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## **ABOUT THIS MANUAL**

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This manual has been structured to serve as both a text book and reference manual.

From cover-to-cover, the sequence of topics is:

- **INTRODUCTION**
- **CONTROL PANEL**
- **SUBPANELS**
- **SOFTKEY MENUS**
- **TUTORIAL**
- **TROUBLESHOOTING**
- **GLOSSARY**
- **APPENDIX**

It is recommended that this manual be read through *at least once* from cover to cover to gain the proper perspective of the DMX-1000 operations.

## **FORMATTING CONVENTIONS USED IN THIS MANUAL**

To help the reader differentiate between certain aspects of the DMX-1000, unique character formatting is applied throughout this publication. Formats include:

**ALL UPPERCASE** = a subpanel on the DMX, as in "SOFTKEY SUBPANEL."

**BOLD UPPERCASE** = either a major function or a key on the DMX control panel. For example: **DELAY** (function) and **ASN** (key).

**(BOLD ITALIC IN PARENTHESES)** = function key.

## **SYNONYMOUS TERMS**

The following terms are used synonymously throughout this manual:

- **AESEBU, DIGITAL**
- **BUS, OUTPUT BUS, MIX BUS, PROGRAM BUS**
- **CHANNEL, INPUT, INPUT SOURCE, PLAY SOURCE, SOURCE**
- **DMX-1000, DMX, CONSOLE, AUDIO MIXER, MIXER**
- **EDIT MODE, TIMELINE**
- **FUNCTION KEY, SOFTKEY**
- **LOGICAL VTR, LOGICAL NAME**
- **OPERATOR, USER**
- **REC, RECORDER, RECORD VTR, RVTR**

## **INTRODUCTION**

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The DMX-1000 is a compact, full-featured digital audio mixer specifically designed for video post-production applications.

Incorporating virtually every function found on large production and audio post-production consoles, the DMX-1000 also offers a unique **TIMELINE** approach to changes in mixer setups.

A flexible input section accepts a combination of up to 20 analog or digital **SOURCES**. On the output side, four **MIX BUSES**, four **MONITOR BUSES**, and two **EFX SEND BUSES** provide simultaneous analog and digital feeds.

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**NOTE: Analog EFX SEND outputs are not available with the 20-bit Analog-Digital converter option.**

---

The DMX-1000 offers a powerful editor interface built upon the standardized ESAM II protocol. An internal 4-channel audio preview switcher handles all audio previewing operations without the need for an external audio switcher.

An optional router interface provides complete automation of mixer setups in conjunction with external routing switchers.

## **INSTALLATION OVERVIEW**

The DMX-1000 consists of a console-mountable **CONTROL PANEL**, rack-mountable **METER MODULE**, and a 3 R.U. **AUDIO PROCESSOR UNIT (APU)**. The interconnect between the two system assemblies is via an RS422 data cable. All of the user interface software and data resides in the control panel, while the APU performs all of the "physical" tasks of mixing.

The DMX-1000 **CONTROL PANEL** provides connections for the APU, editor interface, GPI interface, router interface, monitor remote, SCSI interface, Z. Recorder VTR emulation, and the rack-mountable meter module. All connections are via DB9 and DB25 female jacks. The meter module and monitor remote both receive power via their respective interconnect cables – no external power supplies are required.

The internal 3.5" floppy disc drive is designed to be accessible to the user underneath a standard console desktop. If desired, the disc drive may be removed and relocated to suit the installation.

An optional **MONITOR REMOTE PANEL** may be mounted directly on/in a console or in an available slot of a Zaxcom TBC remote rackmount panel.

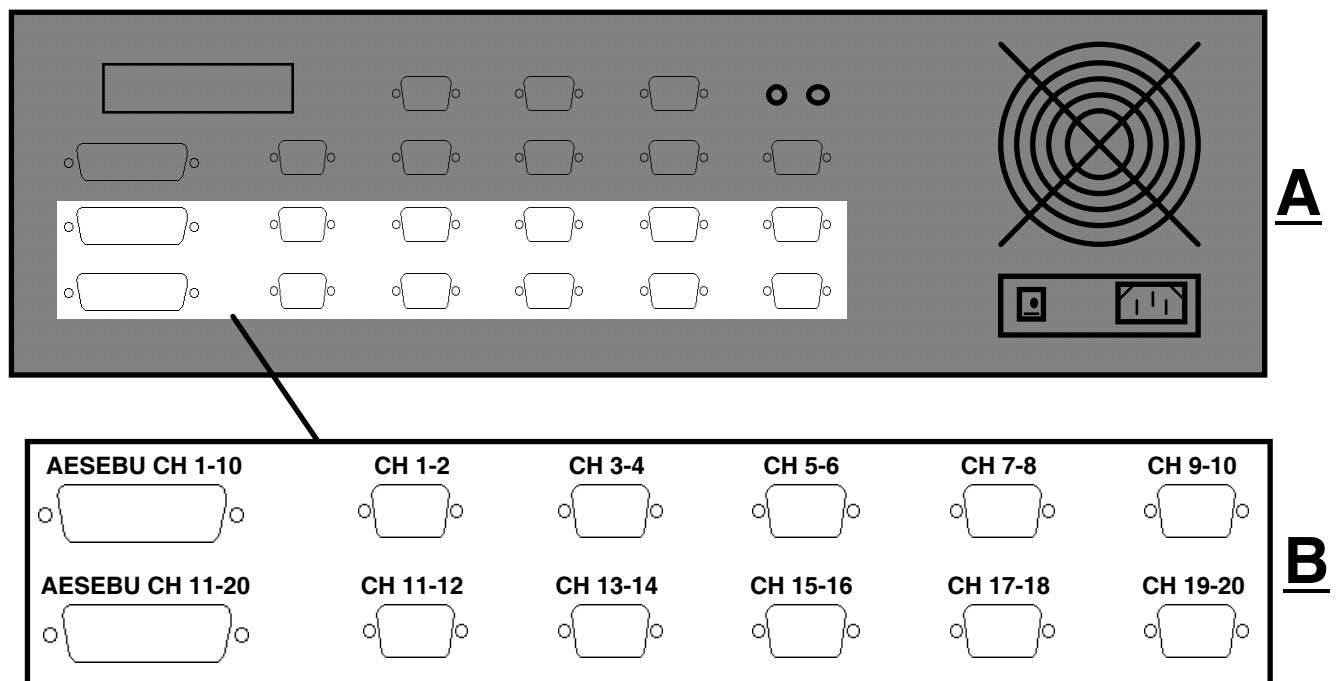
Refer to the DMX INSTALLATION MANUAL for complete installation and technical information.

**INPUT/OUTPUT OVERVIEW**

By nature, the online editing suite is a dynamic environment, where equipment complements change at a moment's notice. The impact to the mixer may be the replacement of a 2-channel analog VTR with a 4-channel digital VTR. Perhaps only 3 channels are necessary from a 4-channel VTR. Swap the AVTR with the CVTR?...the permutations are endless.

While the DMX-1000 is designed to facilitate quick response to changes in the editing environment, a thorough understanding of its input architecture is important for proficient operation.

Below is a two-tiered view of the DMX Electronics Chassis rear connector panel:



where:

**A** = The entire rear panel of the DMX Electronics Chassis.

**B** = The input section, showing the grouping of the **AESEBU (DIGITAL)** inputs and the **ANALOG** inputs. Note that the **ANALOG** inputs are grouped in pairs.

## **INTRODUCTION, continued**

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### **INPUT HIERARCHY**

- The DMX has a total of 40 mono input channels.
- The 40 input channels are divided into 2 groups: 20 **ANALOG** and 20 **DIGITAL**.
- The **DIGITAL** group is divided into 10 two-channel pairs.
- The **ANALOG** group is divided into 10 two-channel pairs.
- Each group of input channels is numbered identically from 1-20.
- Both input channels in a pair will switch whenever a single channel's type (**ANALOG** or **DIGITAL**) is changed.
- Any combination of **DIGITAL PAIRS** and **ANALOG PAIRS** is possible, up to 10 pairs at one time.

---

***WHETHER AN INPUT (GROUP) IS SET TO ANALOG OR DIGITAL IS ENTIRELY BASED ON BOTH USER PREFERENCE AND AVAILABLE RESOURCES.***

---

### **CHANNEL MODIFIERS**

Any input may be assigned to any combination of **MIX BUSSES**, with the following features assignable on an input-by-input basis:

- Compression and Limiting
- Delay
- Equalization
- Fader position Limiting
- Gating
- Panning
- Phase Inversion
- Input Gain Adjust (analog inputs only)
- Unique Monitor Mixing

### **THEORY OF OPERATION**

All signal routing and processing is performed in the digital domain. Internal analog-to-digital converters convert incoming analog sources to digital prior to mixing. Simultaneous analog and digital outputs for both the mix busses and monitor speakers permit flexible integration into hybrid installations.

Unlike traditional Program/Preset configurations, the DMX-1000 performs transitions by inserting **BEGINNING**, **MIDDLE**, and **ENDING** points on a **TIMELINE**. The mixer automatically calculates all of the inbetweening to perform smooth, field accurate transitions. While a simple dissolve between two VTRs may utilize two points on a **TIMELINE**, a complex event where multiple audio sources are changing levels at specified intervals and times may contain up to 20 points on the **TIMELINE**.

Sixteen full-function faders are provided for mixing source VTRs, with 4 software-addressable faders provided for the REC VTR. The REC VTR may optionally be assigned to one or a group of the 16 hardware faders at any time.

### **OPERATIONAL CONVENTIONS**

The DMX-1000 control panel is largely software-based. The vast array of switches and knobs found on most traditional mixers has been replaced with a system of intuitive menus. Functions such as **COMPRESSION, DELAY, EQ, GATE, PAN**, etc. are all altered via these menus, which appear in the **SOFTKEY DISPLAY**.

The menus are accessed by pressing the appropriate keyswitches on the **FUNCTION SELECT, F/X SELECT, MONITOR, or AUTOMATION SUBPANELS**. Whenever a menu is "open" on the display, the red LED readout below the **NUMERIC KEYPAD** displays both the function name and the audio source that is currently delegated to the **SOFTKEY DISPLAY**. Pressing a **FADER SUBPANEL's CH** key changes the delegation of the current menu.

There is no keystroke sequence restriction for delegating a menu. The user is free to select a **CH** key before or after selecting a function.

### **MODES OF OPERATION**

There are two principle modes of operation on the DMX: **LIVE** and **EDIT MODE**.

**LIVE MODE** is used for "live" mixing of sources—providing the user with constant manual interaction with the DMX faders. This mode is distinguished by:

- All hardware faders are active at all times.
- All **CHANNEL LABEL** displays on the **FADER SUBPANELS** are at maximum brightness.
- The edit system **will not control** the faders or transitions.
- The edit system **will control** the **DMX MONITOR** section, if **MONITOR** is enabled in the **DMX EDITOR** menu.
- The mixer's **AUTOMATION FADER** may be used as a "master fader."
- Mixer setups are storable to RAM and/or floppy disk (via the **EVENT** and **DISK** menus).

**EDIT MODE** is used for creating, editing, recalling, storing and running **TIMELINE EVENTS**.

While similar to the "run" mode found on most DVE devices, **EDIT MODE** combines **EVENT CREATION** and **EVENT EXECUTION** into a single mode of operation. This mode is distinguished by:

- Controlled hardware faders are not active while an **EVENT** is **RUNNING** or parked between **MIDPOINTS**.
- All hardware faders are active at the **BEGINNING, MID, and END** points in the **TIMELINE**.
- **CHANNEL LABEL** displays for controlled faders are at half brightness.
- **FULL** edit system control over the faders, transitions, and monitoring is possible, provided all components of the **DMX EDITOR** menu are enabled.
- The mixer's **AUTOMATION FADER** may be used to step through the current **EVENT**.
- Mixer setups are storable to RAM and/or floppy disk (via the **EVENT** and **DISK** menus).

## **INTRODUCTION, continued**

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The DMX also offers a hybrid **LIVE/EDIT MODE**. Invoked by specifying channels as being **FULLTIME LIVE (FTL)**, the faders of channels set to **FULLTIME LIVE** are distinguished by:

- **FTL** faders are active at any point in an **EVENT**.
- **CHANNEL LABEL** displays for **FTL** faders are always at maximum brightness.
- **FTL** faders are *not* controlled by an edit system.
- *Current* **FTL** fader levels are stored as part of an **EVENT**.

## **CUSTOM TOGGLE FEATURE**

The DMX-1000 SOFTKEY DISPLAY employs a unique feature that enables the user to compare two preset levels for a given parameter. Throughout this manual, references are made to what happens when certain **FUNCTION KEYS** are pressed repetitively. Depending on the menu/parameter, one of the following will happen:

- The parameter toggles between its minimum and maximum value.
- The parameter toggles between its current value and OFF.
- The parameter toggles between its current and **UNITY** value.

In instances where a value normally toggles between its **CURRENT** value and **UNITY**, the user may choose to invoke a custom A-B mode by temporarily altering the **UNITY** value. The steps involved are:

- 1) Using either the **NUMERIC KEYPAD** or appropriate **SOFTKNOB**, alter a parameter's current value.
- 2) Press the **FUNCTION KEY** above the desired parameter to display its **UNITY** value.
- 3) Using either the **NUMERIC KEYPAD** or **SOFTKNOB**, alter the **UNITY** value.
- 4) Repetitive presses of the **FUNCTION KEY** will now toggle between the altered **UNITY** value and the original preset level.

Among other uses, this feature is useful for comparing two different **COMPRESSOR**, **DELAY** or **EQ** settings.

## ***IMPORTANT***

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**THE CUSTOM TOGGLE FEATURE PROVIDES ONLY A TEMPORARY MODE OF OPERATION.**

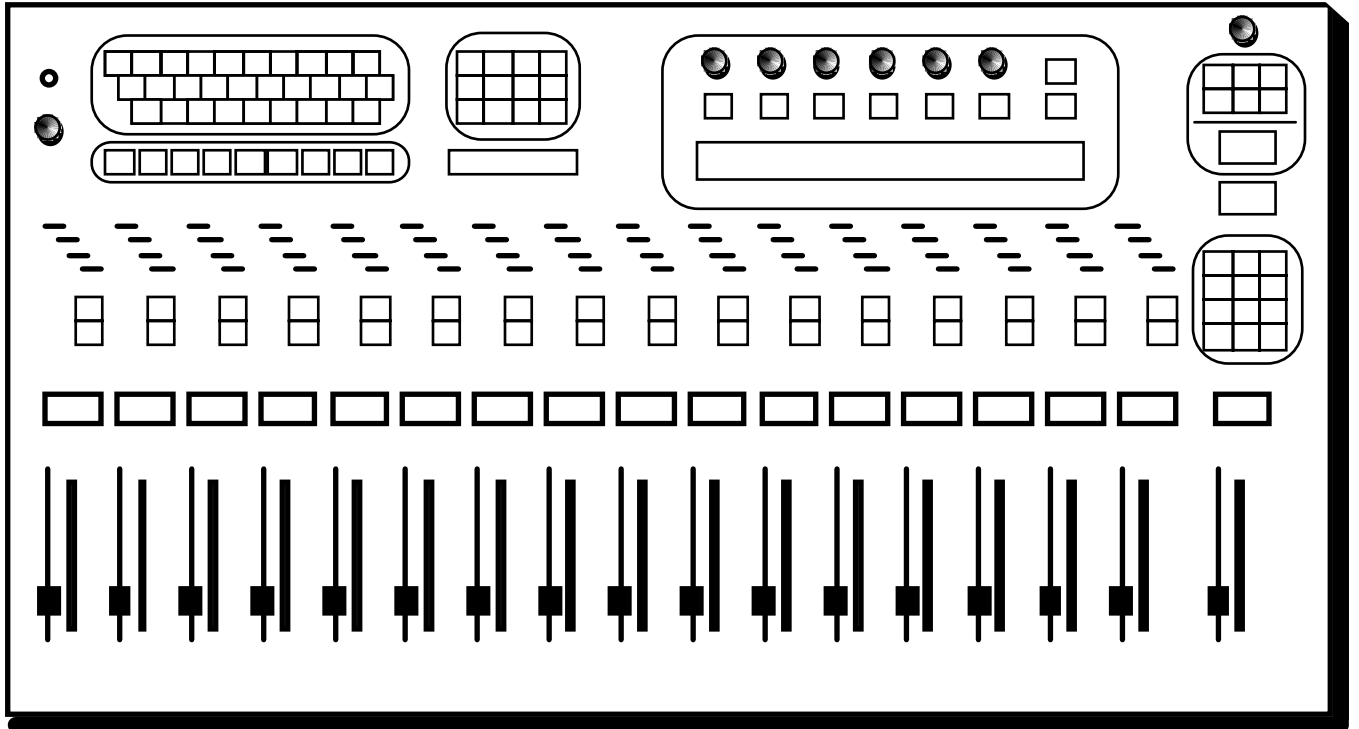
**THE DEFAULT UNITY VALUE WILL BE AUTOMATICALLY RESET ONCE THE USER EXITS THE CURRENT MENU.**

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Throughout this manual, parameters that incorporate this feature are identified by the words:

**—Custom Toggle Capable—**

# SECTION 1



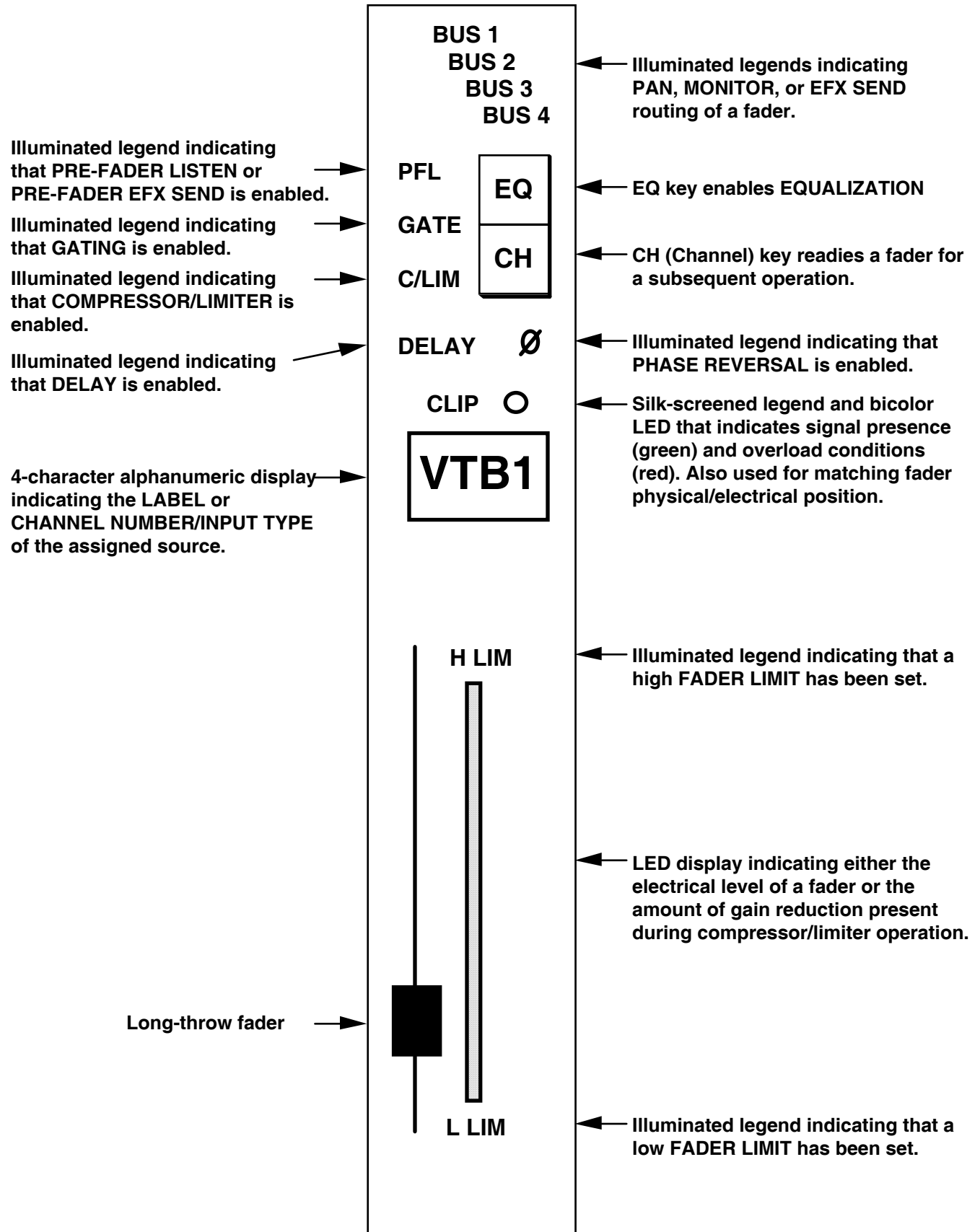
## THE CONTROL PANEL

## **THE DMX-1000 CONTROL PANEL**

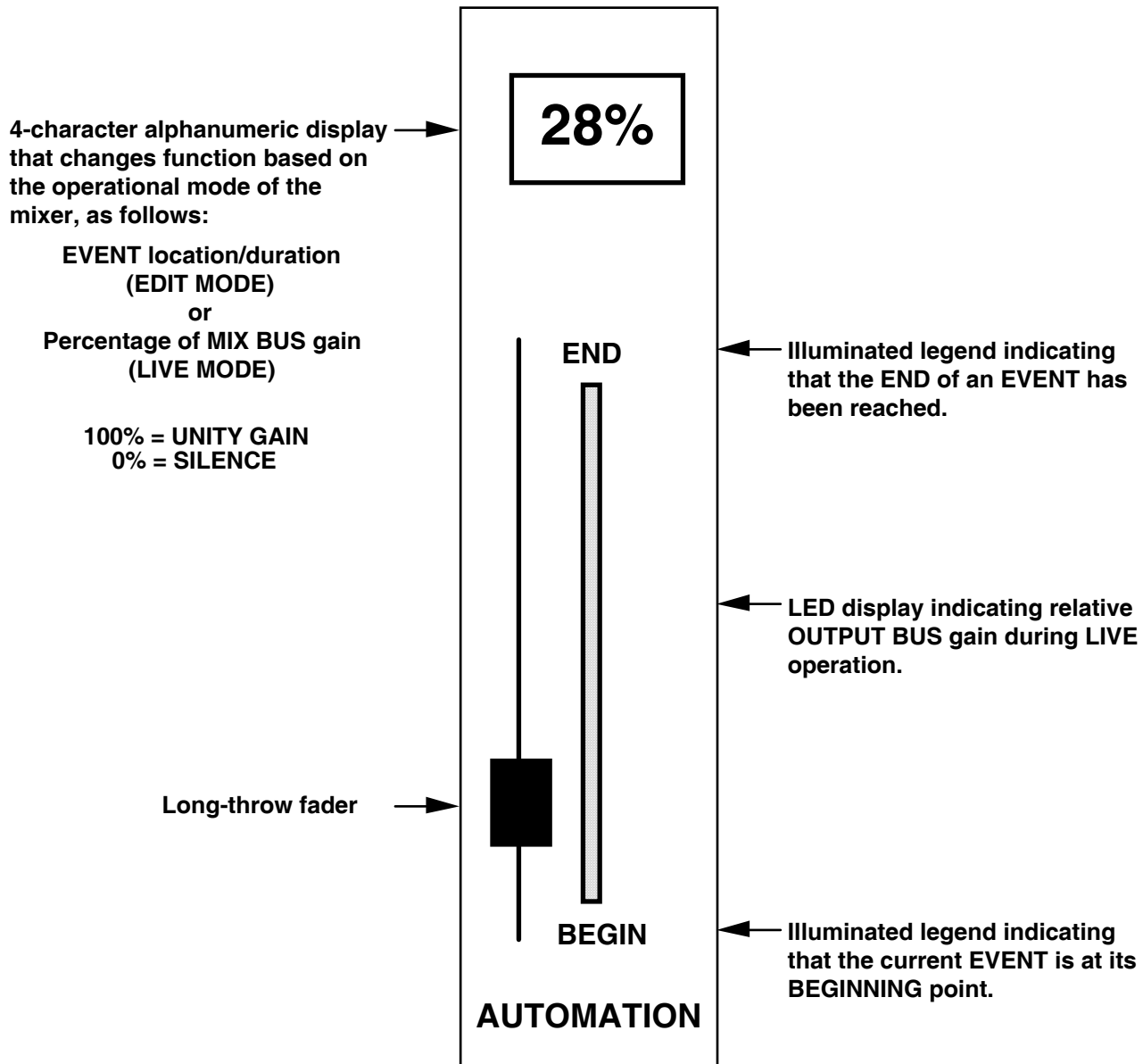
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# FADER SUBPANEL



# AUTOMATION FADER SUBPANEL

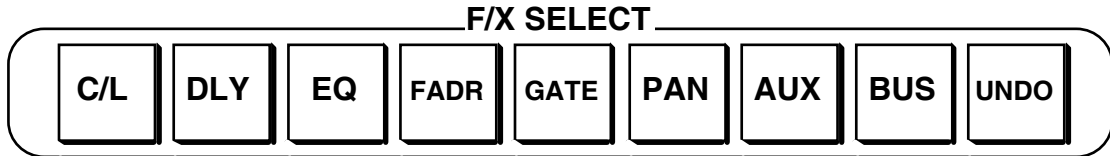


In **LIVE** mode, the AUTOMATION FADER acts as a **MASTER FADER** for the 4 **MIX BUSES**.

In **EDIT MODE**, the AUTOMATION FADER is used to manually navigate through a programmed **TIMELINE**.

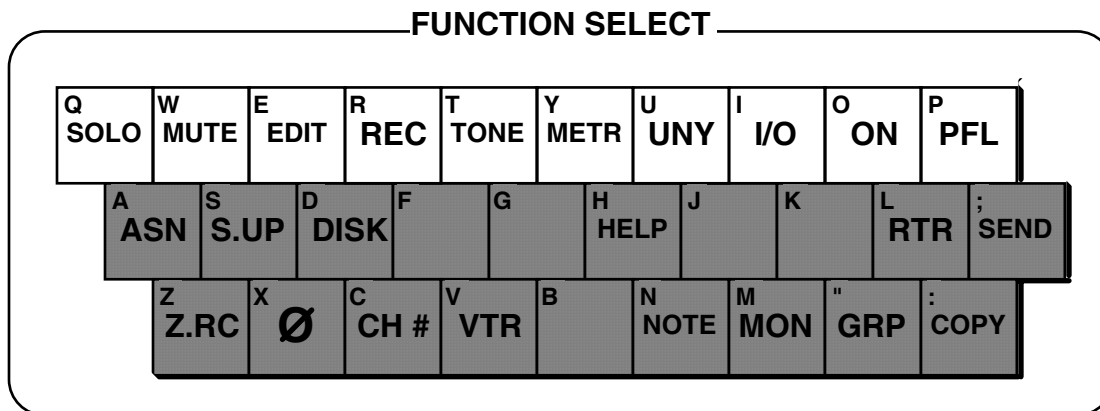
## F/X SELECT SUBPANEL

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- C/L** — Opens the COMPRESSOR/LIMITER menu on the SOFTKEY DISPLAY, providing adjustments for compression and/or limiting.
- DLY** — Opens the DELAY menu on the SOFTKEY DISPLAY, providing adjustment for DELAY. Adjustment range is from 0 - 233 milliseconds (approx 7 frames) in 1 millisecond increments.
- EQ** — Opens the EQ menu on the SOFTKEY DISPLAY, providing adjustment for EQUALIZATION.
- FADR** — Opens the FADER menu on the SOFTKEY DISPLAY, providing adjustment for high and low FADER LIMITS, and fader MATCH mode, which helps the user match a fader's physical and electrical positions after a memory recall or TIMELINE operation.
- GATE** — Opens the GATE menu on the SOFTKEY DISPLAY, providing adjustment for GATING.
- PAN** — Opens the PAN menu on the SOFTKEY DISPLAY, providing adjustment of channel PANNING (assignment of a fader to the output buses).
- AUX** — Future feature.
- BUS** — Opens the BUS menu on the SOFTKEY DISPLAY, providing adjustment of MIX BUS output levels. The adjustments in this menu are analogous to the red faders usually found on traditional mixing consoles.
- UNDO** — Future feature.

## FUNCTION SELECT SUBPANEL-UPPER ROW



- SOLO

— Future feature.
- MUTE

— Future feature.
- EDIT

— Opens the EDITOR menu on the SOFTKEY DISPLAY, providing adjustments for the interface between the DMX and an edit system.
- REC

— Opens the RECORDER menu on the SOFTKEY DISPLAY, providing menu-accessible fader levels for the current RVTR whenever it is not ASSIGNED to a hardware fader. This menu is also used for configuring the RVTR prior to a PREREAD edit.
- TONE

— Opens the TONE menu on the SOFTKEY DISPLAY, providing adjustments for tone level, frequency and duration.
- METR

— Opens the METER menu on the SOFTKEY DISPLAY, providing selection of metering ballistics (VU or PPM).
- UNY

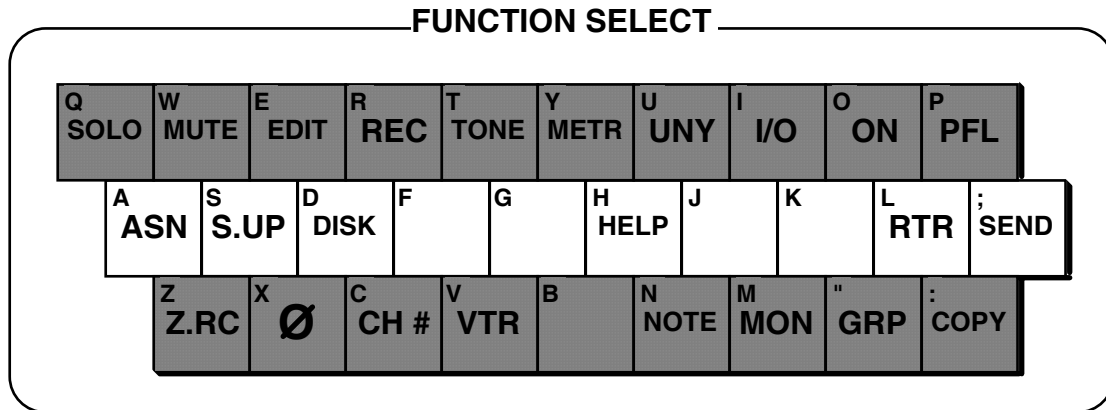
— The UNITY key "readies" the unity command. By pressing UNITY before selecting a parameter, the operator can quickly reach a known factory-default setting.
- I/O

— Opens the GPI OUTPUTS menu on the SOFTKEY DISPLAY, providing fader delegation for the four programmable GPI outputs.
- ON

— Future feature.
- PFL

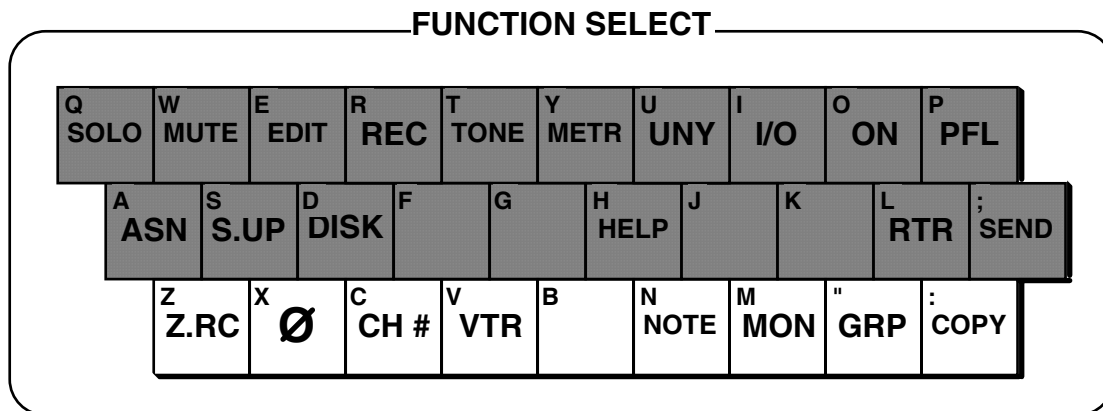
— Enables the PRE-FADER LISTEN feature for a particular fader(s). To select (or deselect) PFL, press the CH key above a fader, followed by the PFL key.

