Menu).

2. Press the ON button of any path to enter Group Edit mode.

3. If that path is an existing group member or master, the user is now editing that group.

4. If that path is not part of any group, the user is now creating a new group. The selected path becomes the master for the new group with the zero offset point at the physical position of the master fader at the time when the Write button is hit.
   If the master fader is also being used as an audio path (local fader) then its physical position will already be set in relation to the rest of the group. It can be adjusted later, if necessary.
   If the master fader will only be used as a Group master (it will carry no audio), it is recommended that the fader be set to "zero" on the fader scale before making it a group master. This allows the panel markings to indicate the group offset level.

■ Indication

All path ON LEDs turn Off except for the group that is now being edited.

■ To Add a Member to the Group Being Edited:

1. Press the ON button of a path whose LED is not lit.
   If that path is not a member of another group, its LED will turn on indicating that it is now a member of the group being edited.
   If that path is a member of a different group, that other group will be displayed while the ON button is depressed (extinguishing the current group). When the Write button is released, group editing may be resumed. That path was not added to the group being edited because it already belongs to another group.

2. Exit from Group Edit mode by pressing the DONE button on the LCD display.

■ To Delete the Group Being Edited:

Press the ON button of the Group Master (LED is blinking).
The Blinking LED will turn OFF indicating that the Group Master has been deleted.
Alternately, you can press the DELETE KEY displayed on the Creating Group LCD Menu.
Exit from Group Edit mode by pressing the DONE button on the LCD display.

CREATE GROUP LCD Menu

■ To Delete A Member From the Group Being Edited:

1. Press the ON button of a path whose LED is On (member).
The LED will turn Off, indicating that this path is no longer a member of the group being edited.

2. Exit from Group Edit mode by pressing the DONE button on the LCD display.

■ To Change the Master of the Group Being Edited:

1. Press the On button of the Group Master (LED is blinking).
The Blinking LED will turn Off indicating that the Group Master has been deleted. The levels of the member paths will change to reflect the fact that the master offset has been removed (unless the offset was already at zero).

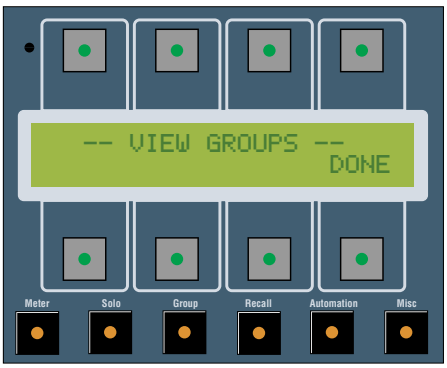
2. Press the ON button of the path that is to be the new Master fader.

3. Exit from Group Edit mode by pressing the DONE button on the LCD display.

NOTE: If a group that has been edited has no master when you exit from Group Edit mode, it will be deleted.

■ Exit from Group Edit Mode

Press the GROUP button on the LCD display to exit from Group Edit mode and return directly to normal console operation without passing through Group Setup mode. All group edits that were in progress will be maintained.



VIEW GROUPS LCD Menu

NOTE: If a group that has been edited has no master when you exit from Group Edit mode, it will be deleted.

■ View

Press the button under VIEW to enter Group View mode.
While in Group View mode, press a path's ON button to show a single group.
If the path whose ON button was pressed is part of a group, its ON LED will continue to blink or stay On. Blink indicates that it is the master of this group, On indicates that it is a member of this group. The ON LEDs of the other paths will show their status if they are a member or master of this group. If they are not a member of this group they will go Off.
While the VIEW GROUPS LCD Menu is displayed, holding down an ON button will display one of the following messages:

"Path is Group Master"
"Path is Group Member"
"Path is not in a Group"

In summary, when an ON button is held, while in Group View mode, any ON LEDs that are lit have the following meaning:

BLINK	indicates master of this group.
ON	indicates member of this group.
OFF	indicates path is not part of this group.

Release the On button to restore the normal View display.

Press the DONE button on the LCD Menu System to exit Group View mode.

■ Masters

While in Group Setup mode, pressing the MASTERS button on the LCD display causes only the Group Masters to be displayed on the path ON LEDs.
Releasing the MASTERS button returns to the Group Setup menu.

■ Delete All

Holding SHIFT and pressing the DELETE ALL button deletes all groups.

■ Exit from Group Setup Mode

Press the LCD GROUP key to go to the top Group menu, exit from Group Setup mode and return to normal console operation.

4.13.5 How the Group Master Works

■ **Group Master Offset (Master Offset)**

A group is formed by first establishing a Group Master and then adding group members to it. This is done in the Group Edit mode explained previously. When the Group Master is first created the system establishes a Master Offset of zero (0) for that Group Master. This Group Offset is constantly "added to" the physical fader positions of all of its members establishing a virtual fader position for all group members. It is this virtual fader position that the system uses in all mixing operations. (Faders that are not group members also have a virtual position but it is always equal to its physical position). Whenever a Group Master is moved while Grouping is On, that movement is added to or subtracted from its Master Offset value, which in turn is used to compute the virtual fader positions of all of its members.

■ **Sending Button Hits to Members**

Whenever Grouping is On, hitting a fader related button of a Group Master sends that "button hit" to all of the members of that group. This includes the local path which lies beneath the Group Master. In truth, however, it is not the "button hit" that is sent, but the mode that the masters local path changes to. For example...

The local path beneath a Group Master is in Read, as indicated by that path's Mode LEDs. The **Auto** button style is Write.

- A group member is in Update mode.
- The **Auto** button is hit on the Group Master path.
- Both the Local path and the other group member change to Enter Write mode.

4.13.6 Grouping Limitation for Solo Interlock Mode

Assume grouping is On and Solo Interlock mode is selected. Assume no solos are currently active.

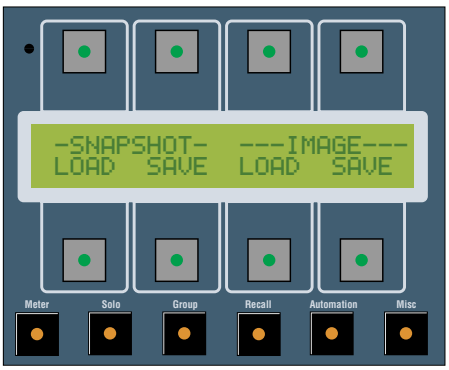
Action: Press **Solo** on group master.
Result: Master and all members are now soloed.

Action: Press **Solo** on group master a second time.
Result: Master and members are no longer soloed.

You cannot press and hold a soloed Master to add paths like you can with group members and paths that are not grouped.

4.14 Snapshots

4.14.1 Overview



Recall Menu Display

A Snapshot is a record of the console's computer controlled switch states and fader levels at one point in time. Once stored, a Snapshot can be recalled by pressing a button on the LCD display. A Snapshot stores the following module functions:

- Fader Levels
- Fader Ramp Time
- Input Sourcing
- Polarity Reverse
- EQ In/Out
- Audio Path Muting
- Fader Flip
- Stereo Bus Assign
- Aux Send Routing and Muting
- Track Assignment
- Track Assign Source
- Softkey Configuration

50 Snapshots can be stored on the console's floppy disk.

4.14.2 Snapshot Keys

Snapshots are stored and recalled using the RECALL Menu of the LCD Menu System. Press the **Recall** button below the LCD display to access this menu.

4.14.3 Fader Ramp Time

A "ramp time" can be stored in each snapshot that causes the faders to "glide" to their recalled positions over a specified period of time when the snapshot is recalled. For a ramp time to be stored in a snapshot, Automation Auto Glide must be turned On. The ramp time stored is equal to the Automation Glide rate.

Enabling and setting of Automation Glide Rate is explained in **§§5.4.3** and **5.4.9**.

4.14.4 Storing Snapshots

To Store a Snapshot:

1. **Press Recall. Press the button under SNAPSHOT SAVE.**

2. **Press the Up or Down Arrow key to scroll to the Snapshot number desired.** The Snapshot name displays (EMPTY) if there is no snapshot saved under the Snapshot number.

Save Snapshot Display

3. **Press NAME to enter or change the snapshot name if desired.** The Name display is described later in this section.

4. **Press SAVE to save the snapshot to disk.** If a Snapshot already exists for that Snapshot number, it will be overwritten.

4.14.5 Recalling Snapshots

Snapshot Name Display

To Load a Snapshot:

1. **Press Recall. Press the button under SNAPSHOT LOAD.**

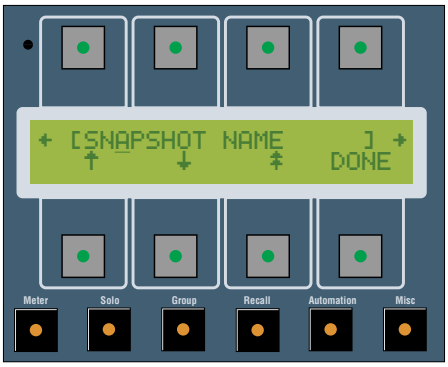
2. **Press the Up or Down Arrow key to scroll to the Snapshot number desired.** The Snapshot register displays (EMPTY) if there is no snapshot saved under the Snapshot number.

3. **Press LOAD to load the Snapshot into the console.** The module switches change immediately upon loading the Snapshot.
   Faders in Read mode will not change when a Snapshot is recalled. Faders in any writable mode (Write, Update, etc.) will switch to Write (Moving Faders) or Offset Write (Manual Faders) when a Snapshot is recalled.

NOTE: If the console master disk has been changed before loading a snapshot, the message “Disk Changed! Load Bank from Disk Yes/No” will be displayed to indicate that the snapshots in memory differ from those on disk. If “No” is selected, the snapshot will load from memory. If “Yes” is selected, the disk snapshot bank is loaded into memory, *but the snapshot is not loaded*, giving you the option to review the snapshot names before loading.

4.14.6 Naming Snapshots

The Name display is used to enter or change Snapshot names. This display can be accessed by pressing the NAME button in the Snapshot Save menu.



Snapshot Name Display

To Enter or Edit a Snapshot Name:

1. **Press Recall. Press the button under SNAPSHOT SAVE.**

2. **Press the Up or Down Arrow key to scroll to the Snapshot number desired.** The Snapshot register displays (EMPTY) if there is no snapshot saved under the Snapshot number.

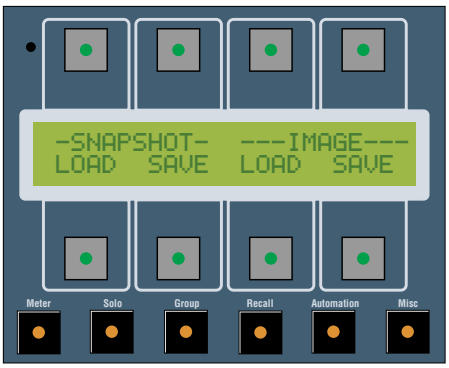
3. **Press NAME to bring up the Name display.**

4. Use the Left and Right arrow keys to move the cursor Left and Right. The single Up and Down arrows increment the character at the cursor position Up or Down. The double Up arrow increments the character at the cursor 8 characters at a time.

5. A maximum of 18 characters may be entered. **When finished, press the DONE key to leave the Name display.**
   If the snapshot is empty, the Snapshot Save menu will display the name is parenthesis (ie. (NAME)) indicating that the snapshot has not been saved. Press the SAVE key to save the snapshot and its name. If you leave the Name display by pressing one of the 6 LCD function keys, the name will not be saved.

4.15 Image Recall

4.15.1 Overview



Recall Menu Display

The Image Recall feature provides:

- Automated storage of current settings of all input module knobs, buttons and switch states (track assigns, console routing, etc.)
- Automated resetting of all computer-controlled switches and other console functions
- Computer-assisted Image Recall of all non computer-controlled input module knobs, buttons and routing switches.

Console settings are saved to the console's internal 3-1/2" floppy disk. These settings include position and state information of all computer-monitored knobs, switches, and other functions. Console settings may be automatically named, or named by the operator through the LCD display.

Status Recall provides automatic recall of computer-controlled items. However, since a number of console functions are not under direct computer control, Image Recall provides "computer assisted" recall of these functions.

Image Recall uses a combination of menu prompts and LED indicators to guide the user through correcting ("nulling") all knobs, faders and switch settings.

■ Image Recall Keys

Console images are stored and recalled using the RECALL Menu of the LCD Menu System. Press the **Recall** button below the LCD display to access this menu

Image Save Display

■ Storing Console Images

Up to 15 Console Images may be stored. Images can be stored at any time except while time code is running. To Store a console Image:

1. **Press Recall. Press the button under IMAGE SAVE.**

2. **Press the Up or Down Arrow key to scroll to the Image number desired.** The Image name displays (EMPTY IMAGE FILE) if there is no image saved under the Image number.

3. **Press NAME to enter or change the Image name if desired.** The Name display is described later in this section.

4. **Press SAVE to save the console image to disk.** If an image already exists for that Image number, the LCD display will prompt "Image File Exists, Overwrite? Yes / No".

Image Load Display

■ Recalling Console Images

To Load a Console Image:

1. **Press Recall. Press the button under IMAGE LOAD.**

2. **Press the Up or Down Arrow key to scroll to the Image number desired.** The Image name displays (EMPTY) if there is no image saved under the Image number.

3. **Press LOAD to load the image into the console.** The module switches change immediately upon loading the image, and the console switches to the "Null Display" mode. The following sections describe how to view and null the console pots and switches.

■ Naming Console Images

The Name display is used to enter or change Image names. This display can be accessed by pressing the NAME button in the Image Save menu. To Enter or Edit a Snapshot Name:

1. **Press Recall. Press the button under IMAGE SAVE.**

2. **Press the Up or Down Arrow key to scroll to the Image number desired.** The Image name displays (EMPTY) if there is no image saved under the Snapshot number.

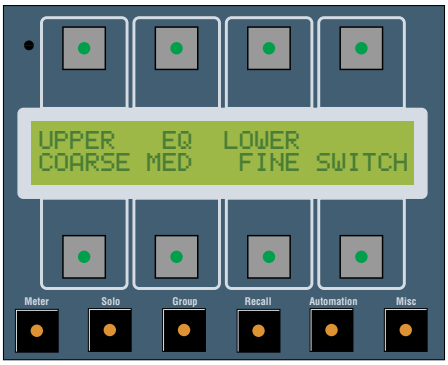
Image Name Display

3. **Press NAME to bring up the Name display.**

4. Use the Left and Right arrow keys to move the cursor Left and Right. The single Up and Down arrows increment the character at the cursor position Up or Down. The double Up arrow increments the character at the cursor 8 characters at a time.

5. A maximum of 18 characters may be entered. **When finished, press the DONE key to enter the name and leave the Name display.**
If the Image file is empty, the Image Save menu will display the name is parenthesis (ie. (NAME)) indicating that the Image has not been saved. Press the SAVE key to save the snapshot and its name. If you leave the Name display by pressing one of the 6 LCD function keys, the name will not be saved.

4.15.2 Display Modes Overview



Nulling Status LCD Menu

Once a console image is recalled, the console suspends all normal operations, and enters an off line nulling mode. It will remain in this mode until the operator exits Nulling mode via the LCD softkeys. The console automatically sets all computer controlled functions, then waits for the operator to complete the nulling process.

For the non-computer controlled items, Status provides two Image Recall Modes:

- Image Display Mode: This mode allows the user to quickly view the current state of all the controls requiring computer assisted nulling on the input module(s). No nulling may be performed in this mode!
- Nulling Display Mode: In this mode, the operator uses the LEDs on each module for feedback when nulling the controls.

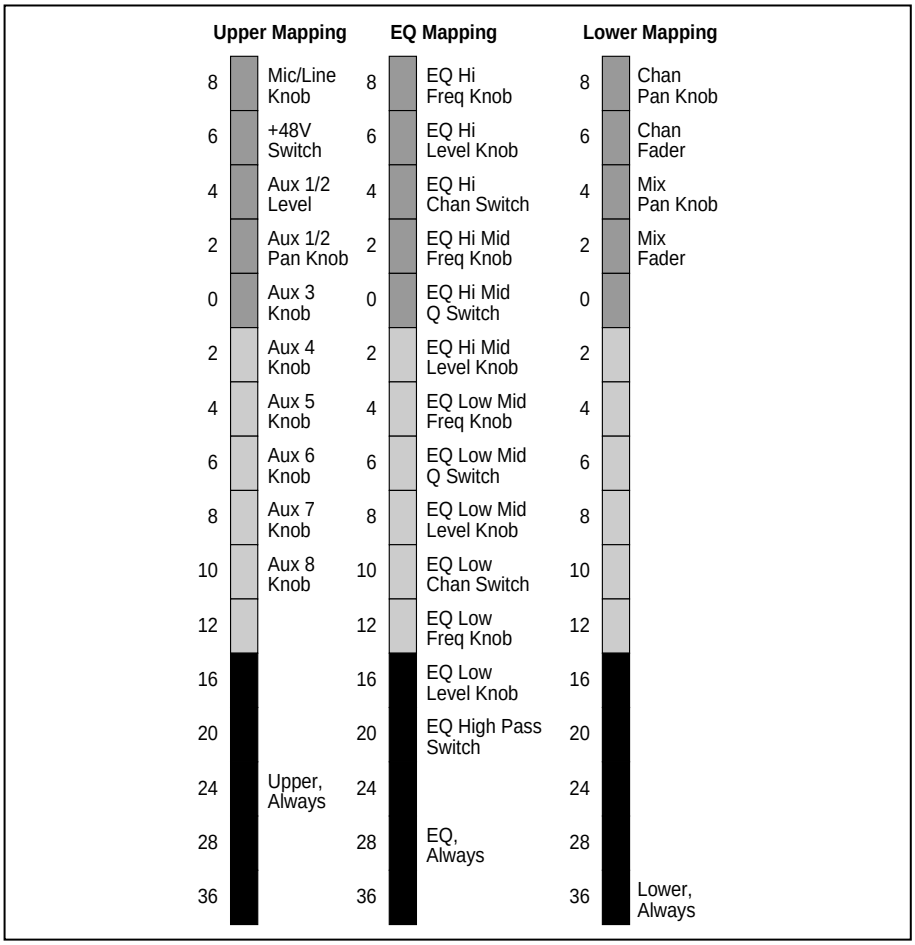
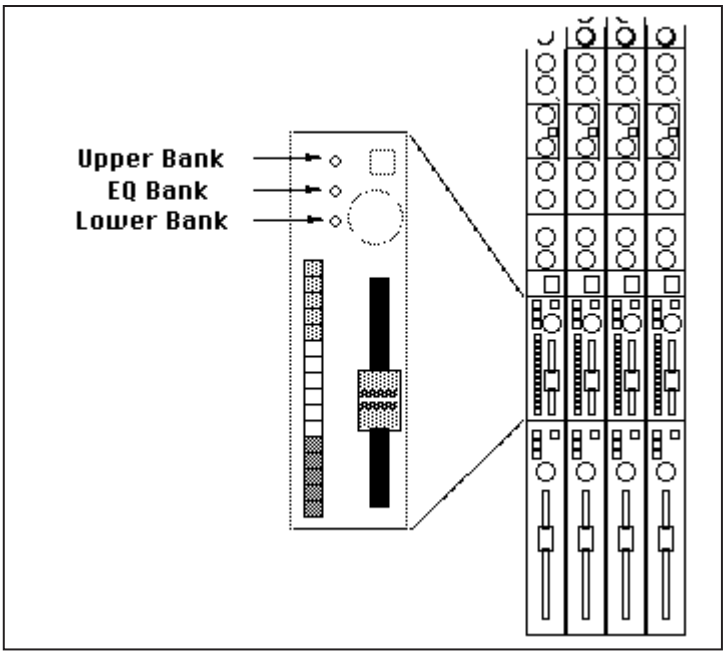


Image Display Mode LED Mapping



Bank Null Indicators

■ Image Display Mode Operation

Image Display mode provides a mechanism to quickly view the current state of all controls on the console that require computer assisted nulling. In this mode, the status LEDs on each module are used to display the current state ("Nulled"/"Out Of Null") of a series of controls on that input module.

Since there are not enough LEDs to display the status of all the controls for each input module, the input module is divided into three banks, the Upper Section, the EQ section and the Lower Section, as shown. In addition, three "Bank Nulled" indicators tell the operator at a glance if any items in any of the three banks need to be nulled.

Upon recalling a Console Image, all input modules will be in Image Display Mode displaying the Upper Section bank.

■ "Bank Nulled" Indicators

As a fast visual indication that nulling is required on a module, the three LEDs directly to the left of the "Soft" key (EQ, Solo and On) are used as "Bank Nulled" indicators. With these indicators, an operator can always see if an input module is completely nulled. Conversely, if any (or all) of the three LEDs are on, the operator can quickly tell which section(s) of the input module require nulling. The "Bank Nulled" indicators operate as follows:

LED Label	LED ON	LED OFF
EQ	Item(s) in the Upper Bank require correction	Upper Bank nulled
Solo	Item(s) in the EQ Bank require correction	EQ Bank nulled
On	Item(s) in the Lower Bank require correction	Lower Bank nulled

This indication system will be active and updated during all phases of the Image Recall process.

■ Selecting Image Display Bank

The operator may select which bank to view via the LCD Menu System. The current bank selected will be indicated on the LCD screen as well as on the Input module's LEDs.

4.15.3 Nulling the Console

After an Image has been loaded from disk, pressing the Select button on any module causes the console to leave Image Display mode and enter the Horizontal Nulling mode, described below. The console returns to Image Display mode whenever there are no modules selected.

■ Nulling Methods Overview

To allow the engineer to quickly null the console and to allow for different operating habits, three nulling modes are provided. These nulling modes are explained in diagrams on the following pages.

- Horizontal Nulling allows the operator to null all items on the console in horizontal, console-wide rows. Horizontal Nulling is the fastest way for a single person to null the entire console.
- Vertical Nulling allows multiple modules to be nulled individually and independently. Vertical Nulling permits more than one person to null the console, module by module.
- Fast Switch Nulling allows the engineer to recall and null all mechanical switch settings on the console in one operation.

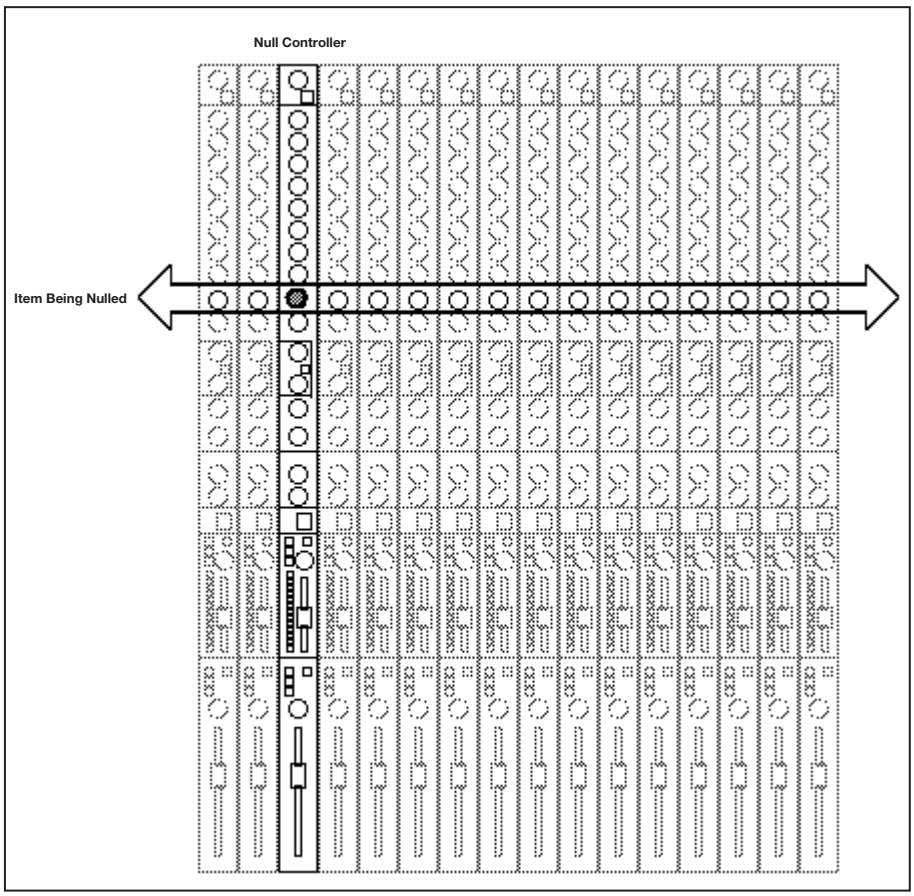
NOTE: Switch states are also be recalled and nulled in Horizontal and Vertical modes. Fast Switch Nulling is provided only as a streamlined switch recall method.

Horizontal Nulling LCD Menu

■ Horizontal Nulling Mode

Horizontal Nulling uses one input module as a “null controller” to select a module control, which then becomes available for nulling across the entire console.

In Horizontal nulling mode, the operator selects a module as the “Null Controller”, by simply pressing its Select button. When the operator adjusts an item on the Null Controller, the same item on the other modules become available for nulling. To null to another control, the operator simply adjusts that control on the Null Controller module.



Horizontal Nulling Mode

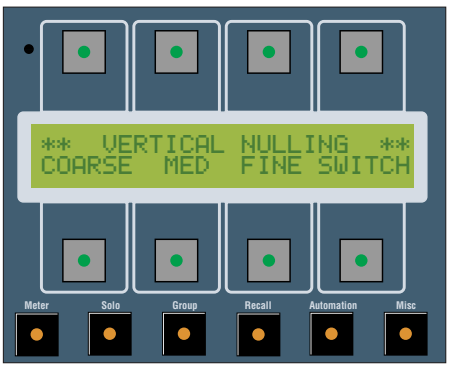
■ Using Horizontal Nulling

After entering Image Recall Mode, select one module by pressing its **Select** button. This module becomes the “Null Controller” and the console is now in Horizontal Nulling Mode.

To select an item to null, turn the desired knob on the Null Controller. Each module’s LED display shows the null state of that control on that module. Adjust that knob on each module until all LEDs on the display are Off.

To null another row of controls, simply turn the desired knob on the Null Controller and adjust the same knob on all of the modules.

To return to Recall Display mode, deselect all modules.



Vertical Nulling LCD Menu

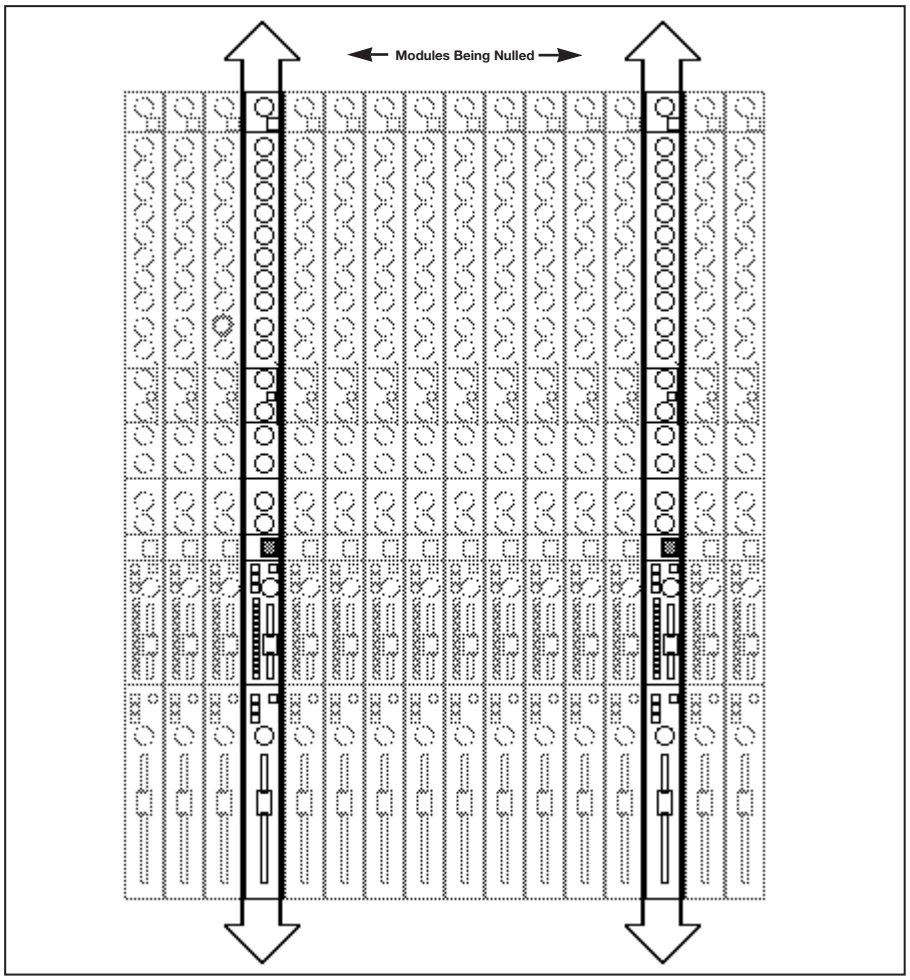
NOTES:

- Any module may be selected as the Null Controller. Only one module is selected when using Horizontal Nulling.
- It is not necessary to null items in any particular order.
- It is not necessary to null all items, null only the knobs and switches that you desire.
- To enter Vertical Nulling Mode, simply select more modules.

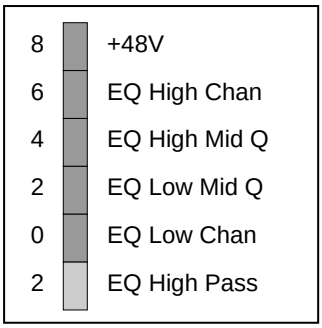
■ Vertical Nulling Mode

To enter Vertical Nulling Mode, simply select two or more modules. Vertical Nulling allows up to 7 Input modules to be nulled simultaneously and independently. As an operator selects a module item, the LED display changes to show nulling information about that item. When the operator adjusts another item, the LED display changes to the new item.

While in Vertical Nulling Mode, only the modules being nulled are active—the LED bar-graph displays on inactive modules are turned off. (The “Bank Nulled” indicators are always active.) To select a other modules, the operator must deselect one or more modules then select the modules desired.



Vertical Nulling Mode



Fast Nulling Indication

■ Using Vertical Nulling

After entering Image Recall Mode, select two or more modules by pressing their Select buttons.The console is now in Vertical Nulling Mode.
When you begin to adjust an item, the LED display changes to show the nulling information for that control. To null another item on that module, simply begin to adjust it- the LED display will switch to display nulling information.
To null other modules, deselect the one you are working on and select another.
To return to Recall Display mode, deselect all modules.

NOTES:

- Up to 7 modules may be selected. They don't have to be next to each other.
- It is not necessary to null items in any particular order.
- It is not necessary to null all items, null only the knobs and switches that you desire.
- To enter Horizontal Nulling Mode, deselect all modules then select one module as the Null Controller.

■ Fast Switch Nulling Mode

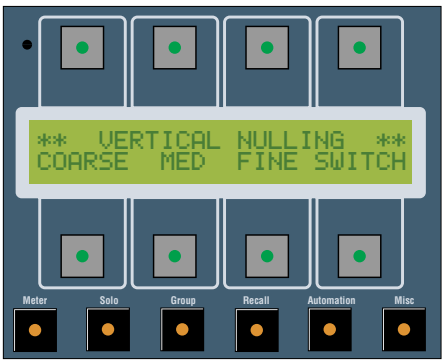
Fast Switch Nulling mode is a special mode, available through the LCD Menu System. This mode provides a faster method for nulling switches, where the state of all 6 mechanical switches will be displayed simultaneously on a section of the LEDs. This is an interactive display mode and continuously updates as the switches are adjusted.
In this mode the LED/Switch mapping is follows:

In Fast Switch Nulling Mode, all switch settings (on all modules) may be nulled in one operation, with the LED indicators providing operator feedback in real time.

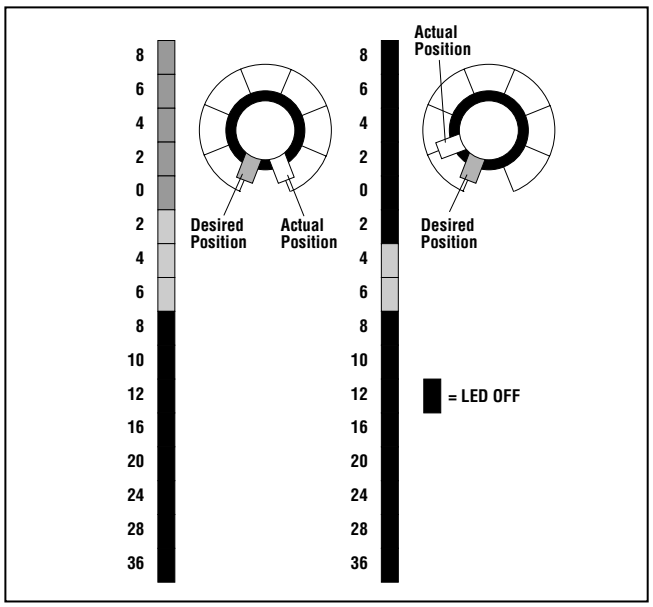
■ Changing Between Nulling Modes

When the operator enters Image Recall mode, the console is in Recall Display mode, no nulling can occur in this mode.
To enter Horizontal Nulling Mode, simply select a module using its **Select** button. This module becomes the Null Controller.
To enter Vertical Nulling Mode, select two or more modules.
To return to Recall Display mode, deselect all modules.
To switch from Vertical Mode back to Horizontal Mode, the operator must de-select all modules, then select a new Null Controller.
Fast Switch Nulling Mode may be entered at any time by pressing the SWITCH button on the Recall Display, Horizontal Nulling, or Vertical Nulling LCD displays.

4.15.4 Nulling Display Mode Operation



Vertical Nulling Display



Knob/Fader Nulling Display

When nulling controls on a input module the LEDs on the module are used to show when the control matches the recalled position. The LEDs are used differently when nulling switches as described below.

■ Nulling Display Mode for Switches

When nulling any one of the 6 mechanical switches in Horizontal or Vertical Nulling mode, a switch in the wrong state will be indicated by all 16 Input module status LEDs on.

■ Nulling Display Mode for Knobs & Faders

When a knob or fader is being nulled in Horizontal or Vertical Nulling mode, the LEDs on that input module will display the degree and direction of correction required for the selected knob. If all LEDs are off then the control is considered nulled. LEDs light from the center up if the knob needs to be turned clockwise; from the center down if the knob needs to be turned counter-clockwise. LEDs closer to the center will indicate smaller degrees of error between the desired position and the actual position of the knob.

In either direction there are 8 LEDs available for displaying amount of correction required. The LED resolution (number of degrees per LED) is not linear—the further from the center the LEDs, the more degrees of rotation they represent.

■ Nulling Resolution

At any time during the nulling process the user can select a knob/fader nulling resolution via the LCD Menu Keys. Three choices are available:

- Fine
- Medium
- Course

The tradeoff of Fine versus Coarse resolution is accuracy versus resetting time. Fine resolution requires more “tweeking” and therefore increases the time to reset the console.

Since resolution can be changed while resetting, it is possible to set the resolution to Coarse while resetting less critical controls, such as Mic Trim, then switch to Fine resolution for more critical controls, such as EQ and Aux Sends.

4.15.5 Exiting Image Recall Mode

The operator can press any LCD function key to exit Image Recall mode at any time.

4.16 User Preference System (UPS)

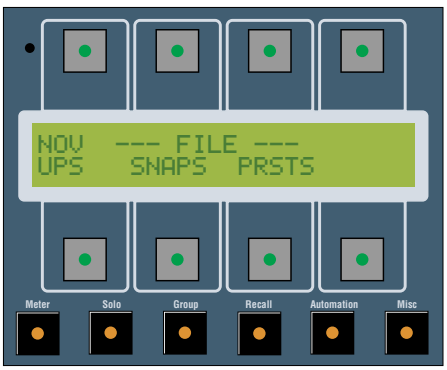
4.16.1 Overview

MISC LCD Menu

The User Preference System is the configuration utility of the STATUS 18R console. By changing values in many of the LCD menus, the operating parameters of the console can be changed to suit the Engineer. Current parameters that can be changed include:

- Switch Timeouts
- Solo Operation Upon Changing Modes
- Muted Channel Operation During a Solo
- Mode Blocking or Confirmation
- Path Tracking Mode

4.16.2 Saving UPS Settings

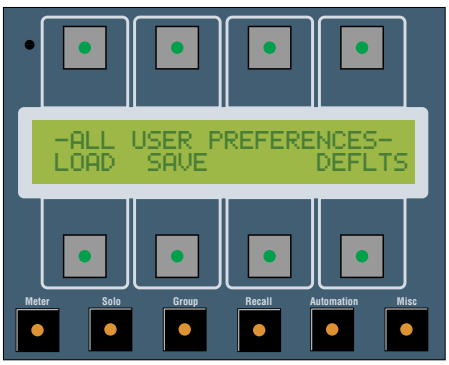


MISC-FILE LCD Menu

Modified UPS settings can be saved to the console's internal disk. To save the UPS settings:

1. Press **Misc**.
2. Press FILE then UPS.
3. Press SAVE.
   The current UPS settings will overwrite those on disk.

4.16.3 Loading UPS Settings



MISC-FILE-UPS LCD Menu

To load UPS settings from disk:

1. Press **Misc**.
2. Press FILE then UPS.
3. Press LOAD.
   The new UPS settings will be loaded from disk.

4.16.4 Reloading Factory Defaults

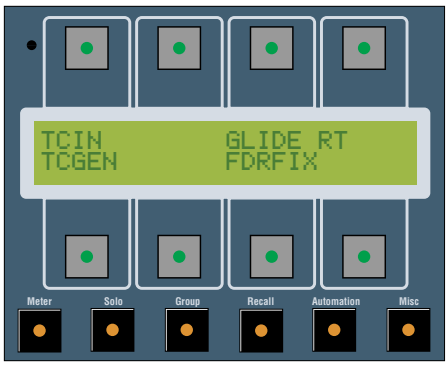
To reload the factory default UPS:

1. Press **Misc**.
2. Press FILE then UPS.
3. Press DFLTS.

4.17 Time Code Generator

The STATUS 18R is equipped with an internal time code generator. Connection is via a DB-25 connector on the rear of the auxiliary panel. See **Section 2**, **Installation**, for more pinout information.

4.17.1 Controls



Automation Options LCD Menu

TCGEN LCD Menu

The generator is controlled from the TCGEN screen of the Automation Options LCD menu (**Shift**-**Automation**). The following controls are available:

■ **RATE**
Pressing RATE sequences the generator frame rate through 24, 25, 29 (29.97), 29D (29.97 Drop), H29D (House Sync 29.97 Drop) 30, 30D (30 Drop), and H30D (House Sync 30 Drop) frames per second. **NOTE:** To use the H29D and H30D options, you must have a black burst generator or other sync source attached to the console's rear panel **VITC** jack. House Sync capability also requires a hardware modification to the time code processor card located inside the Status console. Contact your Otari representative for modification documentation if you require the use of this feature.

■ **SET**
Pressing SET brings up the Time Set display. Press START and then the time code start time can be entered by moving the cursor with the left or right arrow keys and incrementing the underlined digit with the Up or Down Arrow keys.

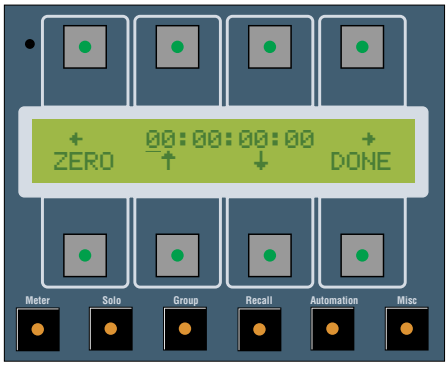
■ **RESET**
Pressing RESET resets the time code display to the Start Time entered using SET.

■ **UBITS**
Pressing UBITS in the Time Set display brings up a display that allows advanced users to enter a Hexadecimal "User Bits" number that is imbedded in each time code word. This control does not affect the operation of time code and normally does not need to be set.

■ **START**
Pressing START toggles time code on and off from the time displayed. Press RESET to return the display to Start time.

4.17.2 Using the Time Code Generator

TCGEN-SET LCD Menu



TCGEN-SET-START LCD Menu

To stripe a tape with time code:

1. Hold **Shift** and press **Automation**.
2. Press TCGEN.
3. **Press SET and then START. Enter the time code start time.** Many facilities use 1 hour (01:00:00:00) as a standard start time. **Press DONE when the start time has been entered.**
4. **Press RATE until the desired time code rate is displayed.** A "D" after the number indicates Drop Frame time code.
5. **Patch the time code output into the input of your recorder. Press START on the LCD display and set the record level on the recorder to -10 dB or the level recommended by your technical staff. Press STOP when this is done.**
6. **Press RESET to return the generator to the start time.**
7. **Start the recorder and put it in record. Press START on the generator.**

NOTE: When using Eagle Automation, make sure that the frame rate set in TCIN of the Automation Options menu is the same rate that you recorded on tape.

Section 5 Eagle Automation

5.1 Precaution

Prior to installing Eagle Automation, your PC system must be running Windows 95 and should meet the following minimum hardware requirements:

- 486DX2-66 processor or higher operating on a Video Local Bus (VLB) or PCI Bus motherboard (Pentium-class CPU and PCI bus preferred).
- 15” or larger color monitor capable of 800 x 600 resolution.
- SVGA video card with 1 MB Video RAM (VLB or PCI) supporting 800 x 600 resolution with 256 colors displayed (8 bit color).
- 16 MB system RAM. Additional memory will allow for larger mix files, more mixes loaded simultaneously, additional Undo levels, and quicker operation.
- 250 MB hard disk drive with at least 50 MB free space for mix files.
- At least 1 COM port using a 16550AF high performance UART. The presence of this UART can be determined by running MSD at the C:> prompt (if the DOS directory is available).
- A pointing device such as a mouse or trackball. A second COM port is required if the pointing device uses a serial interface. If your console is equipped with the Dynamics option and you wish to use the Dynamics Graphical User Interface (GUI), you must use the second COM port for Dynamics and provide a bus-type mouse or trackball. You cannot utilize COM3 or COM4 for a serial mouse if COM1 & COM2 are in use.
- 20 foot (610 cm) maximum length 9-pin serial cable (straight-pinned or extension-type), with female connectors on both ends. Do not use a PC-to-PC serial cable (Laplink or null-modem type).

If your PC meets all the above requirements, you will be able to install and run Eagle Automation on the STATUS console.

5.2 Installing and Running Eagle Automation

5.2.1 Software Installation

Examine the four Eagle disks you received to verify that they match the following information:

- Eagle Automation for STATUS, PC Install Disk #1, Build XX
- Eagle Automation for STATUS, PC Install Disk #2, Build XX
- Eagle Automation for STATUS, PC Install Disk #3, Build XX
- STATUS Console Master Disk for Eagle Automation, Build XX

The actual "Build" number depends on the version of software provided, but it should be the same on all disks. If any of the disks do not say "STATUS" on them, contact your Otari representative to have the correct disks sent to you.

When you are ready to proceed, follow the steps outlined below:

1. **Start your PC and wait for the Windows 95 Desktop to appear.**
   Quit any applications that may be running at this time before continuing.

2. **Insert the PC Install Disk #1 into the 3.5" floppy A: drive (or B: drive as appropriate).**

3. **Click on the Start button on the Taskbar and select the Run icon from the pop-up menu.**

4. **Type `A:SETUP` (or `B:SETUP` as appropriate) and click OK to start the Eagle Automation Install Shield program.**
   You will see a message box showing the amount of progress while Eagle Setup prepares the Install Shield Wizard. You will then see the Welcome screen.

5. **Read the information provided and click on Next when ready to proceed.**
   The next screen requests information about the user.
   If the displayed entries are fine, click on **Next** to go on. Otherwise, fill in the requested information, then click **Next**.
   You will then be asked where you want the Eagle files installed.
   The default folder is "`C:\Program Files\Otari\Eagle`".

6. **If you must have Eagle installed on a different drive or folder, click on BROWSE and specify the correct path. When you are done click on Next.**
   It is highly recommended that you utilize the default folder and drive to facilitate customer support.