## FUNCTION SELECT SUBPANEL—MIDDLE ROW



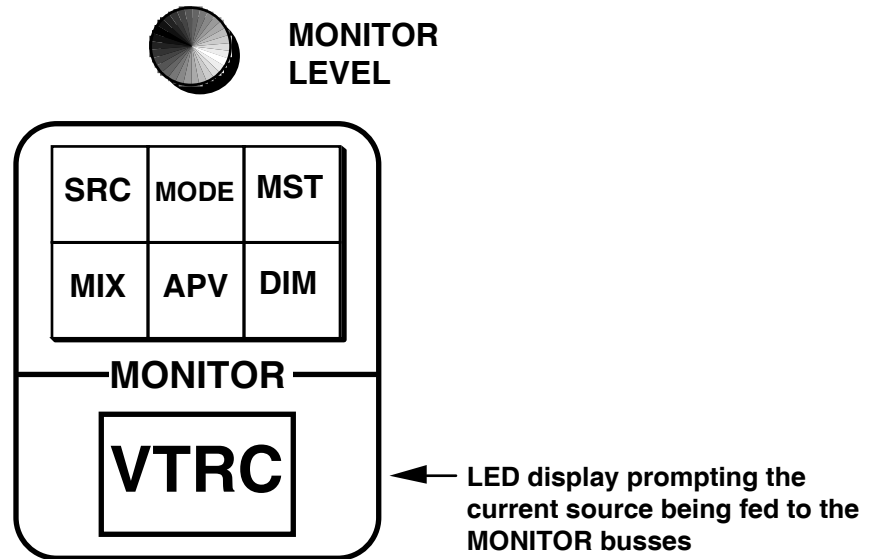
- ASN** — Opens the ASSIGNMENT menu on the SOFTKEY DISPLAY. This menu may be used as an alternative to the ROUTER MENU for assigning or deleting a source to/from a particular fader(s).
- S.UP** — Opens the SETUP menu on the SOFTKEY DISPLAY, providing setup adjustments for the DMX. Use this menu to: Rename an input, enable/disable the automatic CUE feature, set a channel to FULLTIME LIVE, or set the precision of the digital inputs.
- DISK** — Opens the DISK menu on the SOFTKEY DISPLAY, providing controls for the internal floppy disk drive.
- HELP** — Enables the HELP function. When HELP is enabled, pressing any key on the DMX will give the user a brief explanation of that feature on the SOFTKEY DISPLAY. The HELP feature is cancelled by pressing the HELP key.
- RTR** — Opens the ROUTER INTERFACE menu on the SOFTKEY DISPLAY, providing a convenient means of routing audio sources to and/or within the DMX-1000.
- SEND** — Opens the EFFECTS SEND menu on the SOFTKEY DISPLAY, providing assignments and levels for the two EFX SEND outputs.

## FUNCTION SELECT SUBPANEL–BOTTOM ROW



- Z.RC** — Opens the "Z" RECORDER menu on the SOFTKEY DISPLAY, providing adjustments/selections for the internal RAM recorder.
- ∅** — The PHASE REVERSAL key inverts the phase of a chosen channel. To change the phase of a source, press the CH key above a fader, followed by the PHASE REVERSAL key.
- CH #** — Opens the CHANNEL NUMBER menu on the SOFTKEY DISPLAY, which provides a convenient method of determining which physical mixer inputs are assigned to each fader.
- VTR** — The VTR key may be used in conjunction with the CH# key, above. After VTR is pressed, the FUNCTION SELECT subpanel and the NUMERIC KEYPAD will prompt the user for a character (A-I, R) and a number (1-4) to designate a particular source for alteration.
- NOTE** — Opens the NOTE menu on the SOFTKEY DISPLAY, providing a means of labeling CONFIGURATION and EVENT files.
- MON** — Opens the MONITOR menu on the SOFTKEY DISPLAY, providing routing for each source's monitor feeds. A source's MONITOR and MIX BUS configurations may be different.
- GRP** — Opens the GROUP menu on the SOFTKEY DISPLAY, providing setups for grouping faders. A single MASTER fader may control up to 5 SLAVE faders.
- COPY** — Opens the COPY menu on the SOFTKEY DISPLAY, providing a means of copying a set of parameters from one fader to another.

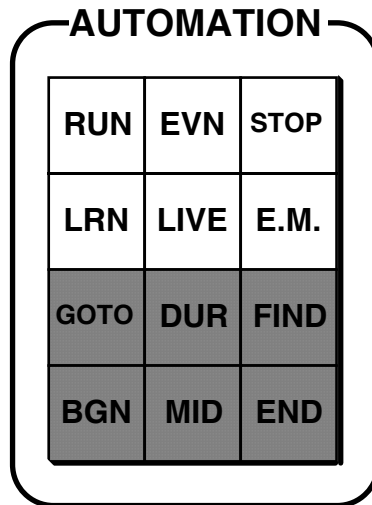
## MONITOR SUBPANEL



- SRC** — Opens the SOURCE MONITORING menu on the SOFTKEY DISPLAY, allowing temporary "solo" monitoring of individual sources. All logical sources are available in this two-tiered menu. Pressing the MORE key next to the SOFTKEY DISPLAY will cycle through all available sources.
- MODE** — Opens the MONITORING MODE menu on the SOFTKEY DISPLAY, providing control over the various types of source monitoring options available on the DMX.
- MIX** — Opens the MIX BUS menu on the SOFTKEY DISPLAY, allowing temporary "solo" monitoring of individual sources. Available sources in this menu are: 4-CHANNEL MIX, 2-CHANNEL MIX, MONO MIX, and the RVTR.
- APV** — Opens the AUDIO PREVIEW (APV) menu on the SOFTKEY DISPLAY, providing both standard and custom monitoring setups for the RVTR.
- MST** — Opens the MASTER MONITOR graph on the SOFTKEY DISPLAY. Using the softknobs above function keys 1-4 (above the menu display), the user may set a monitor mix for all monitor busses. Adjustment of this menu affects the monitoring of all sources, unlike the adjustments found in the RECORDER menu, which affect only the RVTR.
- DIM** — Selects a dimmed monitor level and opens the DIM MONITOR graph on the SOFTKEY DISPLAY. Using the softknobs above function keys 1-4 (above the menu display), the user may customize the monitor levels for the DIM function. The DIM function affects monitoring only. To cancel DIM, press DIM a second time.

## AUTOMATION SUBPANEL-UPPER ROWS

---



**RUN** — The RUN button RUNS the current timeline event. If the event is currently at the END, pressing RUN will rewind the event to the beginning.

**EVN** — Opens the EVENT menu on the menu display, allowing the operator to STORE and RECALL events to/from memory.

**STOP** — The STOP key will stop an EVENT that is RUNNING.

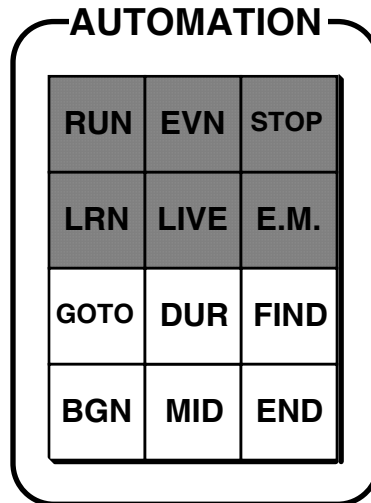
**LRN** — Future feature.

**LIVE** — The LIVE key sets the DMX in the LIVE mode. In LIVE mode all faders are active. Changes made to faders in this mode have a direct/immediate effect on the outputs. Source selection and transition commands from an edit system are ignored in the LIVE mode.

**E.M.** — The EDIT MODE key sets the DMX for TIMELINE operations and displays the current TIMELINE in the SOFTKEY DISPLAY. All automation, including editor control, is accomplished in this mode.

## AUTOMATION SUBPANEL—LOWER ROWS

---



**GOTO** — When in **EDIT MODE (TIMELINE)** mode, a numeric entry (in frames) followed by a single press of the **GO TO** key will park the current event at a specific location.

**DUR** — When in **EDIT MODE (TIMELINE)** mode, a numeric entry (in frames) followed by a single press of the **DURATION** key will set a an overall timeline duration.

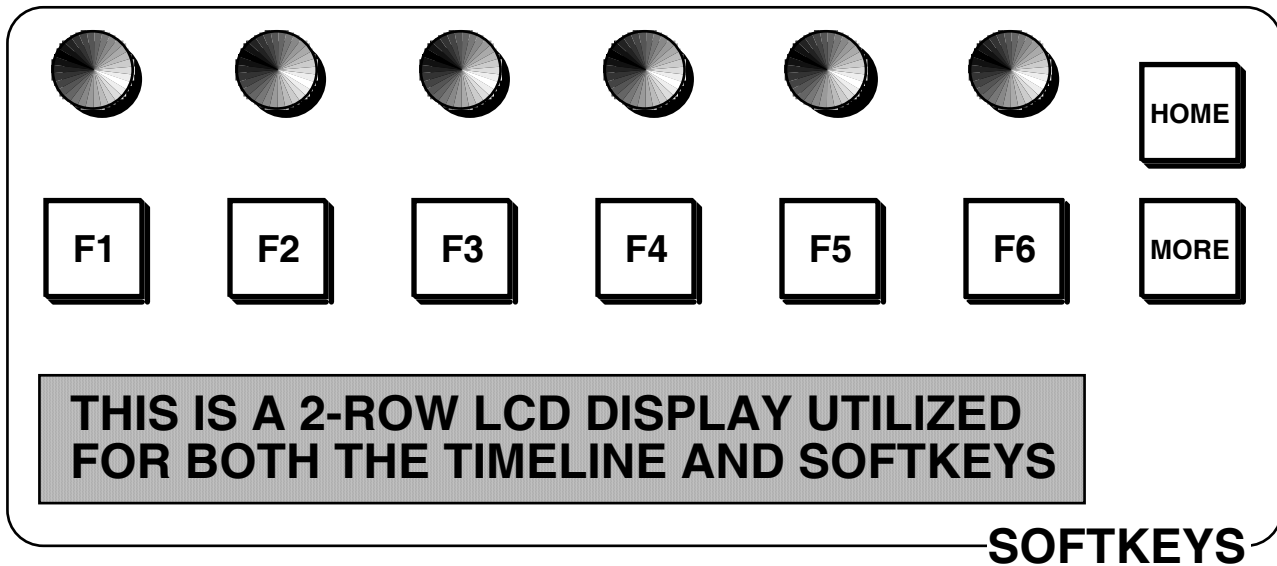
**FIND** — Future feature.

**BGN** — When in **EDIT MODE (TIMELINE)** mode, pressing the **BEGIN** key parks the current event at its beginning.

**MID** — When in **EDIT MODE (TIMELINE)** mode, pressing the **MIDPOINT** key parks the current event at a **MIDPOINT**. If multiple **MIDPOINTS** exist, repeated presses of this button will cycle through all of the **MIDPOINTS**.

**END** — When in **EDIT MODE (TIMELINE)** mode, pressing the **END** key parks the current event at its **END**.

## SOFTKEY SUBPANEL



The HOME key provides a convenient way of returning to the top level of any multi-level menu and/or exiting any menu in the system. Press HOME once to return to a top menu, twice to reach the system's HOME menu.



When a multi-level menu is displayed on the SOFTKEY DISPLAY, the MORE key will illuminate, prompting the user that other branches exist. Pressing the MORE key will cycle through the branches.

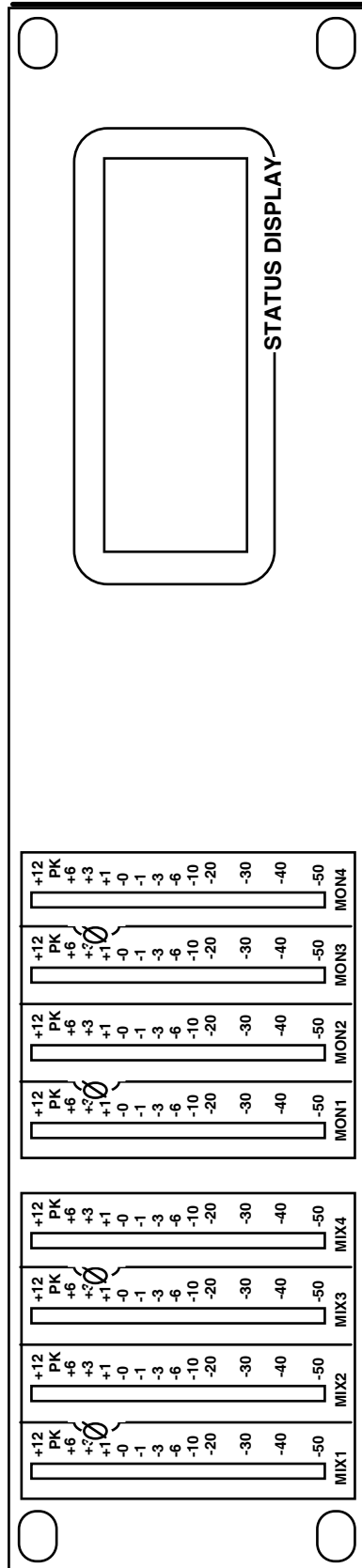


F1 thru F6 are soft FUNCTION KEYS .



The shaft encoders (knobs) above each function key are software-assignable, providing level adjustments in a variety of menus.

# METER MODULE

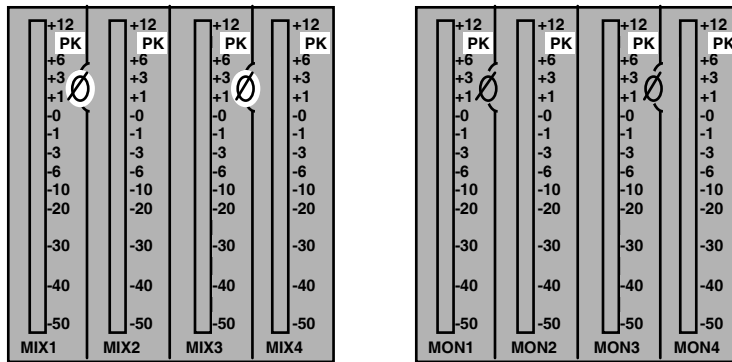


← Backlit LCD display for system configuration and other types of status. (Future Feature)

← 4 LED arrays for display of levels present on the **MONITOR BUSES.**

← 4 LED arrays for display of levels present on the **MIX BUSES.**

## METER MODULE, continued



**PK** — When illuminated, indicates that the **PEAK** level (digital clipping) has been reached.

Note:

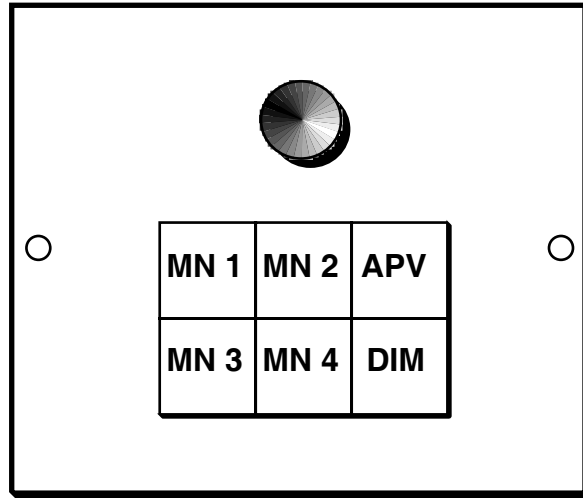
- In the digital domain, **PEAK LEVEL** is 0.0 dB
- In the digital domain, "0" on the meters is equal to -20 dB (NTSC) or -18 dB (PAL).
- In the analog domain, "0" on the meters is equal to +4.0 dB (NTSC) or +6.0 dB (PAL) as calibrated from the factory.

$\emptyset$  — When illuminated, indicates that the program material is **OUT OF PHASE**. Audio phase is monitored independently for Channels 1 & 2 and Channels 3 & 4.

**Phase indication is only active on the MIX BUS meters.**

## MONITOR REMOTE

---



The **MONITOR REMOTE** is an optional accessory for the DMX-1000 that allows remote control over certain aspects of the mixer's **MONITOR** section.



- **MONITOR LEVEL** adjustment.

**MN 1** - When illuminated, **MONITOR CHANNEL 1** is enabled. When deselected, channel 1 audio is muted.

**MN 2** - When illuminated, **MONITOR CHANNEL 2** is enabled. When deselected, channel 2 audio is muted.

**MN 3** - When illuminated, **MONITOR CHANNEL 3** is enabled. When deselected, channel 3 audio is muted.

**MN 4** - When illuminated, **MONITOR CHANNEL 4** is enabled. When deselected, channel 4 audio is muted.

**APV** - Future feature.

**DIM** - When illuminated, selects the **DIM** levels, as set with the softknob. When deselected, the control panel's **MST** levels are applied.

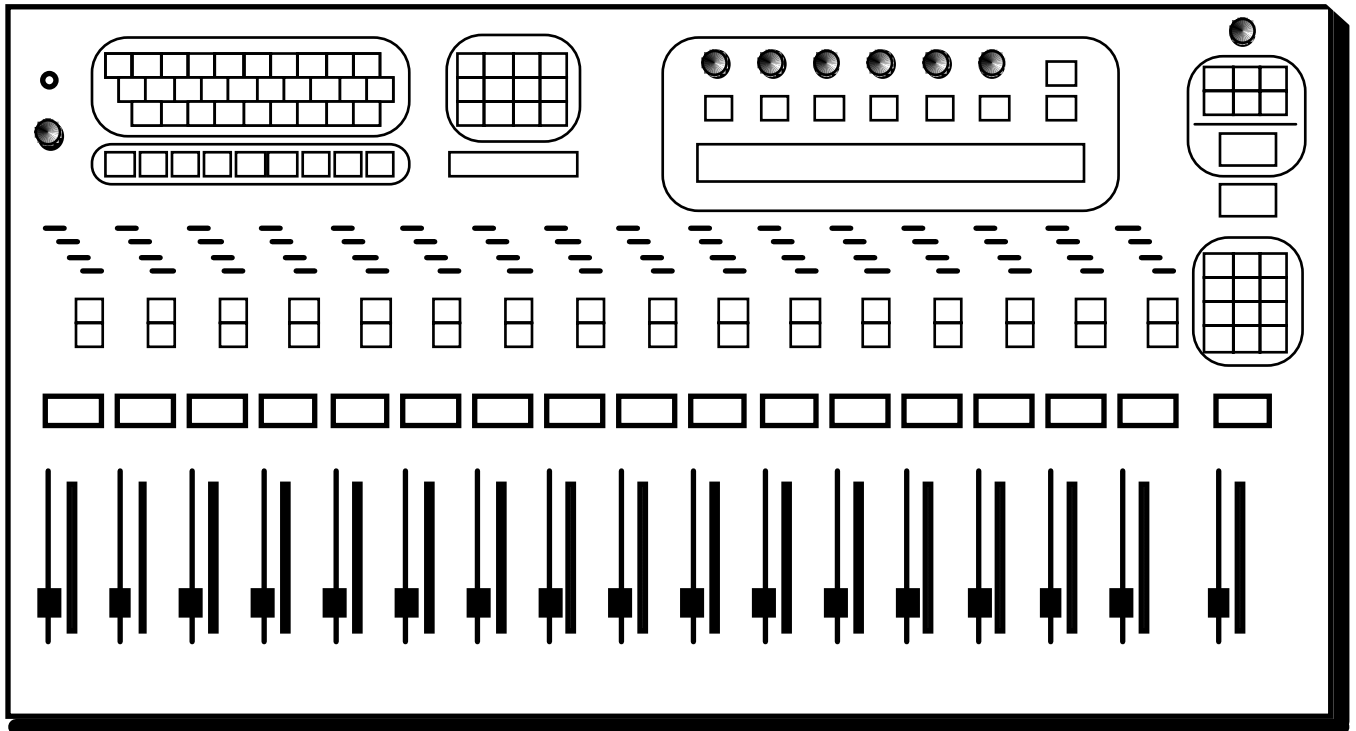
---

**NOTE:** In normal operation, MN 1- 4 should all be illuminated. This enables all feeds to the Monitor Buses.

---



# SECTION 2



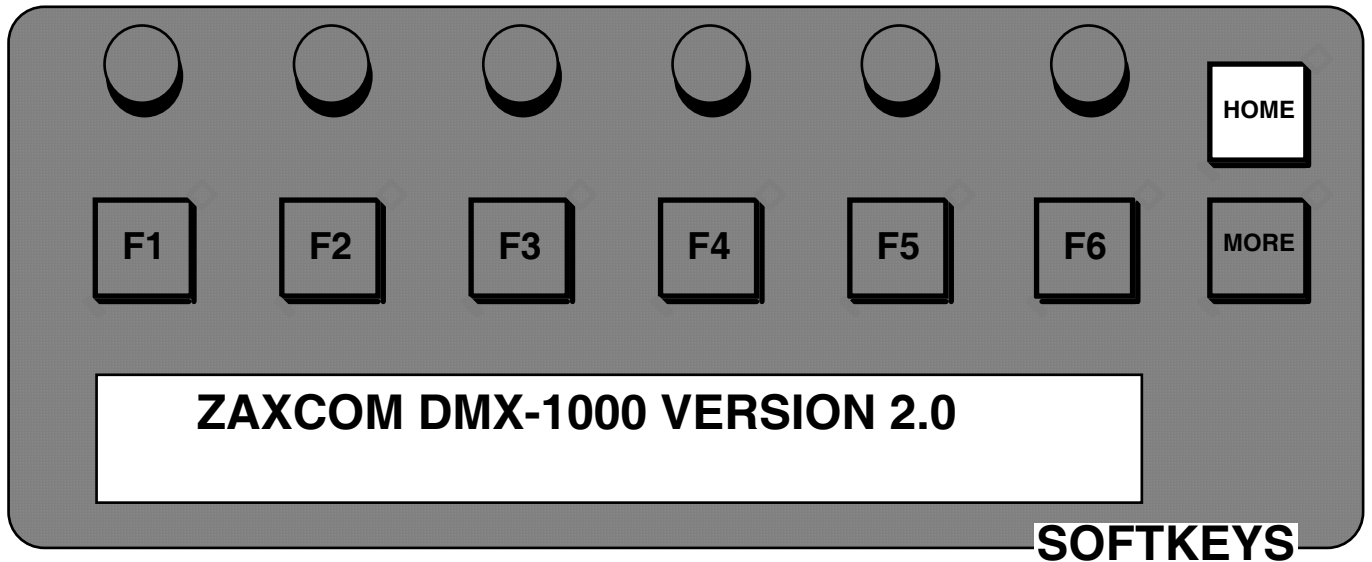
## SOFTKEY MENUS



## HOME MENU

---

Pressing the **HOME** key on the SOFTKEY subpanel will select the **HOME** menu on the SOFTKEY DISPLAY.



Use the **HOME** key to exit from any menu or function on the DMX-1000.

The **HOME** key is also useful for exiting non-destructively from any numeric or alphanumeric operation, prior to pressing the **ENTER** key.

The **HOME** menu is distinguished from other DMX menus by the display of the system model and software version number.

---

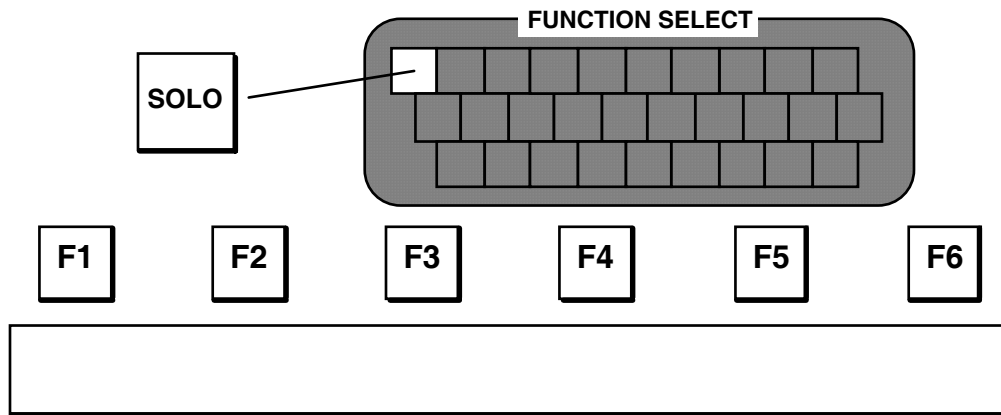
**NOTE:** The first time **HOME** is pressed from within a menu branch, the **SOFTKEY DISPLAY** will return to the top menu of that function. A subsequent press of the **HOME** key will display the system **HOME** menu.

---

## SOLO MENU

---

Pressing the **SOLO** key on the FUNCTION SELECT subpanel opens the **SOLO** menu on the SOFTKEY DISPLAY.

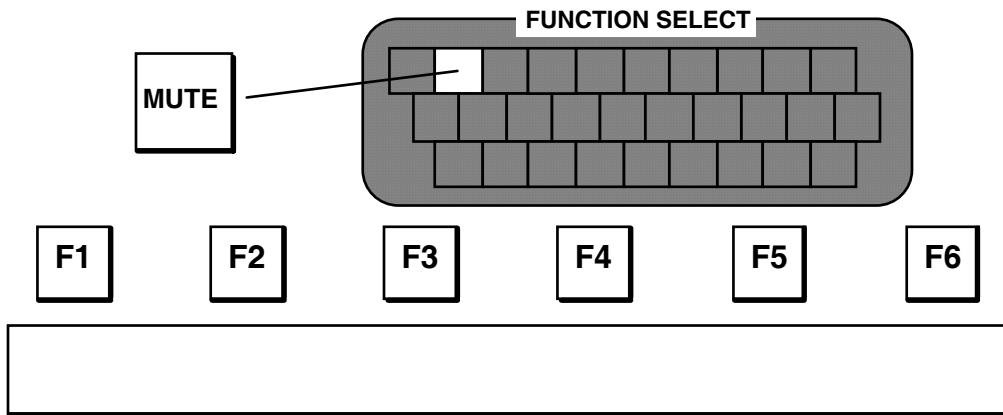


*FUTURE FEATURE*

## MUTE MENU

---

Pressing the **MUTE** key on the FUNCTION SELECT subpanel opens the **MUTE** menu on the SOFTKEY DISPLAY.

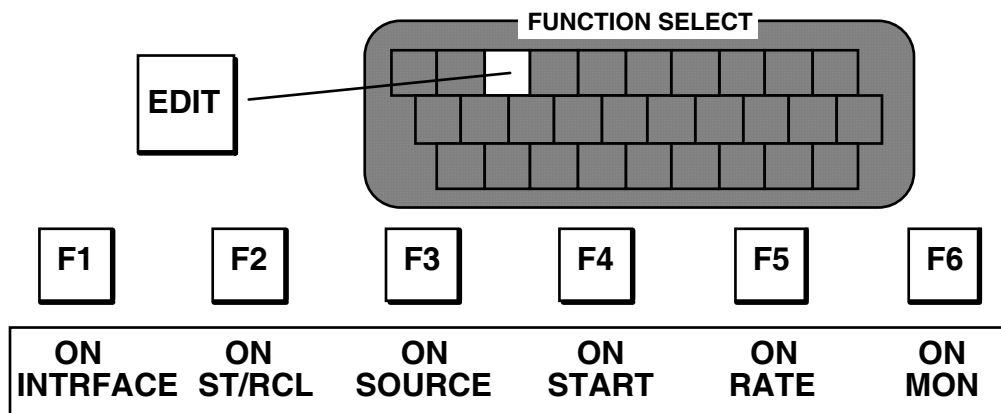


*FUTURE FEATURE*

## EDITOR MENU

---

Pressing the **EDIT** key on the FUNCTION SELECT subpanel opens the **EDITOR** menu on the SOFTKEY DISPLAY.



The **EDITOR** menu is used to customize the functionality of the **EDITOR INTERFACE**. Pressing the Function Keys above each menu item will alternatively enable/disable that item. For "normal" operation, set all of the items in this menu to **ON**. The result of enabling or disabling an item is as follows:

**INTERFACE (F1)** - (ON/OFF function) Enables or disables the entire editor **INTERFACE**. When set to **ON**, the DMX will accept commands from an edit system and execute them based on the state of (F2) thru (F6), detailed below. When set to **OFF**, all commands from an edit system are ignored.

**ST/RCL (F2)** - (ON/OFF function) When enabled, DMX **MEMORY REGISTER STORE AND RECALL** commands are executed. This extension to the editor interface permits the automatic storage and retrieval of DMX memory registers. When disabled, remote memory register commands are ignored. **Check with your edit system manufacturer regarding support of this feature.**

**SOURCE (F3)** - (ON/OFF function) When enabled, crosspoint selection commands are executed. When disabled, remote crosspoint commands are ignored.

**START (F4)** - (ON/OFF function) When enabled, the editor's "transition start" command will be executed. When disabled, remote transition commands are ignored.

**RATE (F5)** - (ON/OFF function) When enabled, a transition **RATE** sent from an edit system will be used by the DMX for the current **TIMELINE**. When disabled, remote **RATE** commands are ignored.

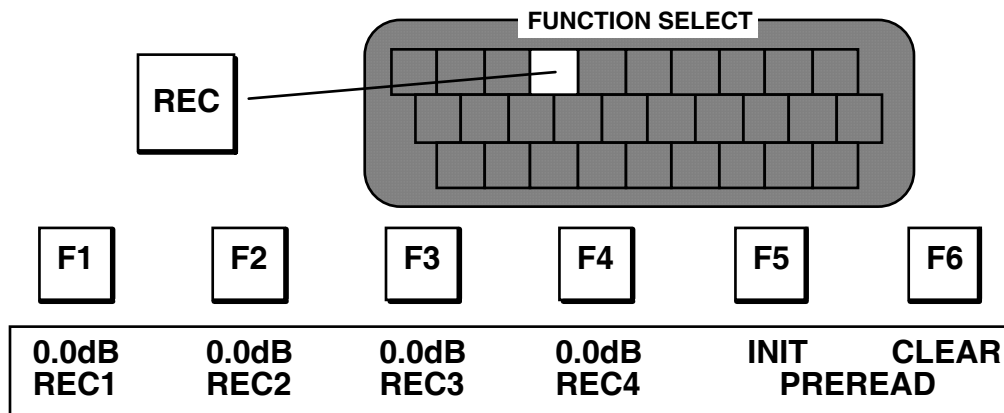
**MON (F6)** - (ON/OFF function) When enabled, monitoring commands are executed, subject to the settings in the **MONITOR MODE** menu. When disabled, the current state of the monitor busses will be unaffected by any monitoring commands from the editing system, thereby defeating preview switching.

*Further edit system information is contained in the TUTORIAL and APPENDIX.*

## RECORDER MENU

---

Pressing the **REC** key on the FUNCTION SELECT subpanel opens the **RECORDER** menu on the SOFTKEY DISPLAY.



The **REC** menu provides individual level adjustments for all channels of the record VTR, whenever the RVTR is not **ASSIGNED** to hardware **FADERS**. The **RVTR** is automatically "bumped" to these "pseudofaders" when **FADERS 1-16** are **ASSIGNED** as **SOURCES**. Function keys/softknobs (**F1**) thru (**F4**) may be thought of as **FADERS 17** thru **20**.

---

**NOTE: The levels set in this menu may change to an undesirable value following a CONFIG RECALL or ROUTER "TAKE."**

---

**REC1 (F1)** - (Variable adjustment from  $\infty$  to +6.0db) Provides gain adjustment for the record VTR channel 1. Adjustment of the softknob above (**F1**) allows adjustment from OFF (no level) to +6.0db. Repetitive presses of (**F1**) toggles between the current value and UNITY (0.0 dB).—**Custom Toggle Capable**—

**REC2 (F2)** - (Variable adjustment from  $\infty$  to +6.0db) Provides gain adjustment for the record VTR channel 2. Adjustment of the softknob above (**F2**) allows adjustment from OFF (no level) to +6.0db. Repetitive presses of (**F2**) toggles between the current value and UNITY (0.0 dB).—**Custom Toggle Capable**—

**REC3 (F3)** - (Variable adjustment from  $\infty$  to +6.0db) Provides gain adjustment for the record VTR channel 3. Adjustment of the softknob above (**F3**) allows adjustment from OFF (no level) to +6.0db. Repetitive presses of (**F3**) toggles between the current value and UNITY (0.0 dB).—**Custom Toggle Capable**—

**REC4 (F4)** - (Variable adjustment from  $\infty$  to +6.0db) Provides gain adjustment for the record VTR channel 4. Adjustment of the softknob above (**F4**) allows adjustment from OFF (no level) to +6.0db. Repetitive presses of (**F4**) toggles between the current value and UNITY (0.0 dB).—**Custom Toggle Capable**—

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**SHORTCUT:** The keystrokes <UNY><ENT> sets (F1) - (F4) to UNITY (0.0dB).

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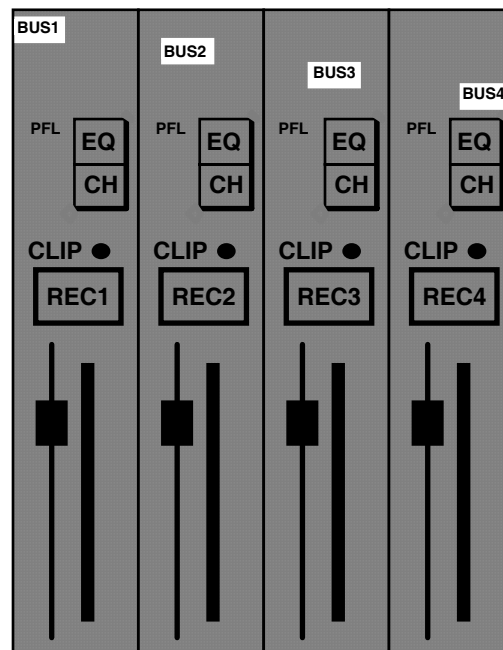
## RECORDER MENU, continued

---

F1	F2	F3	F4	F5	F6
0.0dB REC1	0.0dB REC2	0.0dB REC3	0.0dB REC4	INIT PREREAD	CLEAR

**PREREAD INIT (F5)** - (Single function) Selecting **(F5)** **INITIALIZES** the **RVTR** for a **PREREAD EVENT**. This feature automatically configures the record VTR as follows:

- Sets the RVTR channels for **EDIT MODE**.
- Sets the **REC** menu pseudofaders to **UNITY**.
- Sets the **RVTR's PANNING** so that each channel will feed itself via the **MIX BUSES**. **REC1** will feed **BUS1**, **REC2** will feed **BUS2**, and so on. The diagram below depicts the **PANNING** of the RVTR following selection of this feature:



**PREREAD CLEAR (F6)** - (Single function) Selecting **(F6)** sets the **PANNING** assignments for all channels of the RVTR to "**OFF**." This feature prevents accidental feedback when returning to "normal" editing.

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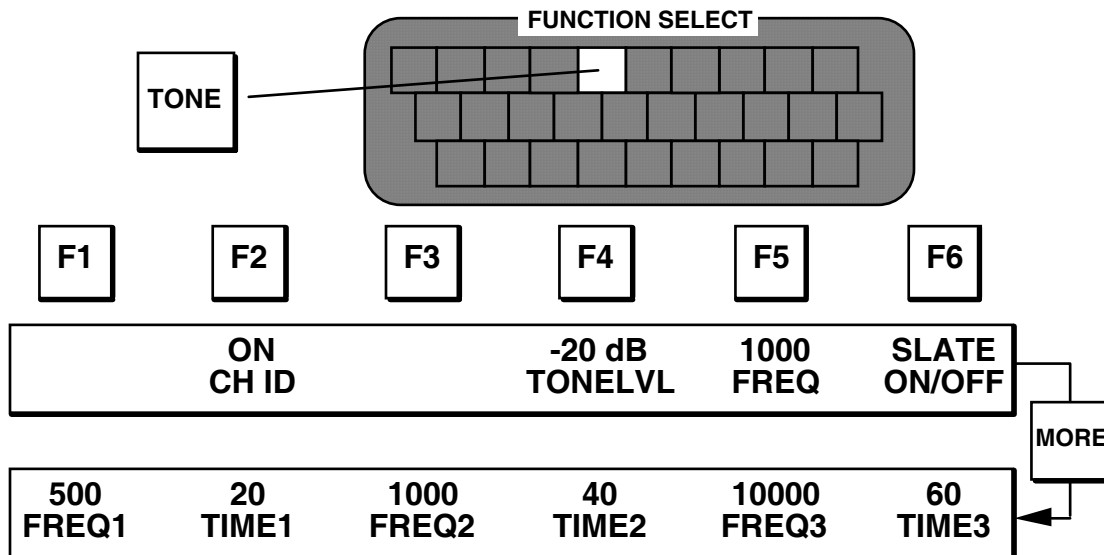
**NOTE:** The above features may be utilized regardless of whether or not the RVTR is **ASSIGNED** to hardware **FADERS**.

---

## TONE MENU

---

Pressing the **TONE** key on the FUNCTION SELECT subpanel opens the **TONE OSCILLATOR** menu on the SOFTKEY DISPLAY.



The **TONE** menu provides adjustments for the internal **TONE** oscillator. If the SOFTKEY DISPLAY is delegated to any other function except **TONE**, the following operations are relevant:

- To activate the tone oscillator, press the **TONE** key twice.
- To deactivate the tone oscillator, press the **TONE** key twice.

However, with the **TONE** menu open, the above operations require only a single keystroke.

**(F1)** - (NO FUNCTION)

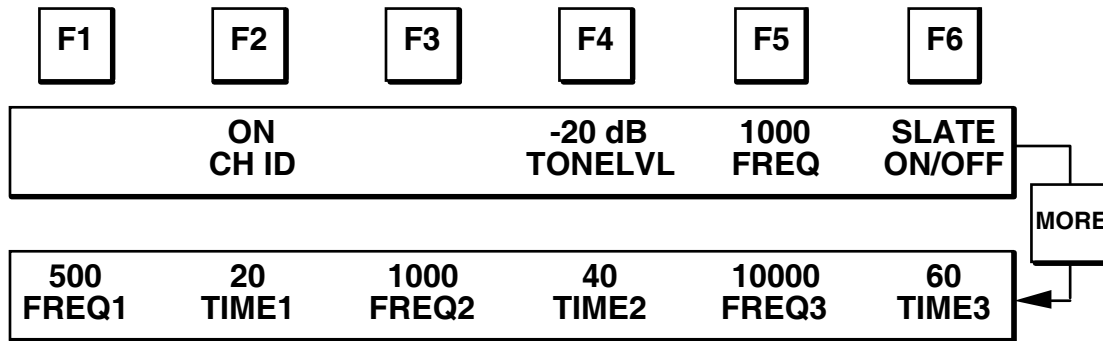
**CH ID (F2)** - (ON/OFF-type function) Enables or disables the **CHANNEL ID** feature. This feature creates a sequential interruption of the **TONE** output to Channels 1-4 every 10 seconds. Viewing a destination's audio meters will verify that all cabling between the DMX and that device is correct. Similarly, upon playback the integrity of the return signal path can be verified on the DMX meters.

**(F3)** - (NO FUNCTION)

**TONELVL (F4)** - (Stepped function) Repetitive presses of **(F4)** cycles through the range of **TONE OUTPUT LEVELs** : -20 dB, -18 dB, -16 dB, and -9 dB. Set **TONELVL** to match the headroom standard of the individual facility or recording device.

## TONE MENU, continued

---



**FREQ (F5)** - (Variable adjustment from 10Hz to 15KHz) This item sets the frequency of the normal tone oscillator. A value may be entered by either:

- Rotating the soft-knob above **(F5)**, or
- Typing a value on the NUMERIC KEYPAD followed by a single press of the **(F5)** key.

Repetitive presses of **(F5)** toggles the value between the current value and 1000 Hz.

**SLATE ON/OFF (F6)** - (ON/OFF function) A single press of the **(F6)** key will start the multi-tone (**SLATE**) feature. The **SLATE** feature provides the user with presets for three oscillator frequencies and three timeline points (**TIME**). When given the **SLATE START** command, the DMX will successively output the three tones, starting at "0" and ending at the programmed **TIMES**. At the end of **TIME 3**, tone is disabled. **SLATE START** may be GPI-triggered from an edit system.

When on, **SLATE** may be turned-off at any time by either:

- pressing **(F6)**, or
- pressing the **ALLSTOP** (spacebar) key on GVG edit systems.

## SLATE MENU

This level of the **TONE** menu is used to program a special timeline for the **SLATE** feature. **TIME 1, 2, and 3** represent three points on a timeline that begins at "0" and ends at **TIME 3**. Therefore, in the graphic above, 500Hz is output from 0 thru 20 seconds, 1000 Hz from 20 to 40 seconds, and 10,000 Hz from 40 to 60 seconds.

**FREQ 1 (F1)** - (Variable adjustment from 10Hz to 15KHz) Sets the **FREQUENCY** of the first tone to be generated during a multi-tone (**SLATE**) operation. A value may be entered by: 1) Turning the soft-knob above **(F1)**, or 2) Entering a value on the NUMERIC KEYPAD followed by a single press of the **(F1)** key. Repetitive presses of **(F1)** toggles the value between the current value and 1000 Hz.



## STONE MENU, continued

---

<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>	<b>F5</b>	<b>F6</b>
<b>500 FREQ1</b>	<b>20 TIME1</b>	<b>1000 FREQ2</b>	<b>40 TIME2</b>	<b>10000 FREQ3</b>	<b>60 TIME3</b>

**TIME 1 (F2)** - (Variable adjustment from 000 to 255 frames) Sets the amount of **TIME** that **FREQUENCY #1** will be generated. At the end of the specified **TIME**, the DMX will immediately cut to **FREQUENCY #2**. A value may be entered by: 1) Turning the soft-knob above **(F2)**, or 2) Entering a value on the NUMERIC KEYPAD followed by a single press of the **(F2)** key. Repetitive presses of **(F2)** toggles the value between the low (000) and high (255) values.

**FREQ 2 (F3)** - (Variable adjustment from 10Hz to 15KHz) Sets the **FREQUENCY** of the second generated tone during a multi-tone (**SLATE**) operation. A value may be entered by: 1) Turning the soft-knob above **(F3)**, or 2) Entering a value on the NUMERIC KEYPAD followed by a single press of the **(F3)** key. Repetitive presses of **(F3)** toggles the value between the current value and 1000 Hz.

**TIME 2 (F4)** - (Variable adjustment from 000 to 255 frames) Sets the timeline out-point of **FREQUENCY #2**. At the end of the specified **TIME**, the DMX will immediately cut to **FREQUENCY #3**. A value may be entered by: 1) Turning the soft-knob above **(F4)**, or 2) Entering a value on the NUMERIC KEYPAD followed by a single press of the **(F4)** key. Repetitive presses of **(F4)** toggles the value between the low (000) and high (255) values.

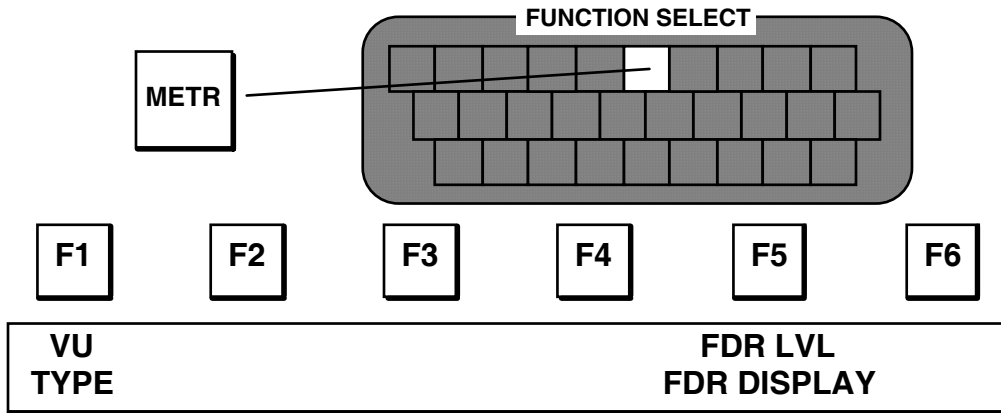
**FREQ 3 (F5)** - (Variable adjustment from 10Hz to 15KHz) Sets the **FREQUENCY** of the third generated tone during a multi-tone (**SLATE**) operation. A value may be entered by: 1) Turning the soft-knob above **(F5)**, or 2) Entering a value on the NUMERIC KEYPAD followed by a single press of the **(F5)** key. Repetitive presses of **(F5)** toggles the value between the current value and 1000 Hz.

**TIME 3 (F6)** - (Variable adjustment from 000 to 255 frames) Sets the timeline out-point of **FREQUENCY #3**. At the end of the specified **TIME**, the tone generator will turn "off." A value may be entered by: 1) Turning the soft-knob above **(F6)**, or 2) Entering a value on the NUMERIC KEYPAD followed by a single press of the **(F6)** key. Repetitive presses of **(F6)** toggles the value between the low (000) and high (255) values.

## METER MENU

---

Pressing the **METR** key on the FUNCTION SELECT subpanel opens the **METER** menu on the SOFTKEY DISPLAY.



The **METER** menu is used to alter the electronic ballistics of the DMX-1000 METER MODULE.

**TYPE (F1)** - (Toggle function) Pressing (**F1**) toggles between the two types of meter ballistics:

- VU
- PEAK

The selection made in this menu affects *all* 8 of the DMX meters.

**(F2 - F4)** - (NO FUNCTION)

**FDR DISPLAY (F5)** - (Toggle function) Pressing (**F5**) toggles between the two types of metering available for the LED array adjacent to each FADER:

- FDR LVL = LED arrays display FADER electrical level.
- INPUT = LED arrays display pre-fader input level.

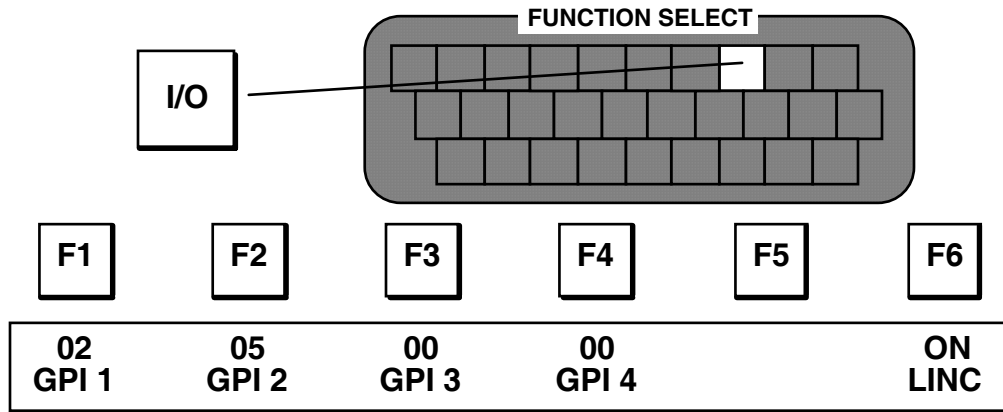
**(F6)** - (NO FUNCTION)



## THE INPUT/OUTPUT MENU

---

Pressing the **I/O** key on the FUNCTION SELECT subpanel opens the **INPUT/OUTPUT** menu on the SOFTKEY DISPLAY.



The **I/O** menu is used to alter the functionality of the remote control interfaces, other than RS422 editor control. Version 2.0 software supports both GPI outputs and Abekas LINC™ protocol.

The DMX GPI outputs are designed to trigger an external device in response to a fader motion above  $\infty$ .

**GPI 1 (F1)** - (Variable adjustment from 00 to 16) Sets the FADER SUBPANEL delegation for **GPI 1**. When programmed, physical motion of the selected fader beginning at  $\infty$  will "trip" **GPI 1**.

**GPI 2 (F2)** - (Variable adjustment from 00 to 16) Sets the FADER SUBPANEL delegation for **GPI 2**. When programmed, physical motion of the selected fader beginning at  $\infty$  will "trip" **GPI 2**.

**GPI 3 (F3)** - (Variable adjustment from 00 to 16) Sets the FADER SUBPANEL delegation for **GPI 3**. When programmed, physical motion of the selected fader beginning at  $\infty$  will "trip" **GPI 3**.

**GPI 4 (F4)** - (Variable adjustment from 00 to 16) Sets the FADER SUBPANEL delegation for **GPI 4**. When programmed, physical motion of the selected fader beginning at  $\infty$  will "trip" **GPI 4**.

---

**NOTE: A setting of "00" is synonymous with "OFF" for that GPI.**

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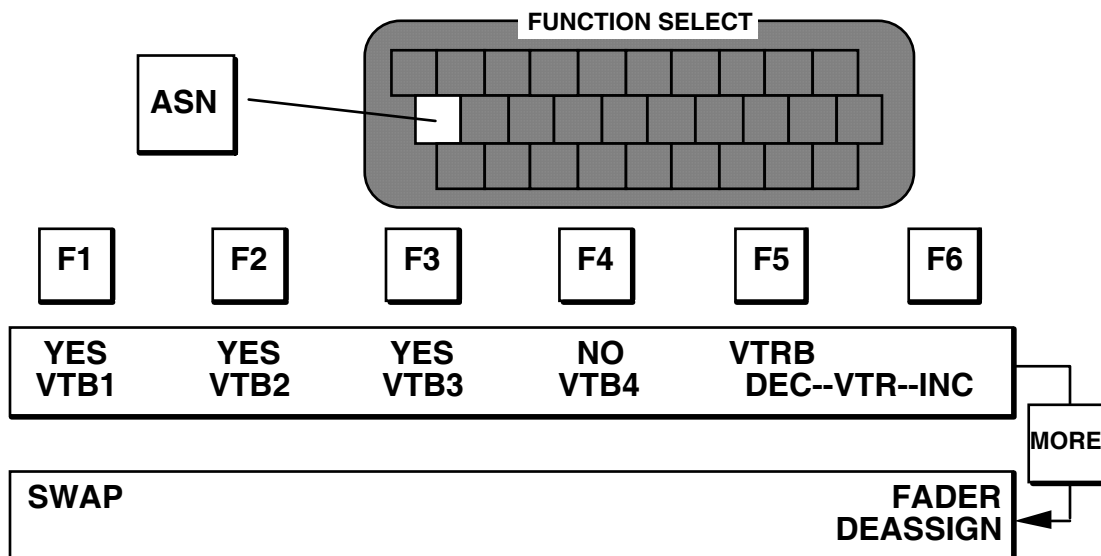
**(F5)** - (NO FUNCTION)

**LINC (F6)** - (ON/OFF-type function) Enables or disables mixer control via the Abekas LINC™ interface.

## THE ASSIGNMENT MENU

---

Pressing the **ASN** key on the FUNCTION SELECT subpanel opens the **ASSIGNMENT** menu on the SOFTKEY DISPLAY.



As with the **ROUTER INTERFACE**, the **ASSIGNMENT** menu is used to **ASSIGN CHANNELS** to **FADERS**. The **ASSIGNMENT** menu is typically used to customize the layout of the fader assignments *after* all **physical/logical** definitions have been made via the **ROUTER** menu (For example, the **ROUTER INTERFACE** will **ASSIGN** *both* channels of a stereo device, even if only one channel is required. If desired, the **ASSIGNMENT** menu may be used to **DEASSIGN** unneeded sources from the **FADERS**).

In the Top Menu, the display directly below (**F5**) statuses the current logical VTR, while the displays below (**F1**) thru (**F4**) status the **LABELS** of the available channels for the current logical VTR. The steps involved in **ASSIGNING CHANNELS** to **FADERS** from this menu are:

- 1) Repetitively press (**F5**) or (**F6**) to display the logical VTR that will be assigned to faders.
- 2) Enable or disable the assignment of specific channels by pressing the function keys above each displayed channel ((**F1**) thru (**F4**)).
- 3) Select a fader, or group of faders to assign to, by pressing the **CH** key on the left-most **FADER SUBPANEL** of the group.

### **CAUTION:**

---

**THERE ARE NO SAFEGUARDS AGAINST OVERWRITING ACTIVE FADERS. DOUBLE-CHECK YOUR DECISION BEFORE SELECTING THE "CH" KEY ON A FADER SUBPANEL. THERE IS NO "UNDO" FOR ACCIDENTAL ASSIGNMENTS, OTHER THAN THE MANUAL REASSIGNMENT OF THE OVERWRITTEN FADERS.**

---

**(F1)** - (Toggle function) **(F1)** enables/disables a source's audio channel 1 for assignment to a fader.

## ASSIGNMENT MENU, continued

---

F1	F2	F3	F4	F5	F6
YES VTB1	YES VTB2	YES VTB3	NO VTB4	VTRB DEC--VTR--INC	

**(F2)** - (Toggle function) **(F2)** enables/disables a source's audio channel 2 for assignment to a fader.

**(F3)** - (Toggle function) **(F3)** enables/disables a source's audio channel 3 for assignment to a fader.

**(F4)** - (Toggle function) **(F4)** enables/disables a source's audio channel 4 for assignment to a fader.

**DEC VTR (F5)** - (Single function) Repetitive presses of **(F5)** decrements through the list of logical sources. The current source is displayed directly below **(F5)**.

**INC VTR (F6)** - (Single function) Repetitive presses of **(F6)** increments through the list of logical sources. The current source is displayed directly below **(F5)**.

---

**NOTE: Only channels that have been designated in the SETUP menu will be displayed below (F1) thru (F4).**

---

## BRANCH MENU

F1	F2	F3	F4	F5	F6
SWAP				FADER DEASSIGN	

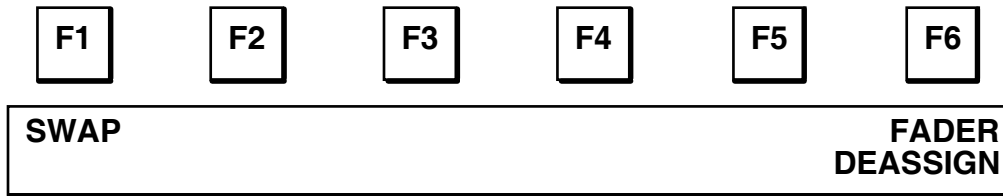
**SWAP (F1)** - (Single function) Performs a manual **SWAP** between the channels of the currently-selected **LOGICAL VTR** (stated in the **MONITOR LED** display) and the **RVTR**. A manual **SWAP** remaps the contents of the **CHANNEL LABEL** menu such that the **CHANNEL NUMBERS** of the VTRs involved in the **SWAP** are remapped with their existing **CHANNEL LABELS**. This feature is only used in installations where the editing system may not be capable of downloading **SWAP** commands.

Further **SWAP** information appears later in this section, and in the **TUTORIAL**.

**(F2 - F5) - (NO FUNCTION)**

## ASSIGNMENT MENU, continued

---



**FADER DEASSIGN (F6)** - (Single function) **DEASSIGNS** a **CHANNEL-FADER** relationship. This command is used to "clean-up" the mixer control panel, permitting the user to display only the channels actually being utilized. To **DEASSIGN** a fader, or group of faders:

- 1) Access the Branch Menu containing **FADER DEASSIGN**.
- 2) Select the fader(s) that you wish to clear by pressing the **CH** key on the FADER SUBPANEL(S).
- 3) Press (**F6**).

### **CAUTION:**

---

**DEASSIGNING A FADER DOES NOT TURN A SOURCE "OFF," NOR DOES IT ALTER THE LEVEL OR CHARACTERISTICS OF THAT SOURCE.**

**THEREFORE, A SOURCE MAY STILL CONTRIBUTE TO A MIX FOLLOWING DEASSIGNMENT FROM A HARDWARE FADER.**

**DEASSIGNED CHANNELS MAY BE SET TO  $\infty$  AFTER THE FACT BY:**

- 1) Setting the DMX to EDIT MODE and selecting that source via the editing system, or
  - 2) Utilizing the TEMPORARY ASSIGN feature of the CH# menu to set the source to  $\infty$
-

### SWAP COMMANDS FROM AN EDIT SYSTEM

A **SWAP** command from an edit system instructs the mixer to remap all of the current **RVTR CHANNELS** with respect to all of a particular source VTR's **CHANNELS** . A number of operations are accomplished during a **SWAP**:

- The **CHANNEL NUMBERS** are appropriately reassigned.
- The fader levels of the new source VTR (former **RVTR**) are set to match those of the previous **RVTR**.
- If one or more **CHANNELS** of the original source VTR were set to **FULLTIME LIVE**, all **CHANNELS** of the new source VTR (former **RVTR**) are set to **FTL**.
- The **CHANNELS** of the new **RVTR** are set to **PREFADE LISTEN (PFL)**. Conversely, **PFL** is defeated on all **CHANNELS** of the new source VTR (former **RVTR**).
- All **FADER SUBPANELS** involved in the **SWAP** will temporarily display the word "SWAP" to alert the user to the change in setup.

**SWAP** interchanges **CHANNEL NUMBERS**, *not* **CHANNEL LABELS**. Except for the momentary indication of "SWAP" in a **FADER**'s display, none of the **FADER LABELS** will be altered.

---

**HINT:** FOR THE MOST VISUAL FEEDBACK, SET THE DMX TO "**SHOW CH#**" (IN THE CH# MENU) WHILE LEARNING HOW TO USE SWAP.

---

### RULES FOR SWAPPING

For consistent editor/DMX operations, the following rules must be followed:

- Never disable the RS422 communication between the edit system and the DMX.
- The edit system's Audio Crosspoint Table must contain unique entries (do not assign the same crosspoint number to more than one source).
- The edit system must be capable of downloading its table to the DMX (on GVG *SUPER EDIT* systems, this is accomplished with the keystrokes <SHIFT><RESET>).
- Any changes to the editor's Audio Crosspoint Table must be followed by a download to the DMX.
- A recall of a new DMX **CONFIGURATION FILE** must be followed by a download of the editor's Audio Crosspoint Table.

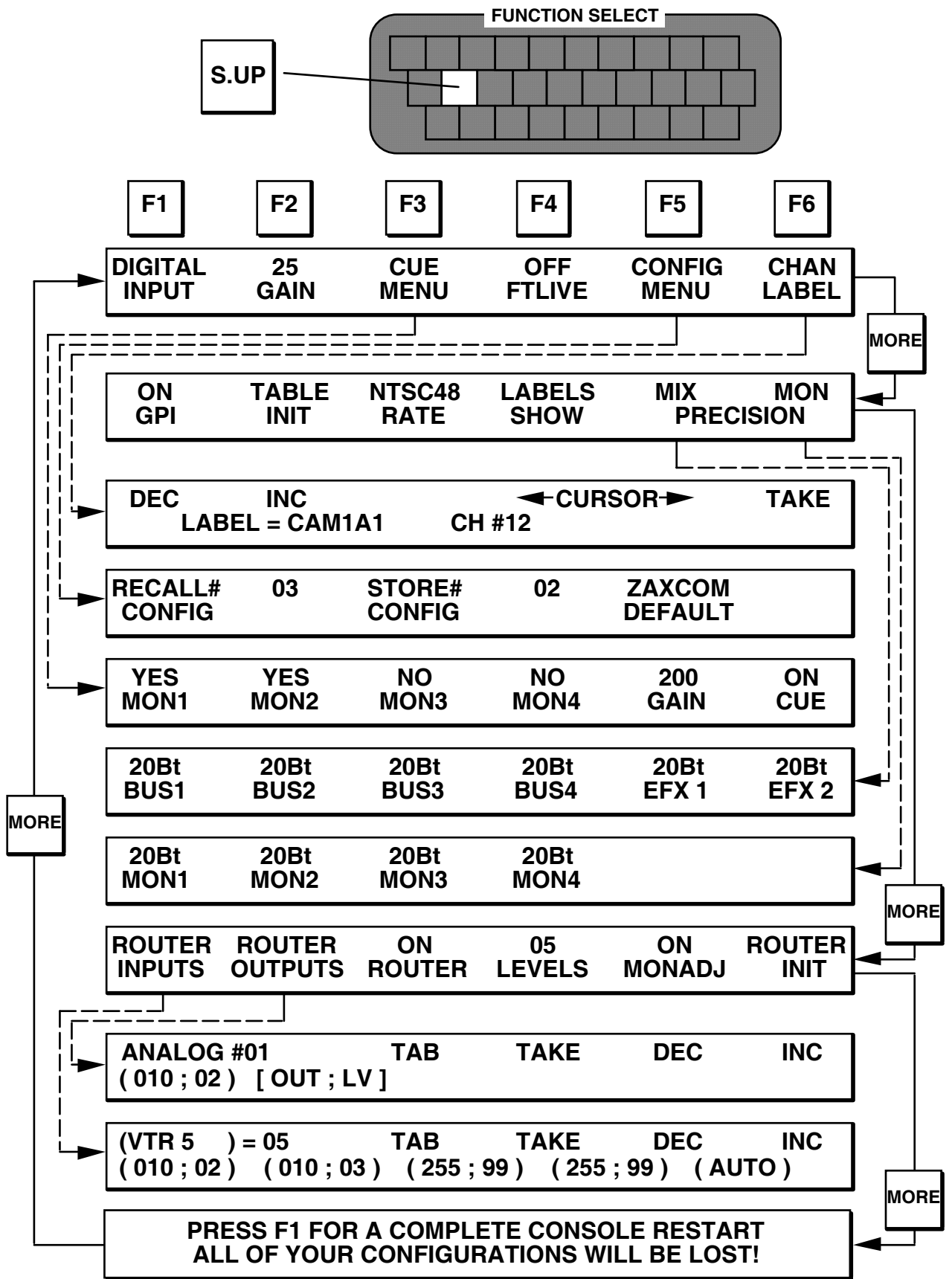
A good way to check the coincidence of the editor/DMX table is to view the DMX MONITOR DISPLAY as each source key is selected on the edit system (ensure the first level of the **MODE** menu is set to **VTR**). If the proper **LOGICAL NAMES** are displayed, the tables are coincident.



## **SETUP MENU**

---

Pressing the **S.UP** key on the FUNCTION SELECT subpanel opens the **SETUP** menu.



## SETUP MENU, continued

---

The **SETUP** menu is used to define both input-specific (user) and system-specific (engineering) parameters.

### TOP MENU

F1	F2	F3	F4	F5	F6
DIGITAL INPUT	25 GAIN	CUE MENU	OFF FTLIVE	CONFIG MENU	CHAN LABEL

**INPUT (F1)** - (Toggle function) This item sets the DMX for either an **ANALOG** or **DIGITAL** input. Since each DMX digital input is actually a 2-channel source, setting a single channel as **DIGITAL** will automatically set its "mate" to **DIGITAL**. Similarly, when setting a single input as **ANALOG**, both channels of a **DIGITAL** pair will be altered. This item is identical to **(F3)** in the **CHANNEL LABEL** branch menu.

**GAIN (F2)** - (Variable adjustment from 00 to 255) The **GAIN** control provides cut and boost for each analog input. The nominal value for a +4.0 db input is 25. **(F2)** has no effect when an input is set to **DIGITAL**.

**CUE MENU (F3)** - (Branch menu selector) Pressing **(F3)** opens the **CUE MENU**, which provides enables and level adjustment for the DMX **CUE CHANNEL INPUT**.

**FULL-TIME LIVE (F4)** - (ON/OFF-type function) When enabled, **FULL-TIME LIVE** inhibits control of a fader during **TIMELINE (EDIT MODE)** operation. Faders set to **FULL-TIME LIVE** are distinguished from "normal" faders by the brightness of the **CHANNEL LABEL** display above each fader. **FULL-TIME LIVE** channel labels stay at full brightness during **EDIT MODE**, while the other fader's **LABELS** are dimmed.

**CONFIG MENU (F5)** - (Branch menu selector) Pressing **(F5)** opens the **CONFIGURATION MENU**, which provides a means of storing the entire set-up configuration of the DMX to battery-backed RAM.

**CHANNEL LABEL (F6)** - (Branch menu selector) Pressing **(F6)** opens the **CHANNEL LABEL MENU**, which is used to override the default **LABEL**, as set in the **ROUTER INPUTS** menu.

**BRANCH MENU**

F1	F2	F3	F4	F5	F6
ON GPI	TABLE INIT	NTSC48 RATE	LABELS SHOW	MIX PRECISION	MON

**GPI (F1)** - (ON/OFF-type function) Enables or disables the **GPI INTERFACE**. This feature is normally set to **ON**, permitting **GPI** triggers of certain DMX functions.

**TABLE INIT (F2)** - (Single function) Pressing **(F2)** will reset the mixer's current editor crosspoint table to the following configuration:

BLK = 00  
AVTR = 01  
BVTR = 02  
CVTR = 03  
DVTR = 04  
EVTR = 05  
FVTR = 06  
GVTR = 07  
HVTR = 08  
AUX = 09  
RVTR = 10  
Z.REC = 11  
PREREAD = 20

Use this feature to ensure crosspoint table coincidence between the DMX and an edit system that is not be capable of downloading a crosspoint table.

**RATE (F3)** - (Stepped adjustment) This item sets the sampling frequency of the DMX to match the incoming digital audio sources. All digital sources must be the same frequency. Available frequencies are: **NTSC48 KHz, PAL48 KHz, and INTERNAL SYNC**. For normal operation, set this item to coincide with the television standard you are working in. **INTERNAL SYNC** is only supported via custom software from Zaxcom, and is not included in a standard system.

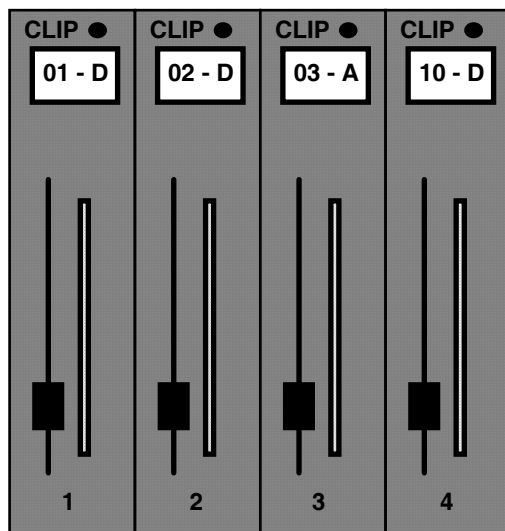
## SETUP MENU, continued

---

F1	F2	F3	F4	F5	F6
ON GPI	TABLE INIT	NTSC48 RATE	LABELS SHOW	MIX PRECISION	MON

**SHOW (F4)** - (Toggle function) Sets a status mode for the 4-character alphanumeric display on each FADER SUBPANEL. Two modes are available:

- **SHOW LABELS:** The 4-character **CHANNEL LABELS** are displayed.
- **SHOW CH#:** Each FADER SUBPANEL display will **SHOW** the **ASSIGNED CHANNEL NUMBER**, followed by a designation of **INPUT TYPE**, where A = ANALOG and D = DIGITAL(AESEBU).