7. The next screen asks in what Program Folder (Group) you would like the Shortcut to Eagle to be located in the Start Menu.
   The default Program Folder is "Eagle".
   It is highly recommended that you utilize the default folder and drive to facilitate customer support.
   If necessary, you may select an existing program folder or type in a new one.
   When you are done click on Next to go on.

8. Before the file copying process begins, you will be given an opportunity to review the information you entered and file destinations.
   If any of the information is incorrect, you may click on the **Back** button as needed to return to the screen that needs changes.
   Once the information in this screen is correct, click on Next to begin copying files.
   When file copying begins, you will see a progress bar showing the percentage of installation completion.

9. After a while you will be requested to insert "Disk 2" to continue installation.
   Eject the disk in Drive A: (or B:) and insert the PC Install Disk #2.
   Click on OK when the disk is completely inserted.
   Repeat this procedure when you are asked to insert "Disk 3".
   When all files have been copied to your PC, you will briefly see additional messages

as Setup registers the installed files, then creates the program icons.
A DOS window labeled "**REGOCX**" will appear, and you will see some commands executed automatically.
When **REGOCX** is finished, you should get two acknowledgement message boxes as shown:

```
DllRegisterServer in channelselect.ocx succeeded
DllRegisterServer in switchselect.ocx succeeded
DllRegisterServer in rotarycontrol.ocx succeeded
```

10. **Close the message boxes by clicking OK, then close the DOS window by clicking on the close box at the top right corner.**
When you will see the "Setup Complete" screen the installation is done.

11. **Click on Finish to exit out of Setup and return to the Desktop.**
If you get any error messages during the above procedures, note down the message displayed in the error box and contact Otari Service.

5.2.2 Eagle Startup and Configuration

To use Eagle with the Status console, you must first connect the console via the serial cable to a COM port on the PC equipped with a 16550AF high-performance UART. Eagle will not be able to communicate with the console if you do not have a 16550AF UART on the connected COM port. 8250 and 16450 UARTs are not acceptable replacements for the 16550AF. When you have confirmed the presence and location of the 16550AF equipped COM port(s), proceed with the startup instructions below:

1. **Select the COM port on your PC that you will use for console communication and plug one end of the serial cable to it, using the proper cable adapters if required.**
Plug the other end of the serial cable into the connector labeled AUTOMATION PC situated on the back of the Auxiliary Panel.

2. **Power down the Status console and remove the existing console Master Disk. Insert the new Status console Master Disk for Eagle Automation and repower the console. Allow the console to bootup completely, with the Recall menu visible, before continuing.**

3. **On the PC, click on the Start button on the taskbar and select the Programs icon from the Start Menu. Click on the Eagle icon that appears in the Programs menu.**
This will launch the Eagle application.
(Alternately, you may open the folder "**C:\Program Files\Otari\Eagle**" and double-click on the file "**Eagle.exe**" to start Eagle Automation.)

4. **When Eagle has finished starting up, you may see a message box saying that the mix and console time code settings differ. Click on OK change the setting on the console to match Eagle for now.**
You will reset the time code to the proper setting later on.

5. **Click on the Edit menu and select the Automation Preferences item from the bottom of the list.**
The **Display Options** tab will be displayed when the Automation Preferences window opens.

6. **Change the Number of Modules to Display item to match the number of modules installed in your console.**

7. **Click on the Mix Options tab to see the next page. Set the Auto Archive value to the number you prefer.**
Auto Archive will automatically save your mix file to hard disk after the specified number of mix passes have been completed.
A setting of "1" will save every pass to disk, whereas a setting of "0" will prevent Auto Archive from saving mixes automatically.
You may still save mixes manually at any time.

8. **Set the number of UNDO/REDO levels to 10 as a starting value.**
   This will allow you to revert back to any of the last 10 mix passes saved in memory. If you later start running out of memory, you may reduce the Undo/Redo levels.
   Click on Apply then OK to close the Automation Preferences window.
   You may get a message to restart the application to make the changes take effect, click on **OK** to close the message box.

9. **Click on the Edit menu and select the Console Preferences item from the bottom of the list.**

10. **Click on the Settings tab to see the next page. Click on the radio button for the COM port on your PC that you have connected the console to.**
    Click on Apply then OK to close the Console Preferences window.
    You may get messages to restart your computer to make the changes take effect, click on **OK** to close this message box.

11. **Quit Eagle automation by clicking on the close box at the top right corner of the main window. Click on the Start button on the Taskbar and select Shut Down.**
    Select **Restart the Computer** and click on **Yes** to reboot your PC.

12. **When Windows 95 has finished starting and the Desktop is available, start Eagle again via the Start Menu or an alternate method.**

13. **After Eagle has completed loading, connect a time code source to your console and start the timecode running.**
    The Timecode Display box at the bottom of the main Eagle window should indicate the time code values being received by the console.
    If this is not working, check your cable connections and review the changes you made to the Console Preferences.
    If necessary, restart your computer again to utilize the changes.
    If these procedures do not produce results, contact Otari Technical Service for assistance in getting Eagle Automation running properly.

5.2.3 Using Eagle Automation

- Eagle Automation is provided with comprehensive on-line help features. The Help system follows standard Windows 95 help system conventions.
  The following sections are excerpts from Eagle Help, which can be viewed by clicking the Question Mark button on the Eagle Toolbar. The topics included here are intended as a preview of the features and windows of Eagle Automation. Words that are underlined in this document are links. When in Eagle Help, clicking a link will take you directly to that topic.

- To begin using Eagle you must first set it for the timecode rate that you will be feeding into the console. Click on the triangle button in the Timecode box and select “Options” on the pulldown menu that appears. The “Timecode Options” dialog box will appear. Set the incoming Timecode rate in the pulldown box at the top of the window. Click on “OK” to accept the new settings. This action sets both Eagle and the Status console to the same timecode rate. You do not need to set the console Timecode Reader separately.

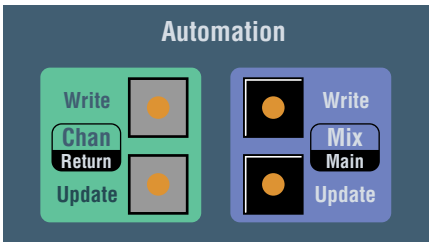
- To view and edit mixes off-line, Eagle can be used without a console connected, however you will not be able to write dynamic fader data, run timecode, or control switches or faders on the Console screen. Just install Eagle on the PC you wish to use, without performing the Console Preference settings.

- You can create mixes using the Fader or Switch Mix Edit screens to set fader values and switch states over a specific time range.

- If you have Diskmix also installed on the same PC and need to revert to Diskmix automation, restart the PC in MS-DOS mode before running DMS, and reboot the console with your normal console boot disk. Diskmix will not run properly in a Win95 MS-DOS window.
  Diskmix mixes may be loaded into Eagle Automation, converting the mix into an Eagle file. To load Diskmix mixes, change to the Data-dm directory at the C: root level, then change the File type to “**`*.*`**” to view Diskmix mix files. You may load any mix file ending in a 3-digit number. “**`Nts`**” and “**`cue`**” file types cannot be loaded. You should save the new Eagle mix into the default Eagle mix directory “**`mixes`**”.

5.3 Status Automation Controls

5.3.1 Write and Update Buttons

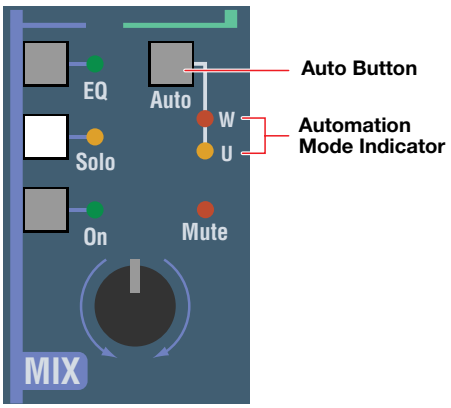


The Master Section Write and Update buttons with their associated LEDs are used to explicitly set the fader modes of selected modules.

The Master Section **Write** and **Update** buttons work in conjunction with the module **Auto** buttons. The **Write** and **Update** LEDs display the current automation mode in effect on each path.

The Master Section Automation buttons follow the same rules as other Master Section switches. If the module selection contains modules with different automation modes, the LEDs flash, indicating a transparent state.

5.3.2 Auto Button



The **Auto** button provides local control of automation modes for one path of the input module. The **Auto** button can be assigned to control either the LOWER fader (normally the MIX path) or the UPPER fader (normally the CHAN path). Each time the **Auto** button is pressed, the assigned path sequences to the next logical automation mode.

The automation mode in effect will be displayed on the associated **W** (Write) and **U** (Update) LEDs. When Fader Flip is used on a module, the **Auto** button and its **W** and **U** LEDs still control the assigned fader. For example, If the **Auto** button is set to control the LOWER path, pressing **Fader Flip** will make the **Auto** button control the mode for the CHAN path instead of the MIX path (the path assigned to the lower faders).

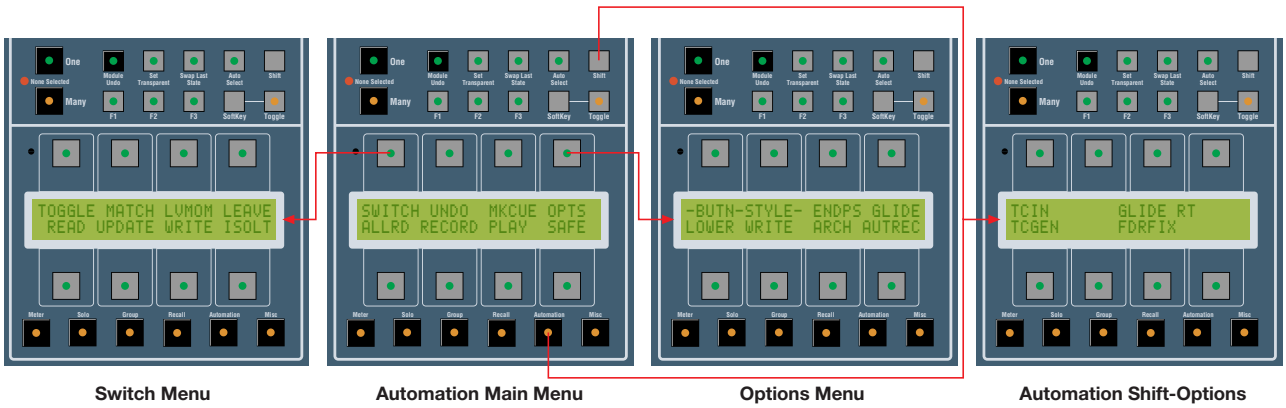
Fader assignment and operating style are set in the Automation Opts Menu of the LCD Menu System.

5.3.3 Level and Status Display

When a path is in any of the transition modes (Enter/Leave Write, Leave Update), the path's Status Display LEDs sequence to indicate the direction the fader must be moved to match levels and automatically switch to the next mode.

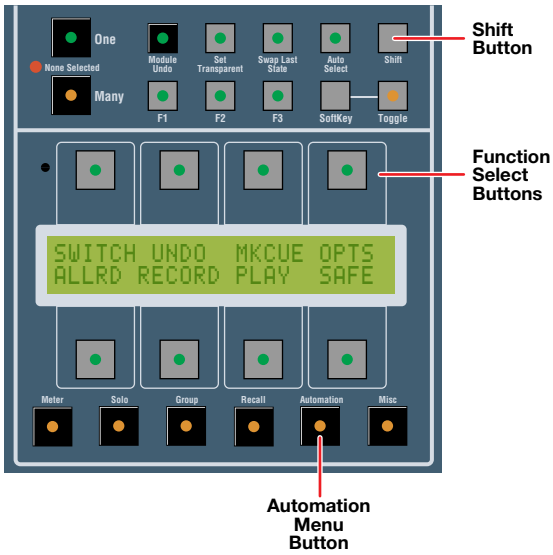
5.4 Master Automation Controls

The Master Automation controls are accessed by pressing the **Automation** button on the LCD Menu System.



Switch Menu **Automation Main Menu** **Options Menu** **Automation Shift-Options**

5.4.1 Automation Main Menu

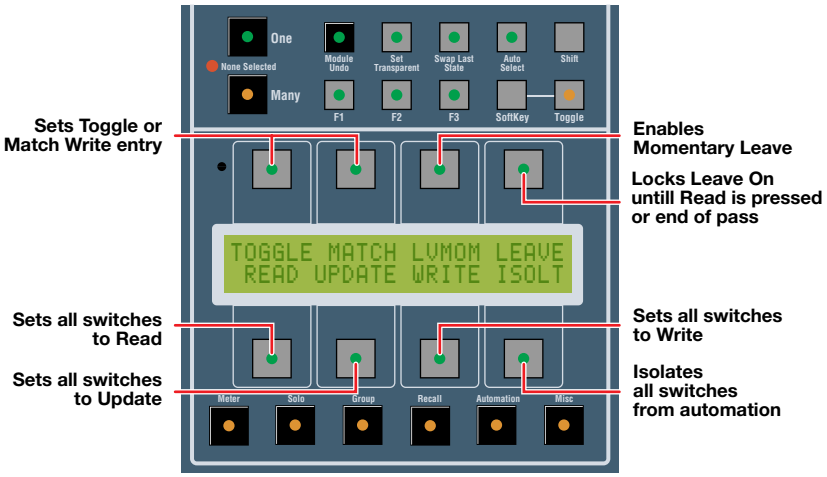


The Automation Main Menu appears on the console's LCD display whenever the **Automation** button under the display is pressed. From here you can access the SWITCH menu and the OPTS menu. Holding **Shift** and pressing **Automation** displays the Automation Options menu for setting Timecode, Glide, and Console Size parameters.

The function buttons above and below the LCD execute the function shown on the display. These functions are:

- SWITCH: Goes to the SWITCH menu.
- UNDO: Cancels or kills the last mix pass.
- MKCUE: Pressing MKCUE adds a cue to the Events list in the Events window.
- OPTS: Goes to the OPTS menu.
- ALLRD: Returns all faders and switches to Read mode.
- RECORD: Puts the automation into Record mode, enabling data to be written.
- PLAY: Changes the automation from Record mode to Play mode.
- SAFE: Puts the automation into Safe mode for rehearsal or to prevent accidental recording.

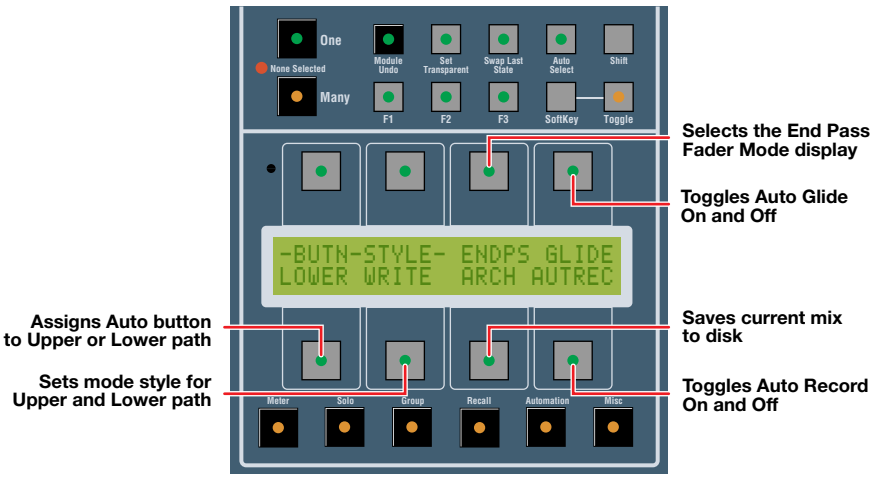
5.4.2 SWITCH Menu



The Switch menu is used for global control of switch automation. The function buttons above and below the LCD execute the function shown on the display. These functions are:

- **TOGGLE:** Sets switch update entry to Toggle mode.
- **MATCH:** Sets switch update entry to Match mode.
- **LVMOM:** Leave Momentary. Allows a single switch to leave Update Write mode.
- **LEAVE:** Locks Leave mode On so that a number of switches can leave Update Write mode.
- **READ:** Sets all switches to Read mode.
- **UPDATE:** Sets all switches to Update mode.
- **WRITE:** Sets all switches to Write mode.
- **ISOLT:** Isolates switches from reading or writing data.

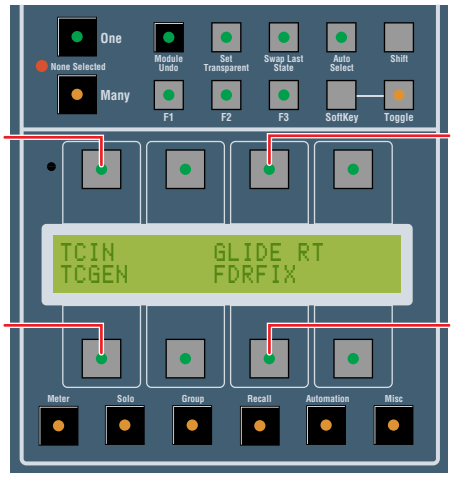
5.4.3 OPTS (Options) Menu



The **OPTS** (Options) menu provides control of additional automation functions. The function buttons above and below the LCD execute the function shown on the display. These functions are:

- **-BUTN-:** Pressing the button underneath **BUTN** selects the fader that the **Auto** button affects.
- **-STYLE-:** Pressing the button underneath **STYLE** sequences through **Auto** button mode styles.
- **ENDPS:** Selects the End Pass Fader Mode screen.
- **GLIDE:** Toggles fader glide On and Off.
- **ARCH:** Pressing **ARCH** saves the current mix to disk and increments the Write mix number.
- **AUTREC:** Toggles Auto Record On and Off.

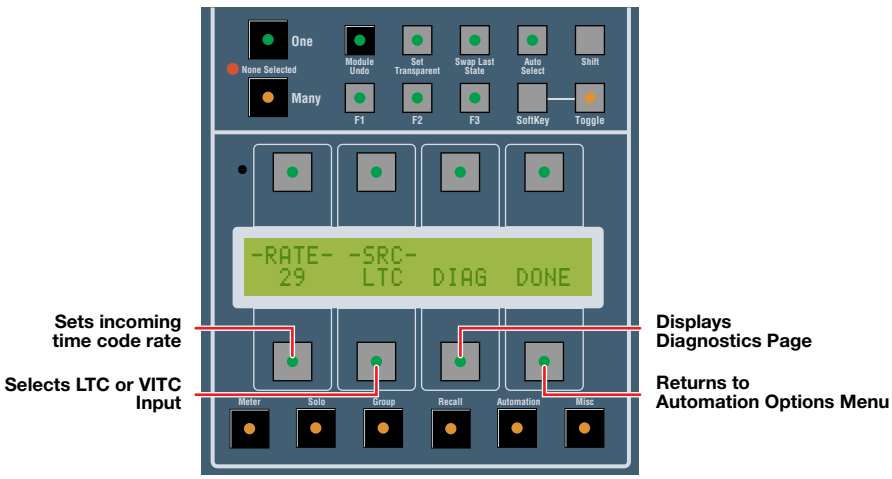
5.4.4 Automation Options Menu (Shift-Automation)



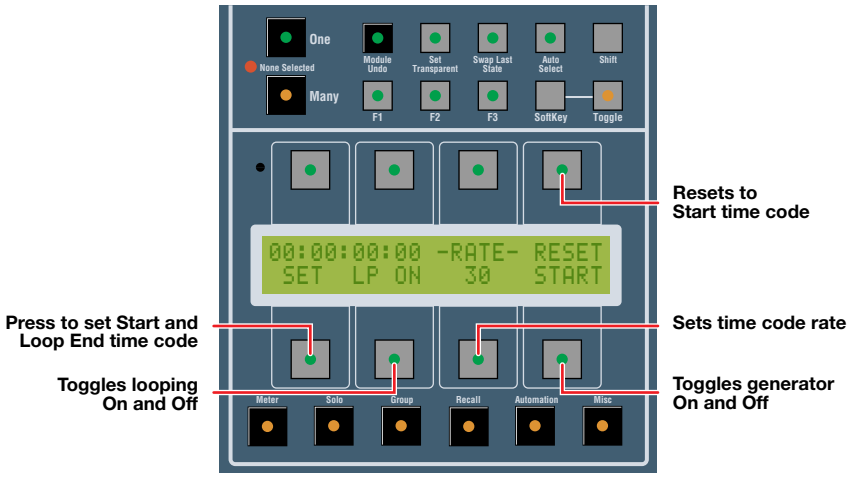
The Automation Options menu allows the setting of some automation parameters. The function buttons above and below the LCD execute the function shown on the display. These functions are:

- **TCIN:** Used for setting the parameters of incoming timecode.
- **GLIDE RT:** Used to set the rate of the Auto Glide function.
- **TCGEN:** Sets and controls the console's timecode generator.
- **FDRFIX:** Used to reset the Eagle screen faders to the same position as the console faders (for VCA faders).

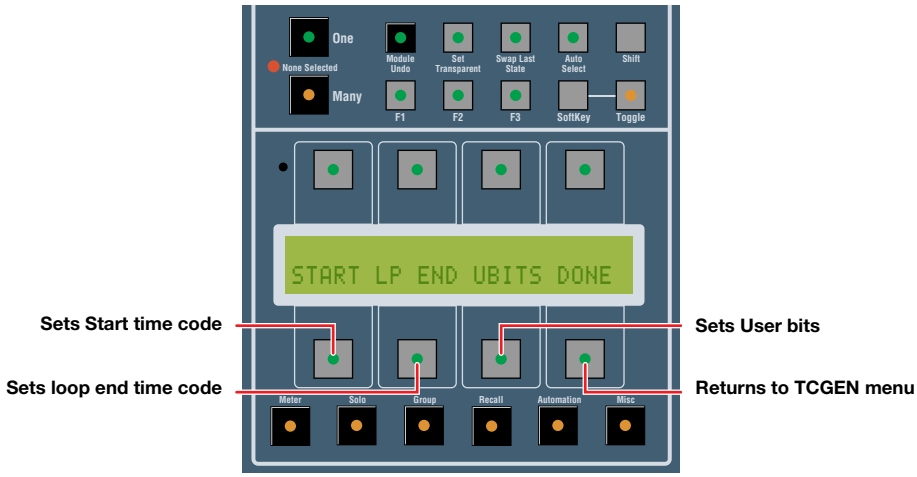
5.4.5 TCIN Menu



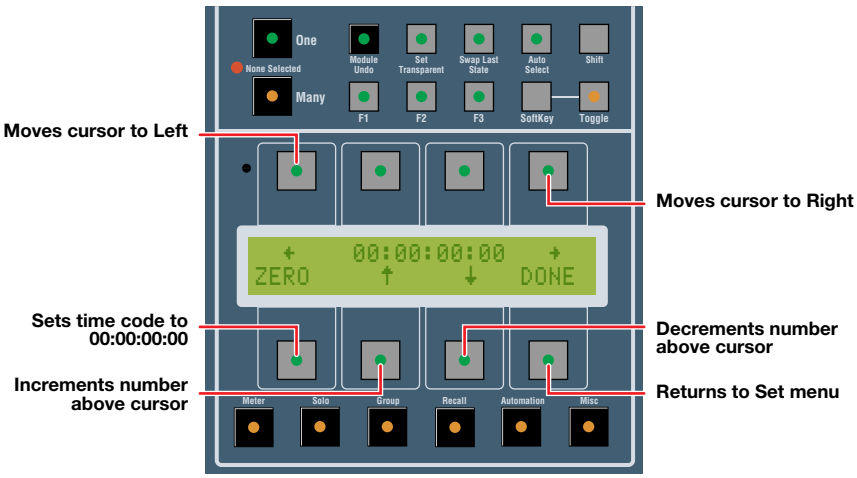
5.4.6 TCGEN Menu



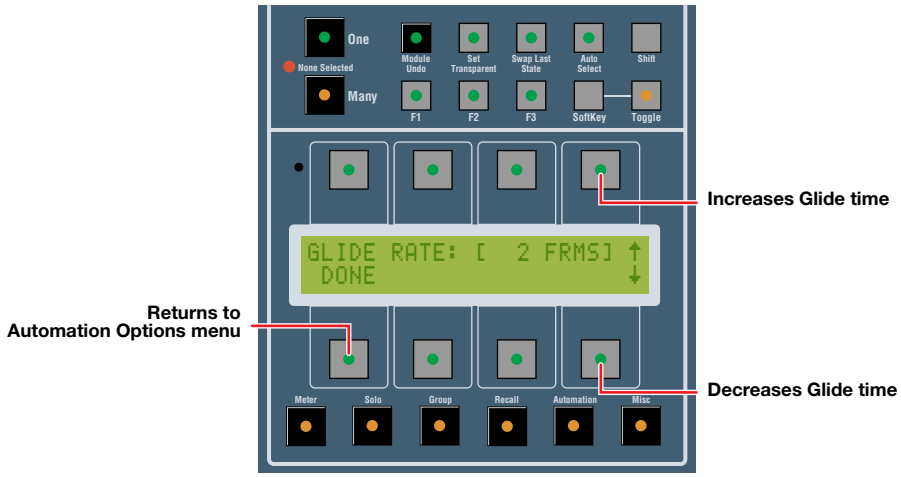
5.4.7 TCGEN SET Menu



5.4.8 TCGEN Time Code Input

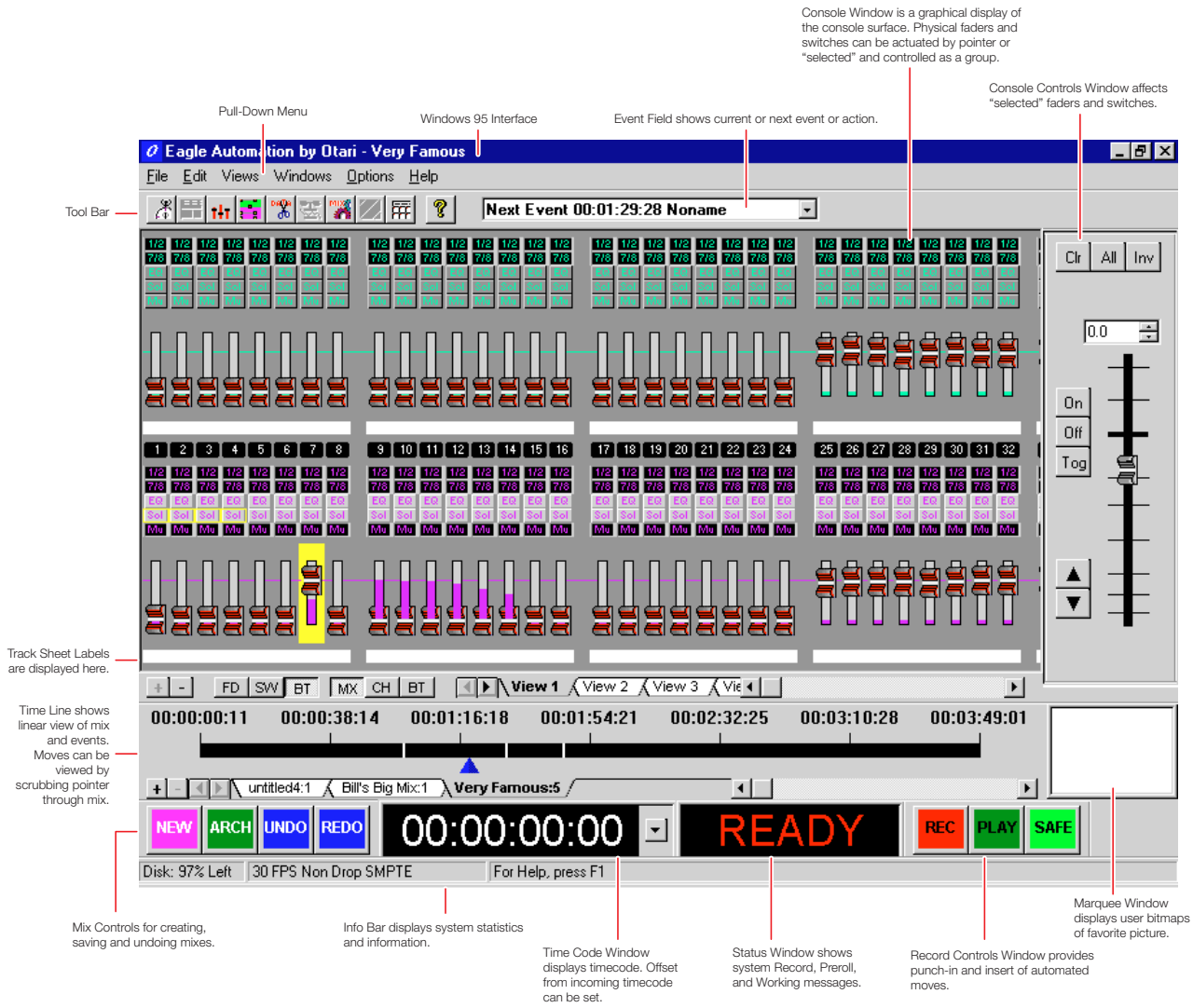


5.4.9 GLIDE Menu



5.5 Eagle Windows

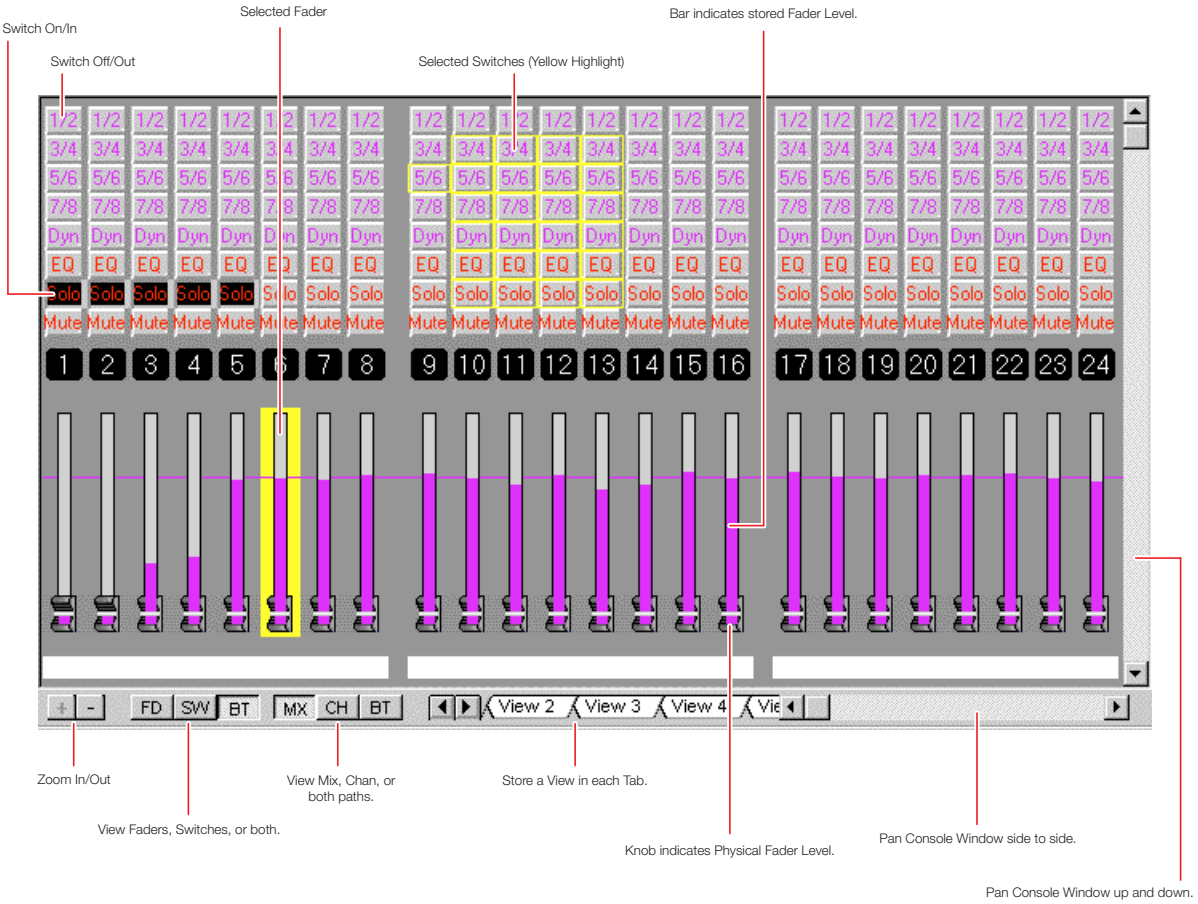
5.5.1 Eagle Main Screen



The Eagle Main Screen consists of a number of specialized windows that work together.

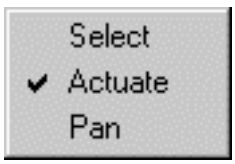
- The **Tool Bar** provides direct access to commonly used windows and tools.
- The **Console window** is a graphical representation of the console surface.
- The **Console Controls window** affects selected faders and switches in the Console window.
- The **Time Line** provides a linear view of the mix and events.
- The **Mix Controls** allow saving and undoing passes.
- The **Time Code window** displays the automation time reference in different formats.
- **Record Controls** let you punch-in and insert sections of mix data.
- The **Info Bar** displays system statistics such as RAM and Disk usage, Timecode format, etc.

5.5.2 Console Window



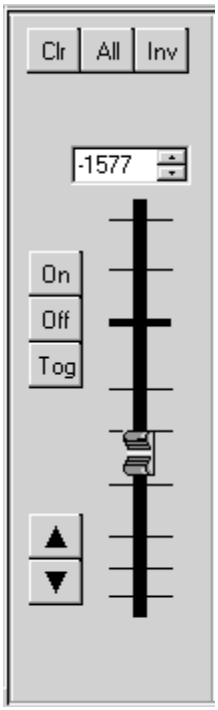
The **Console window** is a graphical representation of the console work surface. From this window you can accomplish the following tasks:
a) Operate console faders and switches from the video display.
b) Select faders and switches then control them as a group.
c) View current switch states and fader levels by path or item.
d) Open and audition multiple mixes for comparison.

The cursor can be used to **Select** or **Actuate** faders and switches or **Pan** the console window. To choose which function the cursor has, Right-click while the cursor is over the Console window to display the Cursor Function menu then Left-click the function desired.



When **Actuate** is chosen, console faders and switches can be directly controlled from the Console window. When faders or switches are selected they are under master control of the Console Controls window. When **Pan** is chosen, the cursor moves the faders and switches within the Console window.

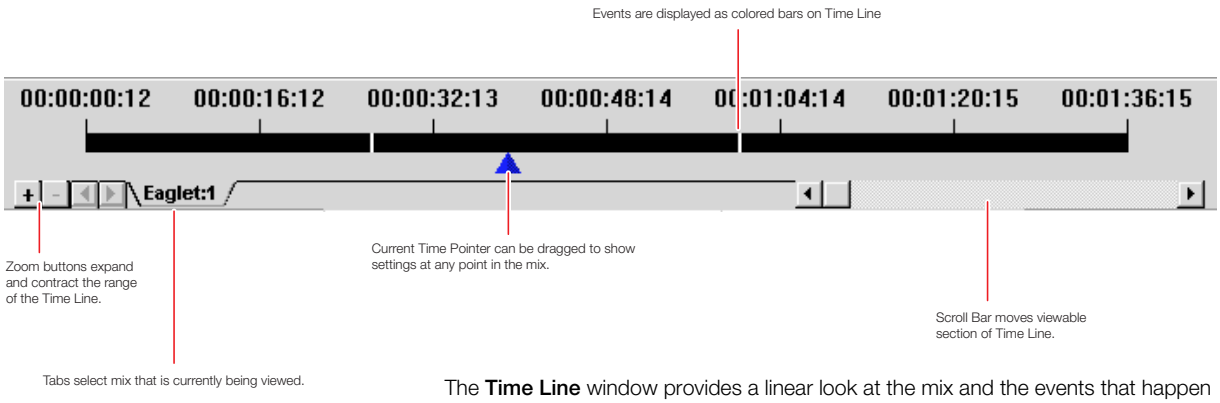
5.5.3 Console Controls Window



The Console Controls window has master controls that affect selected faders and switches.

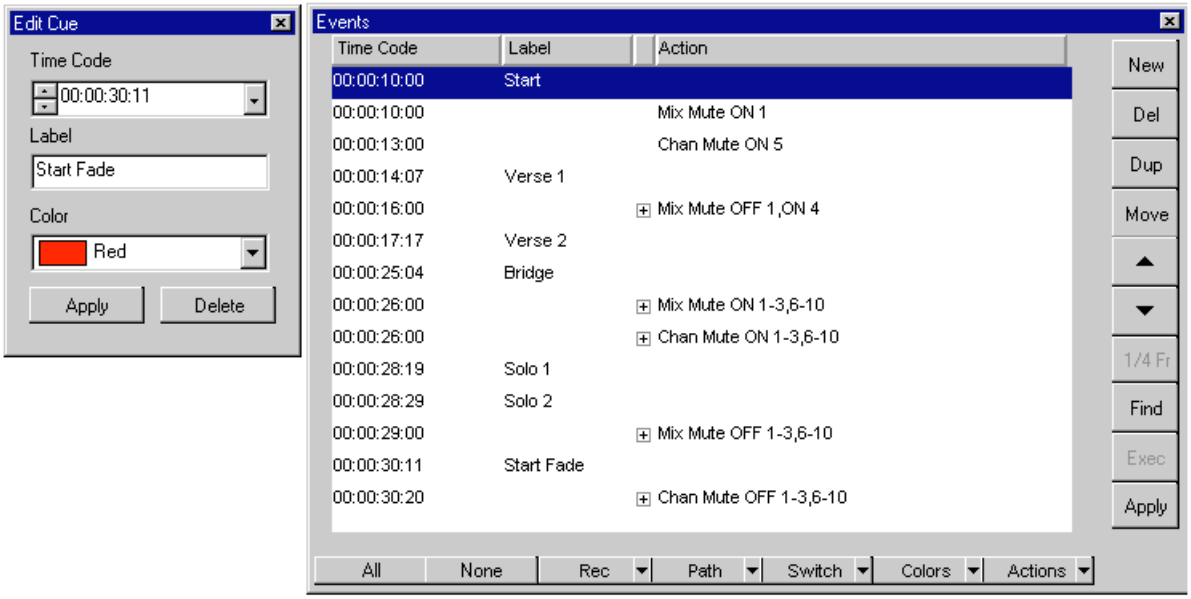
- **Clr / All / Inv** buttons are used to modify and clear selections of faders and switches.
- **On / Off / Tog** buttons are used to set selected switches or toggle their current states.
- The **Master Fader (Big Fader)** acts as a group master to selected faders.

5.5.4 Time Line Window



The **Time Line** window provides a linear look at the mix and the events that happen during the mix.
While mixing, the **Current Time** pointer shows the current location in the mix. When time code is stopped, the pointer can be dragged to show the state of the console at any point in the mix.
Captured or entered events are displayed as bars on the Time Line. Cue points are captured by tapping the Space Bar or entered by clicking **New** on the Events window.

5.5.5 Events Window



The **Events** window is used to display and edit switches and cues that are linked to time code. From this window events can be added, moved, copied, and deleted.

When a number of switch changes happen during a single event, a summary of the switch event is displayed in the Events window. Double-clicking on the expand box in the **Actions** column expands the switch events so that they can be individually highlighted and edited if desired.

The buttons and pull-down menus at the bottom of the window are used to filter the events being viewed. Events can be isolated by any combination of type, item, or path.

The buttons on the right side of the window are used to edit highlighted events. If required, a time code prompt will appear for entering a new event location.

- **New:** Creates a new event.
- **Del:** Deletes the highlighted event.
- **Dup:** Duplicates the highlighted event.
- **Move:** Moves the highlighted event to a new location.
- **Up/Down Arrow:** Nudges the event in 1 frame increments.
- **Find:** Searches for an event by label name.

The **Edit Cue** window is displayed by double-clicking the event's bar in the Time Line window.

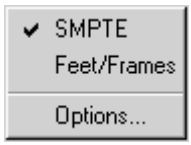
5.5.6 Mix Controls Window

The **Mix Controls** window provides the most common functions used during a mix:

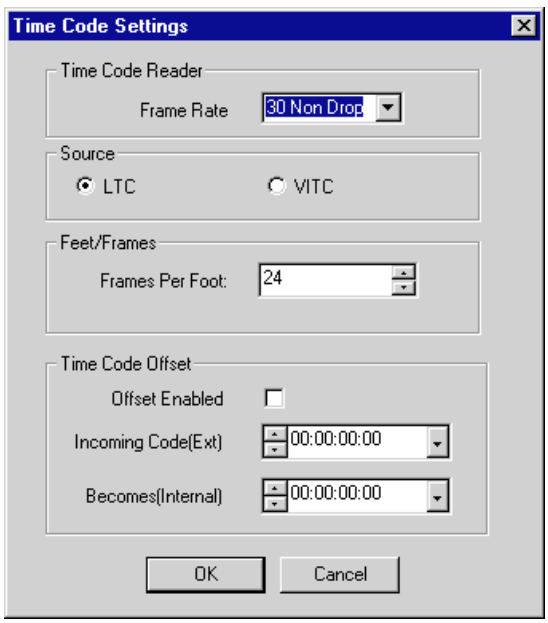
- **NEW:** Creates a new mix.
- **ARCH:** Archive (saves) the current mix to disk.
- **UNDO:** Undoes the last operation. The number of Undo Levels is set in Automation Preferences.
- **REDO:** Redoes previous Undo operation.

5.5.7 Time Code Window

The **Time Code** window displays the current time of the mix. Different timecode references can be set using the pull-down menu next to the time code number.



5.5.8 Time Code Window Options



- **Time Code Reader—Frame Rate** should be set to the frame rate of the incoming time code reference.
- **Source—LTC/VITC** determines if the time code reference is read from the Audio or Video timecode input.
- **Feet/Frames -** If the time code display option is set to Feet/Frames, this field is used to set the amount of film frames in a foot.
- **Time Code Offset** allows the mix to be referenced to time code numbers different than the incoming time code. This would be useful if a tape was restriped with different time code than when it was originally mixed.

5.5.9 Status Window

The Status window displays System and Mix Record status messages:

- **READY (Red):** Record mode is active, time code is not running.
- **READY (Yellow):** Safe mode is active, time code is not running.
- **READY (Green):** Play mode is Active, time code is not running.
- **PLAY (Green):** Play mode is active, time code is running.
- **RECORD (Red):** Record mode is Active, time code is running.
- **AUDITION (Yellow):** Safe mode is active, time code is running.
- **WORKING (Red):** Eagle is processing Mix Data
- **PRE ROLL (Green):** Eagle is syncing data to incoming timecode.

5.5.10 Record Controls Window

The Record Controls window is used to punch automation in and out of record and to set the Safe mode.

- **REC (Record):** When Rec is active, faders and switches I that are in Write or Update are written to data. The Rec button allows fader and switch moves to be punched in at a specific time.
- **PLAY:** Pressing **PLAY** deactivates Record.
- **SAFE:** When in Safe mode, the **REC** and **PLAY** buttons operate normally, but nothing is written to data. This is used to prevent Rec from accidentally being pressed. Clicking **SAFE** toggles Safe mode on and off.

5.5.11 Tool Bar

The Tool Bar contains buttons that take you directly to frequently used windows and functions. If a button is grayed out the function is not available.

Clicking the **Stopwatch** tool displays the Events window.

Clicking the **Fader knobs** tool displays the Mix Edit—Fader window.

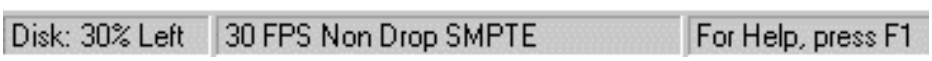
Clicking the **Switch buttons** tool displays the Mix Edit—Switch window.

Clicking the **Data Scissors** tool displays the Mix Edit—Merge window.

Clicking the **Mix Gears** displays the Mix Processing window.

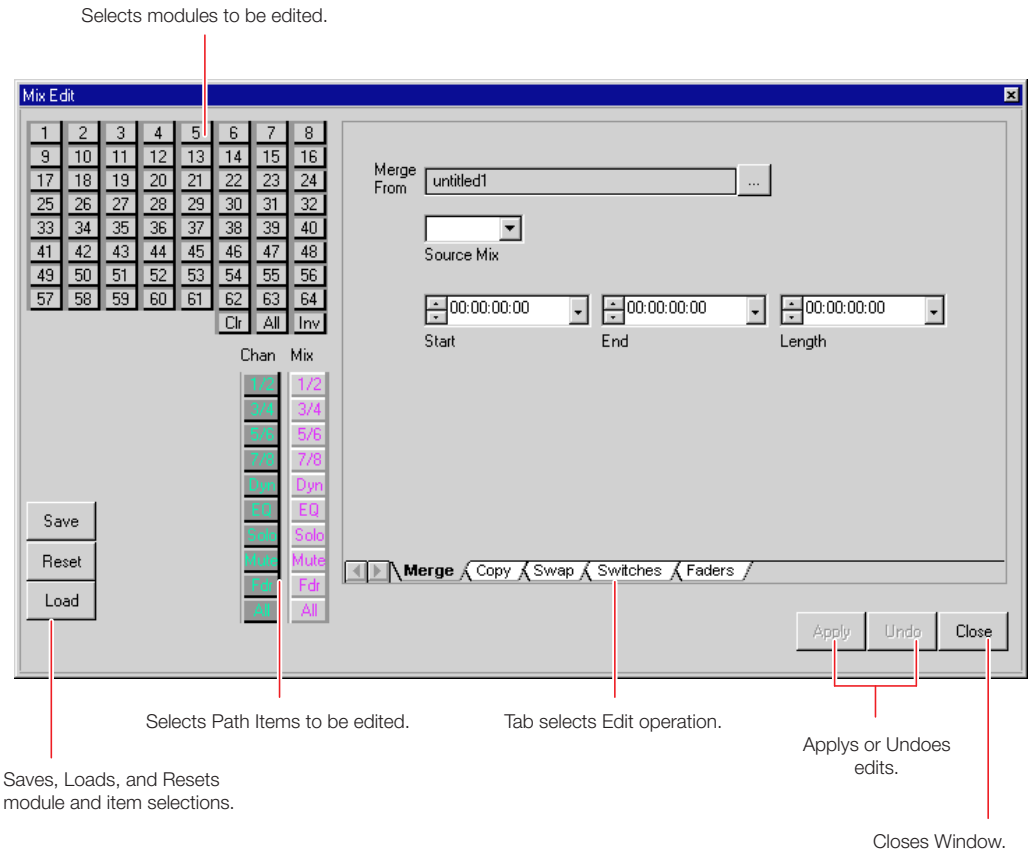
Clicking the **Track Sheet** button displays the Track Sheet window.

5.5.12 Info Bar



The Info Bar is used to display system statistics and help information.

5.5.13 Mix Edit Window



The **Mix Edit** window is used to change or create data in a mix file without using console faders or switches. By entering timecode boundaries and item parameters, global changes to a mix can be made quickly and easily.

Any changes made in the Mix Edit window affect the current mix. If changes are to be made to older mixes, open the desired mix, make the change, then save the mix.

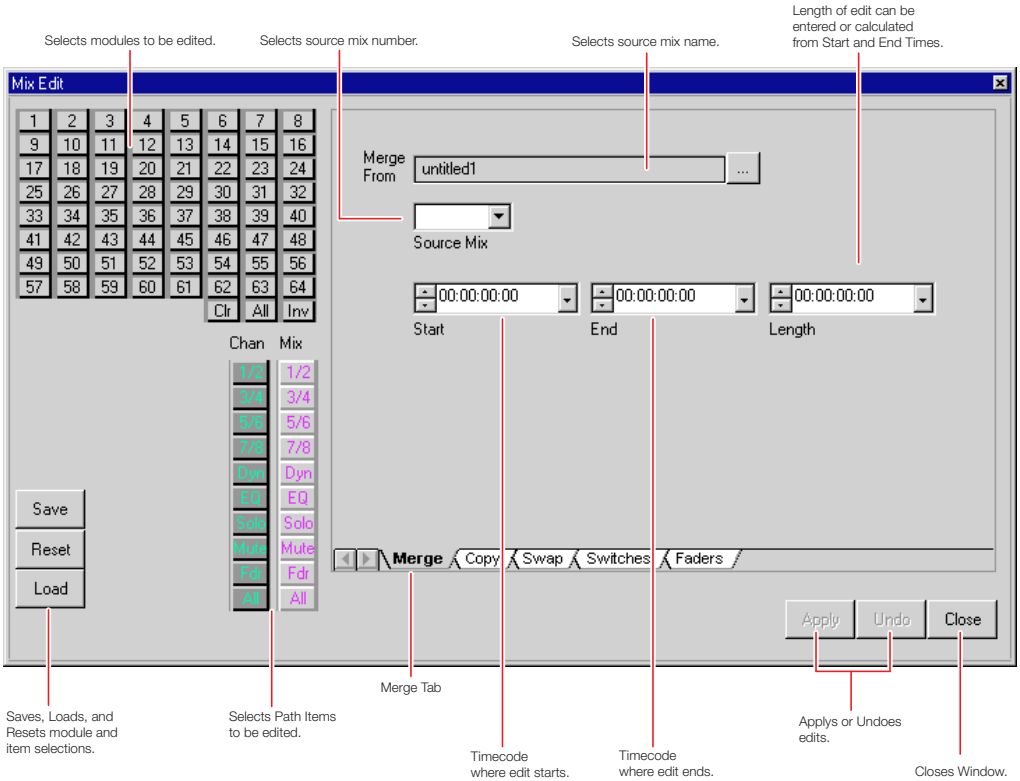
Five edit operations are available and can be accessed by clicking the appropriate tab in the Mix Edit window:

- **Merge** copies a section from a previous mix to the same place in the the current mix.
- **Copy** copies a section from the current or a previous mix to anyplace in the the current mix.
- **Swap** copies switch or fader data between paths in the the current mix.
- **Switches** lets you set or erase switch data in the the current mix.
- **Faders** lets you trim or set fader levels in the the current mix.

■ Merge

Merge is one of the operations available in the Mix Edit window. Merging allows you to copy a section from a previous mix to the same location in the current mix. Individual modules, faders and switches can be selected for copying.

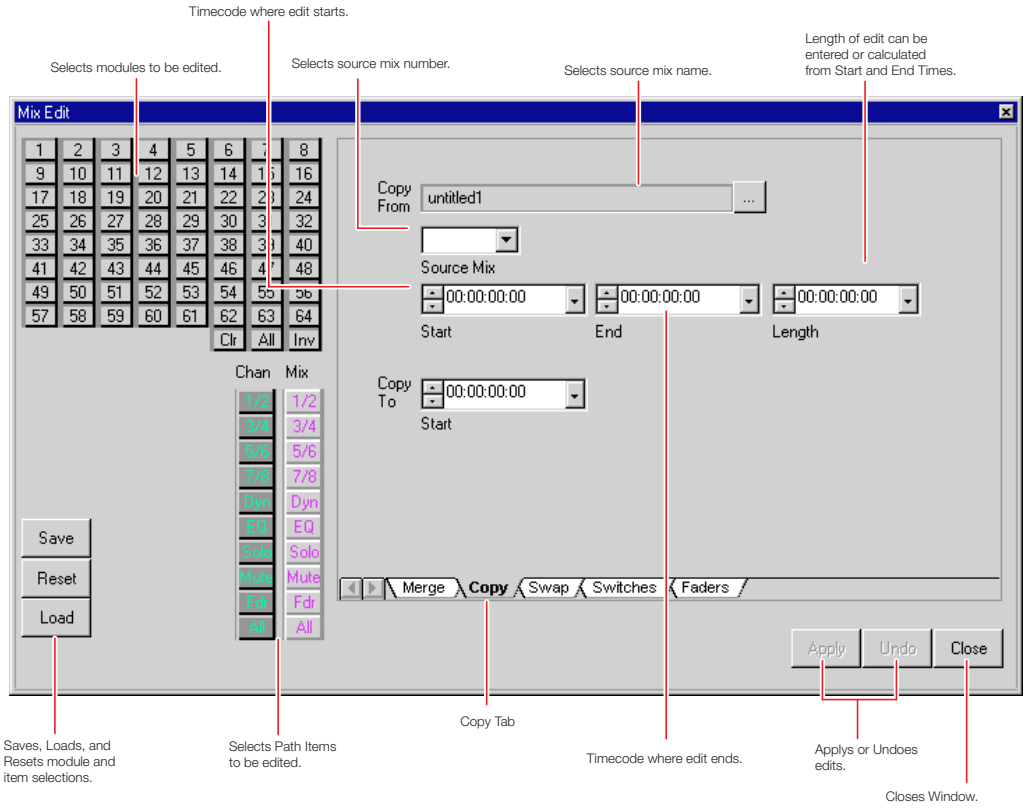
As an example, when doing a remix, you could save the time needed to rewrite switches by using Merge to copy all Mute and EQ switch data from the original mix.



■ Copy

Copy is one of the operations available in the Mix Edit window. Copying allows you to copy a section from the same or previous mix to the same or another location in the current mix. Individual modules, faders and switches can be selected for copying.

As an example, when mixing, you could copy a complicated set of mutes to multiple places in the same mix. Copy can also be used to copy a complete mix to another timecode range, should the multitrack have timecode problems and need to be restriped.



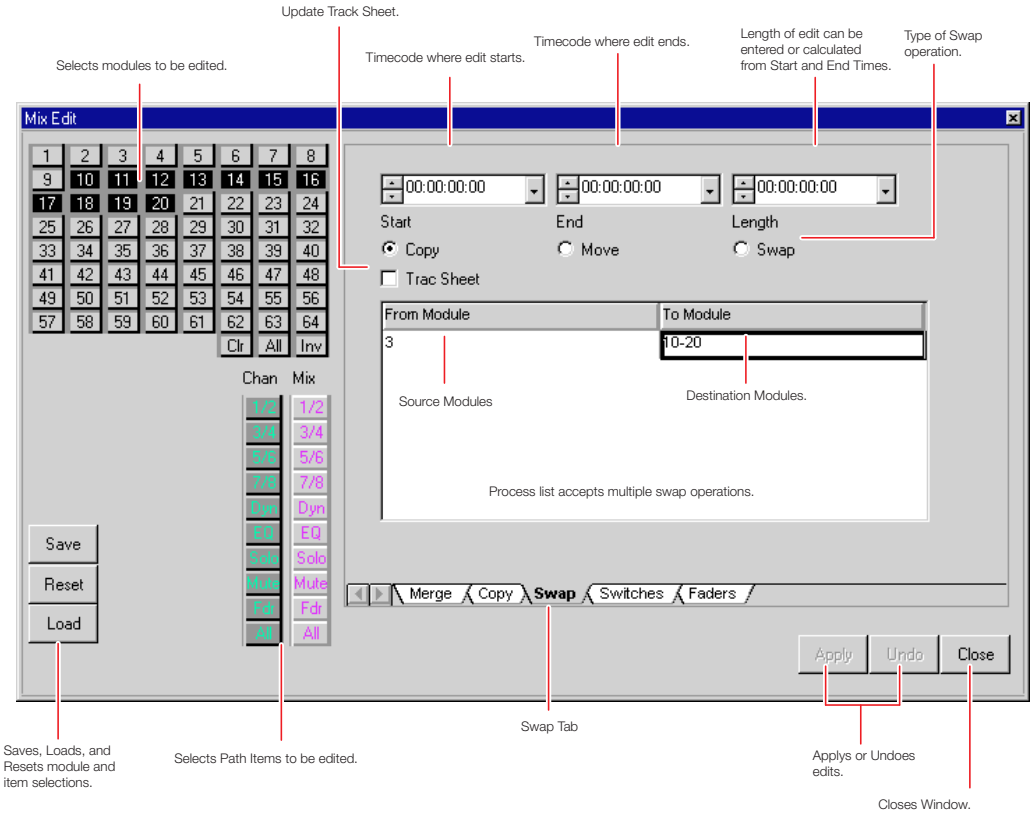
■ Swap

Swap is one of the operations available in the Mix Edit window. Swap allows you to copy mix data from fader to fader or switch to switch in the same mix. A single switch can be copied to multiple switches or a block of faders can be copied to a different block in a single operation.

There are three flavors of Swap, named for what happens to the source faders or switches after the operation:

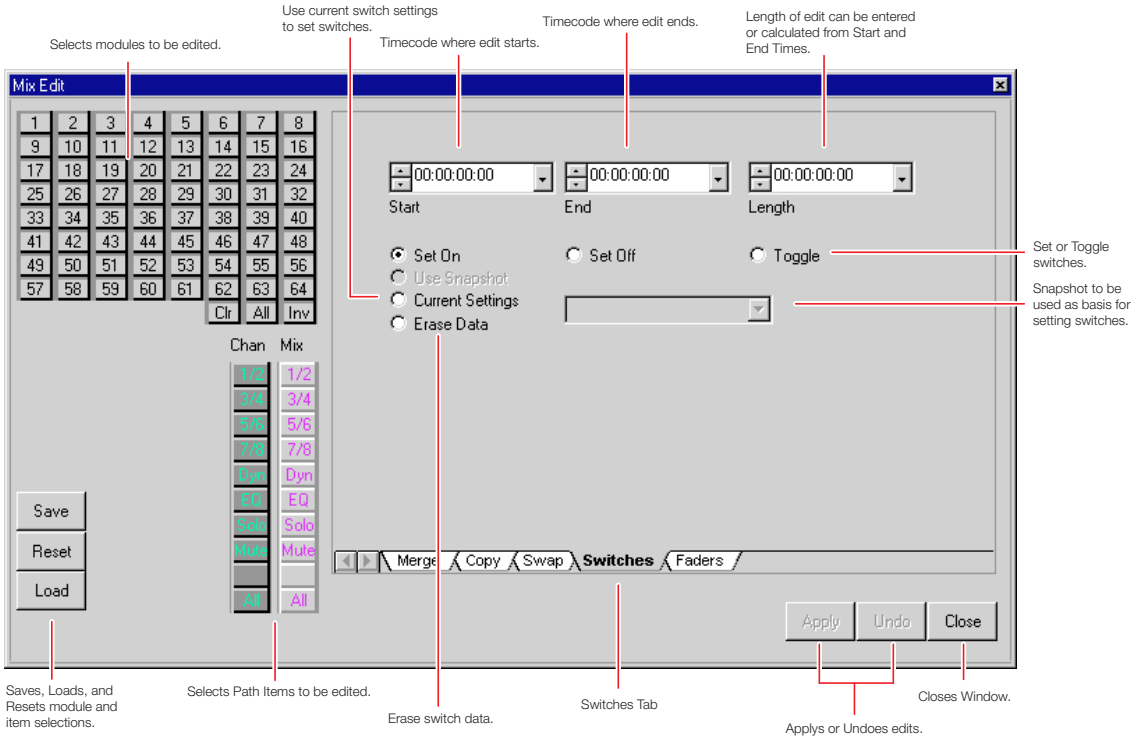
- **Swap:** Exchanges the source items mix data with the destination items mix data.
- **Copy:** Copies the source items mix data to the destination items leaving the source mix data unchanged.
- **Move:** Moves the source items mix data to the destination items then deletes the source items mix data.

As an example, Swap can be used to remap faders and switches when transferring a mix file between two different consoles or to duplicate switch moves on multiple switches.



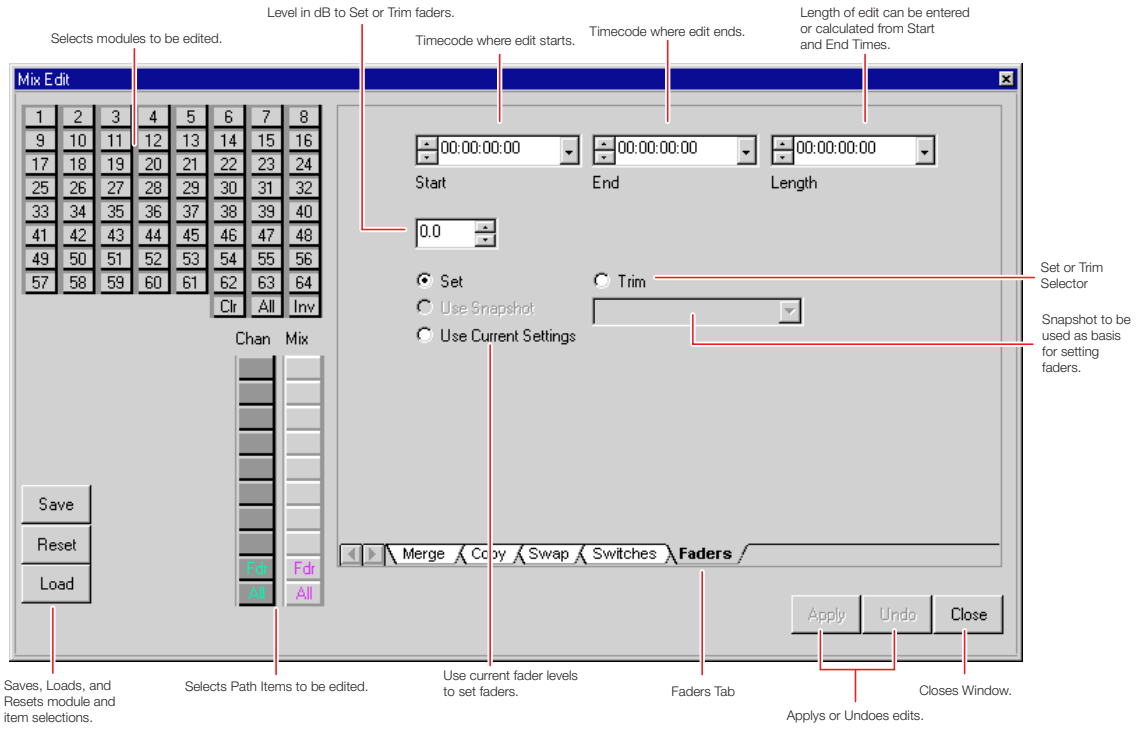
■ Switches

Switches is one of the operations available in the Mix Edit window. Switches allows you to set or toggle switch states over a range of time.
As an example, Switches can be used to mute all paths at an exact timecode frame.

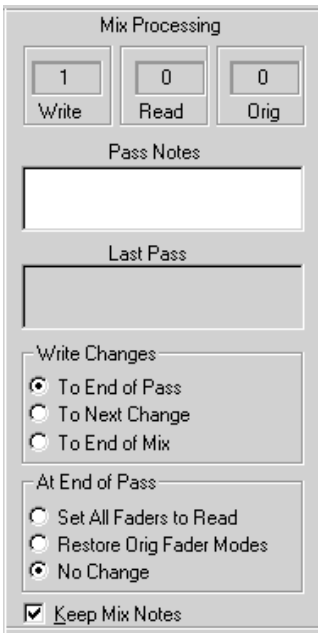


■ Faders

Faders is one of the operations available in the Mix Edit window. Faders allows you to set faders to an absolute level or to trim their levels, leaving their moves unchanged. Fader levels can be entered by keyboard or read from console faders or a Snapshot.
As an example, Faders can be used to lower all faders in a mix by 3dB without changing their moves should the Stereo Mix bus be too hot.



5.5.14 Mix Processing Window



Eagle's Mix Processing window provides mix note entry and control of post pass processing.

■ **Pass Notes**
The Pass Notes prompt lets you store comments about the current mix for display in the file dialog boxes.

■ **Last Pass**
The Last Pass box displays the previous mix's notes.

■ **Write Changes**
The Write Changes options determine how levels and switch states written during a pass affect data after time code has stopped. The three choices available are:

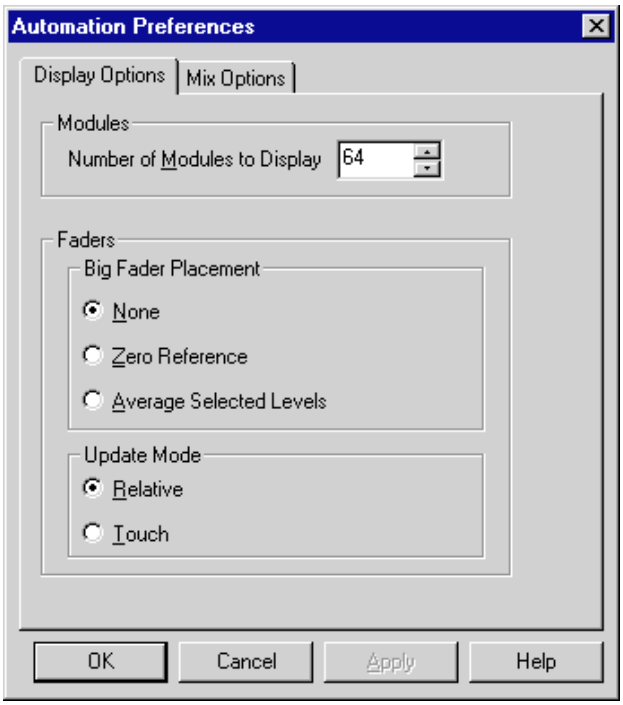
- **To End of Time Code:** Levels and switch states are written until time code stops at the end of a pass.
- **To Next Change:** Levels and switch states in effect when time code stops are written till the next change in data for that item. If there are no further changes for an item, the data will be written till the end of the mix.
- **To End of Mix:** Levels and switch states in effect when time code stops are written till the end of the mix, overwriting any data previously written. This option is useful when laying down the initial pass of a mix.

■ **At End Of Pass**
The At End Of Pass options determine what happens to the fader modes in effect at the end of the pass.

- **Set All Faders to Read:** Sets all faders to Read mode when time code stops. This is useful as an auto safe mode to prevent writing moves unless a fader is put explicitly into Write before or during a pass.
- **Restore Original Fader Modes:** Returns all faders to the mode they were in at the start of the pass.
- **No Change:** Faders remain in their set modes until changed by the mixer.

■ **Keep Mix Notes**
When Keep Mix Notes is checked, the current mix's notes are passed to the new write mix when an archive takes place.

5.5.15 Automation Preferences - Display Options



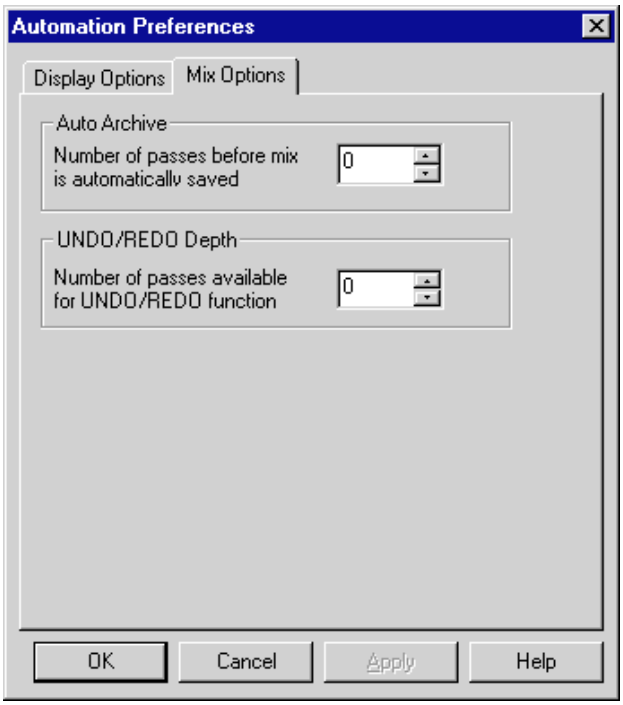
The **Display Options** tab controls how some items are displayed on the Eagle screens.

■ **Modules**
The Modules prompt determines how many of the console's input modules are displayed in Eagle's Console window. This number should be set to the number of physical input modules on the console.
If you are opening a mix created on a larger console, you can increase the modules parameter to display and edit the larger console's faders and switches.

■ **Faders—Big Fader Placement**
The option selected here determines where the Console Controls Master Fader (the Big Fader) locates when faders are selected:
- **None:** Big Fader is not affected by a selection.
- **Zero Reference:** Big Fader goes to i0i reference mark when a selection is made.
- **Average Selected Levels:** The Big Fader goes to the average level of all selected faders.

■ **Faders—Update Mode (Moving Faders Only)**
These radio buttons determine which Update mode will be executed on the first press of the **Update** button on the digital master. The checked mode is executed on the first press, the unchecked mode will be executed on the second press of the **Update** button.

5.5.16 Automation Preferences - Mix Options



The **Mix Options** tab allows save and undo parameters to be set according to level of security desired and the hardware capabilities of the automation PC.

■ **Auto Archive**

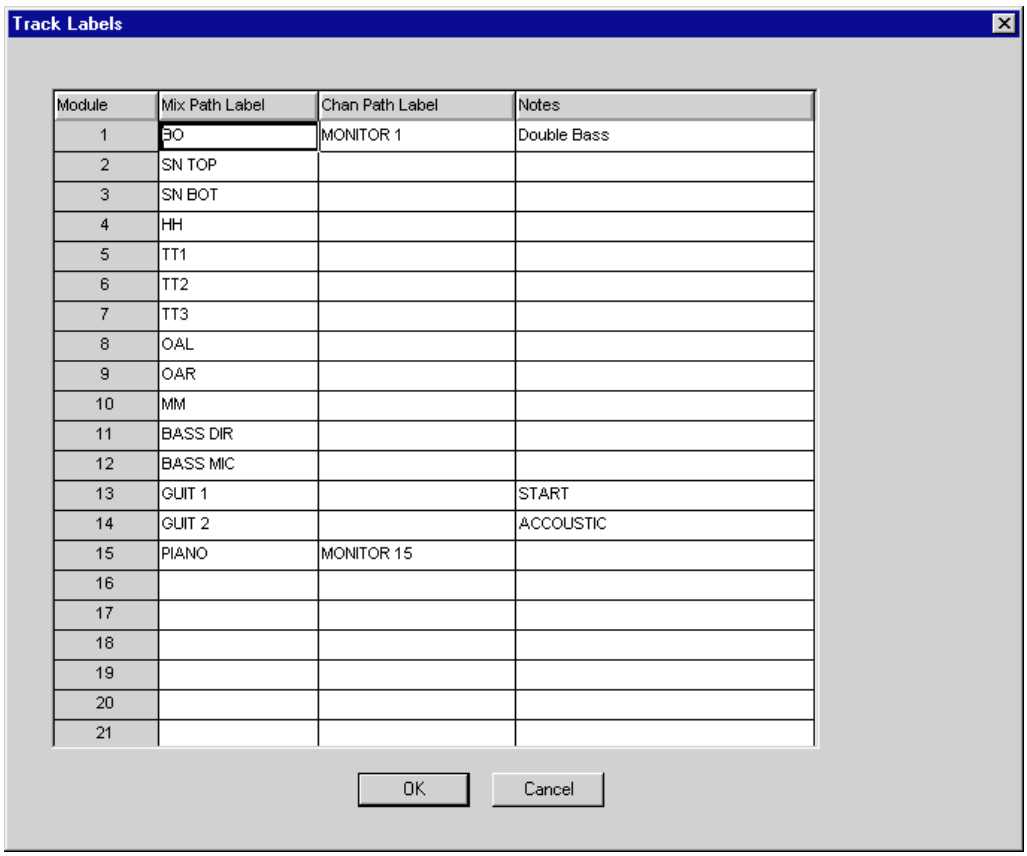
The Auto Archive function automatically executes an archive after a preset number of write passes. This increases data security by assuring that in case of a power failure, a recent pass will always be available for recovery. Setting Auto Archive to a low number increases the amount of saves and utilizes more disk space. Setting Auto Archive to a high number uses less disk space but saves passes less frequently. A good number to start at is 10.

Remember that you can always archive manually using the **ARCH** (Archive) buttons on the console and the Mix Controls window. This should be done for any pass that you know you will want to return to. When a mix is archived manually, the Auto Archive pass counter is automatically reset.

■ **UNDO/REDO Depth**

The UNDO/REDO Depth parameter determines how many passes are stored for Undo and Redo. Since Undo passes are stored in memory, the amount of memory installed in your Automation PC will have some effect on the amount of passes that can be stored. Setting the UNDO/REDO Depth to the same value as Auto Archive assures that you will always be able to Undo to the last archived pass.

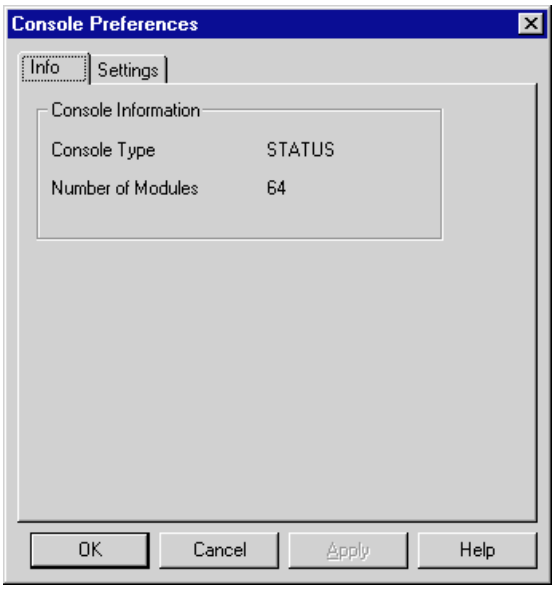
5.5.17 Track Sheet Window



The Track Sheet window is used to store track labels and notes for the current mix. The first 4 characters of Labels entered into the Mix and Chan columns appear under the associated path on the Console window.

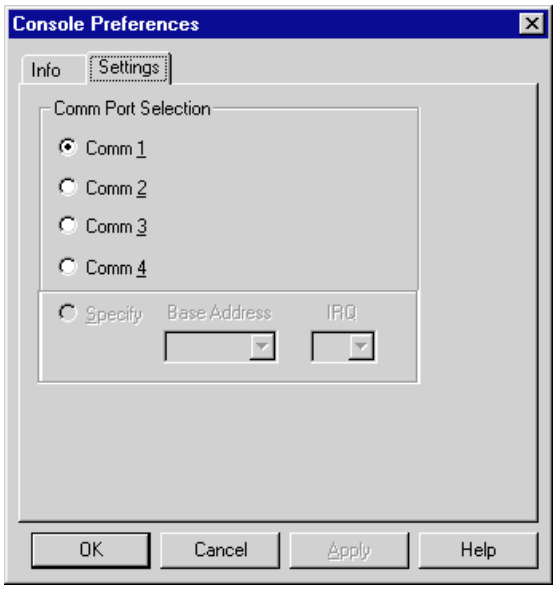
While entering text, the following QWERTY keys are used for navigation:
- **TAB:** Advance to next box (right then down)
- **Right Arrow:** Move Right one box
- **Left Arrow:** Move Left one box
- **SPACE:** Clear box contents if boxed.

5.5.18 Console Preferences - Info



The **Info** tab of Console Preferences displays the console model and number of modules that the Eagle software is configured to address.

5.5.19 Console Preferences - Settings



Use the **Settings** tab to configure the Comm (Serial) port that Eagle Automation uses to communicate with the console.

5.6 Eagle Quick Tour

5.6.1 Automation Overview

Eagle Automation oversees all automated functions of the Status console. The automation is operated by dedicated switches and faders on the console surface and by virtual buttons and faders on the automation PC's video display. Most of the console's dedicated controls are duplicated on Eagle's windows allowing local (console) or central (trackball or mouse) operation, whichever is more convenient for a given task.

Eagle handles two types of automation on the Status console:

- **Dynamic Automation:** Automation that records individual fader and/or switch moves on a frame-by-frame basis. Dynamic automation is controlled using the path **Auto** buttons, the Master Section **Write** and **Update** buttons, and the Automation functions found in the Automation menu on the Status LCD display.
- **Snapshot Automation:** Complete console Setups that are recalled manually or from an event list linked to time code. Snapshots can be saved and loaded manually using the Snapshot options found in the Recall menu on the Status LCD display. In Eagle Automation, the term Actions is used to describe different types of Snapshots.

Snapshot automation is most useful for making global changes to console switch and fader settings, while dynamic automation is better for storing the continuously changing moves of individual faders and switches. Snapshot automation complements Dynamic automation by providing the basic levels from which dynamic moves can be created.

Eagle's Console window shows various views of the console's faders and switches, allowing their states to be viewed centrally. In addition, individual faders and switches can be selected and affected as a group, to change levels and switch states.

The Time Line window displays the mix in a linear fashion, showing events that take place during the mix. Dragging the Current Time pointer back and forth on the Time Line causes the Console window to display the switch and fader states for that point in time.

Stored Snapshots can be linked to time code events in the Events window and automatically recalled when the current time code matches the event's time code.

Numerous other windows provide addition functions for operating Eagle and editing mix data. To get a sense of how to use Eagle during a mix session, proceed to the Quick Tour, otherwise browse through the help system for more information on Eagle's windows and controls.

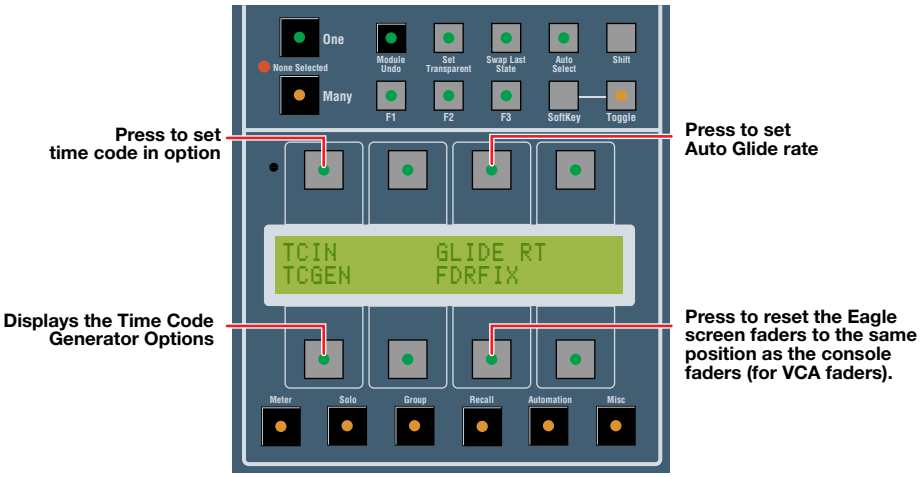
5.6.2 Setting Incoming Time Code

Before automation can be used, the incoming time code rate on the Status console must be set to match the time code rate coming from the audio source.

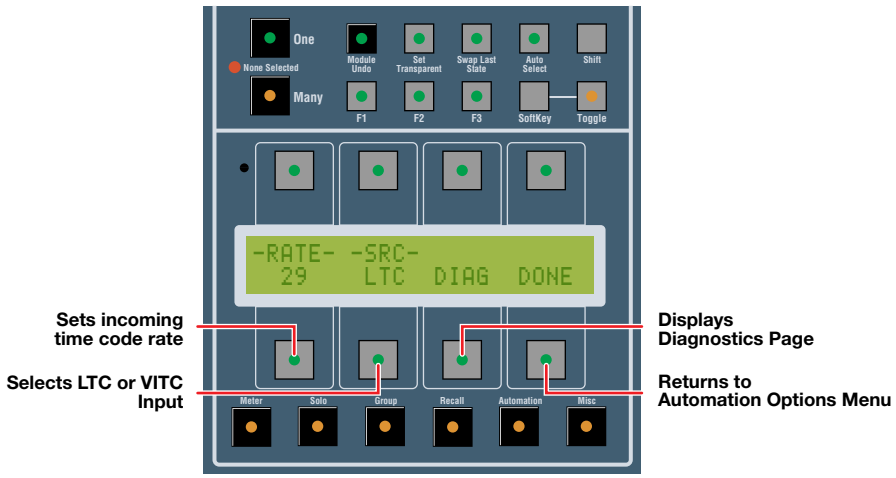
On The Console:

1. Hold **Shift** and press the LCD Menu **Automation** button.

2. Press the lit key above TCIN.



3. Press the lit key below RATE repeatedly until the applicable time code frame rate appears.
   The choices are 24, 25, 29 (29.97), and 30 frames per second. The time code reader automatically senses Drop Frame time code.

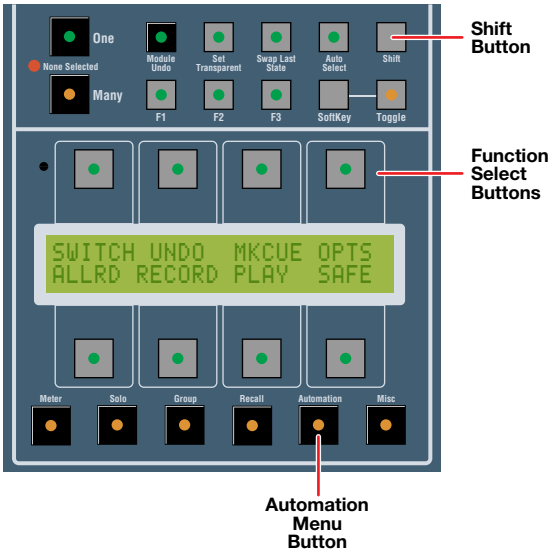


4. Press **Automation** to return to the Automation Menu.
   If you want to change how time code is displayed on the Eagle screen, click the pull-down menu next to the time code number in the **Time Code** window.

5.6.3 Getting Started

This Quick Tour provides hands-on instruction for using a Status with Eagle automation in a typical mix session. It is intended to give you a basic feel for how the system operates, but doesn't try to demonstrate all of the things that Eagle can do.

Start by turning on the console and Automation PC. Press the **Automation** button under the console's LCD display to display the Automation menu.



Regularly used functions of Eagle automation appear on the Automation menu of the Status LCD. Most of these functions are duplicated on the Eagle screens and can be operated using your mouse or trackball.

5.6.4 Starting a New Mix

When Eagle is first started, a new mix called "untitled1" is automatically created. This mix can be named when it is first saved using the **ARCH** (ARCHIVE) button or **Save Mix** (**Ctrl**-**S**) in the **Files** menu.

To start a new untitled mix, click **NEW** in the Mix Controls window or select **New Mix** (**Ctrl**-**N**) in the **Files** menu.

To open a previously saved mix, select the Files Menu by clicking **FILES** or **ALT**-**F**. Select **Open Mix** or press **CTRL**-**O** on the QWERTY keyboard.

5.6.5 Isolating Switches

Eagle automation can record both fader and switch moves to data. In this step, we will isolate the console switches so that only faders are written to data.

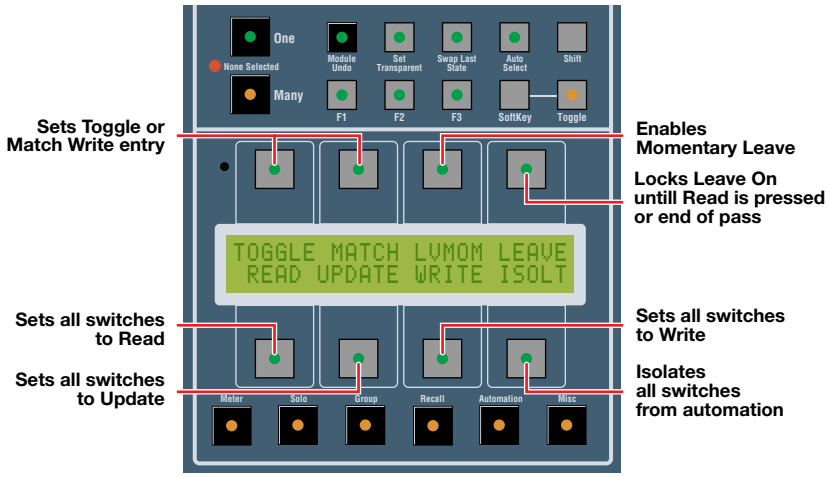
When a fader or switch is isolated, it doesn't read or write automation data. It operates like a normal fader or switch.

To isolate the console switches:

1. On the console Master Section, press **Automation** to display the Automation LCD menu.

2. Press the button above SWITCH to display switch automation options.

3. Press ISOLT to isolate all switches from automation.



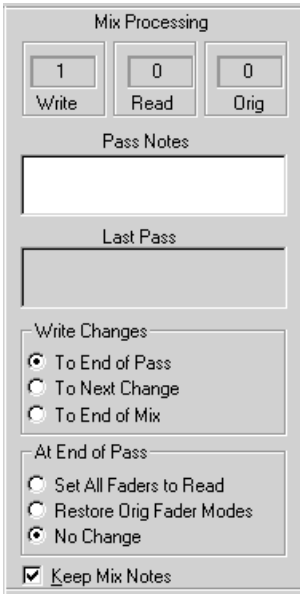
4. Press **Automation** to return to the main automation menu.

5.6.6 Setting End of Mix Processing

When writing the first pass of a new mix, it is only necessary to run a few seconds of the mix to establish the basic levels of the mix. Eagle's Mix Processing window lets you decide how levels and switch states written during the mix affect data after time code has stopped.

For the initial pass, set the end of mix processing as follows:

1. Click on the **Windows** menu and select **Mix Processing**.



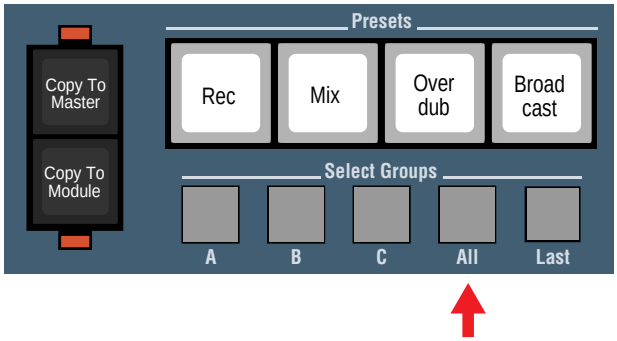
2. Click on **Write Changes To End of Mix**.
   While To End of Mix is in effect, written fader levels and switch states in effect when time code stops will be written till the highest time code number and become the basic levels of the mix.

NOTE: After writing the initial mix pass, you may want to set Mix Processing to End of Time Code or To Next Change to prevent data from being overwritten.

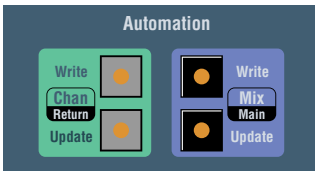
5.6.7 Setting All Faders to Write

Initially, we will write a level for all faders. Later we can rewrite or update individual faders as desired.

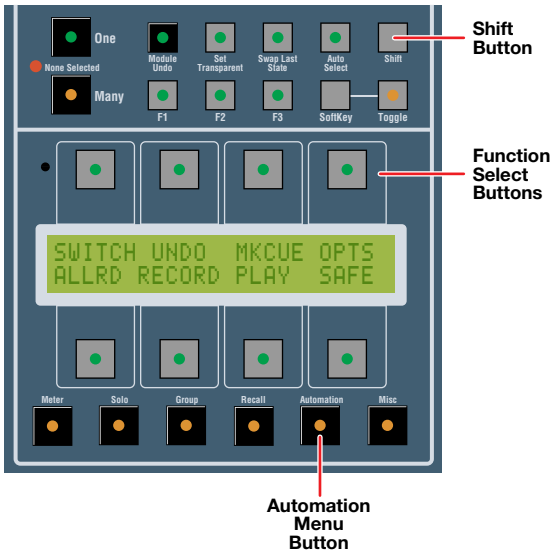
1. **On the console Master Section, press the Select Groups–All key.**
   This attaches all modules to the Master Section.



2. **On the Master Section, press the Chan and Mix Write buttons until the red LED is lit steadily.**
   This sets all selected modules' Chan and Mix path faders to Write.



3. **Press SAFE on the Automation LCD menu.**
   While SAFE is On, faders in Write mode will not be written to data.



4. **Run tape and set your mix levels to the point that you would like to start saving mixes.**

5.6.8 Writing a Mix Pass

When you are ready to write a mix pass:

1. **If Safe is on, press SAFE on the LCD Menu or click the SAFE button in the Eagle Record Controls window to turn it off.**

2. **Press REC on the LCD Menu or click the REC button in the Eagle Record Controls window.**
   READY will appear in Red in the Status window on the Eagle Main screen.
   NOTE: If the Auto Record (AUTREC) option is set to On, Record will be activated automatically whenever any fader or switch is in a write mode.