FOR EXAMPLE:

**CHANNELS 1 and 2 are ASSIGNED** to FADERS 1 and 2, and are both set to **DIGITAL**.

**CHANNEL 3 is ASSIGNED** to FADER 3, and is set to **ANALOG**.

**CHANNEL 10 is ASSIGNED** to FADER 4, and is set to **DIGITAL**.

*This feature is also available via the **CH# menu***

## SETUP MENU, continued

---

F1	F2	F3	F4	F5	F6
ON GPI	TABLE INIT	NTSC48 RATE	LABELS SHOW	MIX PRECISION	MON

**MIX PRECISION (F5)** - (Branch menu selection) Pressing **(F5)** opens the **MIX PRECISION** menu.

**MON PRECISION (F6)** - (Branch menu selection) Pressing **(F6)** opens the **MON PRECISION** menu.

## CONFIGURATION MENU

F1	F2	F3	F4	F5	F6
RECALL# CONFIG	03	STORE# CONFIG	02	ZAXCOM DEFAULT	

The **CONFIG** menu is used to store and recall system **CONFIGURATION** data from memory. Items stored as part of a **CONFIG FILE** are:

- **ALL SETUP MENUS (EXCEPT ROUTER)**
- **tone MENUS**
- **ROUTING ASSIGNMENTS**
- **FADER ASSIGNMENTS**
- **MONITOR ASSIGNMENTS**
- **MONITOR MASTER LEVELS**
- **MONITOR DIM LEVELS**
- **PANNING ASSIGNMENTS/BALANCE**
- **THE CURRENT EVENT (TIMELINE)**

---

**NOTE: PAN values will take effect the first time EDIT MODE is selected on the AUTOMATION SUBPANEL.**

---

While **CONFIG FILES #1-9** are provided for individual "user-defined" configurations, **CONFIG #10** is reserved as a "facility default," and as such is not easily overwritten. *Consult the Appendix for instructions on creating **CONFIG #10**.*

**RECALL CONFIG # (F1)** - (Single function) Pressing **(F1)** recalls the **CONFIGURATION FILE** displayed below **(F2)** from battery-backed RAM. Following a **RECALL**, the

user-defined **CONFIGURATION NOTE** is displayed along the bottom of the SOFTKEY DISPLAY.

**CONFIGURATION MENU**

**CONFIG # (F2)** - (Variable adjustment from 1 to 10) The number below **(F2)** represents the **CONFIGURATION FILE** to be recalled. Used in conjunction with **(F1)**. A value may be set by:

- Adjustment of the softknob above **(F2)**.
- Repetitive presses of **(F2)**, which increments the current value by 1.
- Presetting a value on the NUMERIC KEYPAD, followed by a single press of **(F2)**.

**STORE CONFIG # (F3)** - (Single function) Pressing **(F3)** stores the **CONFIGURATION FILE** displayed below **(F4)** to battery-backed RAM.

---

**NOTE: CONFIG FILE #10 – which is reserved as a facility default – is not stored in the above fashion. Consult the Appendix for instructions on creating this CONFIG.**

---

**CONFIG # (F4)** - (Variable adjustment from 1 to 10) The number below **(F4)** represents the **CONFIGURATION FILE** to be stored. Used in conjunction with **(F3)**. A value may be set by:

- Adjustment of the softknob above **(F4)**.
- Repetitive presses of **(F4)**, which increments the current value by 1.
- Presetting a value on the NUMERIC KEYPAD, followed by a single press of **(F4)**.

**ZAXCOM DEFAULT (F5)** - (Single function) Pressing **(F5)** resets the DMX to a factory default configuration.

**(F6)** - (NO FUNCTION)

## SETUP MENU, continued

---

### CUE CHANNEL MENU

A special analog input to accommodate the **CUE TRACK** of a digital RVTR is provided on the rear of the DMX Electronics Chassis. With **CUE** enabled (via **(F6)**), the RVTR inputs are monitored for active digital data. In the absence of active audio (as when a digital VTR mutes), the DMX automatically inserts the **CUE TRACK** onto the chosen **MONITOR BUSES**. When active audio returns to the digital inputs, a seamless switch is made back to program audio.

F1	F2	F3	F4	F5	F6
YES MON1	YES MON2	NO MON3	NO MON4	200 GAIN	ON CUE

**MONITOR 1 - 4 ENABLES (F1 - F4)** - (Toggle function) Selects which **MONITOR BUSES** are fed by the analog **CUE TRACK**.

**GAIN (F5)** - (Variable adjustment from 0 to 255) Adjusts the **INPUT GAIN** of the **CUE** input. Adjust **(F5)** to achieve an approximate level match between a source's **CUE TRACK** and program audio.

---

**NOTE: The signal level of the CUE TRACK is not displayed on the METER MODULE. GAIN adjustments must be done by "ear."**

---

**CUE ENABLE (F6)** - (Toggle function) **ENABLES** or **DISABLES** the **CUE** feature.

### CHANNEL LABEL MENU

The **CHANNEL LABEL** menu is used for *temporarily* overriding the default **LABEL**, as programmed in the **ROUTER INPUTS** menu.

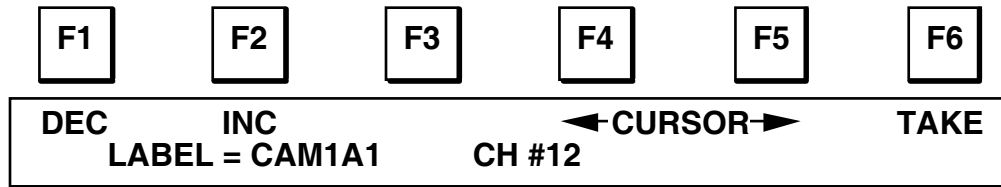
F1	F2	F3	F4	F5	F6
DEC	INC	← CURSOR →		TAKE	
LABEL = CAM1A1		CH #12			

**DEC (F1)** - (Stepped function) Pressing **(F1)** decreases the value of the current channel number, stated in the lower center of the **SOFTKEY DISPLAY**. Use **(F1)** to quickly scroll through the current **CHANNEL LABEL** list for all DMX inputs.

**INC (F2)** - (Stepped function) Pressing **(F2)** increases the value of the current channel number, stated in the lower center of the SOFTKEY DISPLAY. Use **(F2)** to quickly scroll through the current **CHANNEL LABEL** list for all DMX inputs.

## SETUP MENU, continued

---



**(F3)** - (NO FUNCTION)

**CURSOR LEFT (F4)** - (Stepped function) Pressing **(F4)** moves the **LABEL** cursor to the left. Though not destructive, the cursor completely hides the underlying character.

**CURSOR RIGHT (F5)** - (Stepped function) Pressing **(F5)** moves the **LABEL** cursor to the right. Though not destructive, the cursor completely hides the underlying character.

**TAKE (F6)** - (Single function) Pressing **(F6)** accepts the new **LABEL** designation, and applies it to the displayed **CHANNEL**.

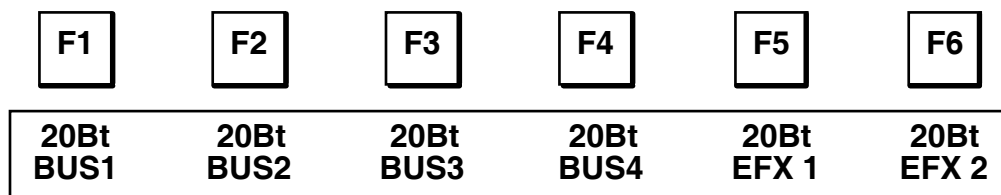
---

**NOTE:** You may exit non-destructively from this menu up until **TAKE** is pressed.

---

## MIX PRECISION MENU

**MIX PRECISION** matches the mixing accuracy of the DMX to the digital input accuracy of the available recorder(s) or outboard processing equipment. The DMX will round the audio waveform down from a high of 24 bits to a low of 16 bits. For example: If the RVTR is only capable of accepting an 18 bit digital word, the DMX should be set to 18 bit.



**BUS 1 - 4 (F1 - F4)** - (Variable adjustment from 16 bit to 24 bit) Sets the output precision of the four digital **MIX BUSES**. *The nominal value is 20 bit. This function has no effect on the analog bus outputs.*

## SETUP MENU, continued

---

F1	F2	F3	F4	F5	F6
20Bt BUS1	20Bt BUS2	20Bt BUS3	20Bt BUS4	20Bt EFX 1	20Bt EFX 2

**EFX 1 - 2 (F5 - F6)** - (Variable adjustment from 16 bit to 24 bit) Sets the output precision of the two digital **EFFECTS SEND** outputs. *The nominal value is 20 bit. This function has no effect on the analog bus outputs.*

---

**SHORTCUT:** The keystrokes <UNY><ENT> set the contents of this entire menu level to **20 bit**.

---

## MONITOR PRECISION MENU

**MON PRECISION** matches the mixing accuracy of the DMX digital monitor outputs to the digital input accuracy of the available power amplifier or outboard D/A convertor. The DMX will round the audio waveform down from a high of 24 bits to a low of 16 bits. For example: If the outboard digital audio monitoring device is capable of accepting a 24 bit digital word, the DMX should be set to 24 bit.

F1	F2	F3	F4	F5	F6
20Bt MON1	20Bt MON2	20Bt MON3	20Bt MON4		

**MON 1 - 4 (F1 - F4)** - (Variable adjustment from 16 bit to 24 bit) Sets the output precision of the four digital **MONITOR BUSES**. *The nominal value is 20 bit. This function has no effect on the analog monitor bus output.*

---

**SHORTCUT:** The keystrokes <UNY><ENT> set the contents of this entire menu level to **UNITY**.

---

## SETUP MENU, continued

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### **ROUTER INTERFACE SETUP MENU**

The **ROUTER INTERFACE SETUP** menu is used to define the locations of all sources available to the DMX.

<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>	<b>F5</b>	<b>F6</b>
<b>ROUTER INPUTS</b>	<b>ROUTER OUTPUTS</b>	<b>ON ROUTER</b>	<b>05 LEVELS</b>	<b>ON MONADJ</b>	<b>ROUTER INIT</b>

**ROUTER INPUTS (F1)** - (Branch menu selector) Pressing **(F1)** opens the **ROUTER INPUTS MENU**, utilized to encode the inputs for the **ROUTER INTERFACE**.

**ROUTER OUTPUTS (F2)** - (Branch menu selector) Pressing **(F2)** opens the **ROUTER OUTPUTS MENU**, utilized to encode the outputs for the **ROUTER INTERFACE**.

**ROUTER ENABLE (F3)** - (Toggle function) Enables or disables the interface to an external routing switcher. When enabled, **TAKE** commands and **CONFIG FILE RECALLS** will affect the state of an external routing switcher. When disabled, no commands are sent to the external routing switcher.

**LEVELS (F4)** - (Single function) Sets the number of overall **ROUTER LEVELS** that are present in the routing switcher system that the DMX is controlling. *Only used when controlling certain routing systems – consult the Installation Guide for further information.*

**MONADJ (F5)** - (Toggle function) Enables or disables the **MONITOR LEVEL** softknob on the DMX control panel and Monitor Remote. Set **(F5)** to **OFF** if speaker volume is controlled by an external potentiometer(s). **Normally set to ON.**

---

**NOTE: Ensure that all Monitor Busses are set at 0.0 dB before disabling the DMX monitor adjustment.**

---

**ROUTER INIT (F6)** - (Single function) Three presses of **(F6)** within 1 second will completely **INITIALIZE** the contents of both **ROUTER INTERFACE MENUS**. Use this function if it is desirable to "start from scratch" prior to encoding the **ROUTER INTERFACE**.

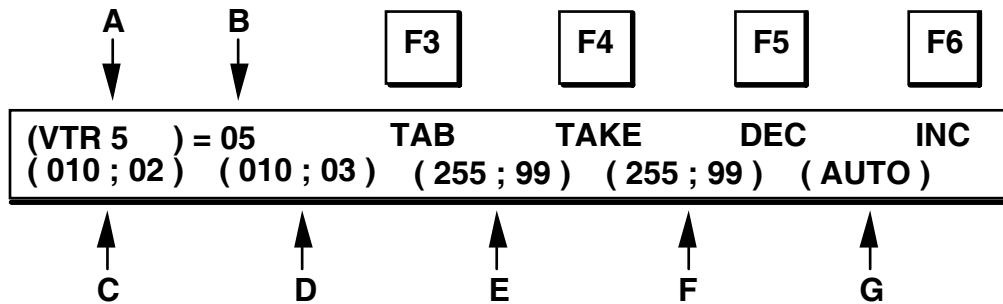
## SETUP MENU, continued

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### ROUTER INPUTS MENU

The **ROUTER INPUTS** menu is used to specify:

- The origin of each audio source (direct-wired analog, direct-wired digital, or router).
- A **USER NAME** for each audio source.
- A 4-character **LABEL** for display above the faders.

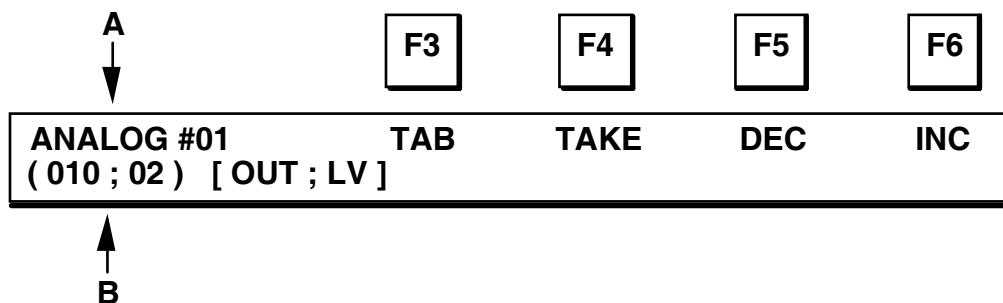


**CONSULT THE DMX-1000 INSTALLATION GUIDE FOR DETAILS ON THIS MENU**

### ROUTER OUTPUTS MENU

The **ROUTER OUTPUTS** menu is used to specify:

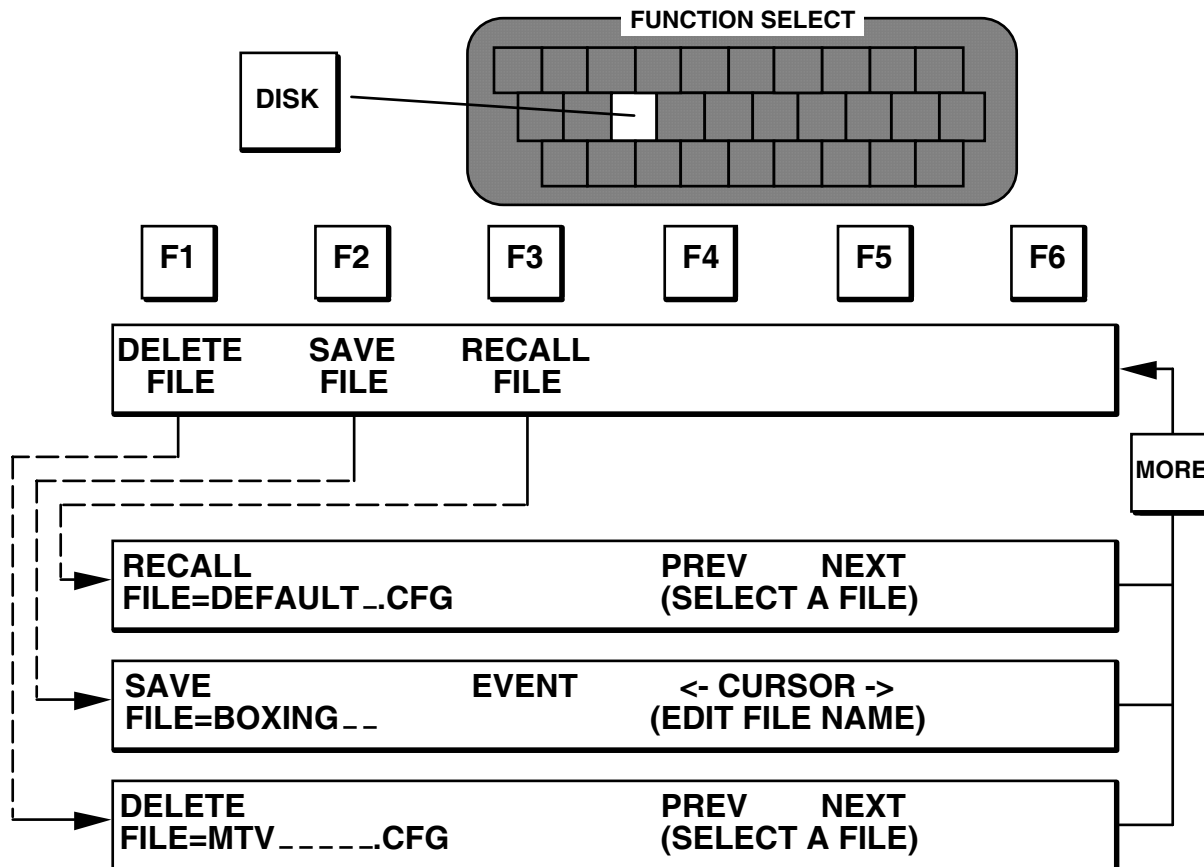
- Which inputs on the DMX are fed from an external router.
- Which outputs of an external router feed the DMX inputs.



**CONSULT THE DMX-1000 INSTALLATION GUIDE FOR DETAILS ON THIS MENU**

## DISK MENU

Pressing the **DISK** key on the FUNCTION SELECT subpanel opens the **FLOPPY DISK** menu on the SOFTKEY DISPLAY.



The **DISK** menu is used to **SAVE**, **RECALL**, and **DELETE** files on the internal floppy disk drive. The DMX supports three types of files: **CONFIGURATION**, **EVENT**, and **ROUTER**.

- A **CONFIGURATION** file on floppy disk contains a single DMX **CONFIG** register. (Prior to v2.0 software, all 10 **Config** registers were **SAVED/RECALLED** to and from disk in a single operation. That scheme has been changed to permit "instant" functional recalls of mixer setups)
- An **EVENT** file on floppy disk contains the entire contents of the DMX **EVENT** memory (up to 400 **EVENTS**).
- A **ROUTER** file on floppy disk contains the contents of the DMX **ROUTER** setup menus.

*A floppy disk may contain multiple files of each file type.*

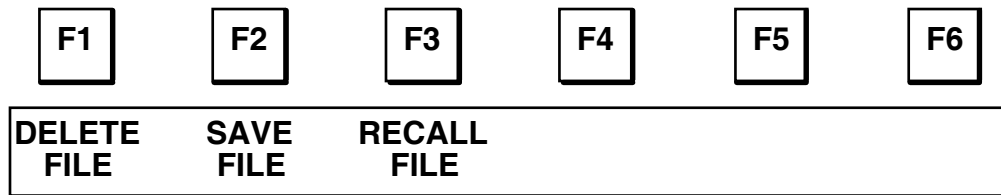
The DMX-1000 disk drive accepts only **HIGH DENSITY PRE-FORMATTED** 3.5" floppy disks. While most late-model PC's will format high density floppies, "pre-formatted" disks are readily available via most computer equipment retailers and mail-order catalogs.



## DISK MENU, continued

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### TOP MENU



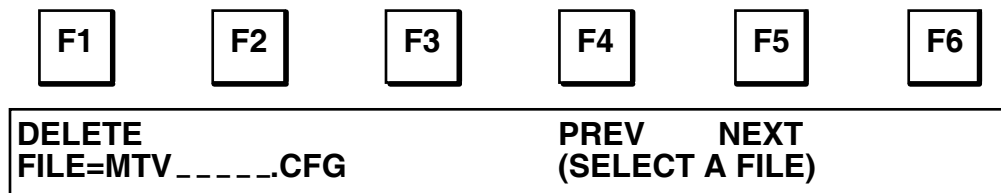
**DELETE FILE (F1)** - (Branch menu Selector) Opens a branch menu utilized for **DELETING** files on a floppy disk.

**SAVE FILE (F2)** - (Branch menu Selector) Opens a branch menu utilized for **SAVING** files to a floppy disk.

**RECALL FILE (F3)** - (Branch menu Selector) Opens a branch menu utilized for **RECALLING** files from a floppy disk.

**(F4 - F6)** - (NO FUNCTION)

### DELETE FILE MENU



The DMX does not overwrite existing disk files. A **DELETE** operation must be performed prior to **SAVING** a new file with an identical filename.

**DELETE (F1)** - (Single function) Pressing the **DELETE** softkey will **DELETE** the currently-displayed file from the floppy disk.

---

**NOTE:** The illumination of **(F1)** is turned off during the actual **DELETE** process. When the illumination returns, the task is complete.

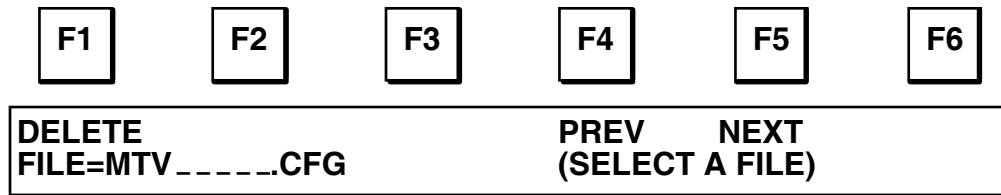
---

**(F2 - F3)** - (NO FUNCTION)

**PREVIOUS (F4)** - (Single function) Pressing the **PREVIOUS** softkey will move backwards through the disk directory. File names are displayed along the lower row of the SOFTKEY DISPLAY, below **(F1)**.

## DISK MENU, continued

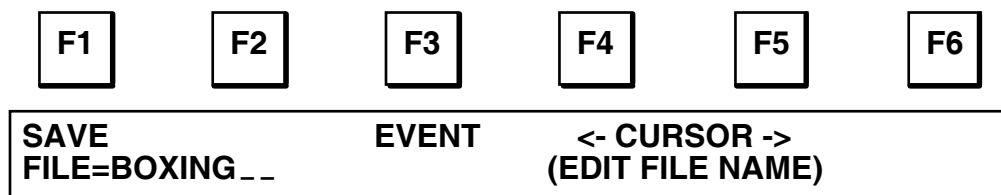
---



**NEXT (F5)** - (Single function) Pressing the **NEXT** softkey will move forward through the disk directory. File names are displayed along the lower row of the SOFTKEY DISPLAY, below **(F1)**.

**(F6)** - (NO FUNCTION)

## SAVE FILE MENU



The **SAVE** menu is used to save a file to disk. Filenames are entered via the DMX QWERTY keypad.

Beginning with v2.0 software, only the current mixer configuration is stored to floppy disk. The 10 **CONFIG REGISTERS** in the **CONFIG MENU** are *not* storable to disk as a group. To store these files, each one must be recalled from memory and saved to disk individually .

## **IMPORTANT**

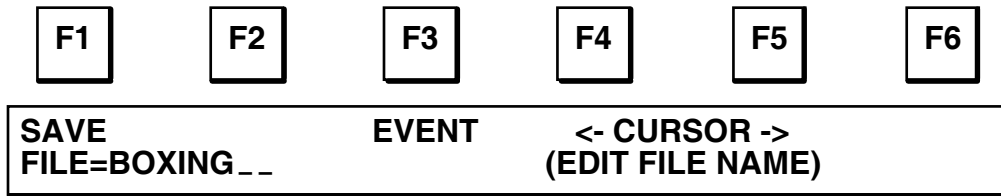
---

### NOTE THE FOLLOWING FILE NAME RULES:

- A filename is made up of eight alphanumeric characters.
  - A filename must contain valid characters in all eight places. If the chosen name does not contain 8 characters, repetitively press the C/L key (on the F/X SELECT SUBPANEL) to insert valid spaces. The cursor stops when the 8th place is reached.
  - Use of punctuation marks is not recommended
-

## DISK MENU, continued

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**SAVE (F1)** - (Single function) Pressing the **SAVE** softkey will **SAVE** the currently-displayed file onto the floppy disk. If the displayed file name already exists on the chosen floppy, the DMX will generate a warning message in the SOFTKEY DISPLAY. When this occurs, the user has two choices:

- Alter the file name and perform the **SAVE** again.
- **DELETE** the duplicate file on disk, then **SAVE** the new file with the originally-assigned name.

---

**NOTE: The illumination of (F1) is turned off during the actual SAVE process. When the illumination returns, the task is complete.**

---

**(F2)** - (NO FUNCTION)

**TYPE (F3)** - (Toggle function) Pressing **(F3)** will select the **TYPE** of file to be **SAVED**:

- **CONFIGURATION** files (The file extension **".CFG"** is set automatically)
- **EVENT** files (The file extension **".EVN"** is set automatically)
- **ROUTER** files (The file extension **".RTR"** is set automatically)

**CURSOR LEFT (F4)** - (Single function) Pressing the **CURSOR LEFT** softkey will move backwards through the displayed file name.

**CURSOR RIGHT (F5)** - (Single function) Pressing the **CURSOR RIGHT** softkey will move forward through the displayed file name.

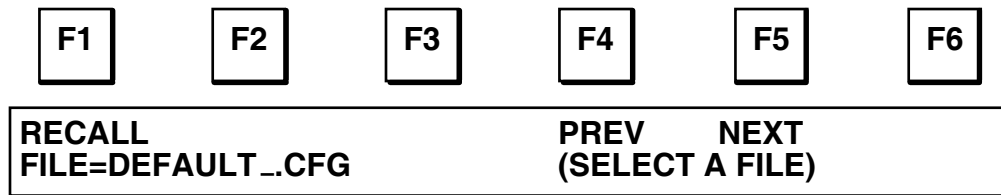
---

**NOTE: When the CURSOR is placed on an existing character, the display of that character is inhibited.**

---

**(F6)** - (NO FUNCTION)

**RECALL FILE MENU**



Beginning with v2.0 software, **RECALLING** a **CONFIG** file from disk has an immediate impact on the current mixer setup.

**RECALL (F1)** - (Single function) Pressing the **RECALL** softkey will **RECALL** the currently-displayed file from the floppy disk.

---

**NOTE: It may take up to 5 seconds for the system to complete the RECALL of a CONFIG file from disk.**

---

**(F2 - F3)** - (NO FUNCTION)

**PREVIOUS (F4)** - (Single function) Pressing the **PREVIOUS** softkey will move backwards through the disk directory. File names are displayed along the lower row of the SOFTKEY DISPLAY, below **(F1)**.

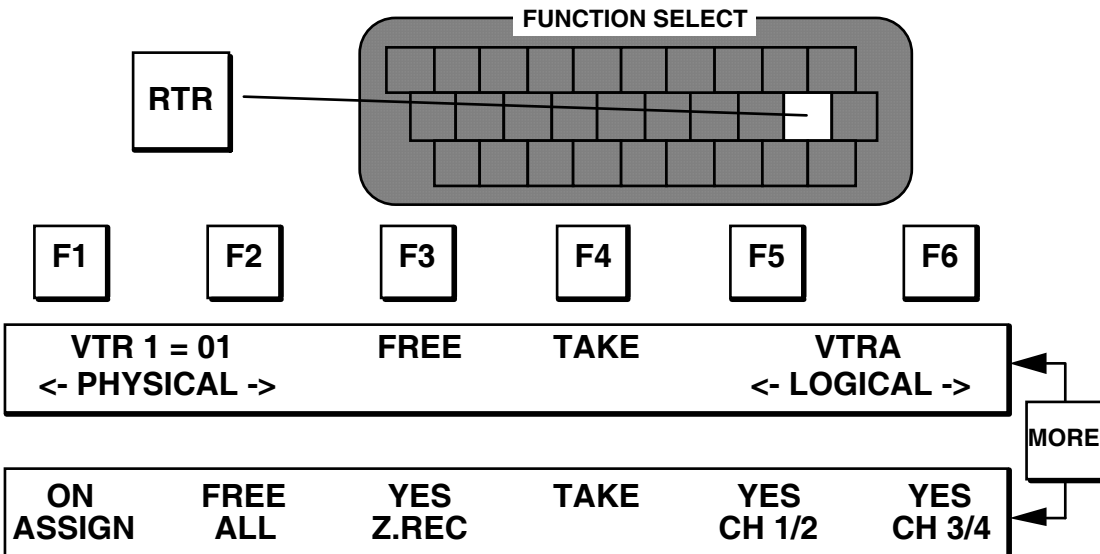
**NEXT (F5)** - (Single function) Pressing the **NEXT** softkey will move forward through the disk directory. File names are displayed along the lower row of the SOFTKEY DISPLAY, below **(F1)**.

**(F6)** - (NO FUNCTION)



## INTERFACE MENU

Pressing the **RTR** key on the FUNCTION SELECT subpanel opens the **ROUTER ROUTER INTERFACE** menu on the SOFTKEY DISPLAY.



The **ROUTER INTERFACE** is used to mate a facility's **PHYSICAL SOURCES** to DMX **LOGICAL SOURCES**. This feature is utilized regardless of whether an external routing switcher is incorporated into a DMX-1000 installation, since it handles both internal and external routing control.

In a single step, the **ROUTER INTERFACE** executes four separate manual operations:

- Selects appropriate **PHYSICAL INPUTS** for a given source (with optional router control software, external router busses are automatically assigned to DMX **PHYSICAL INPUTS**).
- Appropriately sets the DMX **PHYSICAL INPUTS** to either **ANALOG** or **DIGITAL**.
- **ASSIGNS** the **LOGICAL SOURCE** to faders.
- Displays an appropriate **LABEL** in the FADER SUBPANEL LED display.

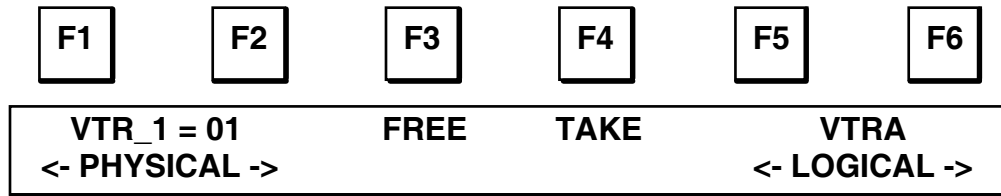
**PHYSICAL SOURCE SCROLL (F1-F2)** - (Stepped Function) Pressing (**F1**) or (**F2**) scrolls backwards or forwards through the list of 99 possible **PHYSICAL SOURCES**. The area below (**F1**) and (**F2**) displays the current **SOURCE NAME** and **DMX MACHINE ID**.

**FREE (F3)** - (Single Function) A single press of (**F3**) will "**FREE-UP**" the current **PHYSICAL/LOGICAL** relationship. This operation may be required if the DMX detects a conflict in an attempted setup (attempting to **ASSIGN** more router output busses than are physically available is an example of such a conflict). At that point, it is up to the user to selectively **FREE** idle sources (inputs on the DMX) to make room for the current requirements.

Following a press of **(F3)**, the affected FADER(S) will **DEASSIGN** and the remaining FADER assignments will be shuffled to fill-in any gaps (if **AUTOASSIGN** is enabled)

## ROUTER INTERFACE MENU, continued

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**TAKE (F4)** - (Single Function) The **TAKE** key initiates a router operation. Following a press of **(F4)**, the following sequences will occur:

- The DMX will select the appropriate **PHYSICAL INPUTS** for that source.
- The **LOGICAL SOURCE** will automatically be **ASSIGNED** to faders in ascending alphabetical order from AVTR to HVTR, followed by AUX and REC. Previously-assigned faders will be shuffled (if necessary) to accomodate the current addition. The **RVTR** will be "bumped" to the software faders in the **REC** menu as (if) the number of source VTRs exceeds 14 FADERS (for a 2-channel RVTR) or 12 FADERS (for a 4-channel RVTR).

---

**SHORTCUT:** Entering a **MACHINE ID** on the NUMERIC KEYPAD, followed by **(F4)**, will instantly perform a **TAKE**.

---

---

**NOTE:** The process of shuffling the **FADER ASSIGNMENTS** can potentially create a mismatch between a fader's physical and electrical levels. Following a shuffle, utilize the **FADER MATCH** feature (in the **FADR** menu) to recalibrate any faders that need precise level alignment for subsequent "match-ins."

---

**LOGICAL SOURCE SCROLL (F5-F6)** - (Single Function) Pressing **(F5)** or **(F6)** scrolls backwards or forwards through the list of **LOGICAL SOURCES**. The area below **(F5)** and **(F6)** displays the current **LOGICAL SOURCE** that will be affected by a **TAKE** command.

## ROUTER INTERFACE MENU, continued

---

F1	F2	F3	F4	F5	F6
ON ASSIGN	FREE ALL	YES Z.REC	TAKE	YES CH 1/2	YES CH 3/4

**ASSIGN (F1)** - (Toggle Function) Enables or disables the **AUTOASSIGN** feature of the **ROUTER INTERFACE**. When enabled, **LOGICAL SOURCES** are automatically **ASSIGNED** to FADERS following a **TAKE** operation. When disabled, the **ROUTER INTERFACE** will only perform router control...FADER assignments must be made via the **ASN** menu.

**FREE ALL (F2)** - (Single Function) A single press of **(F2)** will **FREE** all of the current **ROUTER ASSIGNMENTS**.

**Z.RECORDER ENABLE (F3)** - (Toggle Function) Enables or disables assignment of the **Z.RECORDER** to faders. When enabled, any **TAKE** command will **ASSIGN** the **Z.RECORDER** to faders. When disabled, the **Z.RECORDER** must be assigned to faders via the **ASN** menu.

**TAKE (F4)** - (Single Function) The **TAKE** key initiates a router operation (same as the **TAKE** key in the **ROUTER INTERFACE** top menu).

**CHANNEL 1/2 TAKE ENABLE (F5)** - (Toggle Function) Enables or disables **CHANNELS 1 and 2** of a chosen **PHYSICAL MACHINE** for routing control. This feature allows the operator to select only the necessary channels of a 4-channel device, thereby conserving router outputs and available FADERS.  
*Normally set to "YES."*

**CHANNEL 3/4 TAKE ENABLE (F6)** - (Toggle Function) Enables or disables **CHANNELS 3 and 4** of a chosen **PHYSICAL MACHINE** for routing control. This feature allows the operator to select only the necessary channels of a 4-channel device, thereby conserving router outputs and available FADERS.  
*Normally set to "YES."*

---

**NOTE:** The user must decide which pairs of channels are to be routed *before* the **TAKE** key is pressed.

---

*Consult the Tutorial for specific router operation examples*

**ROUTER ERROR MESSAGES**

**THE VTR COULD NOT BE ROUTED BECAUSE  
ALL OF THE ROUTER OUTPUTS ARE IN USE**

This above message appears when all of the router outputs are in use. The user must decide which source(s) to **FREE** in order to make room for the new source.

**THERE IS A ROUTER CONFLICT. FREE LOGICAL  
MACHINE XXXX TO RESOLVE THE CONFLICT.**

The DMX-1000 **ROUTER INTERFACE** employs a unique feature called **CONFLICT RESOLUTION**. When the DMX detects an input channel conflict between an existing source and a newly-routed one, this feature will automatically attempt to reroute the existing source to resolve the conflict. The above message appears when the DMX is unable to resolve the conflict on its own.

For example:

If:

- The EVTR is currently routed to **DIGITAL INPUTS 17-20**.

AND:

- A CD player is hard-wired to **ANALOG INPUT 17 & 18**.
- You attempt to assign the CD player as a logical source machine.

THE FOLLOWING MESSAGE COULD APPEAR IF THE DMX IS UNABLE TO RESOLVE THE CONFLICT ON ITS OWN:

**THERE IS A ROUTER CONFLICT. FREE LOGICAL  
MACHINE EVTR TO RESOLVE THE CONFLICT.**

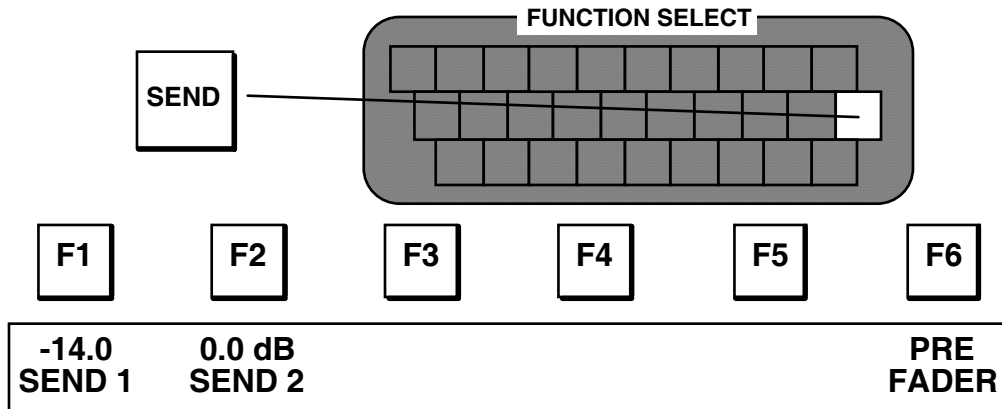
**THE PHYSICAL MACHINE IS ALREADY IN USE  
AS VTRA. FREE IT TO RESOLVE CONFLICT.**

The above message appears if the operator attempts to route a *hard-wired* source to more than one **LOGICAL MACHINE**. Hard-wired sources may only be assigned as a single **LOGICAL MACHINE**, whereas sources fed from an external router may be assigned to numerous positions (up to the maximum available router outputs).



## EFFECTS SEND MENU

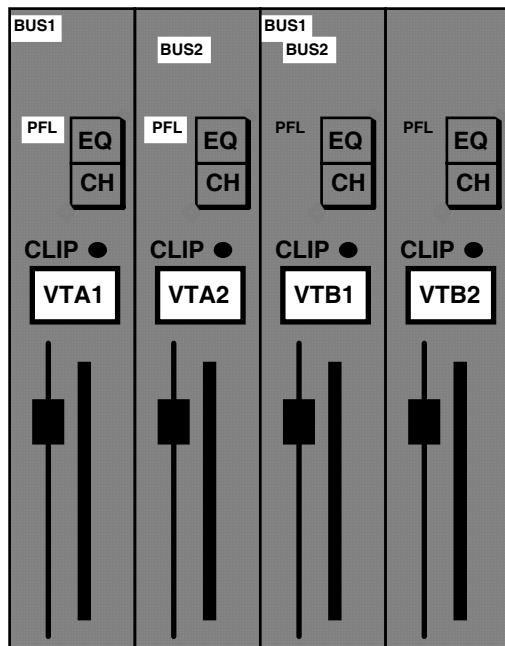
Pressing the **SEND** key on the FUNCTION SELECT subpanel opens the **EFFECTS SEND** menu on the SOFTKEY DISPLAY.



The **SEND** menu provides routing and level control for the two **EFFECTS SEND (EFX SEND)** buses. **EFX SEND** is commonly used to feed outboard signal processing gear, but may also be utilized for "MIX MINUS" feeds.

With the **SEND** menu open, the **BUS INDICATORS** above each FADER SUBPANEL temporarily change function to display the current EFX routing. When enabled, the **BUS INDICATORS** flash to alert the user that the control panel is operating in a non-standard mode. The backlit **PFL** indicators also change function at this time to indicate whether a channel is feeding an **EFX SEND BUS** at a **PREFADER** or **POSTFADER** level.

Selecting a fader's **CH** key displays the current routing, level, and type of **EFX SEND** for the selected channel in the SOFTKEY DISPLAY. The selected source's **LABEL** is also displayed in the window below the NUMERIC KEYPAD.



### IN THE EXAMPLE AT LEFT:

**VTA1** is feeding a **PREFADER** level to **EFX SEND BUS 1**.

**VTA2** is feeding a **PREFADER** level to **EFX SEND BUS 2**.

**VTB1** is feeding a **POSTFADER** level to both **EFX SEND BUS 1** and **EFX SEND BUS 2**.

**VTB3** is not feeding either **EFX SEND BUS**.

## EFFECTS SEND MENU, continued

---

F1	F2	F3	F4	F5	F6
-14.0 SEND 1	0.0 dB SEND 2				PRE FADER

**SEND 1 (F1)** - (Variable adjustment from  $\infty$  to 0.0db) Sets the amount of level sent to **EFX SEND BUS 1**. The level set in the SOFTKEY DISPLAY is relative to the fader's electrical level, *whether the channel is set for PRE or POST FADER operation*. Repetitive presses of **(F1)** toggles the value between the low (OFF) and high (0.0) values. At values greater than OFF, the **BUS 1** legend on the corresponding fader subpanel will illuminate.

**SEND 2 (F2)** - (Variable adjustment from  $\infty$  to 0.0db) Sets the amount of level sent to **EFX SEND BUS 2**. The level set in the SOFTKEY DISPLAY is relative to the fader's electrical level, *whether the channel is set for PRE or POST FADER operation*. Repetitive presses of **(F2)** toggles the value between the low (OFF) and high (0.0) values. At values greater than OFF, the **BUS 2** legend on the corresponding fader subpanel will illuminate.

**(F3 - F5)** - (NO FUNCTION)

**ROUTING PATH (F6)** - (Toggle function) Selects whether a **CHANNEL's** contribution to the **EFX SEND** bus(es) is either **PREFADER** or **POSTFADER**. With **PREFADER** selected, the audio levels sent to the selected buses will be constant, regardless of changes made to a FADER's electrical level and/or physical position. Selection of **PREFADER** illuminates the **PFL** indicator on the corresponding channel's FADER SUBPANEL.

With **POSTFADER** selected, the audio levels sent to the selected busses will be directly affected by changes in the electrical level of the corresponding fader. A FADER SUBPANEL set to **POSTFADER** is distinguished by the absence of a blinking **PFL** indicator.

## **IMPORTANT**

---

**PREFADER EFX SEND LEVELS ARE DOWNSTREAM OF EQ, GATE, DELAY, AND THE COMPRESSOR/LIMITER.**

---

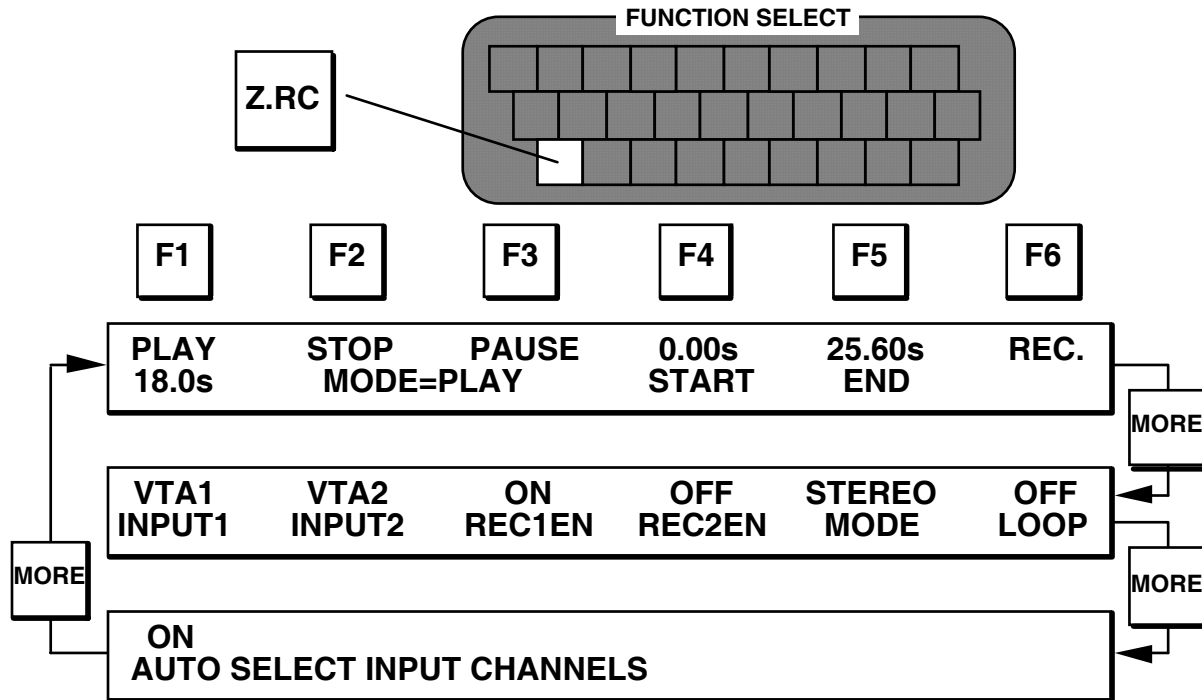
**NOTE:** After exiting the EFX SEND menu, the DMX control panel indicators for BUS and PFL mode revert to their "normal" functions.

---

## Z.RECORDER MENU

---

Pressing the **Z.RC** key on the FUNCTION SELECT subpanel opens the **Z.RECORDER** menu on the SOFTKEY DISPLAY.



The **Z.RECORDER** is an internal random access memory (RAM) recorder. While the mixer comes standard with 7 seconds of stereo audio storage (14 seconds mono), a memory expansion option increases the capacity to 40 seconds of stereo (80 seconds mono).

The **Z.RECORDER** may be operated from either the DMX control panel or via GPI and RS422 control from an edit system, emulating the operation of an Ampex DCT700d tape drive. Consult the *Installation Guide* for wiring information.

## CAUTION

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**THE Z.RECORDER'S MEMORY IS VOLATILE. A RESET OR POWER-DOWN OF THE AUDIO PROCESSOR UNIT WILL RESULT IN THE LOSS OF ALL STORED AUDIO.**

---

### TOP MENU

**PLAY (F1)** - (Single function) **PLAYS** the **Z.RECORDER**. (**PLAY** may be GPI-triggered) The current position of the **Z.RECORDER** is displayed below "**PLAY**."

**STOP (F2)** - (Single function) **STOPS** the **Z.RECORDER**. The current "transport" **MODE** is displayed below (**F2**).



## Z.RECORDER MENU, continued

---

F1	F2	F3	F4	F5	F6
PLAY 18.0s	STOP MODE=PLAY	PAUSE	0.00s START	25.60s END	REC.

**PAUSE (F3)** - (Single function) **PAUSES** the **Z.RECORDER**. (**PAUSE** may be GPI-triggered)

---

**NOTE: PAUSE will allow a subsequent PLAY command to START from the PAUSE POINT. STOP resets the Z.RECORDER to the START POINT, set under (F4).**

---

**START (F4)** - (Variable adjustment from 0 to 80 seconds) Sets the start time for the **Z.RECORDER**. A value may be entered by: 1) Turning the soft-knob above **(F4)**, or 2) Typing a value on the NUMERIC KEYPAD followed by a single press of the **(F4)** key. Repetitive presses of **(F4)** toggles between the current and low (0.00 seconds) values.—**Custom Toggle Capable**—

**END (F5)** - (Variable adjustment from 0 to 80 seconds) Sets the end time for the **Z.RECORDER**. A value may be entered by: 1) Turning the soft-knob above **(F5)**, or 2) Typing a value on the NUMERIC KEYPAD followed by a single press of the **(F5)** key. Repetitive presses of **(F5)** toggles the value between the current and high (80.00 seconds) values.—**Custom Toggle Capable**—

---

**NOTE: If the START time is greater than the END time, the Z.RECORDER will play in reverse.**

---

**REC. (F6)** - (Single function) Initiates **RECORDING** on the **Z.RECORDER**, beginning at the **START** time specified below **(F4)**, and ending at the **END** time specified below **(F5)**. **RECORDING** may be also be terminated at any time by pressing the **STOP** key. (**RECORD** may be GPI-triggered from an edit system)

## Z.RECORDER MENU, continued

---

### **BRANCH MENU 1**

<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>	<b>F5</b>	<b>F6</b>
<b>VTA1 INPUT1</b>	<b>VTA2 INPUT2</b>	<b>ON REC1EN</b>	<b>OFF REC2EN</b>	<b>STEREO MODE</b>	<b>OFF LOOP</b>

**INPUT 1(F1)** - (Variable adjustment) Selects the source to be fed to **INPUT 1** of the **Z.RECORDER**. Rotating the softknob above **(F1)** cycles through all available **CHANNELS**. The display below **(F1)** statuses the **LABEL** of each source.

**INPUT 2 (F2)** - (Variable adjustment) Selects the source to be fed to **INPUT 2** of the **Z.RECORDER**. Rotating the softknob above **(F2)** cycles through all available **CHANNELS**. The display below **(F2)** statuses the **LABEL** of each source.

---

**NOTE: The inputs to the Z.RECORDER are PRE-FADER.**

---

**REC1EN (F3)** - (Toggle function) **ENABLES** or disables the **RECORD ENABLE** flag for **Z.RECORDER CHANNEL 1**. When set to **ON**, recording is permitted. When set to **OFF**, channel 1 is write-protected.

**REC2EN (F4)** - (Toggle function) **ENABLES** or disables the **RECORD ENABLE** flag for **Z.RECORDER CHANNEL 2**. When set to **ON**, recording is permitted. When set to **OFF**, channel 2 is write-protected.

---

**NOTE: When assigned as an RVTR, commands sent to the DMX from an edit system will override the settings of (F3) and (F4).**

---

**MODE (F5)** - (Toggle function) Selects the **RECORD MODE** of operation for the **Z.RECORDER**. When set to **STEREO**, up to 40 seconds of audio may be stored. When set to **MONO**, up to 80 seconds of audio may be stored. Input routing during **MONO** operation is via **Z.RECORDER INPUT 1**.

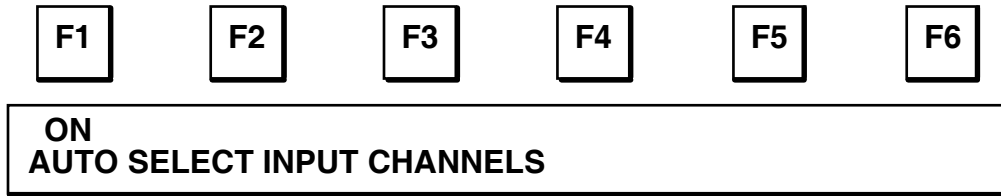
**LOOP (F6)** - (ON/OFF function) Enables or disables the **Z.RECORDER** playback **LOOP MODE**. When enabled, the segment of audio defined by the **START** and **END** function keys will continuously loop, following a **PLAY** command.

---

**NOTE:** The **START** and **END TIMES** of the segment may be adjusted while the **Z.RECORDER** is **LOOPING**. Rotating the softknobs above *(F4)* and *(F5)* provides 1/100th of a second precision.

---

**BRANCH MENU 2**



**AUTO SELECT INPUT CHANNELS (F1)** - (ON/OFF function) Enables or disables automatic Z.Recorder **INPUT SELECTION** from an edit system.

When enabled, Z.Recorder input routing will follow source key selections made on the edit system's keyboard. For example, if the AVTR key is selected on the edit system, **VTA1** and **VTA2** will be automatically selected as inputs to the Z.Recorder.

When disabled, input routing to the Z.Recorder is only performed via the second level of the Z.Recorder menu.

---

**NOTE:** Operating the mixer with the **AUTO SELECT** feature "ON" facilitates editor-controlled layoffs to the Z.Recorder.

---

*Consult the tutorial for Z.RECORDER operation examples*

### NOTES ON EDITOR CONTROL

- Control of the Z.Recorder is via a dedicated RS422 connector on the rear of the Control Panel. The Z.Recorder emulates the Ampex DCT 700d protocol.
- The two Z.Recorder tracks are independently editable.
- While the Z.Recorder is capable of variable-speed playback under editor control, synchronization **must** be accomplished at normal play speed. The **Z.Recorder** does not preroll at speeds other than normal playback.
- Frame bump from the edit system is not currently supported.
- For consistent and predictable monitoring, the **Z.Recorder** must receive special treatment during edit system "SWAP" operations. Consult the edit system manufacturer for information regarding support of this feature.

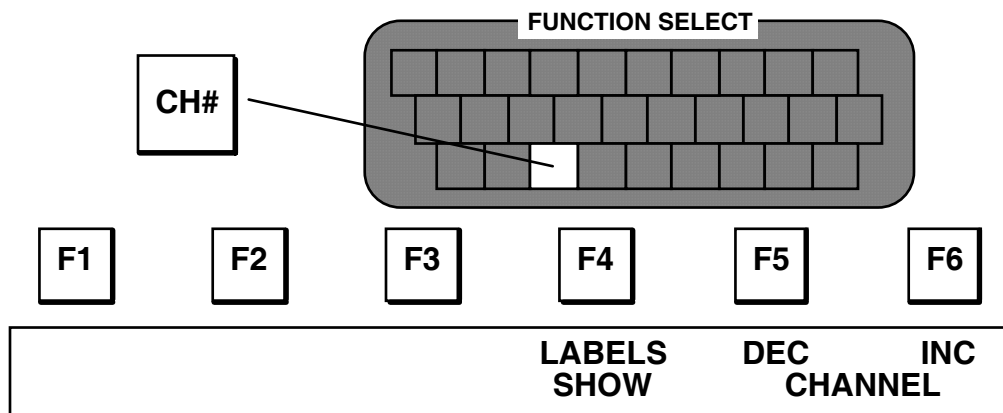
If an automated Z.Recorder SWAP is not supported, a desirable result may be achieved via the use of Macros, which should be programmed to manually change the edit system's device and crosspoint tables.





## CHANNEL NUMBER MENU

Pressing the **CH#** key on the FUNCTION SELECT subpanel opens the **CHANNEL NUMBER** menu on the SOFTKEY DISPLAY.

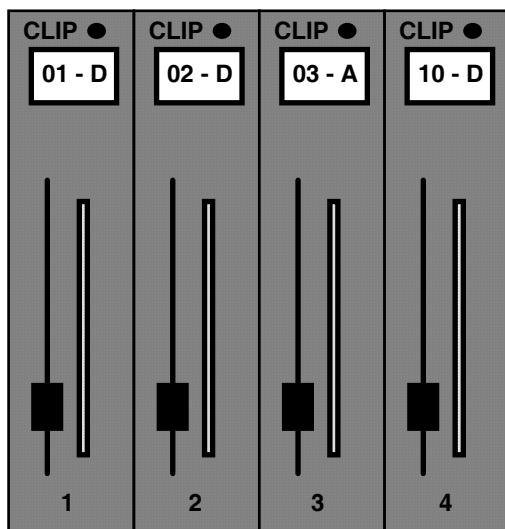


The **CHANNEL NUMBER (CH #)** menu provides a quick, convenient method of determining which physical mixer inputs are assigned to each fader. This menu may also be utilized for accessing **CHANNELS** that may not be **ASSIGNED** to hardware faders (like channels assigned to a **GROUP**).

**(F1-F3)** - (NO FUNCTION)

**SHOW (F4)** - (Toggle function) Sets a status mode for the 4-character alphanumeric display on each FADER SUBPANEL. Two modes are available:

- **SHOW LABELS:** The 4-character **CHANNEL LABELS** are displayed.
- **SHOW CH#:** Each FADER SUBPANEL display will **SHOW** the **ASSIGNED CHANNEL NUMBER**, followed by a designation of **INPUT TYPE**, where A = ANALOG and D = DIGITAL(AESEBU).



FOR EXAMPLE:

**CHANNELS 1 and 2** are **ASSIGNED** to FADERS 1 and 2, and are both set to **DIGITAL**.

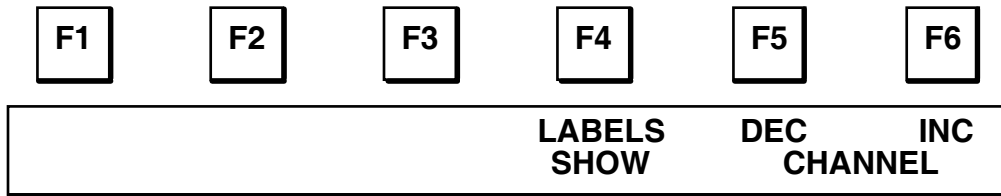
**CHANNEL 3** is **ASSIGNED** to FADER 3, and is set to **ANALOG**.

**CHANNEL 10** is **ASSIGNED** to FADER 4, and is set to **DIGITAL**.



## CHANNEL NUMBER MENU, continued

---



**DEC CHANNEL (F5)** - (Single function) Repetitive presses of **(F5)** decrements through the entire list of 20 channels. The current **CH#** and its **LABEL** are displayed in the LED readout below the NUMERIC KEYPAD.

**INC CHANNEL (F6)** - (Single function) Repetitive presses of **(F6)** increments through the entire list of 20 channels. The current **CH#** and its **LABEL** are displayed in the LED readout below the NUMERIC KEYPAD.

---

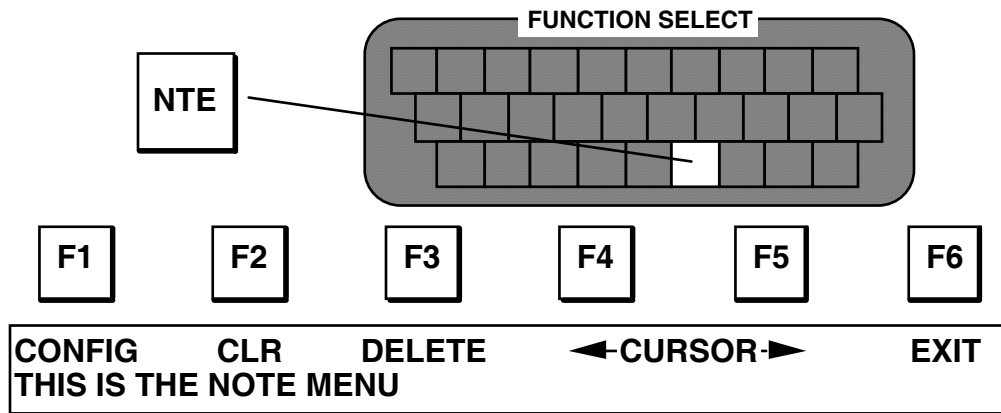
**NOTE:** Once the desired CHANNEL is selected, adjustments may be made to:

- Compression/Limiting
  - Equalization
  - Gating
  - Panning
-

## NOTE MENU

---

Pressing the **NTE** key on the **FUNCTION SELECT** subpanel opens the **NOTE** menu on the **SOFTKEY DISPLAY**.



The **NOTE** menu is used to attach a short defining message (up to 80 characters in length) to **CONFIGURATION** and **EVENT** files.

**TYPE (F1)** - (Toggle function) Selects between the two types of **NOTES**: **CONFIGURATION** and **EVENT**. **CONFIGURATION NOTES** are attached to **CONFIG** files, while **EVENT NOTES** are attached to individual **EVENT FILES**. The user sets this item to correctly match the type of file that is being stored.

**CLR (F2)** - (Single function) **CLEAR**s the entire lower portion of the **SOFTKEY DISPLAY**.

**DELETE (F3)** - (Single function) **DELETES** the character at the current **CURSOR** position.

**CURSOR LEFT (F4)** - (Single function) Incrementally moves the **CURSOR** left through the displayed **NOTE**.

**CURSOR RIGHT (F5)** - (Single function) Incrementally moves the **CURSOR** right through the displayed **NOTE**.

**EXIT (F6)** - (Single function) **EXITS** the menu, returning the user to the **HOME** menu.

---

**NOTE:** Previously-stored **NOTES** may be edited by:

- 1) Recalling the attached file.
  - 2) Opening the **NOTE** menu.
  - 3) Editing the **NOTE**.
  - 4) Resaving the file.
-

### **CREATING A CONFIGURATION NOTE**

Prior to **SAVING** a DMX-1000 **CONFIGURATION** to one of the 10 **CONFIGURATION MEMORIES**, a descriptive note may be entered via the QWERTY KEYPAD. The steps involved are:

- Press **NOTE** (via the FUNCTION SELECT subpanel).
- If **CONFIG** is not currently displayed below **(F1)**, press **(F1)** to achieve that result.
- Press **(F2)** to **CLEAR** the current **NOTE**, if present.
- Type the **NOTE** on the QWERTY KEYPAD.
- When finished typing the **NOTE**, press the **ENT** key on the NUMERIC KEYPAD.
- Press **(F6)** to exit the menu.
- Go to the **CONFIG MENU** (a branch of the **S.UP** menu).
- Store the **CONFIG**.

### **CREATING AN EVENT NOTE**

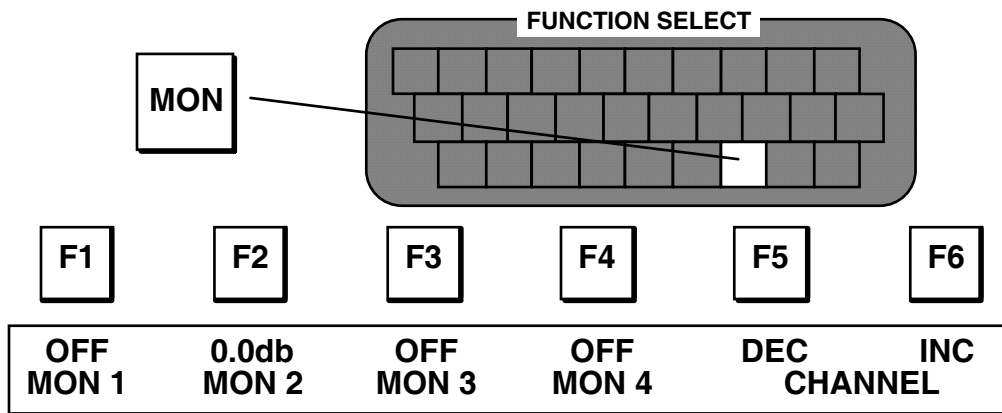
Prior to **SAVING** a DMX-1000 **EVENT** to one of the 400 **EVENT MEMORIES**, a descriptive note may be entered via the QWERTY KEYPAD. The steps involved are:

- Press **NOTE** (via the FUNCTION SELECT subpanel).
- If **EVENT** is not currently displayed below **(F1)**, press **(F1)** to achieve that result.
- Press **(F2)** to **CLEAR** the current **NOTE**, if present.
- Type the **NOTE** on the QWERTY KEYPAD.
- When finished typing the **NOTE**, press the **ENT** key on the NUMERIC KEYPAD.
- Press **(F6)** to exit the menu.
- Go to the **EVENT MENU** (press the **EVN** key on the AUTOMATION SUBPANEL).
- Store the **EVENT**.

## MONITOR ASSIGNMENT MENU

---

Pressing the **MON** key on the FUNCTION SELECT subpanel opens the **MONITOR ASSIGNMENT** menu on the SOFTKEY DISPLAY.



The **MONITOR** menu is used to route a selected channel to specific **MONITOR BUSES**, the functional equivalent of the **PAN** menu for the **MIX BUSES**. With the **MON** menu accessed, the **BUS INDICATORS** above each **FADER SUBPANEL** will display the corresponding **MONITORING SETUPS**. The **BUS INDICATORS** flash to alert the user that the panel is displaying **MONITORING SETUPS**, and not **PANNING SETUPS**. Selecting a fader's **CH** key will display the current monitoring setup in the **SOFTKEY DISPLAY**. (The selected source's **LABEL** is displayed in the window below the **NUMERIC KEYPAD**) Function keys (**F1**) thru (**F4**) are utilized to alter the monitoring setup. The settings made in this menu are only applicable to the **MONITOR** section of the **DMX**, and have no effect on or interact with the **PAN** menu.

The settings made in this menu will only take effect if the **MONITORING MODE** is set to **MON FOLLOW** (available in the second level of the monitor **MODE** menu).

### **CAUTION:**

---

The monitoring setup for the **RECORD VTR** is used for **BUS** assignment during preview switching. In a 2-speaker installation, the **RECORD VTR**'s channels must only be assigned to **MONITOR BUS 1** and **2**.

---

**MON 1 (F1)** - (ON/OFF function) Enables/disables **MONITOR 1** for a selected channel.

**MON 2 (F2)** - (ON/OFF function) Enables/disables **MONITOR 2** for a selected channel.

**MON 3 (F3)** - (ON/OFF function) Enables/disables **MONITOR 3** for a selected channel.

**MON 4 (F4)** - (ON/OFF function) Enables/disables **MONITOR 4** for a selected channel.

**DEC CHANNEL (F5)** - (Single function) Repetitive presses of (**F5**) decrements through the list of available sources.

***INC CHANNEL (F6)*** - (Single function) Repetitive presses of **(F6)** increments through the list of available sources.

## **MONITOR ASSIGNMENT MENU, continued**

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**SHORTCUT 1:** USE THE **INC** AND **DEC** KEYS TO ACCESS CHANNELS THAT MAY NOT CURRENTLY BE AVAILABLE ON FADERS, SUCH AS THE RECORD VTR, OR CHANNELS ASSIGNED TO A GROUP.

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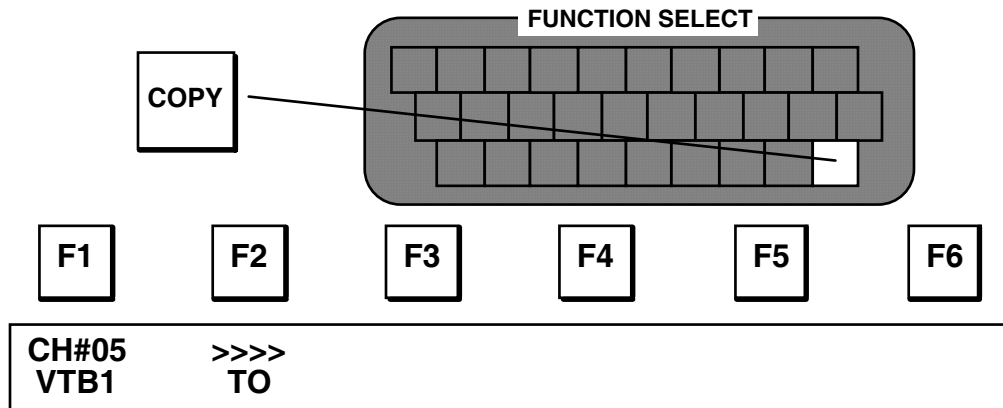
**SHORTCUT 2:** THE MONITORING SETUP FOR THE RECORDER CHANNEL 1 WILL AUTOMATICALLY BE DISPLAYED IF THE **MONITOR** MENU IS ACCESSED DIRECTLY FROM THE **RECORDER** MENU.