3. **Start the recorder and begin mixing.**
   Eagle will display time code as soon as it is received.

4. **Run the mix as long as desired and stop the recorder when you are finished.**
   When time code stops, Eagle merges the new fader moves into the current mix.

NOTE: Eagle will not create a new pass unless there are at least 90 frames (approximately 3 seconds) of continuous valid time code. This prevents a pass being created as a result of searching through a tape and listening briefly for audible cues.

5.6.9 Playing Back the Mix

To listen to the mix that you've just created:

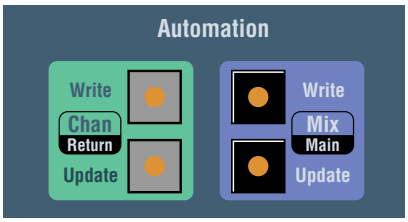
1. **Press ALLRD on the Automation LCD Menu.**
   All faders will return to Read mode.

2. **Start the recorder from any location.**
   Time code will run on the Eagle screen and the faders will display the levels written.

3. **If you don't like the pass that you just completed, stop the recorder and press UNDO on the Automation LCD Menu or click the UNDO button on the Eagle screen once to undo the last pass.**
   Clicking **REDO** on the Eagle screen before starting a new pass will restore the undone pass.
   To write another pass, press the **Select Groups–ALL** key, press the Chan and Mix **Write** buttons on the Master Section, press **REC**, and start the recorder.

5.6.10 Writing Single Faders

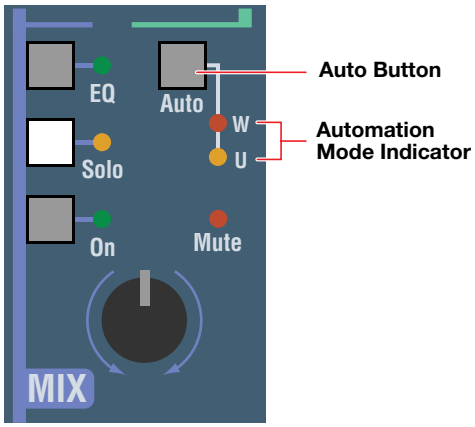
To write one or a few faders on mix, select each module and press the Master Section **Write** button for the paths that you wish to change. Only the paths that are in Write mode will be written to data.



Press or click **REC** if Eagle is not in Record Mode and start the recorder. Change the faders as desired. You can change fader modes and punch in and out of Record at any time during a pass.

A variety of fader modes are available for writing new moves and trimming existing moves. See Manual Fader Modes or Moving Fader modes for an explanation of all the automation modes available on your console.

5.6.11 Using the Auto Button

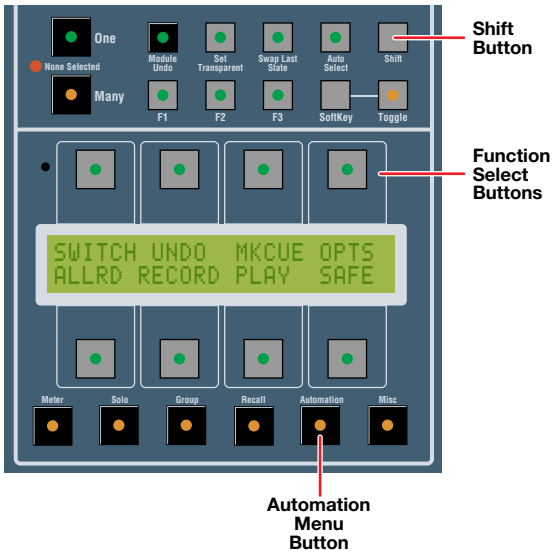


The module **Auto** button provides a way to change fader modes for one path, locally, on the module itself. The path that the button affects and the automation modes applied (Styles) are set in the LCD Menu System. Each time the **Auto** button is pressed the path's automation mode changes to the next appropriate mode in the sequence.

See Manual Fader Styles, Moving Fader Styles, and the OPTS button for more information about **Auto** button operation.

5.6.12 Punching In Data

The RECORD and PLAY buttons can be used to punch in faders and switches that are set to Write. You may switch between Record and Play as often as you like while the mix is running using the REC and PLAY buttons on the LCD Menu or the Eagle display.



NOTE: The Auto Record (AUTREC) function must be Off in order to punch in and out of Record.

5.6.13 Archiving (Saving) the Mix

The current mix resides in the automation PC's RAM (Random Access Memory) for fast access and post-pass processing. To write the current mix to disk and keep it from being updated, use Archive Mix (ARCH).

A mix can be archived in either of the following ways:
- From the LCD Menu System, press **Automation**, OPTS, then ARCH.
- On the Eagle Screen, Click the **ARCH** button.
- From the Eagle Files menu select Save or press **CTRL**-**S** on the QWERTY keyboard

Archiving increments the Write Mix number so that the archived mix can no longer be written to. Future passes will be written to the next highest mix number. The archived mix can be recalled at any time as the basis for a new mix.

Read, Write, and Original mix numbers are displayed in the Mix Processing window.

Eagle can archive passes automatically if desired. Setting the Auto-Archive number archives the mix after the specified amount of passes.

To set the Auto Archive number:

1. From the Eagle **Edit** menu, select **Automation Preferences**.

2. Click the **Mix Options** tab to display and set the **Auto Archive** number.

5.6.14 Recalling Mixes

If you decide that the mix has taken the wrong tack, you might want to recall an earlier mix as the basis for a new mix.

Before doing this, it's a good idea to add a comment describing the current mix. Mix Notes are kept separately for each mix and appear in the Mix List for your reference. To add or change the notes for the current mix, open the Mix Processing window.

To open a previously saved mix, select the Files Menu by clicking **FILES** or **ALT**-**F**. Select **Open Mix** or press **CTRL**+**O** on the QWERTY keyboard.

5.6.15 Undo and Redo

Undo and Redo allow you to step backward and forward through recent mix passes to make comparisons or corrections. Each time you click **UNDO**, the Undo stack decrements one pass. Clicking **REDO** increments the Undo Stack one pass. If you undo and write another pass, you can no longer redo to the undone passes.

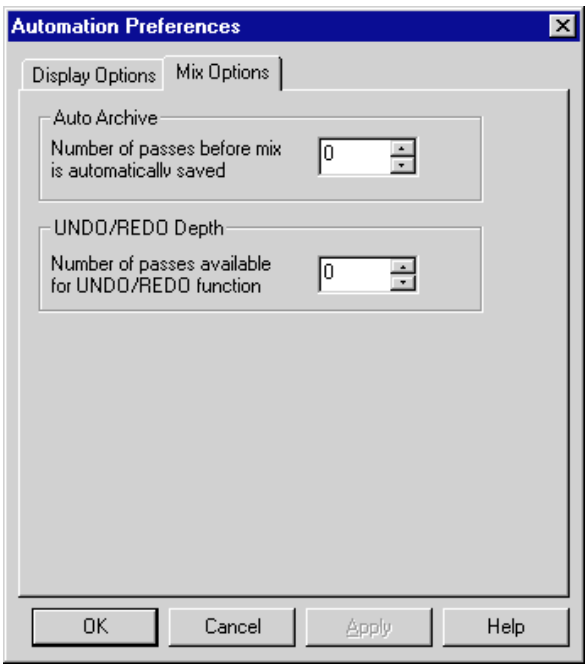
It is always a good idea to manually archive a mix that you may want to recall later, so that it won't be inadvertently removed from the undo stack. Archiving a mix clears the Redo stack, a point to keep in mind when archiving after an undo operation.

You can set the amount of passes that Eagle keeps in it's Undo Stack. The size of the undo stack is determined by the amount of RAM installed in your PC.

To set the Undo/Redo depth:

1. From the Eagle **Edit** menu, select **Automation Preferences**.

2. Click the **Mix Options** tab to display and set the number of passes desired in the **Undo/Redo Depth** prompt.



5.7 Introduction to Switch Automation

Switch moves are written to data using the module switch buttons and the options found on the SWITCH menu of the console's Automation LCD Menu. Three basic modes are used for switch automation:

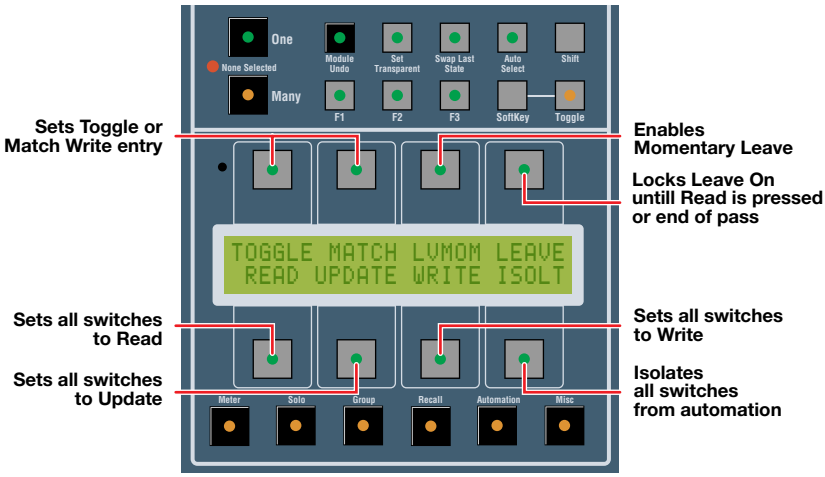
- **Write:** The switch's On/Off state is written to data, overwriting any previous moves for that switch. The switch can be taken out of write during the pass or be set to drop to Read when time code stops.
- **Read:** The switch is set to the On/Off state written in data. If the switch is pressed during playback, it will remain in that state until the next change for that switch comes from data.
- **Update:** The mode most often used for writing individual switches and editing previous switch moves. When in Update mode, the On/Off state of the switch is read from data until the switch is pressed. When pressed, the switch drops into Write and changes it's On/Off state according to the prevailing switch entry mode:
  Toggle - When the switch entry mode is set to Toggle, a switch in Update Read drops into Write and toggles state the first time it is pressed. Further presses toggle the switch's state. This is most useful when writing initial switch moves.
  Match - When the switch entry mode is set to Match, a switch in Update Read drops into Write but does not toggle state the first time it is pressed. Further presses toggle the switch's state. This is most useful when editing existing switch moves in data.

Switch automation also has a mechanism for taking switches out of Write while a pass is in progress. Switch Leave mode comes in two varieties:

- **Leave Momentary:** When active, the next switch pressed will leave Write mode and return to Read. Leave mode is then cancelled. Leave Momentary allows a single switch to leave Write mode then have normal switch entry resume.
- **Leave Lock:** When active, Switch Leave mode remains in effect until canceled or timecode stops. Leave Lock allows a number of switches to leave Write mode without having to press Leave repeatedly.

NOTE: All switches in Update Write automatically return to Read at the end of a mix pass.

5.7.1 Writing Switches



Press SWITCH to bring up the Switch Automation Menu on the LCD. Press WRITE , start the recorder and start mixing.

While Write mode is in effect, the current state of all switches is written to data, overwriting any data previously written. When you are done writing mutes on that path, stop tape. The **On** switch automatically returns to Read mode.

The **On** switch can be explicitly returned to Read during mixing by pressing UPDATE or READ in the Switch LCD Menu.

To hear the mutes that were written, simply play the tape.

5.7.2 Editing Previously Written Switch Moves

Switch Update mode is used to write and edit individual switch moves. When in Update mode, the On/Off state of the switch is read from data until the switch is pressed. When pressed, the switch drops into Write and changes it's On/Off state according to the prevailing switch entry mode:

- **Toggle:** When the switch entry mode is set to Toggle, a switch in Update Read drops into Write and toggles state the first time it is pressed. Further presses toggle the switch's state. This is most useful when writing initial switch moves.
- **Match:** When the switch entry mode is set to Match, a switch in Update Read drops into Write but does not toggle state the first time it is pressed. Further presses toggle the switch's state. This is most useful when editing existing switch moves in data.

In the following example, we have written a mute and need to change where the mute starts. The exit point of the mute is good.

1. **Cue the recorder to a point before the mute should start.**

2. **Set the switches to global Switch Update mode by pressing Automation, then SWITCH, then UPDATE on the console's LCD Menu.**

3. **Set the entry mode to Toggle by pressing TOG on the same menu.**

4. **Start the recorder. At the mute's new start point, press the path On switch.**
   The path will mute and the switch will be in Update Write mode. The On and Off states of the switch are now being written to data.
   When you have passed the old mute's start point, stop the recorder.
   The **On** switch automatically returns to Update Read mode.

In the next example, we have written a mute and need to remove it completely.

1. **Cue the recorder to a point before the beginning of the mute.**

2. **Set the switches to global Switch Update mode by pressing Automation, then SWITCH, then UPDATE on the console's LCD Menu.**

3. **Set the entry mode to Match by pressing MAT on the same menu.**

4. **Start the recorder. Before the mute's start point, press the path On switch.**
   The path will remain on, and the switch will be in Update Write mode. If the **On** switch is pressed again, the path will mute.
   When you have passed the old mute on point, stop the recorder.
   The **On** switch automatically returns to Update Read mode.

5.7.3 Trimming Switches

After critical listening, you discover that the horn tracks have been clipped by a channel mute that was written to minimize leakage. You could try to rewrite the mutes or you could trim the mutes a few frames using the Events window.

1. **Determine the approximate time code of the mute. — Stop the recorder at the mute point and note the time code displayed on the time code window.**
   You can also scrub the mix by dragging the Time Line window's current time pointer to find the mute point.

2. **Click the Events window Tool Bar button (the stopwatch) or select the Events window from the Eagle Windows menu.**
   The Events window lists switch events grouped by timecode number. Clicking on the expand box in the Actions column expands the event into its individual switch events.

3. **Use the Move or Nudge buttons to move the highlighted event.**

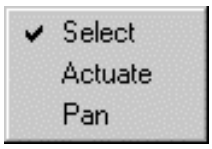
4. **Press Apply to merge the change then audition the mix to confirm that the trim is correct.**

5.8 How To...

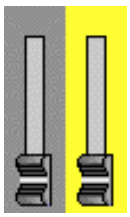
5.8.1 How to Select Faders

Fader selection is additive, meaning that selecting a fader adds to the current selection. Click the Console Controls **Clr** button to clear all selections.

- Click the right mouse button while the cursor is over the Console window to display the Cursor menu. Click on **Select** if it is not checked.



- Left-click the faders that you want to select. They will become highlighted in Yellow. Clicking again deselects a fader.

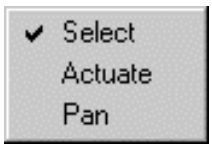


- To select contiguous faders, Left-drag the mouse until the rubber band box covers the desired faders.
- To select all but a few faders, select the faders that you don't want selected then click **Inv** in the Console Controls window to invert the selection. Clicking **Clr** clears all selections.

5.8.2 How to Select Switches

Switch selection is additive, meaning that selecting a switch adds to the current selection. Click the Console Controls **Clr** button to clear all selections.

- If Select mode is not active, click the right mouse button while the cursor is over the Console window. Click on **Select** if it is not checked.



- Left-click the switches that you want to select. They will become highlighted in Yellow. Clicking again deselects a switch.

- To select blocks of switches, Left-drag the mouse until the rubber band box covers the desired switches. Left-dragging deselects selected switches.
- To select all but a few switches, select the switches that you don't want selected then click **Inv** in the Console Controls window to invert the selection.

5.8.3 How to Start a Mix

1. **Click on the Files menu and select New Mix.**
   A new mix called “untitled1” is created. You can also click the **NEW** button in the Mix Controls window.

2. **Double click All in the Console Controls window to select all faders and switches.**

3. **Click Write in the Console Controls window to set all faders.**
   Press WRITE in the Automation LCD Menu to set all switches to Write.

4. **Click REC in the Record Controls window to write the faders and switches to data.**

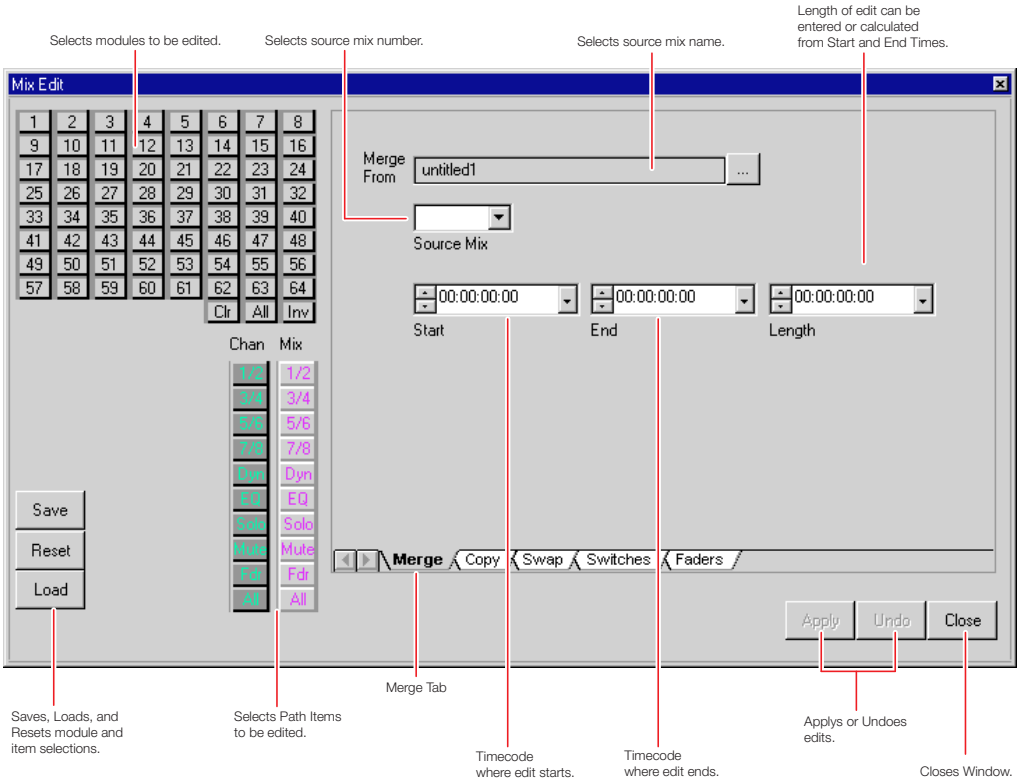
5. **Start time code and begin mixing.**
   All fader levels and switch states are written to data.
   Stop timecode when finished writing a pass.

6. **Press ALLRD in the Automation LCD Menu to set all faders and switches to Read.**

7. **Start time code.**
   The fader levels and switch settings will be played back.
   Individual faders and switches can be updated by selecting them and using the Write Update modes.

5.8.4 How to Use Mix Edit Merge

Use Merge to copy sections of a previous mix into the current mix. Sections can only be copied within the same time code boundaries. Use Copy to copy a section to a different area in the mix.



1. **Click on the module numbers that you want to merge or click All for all modules.**

2. **Click on the Mix or Chan path items that you want to merge to the current mix or click All.**
   The current Mix Name will be in the Merge From prompt. Click on the pull-down menu to select a different Mix Name.

3. **Click on the Source Mix pull-down menu to select the Mix Number to merge from.**
   You can also highlight the prompt and type the number.

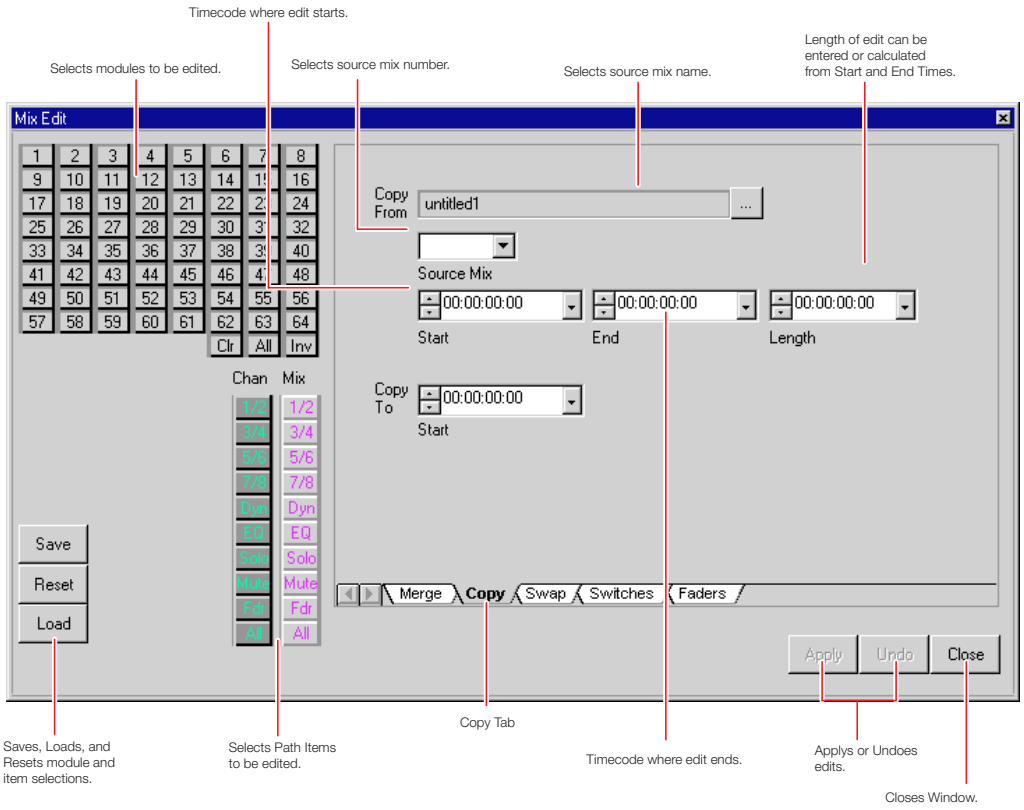
4. **Enter the time code where you want the merge to start in the Start prompt.**
   You can select the mix start or end, or the current time by clicking on the pull-down menu next to the prompt.

5. **Enter the time code where you want the merge to end in the End prompt.**
   Or you can enter the amount of time into the Length prompt and have Eagle calculate the end time for you.

6. **Click Apply at the bottom of the window.**
   You can audition the edit any time after you click Apply.
   Click **Undo** to cancel the edit or click **Close** to keep the edit and close the window.

5.8.5 How to Use Mix Edit Copy

Use Copy to copy a section from the same or a previous mix to a different area in the current mix.



1. **Click on the module numbers that you want to copy or click All for all modules.**

2. **Click on the Mix or Chan path items that you want to copy to the current mix or click All.**
   The current Mix Name will be in the Copy From prompt.
   Click on the pull-down menu to select a different Mix Name.

3. **Click on the Source Mix pull-down menu to select the Mix Number to copy from.**
   You can also highlight the prompt and type the number. The Source Mix can be the current mix or any previous ones.

4. **Enter the start time code of the piece that you want to copy in the Start prompt.**
   You can select the mix start or end, or an event time by clicking on the pull-down menu next to the prompt.

5. **Enter the end time code of the piece that you want to copy in the End prompt.**
   Or enter the amount of time into the **Length** window and have Eagle calculate the end time for you.

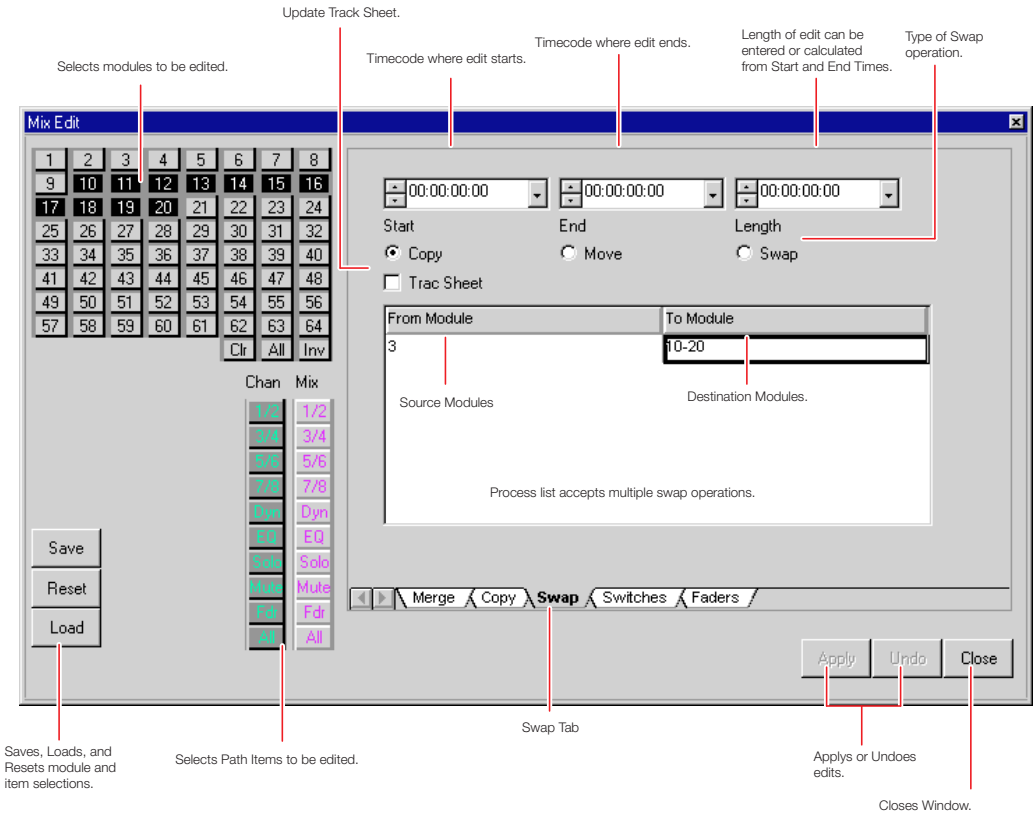
6. **In the Copy To prompt, enter the starting time code of the place where the piece is to be copied.**

7. **Click Apply at the bottom of the window..**
   You can audition the edit any time after you click **Apply**.
   Click **Undo** to cancel the edit or click **Close** to keep the edit and close the window.

5.8.6 How to Use Mix Edit Swap

Swap allows you to copy data between different faders and switches in the current mix.

The Swap window has a process list for setting up multiple operations. The list has two sections, **From Module** and **To Module**. Clicking on a blank area of the list under **From Module** creates a new operation and clears module and path item settings.



1. **Enter the time code where you want the copy operation to start in the Start prompt.**
   You can select the mix start or end, or an event time by clicking on the pull-down menu next to the prompt.

2. **Enter the time code where you want the copy operation to end in the End prompt.**
   Or you can enter the amount of time into the Length prompt and have Eagle calculate the end time for you.

3. **Click the operation list underneath From Module.**
   A box will appear.
   Click on the module numbers that you want to copy data from.
   Click on the Mix or Chan path items that you want to copy data from.

4. **Click the operation list underneath To Module.**
   A box will appear.
   Click on the module numbers that you want to copy data to.
   If a single module is selected in the From Module box is selected, you can select multiple modules to copy to.
   If a block of modules in the From Module is selected, you will only be able to select a contiguous block for the To Module.

5. **Click on the Mix or Chan path items that you want to copy data to.**
   If a single switch is selected in the From Module box, it can be copied to switches of different types in To Module. If multiple switches are selected in the From Module box, their data will be copied to switches of the same type in the To Module box.

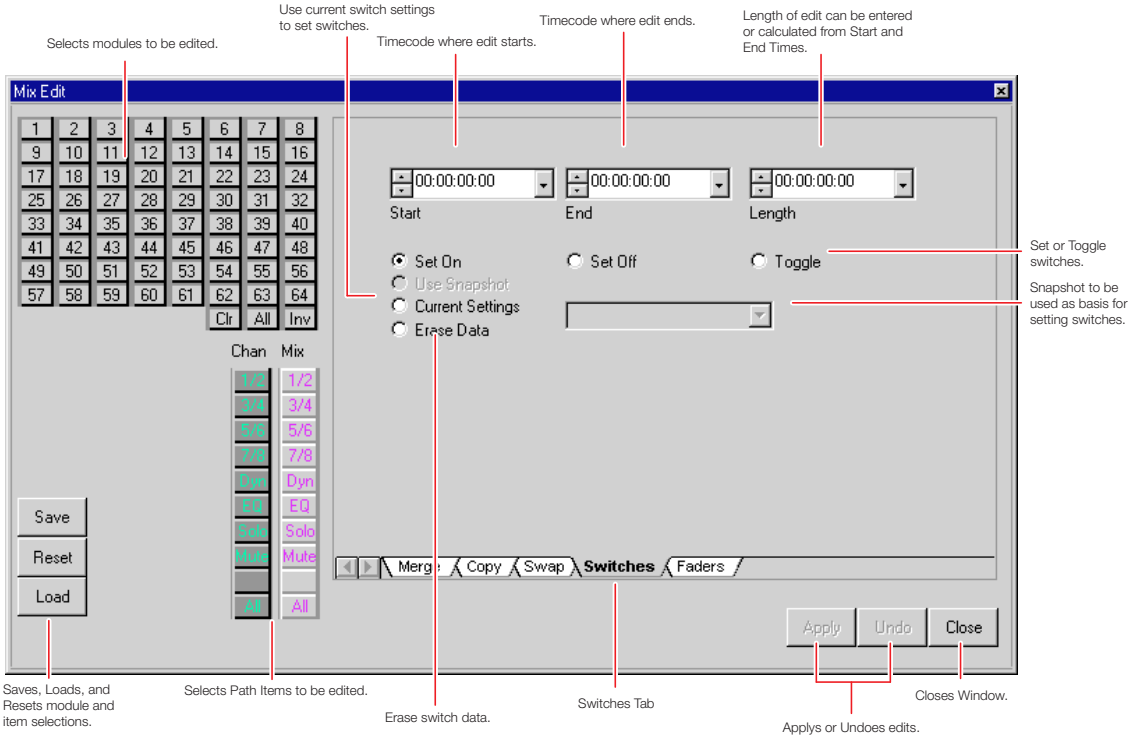
6. Repeat steps 3 through 6 for each additional swap operation that you would like to perform.

7. Click the type of copy operation that you would like to do:
Copy copies the source data to the destination items without changing the source data.
Move copies the source data to the destination items then deletes the source data.
Swap exchanges the source and destination data.

8. Click Apply at the bottom of the window.
You can audition the edit any time after you click **Apply**.
Click **Undo** to cancel the edit or click **Close** to keep the edit and close the window.

5.8.7 How To Use Mix Edit Switches

Use Switches to set or toggle switch states in the current mix.



1. **Click on the module numbers that you want to adjust switches on.**

2. **Click on the Mix or Chan path switches that you want to adjust.**

3. **Enter the time code where you want the change to start in the Start prompt.**
   You can select the mix start or end, or the current time by clicking on the pull-down menu next to the prompt.

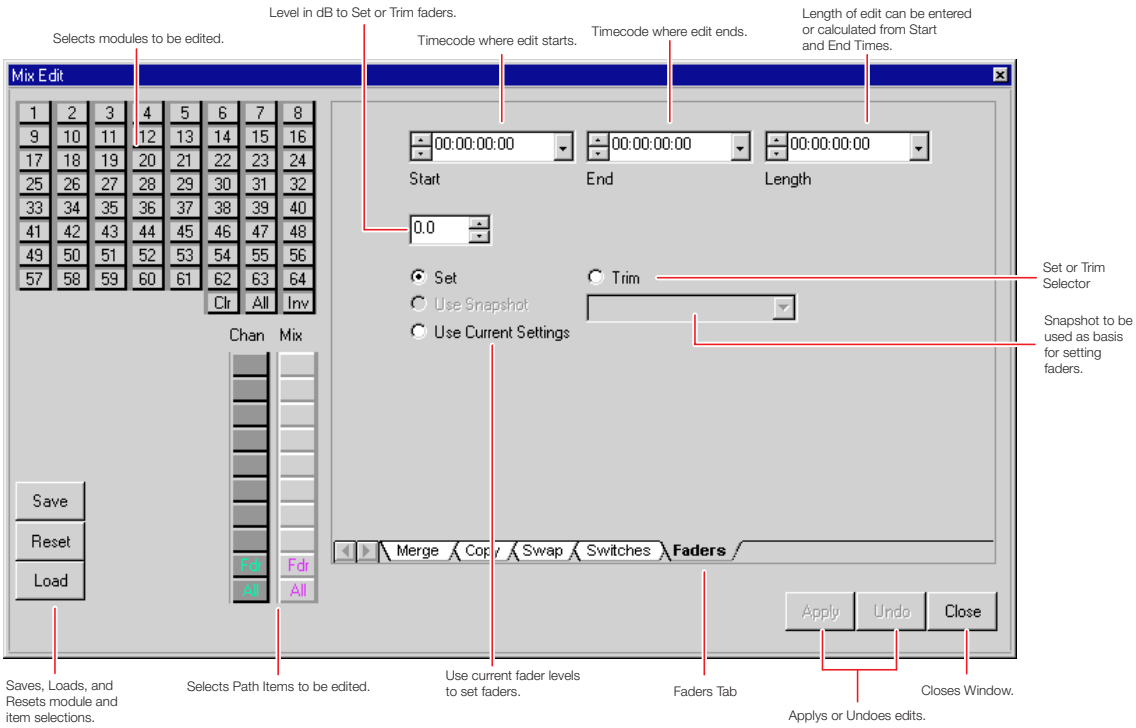
4. **Enter the time code where you want the change to end in the End prompt.**
   Or you can enter the amount of time into the Length prompt and have Eagle calculate the end time for you.

5. The check buttons give a variety of ways to affect the selected switches:
   Set On: Turns all selected switches On.
   Set Off: Turns all selected switches Off
   Use Current Settings: Sets the switches to the states they are currently set to on the console
   Erase Data: Erases dynamic switch data for the selected switches (future enhancement)

6. **Click Apply at the bottom of the window.**
   You can audition the edit any time after you click **Apply**.
   Click **Undo** to cancel the edit or click **Close** to keep the edit and close the window.

5.8.8 How To Use Mix Edit Faders

Use Faders to set or trim faders in the current mix.



1. **Click on the module numbers that you want to adjust faders on.**

2. **Click on the Mix or Chan path faders that you want to adjust.**

3. **Enter the time code where you want the change to start in the Start prompt.**
   You can select the mix start or end, or the current time by clicking on the pull-down menu next to the prompt.

4. **Enter the time code where you want the change to end in the End prompt.**
   Or you can enter the amount of time into the Length prompt and have Eagle calculate the end time for you.

5. **Use the check buttons to select the operation to be performed:**
   Set: Sets faders to the level displayed in the level prompt.
   Trim: Trims (Offsets) the faders by the level displayed in the level prompt.
   Use Current Settings: Sets faders to the levels they are currently set to on the console
   Erase Data: Erases dynamic fader data for the selected faders (future enhancement)

6. **Type the fader level desired or use the nudge buttons to set the fader level.**
   Increments are in tenths of a dB.

7. **Click Apply at the bottom of the window.**
   You can audition the edit any time after you click **Apply**.
   Click **Undo** to cancel the edit or click **Close** to keep the edit and close the window.

5.8.9 How To Store Snapshots As Events

A Snapshot Event is stored each time a Snapshot is recalled while timecode is running. In order to create Snapshot Events you must first store the snapshots that will be recalled.

To Store Snapshots:

1. **Set the console faders and switches as desired for the snapshot.**

2. **Press Recall below the LCD Menu System to display the Snapshot load/save screen.**

3. **Press SNAPSHOT SAVE.**
   The Snapshot Save menu appears.

4. **Press the Up or Down Arrow keys to scroll to the snapshot number desired. Press SAVE to store the snapshot.**
   Repeat this step to save all of the snapshots that you want to automate.

To Create Snapshot Events:

1. **Press Recall below the LCD Menu System to display the Snapshot load/save screen.**

2. **Press SNAPSHOT LOAD.**
   The Snapshot Load menu appears.

3. **Press the Up or Down Arrow keys to scroll to the snapshot number desired. Press LOAD while time code is running to recall the snapshot and enter it into the Event list.**
   Repeat this step to recall all of the snapshots that you want to automate.

4. **Display the Events window by clicking the Events button on the Eagle Toolbar.**
   The snapshot numbers are displayed next to their associated timecode. These events can now be labeled, moved and copied like any other event.

5.8.10 Using Events

An Event is an instant in time that has some significance during a mix. In Eagle automation, an event can be any of the following:

■ **Cue Point**
An event used to mark an important place in the mix. Cue Points are displayed as colored bars on the Time Line.
To create a Cue Point, tap the Space Bar while time code is running or while dragging the Current Time Pointer.
To edit the Cue Point's label and bar color, double-click on the bar in the Time Line window.

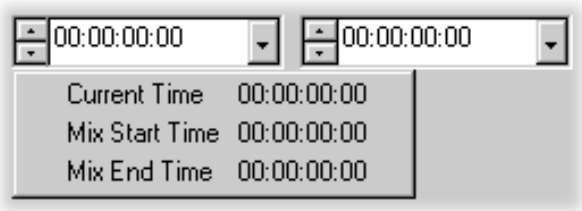
■ **Switch Event**
An event that causes a switch to change state. Eagle Automation adds switch events to the Events List when switches are written to data during mixing. Switch Events can also be added using the Switches tab in the Mix Edit Window.
When a number of switch changes happen during a single event, a summary of the switch event is displayed in the Events window. Double-clicking on the expand box in the Actions column expands the switch events so that they can be individually highlighted and edited if desired.

■ **Snapshot Event**
An event that recalls a snapshot. A Snapshot Event is added to the Events List whenever a Snapshot is recalled while timecode is running.

5.8.11 Editing Time Code Prompts

Time Code prompts have a number of features that simplify entering and copying time code numbers:

■ **Events Pull Down menu**

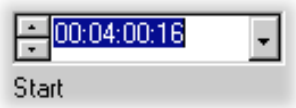


Clicking on the Pull Down button at the right of the prompt displays a list of timecode events. Left Drag the mouse to highlight the desired event, then release the mouse button to select.

■ **Time Code Field Selection**

The four time code fields (Hours, Minutes, Seconds, Frames) can be individually adjusted. Clicking once on a field highlights the number which can then be adjusted by typing a number, dragging the mouse up or down, or clicking the up and down nudge buttons to the left of the prompt.

■ **Time Code Number Selection**



The number in the prompt can be entered or copied to another prompt. Clicking twice on any field highlights the complete number which can then be entered from the keyboard. The highlighted time code can also be copied to another time code prompt by placing the cursor on the number and dragging it to the desired prompt.

Clicking the nudge buttons while the whole time code number is highlighted increments or decrements the hours field.

5.9 Manual Fader Automation Modes

5.9.1 Introduction

This section describes automation modes that are normally selected on paths using Manual Faders. Individual Manual Faders may be set to any mode desired. Users of consoles equipped with optional Moving Faders should also refer to the next section on Moving Fader Automation modes. Moving Fader modes can be utilized on Manual Fader paths by employing Fader Flip. See Moving Fader modes for information on how to use Fader Flip with Moving Fader modes.

Some terms in Eagle are associated but have different meanings. The following describes how they are used when referring to Eagle Automation:

- **Read** is a fader mode. When a fader is in Read, it reproduces fader levels and mutes that have been written to automation by the Write, Update and Mute Write modes.
- **Safe** is a record mode shown on the Video Display. When Eagle is in SAFE mode, levels and mutes cannot be written to data, regardless of the modes that the faders are in.
- **Write** is a fader mode. When a fader is in Write, it overwrites fader levels that have been written to automation by the Write and Update modes.
- **Record** is a record mode shown on the Video Display. When Eagle is in Record mode, levels and mutes can be written to data. If all paths are in Read, nothing will be written to data during Record.

5.9.2 Isolate Mode (Manual Faders)

Isolate mode causes any automated fader to emulate an unautomated physical fader. When in Isolate, the path's level always follows the fader position, it will not read or write automation data or respond to a Group or Grand Master.
While in Isolate, a path ignores any mode changes from the Master Section or **Auto** button, except to exit Isolate.

- **To execute Isolate from any mode:** Hold **Write** and press **Update**.
- **Mode Indication: Write** LED = Flash, **Update** LED = Flash
- **To exit Isolate mode:** Hold **Write** and press **Update**.

NOTE: Isolate cannot be executed from the **Auto** buttons.

5.9.3 Auto Glide (Manual Faders)

In order for a fader to leave Write or Update mode without abrupt level changes, the fader's position should match the fader's level previously written in data. During the Leave transition modes presented later, an engineer moves the fader until those levels match, at which time the fader automatically drops to Read mode. The Auto Glide feature eliminates the need to physically match levels during a transition mode by automatically fading the write level up or down until it matches the fader's data level. The rate at which Auto Glide returns to the data level can be adjusted by changing the Glide Rate parameter in the Automation Options Menu (**Shift–Automation**) of the LCD Menu System. The selected rate affects all faders.
Auto Glide can be disabled globally without changing the Glide Rate parameter described earlier by toggling the GLIDE button in the OPTS Menu. When disabled, faders must be manually moved to their match points during Leave Write and Leave Update modes. Enabling or disabling Auto Glide affects all faders.

5.9.4 Read (Manual Faders)

While in Read mode, fader levels are reproduced according to the data received from the Automation PC. A path's fader level cannot be written to data while the path is in Read mode.
To execute Read mode, select the module and press the Master Section **Write** or **Update** button (whichever is lit) or the module's **Auto** button until the path's **W** (Write) and **U** (Update) LEDs are Off. To put all paths into Read mode, press ALLRD in the Automation Menu of the LCD Menu System. When ALLRD is pressed, Safe is automatically enabled on the Automation PC.

- **Mode Indication: Write** LED = Off, **Update** LED = Off

5.9.5 Write (Manual Faders)

While in Write mode, the fader's level is written to the PC Server, replacing the level previously written for that fader.
To execute Write mode from Read, select a module and press a Master Section **Write** button. To put all paths into Write, press **All** in the Master Section, then press the Master Section **Write** buttons.
If the **Auto** button style is set to Write, pressing **Auto** from Read will put the assigned path into Enter Write. Move the fader in the direction shown by the path's LED Status display to match levels and drop into Write.
When Write is executed on any path, Record is automatically enabled unless Safe Lock is On.

- **Mode Indication: Write** LED = On, **Update** LED = Off
- **To go to Read mode:** Press **Write** until the **Write** LED is Off.
- **To go to Update mode:** Press **Update**.

■ **Using Write**
Write mode is used to write initial fader levels or overwrite those already written. When in Write, the actual level of the fader is written to data.
Enter Write and Leave Write are transition modes that allow you to enter and leave the Write mode seamlessly. Enter Write and Leave Write are described later in this section.
You can go to Update mode from Write without matching the fader to the level in data. When the transition to Update is made, the fader level is offset to match the previous Write level. From Update, press **Update** to go to Leave Update.

5.9.6 Enter Write (Manual Faders)

Enter Write is a transition mode that requires a fader's position to be matched to its level in data before entering Write mode, allowing seamless entry into Write.
While in Enter Write, the path's module Status LEDs sequence to indicate the direction that the fader must be moved to match fader position and data levels. When the match point is reached, the fader automatically drops into Write mode.

- **To execute Enter Write from Read:** Hold **Update** and press **Write**. Pressing **Auto** from Read puts a path into Enter Write.
- **Mode Indication: W** LED = Flash, **U** LED = Flash, **Write** LED = Flash, **Update** LED = Off
- **To go directly to Write without Matching Levels:** Press **Write**.

5.9.7 Leave Write (Manual Faders)

Leave Write is a transition mode that provides a means of matching a fader's knob position to its level in data then seamlessly exiting Write mode.
While in Leave Write, the path's module Status LEDs sequence to indicate the direction that the fader must be moved to match levels. When the match point is reached, the fader automatically drops into Read mode.
If Auto Glide is On, entering Leave Write will cause the faders write level to start fading toward its level in data. When the two levels match, the fader automatically drops into Read mode.

- **To execute Leave Write from Write or Offset Write:** Press **Write**.
  Pressing **Auto** while the path is in Write will put the path in Leave Write, regardless of what **Auto** button style is in use.
- **Mode Indication: Write** LED = Flash, **Update** LED = Off
- **To go directly to Read from Leave Write:** Press **Write**.

5.9.8 Update (Manual Faders)

While in Update mode, the fader levels previously written in data are played back, being raised or lowered (offset) by the amount that the fader is above or below the fader's zero offset (null) point. During Update, all previously written fader moves are retained, but the relative level of those moves is changed.
Update is auto-nulling, meaning that the fader's position at the time the path enters Update becomes the path's zero offset (null) point.
To execute Update mode from Read, select a module and press a Master Section **Update** button. To put all paths into Update, press **All** in the Master Section, then press the Master Section **Update** buttons.
If the **Auto** button style is set to Update, pressing **Auto** from Read will put the assigned path into Update.
When any path is put into Update, Record is automatically enabled on the Automation PC.

- **Mode Indication: Write** LED = Off, **Update** LED = On
- **To go to Leave Update mode:** Press **Update**.
- **To go to Offset Write mode:** Press **Write**.

■ Using Update
Update mode is used to raise or lower existing moves by a relative amount. For example, suppose that you wrote the fader levels for a vocal track that included a number of rides to compensate for problems in the performance. If later you found that the whole vocal track needed to be raised in the mix, you could write all of the vocal moves over again or you could just update the existing track by a few dB.
While in Read mode, select a module and press a Master Section **Update** button. If you don't touch the fader, nothing will change. If you raise or lower the fader, the moves that are playing back will be raised or lowered by the amount that you move the fader.
It is sometimes useful to set the fader at 0 when entering Update mode. The fader dB scale then shows the amount that the track is raised or lowered from its original levels.
To match levels and exit the Update mode, use the Leave Write mode described later.
When going into Write mode from Update mode, Eagle offsets the fader level automatically to prevent level changes at the transition point. You can then use Leave Write to return to Read mode.

5.9.9 Leave Update (Manual Faders)

Leave Update is a transition mode that provides a means of zeroing the offset being applied to during Update then seamlessly leaving Update mode.
While in Leave Update, the path's module Status LEDs sequence to indicate the direction that the fader must be moved to match levels. When the match point is reached, the fader automatically drops into Read mode.
If Auto Glide is On, entering Leave Update will cause the offset to start fading toward zero. When the offset is zero, the fader automatically drops into Read mode.

- **To execute Leave Update from Update:** Press **Update**. Pressing **Auto** while a path is in Update will put the path into Leave Update, regardless of the **Auto** button style.
- **Mode Indication: Write** LED = Off, **Update** LED = Flash
- **To go Directly to Read from Leave Update:** Press **Update**.

5.9.10 Offset Write (Manual Faders)

Offset Write is a Write mode that allows seamless entry and exit between Update and Write modes without having to match fader and data levels. When Offset Write is entered from Update mode, the level being written matches the data level in effect at the time of entry. This means that the level being written may be offset from the actual position of the fader. When Update is returned to from Offset Write, the Write and Update levels are matched for a seamless exit.

■ Write and Offset Write
Write and Offset Write are different modes. Write can only be entered from Read mode. When in Write, the actual fader level is written to data.
Offset Write can only be entered from Update mode. When in Offset Write, the level being written to data may be different from the physical fader level.

- **To execute Offset Write from Read:** Press the path's **Update** button then press the path's **Write** button.
- **To execute Offset Write from Update:** Press the path's **Write** button.
- **Mode Indication: Write** LED = On, **Update** LED = On
- **To go to Leave Write mode:** Press **Write**.
- **To go to Update mode:** Press **Update**.

■ Using Offset Write
Often it is not convenient to match fader and data levels when changing between Update and Write modes. By entering Offset Write instead, a seamless transition is made to a Write mode. After the section is written, pressing **Update** returns the path to update with its levels matched. From here you can press **Update** to go to Leave Update and return to Read mode.
You can leave Offset Write directly by pressing **Write**. The path will go to Leave Write from which you can return to Read.

5.10 Moving Fader Automation Modes

5.10.1 Introduction

This section describes automation modes that are normally selected on paths using optional Moving Faders. Individual Moving Faders may be set to any mode desired. For a complete understanding of available fader modes refer to the previous section for information on Manual Fader Automation modes. Moving Fader modes can be utilized on Manual Fader paths by employing Fader Flip. This technique is discussed in later in this section.

Some terms in Eagle are associated but have different meanings. The following describes how they are used when referring to Eagle Automation:

- **Read** is a fader mode. When a fader is in Read, it reproduces fader levels and mutes that have been written to automation by the Write, Update and Mute Write modes.
- **Safe** is a record mode shown on the Video Display. When Eagle is in Safe mode, levels and mutes cannot be written to data, regardless of the modes that the faders are in.
- **Write** is a fader mode. When a fader is in Write, it overwrites fader levels that have been written to automation by the Write and Update modes.
- **Record** is a record mode shown on the Video Display. When Eagle is in Record mode, levels and mutes can be written to data. If all paths are in Read, nothing will be written to data during Record.

5.10.2 Isolate Mode

Isolate mode causes any automated fader to emulate an unautomated manual fader. When in Isolate, the path's level always follows the fader position, it will not read or write automation data or respond to a Group or Grand Master.
While in Isolate, a path ignores any mode changes from the Master Section or **Auto** button, except to exit Isolate.

- **To execute Isolate from any mode:** Hold **Write** and press **Update**.
- **Mode Indication: Write** LED = Flash, **Update** LED = Flash
- **To Exit Isolate mode:** Hold **Write** and press **Update**.

NOTE: Isolate cannot be executed from the **Auto** buttons.

5.10.3 Auto Glide

In order for a fader to leave Write or Update mode without abrupt level changes, the fader's position should match the fader's level previously written in data. During the Leave transition modes presented later, an engineer moves the fader until those levels match, at which time the fader automatically drops to Read mode. The Auto Glide feature eliminates the need to physically match levels during a transition mode by automatically fading the write level up or down until it matches the fader's data level. Moving Faders will automatically return to their Read levels during a Leave transition mode if they are not being touched.
The rate at which Auto Glide returns to the data level can be adjusted by changing the Glide Rate parameter in the Automation Options Menu (**Shift**–**Automation**) of the LCD Menu System. The selected rate affects all faders.
Auto Glide can be disabled globally without changing the Glide Rate parameter described earlier by toggling GLIDE in the OPTS Menu. When disabled, faders must be manually moved to their match points during Leave Write and Leave Update modes. Enabling or disabling Auto Glide affects all faders.

5.10.4 Read

While in Read mode, fader levels are reproduced according to the data received from the Automation PC. A path's fader level cannot be written to data while the path is in Read mode.
To execute Read mode, select the module and press the Master Section **Write** or **Update** button (whichever is lit) or the module's **Auto** button until the path's **W** (Write) and **U** (Update) LEDs are Off. To put all paths into Read mode, press ALLRD in the Automation Menu of the LCD Menu System. When ALLRD is pressed, Safe is automatically enabled on the Automation PC.

- **Mode Indication: Write** LED = Off, **Update** LED = Off

5.10.5 Write

While in Write mode, the fader's level is written to the PC Server, replacing the level previously written for that fader.
To execute Write mode from Read, select a module and press a Master Section **Write** button. To put all paths into Write, press **All** in the Master Section, then press the Master Section **Write** buttons.
If the **Auto** button style is set to Write, pressing **Auto** from Read will put the assigned path into Enter Write. Move the fader in the direction shown by the path's LED Status display to match levels and drop into Write.
When Write is executed on any path, Record is automatically enabled unless Safe Lock is On.

- **Mode Indication: Write** LED = On, **Update** LED = Off
- **To go to Read mode:** Press **Write** until the **Write** LED is Off.
- **To go to Update mode:** Press **Update**.

■ **Using Write**
Write mode is used to write initial fader levels or overwrite those already written. When in Write, the actual level of the fader is written to data.
Enter Write and Leave Write are transition modes that allow you to enter and leave the Write mode seamlessly. Enter Write and Leave Write are described later in this section.
You can go to Update mode from Write without matching the fader to the level in data. When the transition to Update is made, the fader level is offset to match the previous Write level. From Update, press **Update** to go to Leave Update.

5.10.6 Leave Write

Leave Write is a transition mode that provides a means of matching a fader's knob position to its level in data then seamlessly exiting Write mode.
While in Leave Write, the path's module Status LEDs sequence to indicate the direction that the fader must be moved to match levels. When the match point is reached, the fader automatically drops into Read mode.
If Auto Glide is On, entering Leave Write will cause the faders write level to start fading toward its level in data. When the two levels match, the fader automatically drops into Read mode.

- **To execute Leave Write from Write or Offset Write:** Press **Write**. Pressing **Auto** while the path is in Write will put the path in Leave Write, regardless of what Auto button style is in use.
- **Mode Indication: Write** LED = Flash, **Update** LED = Off
- **To Go Directly to Read from Leave Write:** Press **Write**.

5.10.7 Update

While in Update mode, the fader levels previously written in data are played back, being raised or lowered (offset) by the amount that the fader is above or below the fader's zero offset (null) point. During Update, all previously written fader moves are retained, but the relative level of those moves is changed.
Update is auto-nulling, meaning that the fader's position at the time the path enters Update becomes the path's zero offset (null) point.
To execute Update mode from Read, select a module and press a Master Section **Update** button. To put all paths into Update, press ALL in the Master Section, then press the Master Section **Update** buttons.
If the **Auto** button style is set to Update, pressing **Auto** from Read will put the assigned path into Update.
When any path is put into Update, Record is automatically enabled on the Automation PC.

- **Mode Indication: Write** LED = Off, **Update** LED = On
- **To go to Leave Update mode:** Press **UPDATE**.
- **To go to Offset Write mode:** Press **WRITE**.

■ **Using Update**
Update mode is used to raise or lower existing moves by a relative amount. For example, suppose that you wrote the fader levels for a vocal track that included a number of rides to compensate for problems in the performance. If later you found that the whole vocal track needed to be raised in the mix, you could write all of the vocal moves over again or you could just update the existing track by a few dB.
While in Read mode, select a module and press a Master Section **Update** button. If you don't touch the fader, nothing will change. If you raise or lower the fader, the moves that are playing back will be raised or lowered by the amount that you move the fader.
It is sometimes useful to set the fader at "0" when entering Update mode. The fader dB scale then shows the amount that the track is raised or lowered from it's original levels. To match levels and exit the Update mode, use the Leave Write mode described later.
When going into Write mode from Update mode, Eagle offsets the fader level automatically to prevent level changes at the transition point. You can then use Leave Write to return to Read mode.

5.10.8 Leave Update

Leave Update is a transition mode that provides a means of zeroing the offset being applied to during Update then seamlessly leaving Update mode.
While in Leave Update, the path's module Status LEDs sequence to indicate the direction that the fader must be moved to match levels. When the match point is reached, the fader automatically drops into Read mode.
If Auto Glide is On, entering Leave Update will cause the offset to start fading toward zero. When the offset is zero, the fader automatically drops into Read mode.

- **To execute Leave Update from Update:** Press **Update**. Pressing **Auto** while a path is in Update will put the path into Leave Update, regardless of the Auto button style.
- **Mode Indication: Write** LED = Off, **Update** LED = Flash
- **To Go Directly to Read from Leave Update:** Press **Update**.

5.10.9 Touch Modes and Fader Flip

The two Moving Fader "Touch" modes, Touch Write and Touch Update, employ the moving fader's Touch Sensor to trigger the path into Write mode. Consequently, these modes will only operate with the lower MIX path fader of a STATUS console equipped with optional moving faders. Fortunately, the Fader Flip function allows the upper CHAN path VCA to be controlled using the moving fader in the MIX path of the same module.

You may utilize Moving Fader Touch Modes on the CHAN path with this procedure:

1. **Select the module(s) you wish to set CHAN path "Touch" modes.**

2. **Press Fader Flip on the Digital Master panel.**

3. **You may now select the desired CHAN path automation mode using the MIX path Write and Update buttons on the Digital Master as indicated in the Touch Write or Touch Update sections.**
   Alternately, set the –BUTN– in the OPTS menu to LOWER fader, and select the desired Touch mode Auto button style.

To return to using the Moving Faders on the MIX path VCA, select the module(s) and press **Fader Flip** again to turn it off on the desired modules.

NOTE: CHAN paths set in "Touch" Modes cannot be controlled using the CHAN (upper) faders, due to the lack of touch sensing. You must use Fader Flip to control the CHAN VCA using the MIX moving fader.

5.10.10 Touch Write

Touch Write causes the fader to remain in Read mode until it is touched, at which time it switches to Write. When the fader knob is released, the fader remains in Write until it is explicitly taken out of Write or the pass ends. If the fader remains in Write at the end of the pass, it automatically returns to Touch Write mode in preparation for another pass.

NOTE: While in Touch Write, a fader will not go into Write unless Time Code is running. This minimizes accidental triggering of faders.

- **To execute Touch Update:** Press and hold **Update**, then press **Write**.
- **Mode Indication: Write** LED = On (blinks when touched), **Update** LED = On
- **To go to Leave Write after touching fader:** Press **Write**.
- **To go to directly to Read mode:** Press **Write** twice.

Pressing **Auto** while a path is in Touch Write will put the path into Leave Write, regardless of the **Auto** button style.

■ Applications of Touch Write
Touch Write is commonly used as the main fader mode on Moving Fader equipped consoles. By placing all paths in Touch Write mode, you can quickly build a mix pass by pass, writing only the faders you touch during each pass. This permits you to concentrate on making the correct fader moves without worrying about which mode to use.

5.10.11 Touch Update

Touch Update (sometimes known as Read/Write) causes the fader to remain in Read mode until it is touched, at which time it switches to Write. When the fader knob is released, it returns to the read level at a rate determined by the Auto Glide settings. If Auto Glide is off, the fader returns at the fastest rate possible.

- **To execute Touch Update:** Press and hold **Update**, then press **Write** twice.
- **Mode Indication: Write** LED = Off (blinks when touched), Update LED = On
- **To go to Write mode:** Press **Write**.
- **To go to Read mode:** Press **Update**.

Pressing **Auto** while a path is in Touch Update will put the path into Read, regardless of the **Auto** button style.

■ Applications of Touch Update

Touch Update is commonly used after a original mix has been written. This mode allows you to watch the existing fader moves during play back, and quickly correct sections of the mix without affecting future moves.

Section 6 Alignment and Maintenance

6.1 Removing Modules from the Console

IMPORTANT: Turn off console power before removing or installing modules. Input modules are fastened to the console by two screws - one below the Mix path fader, and the other below the Mic XLR connector on the rear of the module. The module plugs into a motherboard via two edge connectors.

To remove a module, remove both screws that fasten the module to the console. The first module can be removed by inserting a 1/4" plug into any jack on the rear panel and using it as a handle to pull up on the module rear. Insert a small flat blade screwdriver under the front edge of the module to lift it free of the console.

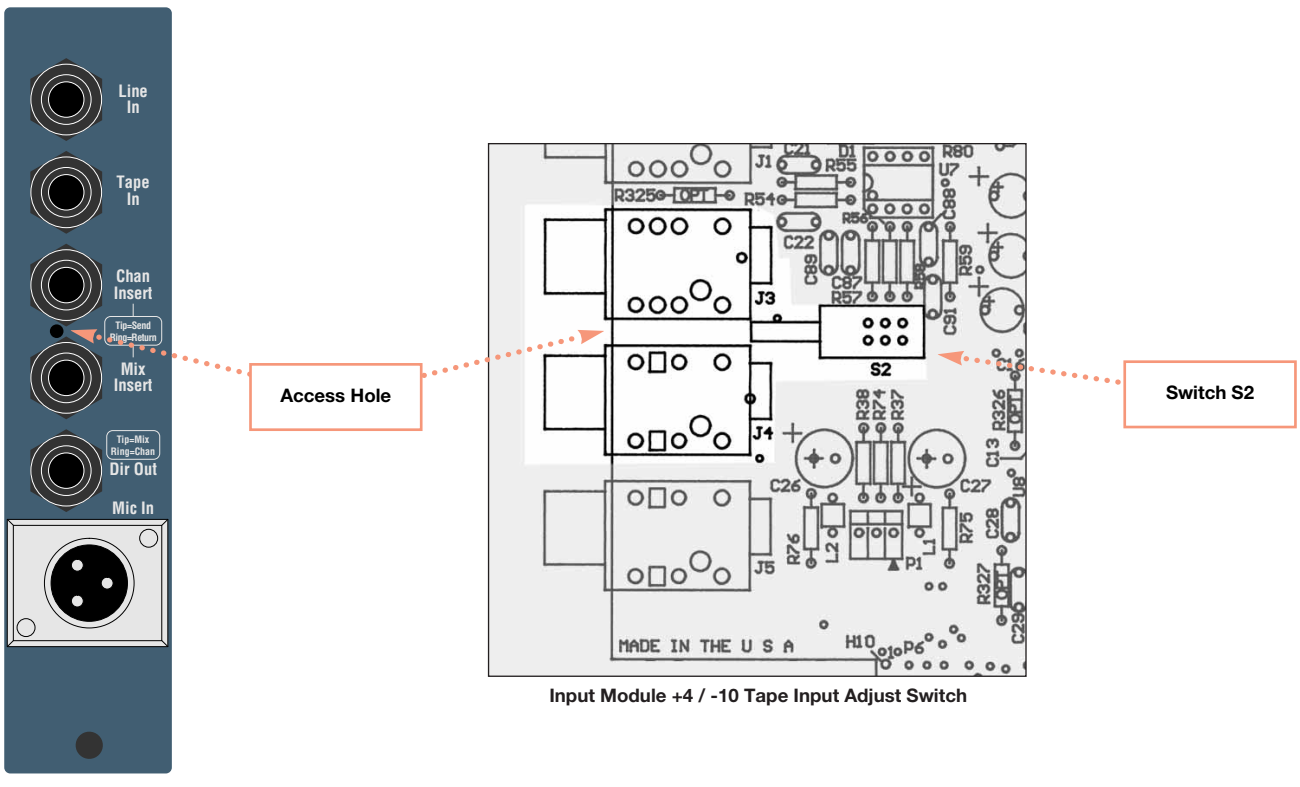
NOTE: If the console is to be operated with modules removed, be sure to set all missing module types to “NONE” as described in **§6.9**.

6.2 Setting Tape Input Sensitivity

The Tape Input on each STATUS Input module can be set to operate with nominal +4 or -10 dBu inputs. As shipped, the modules are set for +4 dBu operation. The level set only affects the Tape Input, module outputs are unaffected.

The Tape Input level is set by changing switch S2 on each Input module. When the switch is not depressed (Out), the Tape Input is set for +4 dBu operation. When the switch is depressed (In), the Tape Input is set for -10 dBu operation.

If desired, the adjustment switch can be changed through an access hole on the rear panel of each input module. If doing so, use a thin plastic or wooden rod, or turn off the console to avoid inadvertent shorting of internal components.



Input Module Rear Panel

Input Module +4 / -10 Tape Input Adjust Switch

6.3 Calibrating the Input Modules

6.3.1 Introduction

CompuCal™ Computerized Calibration: Calibration of the console's Input modules is completely computer controlled. There are no trim pots to adjust. Calibration is accomplished by running the console's calibration program and patching the console's oscillator into module inputs at specified times.

6.3.2 Required Equipment

- A calibrated dBu meter.
- An external Sine Wave Oscillator or the console's internal Sine Wave Oscillator. Turn on the oscillator and allow it to stabilize 1/2 hour before calibration.
- A cable to interface the oscillator output to each module's Tape Input via the patch bay or 1/4" Stereo Phone Plug
- A cable to interface the oscillator output to each module's CHAN path Insert Return via the patchbay or 1/4" Stereo Phone Plug (wired to Ring only).

NOTE: Oscillator pinouts are described in **Section 2**, **Installation**.

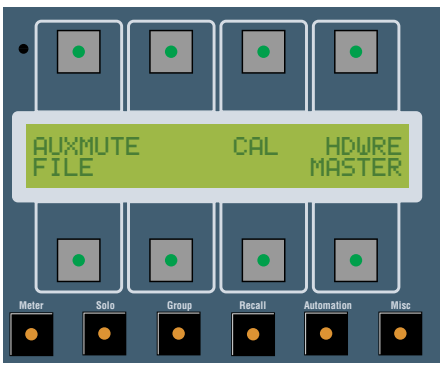
6.3.3 Calibrating Input Modules

Overview: Module calibration has 4 basic steps:

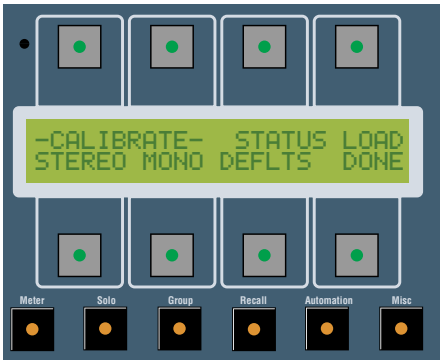
1. Aux 7/8 Pot Setup
2. Meter Calibration
3. Reference Level Acquisition
4. VCA Calibration

Each step must be completed for all modules before continuing on to the next step. If at any time, a module fails to complete a step,it can be excluded from further calibration by pressing the module's **Select** button When a module is excluded, default calibration settings are used until the problem can be diagnosed and remedied, and the module recalibrated.

During calibration, the LCD display shows progress reports and help messages. The module Status LEDs display progress on a module basis.



MISC LCD Menu



CAL LCD Menu

■ Calibration Procedure

IMPORTANT: Calibration data is stored in the console's non-volatile RAM. Initiating the calibration procedure overwrites existing calibration data with new calibration data. **Do not initiate calibration unless you intend to complete the calibration process.**

NOTE: Modules must be set for +4 dBu operation during calibration. If your console is set for -10 dBu operation, return the console to +4 dBu operation as described in **§6.2**. Upon completing calibration, return the modules to -10 dBu operation.

Follow this procedure to calibrate Input Modules:

1. **Press Misc to display the Misc menu. Hold Shift and press CAL.** A warning message is displayed. **Press PROCEED to continue or EXIT to abort calibration.**

2. At this point you have the option to load previously saved calibration data (**LOAD**), set all modules to standard factory calibration data (**DEFAULT**), or initiate the calibration procedure (**CALIBRATE STEREO** or **MONO**).
   Press CALIBRATE STEREO or MONO to initiate the calibration procedure. You may now press the **Select** button of individual modules that you want to calibrate or press **ALL** to calibrate all modules.

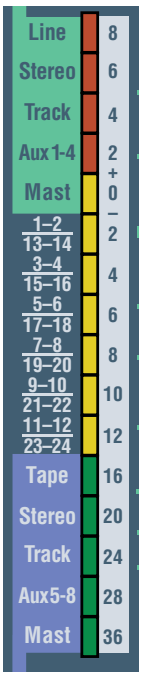
3. The first part of the calibration requires that the Aux 7 and 8 pots be set a specific way to facilitate calibration. Set all module Aux 7 and 8 pots as follows:

• Set all *Odd* numbered module *Aux 7* pots all the way to the *right* (full on).
• Set all *Even* numbered module *Aux 7* pots all the way to the *left* (full off).
• Set all *Odd* numbered module *Aux 8* pots all the way to the *left* (full off).
• Set all *Even* numbered module *Aux 8* pots all the way to the *right* (full on).
The LCD Menu displays setting instructions as well as how many modules remain to be set. The **Select** button will be lit on modules that are incorrectly set. If Aux 7 is not correctly set, the red (upper) Level and Status display LEDs will be lit. If Aux 8 is not correctly set, the green (lower) Level and Status display LEDs will be lit.

4. When all modules have been properly set, the console automatically proceeds to meter calibration. This part requires no human intervention and may take a few minutes to complete.
The LCD display shows how many modules remain to be calibrated. All Status Display LEDs will be lit on modules that successfully complete this part, the module **Select** button will be lit on modules that fail meter calibration.

5. Upon completion of meter calibration, the console is ready to acquire reference levels. This part requires that -19.5 and +4 dBu 1 kHz reference tones be patched into each module's Tape input during two separate steps.
NOTE: It is important that the oscillator output is "loaded" by an Input module when setting the oscillator level. This is done by feeding the calibrated meter and the Input module simultaneously when setting the oscillator level. On consoles with patchbays, this can be done by patching the oscillator output to the patchbay's Mult, then patching the Mult outputs to the calibrated meter and an Input module.

IMPORTANT: When using the console's internal oscillator for calibration, the oscillator's **Bus** button must be off or calibration will fail. If using an external oscillator, make sure that the console's oscillator is turned off during calibration. Set the oscillator output for 1 kHz at -19.5 dBu. When set, press any LCD selection key to start the -19.5 acquire process. Patch the tone into each input module's Tape In jack until the module's Status Display LEDs light. When this happens, proceed to the next module until all modules have "acquired" the -19.5 dBu signal.



Module Level and Status Display

6. **Set the oscillator output for 1 kHz at +4 dBu. When set, press any LCD selection key to start the +4 acquire process.** When the module's Level and Status Display LEDs light, proceed to the next module until all modules have "acquired" the +4 dBu signal.

7. The VCA calibration step has two parts. During the first part, a +4 dBu reference tone is patched into each module's Tape input. During the second part a +.5 dBu reference tone is patched into each module's CHAN path Insert Return.
The oscillator should already be set for +4 dBu from the previous step. When set, press any LCD selection key to start the MIX VCA calibration process. Patch the tone into each input module's Tape In jack until the module's Status Display LEDs light. When this happens, proceed to the next module until all modules have been calibrated to the +4 dBu signal.

8. **Patch the tone into the CHAN path Insert Return of any module. Set the oscillator output for 1 kHz at +.5 dBu. When set, press any LCD selection key to start the CHAN VCA calibration process. Patch the tone into each input module's CHAN path Insert Return. When the module's Status Display LEDs light, proceed to the next module until all modules have been calibrated to the +.5 dBu signal.**

9. This concludes the calibration procedure. When all of the calibration steps have been completed, you are returned to the Calibration menu. **Press DONE to exit the menu.**
At this point, you have the option of saving the newly created calibration data to the console's floppy disk. **Press SAVE to save the data to disk or EXIT to put the new calibration settings into effect and exit the calibration program without saving.**

If you changed the console to +4 dBu operation for calibration, you can return to -10 dBu operation as described in **§6.2**.

6.4 Setting Bus Output Levels

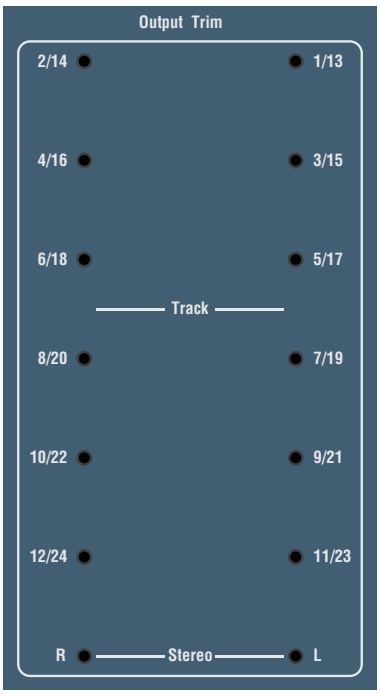
The bus output level trim pots are located on the rear panel of the Digital Master Module. Trims are available for Track buses 1–12 and Stereo Left and Right buses.

The following procedure assumes that your Input Module Tape input sensitivity is set to +4 dBu (see **§6.2**). If not, substitute a -10 dBu signal for all +4 dBu references.

6.4.1 Calibrating Track Bus Outputs

To calibrate the Track bus out levels:

1. **Patch a +4 dBu 1 kHz sine wave into an Input module Tape input.**
2. **Assign the Mix path of the module to all 12 Track buses. Set the console meters to display Group levels.**
3. **Pan the Mix path Pan Pot all the way Left. Raise the Mix path fader until the "0" LED lights on all odd numbered meters.** When this happens, the fader should be at the "0" mark on the fader panel.
4. **Patch a calibrated meter to the console's Track outputs, set each odd numbered Track bus output trim until the meter reads +4 dBu.**
5. **Pan the Mix path Pan Pot all the way Right. Adjust the Mix path fader until the "0" LED lights on all even numbered meters.** When this happens, the fader should be at the "0" mark on the fader panel.
6. **Set each even numbered Track bus output trim until the meter reads +4 dBu.**



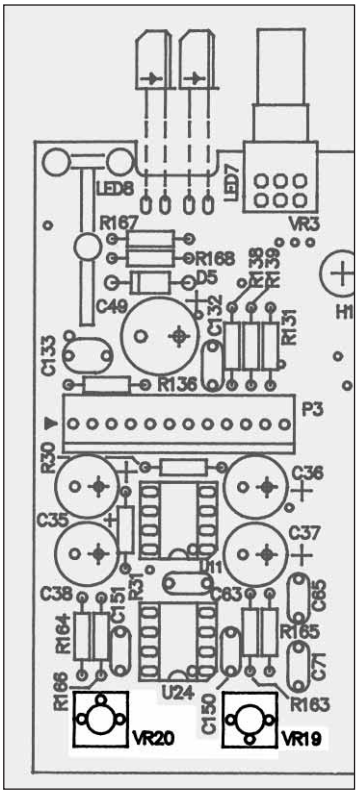
Digital Master Rear Panel

6.4.2 Calibrating Stereo Bus Outputs

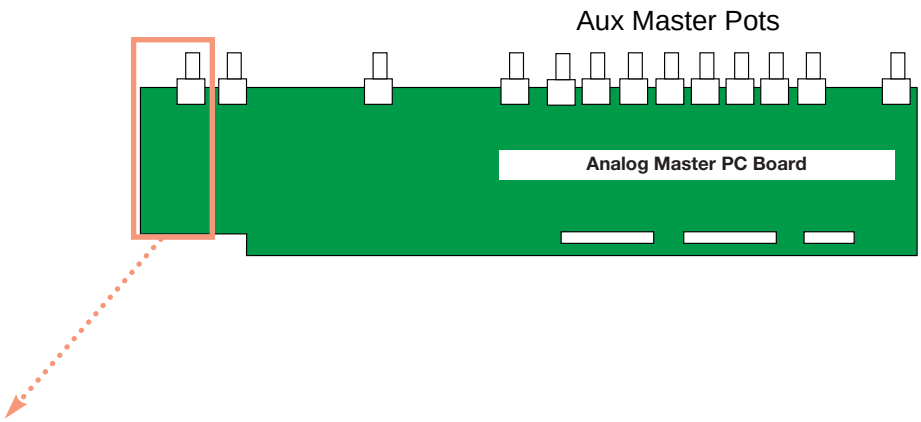
Calibrating the Stereo bus outputs requires adjusting trim pots on the rear panel of the Digital Master module and the Analog Master PC board (Assy No. 181582 or PB-1GXA). To access the Analog Master, remove the Auxiliary panel adjacent to the Digital Master module.

To calibrate the Stereo bus out levels:

1. **Patch a +4 dBu 1 kHz sine wave into an Input module Tape input. Assign the Mix path of the module to the Stereo Mix bus.**
2. **Pan the Mix path Pan Pot all the way Left. Set the Mix path fader to the "0" mark on the panel.**
3. **Patch a calibrated meter to the console's Left Stereo Insert Send. Set the Left Stereo bus output trim on the rear panel of the Digital Master module until the meter reads +4 dBu.**
4. **Pan the Mix path Pan Pot all the way Right. Set the Mix path fader to the "0" mark on the panel.**
5. **Patch a calibrated meter to the console's Right Stereo Insert Send. Set the Right Stereo bus output trim on the rear panel of the Digital Master module until the meter reads +4 dBu.**
6. **Patch the +4 dBu tone into the Left Stereo Insert Return. Set the Stereo Master fader to "0" (full up).**
7. **Patch the calibrated meter to the console's Left Stereo bus output. Set the VR19 on the Analog Master board until the meter reads +4 dBu.**
8. **Patch the +4 dBu tone into the Right Stereo Insert Return. Set the Stereo Master fader to "0" (full up).**



Stereo Bus VR19 and VR20



9. **Patch the calibrated meter to the console's Right Stereo bus output. Set the VR20 on the Analog Master board until the meter reads +4 dBu.**

6.4.3 Calibrating Stereo Mechanical Meters

The calibration trim pot for the stereo mechanical meters is accessed by removing the two plastic "plugs" on the rear of the meter bridge. The trim pot for each meter is located on a PC board inside the top of the access hole. Adjust the trim pot so the meter reads "0" VU when the Stereo Bus output is +4 dBu. There is no adjustment for the Stereo LED meters.

6.5 Assigning Talkback to Aux Sends

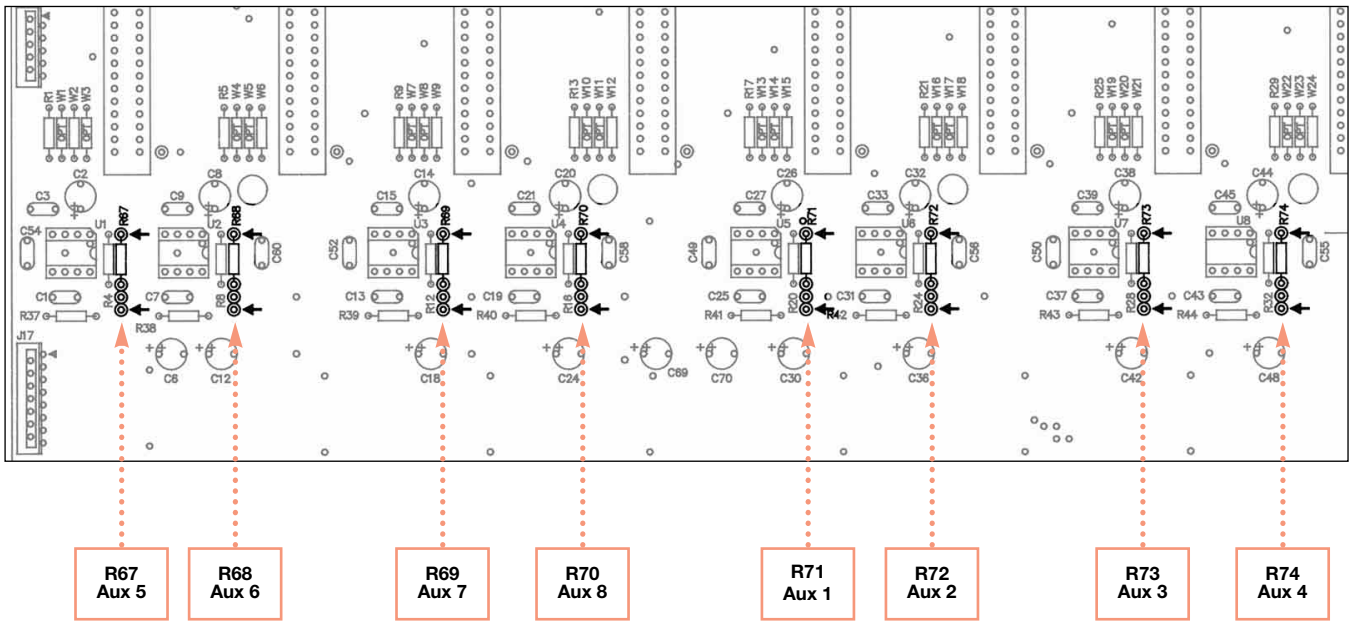
When **TB/Slate** or **Comm** is pressed on the Digital Master Module, the Talkback Microphone is summed into all Aux sends. If desired, the Talkback Mic can be removed from Aux Sends by removing resistors on the motherboard that modules 17–24 plug into (Assy No. 181506 or PB-8BSA).

The following resistors sum the Talkback Mic into each Aux send:

Aux 1 - R71	Aux 5 - R67
Aux 2 - R72	Aux 6 - R68
Aux 3 - R73	Aux 7 - R69
Aux 4 - R74	Aux 8 - R70

If a resistor is installed, the Talkback Mic will sum to the associated Aux Bus when **TB/Slate** or **Comm** is pressed.

Turn off the console and remove modules 17–24. The diagram below shows the location of the Aux/TB resistors on the motherboard. All Aux/TB resistors are 10 kΩ,1/4 Watt, 5% tolerance, bent on .6 inch centers.



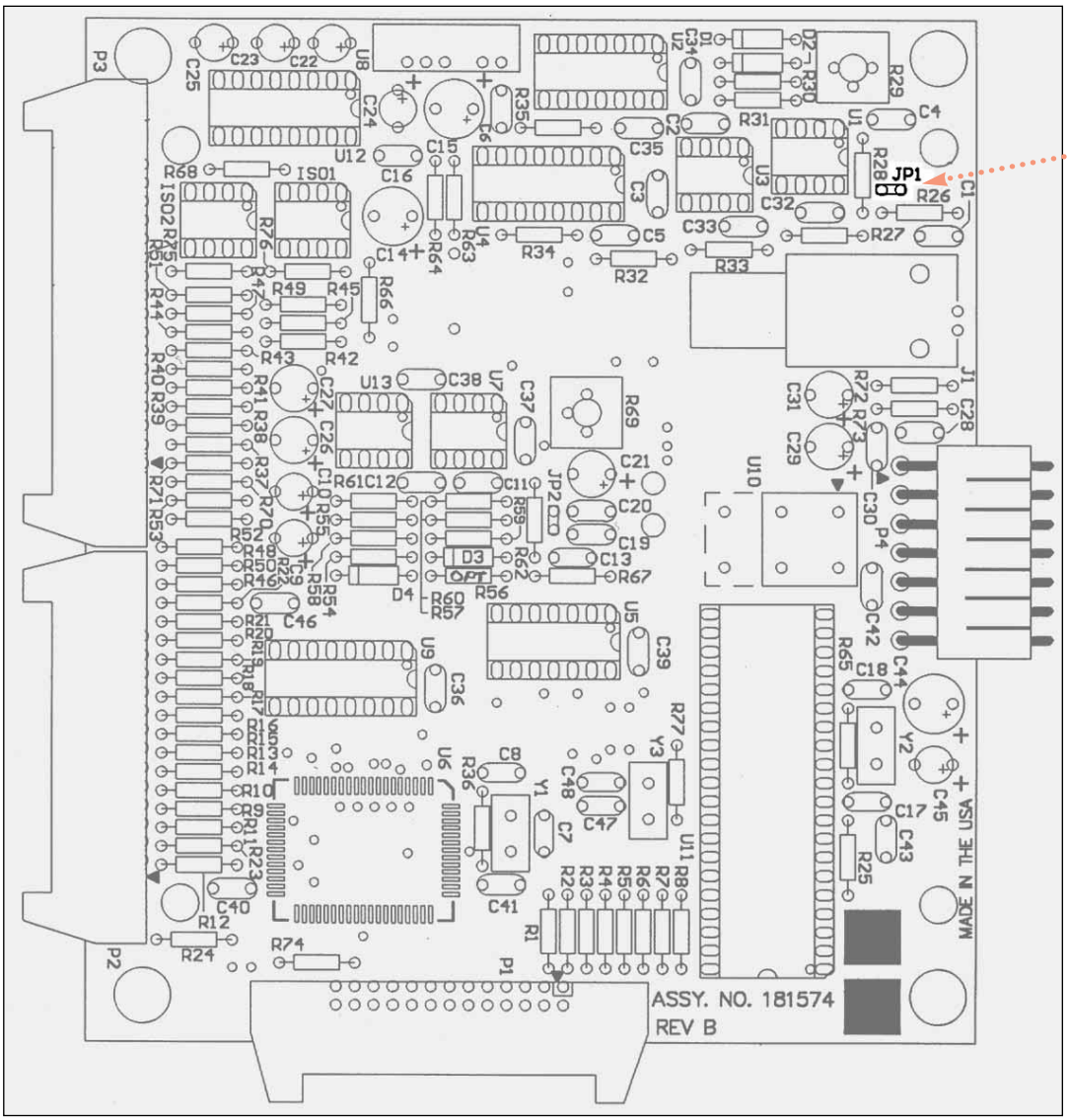
Module 17-24 Motherboard as Viewed from the Front of the Console

6.6 Internal Termination of VITC Input

Vertical Interval (Video) Time Code is interfaced to a coax connector labeled VITC on the rear of the Auxiliary panel, next to the Digital Master Module.

A VITC time code bus should be terminated with a 75 Ohm termination connector after the last input in the chain. As shipped, the STATUS VITC time code input is not 75 Ohm terminated. If internal termination is required, install JP1 on the console's time code board as shown.

The Time Code board (Assy No. 181574 or PB-51DA) is located beneath the blank auxiliary panel, near the front of the console.

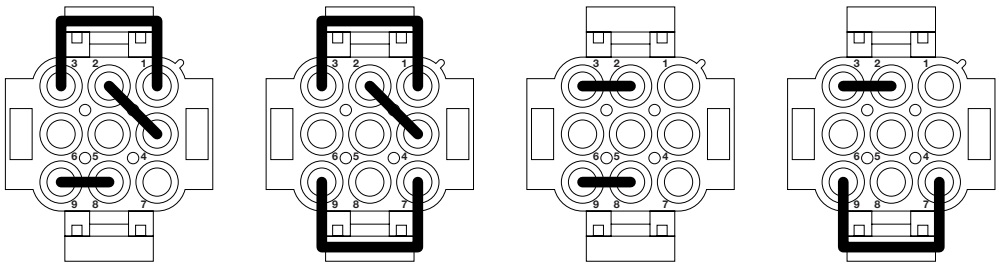


STATUS Time Code Board

6.7 Changing AC Voltage

The rack mount power supplies contain individual power supply modules. To change AC voltage, the voltage select plug connected to the power transformer must be changed. The following figure shows the voltage select plug wirings for different supply voltages.

CAUTION: High Voltages exist inside power supply chassis. Disconnect power supplies from AC voltage before servicing.



6.8 Setting Module Types

When modules are installed or removed from the console, the system configuration files must be updated to reflect the change. This is done by modifying the HDWRE (Hardware) parameters in the Misc LCD Menu.

To configure the console hardware:

1. **Press Misc, HDWRE, and then MODLS.**

2. Pressing the ↑ and ↓ MODULE selection keys increments or decrements the module number.
   Pressing the ↑ and ↓ TYPE selection keys sequences the module types through the following choices:
   - Mono Input - Mono Input Module is installed.
   - Stereo Input - Stereo Input Module is installed.
   - None - Module has been removed or is non existent.

   Pressing the MB (Mother Board) selection key changes all 8 modules on the same motherboard to the module type selected.

3. **When finished, press Misc to exit the Hardware setup.**

6.9 Saving and Clearing Console NOVRAM

Future releases of console software will have differences in the data structure contained in the console's Non-Volatile RAM (NOVRAM). These differences require that the NOVRAM be cleared prior to running the new version of software. After clearing the NOVRAM and rebooting, you must reconfigure the console for the correct hardware settings. Since clearing the NOVRAM also erases console calibration data, you may wish to recalibrate the console after configuring the hardware.

MISC LCD Menu

MISC-HDWRE LCD Menu

1. **Boot your console using your current software version as normal.**

2. **Press Misc and HDWRE. Press MODLS, MOVFAD or DYNAM.**
   Using the Up/Down arrow buttons at the left of the LCD, scroll through each of the modules and note the settings of Modules 1–48.
   Write this information down for use later in this procedure.

3. **Press Misc, FILE, and then UPS.**

4. **Holding Shift, press and hold DEFLTS.**
   The LCD screen will display UPS DEFAULTS RESTORED NOV RAM CLEARED.
   Release the buttons.