---

## COPY MENU

---

Pressing the **COPY** key on the FUNCTION SELECT subpanel opens the **COPY** menu on the SOFTKEY DISPLAY.



The **COPY** menu provides a means of copying parameters from one channel to another channel(s). **COPY** is available for the following parameters:

- **Compressor/Limiter setups**
- **Delay value**
- **EQ setups**
- **Fader Limits**
- **Gating setups**
- **Panning setups**

**SOURCE (F1)** - (Single function) **(F1)** displays the **SOURCE CHANNEL** for the **COPY** function. The **SOURCE CHANNEL** may be set in one of two ways:

- 1) If the user is not currently in the **COPY** menu, pressing a fader's **CH** key, followed by the **COPY** key will automatically preset that fader's channel as the source.
- 2) If the **COPY** menu is open, pressing a fader's **CH** key, followed by **(F1)** will set the source.

**TO (F2)** - (Display function) Identifies the sources displayed to the right of **(F2)** as destinations for the **COPY**.

**(F3) - (F6)** - (Single function) These function keys are used to set the destination(s) for the copy function. A destination is set by pressing a fader's **CH** key, followed by any available function key. Up to four destinations may be set at one time.

---

**NOTE: The source and its destinations may be changed at any time before the copy is performed.**

---

**COPY PROCEDURE**

- Select a copy source by pressing the **CH** key on the appropriate fader.
- Press the **COPY** key on the FUNCTION SELECT subpanel.
- Select a destination by pressing the **CH** key on the appropriate fader, followed by the function key above any blank area in the SOFTKEY DISPLAY.
- Repeat step 3 if you wish to copy to more than one destination.
- Press the **COPY** key on the FUNCTION SELECT subpanel.

***At this point the first six keys of the F/X SELECT subpanel will flash continuously.***

- On the F/X SELECT subpanel, press the keys that correspond to the parameters you wish to copy. When pressed, a parameter key will solidly illuminate to confirm your selection. If you make an error, press the parameter key again to deselect that parameter (the key will start blinking again).
- After all desired parameters are set, press the **ENT** key on the NUMERIC KEYPAD to perform the copy.

---

**NOTE: The actual transfer of data from source to destination(s) normally takes 2-3 seconds to complete. The SOFTKEY DISPLAY returns to the HOME menu when the copy is complete.**

---

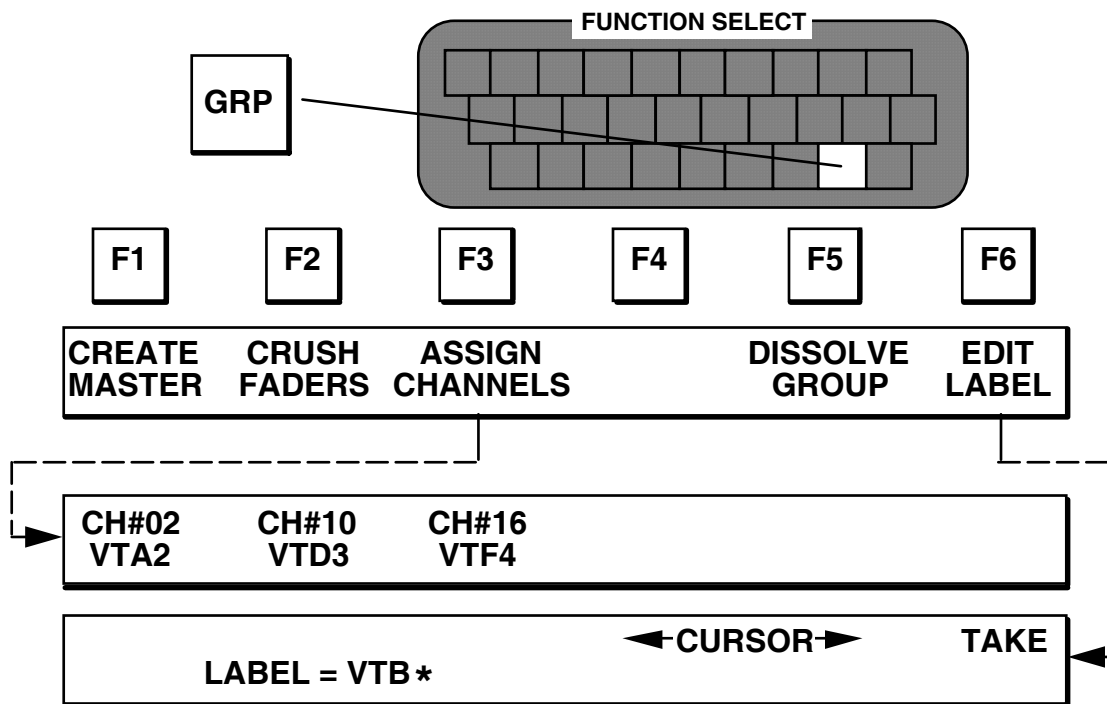
---

**SHORTCUT:** If a **COPY** is being performed to multiple destinations, select (illuminate) the **CH** keys on all of the destinations, then press the **COPY** key. The selected destinations will flow to the SOFTKEY DISPLAY, and the mixer will prompt for copy parameters.

---

## GROUP MENU

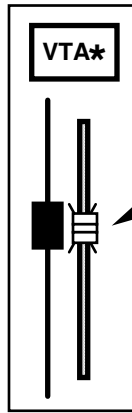
Pressing the **GRP** key on the FUNCTION SELECT subpanel opens the **GROUP** menu on the SOFTKEY DISPLAY.



The **GROUP** menu is used to **GROUP** up to six channels onto a single fader. Grouping is most useful in **LIVE** mode, where simultaneous manual control of all 16 faders may be cumbersome. Grouping also facilitates the overall "riding" of a mix whose components are already balanced.

Any combination of up to six **CHANNELS** may be assigned to a single **GROUP MASTER**. No software restrictions are placed on the number of **GROUPS**, or their locations.

**CREATE MASTER (F1)** - (Single function) Used to **CREATE** a **GROUP MASTER**. A **MASTER** is **CREATED** by pressing the **CH** key on an appropriate fader, followed by **(F1)**. The previous **CHANNEL** is inserted as the first component of the group, and the last character in its **LABEL** is replaced with an asterisk, indicating that the fader is now designated as a **GROUP MASTER**. The LED bargraph adjacent to the master's fader is also altered to provide further differentiation between a **MASTER** and the normal faders, as follows:



**GROUP MASTERS** are distinguished by a triple-layered LED array.

## GROUP MENU, continued

---

F1	F2	F3	F4	F5	F6
CREATE MASTER	CRUSH FADERS	ASSIGN CHANNELS		DISSOLVE GROUP	EDIT LABEL

**CRUSH FADERS (F2)** - (Single function) Selecting the **CRUSH FADERS** key following the creation of a **GROUP** sorts the fader assignments, thereby eliminating any "blank" faders between active ones.

**ASSIGN CHANNELS (F3)** - (Branch menu selector) Selecting the **CH** key on an existing **GROUP MASTER** followed by **(F3)** enables the **ASSIGN CHANNELS** mode, used to add additional **CHANNELS** into an *existing* **GROUP**. Additions are made by pressing the **CH** key on the desired FADER SUBPANEL, followed by the **GRP** key.

---

**NOTE:** Selecting **CREATE MASTER** automatically sets the **DMX** into the **ASSIGN CHANNELS** mode.

---

---

**NOTE:** As a **CHANNEL** is **ASSIGNED** to a **GROUP MASTER**, its hardware fader deactivates.

---

**(F4)** - (NO FUNCTION)

**DISSOLVE GROUP (F5)** - (Single Function) Used in conjunction with the **CH** key on a **GROUP MASTER**. Pressing a **MASTER'S CH** key, followed by **(F5)**, dissolves the chosen **GROUP** and automatically **REASSIGNS** the individual components of the **GROUP** onto separate faders.

---

**NOTE:** After **DISSOLVING** a **GROUP**, it may be necessary to use the **FADER MATCH** feature (accessed by pressing the **FADR** key) to restore the coincidence of physical/electrical levels.

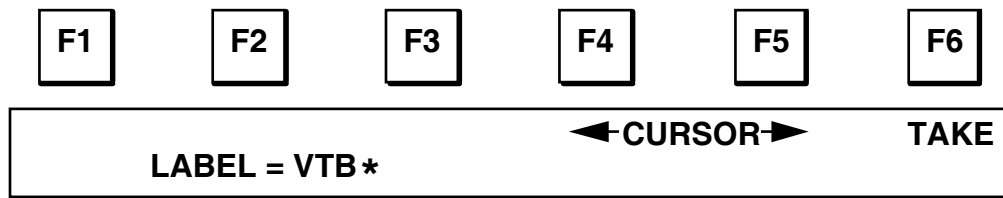
---

**EDIT LABEL (F6)** - (Branch menu selector) Pressing **(F6)** opens a special label editing menu, which is utilized for custom labeling of the **GROUP MASTER(S)**.

## GROUP MENU, continued

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### EDIT LABEL MENU



The **EDIT LABEL** menu is utilized to create custom 4-character **LABELS** for each **GROUP**, which may be desirable under certain operating situations.

**(F1 - F3)** - (NO FUNCTION)

**CURSOR LEFT (F4)** - (Stepped function) Pressing **(F4)** moves the **LABEL** cursor to the left. Though not destructive, the cursor completely hides the underlying character.

**CURSOR RIGHT (F5)** - (Stepped function) Pressing **(F5)** moves the **LABEL** cursor to the right. Though not destructive, the cursor completely hides the underlying character.

**TAKE (F6)** - (Single function) Pressing **(F6)** accepts the new **LABEL** designation, and applies it to the selected **GROUP MASTER**.

### LABEL EDITING PROCEDURE:

- 1) Select the **CH** key on a **GROUP MASTER's** FADER.
- 2) Utilizing the FUNCTION SELECT subpanel, enter a new 4-character **LABEL**.
- 3) Press **(F6)** to accept the change.

---

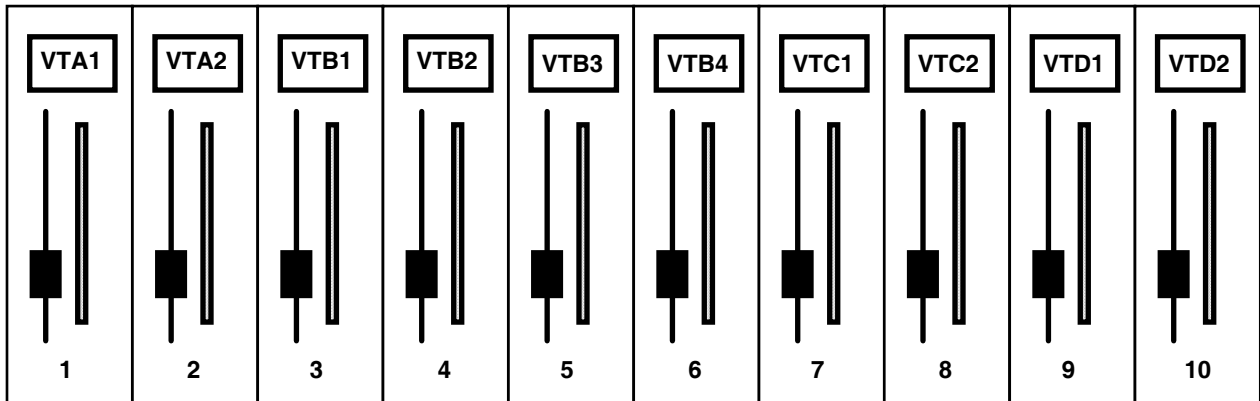
**NOTE: Changes to a Master's default LABEL are temporary. When the GROUP is DISSOLVED, so is any custom LABEL.**

---

**GROUP SETUP EXAMPLE**

**GROUPING ALL 4 CHANNELS OF VTRB**

This is how the mixer may look prior to **GROUPING**



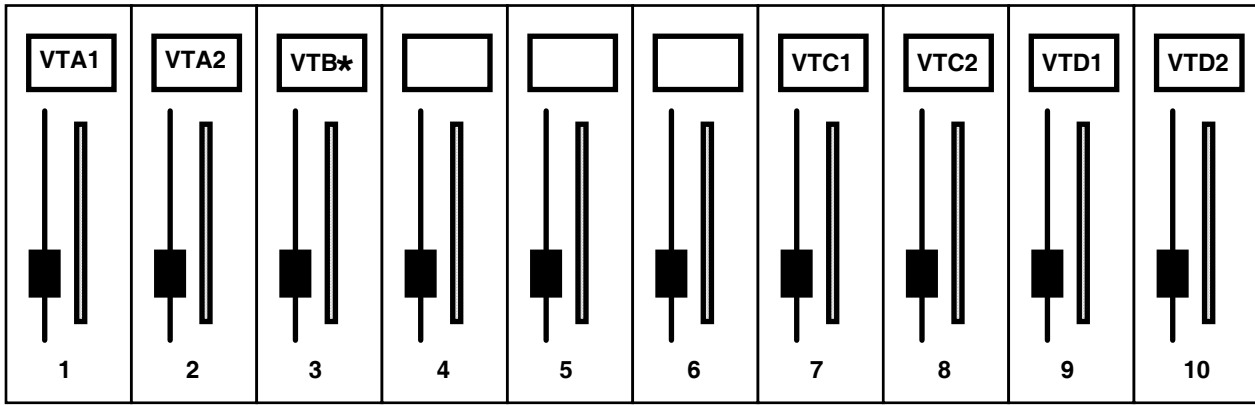
- Select the **GRP** key on the FUNCTION SELECT subpanel.
- Select the **CH** key on **VTB1**'s FADER subpanel (in this example, FADER 3).
- Select **CREATE MASTER** on the SOFTKEY DISPLAY, which will then look like:

**CH#03  
VTB1**

- Select the **CH** keys on faders 4, 5, and 6 (they will all illuminate).
- Select the **GRP** key on the FUNCTION SELECT subpanel. The SOFTKEY DISPLAY will now look like:

**CH#03    CH#04    CH#05    CH#06  
VTB1    VTB2    VTB3    VTB4**

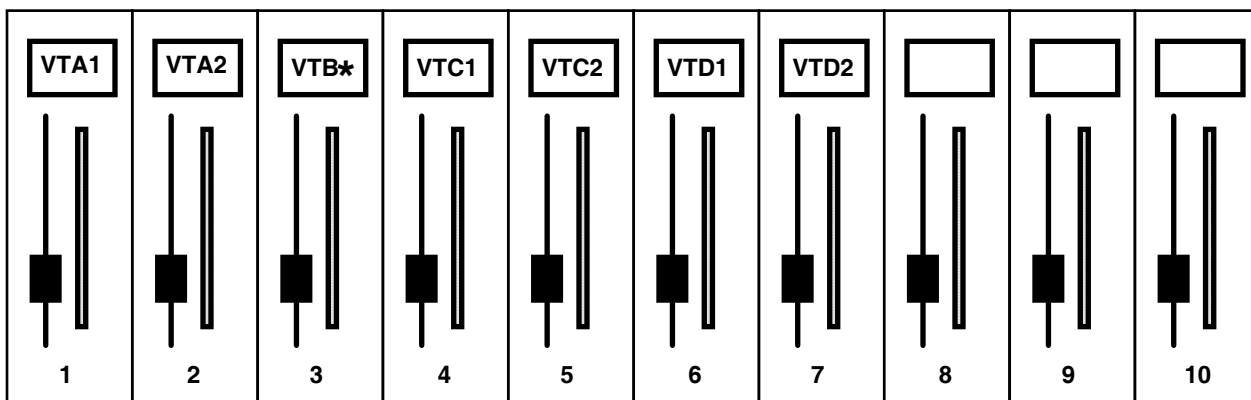
and the FADER SUBPANELS will look like:



## GROUP MENU, continued

---

- Press the **GRP** (or **HOME**) key to return to the top level of the **GROUP** menu.
- Select **CRUSH FADERS** on the SOFTKEY DISPLAY. The **FADER SUBPANELS** will now look like this:



## TRIMMING THE LEVELS OF GROUPED CHANNELS

Once a **GROUP** has been established, adjustment of the **MASTER FADER** will affect the levels of all components of the **GROUP**, preserving the relative levels between **CHANNELS**. Should it become necessary to alter the relationship between the **CHANNELS**, the DMX SOFTKEY DISPLAY and SOFTKNOBS take the place of the traditional **FADERS**. To access the **GROUP TRIM MODE**:

- If the **GROUP** menu is open, press the **HOME** key once or twice to return to the system's **HOME MENU**.
- Press the **CH** key on the **GROUP MASTER** that requires adjustment. The SOFTKEY DISPLAY will now resemble the figure below, displaying the **LABEL** and **FADER LEVEL** for each component of the **GROUP**.

F1	F2	F3	F4	F5	F6
0.0dB VTA2	-10.6dB VTD3	+1.2dB VTF4			

Rotation of the softknob above each display's function key is functionally equivalent to manipulating a hardware fader.

---

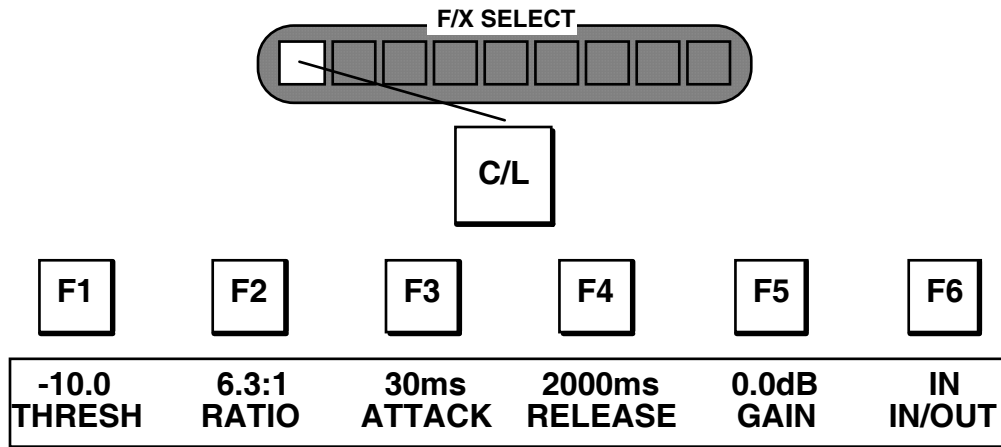
**NOTE: GROUP TRIM MODE is not accessible from within the GROUP menu.**

---

## COMPRESSOR/LIMITER MENU

---

Pressing the **C/L** key on the F/X SELECT subpanel opens the **COMPRESSOR/LIMITER** menu on the SOFTKEY DISPLAY.



The **COMPRESSOR/LIMITER** menu provides enables and adjustments for the 20 individual DMX-1000 **COMPRESSOR/LIMITERS** .

**THRESH (F1)** - (Variable adjustment from -59.9 to 0.0) Sets the **THRESHOLD** (level) at which **COMPRESSION** will be active (similar in function to the Clip control on a video keyer). Rotation of the softknob above **(F1)** provides continuously-variable control of the **THRESHOLD** level, while repetitive presses of **(F1)** toggles between the current value and UNITY (-3.9).  
—Custom Toggle Capable—

**RATIO (F2)**- (Variable adjustment from 0.1:1 to 25.0:1) Sets the ratio between the input and output of the **COMPRESSOR/LIMITER**. Rotation of the softknob above **(F2)** provides continuously-variable control of the **RATIO** value, while repetitive presses of **(F2)** toggles between the current value and UNITY (1.0:1).  
—Custom Toggle Capable—

**ATTACK (F3)** - (Variable adjustment from 00 to 100 milliseconds) Sets how quickly the **COMPRESSOR/LIMITER** will react once the input has reached or exceeded the **THRESHOLD**. Rotation of the softknob above **(F3)** provides continuously-variable control of the **ATTACK** value, while repetitive presses of **(F3)** toggles between the current value and UNITY (10).  
—Custom Toggle Capable—

**RELEASE (F4)** - (Variable adjustment from 30 to 3000 milliseconds) Sets how quickly the **COMPRESSOR/LIMITER** will return to normal once the input has fallen below the **THRESHOLD**. Rotation of the softknob above **(F4)** provides continuously-variable control of the **RELEASE** value, while repetitive presses of **(F4)** toggles between the current value and UNITY (100).  
—Custom Toggle Capable—

## COMPRESSOR/LIMITER MENU, continued

---

F1	F2	F3	F4	F5	F6
-10.0 THRESH	10:1 RATIO	30ms ATTACK	2000ms RELEASE	0.0dB GAIN	IN IN/OUT

**GAIN (F5)** - (Variable adjustment from 0.0 to +24.0 dB) Sets the input level to the **COMPRESSOR/LIMITER**. Rotation of the softknob above **(F5)** provides continuously-variable control of the **RELEASE** value, while repetitive presses of **(F5)** toggles between the current value and UNITY (0.0).

—Custom Toggle Capable—

**IN/OUT (F6)** - (ON/OFF function) Enables/disables the **COMPRESSOR/LIMITER** feature for a given channel. When enabled, the **C/LIM** legend on the corresponding **FADER SUBPANEL** will illuminate.

---

**NOTE:** Multiple channels may be adjusted simultaneously by selecting (and illuminating) the appropriate **FADER SUBPANEL "CH"** keys.

---

### **GAIN REDUCTION MONITORING**

The degree of compressor gain reduction is monitored via the vertical LED array adjacent to each fader. Once the **COMPRESSOR/LIMITER** is enabled for a specific channel, the corresponding fader's LED array alters its function from displaying *electrical level*, to displaying *gain reduction*.

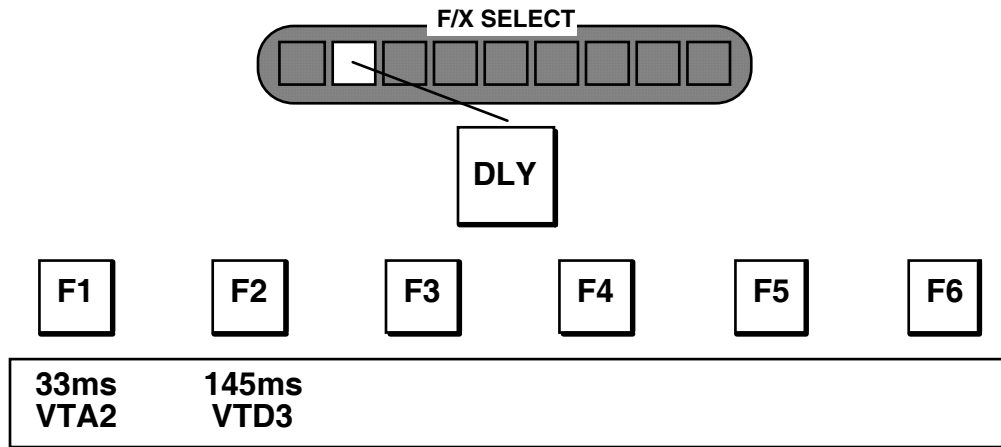
In **GAIN REDUCTION MODE** the entire LED array from  $\infty$  to 0.0 dB may be illuminated simultaneously. At a ratio of 1:1, the entire array will illuminate. As the compressor is adjusted and the function engages, the LED array will respond to depict the degree of gain reduction.

*The FADER(S) are still active in **GAIN REDUCTION MODE**.*

## DELAY MENU

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Pressing the **DLY** key on the F/X SELECT subpanel opens the **DELAY** menu on the SOFTKEY DISPLAY.



The **DELAY** menu provides channel-by-channel adjustment of **DELAY**. Whenever a channel has a **DELAY** value greater than zero, the **DELAY** legend on the corresponding channel's **FADER** will illuminate. To assign channels to this menu:

### DELAY MENU NOT OPEN

- Press the **CH** key(s) on a FADER SUBPANEL
- Press the **DLY** key on the F/X SELECT SUBPANEL. The selected channels will automatically be assigned to the function keys in the SOFTKEY DISPLAY. A maximum of six channels may be displayed/adjusted at a single time.

### DELAY MENU OPEN, BUT EMPTY

- Press the **CH** key(s) on a FADER SUBPANEL
- Press the **DLY** key on the F/X SELECT SUBPANEL. The selected channels will automatically be assigned to the function keys in the SOFTKEY DISPLAY. A maximum of six channels may be displayed/adjusted at a single time.

### DELAY MENU OPEN, BUT FULL

If all the function keys in the **DELAY** menu are assigned, another channel may be added by either:

- Closing and reopening the **DELAY** menu, which will clear the display. (Select any other menu—or **HOM**—followed by the **DLY** key.)
- Replace an existing selection by pressing a **CH** key on a FADER SUBPANEL, followed by the function key above the channel you wish to replace.

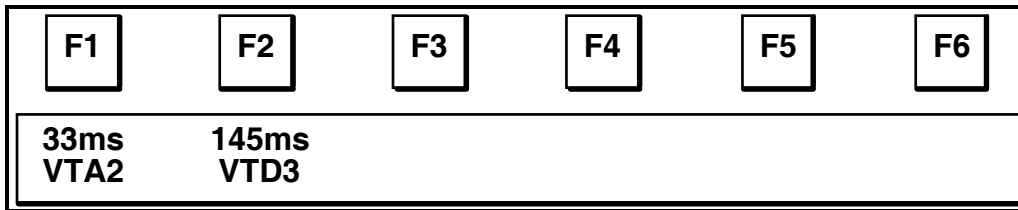
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**NOTE: The DELAY menu is only a programming tool. Channels do not have to be displayed in the menu for DELAY to be active.**

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## DELAY MENU, continued

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(F1) - (F6) - (Variable adjustment from 0 to 233 ms) Once a channel has been assigned to a function key, the **DELAY** value may be set by any of the following procedures:

- Rotating the softknob above a function key.
- Entering a value (in milliseconds, 33/frame-NTSC, 40/frame-PAL) on the NUMERICKEYPAD, followed by a single press of the function key above the appropriate **LABEL**.
- Repetitive presses of the function key above the appropriate label will toggle between the low (0 ms) and high (233ms) **DELAY** values. This method is appropriate for disabling **DELAY** for a channel, by setting the value to 0 ms.—**Custom Toggle Capable**—
- **DELAY** may also be disabled by pressing the **UNY** (unity) key on the top row of the FUNCTION SELECT SUBPANEL, followed by a single press of the function key above the appropriate **LABEL**.

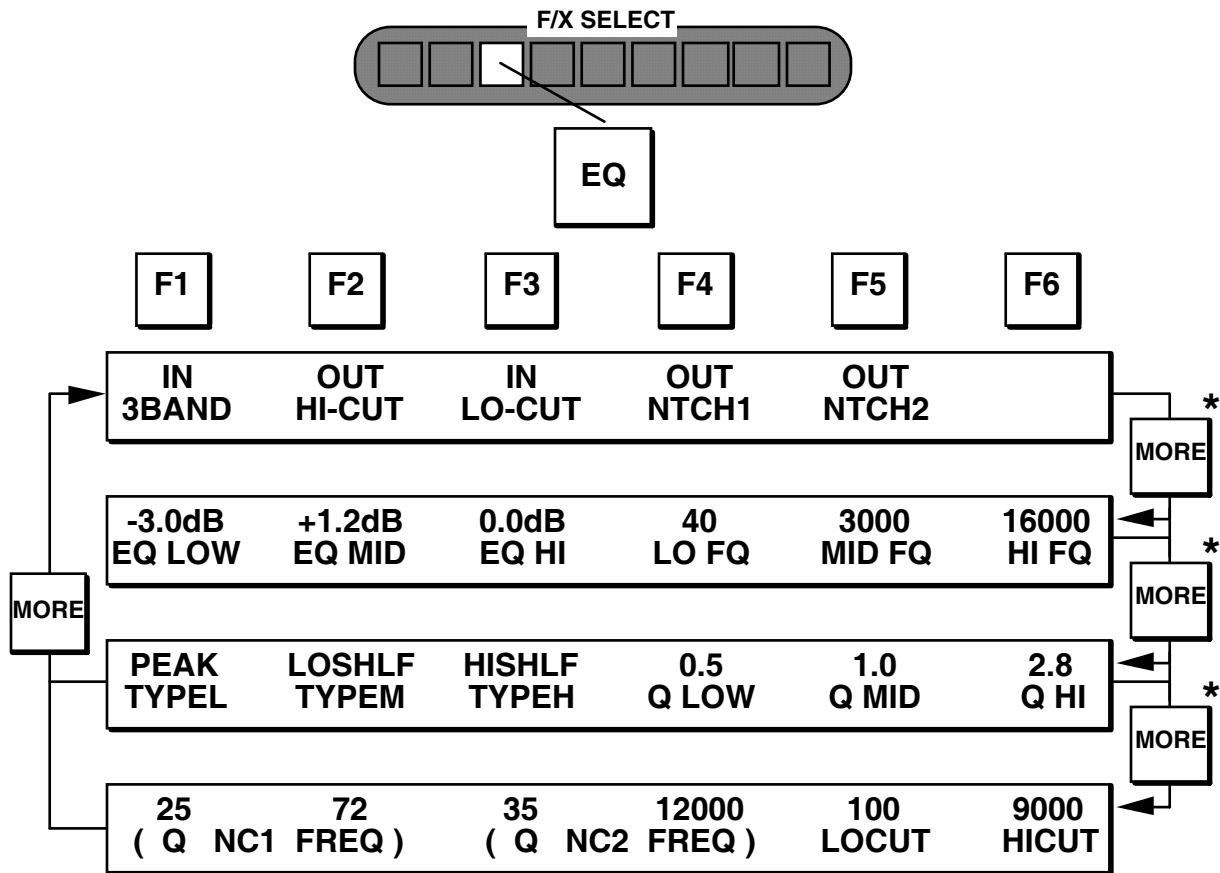
---

**SHORTCUT:** The keystrokes <**UNY**><**ENT**> sets the contents of this entire menu level to **0 ms**.

---

## EQUALIZATION MENU

Pressing the **EQ** key on the F/X SELECT subpanel opens the **EQUALIZATION** menu on the SOFTKEY DISPLAY.



\* Branch menus are only accessible when the corresponding top menu descriptor is enabled.

The **EQ** menu provides comprehensive channel-by-channel adjustment of **EQUALIZATION**. Included are adjustments over type, frequency, level and Q.

**EQUALIZATION** is enabled by illuminating the **EQ** key on a FADER SUBPANEL.

**3BAND (F1)** - (IN/OUT function) Enables/disables the **3-BAND** parametric equalizer.

**HI-CUT (F2)** - (IN/OUT function) Enables/disables the **HI-CUT** filter.

**LO-CUT (F3)** - (IN/OUT function) Enables/disables the **LO-CUT** filter.

**NTCH1 (F4)** - (IN/OUT function) Enables/disables **NOTCH FILTER 1**.

**NTCH2 (F5)** - (IN/OUT function) Enables/disables **NOTCH FILTER 2**.

---

**NOTE:** The function keys in the EQ Top Menu are only meant for enabling or disabling the different types of EQ available. The EQ key on a FADER SUBPANEL is

**used to turn EQ on and off for a specific channel. To A-B an equalization setting against the original source, repetitively press the EQ key on the FADER SUBPANEL.**

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## EQUALIZATION MENU, continued

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### BRANCH MENU 1

If **3BAND** is enabled in the top level of the **EQ** menu, pressing the **MORE** key on the **SOFTKEY** subpanel opens the **EQ1** menu on the **SOFTKEY DISPLAY**.

<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>	<b>F5</b>	<b>F6</b>
<b>-3.0dB</b> <b>EQ LOW</b>	<b>+1.2dB</b> <b>EQ MID</b>	<b>0.0dB</b> <b>EQ HI</b>	<b>40</b> <b>LO FQ</b>	<b>3000</b> <b>MID FQ</b>	<b>16000</b> <b>HI FQ</b>

**EQ LOW (F1)** - (Variable adjustment from -15.0 to +15.0 dB) Sets the level of cut or boost applied to the **LOW FREQUENCY** component of the **3BAND** equalizer. Repetitive presses of the **(F1)** key toggles between the current value and **UNITY (0.0)**.—**Custom Toggle Capable**—

**EQ MID (F2)** - (Variable adjustment from -15.0 to +15.0 dB) Sets the level of cut or boost applied to the **MIDDLE FREQUENCY** component of the **3BAND** equalizer. Repetitive presses of the **(F2)** key toggles between the current value and **UNITY (0.0)**.—**Custom Toggle Capable**—

**EQ HI (F3)** - (Variable adjustment from -15.0 to +15.0 dB) Sets the level of cut or boost applied to the **HI FREQUENCY** component of the **3BAND** equalizer. Repetitive presses of the **(F3)** key toggles between the current value and **UNITY (0.0)**.—**Custom Toggle Capable**—

**LO FQ (F4)** - (Variable adjustment from 20 Hz to 18000 Hz) Sets the center for the **LOW FREQUENCY** component of the **3BAND** equalizer. Repetitive presses of the **(F4)** key toggles between the current value and **UNITY (300)**.—**Custom Toggle Capable**—

**MID FQ (F5)** - (Variable adjustment from 20 Hz to 18000 Hz) Sets the center for the **MIDDLE FREQUENCY** component of the **3BAND** equalizer. Repetitive presses of the **(F5)** key toggles between the current value and **UNITY (2000)**.—**Custom Toggle Capable**—

**HI FQ (F6)** - (Variable adjustment from 20 Hz to 18000 Hz) Sets the center for the **HI FREQUENCY** component of the **3BAND** equalizer. Repetitive presses of the **(F6)** key toggles between the current value and **UNITY (5000)**.—**Custom Toggle Capable**—

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**SHORTCUT:** The keystrokes **<UNY><ENT>** sets the contents of this entire menu level to **UNITY**.