5. **Insert the new Version master disk (the one you just made) into the console and reboot the console by powering down for a few seconds, then re-powering.**

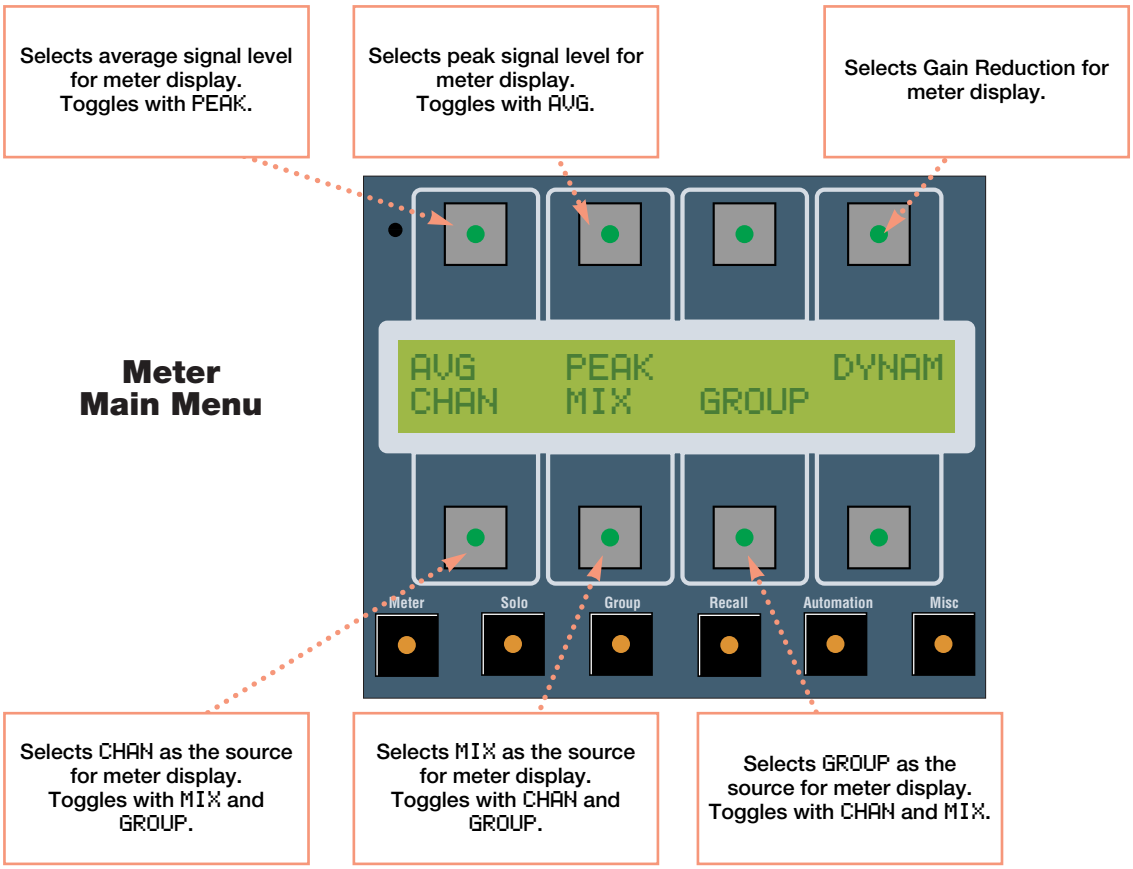
6. **After the console boots up under the new Version software, select the Misc menu.**
   Press HDWRE.
   Reset each module type from NONE to the appropriate type written down in Step #2, using the TYPE Up/Down arrow buttons on the right of the LCD.

7. **When you have completed setting module hardware, exit the Hardware menu by pressing Misc.**
   Reboot the console again to utilize the correct hardware settings.

8. The console will now contain factory default calibration settings.
   If you wish, you may now recalibrate your console, but calibration is not required to utilize the console.

9. You should now save the contents of the NOVRAM to the master disk.
   Select the Misc menu, and press FILE, then NOV.
   Select EXPORT.
   The NOVRAM data will be written to your master disk.
   This step will make future upgrades easier as the NOVRAM data can be imported rather then being entered manually.

Appendix A LCD Menu Reference



Solo Main Menu

Selects In Place Soloing for the Mix Path.

Selects In Place Soloing for the Chan Path.

Selects After Fader Listen (AFL) when In Place Solo is not selected. Toggles with PFL.

Selects Pre Fader Listen (PFL) when In Place Solo is not selected. Toggles with AFL.

Temporarily defeats Solos in effect. Toggle On and Off.

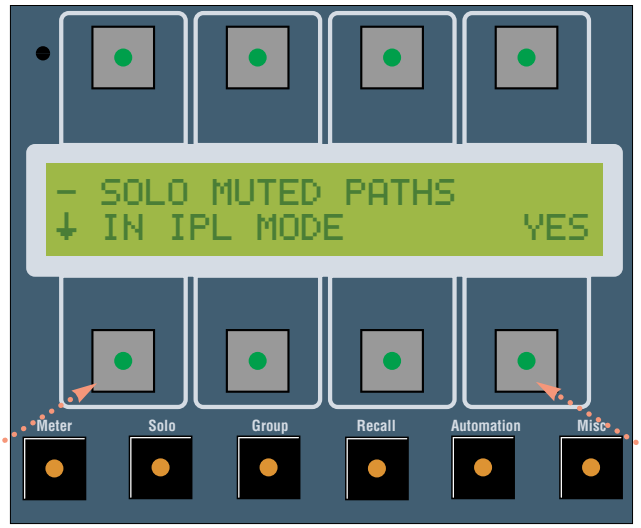
Selects the Additive selection mode for Solo buttons. Toggles with INTRLK and MOMEN.

Selects the Interlock selection mode for Solo buttons. Toggles with ADD and MOMEN.

Selects the Momentary selection mode for Solo buttons. Toggles with ADD and INTRLK.

Solo-Options (1/6)

(Shift+Solo)

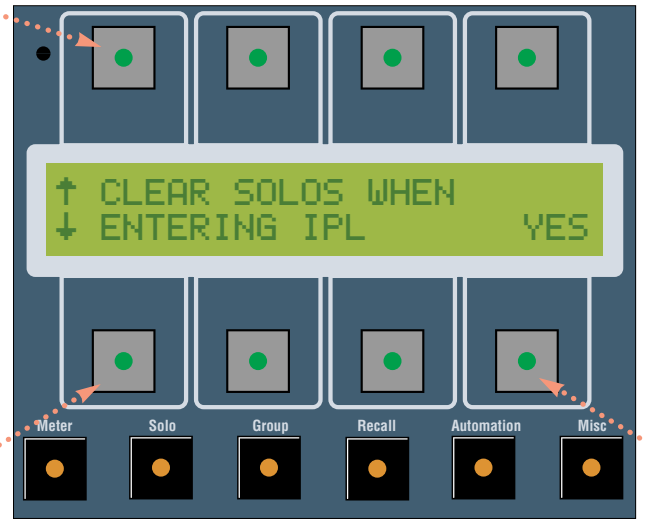


Select next option.

Causes muted channels to temporarily unmute when IPL soloed. YES=Unmute, NO=Don't Unmute.

Select previous option.

Solo-Options (2/6)
(Shift+Solo)

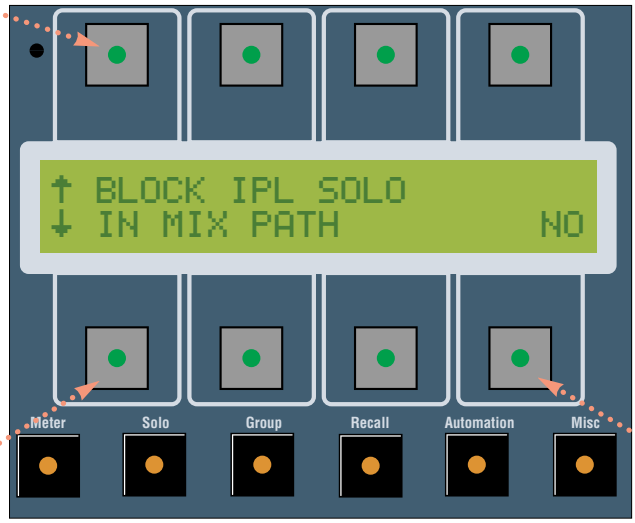


Select next option.

Causes Solos to be cleared when a path is switched to IPL solo mode. YES=Clear, NO=Don't Clear.

Select previous option.

Solo-Options (3/6)
(Shift+Solo)

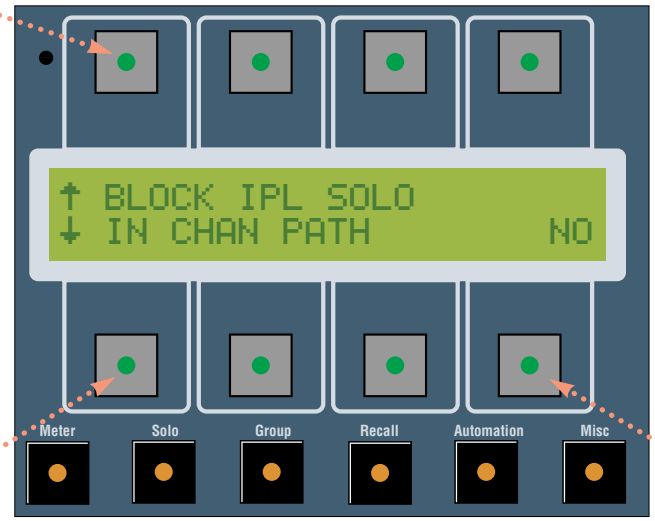


Select next option.

Prohibits IPL Solo from being selected for the Mix path. YES=Prohibit IPL Solo, NO= Allow IPL Solo.

Select previous option.

Solo-Options (4/6)
(Shift+Solo)

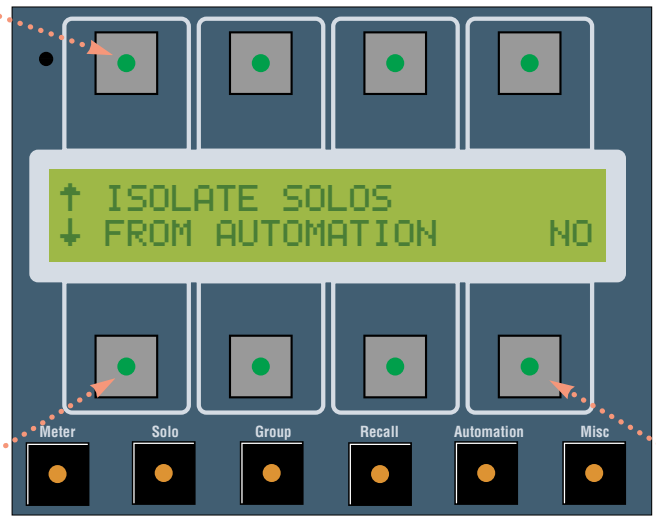


Select next option.

Prohibits IPL Solo from being selected for the Chan path. YES=Prohibit IPL Solo, NO= Allow IPL Solo.

Select previous option.

Solo-Options (5/6)
(Shift+Solo)



Select next option.

Isolates Solos from Automation. YES= Isolate, NO= Solos controlled by Automation system.

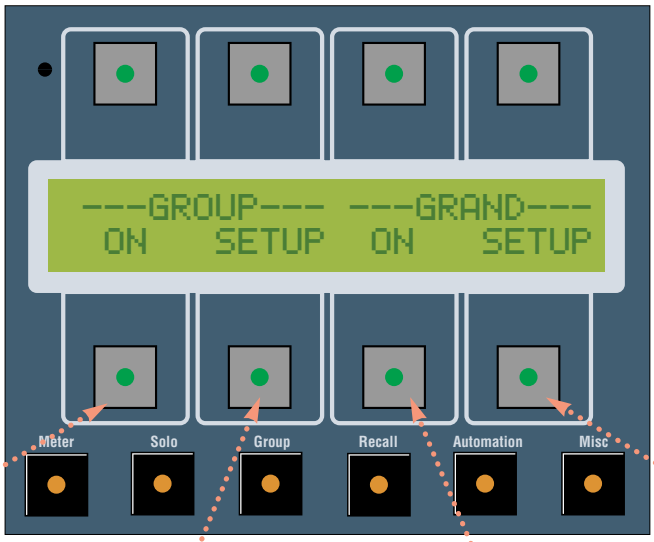
Select previous option.

Solo-Options (6/6)

(Shift+Solo)

Causes IPL Solos to be temporarily defeated when DEFEAT is pressed on the Solo Menu. Otherwise only MIS Solos are defeated. YES = IPL and MIS Solo Defeat, NO = MIS only.

Group Main Menu



Toggles Group Masters ON/OFF.

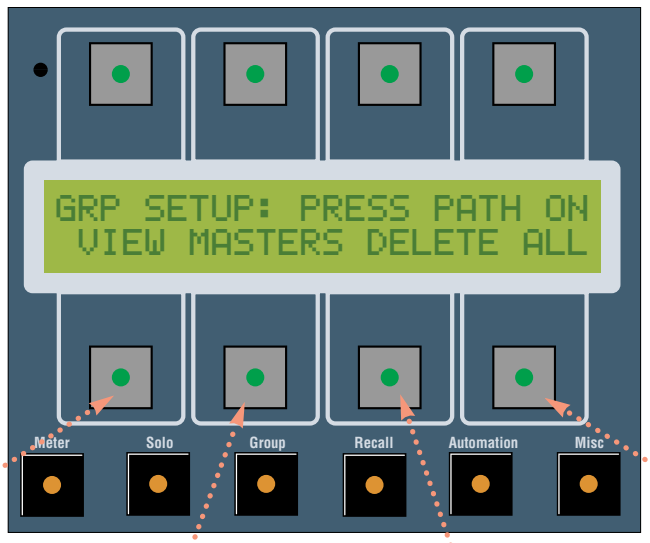
Selects Fader Group Setup.

Toggles Grand Master ON/OFF.

Selects Grand Master Setup.

Group

GROUP SETUP



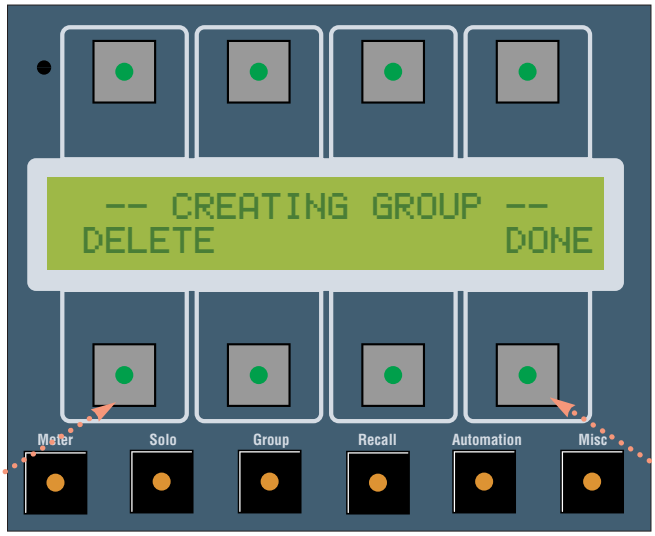
Selects the View Groups mode. When selected, Pressing a path's **On** button displays its Master and Members.

Causes only Master Faders (flashing) to be displayed. (Momentary action).

Deletes Current Group

When pressed with **Shift**, deletes all Fader Groups.

Group
GROUP SETUP
Creating Group

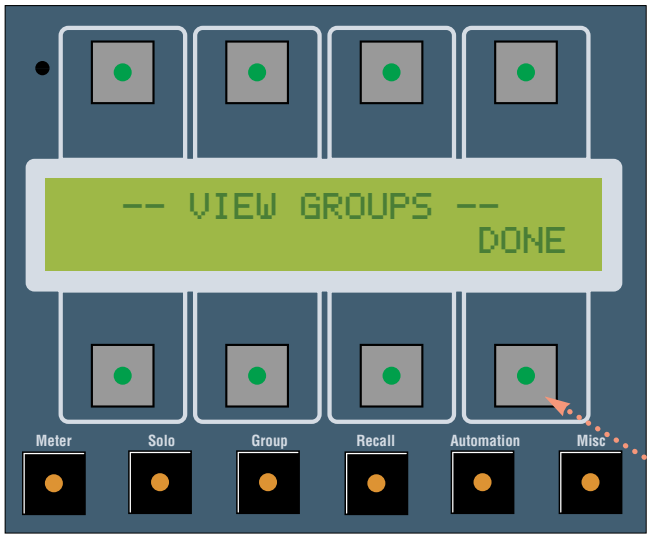


Deletes Current Group

Return to the Group Setup display.

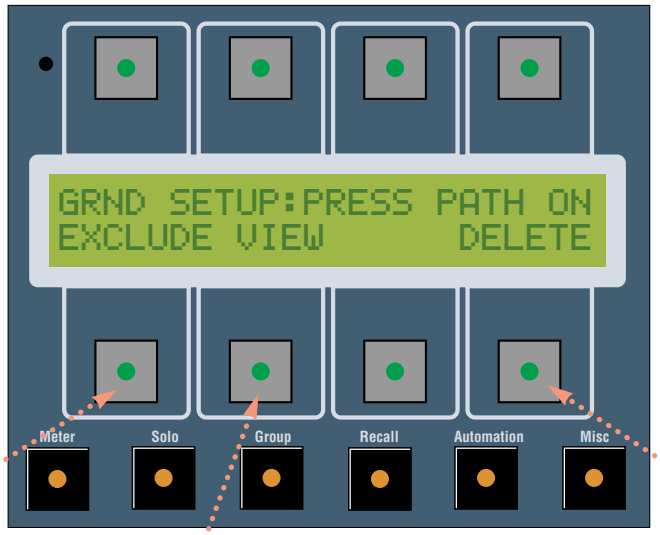
Group
GROUP SETUP→VIEW

Pressing a path's **On** button displays its Master and Members.



Returns to the Group Setup display.

Group
GRAND SETUP



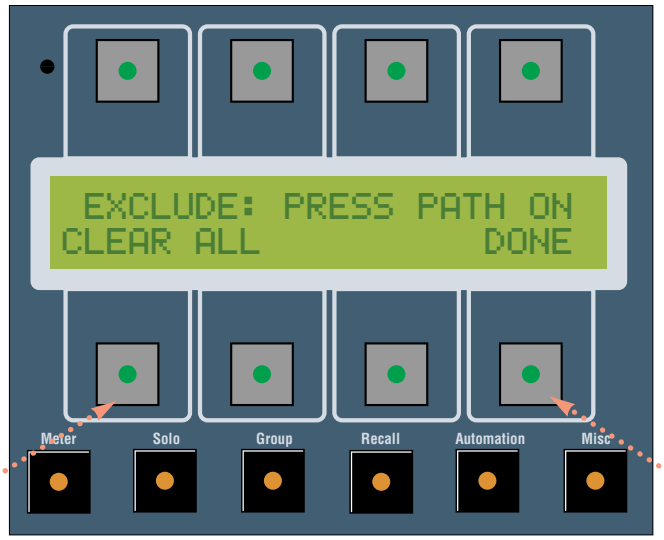
Selects the Grand Master Exclude function. When selected, Toggling a path's **On** button excludes it from Grand Master control.

Displays all Group Masters and Members, and Grand Master (Momentary action).

Deletes the Grand Master.

Group
GRAND SETUP→EXCLUDE

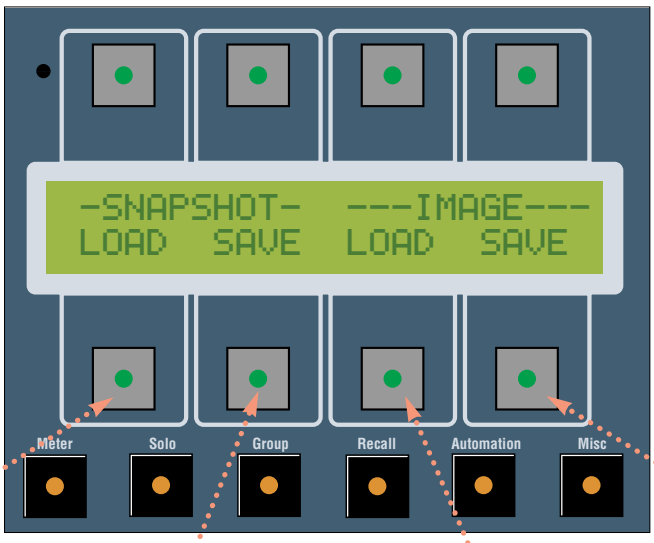
Toggling a path's **On** button excludes it from Grand Master control.



Clears all excluded paths.

Return to the Grand Master Setup display.

Recall Main Menu



Selects the Load Snapshot display. (Computer controlled switches).

Selects the Save Snapshot display. (Computer controlled switches).

Selects the Load Image display (Knobs, Switches, and Faders). Inactive when mixing to timecode.

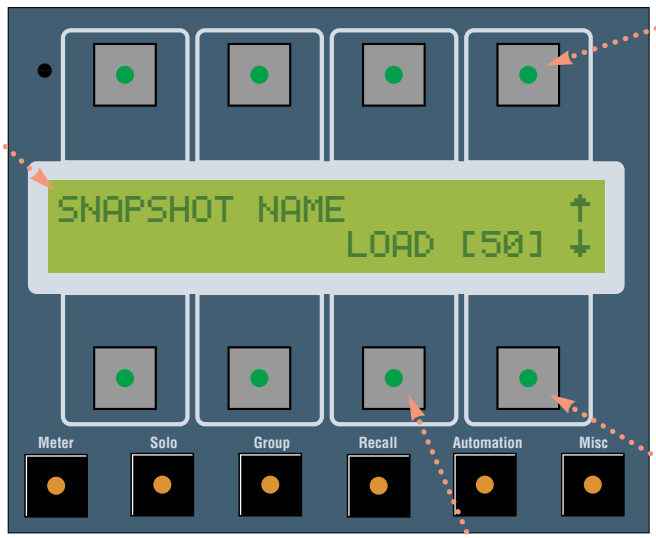
Selects the Save Image display (Knobs, Switches, and Faders). Inactive when mixing to timecode.

Name of Snapshot as entered in Name Display. Name shows "(EMPTY)" if no Snapshot is saved.

Increments snapshot number. Range = 1 to 50.

Recall

SNAPSHOT LOAD



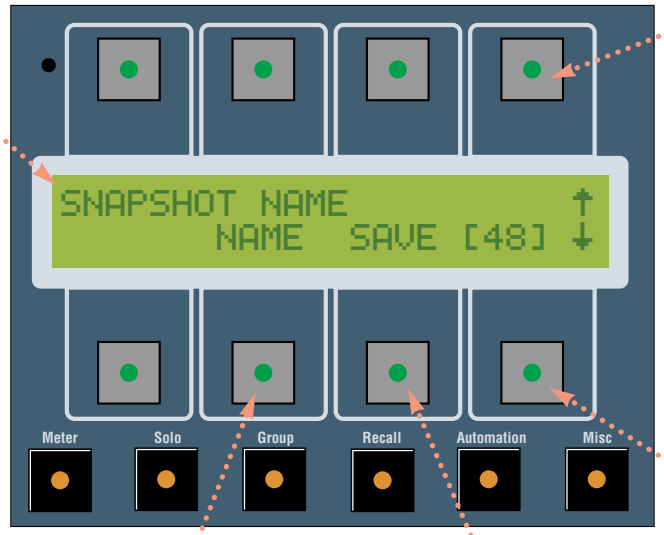
Loads the snapshot switch settings into the console and sets switches.

Decrements snapshot number. Range = 1 to 50.

Name of Snapshot as entered in Name Display. Name shows "(EMPTY)" if no Snapshot is saved.

Increments snapshot number. Range = 1 to 50

Recall
SNAPSHOT SAVE



Selects the Name Display where snapshot names can be entered or changed.

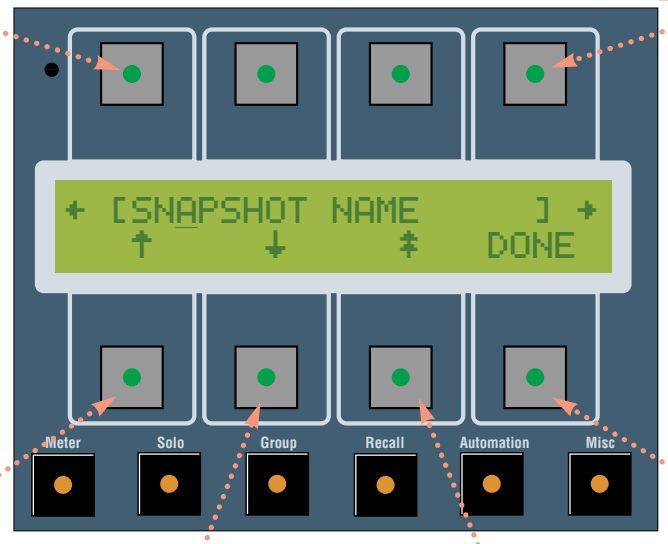
Saves the console switch settings into a snapshot.

Decrements snapshot number. Range = 1 to 50

Move cursor to left.

Move cursor to right.

Recall
Name Display



Decrements a single character.

Increments a single character.

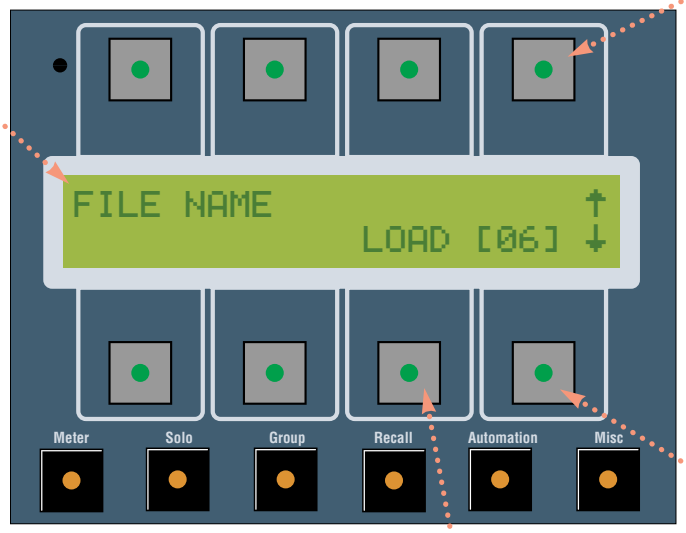
Increments 8 characters at a time.

Enters name typed into display and returns to Snapshot Save menu.

Name of Snapshot as entered in Name Display. Name shows "(EMPTY)" if no Image is saved.

Increments image file number. Range = 1 to 15.

Recall
IMAGE LOAD

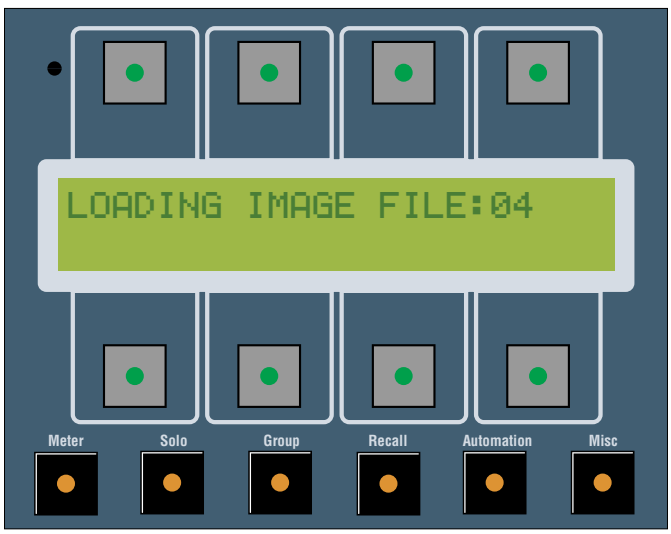


Loads the image file into the console. Console changes to Null Display Mode. Press **Recall** to resume normal operation.

Decrements image file number. Range = 1 to 15.

Recall
IMAGE LOAD - Loading

(Temporary Display)



Displays upper section (Mic/Line, Aux Levels) controls that are not nulled. Toggles with EQ and LOWER.

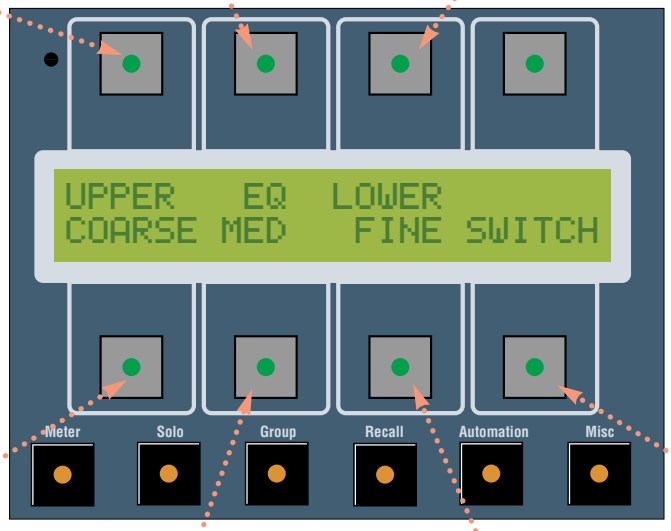
Displays EQ (HF, HMF, LMF, LF) controls that are not nulled. Toggles with UPPER and LOWER.

Displays lower section (CHAN/MIX pan and fader) controls that are not nulled. Toggles with UPPER and EQ.

Recall

IMAGE LOAD - Nulling Status Menu

Display changes when modules are selected for Horizontal or Vertical nulling. Deselect all modules to return to this display.



Selects Coarse nulling resolution. Toggles with MED and FINE.

Selects Medium nulling resolution. Toggles with COARSE and FINE.

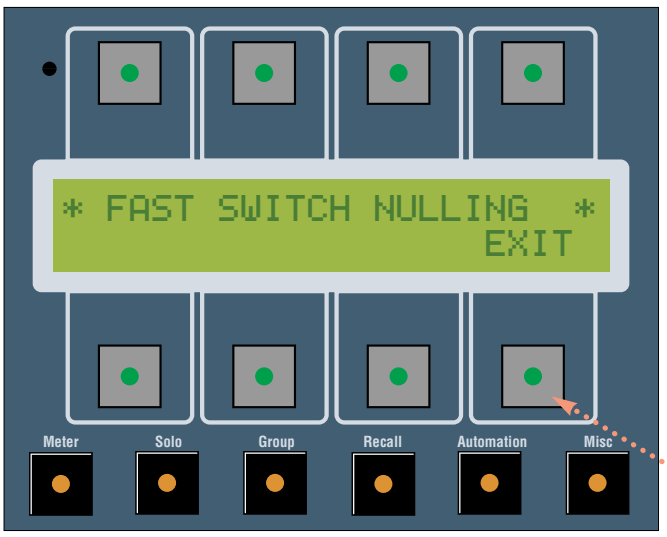
Selects Fine nulling resolution. Toggles with COARSE and MED.

Selects Fast Switch Nulling mode.

Recall

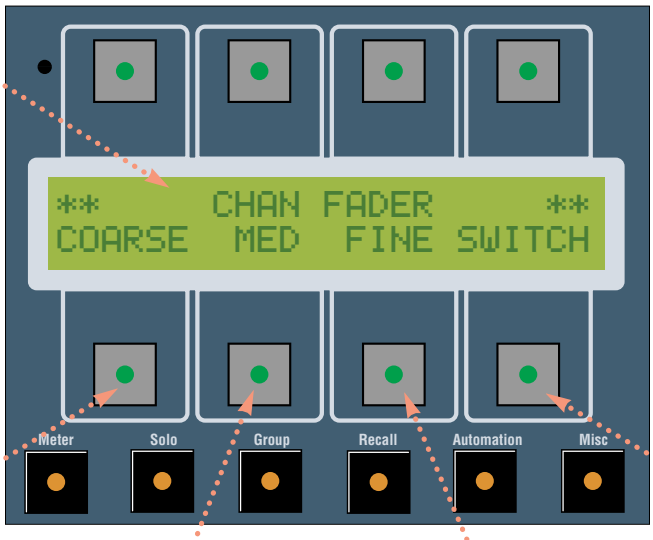
IMAGE LOAD - Fast Switch Nulling

LED Meter displays switches that are not nulled only.



Returns to the previous nulling mode.

Module function selected on the Null Master module is displayed during Horizontal Nulling mode.



Recall
Horizontal Nulling Mode

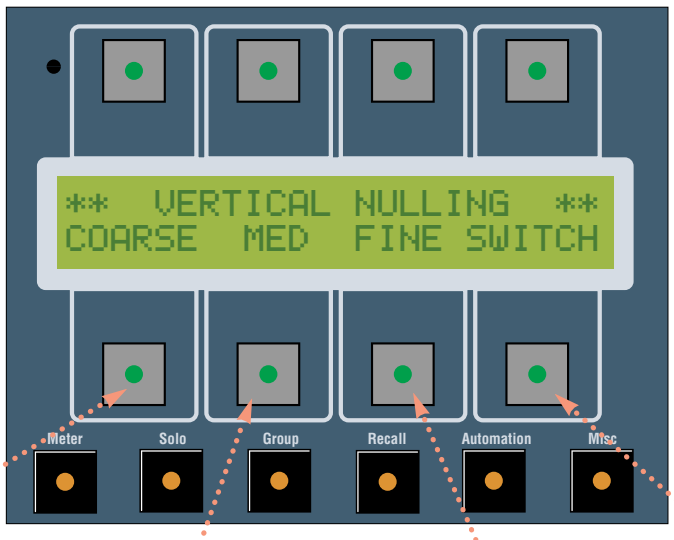
Displayed when the Null Master module is selected during Recall mode. To switch to Vertical Nulling mode, select additional modules.

Selects Coarse nulling resolution. Toggles with MED and FINE.

Selects Medium nulling resolution. Toggles with COARSE and FINE.

Selects Fine nulling resolution. Toggles with COARSE and MED.

Enters Fast Switch Nulling Mode. Press EXIT to return.



Recall
Vertical Nulling Mode

Displayed when multiple modules are selected during Recall mode.

Selects Coarse nulling resolution. Toggles with MED and FINE.

Selects Medium nulling resolution. Toggles with COARSE and FINE.

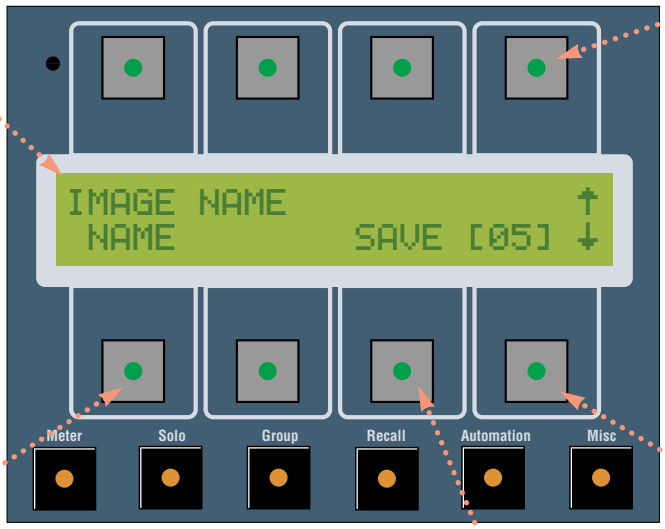
Selects Fine nulling resolution. Toggles with COARSE and MED.

Enters Fast Switch Nulling Mode. Press EXIT to return.

Name of Snapshot as entered in Name Display. Name shows "(EMPTY)" if no Image is saved.

Increments file number. Range = 1 to 15.

Recall
IMAGE SAVE

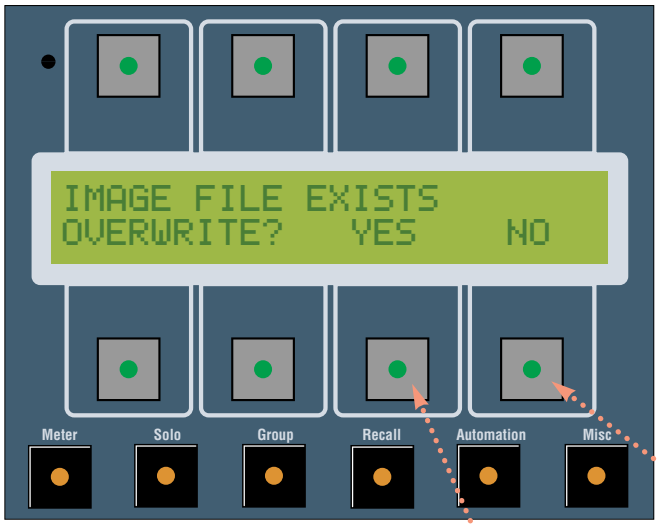


Selects the name display where the image name can be entered or changed.

Saves the image to floppy disk.

Decrements file number. Range = 1 to 15.

Recall
IMAGE SAVE - Overwrite



Selects YES - Overwrite the file.

Selects NO - Do not overwrite the file.

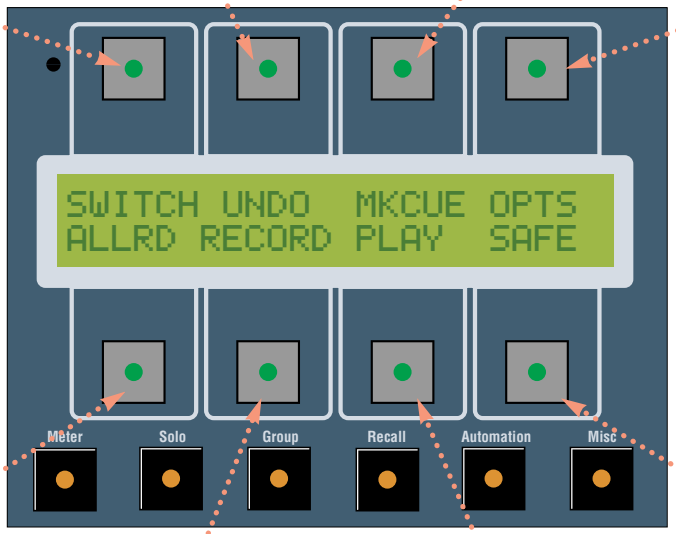
Selects Switch Automation display.

If mixing, kills current pass. Confirms after timecode stops. If not mixing, cycles passes in Mix Stack.

Captures current time code into Cue Registers A–Z.

Selects Automation options, including Auto Button Assignment and Auto Glide On/Off.

Automation Main Menu



Places all paths in the Read mode.

Selects the Mix Record mode. Toggles with SAFE.

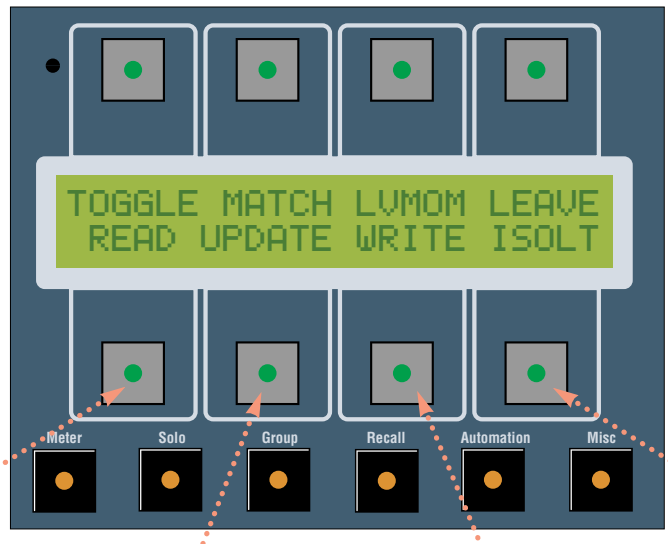
Changes the Automation from Record to Play mode.

Selects the Mix Safe mode on the PC. Toggles with REC.

Automation

SWITCH

Press **Automation** to Return to Main Menu.



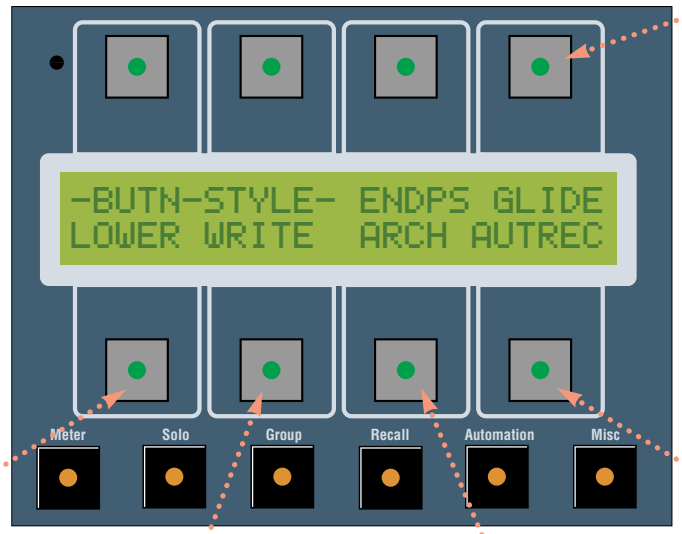
Selects the Read mode for all paths. Interlocks with WRITE, UPDT, and ISOL.

Selects Update mode for all paths. Interlocks with READ, WRITE, and ISOL.

Selects the Write mode for all paths. Interlocks with READ, UPDT, and ISOL.

Selects the Isolate mode for all paths. Interlocks with READ, WRITE, and UPDT.

Locks PC in Safe mode. Press WRITE or SAFLOK to unlock.



Automation

OPTS

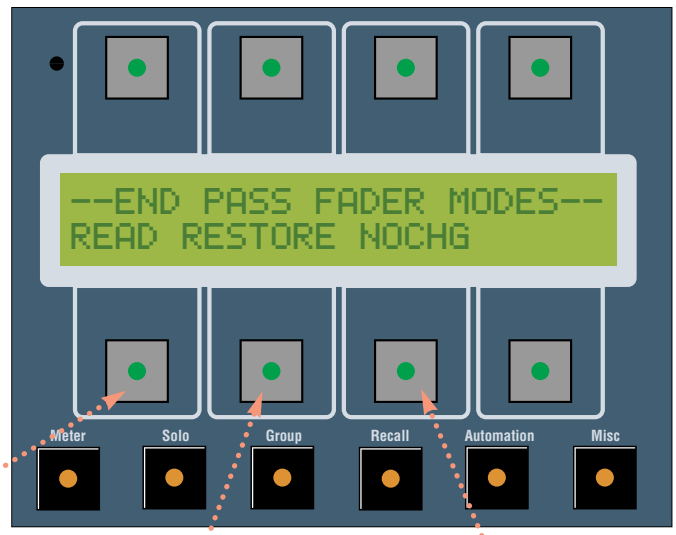
Press **Automation** to Return to Main menu.

Selects which path the module **Auto** button controls. Toggles between Mix and Chan.

Changes mode sequence of **Auto** button. Write/Offset Write/Update/Write-Offset Write

Archives the current Mix pass and increments the Write pass number.

Toggles Auto Glide On and Off.



Automation

OPTS→ENDPS

(End Pass)

Sets all faders to Read mode when time code stops.

Returns all faders to the mode they were in at the start of the pass.

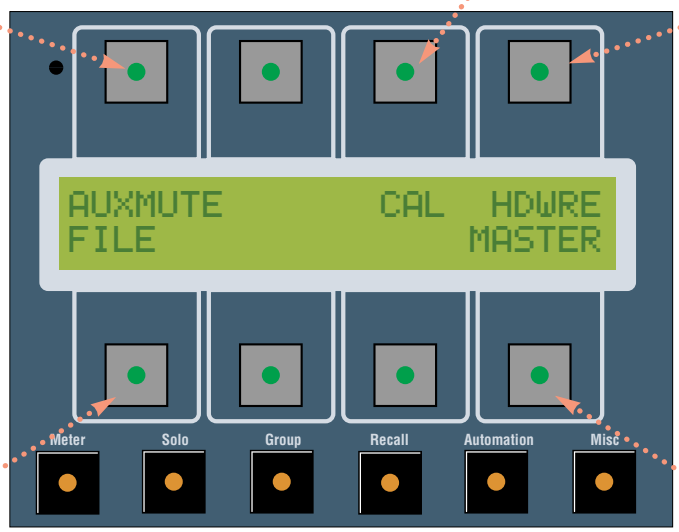
Faders remain in their set modes until changed by the mixer.

Selects the Aux Bus Master Mute display.

Hold **Shift** and press CAL to enter the Input Module Calibration program. See Manual **Section 6** for instructions.

Selects hardware configuration displays for modules, moving faders and dynamics.

Misc
Main Menu

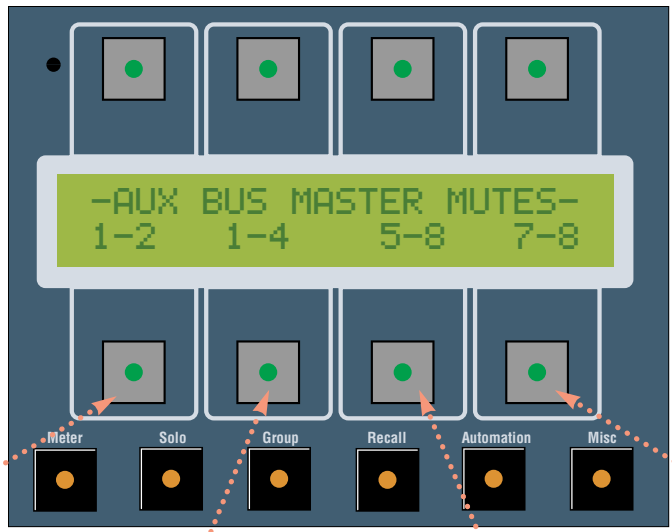


Selects the File menu for User Preferences, Snapshots, Presets, and NOVRAM.

Selects the Master Section Preferences menu.

Misc
AUXMUTE

Press **Misc** to return to Main Menu.



Mutes Aux buses 1-2.

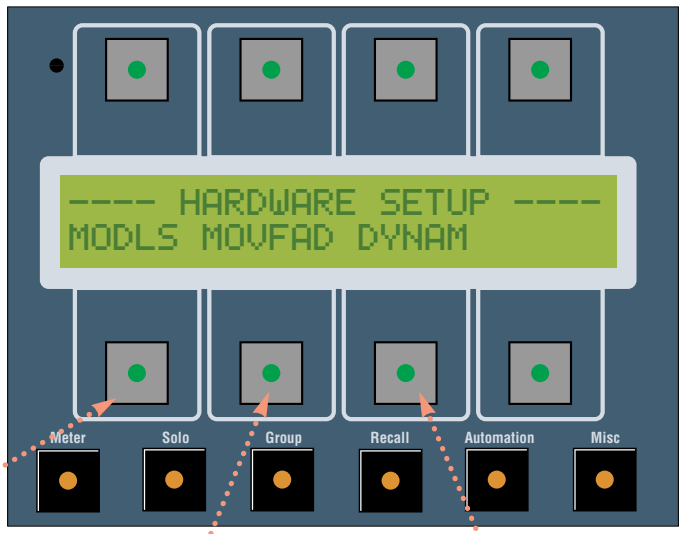
Mutes Aux buses 1-4.

Mutes Aux buses 5-8 and Aux 7-8 to track assign.

Mutes Aux buses 7-8 and Aux 7-8 to track assign.

Misc
HDWRE
(Hardware)

Press **Misc** to return to Main menu.



Selects module configuration window.

Selects moving fader configuration window.

Selects dynamics configuration window.

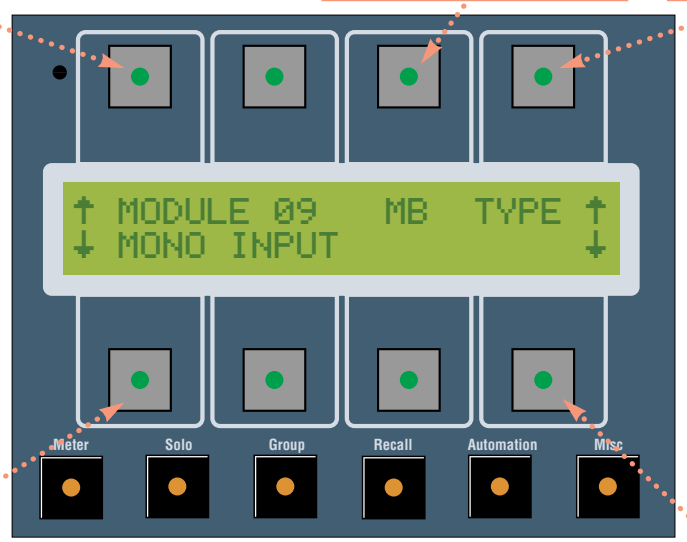
Increments module number.

Changes module type for all 8 modules on the same motherboard. (1-8, 9-16, 17-24...).

Increments module type.

Misc
HDWRE→MODLS

Configures module types in console. Press **Misc** to return to Main menu.



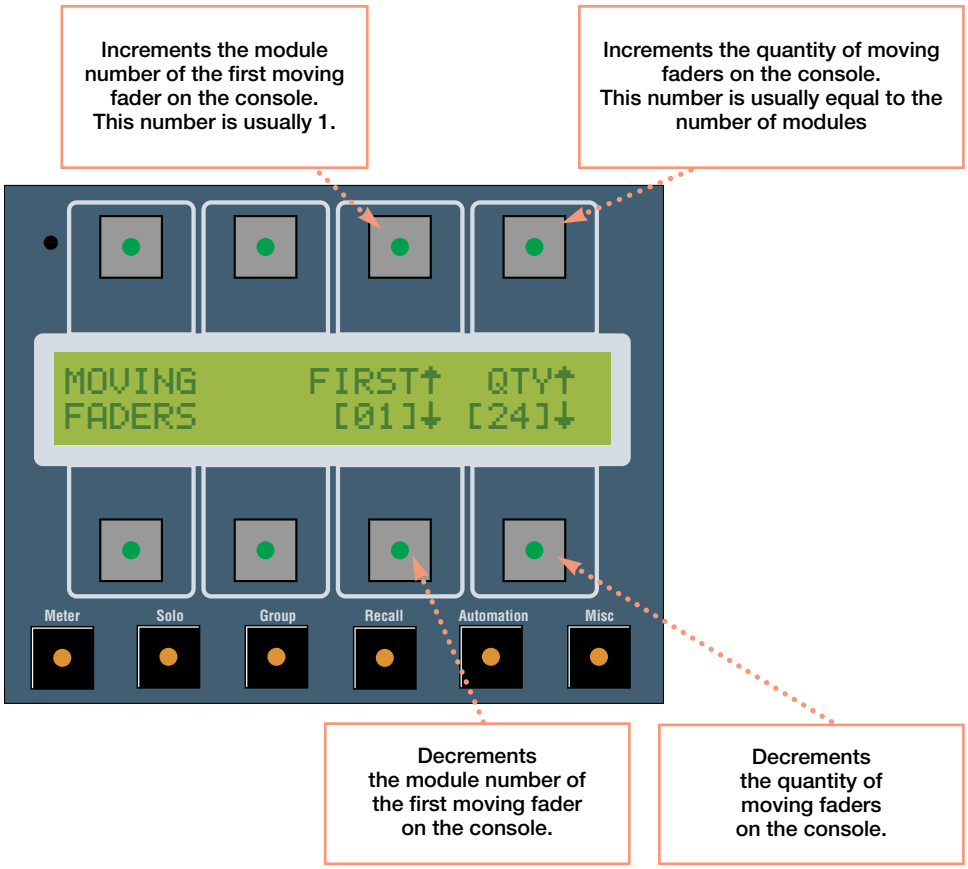
Decrements module number.

Decrements module type.

Misc

HDWRE→MOVFAD

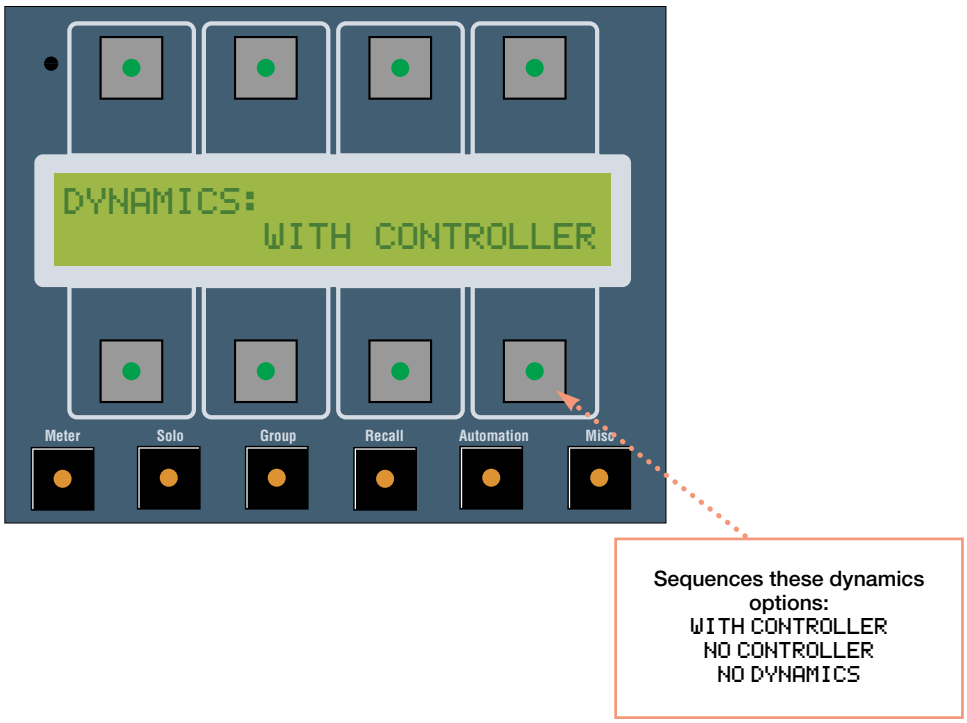
Configures Moving Fader hardware. Press **Misc** to return to Main menu.



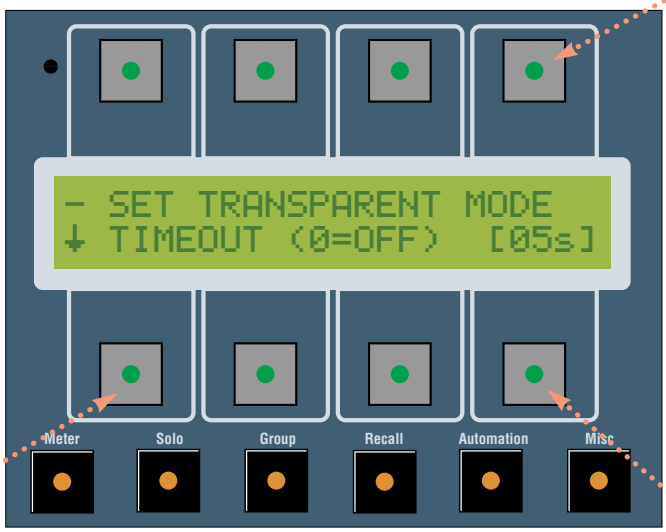
Misc

HDWRE→DYNAM

Configures Moving Fader hardware. Press **Misc** to return to Main menu.



Increments timeout duration (seconds). Range = 0 to 15.



Misc
MASTER (1/3)

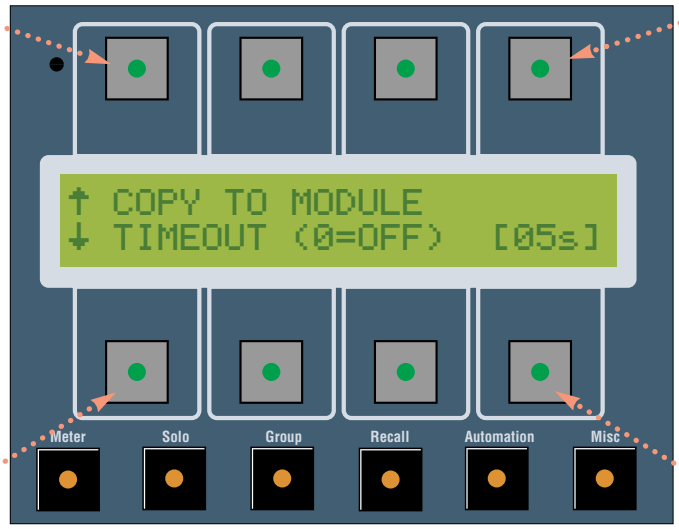
Sets timeout for Set Transparent mode. Press **Misc** to return to Main menu.

Selects next preference.

Decrements timeout duration (seconds). Range = 0 to 15.

Selects previous preference.

Increments timeout duration (seconds). Range = 0 to 15.



Misc
MASTER (2/3)

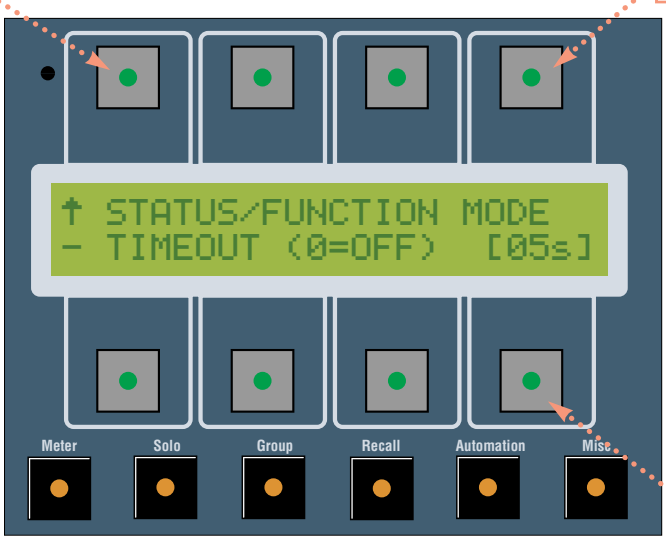
Sets timeout of Copy To Module function. Press **Misc** to return to Main menu.

Selects next preference.

Decrements timeout duration (seconds). Range = 0 to 15.

Selects previous preference.

Increments timeout duration (seconds). Range = 0 to 15.



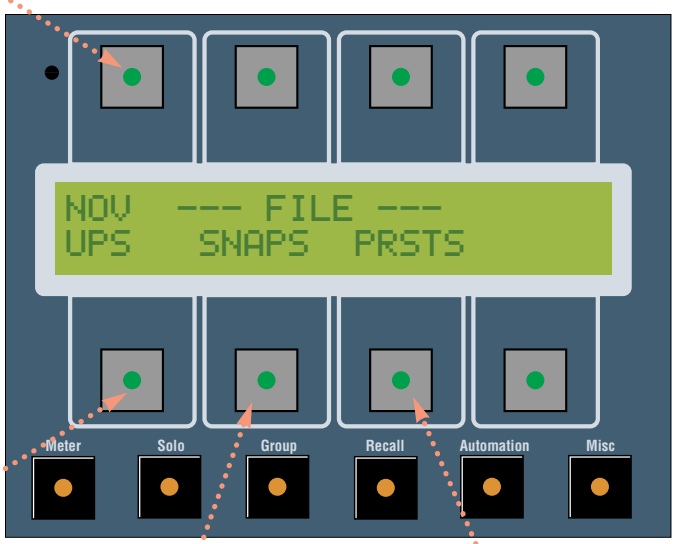
Misc

MASTER (3/3)

Sets timeout of Status and Function meter display modes. Press **Misc** to return to Main menu.

Decrements timeout duration (seconds). Range = 0 to 15.

Selects NOVRAM import/export menu.



Misc

FILE

Selects the File menu for User Preferences, Snapshots, Presets, and NOVRAM.

Selects User Preference Load/Save/Default menu.

Selects Snapshot Load/Save menu.

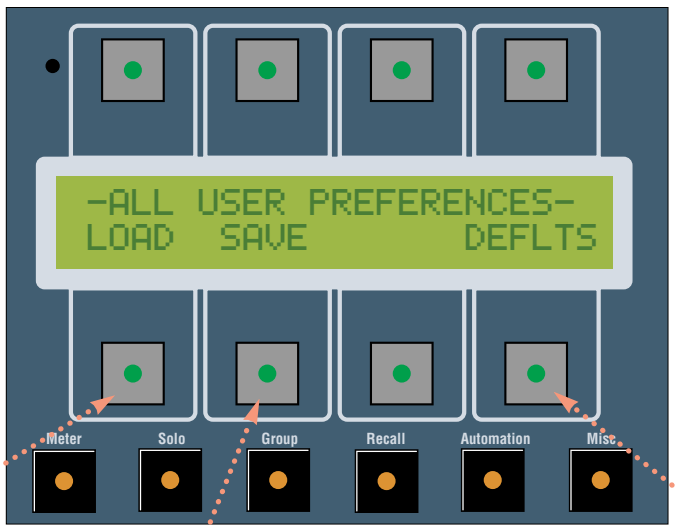
Selects Presets Load/Save menu

Misc
FILE→NOV
(Non-volatile RAM)

Exports NOVRAM image to disk.

Imports NOVRAM image from disk.

Misc
FILE→UPS
(User Preference System)

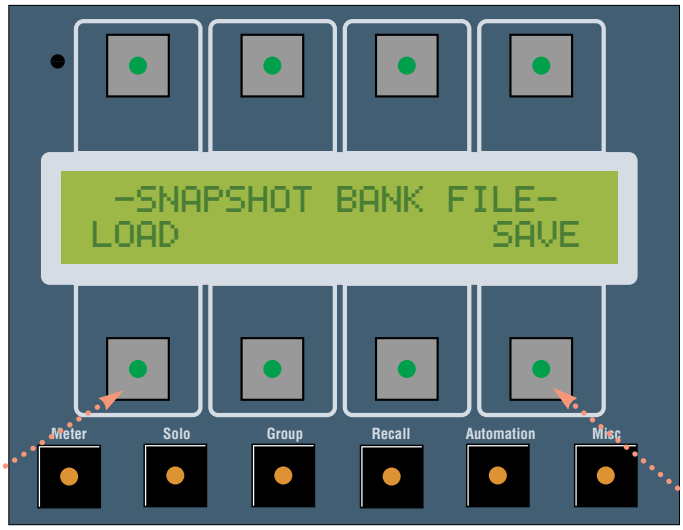


Loads User Preferences from disk.

Saves User Preferences to disk.

Restores UPS defaults.

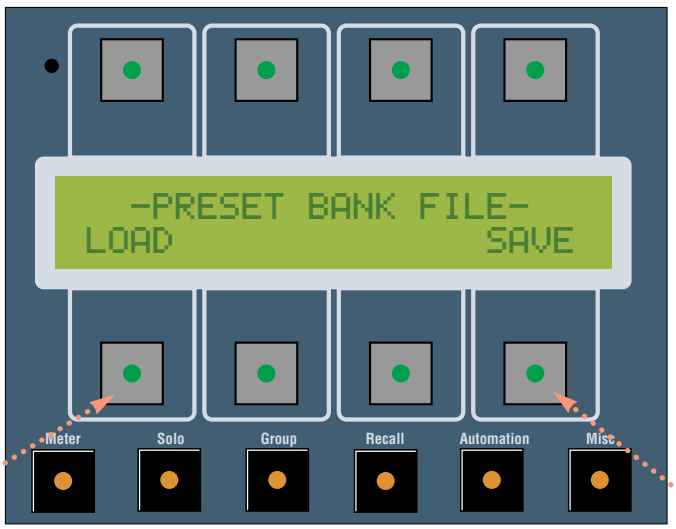
Misc
FILE→SNAPS
(Snapshot Bank File)



Loads the entire Snapshot Bank file from disk.

Saves the entire Snapshot Bank file to disk.

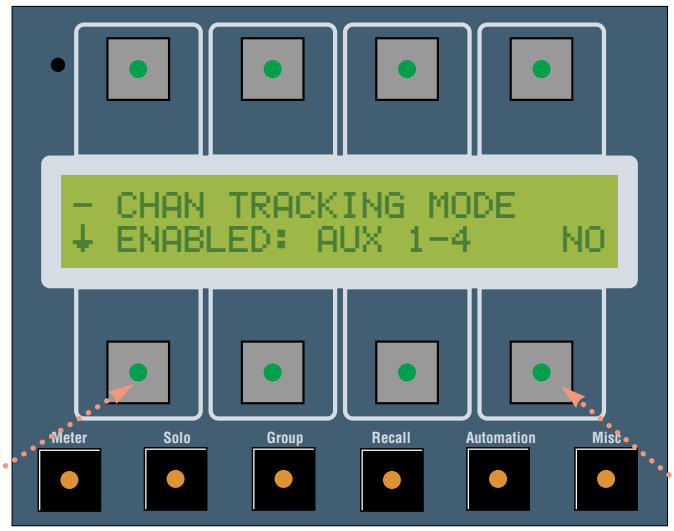
Misc
FILE→PRSTS
(Preset Bank File)



Loads the Preset Bank file from disk.

Saves the Preset Bank file to disk.

Misc-Options (1/4)
(Shift+Misc)



Selects next option.

Determines if Aux Sends 1-4 will mute when a Chan source path is muted. YES = Don't Mute, NO = Mute.

Selects previous option.

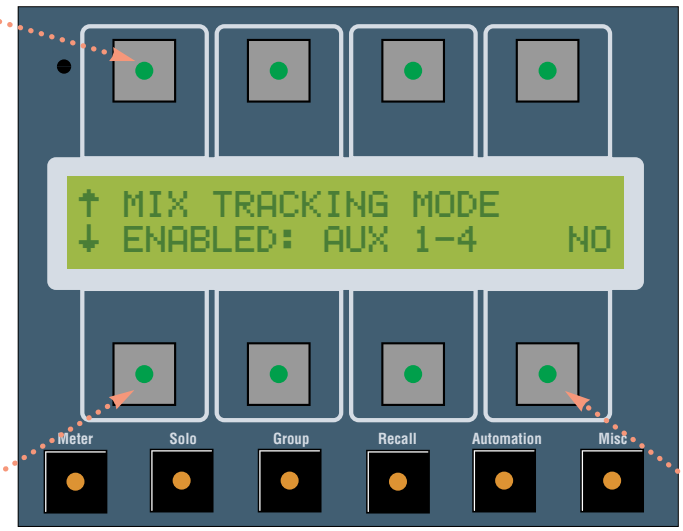
Misc-Options (2/4)
(Shift+Misc)

Selects next option.

Determines if Aux Sends 5-8 will mute when a Chan source path is muted. YES = Don't Mute, NO = Mute.

Selects previous option.

Misc-Options (3/4)
(Shift+Misc)



Selects next option.

Determines if Aux Sends 1-4 will mute when a Mix source path is muted. YES = Don't Mute, NO = Mute.

Selects previous option.

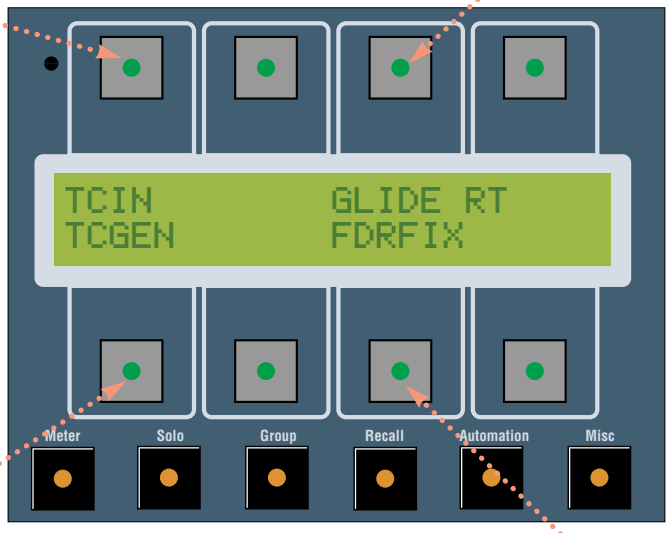
Misc-Options (4/4)
(Shift+Misc)

Determines if Aux Sends 5-8 will mute when a Mix source path is muted. YES = Don't Mute, NO = Mute.

Selects the Time Code Reader display.

Selects the Fader Glide Rate display.

Automation Options
(Shift+Automation)

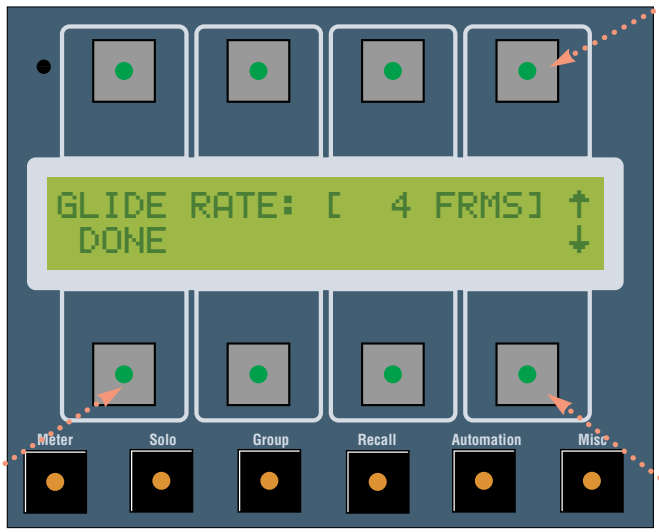


Selects the Time Code Generator display.

The Eagle screen faders are reset to the same position as the console faders.
(For VCA-fader console)

Increments the glide rate. Range = 2 Frames to 128 seconds.

Automation Options
GLIDE RT
(Glide Rate)

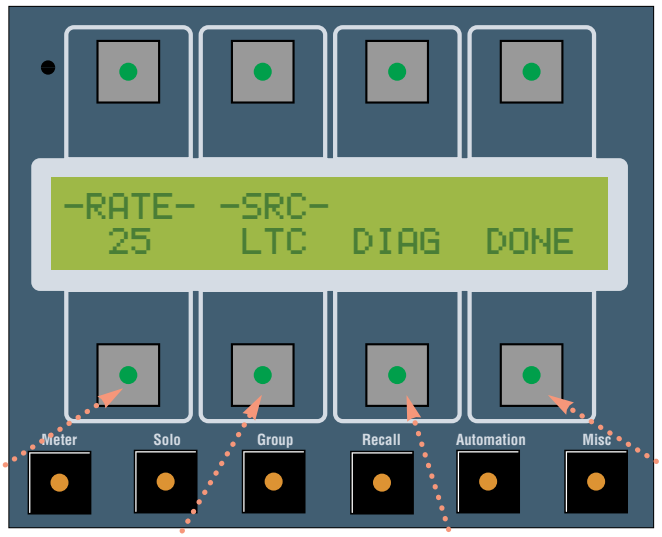


Returns to the Automation - Options display.

Decrements the glide rate. Range = 2 Frames to 128 seconds.

Automation Options

TCIN
(Time Code Input)



Sets the incoming time code rate.
(24, 25, 29 or 30 FPS).

Sets the time code source.
Toggles: LTC/VITC.

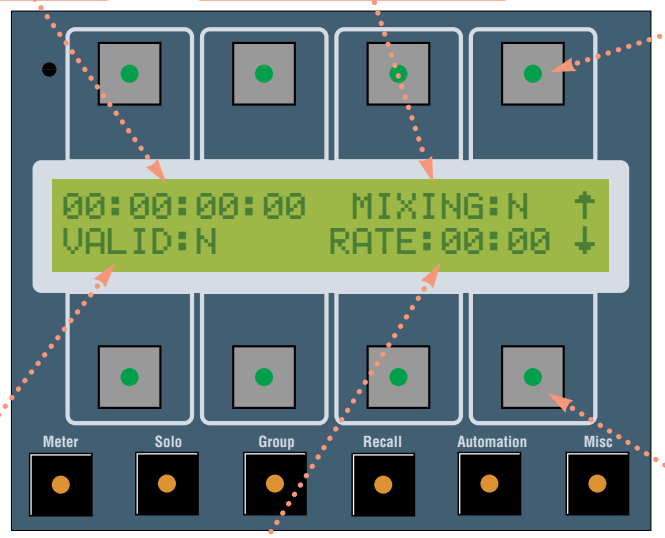
Selects the Diagnostics display.

Returns to the Automation - Options display.

Shows incoming time code number.

Shows if time code rate is within mixing limits. (Y/N)

Returns to Time Code Reader display.



Automation Options
TCIN→DIAG
Diagnostics Page 1

Shows if incoming time code is valid

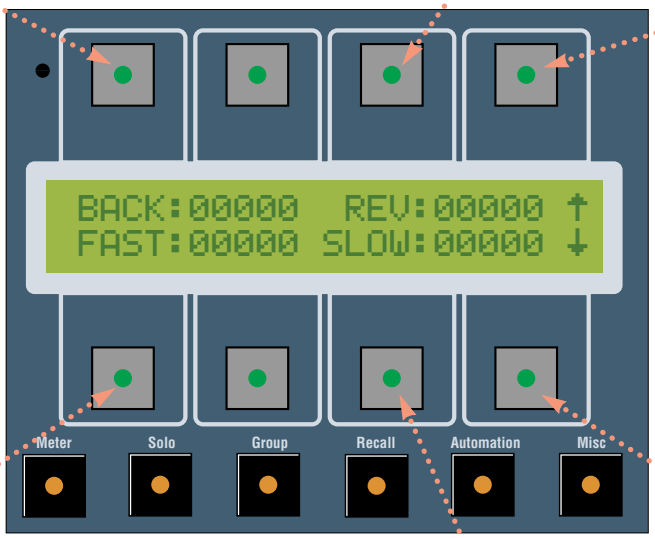
Shows incoming time code rate.

Selects next display.

Resets BACK counter. (Backward time code)

Resets REV Counter. (Reverse time code frames)

Selects previous display.



Automation Options
TCIN→DIAG
Diagnostics Page 2

Resets FAST Counter. (Fast time code frames)

Resets SLOW Counter. (Slow time code frames)

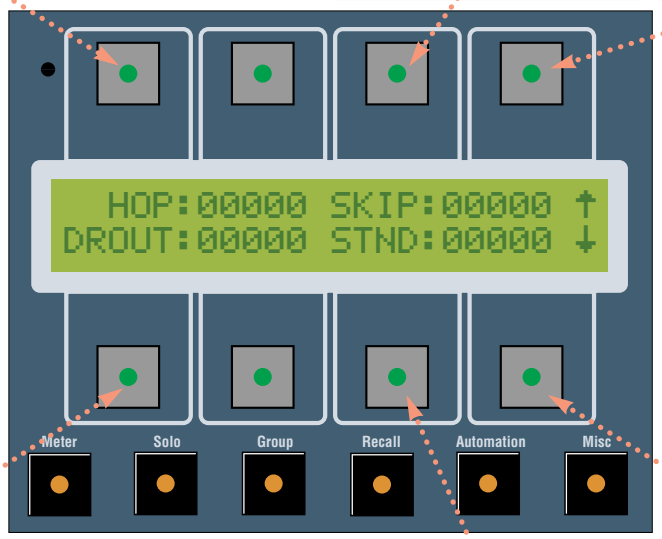
Selects next display.

Resets HOP.
(Time code frame hops)

Resets SKIP.
(Skipped time code frames)

Selects previous display.

Automation Options
TCIN→DIAG
Diagnostics Page 3



Resets DROUT.
(Time code dropouts)

Resets STND.
(Standing time code frames)

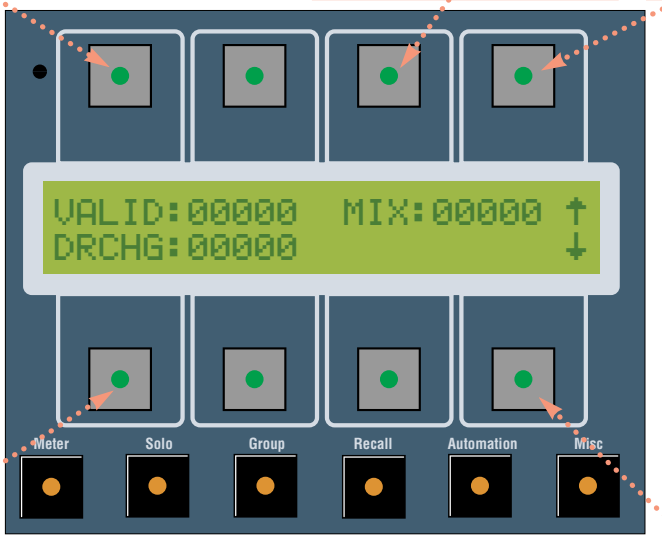
Selects next display.

Resets VALID.
(Time code valid count)

Resets MIX.
(Time Code
at mix speed count)

Selects previous display.

Automation Options
TCIN→DIAG
Diagnostics Page 4



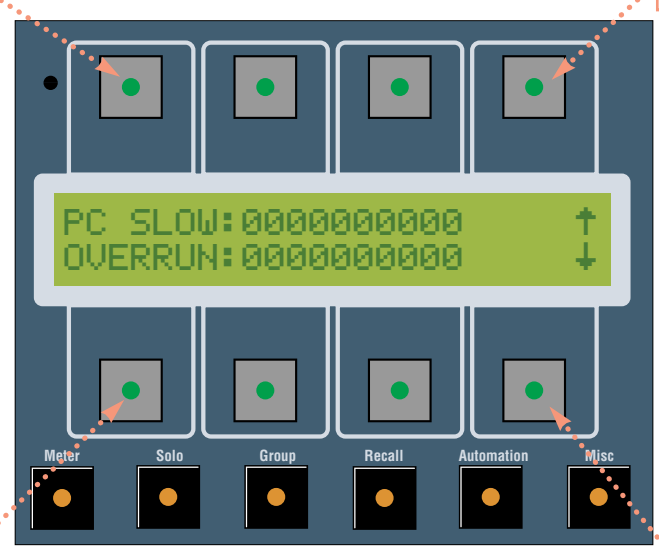
Resets DRCHG.
(Time code direction
change count)

Selects next display.

Resets PC SLOW.
(Serial port diagnostic)

Selects previous display.

Automation Options
TCIN→DIAG
Diagnostics Page 5



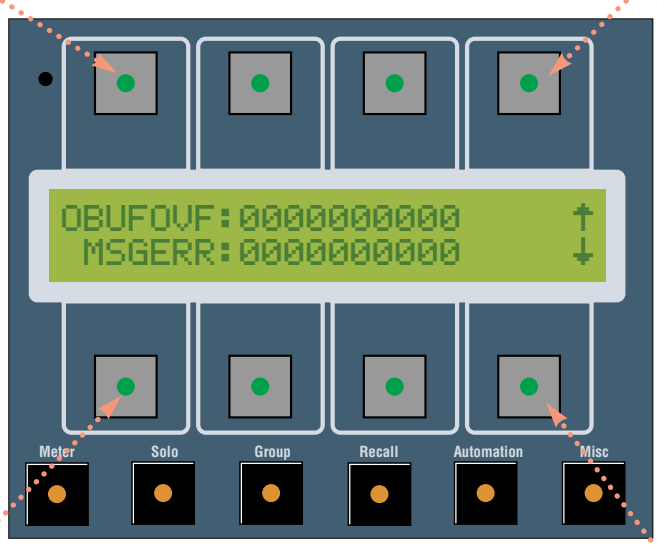
Resets OVERRUN.
(Serial port diagnostic)

Selects next display.

Resets OBUFOVF.
(Serial port diagnostic)

Selects previous display.

Automation Options
TCIN→DIAG
Diagnostics Page 6

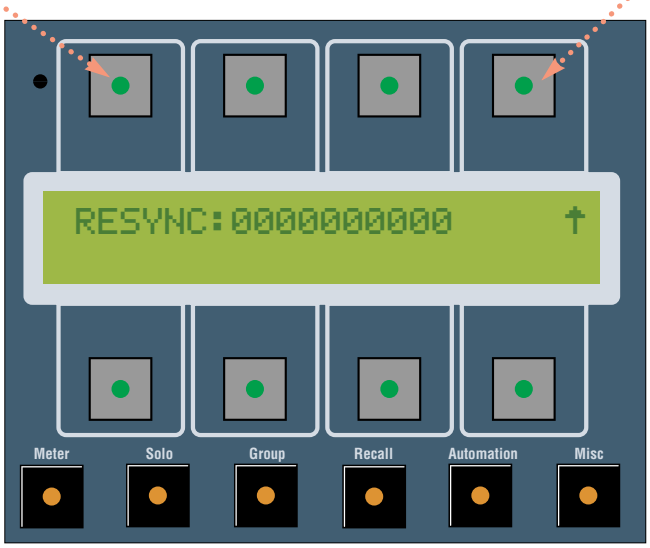


Resets MSGERR.
(Serial port diagnostic)

Selects next display.

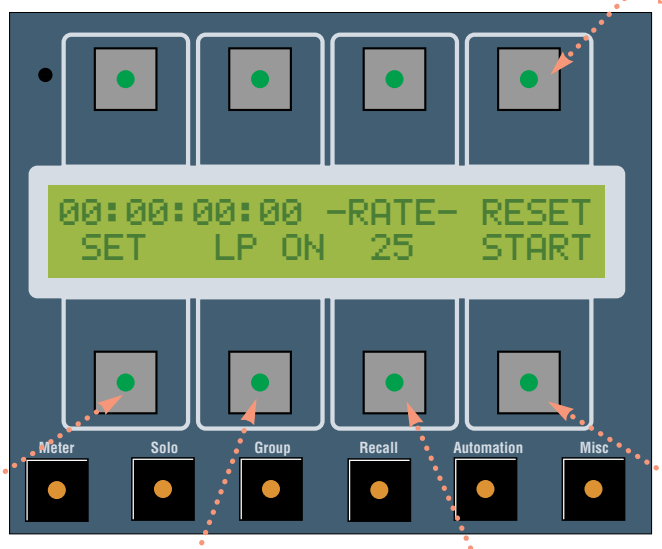
Resets RESYNC.
(Serial port diagnostic)

Selects previous display.



Automation Options
TCIN→DIAG
Diagnostics Page 7

Resets the time code to the starting value.



Automation Options
TCGEN
(Time Code Generator)

Selects the Time Code Generator Setup display.

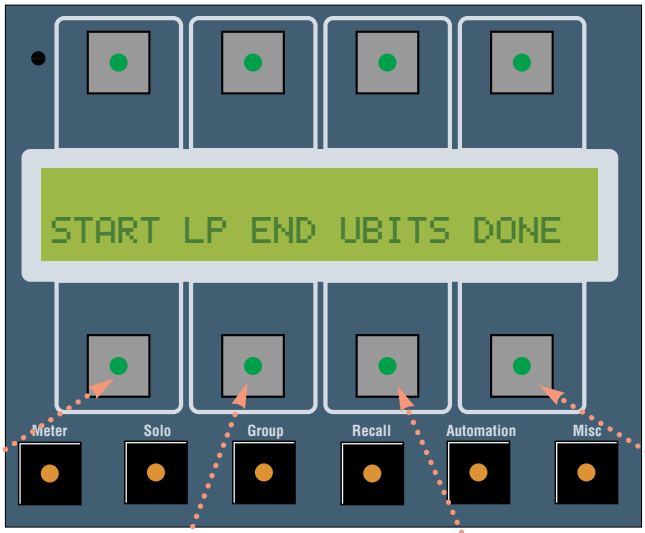
Turns on/off Loop function.

Sets the Generator Frame Rate (24, 25, 29, 29D, 30 or 30D). 29 = 29.97, D = Frop Frame.

Starts and Stops the Time Code Generator.

Automation Options

TCGEN→SET
(TCG Setup)



Selects the Starting Time Code Setting display.

Selects the Loop End Time Code Setting display.

Selects the User Bits Setting display.

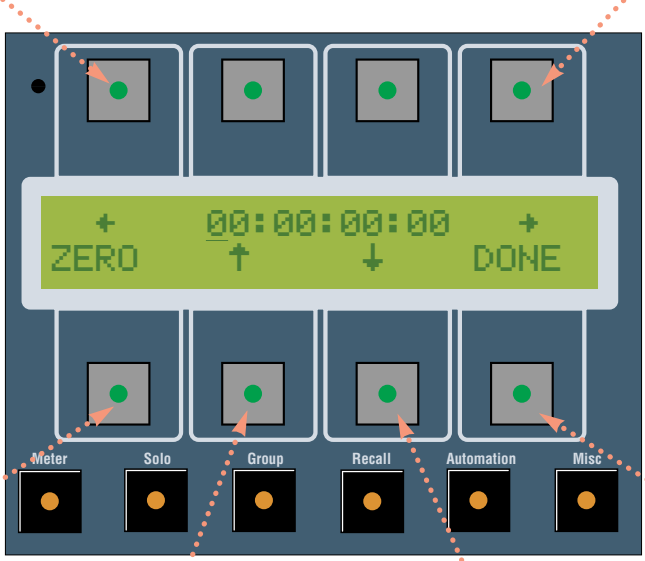
Returns to previous display.

Moves cursor to the left.

Moves cursor to the right.

Automation Options

TCGEN→SET→START
(TCG Start Time)



Returns all numbers in display to zero.

Increments number above cursor.

Decrements number above cursor.

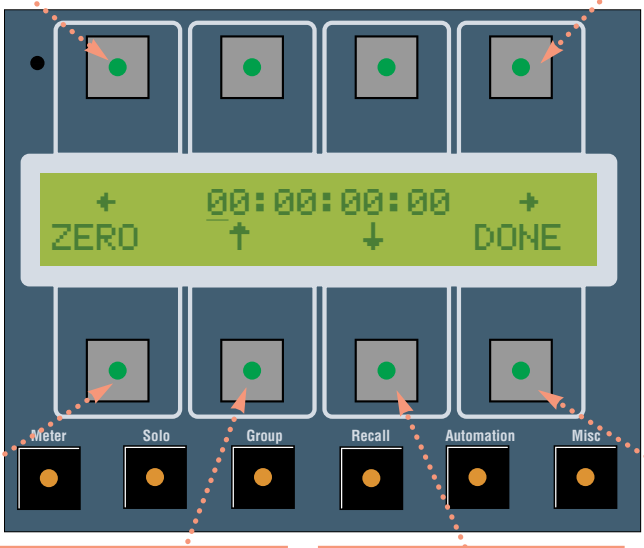
Returns to previous display.

Moves cursor to the left.

Moves cursor to the right.

Automation Options

TCGEN→SET→LP END
(Loop End Time)



Returns all numbers in display to zero.

Increments number above cursor.

Decrements number above cursor.

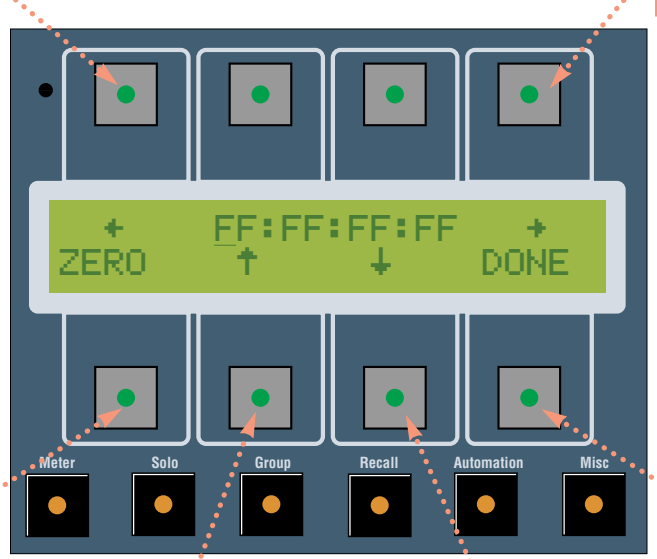
Returns to previous display.

Moves cursor to the left.

Moves cursor to the right.

Automation Options

TCGEN→SET→UBITS
(User Bits)



Returns all numbers in display to zero.

Increments number (Hex) above cursor.

Decrements number (Hex) above cursor.

Returns to previous display.

Appendix B Dynamics Option

B.1 Introduction

The Status Dynamics option adds the functionality of Noise Gates and Compressor/Limiters to the STATUS 18R console. A variety of gating/keying options help to make the dynamics very flexible. A choice of dedicated hardware controller or screen interface makes operation simple and fast.

B.2 A Dynamics Primer

The STATUS Dynamics option can be separated into Noise Gate and Compressor/Limiter functions. While there are many features built into the Dynamics option, for now, a basic description of these two devices is most useful.

■ Noise Gate

A Noise Gate is simply a fast acting “switch” for an audio signal, the switch being signal-level dependent. In the simplest terms, a noise gate is “open” (meaning that audio is being passed through the gate) when the signal level is above a certain level, and “closed” (signal is attenuated) when the signal level is below a certain level.