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**NOTE: All three components of the 3BAND EQUALIZER are capable of covering the same overall range, and may be used interchangeably.**

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## EQUALIZATION MENU, continued

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### BRANCH MENU 2

When the **EQ1** menu is open, pressing the **MORE** key on the SOFTKEY subpanel opens the **EQ2** menu on the SOFTKEY DISPLAY.

<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>	<b>F5</b>	<b>F6</b>
<b>PEAK TYPEL</b>	<b>LOSHLF TYPEM</b>	<b>HISHLF TYPEH</b>	<b>0.5 Q LOW</b>	<b>1.0 Q MID</b>	<b>2.8 Q HI</b>

**TYPEL (F1)** - (Stepped adjustment) Sets the **TYPE** of equalization curve applied to the **LOW FREQUENCY** component of the **3BAND** equalizer. Three types are available: **LO SHELIVING (LOSHLF)**, **HI SHELIVING (HISHLF)**, and **PEAKING (PEAK)**. Repetitive presses of **(F1)** cycles through the three choices.

**TYPEM (F2)** - (Stepped adjustment) Sets the **TYPE** of equalization curve applied to the **MIDDLE FREQUENCY** component of the **3BAND** equalizer. Three types are available: **LO SHELIVING (LOSHLF)**, **HI SHELIVING (HISHLF)**, and **PEAKING (PEAK)**. Repetitive presses of **(F2)** cycles through the three choices.

**TYPEH (F3)** - (Stepped adjustment) Sets the **TYPE** of equalization curve applied to the **HI FREQUENCY** component of the **3BAND** equalizer. Three types are available: **LO SHELIVING (LOSHLF)**, **HI SHELIVING (HISHLF)**, and **PEAKING (PEAK)**. Repetitive presses of **(F3)** cycles through the three choices.

**Q LOW (F4)** - (Variable adjustment from 0.5 to 3.0) Sets the range of frequencies (**Q**) affected on either side of the turnover frequency for the **LOW FREQUENCY** component of the **3BAND** equalizer. Repetitive presses of **(F4)** toggles between the current value and UNITY (1.0).—**Custom Toggle Capable**—

**Q MID (F5)** - (Variable adjustment from 0.5 to 3.0) Sets the range of frequencies (**Q**) affected on either side of the turnover frequency for the **MIDDLE FREQUENCY** component of the **3BAND** equalizer. Repetitive presses of **(F5)** toggles between the current value and UNITY (1.0).—**Custom Toggle Capable**—

**Q HI (F6)** - (Variable adjustment from 0.5 to 3.0) Sets the range of frequencies (**Q**) affected on either side of the turnover frequency for the **HI FREQUENCY** component of the **3BAND** equalizer. Repetitive presses of **(F6)** toggles between the current value and UNITY (1.0).—**Custom Toggle Capable**—

---

**SHORTCUT:** The keystrokes **<UNY><ENT>** sets the contents of this entire menu level to **UNITY**.

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**NOTE: Multiple channels may be adjusted simultaneously by selecting (and illuminating) the appropriate FADER SUBPANEL "CH" keys.**

---

## EQUALIZATION MENU, continued

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### **BRANCH MENU 3**

If either **HI-CUT**, **LO-CUT**, **NTCH1** or **NTCH2** are enabled in the top level of the **EQ** menu, pressing the **MORE** key on the SOFTKEY subpanel opens the **EQ3** menu on the SOFTKEY DISPLAY.

<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>	<b>F5</b>	<b>F6</b>
<b>25</b> ( <b>Q</b> <b>NC1</b> <b>FREQ</b> )	<b>72</b>	<b>35</b> ( <b>Q</b> <b>NC2</b> <b>FREQ</b> )	<b>12000</b>	<b>100</b> <b>LOCUT</b>	<b>9000</b> <b>HICUT</b>

**Q (F1)** - (Variable adjustment from 01 to 100) Sets the range of frequencies (**Q**) affected on either side of the turnover frequency for **NOTCH FILTER 1**. Repetitive presses of (**F1**) toggles between the current value and UNITY (10).  
—**Custom Toggle Capable**—

**FREQ (F2)** - (Variable adjustment from 20 Hz to 18000 Hz) Sets the turnover frequency for **NOTCH FILTER 1**. Repetitive presses of (**F2**) toggles between the current value and UNITY (60).—**Custom Toggle Capable**—

**Q (F3)** - (Variable adjustment from 01 to 100) Sets the range of frequencies (**Q**) affected on either side of the turnover frequency for **NOTCH FILTER 2**. Repetitive presses of (**F3**) toggles between the current value and UNITY (10). —**Custom Toggle Capable**—

**FREQ (F4)** - (Variable adjustment from 20 Hz to 18000 Hz) Sets the center frequency for **NOTCH FILTER 2**. Repetitive presses of (**F4**) toggles between the current value and UNITY (60).—**Custom Toggle Capable**—

**LOCUT (F5)** - (Variable adjustment from 20 to 400 Hz) Sets the frequency of the **LOW CUT FILTER** (12dB/octave attenuation).

**HICUT (F6)** - (Variable adjustment from 1000 to 18000 Hz) Sets the frequency of the **HIGH CUT FILTER** (12dB/octave attenuation).

---

**SHORTCUT:** The keystrokes **<UNY><ENT>** sets the contents of this entire menu level to **UNITY**.

---

---

**NOTE:** Multiple channels may be adjusted simultaneously by selecting (and illuminating) the appropriate **FADER SUBPANEL "CH"** keys. Faders may be

**added or subtracted from the group at any time, with the exception of the last selection, which is displayed in the LED readout below the NUMERIC KEYPAD.  
in a multi-channel adjust, all participants get same level**

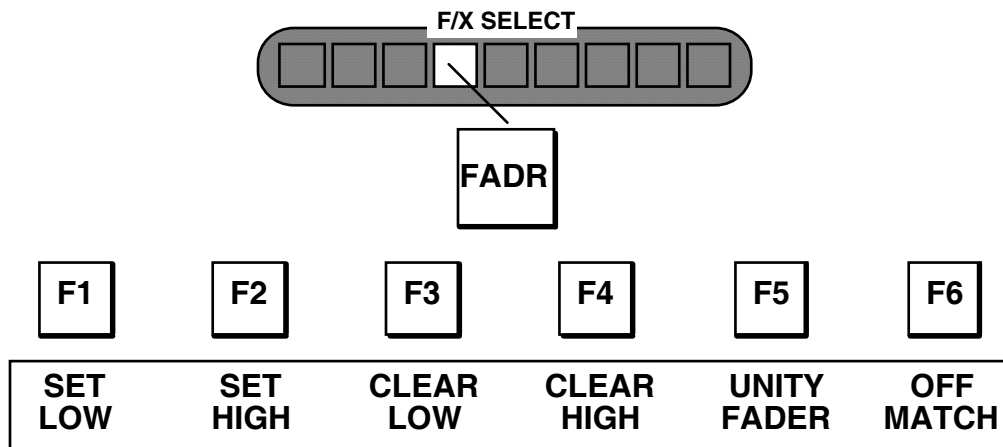
**unity enter does not work in multi-channel**

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## FADER MENU

---

Pressing the **FADR** key on the F/X SELECT subpanel opens the **FADER** menu on the SOFTKEY DISPLAY.



The **FADER** menu provides tools that enhance the operation of the mechanical faders.

- **FADER LIMITS** provide an accurate, repeatable method of limiting fader travel. Replacing grease pencil marks, masking tape, and thumbs, the DMX **FADER LIMITS** feature provides a modern solution for those times when it is desirable to limit fader travel in a **LIVE** mix.
- **UNITY FADER** provides a convenient, accurate method of presetting a fader's electrical position at unity gain.
- **MATCH** sets the DMX in a mode that simplifies matching a fader's mechanical and electrical positions following an **EVENT RECALL** or other **TIMELINE** operation.

**SET LOW (F1)** - (Single function) When selected, **SET LOW** inserts an electrical low limit for the chosen fader(s) at the current mechanical fader position(s). A low limit is set by pressing the **CH** key on the desired fader(s), followed by **(F1)**. When a low fader limit is set, the selected fader's "**L LIM**" legend will illuminate.

**SET HIGH (F2)** - (Single function) When selected, **SET HIGH** inserts an electrical high limit for the chosen fader(s) at the current mechanical fader position(s). A high limit is set by pressing the **CH** key on the desired fader(s), followed by **(F2)**. When a high fader limit is set, the selected fader's "**H LIM**" legend will illuminate.

**CLEAR LOW (F3)** - (Single function) When selected, **CLEAR LOW** clears the electrical low limit for the chosen fader(s). Low limits are cleared by pressing the **CH** key on the desired fader(s), followed by **(F3)**. After a low limit is cleared, the "**L LIM**" legend on the selected fader(s) will extinguish.

**CLEAR HIGH (F4)** - (Single function) When selected, **CLEAR HIGH** clears the electrical high limit for the chosen fader(s). High limits are cleared by pressing the **CH** key on the desired fader(s), followed by **(F4)**. After a high limit is cleared, the "**H LIM**" legend on the selected fader(s) will extinguish.

**UNITY FADER (F5)** - (Single function) When selected, **UNITY FADER** resets the chosen fader(s) electrical position to unity (0). Faders may be set to unity by pressing the **CH** key on the desired fader(s), followed by **(F5)**.

## FADER MENU, continued

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F1	F2	F3	F4	F5	F6
SET LOW	SET HIGH	CLEAR LOW	CLEAR HIGH	UNITY FADER	OFF MATCH

---

**NOTE:** Function keys (*F1*) - (*F5*) in the FADER menu will only respond if the desired fader's CH key is illuminated. CH key illumination will "time out" after approximately 5 seconds following the last CH key selection.

---

**MATCH (F6)** - (ON/OFF function) When enabled, **MATCH** sets the DMX control panel into a mode that facilitates matching a fader's mechanical to electrical position. With **MATCH** enabled, the **CLIP** LED on each fader changes function to guide the operator through the matching process. The following LED states reflect the status of fader synchronization:

- RED - Fader mechanical position is higher than its electrical level.
- GREEN - Fader mechanical position is lower than its electrical level.
- OFF - Fader mechanical position matches its electrical level.

---

**NOTE:** With **MATCH** mode enabled, changes to a fader's mechanical position will have no effect on its electrical level.

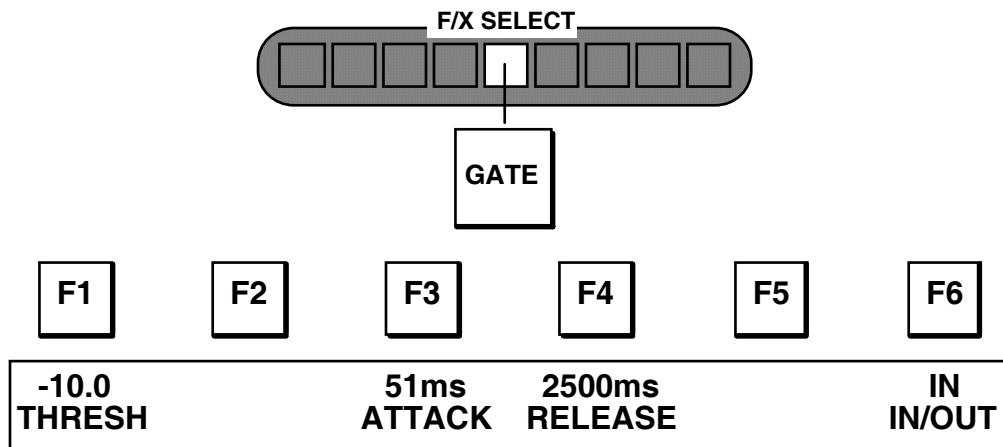
With **MATCH** mode disabled, physical changes to an out-of-sync fader will have no effect until the mechanical and electrical positions match, after which fader movement will alter the electrical level.

---

## GATING MENU

---

Pressing the **GATE** key on the F/X SELECT subpanel opens the **GATING** menu on the SOFTKEY DISPLAY.



The **GATE** menu provides channel-by-channel adjustments for **GATING**, typically used to minimize extraneous background noise that may occur on recordings of speech.

**THRESH (F1)** - (Variable adjustment from -99.9 to 0.0) Sets the **THRESHOLD** (level) at which **GATING** will be active (similar in function to the Clip control on a video keyer). Rotation of the softknob above **(F1)** provides adjustment of the **THRESHOLD** level, while repetitive presses of **(F1)** toggles the value between the current value and UNITY (-99.9).—**Custom Toggle Capable**—

**(F2)**- (NO FUNCTION)

**ATTACK (F3)** - (Variable adjustment from 00 to 100 milliseconds) Sets how quickly the **GATE** opens once the input has reached or exceeded the **THRESHOLD**. Rotation of the softknob above **(F3)** provides adjustment of the **ATTACK** value, while repetitive presses of **(F3)** toggles the value between the current value and UNITY (10 ms).—**Custom Toggle Capable**—

**RELEASE (F4)** - (Variable adjustment from 00 to 3000 milliseconds) Sets how quickly the **GATE** closes once the input has fallen below the **THRESHOLD**. Rotation of the softknob above **(F4)** provides adjustment of the **RELEASE** value, while repetitive presses of **(F3)** toggles the value between the current value and UNITY (100 ms).—**Custom Toggle Capable**—

**(F5)** - (NO FUNCTION)

**IN/OUT (F6)** - (ON/OFF function) Enables/disables the **GATING** feature for a given channel. When enabled, the **GATE** legend on the corresponding **FADER SUBPANEL** will illuminate.

---

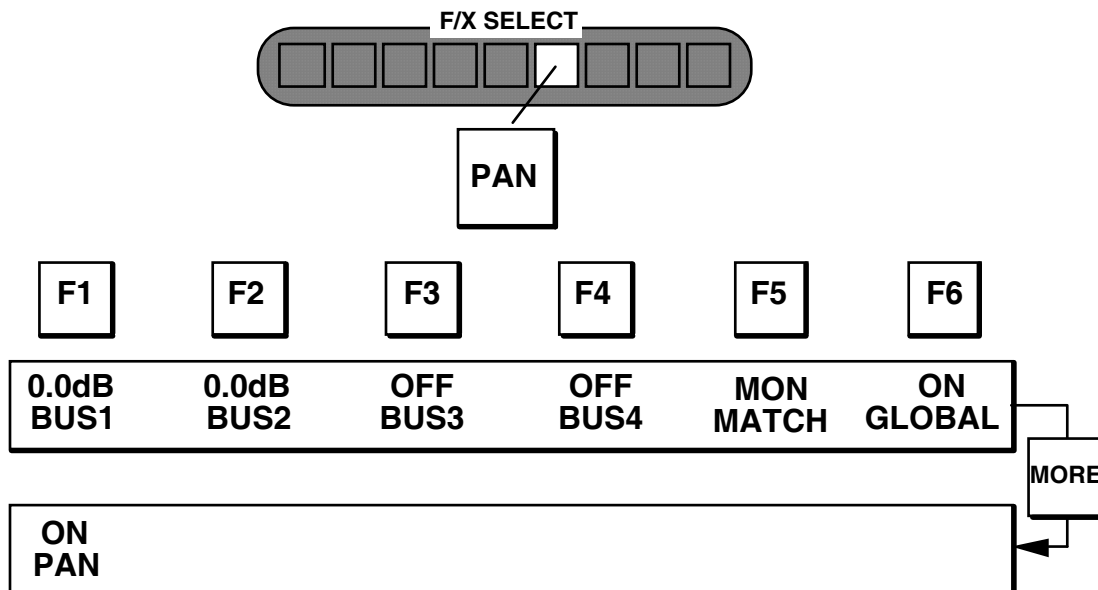
**NOTE: Multiple channels may be adjusted simultaneously by selecting (and illuminating) the appropriate FADER SUBPANEL "CH" keys.**

---

## PAN MENU

---

Pressing the **PAN** key on the F/X SELECT subpanel opens the **PAN** menu on the SOFTKEY DISPLAY.



The **PAN** menu is used for routing and balancing a selected channel among the four **MIX BUSES**. With the **PAN** menu accessed, selecting a fader's **CH** key will display the current panning setup in the SOFTKEY DISPLAY. (The selected source's **LABEL** is displayed in the window below the NUMERIC KEYPAD) Function keys/softknobs (**F1**) thru (**F4**) are utilized to alter the panning setup.

## IMPORTANT

---

**THE PAN MENU COMBINES MIX BUS ROUTING AND TRADITIONAL "PAN" FUNCTIONALITY (PLACEMENT OR MOVEMENT OF AN AUDIO SOURCE ACROSS A SOUNDSTAGE) INTO A SINGLE CONVENIENT MENU.**

**WHILE SETTINGS OF 0.0dB PROVIDE FULL-LEVEL CHANNEL ROUTING, SETTINGS BETWEEN "OFF" AND 0.0dB PRODUCE PANNING EFFECTS**

---

**BUS 1 (F1)** - (Variable adjustment from  $\infty$  to 0.0db) Sets the amount of level sent to **MIX BUS #1**. The level set in the SOFTKEY DISPLAY is relative to the fader's electrical level. Repetitive presses of (**F1**) toggles the value between the low (OFF) and high (0.0) values. At values greater than OFF, the **BUS 1** legend on the corresponding fader subpanel will illuminate.—**Custom Toggle Capable**—

**BUS 2 (F2)** - (Variable adjustment from  $\infty$  to 0.0db) Sets the amount of level sent to **MIX BUS #2**. The level set in the SOFTKEY DISPLAY is relative to the fader's electrical level. Repetitive presses of (**F2**) toggles the value between the low (OFF) and high (0.0) values. At values greater than OFF, the **BUS 2** legend

on the corresponding fader subpanel will illuminate.—**Custom Toggle Capable**—

## PAN MENU, continued

---

F1	F2	F3	F4	F5	F6
0.0dB BUS1	0.0dB BUS2	OFF BUS3	OFF BUS4	MON MATCH	ON GLOBAL

**BUS 3 (F3)** - (Variable adjustment from  $\infty$  to 0.0db) Sets the amount of level sent to **MIX BUS #3**. The level set in the SOFTKEY DISPLAY is relative to the fader's electrical level. Repetitive presses of **(F3)** toggles the value between the low (OFF) and high (0.0) values. At values greater than OFF, the **BUS 3** legend on the corresponding fader subpanel will illuminate.—**Custom Toggle Capable**—

**BUS 4 (F4)** - (Variable adjustment from  $\infty$  to 0.0db) Sets the amount of level sent to **MIX BUS #4**. The level set in the SOFTKEY DISPLAY is relative to the fader's electrical level. Repetitive presses of **(F4)** toggles the value between the low (OFF) and high (0.0) values. At values greater than OFF, the **BUS 4** legend on the corresponding fader subpanel will illuminate.—**Custom Toggle Capable**—

**MON MATCH (F5)** - (Single function) Matches the **MONITOR** routing with the **PAN** routing for the *displayed CHANNEL*. Pressing **(F5)** alters the settings in the **MON** menu to correspond with the displayed **PAN** routing, ensuring monitoring consistency between the **MIX BUS** and **MONITOR BUS**.

**GLOBAL (F6)** - (ON/OFF function) Enables/disables the **GLOBAL APPLY** feature for the **TIMELINE**. When enabled, any adjustment made to a channel's **PANNING** along a **TIMELINE** will be applied to all points in the **TIMELINE**.

---

**SHORTCUT:** The keystrokes <UNY><ENT> sets the contents of **(F1)** thru **(F4)** in the **PAN** menu to **0.0 dB**.

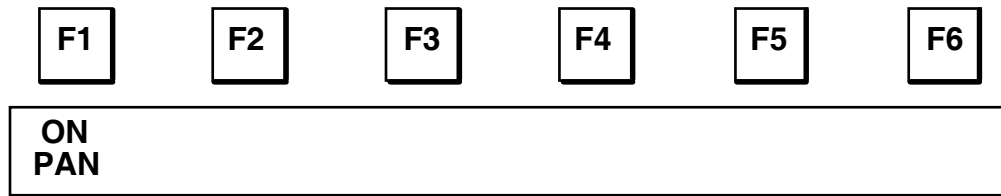
---

*continued on the next page*

## PAN MENU, continued

---

### BRANCH MENU



**PAN MODE (F1)** - (Toggle function) The setting of this item determines how the SOFTKNOBS in the top level of the the **PAN** menu behave when rotated.

- When set to **OFF**, the adjustment of one SOFTKNOB has *no* affect on the levels associated with the other SOFTKNOBS.
- When set to **ON**, the adjustment of either SOFTKNOB of a stereo pair (Bus 1/Bus 2 and Bus 3/Bus 4) has an inverse impact on the other component of the pair. Therefore, *increasing* the level to **BUS 1** *decreases* the level to **BUS 2**, while *decreasing* the level to **BUS 4** *increases* the level to **BUS 3**.

---

**NOTE:** The DMX-1000 PAN feature is a function of LEVEL, not necessarily softknob rotation DIRECTION. Under some circumstances, the desired effect is achieved by rotating the softknob in the opposite direction of the soundfield movement.

---

(F2 - F6) - (NO FUNCTION)

### PAN SETUP EXAMPLES

#### HARD ROUTING OF FADER #1 TO MIX BUS 1

- 1) Press the **CH** key on **FADER SUBPANEL #1**.
- 2) Press the **PAN** key on the F/X SELECT subpanel.
- 3) Repetitively press (**F1**) thru (**F4**) until the SOFTKEY DISPLAY looks like this:

**F1**

**F2**

**F3**

**F4**

**F5**

**F6**

**0.0dB  
BUS1**

**OFF  
BUS2**

**OFF  
BUS3**

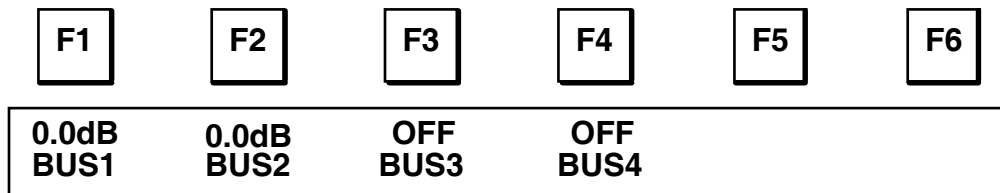
**OFF  
BUS4**

## PAN MENU, continued

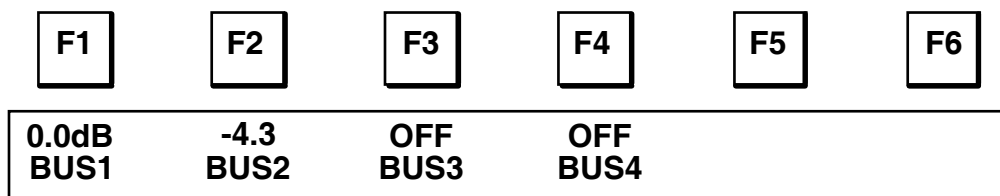
---

### PLACING FADER #3 TO LEFT OF CENTER (PAN MODE OFF)

- 1) Press the **CH** key on **FADER SUBPANEL #3**.
- 2) Press the **PAN** key on the F/X SELECT subpanel.
- 3) Repetitively press (**F1**) thru (**F4**) until the SOFTKEY DISPLAY looks like this:

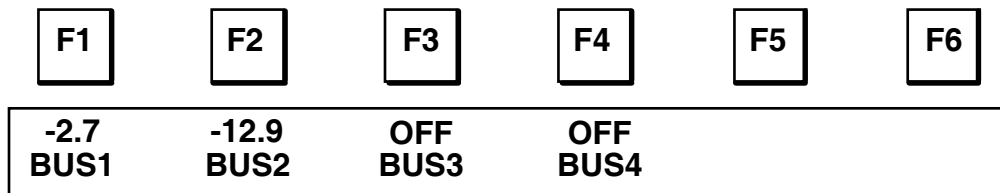


- 4) Rotate the softknob above (**F2**) counterclockwise to gradually decrease the level sent to **MIX BUS 2**. This will cause a mismatch in output levels between **BUS 1** and **2**, shifting the stereo image off-center in the soundstage. The final display will approximate the diagram below:



### PLACING FADER #3 TO LEFT OF CENTER (PAN MODE ON)

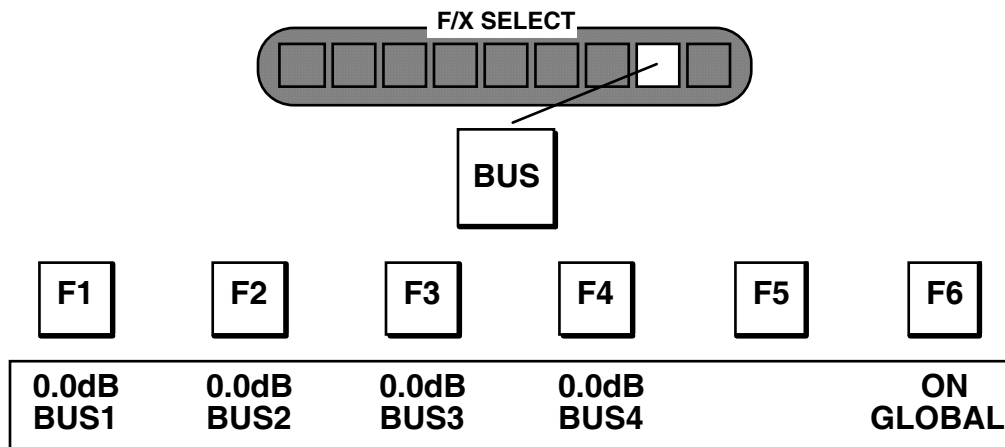
- 1) Press the **CH** key on **FADER SUBPANEL #3**.
- 2) Press the **PAN** key on the F/X SELECT subpanel.
- 3) Rotate the softknob above either (**F1**) or (**F2**) until the desired soundfield is achieved. The final display will approximate the diagram below:



## BUS MENU

---

Pressing the **BUS** key on the F/X SELECT subpanel opens the **BUS LEVEL** menu on the SOFTKEY DISPLAY.



The **BUS** menu provides individual adjustments for the four **MIX BUSES**. The adjustments in this menu are similar to those usually found on traditional mixing consoles, where the operator is presented with up to four red faders with which to adjust the overall output of the mixer. Unlike those consoles, the DMX provides these adjustments in a menu format to achieve the following benefits:

- Reduction in console size.
- Precise numeric entries are possible.
- Menu adjustments via softknobs permit the **MIX BUSES** to be controlled via the **TIMELINE**.

**BUS 1 (F1)** - (Variable adjustment from  $\infty$  to 0.0db) Provides output gain adjustment for **BUS 1**.  
1. Adjustment of the softknob above **(F1)** allows adjustment from OFF (no level) to 0.0db (unity). Repetitive presses of **(F1)** toggles the value between the low (OFF) and high (0.0) values.

**BUS 2 (F2)** - (Variable adjustment from  $\infty$  to 0.0db) Provides output gain adjustment for **BUS 2**.  
2. Adjustment of the softknob above **(F2)** allows adjustment from OFF (no level) to 0.0db (unity). Repetitive presses of **(F2)** toggles the value between the low (OFF) and high (0.0) values.

**BUS 3 (F3)** - (Variable adjustment from  $\infty$  to 0.0db) Provides output gain adjustment for **BUS 3**.  
3. Adjustment of the softknob above **(F3)** allows adjustment from OFF (no level) to 0.0db (unity). Repetitive presses of **(F3)** toggles the value between the low (OFF) and high (0.0) values.

**BUS 4 (F4)** - (Variable adjustment from  $\infty$  to 0.0db) Provides output gain adjustment for **BUS 4**.  
4. Adjustment of the softknob above **(F4)** allows adjustment from OFF (no level) to 0.0db (unity). Repetitive presses of **(F4)** toggles the value between the low (OFF) and high (0.0) values.

**ALL (F5) - (No function)**

## BUS MENU, continued

---

F1	F2	F3	F4	F5	F6
0.0dB BUS1	0.0dB BUS2	0.0dB BUS3	0.0dB BUS4		ON GLOBAL

**GLOBAL (F6)** - (ON/OFF function) Enables/disables the **GLOBAL APPLY** feature for the **TIMELINE**. When enabled, an adjustment made to any **MIX BUS** along a **TIMELINE** will be applied to that **BUS** at all points in the **TIMELINE**.

---

**SHORTCUT:** The keystrokes <UNY><ENT> sets the contents of (F1) thru (F4) in this menu to **0.0 dB**.

---

### GLOBAL EXAMPLE

After creating an elaborate **TIMELINE** event, you find that the overall levels of the mix are too hot. Rather than go back and trim each fader's levels at every point in the event, using the **GLOBAL** mode in the **BUS** menu allows you to trim the overall output of the mixer in much less time and with greater accuracy.

The steps involved are:

- Park the **TIMELINE** on any appropriate point.
- Select **BUS** from the F/X SELECT subpanel.
- Select **GLOBAL (F6)** on the SOFTKEY DISPLAY.
- Trim the **BUS(ES)** as required.

---

**NOTE:** 1) **GLOBAL** is only active when the mixer is operating in **EDIT MODE**.

2) **GLOBAL** may be enabled or disabled at any time without affecting the **TIMELINE**. With **GLOBAL** enabled, changes only take place after an adjustment is made.

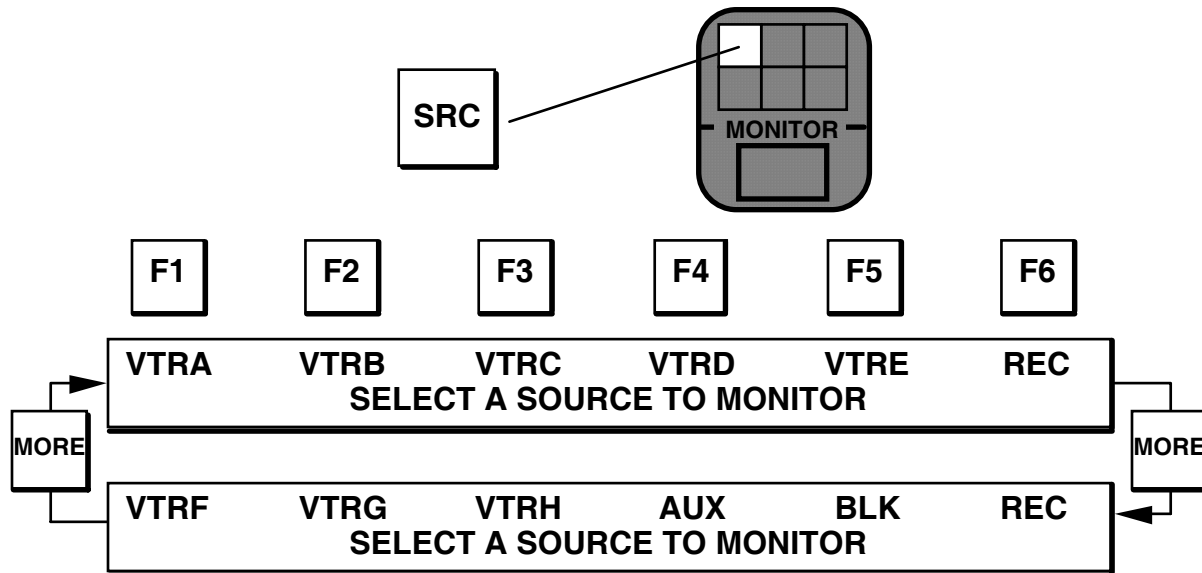
3) The **AUTOMATION FADER** may be used for overall attenuation of the **MIX BUSSES** when the mixer is operating in **LIVE MODE**.

---

## MONITOR SOURCE MENU

---

Pressing the **SRC** key on the MONITOR subpanel opens the **MONITOR SOURCE** menu on the SOFTKEY DISPLAY.



The three-level **MONITOR SOURCE** menu provides punch-up (solo) monitoring of select **LOGICAL** sources on the DMX. The selections made in these menus are *temporary*, in that selection of a source by an edit system may override the current selection. Additionally, since source levels in this section are all *post-fader*, a particular source's **FADER(S)** must be at some level greater than  $\infty$  (or have **PFL** enabled) for program material to be heard.