Almost all noise gates available today have these basic controls:

- **Threshold:** Sets the signal level (in dB) above which the noise gate opens and below which the noise gate is closed.
- **Attack:** Sets how fast the noise gate is opened when a signal crosses above the threshold level.
- **Release:** Sets at what rate the noise gate is closed after the signal level crosses back below the threshold level.
- **Depth:** Depth sets how much attenuation is applied to signals below the threshold, with a range from -60 dB to 0 dB (no attenuation.)

The STATUS Dynamics option adds some features to the basic set:

- **Masking:** This is the amount of time after a gate is triggered, before it can be retriggered.
- **Hold:** Sets the amount of time before the open gate starts to close after the signal drops below the threshold.

What is a Noise Gate for? — A noise gate, in its simplest application, allows the recording engineer to remove unwanted (“background”) sounds from desired (“foreground”) sounds. Many applications can make use of the noise gate’s features. Here are some examples of these applications.

- **Controlling Signal Leakage:** The engineer has miked a drum set for a recording session. He’s used six mikes (kick drum, snare, high hat, high tom, floor tom), and he is recording each of these to a separate track. The problem is leakage of the high hat into the snare track; the solution calls for a noise gate on the snare.
  Our engineer would run the snare signal through a noise gate, with the threshold set fairly high (let’s say, -10 dB). Since the high hat leakage at the snare mike is well below -10 dB, it doesn’t open the noise gate. On each snare hit, however, the gate opens, and passes the signal to the snare track.
  An application of the noise gate’s other features helps to restore a natural sound to the snare line: the attack is set very short (50 microseconds to 2 milliseconds), and the release is set to about 50 ms. Thus, the gate opens almost instantaneously on the snare hit, and stays open through the decay of the snare sound—then closes down tight so there is no leakage between snare hits.

- **Noisy Dialog Recording:** The recording engineer has received, via DAT, a location dialog track. This recording was done on set, and the set was particularly noisy, with equipment and lighting hums, and assorted other background noises. How would our engineer fix this? With a noise gate!
  The engineer runs the signal through the noise gate, and sets the threshold to a high enough level so that the dialog passes, but the background noise is excluded. Unfortunately, the high threshold causes a new problem, in that the gate closes and re-opens in between syllables, creating an audible effect. This situation calls for the application of the Hold feature.
  The "Hold" feature controls how long the triggered gate stays open after the signal crosses below the threshold—in the case of this dialog, the pauses between syllables were being gated, and this made for a slightly "mechanical" sound. So, our engineer applies a 100 ms "hold", which keeps the gate open across these durations of low signal.

- **Special Effects:** A number of Noise Gates can be triggered by the same source, creating useful effects. To "fatten" a high hat sound, for example, other sound sources can be triggered by the high hat and then added to its sound. To do this, a white-noise (hiss) source is put through one gate, and set to a fast attack time. The white noise gate is then externally gated by the high hat signal.
  When triggered by the high hat, the white noise is also triggered. Mixing the signals together, (or even completely replacing the high hat with the gated white noise) can provide an interesting effect.

■ Compressor/Limiter

A Compressor/Limiter device is, in its simplest form, a level-dependent audio attenuator. All compressors have at least two controls: **Threshold** and **Compression Ratio**. Like the noise gate, a threshold level is set for the signal—but levels below this threshold are unaffected, and levels above this threshold are attenuated by a "compression ratio", specified as a n:1. Normal compression ratios are between 2:1 and 5:1. Very high compression ratios, such as those above 10 to 1, effectively limit the output signal level—therefore compressors that allow high compression ratios are called "compressor/limiters".

If the compression ratio is set to 2:1, this means that for every 2 dB of input signal above the threshold, the output signal increases by only 1 dB. Compression ratio also works in reverse—given a relatively constant signal level above the threshold, a reduction of input signal level by 2 dB results in only a 1 dB change in output level.

A few additional controls help to create some important compressor/limiter effects. If the threshold is set to a low level, and the compression level is moderate, the dynamic range of the signal is generally reduced, and since levels above this threshold are attenuated, the overall output level of this signal is also reduced.

The "Auto Make Up" feature is provided to automatically restore the gain lost to compression. If the original signal is always too low or too high, Auto Make Up might not be perfect in matching compressed vs. non-compressed perceived signal level. Therefore, an Output Level control is also provided, which allows the engineer to manually "make up" for the gain lost to compression.

The perceived effect of compression is that of "boosting" the signal, without actually raising its level. By using a low threshold and a moderate compression ratio, then boosting the signal, the perceived average signal level is increased. Applying compression to vocalists helps "level" variations caused by improper mike technique or uneven volume.

When used to an extreme amount, compression can have the effect of "squashing" the signal source. To maintain natural sound during compression, several additional controls are provided:
Attack: This control sets the rate at which attenuation (compression) is applied, once the signal level crosses above the threshold.
Release: This control sets the rate at which compression is removed, once the signal level crosses below the threshold.

One result of applying a compressor to an audio signal is that the dynamic range (difference between the lowest and highest signal levels) is reduced. Another effect is that you now have control over the dynamics of the signal—thus in a recording situation you can raise the general perceived level of a signal in the mix without overdriving the recording medium or monitoring system.

Applications of Compression/Limiting

- **Provides "Safe" limits for recording media/broadcast applications:** Compression, since it reduces the overall dynamic range of signals, overcomes the limitations of recording/reproducing media—for example, compression limits signal level peaks to within "safe" limits for digital recording. Similarly, in broadcast applications, compression makes program material fit into the legally-defined maximum dynamic range of the broadcast signal.

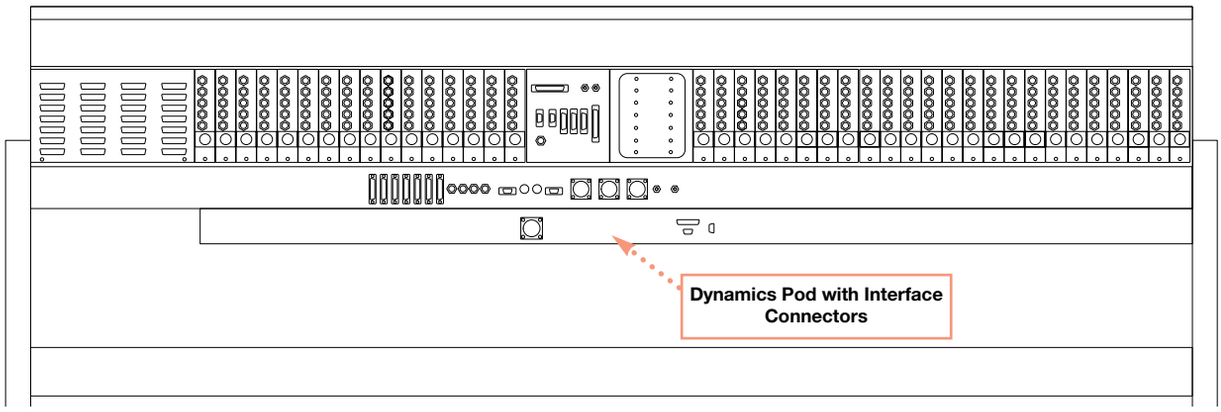
- **Effects Limiting:** The limiting aspect of a compressor/limiter also allows the engineer to set an overall maximum signal level—at a compression ratio of 20:1, any signal level higher than the threshold setting is effectively clamped to that threshold. The STATUS Dynamics option is very useful as an effect limiter in these situations.

- **Sustain:** A compressor's ability to reduce variations in signal level can be put to use in creating sustain effects with instruments—in this example, a guitar. If the compression ratio is set to, say, 3:1, and the threshold is set to a level well below that of the guitar's note, the guitar's attack and initial sustain is attenuated, but as the note decays, its level drops off more slowly. (In this example, a 3 dB drop in input signal means only a 1 dB decrease in output signal, until of course the input signal drops below the threshold.) The perceived effect of the compressor is a sustain effect. Use of the Auto Make Up or Output Level control can restore the guitar to its original level in the mix.

- **Ducking:** Using the Keying capabilities of the compressor/limiter, the engineer can "duck" one signal under another, such as music under a voice, simply by passing the first signal (in this case, music) through a compressor, then keying that compressor off the voice channel. When the talent speaks, compression is applied to the music signal, creating a "voice-over" effect.

B.3 Installation

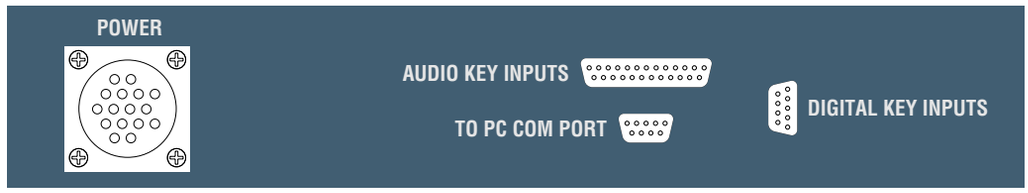
The Dynamics option for STATUS is a factory installed option. When installed, the dynamics processors are housed in an auxiliary “pod” attached to the bottom pan of the console. Power for the dynamics processors is supplied by connecting the dynamics power supply cable between the dynamics power supply and the circular plastic connector on the rear of the dynamics pod.



Console Rear View

For basic operation of dynamics, no additional connections are necessary. To make use of all available features, however, the following connections can optionally be made:

- **External Keying:** Analog and digital keying buses are available for external keying of noise gates and compressor/limiters. The buses can be accessed by wiring to a DB-25 (analog) and a DB-9 (digital) connector mounted on the rear of the dynamics pod.

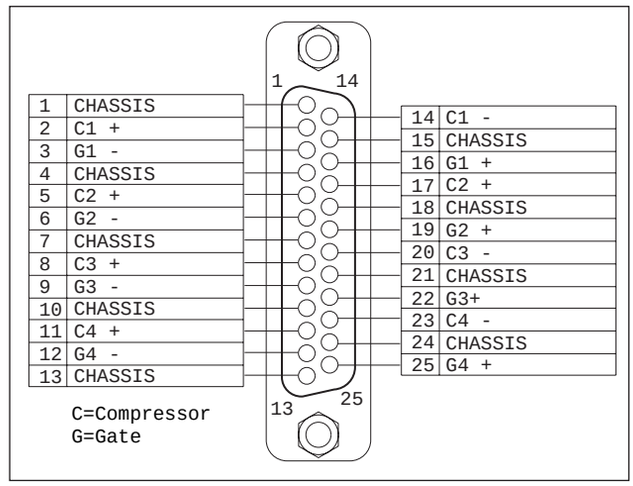


Dynamics Interface Connectors

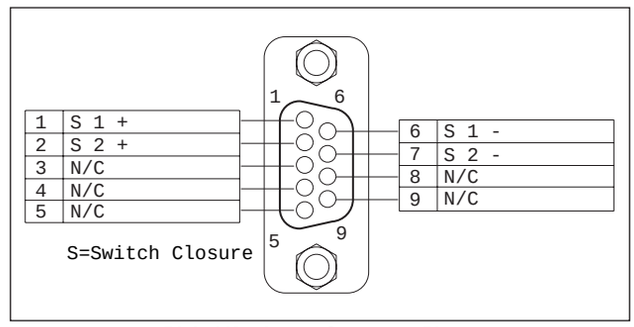
■ Interfacing to the Analog and Digital Keying Buses

The dynamics interface connectors are located on the rear of the dynamics pod, just below the console’s power connectors. There are 4 connectors—**DYNAMICS POWER**, **DIGITAL KEY INPUTS**, **ANALOG KEY INPUTS**, and **TO PC COM PORT** connector.

- **POWER:** The dynamics option has its own power supply for powering the dynamics processors. Connect the power supply cable between the power supply and the dynamics pod by inserting the circular plugs and turning each locking ring until it stops.
- **AUDIO KEY INPUTS C1–C4 and G1–G4:** The **AUDIO KEY INPUTS** DB-25 connector provides analog inputs to the console-wide gating and keying buses. All inputs are balanced, +4 dBu. A total of eight balanced audio inputs are available—4 for Gates (G1–G4), and 4 for Compressor/Limiters (C1–C4).
  Refer to the following diagram for the connector pinout:
- **DIGITAL KEY INPUTS S1 and S2:** The right-most DB-9 connector provides digital switch closure inputs to the console-wide switch buses used for triggering noise gates. Switch inputs S1 and S2 are digitally de-bounced internally.
  S1 and S2 switch closures are normally open. Shorting the + and – of S1 or S2 opens gates that are keyed by the respective input.
  Inverted (normally closed) versions of S1 and S2 are created internally and show up on the dynamics user interface as inputs I1 and I2. Shorting the + and – of S1 or S2 closes gates that are keyed by the I1 or I2 inputs.
  Refer to the following diagram for the connector pinout:



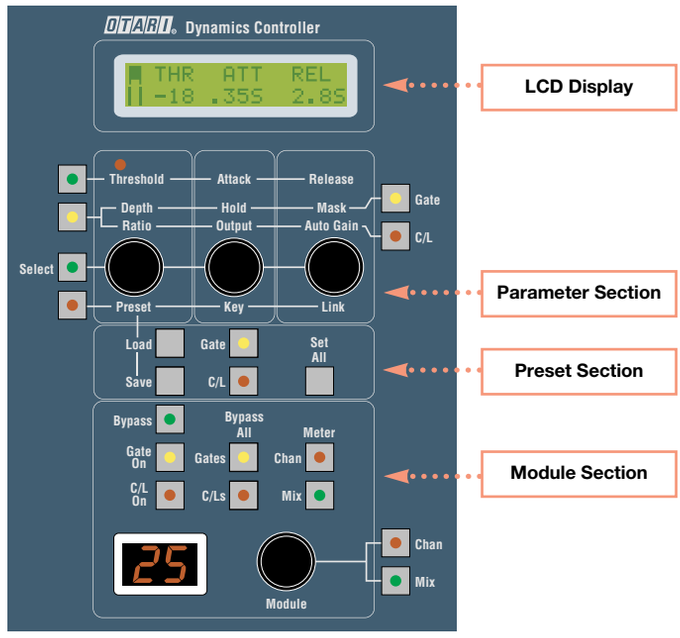
Audio Key Inputs Connector Pinout



Digital Key Inputs Connector Pinout

B.4 Dynamics Controller

The STATUS Dynamics option consists of one dynamics section per console Input module, each dynamics section being comprised of a compressor/limiter and a gate. Each dynamics section can be selected to operate on an Input module's Chan or Mix path. Dynamics are controlled by the Dynamics Control Panel mounted in the console surface.



■ General Operation

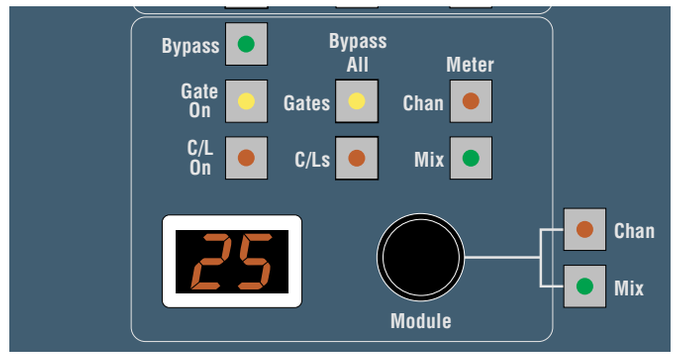
In general, the Dynamics Controller has two types of controls—**buttons** to select the module path, type of dynamics, and parameters being controlled, and **rotary encoder knobs** to adjust values up and down. A two digit LED readout shows the Input module selected, while a 32 character LCD readout shows the dynamics parameters and their values. The LCD also displays help or error messages when necessary.

■ Controller Sections

The Dynamics Controller has four basic sections for controlling dynamics on the Status console, the Module section, the Preset section, the Parameter section, and the LCD display.

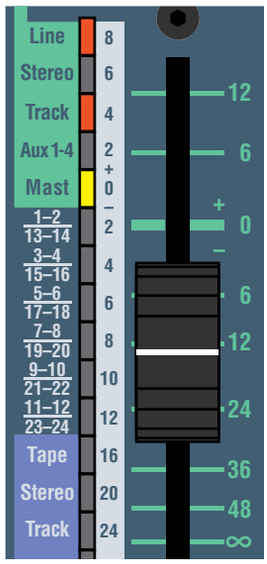
- The **Module** section has controls to:
  Select the Input module that is being controlled by the panel.
  Select the path that dynamics affect.
  Select whether a gate, compressor/limiter, or both are being used.
  Bypass all dynamics or individual gates or compressor/limiters.
  Select metering of dynamics on the console meters.
- The **Preset** section is linked to the Preset parameter knob and has controls to:
  Load one of 8 preset settings into the currently selected compressor/limiter, gate, or both (1 preset equals 1 compressor/limiter setting and 1 gate setting).
  Save the current compressor/limiter setting, gate setting, or both to a preset.
  Set all gates and/or compressor/limiters to the selected Preset settings.
- The **Parameter** section has controls to:
  Set compressor/limiter and gate parameters.
  Show when a compressor/limiter or gate is "triggered".
  Select presets for loading and saving.
  "Link" dynamics from different modules together for stereo gating and compression.
  "Trigger" gates and compressors from external audio and logic sources.
- The **LCD display** is used to display parameter settings and system messages. A meter bar on the left side of the display shows the real-time gain reduction of the currently selected gate and compressor/limiter settings.

■ Module Section Controls



Module Section

- **Module Knob:** The Module knob selects the module being controlled by the panel. Turning the knob clockwise increases the module number, turning it counterclockwise decreases the module number.
  Selecting an Input module by pressing its **Select** button automatically selects that module on the dynamics controller. Only one module may be selected at a time.
- **Chan and Mix Buttons:** Used to select which Input module path has dynamics. Pressing **Chan** assigns the compressor/limiter and gate to the Chan path, pressing **Mix** assigns them to the Mix path.
- **Bypass Button:** The Bypass button bypasses both the compressor/limiter and the gate sections of the currently selected module path. The compressor/limiter and gate On/Off settings remain intact during bypass.
  Bypass is useful for comparing the original signal to the gated and/or compressed signal.
- **Gate On Button:** Toggles the Gate section of currently selected dynamics module On and Off. When the button LED is On, the gate parameters are in effect. Gate parameters are retained when the gate is off.
- **C/L On Button:** Toggles the compressor/limiter section of currently selected dynamics module On and Off. When the button LED is On, the C/L parameters are in effect. C/L parameters are retained when the compressor/limiter is off.
- **Bypass All Gates Button: Bypass All Gates** bypasses all gates on the console. When the **Gates** LED is on, all gates are bypassed. All On/Off and gate parameters are retained when **Bypass All Gates** is in effect.
- **Bypass All C/Ls Button: Bypass All C/Ls** bypasses all compressor/limiters on the console. When the **C/Ls** LED is on, all compressor/limiters are bypassed. All On/Off and compressor/limiter parameters are retained when **Bypass All C/Ls** is in effect.
- **Meter Chan Button:** The **Meter Chan** button does not function with Status Dynamics.
  Even though a module's dynamics can be assigned to either the Mix or Chan path, the module's dynamics hardware is physically installed on the Mix path. Pressing the **Mix** Meter button displays gain reduction metering for all paths whether assigned to the Mix or Chan path.
- **Meter Mix Button:** Pressing the **Mix** Meter button displays Mix and Chan path gain reduction on the console's Level and Status display.
  When gain reduction metering is in effect, the Level and Status display's 0, +4, and +8 LEDs are constantly lit and gain reduction is metered downward from the 0 LED.

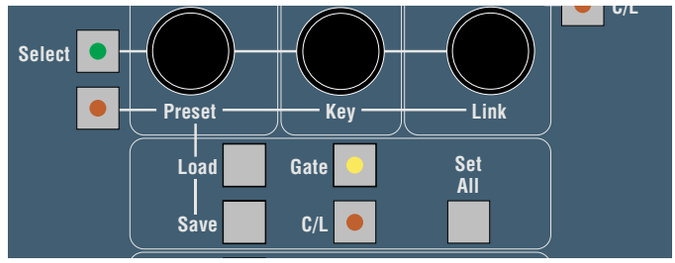


Gain Reduction Meter Indication

■ Preset Section Controls

The Preset section controls work in conjunction with the **Preset/Key/Link** switch and the **Preset** rotary encoder. To select a preset:

1. **Press the Preset/Key/Link select switch.**
2. **Turn the Preset rotary encoder until the desired preset number is displayed on the LCD.**
   All load and save operations are performed on the preset displayed.



Preset Section

- **Gate Button:** When the **Gate** button LED is on, the gate preset will be will be loaded or saved during a load or save operation.
- **C/L Button:** When the **C/L** button LED is on, the compressor/limiter preset will be will be loaded or saved during a load or save operation.
- **Load Button:** Pressing **Load** while holding the **Preset/Key/Link** selection button loads the selected gate and/or compressor/limiter preset into the currently selected path's dynamics module. The preset number and device(s) loaded depends on the state of following controls:
  - The preset number selected on the LCD.
  - The On/Off state of the **Gate** button
  - The On/Off state of the **C/L** button.

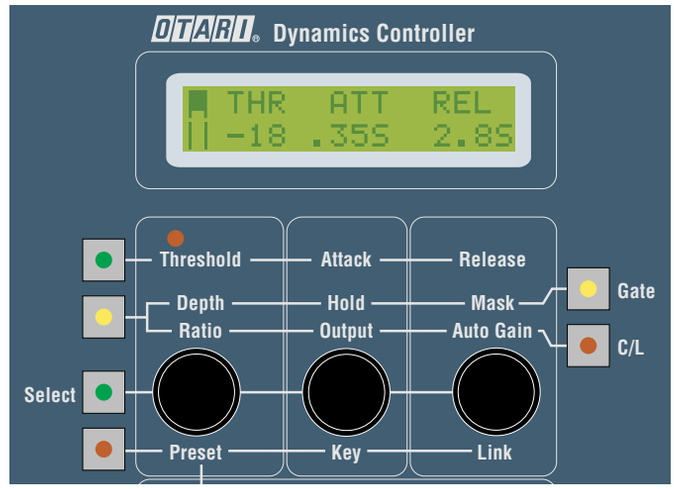
  See **§B.5.6** for more information about dynamics presets.
- **Save Button:** Pressing **Save** while holding the **Preset/Key/Link** selection button saves the current gate and/or compressor/limiter settings into the currently selected preset. The preset number and device(s) saved depends on the state of following controls:
  - The preset number selected on the LCD.
  - The On/Off state of the **Gate** button
  - The On/Off state of the **C/L** button.

  See **§B.5.6** for more information about dynamics presets.
- **Set All Button:** Pressing **Set All** and **Load** sets all gates and/or compressor limiters to the currently selected preset The device(s) set depends on the state of following controls:
  - The On/Off state of the **Gate** button
  - The On/Off state of the **C/L** button.

  If **Set All** is pressed alone, the LCD shows "PRESS LOAD TO SET ALL..." indicating that **Load** and **Set All** must be pressed together.

■ Parameter Section Controls

The parameter controls are used to select and adjust the gate and compressor/limiter parameters. The LCD always displays the parameters currently being adjusted. Adjustments are made by turning any of the three rotary encoder knobs in the parameter section. Turning the knob clockwise increments the parameter value, turning it counter-clockwise decrements it.



Parameter Controls and LCD

- **Gate Button:** Pressing **Gate** allows the gate parameters for the currently selected path to be adjusted. When **Gate** is selected, the left-hand parameter select buttons choose which parameters will be changed by the rotary encoders. The gate parameters include: a) Threshold, b) Attack time, c) Release time, d) Depth of attenuation, e) Hold time before release, f) Mask time before Gate can be retriggered, g) Keying source, and h) Link to other paths.
- **C/L Button:** Pressing **C/L** allows the compressor/limiter parameters for the currently selected path to be adjusted. When **C/L** is selected, the left-hand parameter select buttons choose which parameters will be changed by the rotary encoders. The compressor/limiter parameters include: a) Threshold, b) Attack time, c) Release time, d) Compression ratio, e) Output level, f) Auto Gain On/Off (Auto adjust output level), g) Keying source, and h) Link to other paths.
- **Parameter Select Buttons:** The four Parameter Select buttons to the left of the rotary encoder knobs select which parameters are being adjusted for either the gate or compressor/limiter. The parameters associated with each button are shown below:
  Select Button: The **Select** button allows the engineer to control any combination of three parameters for the gate and compressor/limiter. With this feature, for example, the compressor/limiter threshold, release, and ratio parameters can be displayed and adjusted at the same time.
  To select parameters, hold the **Select** button down and turn a rotary encoder knob. The display will sequence through all available parameters for the selected device so that a custom parameter display can be created. From then on, whenever the **Select** button is pressed, those parameters will be displayed for adjustment. Individual custom displays can be created for gate and compressor/limiter.
  NOTE: If the same parameter is selected for two knobs, the display will show "CHANGE DUPLICATE ITEMS", indicating an error condition. Hold down the **Select** button and change one of the duplicate items to remove the error.
- **Rotary Encoder Knobs:** The three rotary encoder knobs are used to adjust the three parameters displayed on the LCD up or down. Turning the knob clockwise increases the value, turning it counterclockwise decreases the value. When rotated at a normal rate, the displayed value increases or decreases one increment per click of the knob. When rotated quickly, the rate of change is increased so that the upper and lower limits of the parameter can be reached with fewer turns of the knob.
- **Threshold LED:** The red LED above the **Threshold** label lights whenever the gain of the path is being affected by either the gate or the compressor/limiter. If a device is bypassed, it will not light the **Threshold** LED.

■ LCD Display

The LCD shows the parameter name and value being controlled by each rotary encoder knob. On the left side of the display is a gain reduction display that shows the gain reduction in effect on the path.

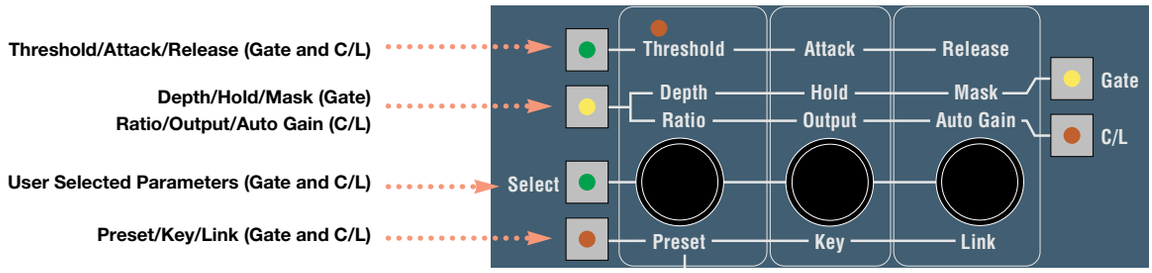
The display also shows error and help messages for the dynamics modules. The following illustration shows the various parts of the display:

These abbreviations are used for the parameter names:

THR	Threshold
ATT	Attack
REL	Release
DPTH	Depth
HOLD	Hold
MASK	Mask
RAT	Ratio
PRST	Preset
KEY	Key
LINK	Link
OUT	Output
AUTO	Auto Gain

B.5 Operation

B.5.1 Gate Parameters

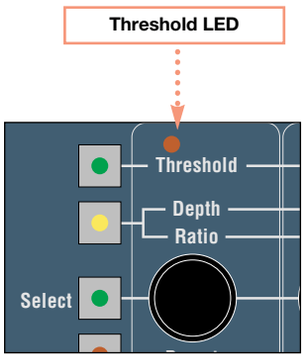


Parameter Select Button Functions

The following section describes the parameters available for noise gates:

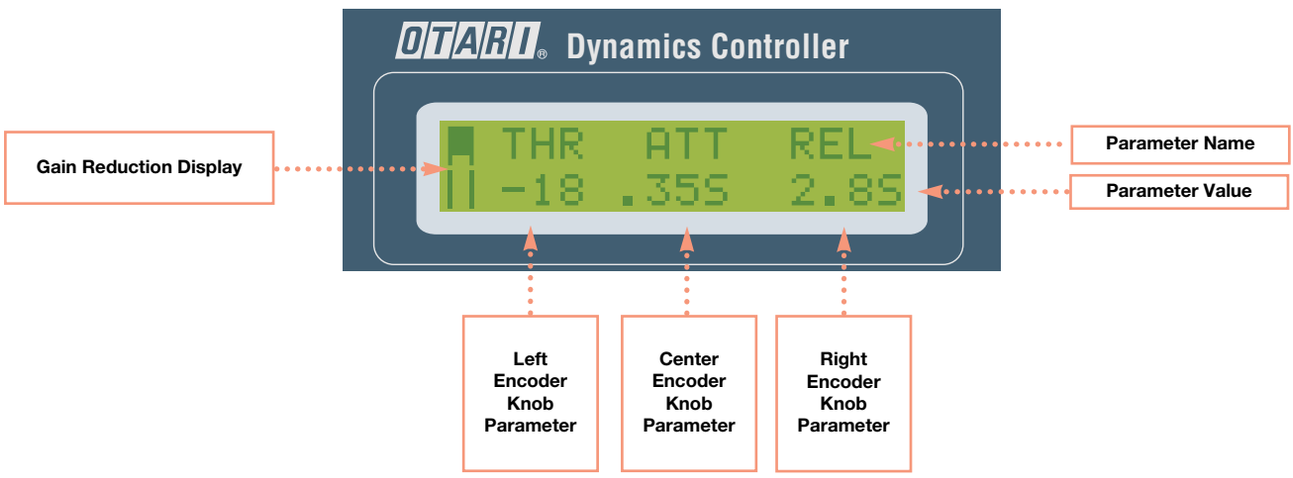
- **Threshold:** Adjusts the level at which the noise gate opens (audio on). The level is adjustable from -60 to +10 dB.
- **Attack:** Adjusts how quickly the noise gate opens when the Threshold level is reached. The Attack time is adjustable from 50 µs (microseconds) to 5 seconds.
- **Release:** Adjusts how quickly the noise gate closes when the trigger level drops below the Threshold level. The Release time is adjustable from 1ms (millisecond) to 5 seconds.
  NOTE: The Hold parameter can effect the release time by holding the noise gate open for a length of time before the release time takes effect.
- **Depth:** Controls the amount of attenuation when the noise gate is closed (Off). Depth is adjustable from -60 to 0 dB.
- **Hold:** Adjusts the amount of time that the noise gate will stay open before the Release time takes effect after the trigger level drops below the Threshold level. The Hold time is adjustable from 1 ms to 5 seconds.
- **Masking:** Adjusts the amount of time that must pass before a gate can be retriggered. This is useful for minimizing false triggering when the gated sound has a predictable waveform. The Masking time is adjustable from 1ms to 5 seconds.
- **Key:** The **Key** button allows an alternate keying source to be selected for the noise gate. Another module, an external analog bus or an external switch bus can be selected. Turn the rotary encoder knob to cycle through all available options.

B.5.2 Compressor/Limiter Parameters



The following section describes the parameters available for compressor/limiters:

- **Threshold:** Adjusts the level at which the compressor/limiter begins to operate (gain reduction). The level is adjustable from -50 to +22 dB.
- **Attack:** Adjusts how quickly gain reduction is applied when the Threshold level is reached. The Attack time is adjustable from 1 ms to 5 seconds.
- **Release:** Adjusts how quickly gain reduction is removed when the trigger level drops below the Threshold level. The Release time is adjustable from 100 ms to 5 seconds.
- **Ratio:** Controls the amount of gain reduction applied to the input signal. The number represents the ratio of the input level to the output level. For example, a 2:1 compression ratio means that for a 2 dB increase in input level, the compressor/limiter's output level will increase only 1 dB.
  The compression ratio is adjustable from 1:1 (no compression) to 20:1 (extreme limiting).
- **Output:** Adjusts the output level of the compressor/limiter. This control is used to restore level lost during gain reduction. Output is adjustable from -50 to +50 dB.
- **Auto Make Up (Auto):** When selected, output level is automatically compensated for as the compression ratio is increased.
- **Key:** The **Key** button allows an alternate keying source to be selected for the compressor/limiter. Another module or an external analog bus can be selected. Turn the rotary encoder knob to cycle through all available options.



Dynamics LCD Display

B.5.3 Linking

Modules may be linked as a stereo pair, so that both module's dynamics operate in tandem. When linked, both sets of dynamics are controlled by one set of controls. Modules are linked according to the following rules:

- Only odd numbered modules can be linked to the next highest even numbered module (ie. 1-2, 5-6, 25-26).
- When linked, the odd numbered module always controls the even numbered one.

NOTE: If you are keying from an adjacent even module, you must first remove the key before you can establish a link.

To Link a Module:

1. Press the **Preset/Key/Link** selection button.

2. **Turn the right Link rotary encoder knob until the linked module number is displayed.**
   Setting **Link** to OFF disables linking.

B.5.4 External Keying of Noise Gates

Noise gates may be keyed (externally triggered) by a variety of sources. A gate may be keyed by the settings of another gate, one of four console-wide Gate buses, or one of two Switch buses.

To Key a gate from another source:

1. Select the Input module desired. Press the Gate select button.

2. Press the Preset/Key/Link selection button and turn the center Key rotary encoder knob to cycle through the following choices:

OFF	No External Keying
M#	One of the three other modules in the processor group
G1	Console-wide Audio Gate bus 1
G2	Console-wide Audio Gate bus 2
G3	Console-wide Audio Gate bus 3
G4	Console-wide Audio Gate bus 4
S1	Console-wide Switch Closure bus 1
I1	Inverse of Switch Closure bus 1
S2	Console-wide Switch Closure bus 2
I2	Inverse of Switch Closure bus 2

Each dynamics processor in the console controls 4 modules (ie. 1-4, 13-16, 33-36). When keying a module from another module, the module can only be keyed by modules on the same dynamics processor (ie. Module 2 can only be keyed from module 1, 3 or 4).

If a Noise Gate is being keyed from another source, the Threshold and Mask settings are derived from the external source. Therefore, the control's title changes to show the new source. For example, if Mix 1's gate is keyed from Mix 2, the THR label becomes TM02, and the MASK label becomes MM02.

If a gate is keyed from S1, S2, I1, or I2, then the Threshold setting no longer applies, and dashes (---) are displayed on the LCD.

Due to the architecture of the STATUS Dynamics option, the following restrictions apply when keying noise gates from external buses.

- Noise Gates may key off console-wide external buses G1 through G4, or switch buses S1, I1, S2, or I2. External bus selection is exclusive—if an external bus is selected by any noise gate on the local processor, then it is the only external bus available to other noise gates in that local processor group.

B.5.5 External Keying of Compressor/Limiters

Compressor/Limiters may be keyed (externally triggered) by a variety of sources. A compressor/limiter may be keyed by the settings of another compressor/limiter or one of four console-wide analog buses.

To Key a compressor/limiter from another source:

1. Select the Input module desired. Press the C/L select button.

2. Press the Preset/Key/Link selection button and turn the center Key rotary encoder knob to cycle through the following choices:

OFF	No External Keying
M#	One of the three other modules in the processor group
A1	Console-wide compressor/limiter analog bus 1
A2	Console-wide compressor/limiter analog bus 2
A3	Console-wide compressor/limiter analog bus 3
A4	Console-wide compressor/limiter analog bus 4

Each dynamics processor in the console controls four modules (ie. 1-4, 13-16, 33-36). When keying a module from another module, that module can only be keyed by modules on the same dynamics processor (ie. Module 2 can only be keyed from module 1, 3 or 4).

B.5.6 Dynamics Presets

The STATUS Dynamics option supports saving favorite dynamics settings as Presets, for future use or for application to other Modules.
Saved Presets are stored in a configuration file on the STATUS Master floppy, and are retained until changed again.

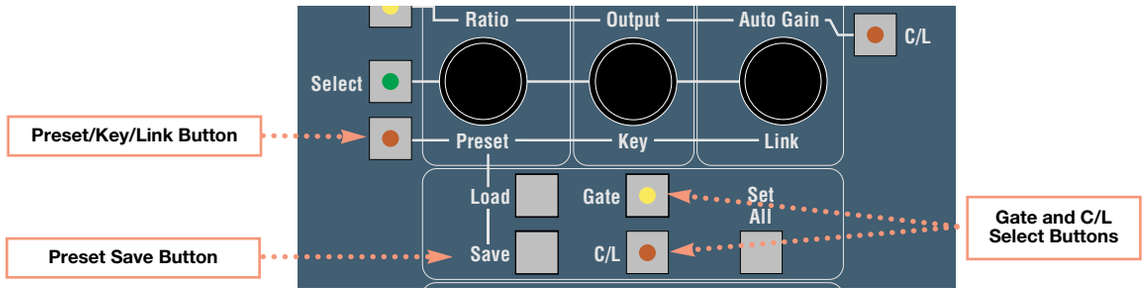
■ Saving Presets

Each Preset saved contains settings for the gate and/or compressor/limiter, depending on whether the **Gate** or **C/L** button is lit when the preset is saved. There is one exception: a module's gating/keying assignment is not saved unless it is gating off itself or off a console-wide bus. Also, the gate thresholds for console-wide buses G1 through G4 are not saved in Presets.
To save a Preset:

1. Press the **Preset/Key/Link** selection button and turn the left **Preset** rotary encoder knob until the desired Preset number is displayed.

2. Press **Gate** and/or **C/L** until the LEDs are lit on the item(s) that you want to save.

3. Hold **Save** and press the **Preset/Key/Link** selection button.
   When **Save** is held, the display indicates that the **Preset** button must be pressed to save the preset.



Preset Save Buttons

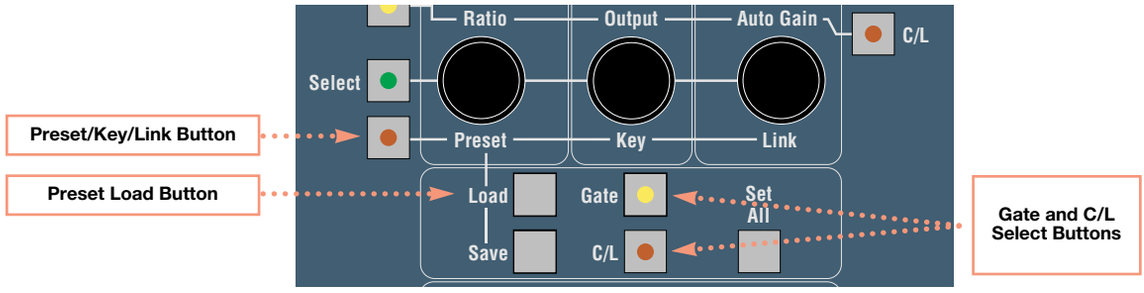
■ Loading Presets

Presets may be loaded to just the gate, just the compressor/limiter, or both. You may select which device will be loaded from the Preset by toggling the **Gate** or **C/L** button until its LED is On.
To load a Preset:

1. Press the **Preset/Key/Link** selection button and turn the left **Preset** rotary encoder knob until the desired Preset number is displayed.

2. Press **Gate** and/or **C/L** until the LEDs are lit on the item(s) that you want to load.

3. Hold **Load** and press the **Preset/Key/Link** selection button.
   When **Load** is held, the display indicates that the **Preset** button must be pressed to load the preset.



Preset Load Buttons

■ Setting All Modules to a Preset

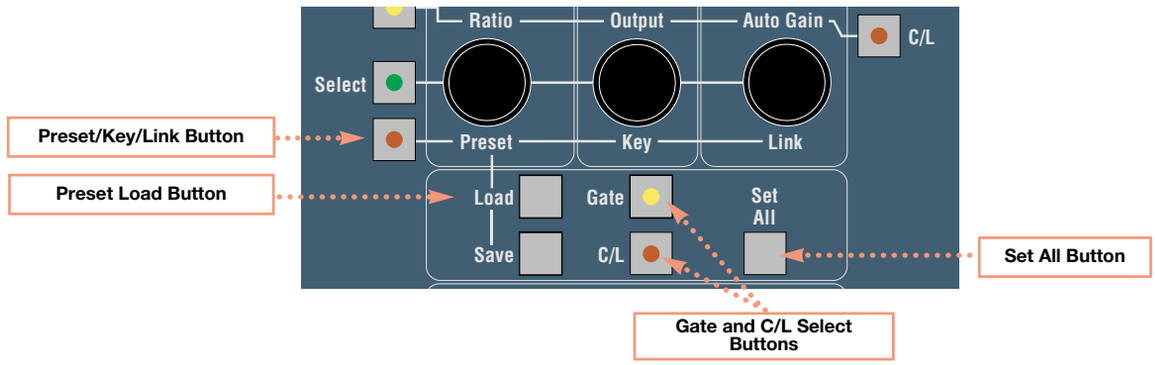
The **Set All** button takes the selected Preset and applies its settings to all Dynamics modules in the console. You may select which device will be loaded from the Preset by toggling the **Gate** or **C/L** button until its LED is On.

To set all dynamics modules to a Preset:

1. Press the **Preset/Key/Link** selection button and turn the left **Preset** rotary encoder knob until the desired Preset number is displayed.

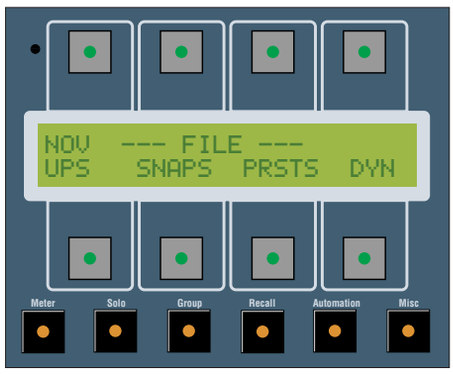
2. Press **Gate** and/or **C/L** until the LEDs are lit on the item(s) that you want to copy to all modules.

3. Hold **Set All** and press **Load**.
   When **Set All** is held, the display indicates that the **Load** button must be pressed to set all modules.

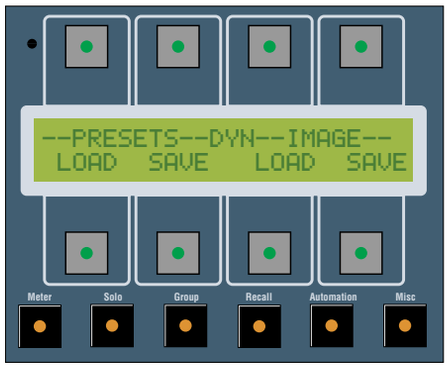


Set All Buttons

B.5.7 Saving and Loading Dynamics Preset and Image Files to Floppy



MISC→FILES Menu



MISC→FILES→DYN Menu

There are two types of files used for storing Dynamics settings:
Preset File - A file that stores a bank of eight Dynamics Presets.
Image File - A file that stores the console's dynamics setup.
One Preset and one Image file can be saved to the console floppy disk using the LCD Menu System.

■ Saving Preset and Image Files

1. Press **Misc** on the LCD Menu System. Press FILES.

2. Press DYN to display the Dynamics File Menu.

3. Press SAVE under PRESETS to save the current Presets to the console floppy. Press SAVE under IMAGE to save the current Dynamics setup to the console floppy.

■ Loading Preset and Image Files

1. Press **Misc** on the LCD Menu System. Press FILES.

2. Press DYN to display the Dynamics File Menu.

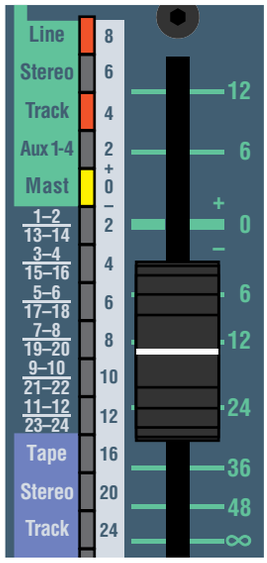
3. Press LOAD under PRESETS to load the current Presets from the console floppy. Press LOAD under IMAGE to load the current Dynamics setup from the console floppy.

B.5.8 Viewing Gain Reduction on the Console Meters

Pressing the MIX Meter button displays Mix and Chan path gain reduction on the console's Level and Status display.

When gain reduction metering is in effect, the Level and Status display's 0, +4, and +8 LEDs are constantly lit and gain reduction is metered downward from the 0 LED.

NOTE: On the STATUS 18R console the **Chan** Meter button does not function. The **Mix** Meter button displays all path's dynamics whether they are assigned to the Mix or Chan path.



Gain Reduction Meter Indication