---

**NOTE: Punch-up monitoring via the DMX control panel yields the exact same results as selecting the same sources from an edit system. The monitor routing configuration for these sources is determined by the settings in the MODE menu, described on page 74.**

---

### TOP MENU

**VTRA (F1)** - (Single function) Selects all assigned channels of **VTRA** as the monitor source.

**VTRB (F2)** - (Single function) Selects all assigned channels of **VTRB** as the monitor source.

**VTRC (F3)** - (Single function) Selects all assigned channels of **VTRC** as the monitor source.

**VTRD (F4)** - (Single function) Selects all assigned channels of **VTRD** as the monitor source.

**VTRE (F5)** - (Single function) Selects all assigned channels of **VTRE** as the monitor source.

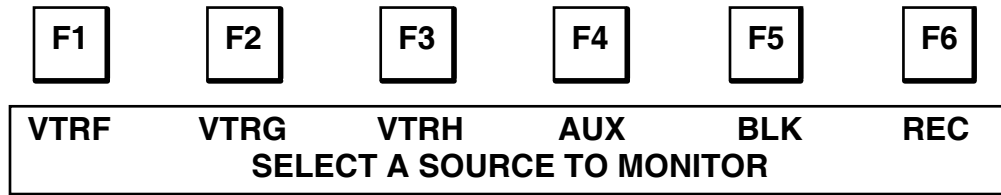
**REC (F6)** - (Single function) Selects all assigned channels of **RECORD** as the monitor source.



## MONITOR SOURCE MENU, continued

---

### BRANCH MENU



**VTRF (F1)** - (Single function) Selects all assigned channels of **VTRF** as the monitor source.

**VTRG (F2)** - (Single function) Selects all assigned channels of **VTRG** as the monitor source.

**VTRH (F3)** - (Single function) Selects all assigned channels of **VTRH** as the monitor source.

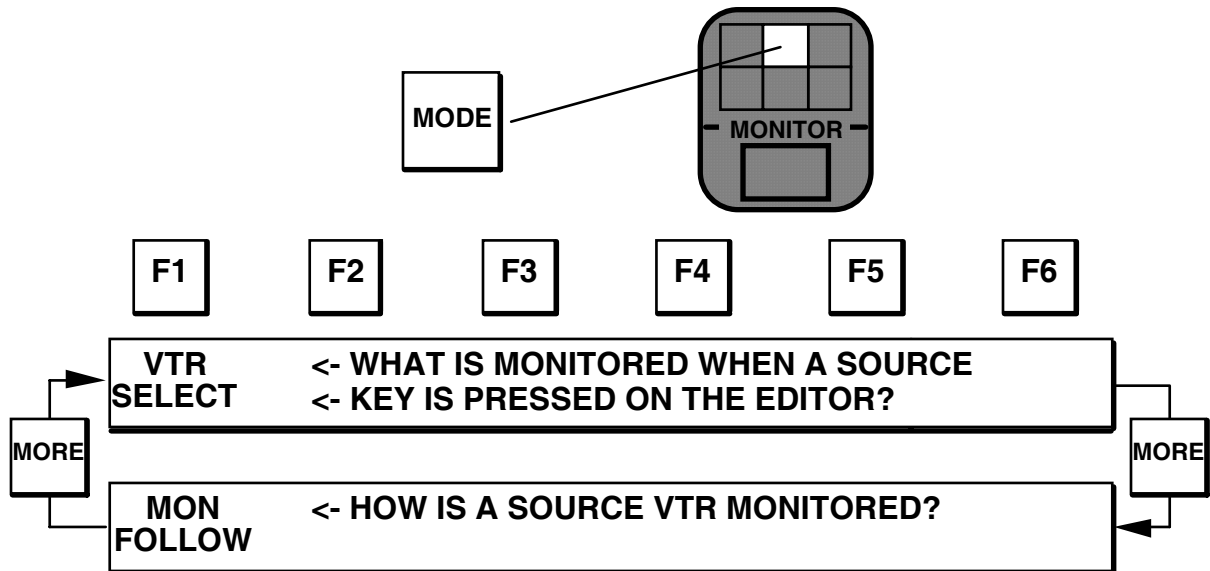
**AUX (F4)** - (Single function) Selects all assigned channels of **AUX** as the monitor source.

**BLK (F5)** - (Single function) Selects **SILENCE** as the monitor source.

**REC (F6)** - (Single function) Selects all assigned channels of **RECORD** as the monitor source.

## MONITOR MODE MENU

Pressing the **MODE** key on the MONITOR subpanel opens the **MONITOR MODE** menu on the SOFTKEY DISPLAY.



The **MODE** menu provides selection of global monitoring modes for all **SOURCES**, including the **RECORD VTR**.

## MONITOR SOURCE SELECTION SUBMENU

**SELECT (F1)** - (Stepped function) Selects a **MONITOR BUS** source to correspond with source key selection on an edit system. The selections are:

- **VTR** - The actual **LOGICAL VTR** will be selected on the **MONITOR BUSES** – equivalent to performing punch-up monitoring via the **SRC** menu. (e.g.: When the edit system requests the **AVTR**, the DMX solos **VTRA** on the **MONITOR BUS**.) Monitor routing for the **LOGICAL VTRs** is determined by the setting of the **MONITOR FOLLOW** menu, accessed with the **MORE** key.
- **MIX4** - The 4-channel **MIX BUS** will be discretely selected on the **MONITOR BUSES**. (e.g.: When the edit system requests the **AVTR**, the DMX selects **MIX4** on the **MONITOR BUS**.) *Only used in 4-speaker installations.*
- **MIX2** - The 4-channel **MIX BUS** will be selected on the **MONITOR BUSES** such that **MIX BUSES 1 and 3** will be output on **MONITOR BUS 1**, and **MIX BUSES 2 and 4** will be output on **MONITOR BUS 2**. (e.g.: When the edit system requests the **AVTR**, the DMX selects **MIX2** on the **MONITOR BUS**.)

**MONITORING CONFIGURATION SUBMENU**

F1

F2

F3

F4

F5

F6

<b>MON FOLLOW</b> <- HOW IS A SOURCE VTR MONITORED?
---

**FOLLOW (F1)** - (Stepped function) Selects a monitoring configuration for all **VTR SOURCES**, except the **RVTR**. This menu determines how the **LOGICAL VTRs** are heard on the available monitor speakers. The selections are:

- **MON** - The monitoring configuration for all **LOGICAL VTRs** **FOLLOWS** the selections made in the **MON** menu. Use this mode when you desire a monitoring configuration that differs from the **MIX BUS** assignments (e.g.: **VTRA** channel 1 is only **PANNED** to **MIX BUS 1**, but you want to hear it out of speakers 1 and 2 whenever it is selected as a **SOLO** source.)
- **PAN4CH** - The monitoring configuration for all **LOGICAL VTRs** discretely **FOLLOWS** the **MIX BUS PANNING** assignments. **MIX BUS 1** feeds **MON BUS 1**, **MIX BUS 2** feeds **MON BUS 2**, etc. Use this mode when you desire consistency in the relationship between a source's **MIX BUS** assignments and its monitoring configuration. *Only used in 4-speaker installations.*
- **PAN2CH** - The monitoring configuration for all **LOGICAL VTRs** **FOLLOWS** the **MIX BUS PANNING** assignments such that **MIX BUSES 1 and/or 3** will feed **MONITOR BUS 1**, and **MIX BUSES 2 and/or 4** will feed **MONITOR BUS 2**. Use this mode when you desire consistency in the relationship between a source's **MIX BUS** assignments and its monitoring configuration. *Only used in 2-speaker installations.*
- **PAN MNO** - A **MONO** monitoring configuration for all **LOGICAL VTRs** is derived from the **MIX BUS PANNING** assignments. Use this mode when you desire a **MONO** monitoring configuration, regardless of how a source is feeding the **MIX BUSES**.

***IMPORTANT:***

---

**THIS MENU SETS A GLOBAL MONITORING CONFIGURATION FOR ALL VTR SOURCES, BUT ONLY HAS AN AFFECT WHEN A LOGICAL VTR IS SELECTED ON THE MONITOR BUS, EITHER VIA THE SRC MENU OR EDITOR INTERFACE.**

---

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***THIS MENU HAS NO EFFECT ON DIRECT MIX BUS MONITORING***

**In general, PAN4CH AND PAN2CH provide the most simple and consistent operation, and are the recommended modes for operators new to the DMX-1000.**

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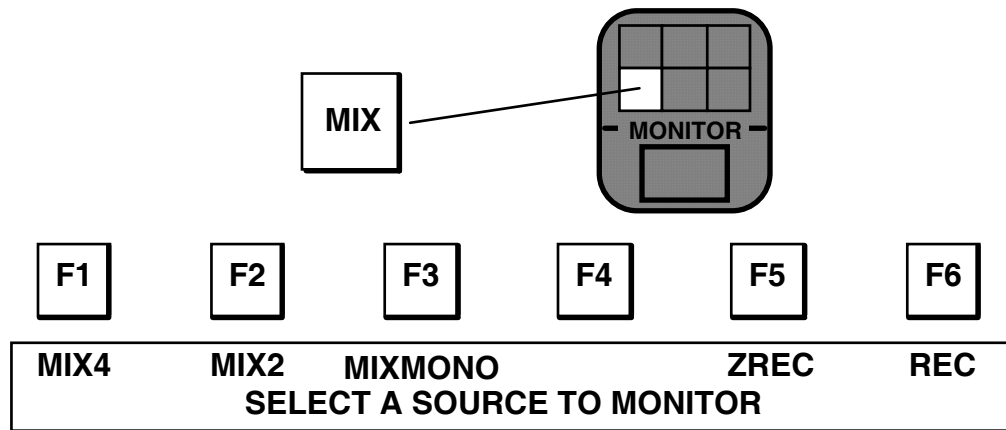
**MONITOR MODE MENU, continued**

---

## MIX BUS MONITORING MENU

---

Pressing the **MIX** key on the MONITOR subpanel will access punch-up monitoring for the **MIX BUSES** via the SOFTKEY DISPLAY.



The **MIX** menu provides quick access to punch-up **MIX BUS** and **RVTR** monitoring.

**MIX4 (F1)** - (Single function) Sets the DMX into the **4-CHANNEL MIX** mode. In a 4-speaker installation, **4-CH MIX** routes each of the 4 **MIX BUSES** to a discrete monitor speaker.

**MIX2 (F2)** - (Single function) Sets the DMX into the **2-CHANNEL MIX** mode. In a 2-speaker installation, **2-CH MIX** routes **MIX BUSES 1** and **3** to the left monitor, and **MIX BUSES 2** and **4** to the right monitor.

**MONO (F3)** - (Single function) Sets the DMX into the **MONO** mode. Regardless of whether your installation incorporates 2 or 4 speakers, selecting **MONO** sums all 4 **MIX BUSES** together and outputs the result on all **MONITOR BUSES**.

---

**NOTE: All selections made in the MIX menu are *TEMPORARY*. When any other punch-up monitor source is selected via the control panel or editor interface, the DMX reverts to the default SOURCE monitoring setup, as set in the MONITOR MODE menu.**

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**(F4)** - (NO FUNCTION)

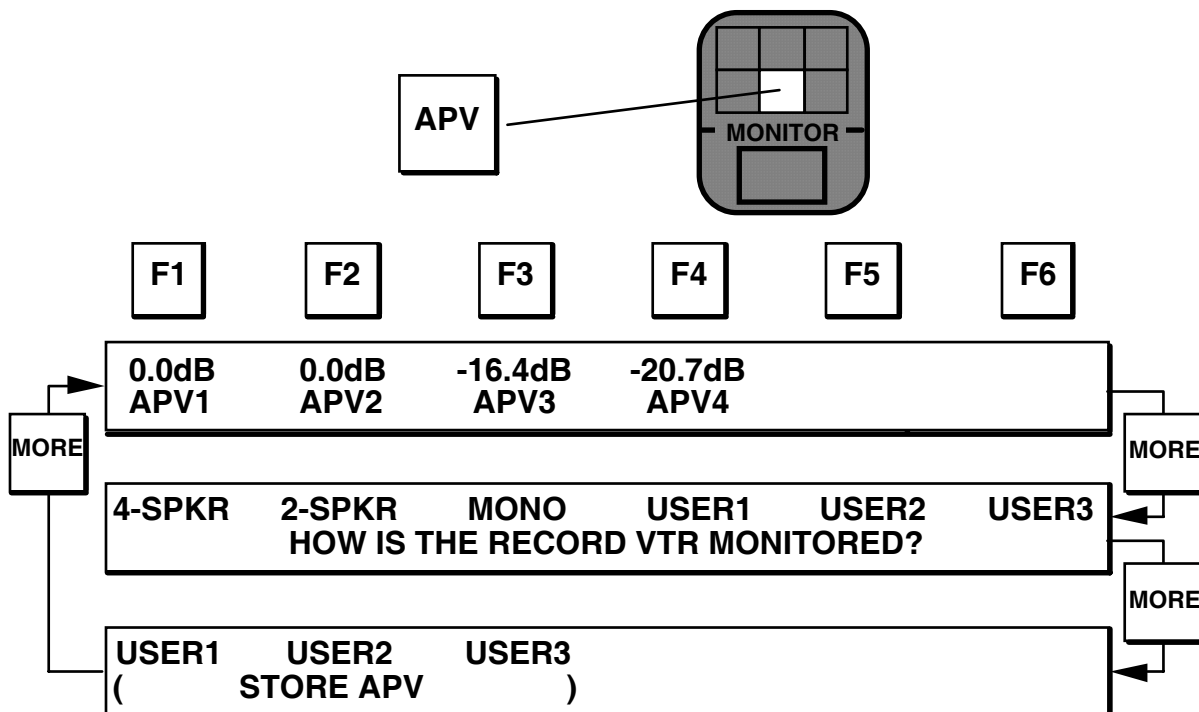
**ZREC (F5)** - (Single function) Selects both channels of the **Z.RECORDER** as the monitor source.

**REC (F6)** - (Single function) Selects all assigned channels of **RECORD** as the monitor source.

## AUDIO PREVIEW (APV) MENU

---

Pressing the **APV** key on the MONITOR subpanel opens the **AUDIO PREVIEW** menu on the SOFTKEY DISPLAY.



This menu is used for the creation of an RVTR monitor mix. The **APV** settings affect how the record machine is *monitored*, providing customized monitor return levels that are independent of the RVTR's fader levels. In addition to the top menu active level trims, the second menu level provides selection of both standardized and custom RVTR monitoring set-ups.

The **APV** levels are also incorporated into preview switching. Any **APV** offset from unity affects the **MIX BUS MONITOR OUTPUT** during a preview. This exclusive Zaxcom feature permits accurate previews on RVTR channels that are not feeding the monitor bus at unity.

The **APV** top menu provides monitor level trims for all channels of the RVTR. Under most circumstances, the values in this menu are set to unity (0.0 dB). However, when an RVTR monitor mix is required, the individual channel levels may be trimmed to achieve the desired balance.

**APV1 (F1)** - (Single function) Sets the monitoring level for **CHANNEL 1** of the **RVTR**.

**APV2 (F2)** - (Single function) Sets the monitoring level for **CHANNEL 2** of the **RVTR**.

**APV3 (F3)** - (Single function) Sets the monitoring level for **CHANNEL 3** of the **RVTR**.

**APV4 (F4)** - (Single function) Sets the monitoring level for **CHANNEL 4** of the **RVTR**.

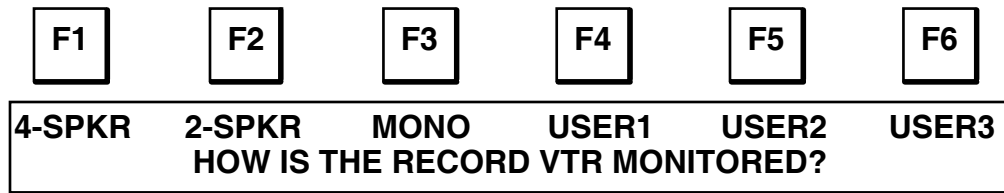
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**NOTE:** The settings in the APV top menu set a balance between RVTR channels. This menu does not affect the overall MONITOR LEVEL sent to an audio amplifier. Use the dedicated MONITOR LEVEL knob to adjust the "studio level."

---

## AUDIO PREVIEW (APV) MENU, continued

---



The second level of the **APV** menu provides three standard and three **USER** memories for storage and/or recall of RVTR monitoring setups.

In the case of the standardized setups, a single keystroke initiates a routine that searches through the list of active **CHANNELS**, identifies which are assigned as the **RVTR**, and carries-out the following operations:

- Sets all **RVTR CHANNELS** to **PREFADE LISTEN (PFL) MODE**.
- Sets all **RVTR CHANNELS** to **EDIT MODE**.
- Sets all **APV** levels to **0.0 dB**.
- Sets the **RVTR MONITOR ROUTING** as follows:

**4-SPKR (F1)** - (Single function) Sets the RVTR monitoring for a **4-CHANNEL** configuration. Used only in 4-speaker installations, **4-SPKR** discretely routes the individual RVTR channels to a corresponding monitor speaker.

**2-SPKR (F2)** - (Single function) Sets the RVTR monitoring for a **2-CHANNEL** configuration. Used in 2-speaker installations, **2-SPKR** routes **RVTR** channels 1 and 3 to **MONITOR BUS 1**, and RVTR channels 2 and 4 to **MONITOR BUS 2**.

**MONO (F3)** - (Single function) Sets the RVTR monitoring for a **MONO** configuration. Regardless of whether the installation incorporates 2 or 4 speakers, selecting **MONO** sums all 4 RVTR channels together on all 4 **MONITOR BUSES**.

---

**NOTE: For consistent operation, select one of the standardized APV memories at the start of a session.**

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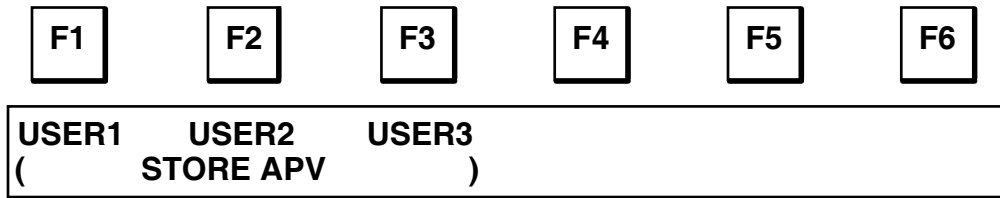
**USER1 (F4)** - (Single function) Selects the **APV** levels and **MONITOR ROUTING** stored in **USER MEMORY 1**.

**USER2 (F5)** - (Single function) Selects the **APV** levels and **MONITOR ROUTING** stored in **USER MEMORY 2**.

**USER3 (F6)** - (Single function) Selects the **APV** levels and **MONITOR ROUTING** stored in **USER MEMORY 3**.

## AUDIO PREVIEW (APV) MENU, continued

---



The third level of the **APV** menu provides function keys for **STORING** custom levels and monitor routing configurations for the RVTR.

**USER1 (F1)** - (Single function) **STORES** the current **APV LEVELS** and **RVTR MONITOR ROUTING CONFIGURATION** to **USER REGISTER 1**.

**USER2 (F2)** - (Single function) **STORES** the current **APV LEVELS** and **RVTR MONITOR ROUTING CONFIGURATION** to **USER REGISTER 2**.

**USER3 (F3)** - (Single function) **STORES** the current **APV LEVELS** and **RVTR MONITOR ROUTING CONFIGURATION** to **USER REGISTER 3**.

---

**NOTE:** The contents of the **APV USER MEMORIES** are stored as part of a **CONFIG** file on the floppy drive.

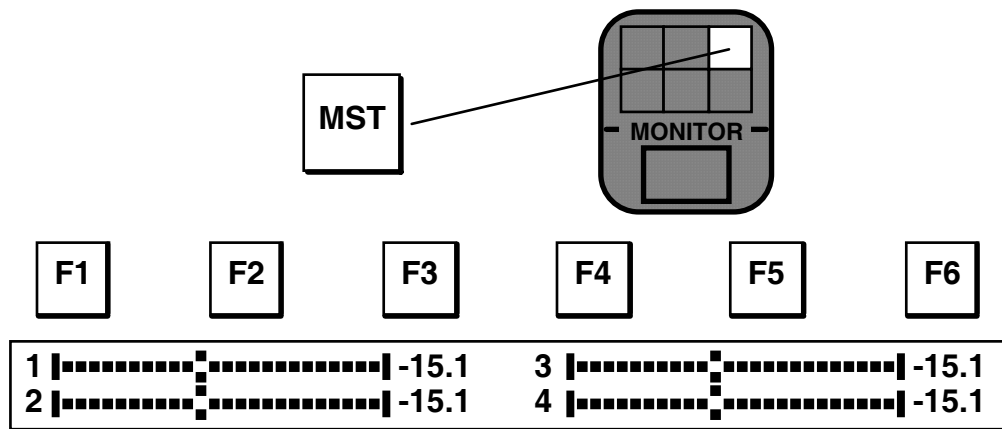
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## MASTER MONITOR LEVEL MENU

---

Pressing the **MST** key on the MONITOR subpanel opens the **MASTER MONITOR LEVEL** menu on the SOFTKEY DISPLAY.



The **MASTER MONITOR LEVEL** menu is designed to give the user a visual representation of the relative **MASTER MONITOR** output levels. The menu also permits adjustment of the individual channels to create a custom monitor mix. The adjustments made in this menu are downstream of all other processing in the DMX, affecting *all selected sources*.

**MONITOR BUS 1 (F1)** - (Variable adjustment from OFF to 0.0dB) Adjustment of the softknob above **(F1)** provides individual control of **MONITOR BUS 1** relative to the other **MONITOR BUSES**. Repetitive presses of **(F1)** toggles the value between the current value and OFF.

**MONITOR BUS 2 (F2)** - (Variable adjustment from OFF to 0.0dB) Adjustment of the softknob above **(F2)** provides individual control of **MONITOR BUS 2** relative to the other **MONITOR BUSES**. Repetitive presses of **(F2)** toggles the value between the current value and OFF.

**MONITOR BUS 3 (F3)** - (Variable adjustment from OFF to 0.0dB) Adjustment of the softknob above **(F3)** provides individual control of **MONITOR BUS 3** relative to the other **MONITOR BUSES**. Repetitive presses of **(F3)** toggles the value between the current value and OFF.

**MONITOR BUS 4 (F4)** - (Variable adjustment from OFF to 0.0dB) Adjustment of the softknob above **(F4)** provides individual control of **MONITOR BUS 4** relative to the other **MONITOR BUSES**. Repetitive presses of **(F4)** toggles the value between the current value and OFF.

**(F5)** - (NO FUNCTION)

**F6)** - (NO FUNCTION)

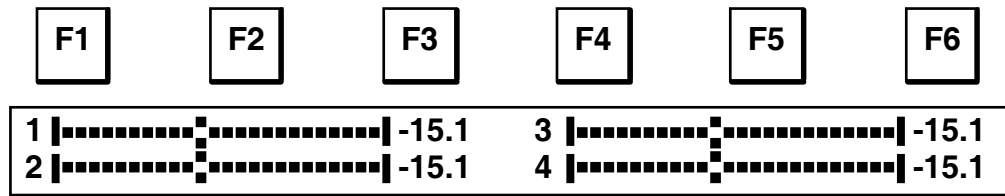
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**NOTE: Rotation of the MONITOR LEVEL SOFTKNOB above the MONITOR SUBPANEL will affect all monitor buses equally, retaining programmed offsets.**

---

## MASTER MONITOR LEVEL MENU, continued

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The **MASTER MONITOR LEVEL** softknob may be disabled in the **S.UP** menu.

---

**SHORTCUT:** The keystrokes **<UNY><ENT>** resets all four monitor buses for equal gain.

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### ***CAUTION:***

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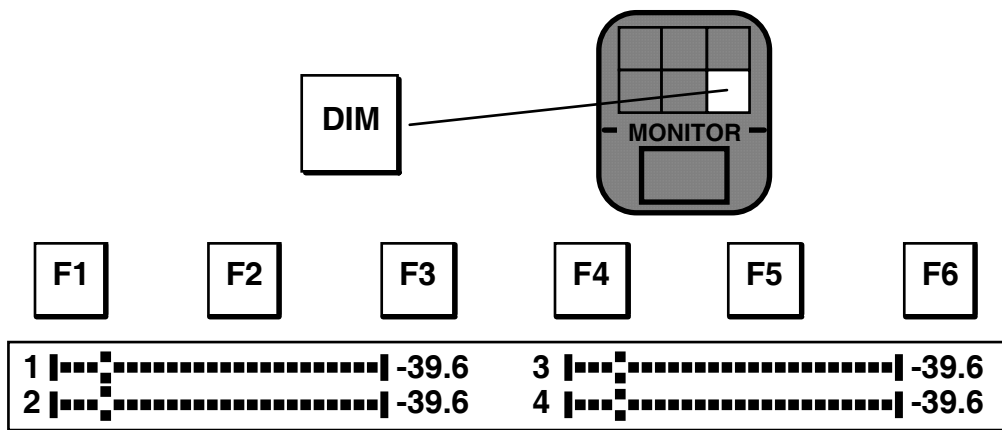
**THE MASTER MONITOR LEVEL MENU PROVIDES *OVERALL* ADJUSTMENT OF DMX MONITOR LEVELS, REGARDLESS OF SOURCE. IT IS NOT INTENDED AS A MONITOR MIXER FOR THE RECORD VTR. THE RECORD VTR'S MONITOR MIX MUST BE SET IN THE APV MENU.**

---

## DIM MONITOR LEVEL MENU

---

Pressing the **DIM** key on the MONITOR subpanel opens the **DIM MONITOR LEVEL** menu on the SOFTKEY DISPLAY and apply the programmed levels to the **MONITOR BUSES**.



The **DIM MONITOR LEVEL** menu is designed to give the user a visual representation of the user-definable **DIM MONITOR** output levels. The menu also permits adjustment of the individual channels to create a custom monitor mix. In the strictest sense, **DIM** is provided for single-button attenuation of the monitor speakers, permitting sporadic telephone or other conversations to occur without disturbing the reference monitor level. The adjustments made in this menu are downstream of all other processing in the DMX, affecting *all selected sources*.

**DIM** mode is canceled by pressing (and extinguishing) the **DIM** key.

**MONITOR BUS 1 (F1)** - (Variable adjustment from OFF to 0.0dB) Adjustment of the softknob above **(F1)** provides individual control of **MONITOR BUS 1** relative to the other **MONITOR BUSES**. Repetitive presses of **(F1)** toggles the value between the current value and OFF.

**MONITOR BUS 2 (F2)** - (Variable adjustment from OFF to 0.0dB) Adjustment of the softknob above **(F2)** provides individual control of **MONITOR BUS 2** relative to the other **MONITOR BUSES**. Repetitive presses of **(F2)** toggles the value between the current value and OFF.

**MONITOR BUS 3 (F3)** - (Variable adjustment from OFF to 0.0dB) Adjustment of the softknob above **(F3)** provides individual control of **MONITOR BUS 3** relative to the other **MONITOR BUSES**. Repetitive presses of **(F3)** toggles the value between the current value and OFF.

**MONITOR BUS 4 (F4)** - (Variable adjustment from OFF to 0.0dB) Adjustment of the softknob above **(F4)** provides individual control of **MONITOR BUS 4** relative to the other **MONITOR BUSES**. Repetitive presses of **(F4)** toggles the value between the current value and OFF.

**(F5)** - (NO FUNCTION)

**(F6)** - (NO FUNCTION)

## **DIM MONITOR LEVEL MENU, continued**

---

---

**NOTE:** The MASTER and DIM menus are identical. Therefore, DIM may be used to create a custom monitor mix, rather than functioning in the normal fashion.

---

---

**SHORTCUT:** The keystrokes <UNY><ENT> resets all four monitor buses for equal gain.

---

### ***CAUTION:***

---

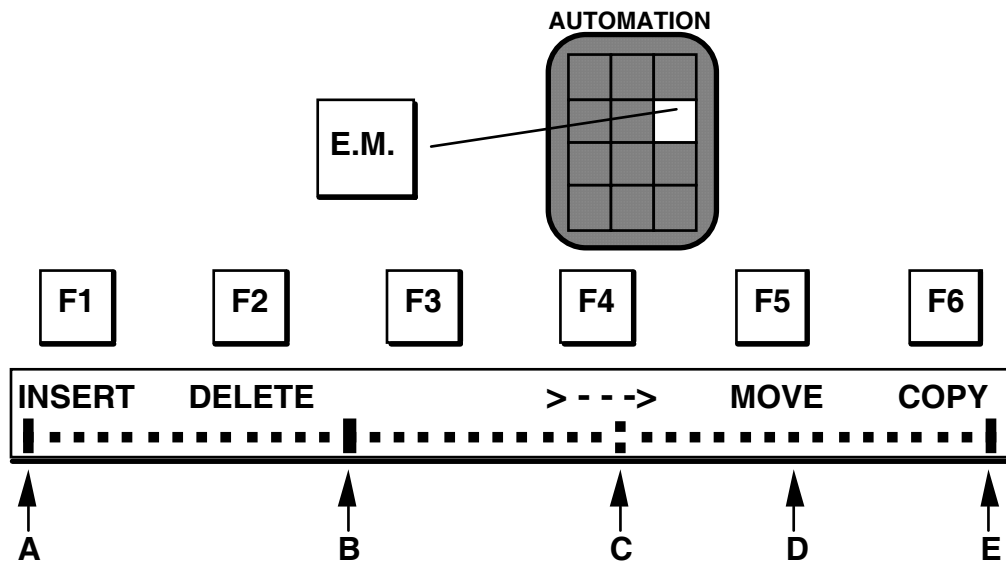
THE DIM MONITOR LEVEL MENU PROVIDES *OVERALL* ADJUSTMENT OF DMX MONITOR LEVELS, REGARDLESS OF SOURCE. IT IS NOT INTENDED AS A MONITOR MIXER FOR THE RECORD VTR. THE RECORD VTR'S MONITOR MIX MUST BE SET IN THE APV MENU.

---

## EDIT MODE MENU

---

Pressing the **E.M.** key on the AUTOMATION subpanel opens the **EDIT MODE** menu on the SOFTKEY DISPLAY.



The **EDIT MODE** menu is used to create and modify mixer **EVENTS**. An **EVENT** may be anything from a static mixer setup to a 20-point **TIMELINE** with staggered transitions. *All* transitions, regardless of complexity, are created, modified, and run from the **EDIT MODE** menu.

---

**NOTE:** The DMX must be set to **EDIT MODE** for editor control of the **FADERS**.

---

**INSERT (F1)** - (Single function) The **INSERT** command places a **POINT** at the current position in the **TIMELINE**, with the following affects:

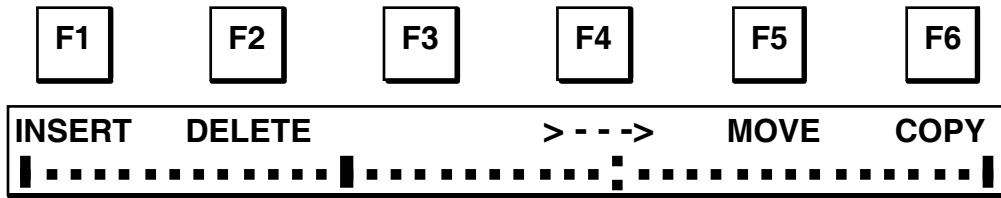
- If the **CURSOR** is between the **BEGINNING** and the **END**, a **MIDPOINT** will be inserted without affecting the **DURATION** of the **EVENT**.
- If the **CURSOR** is at the **BEGINNING**, a *new* **BEGINNING** will be inserted, with the previous **BEGINNING** becoming the first **MIDPOINT**. The time between the new and old **BEGINNING** may be defined prior to the **INSERT** command by first presetting a value (in frames) on the **NUMERIC KEYPAD**. If no value is entered, the default duration is 30 frames.
- If the **CURSOR** is at the **END**, a *new* **END** will be inserted, with the previous **END** becoming the last **MIDPOINT**. The time between the new and old **END** may be defined prior to the **INSERT** command by first presetting a value (in frames) on the **NUMERIC KEYPAD**. If no value is entered, the default duration is 30 frames.

**DELETE (F2)** - (Single function) The **DELETE** command removes any programmed **POINT** on the **TIMELINE**. **DELETING** points at the **BEGINNING** or **END** will affect the overall **DURATION** of the **EVENT**.

**(F3)** - (No function)

## EDIT MODE MENU, continued

---



**RUN MODE (F4)** - (Toggle function) This function key sets the **RUN MODE** for the **TIMELINE**. Two modes are available:

- When the symbol > - - -> is displayed, the **TIMELINE** is set for **CONTINUOUS RUN**. When a **RUN** command is issued (via GPI, editor, or DMX control panel) the programmed **TIMELINE** will **RUN** from its current position until the **END POINT** is reached.
- When the symbol > - || -> is displayed, the **TIMELINE RUN MODE** is set for **STOP NEXT MIDPOINT**. When a **RUN** command is issued (via GPI, editor, or DMX control panel) the programmed **TIMELINE** will **RUN** from its current position to the first encountered **MIDPOINT**, whereupon it will stop. Subsequent **RUN** commands produce similar results.

Among other uses, **STOP NEXT MIDPOINT** permits staggered execution of multiple mixer transitions in a single **EVENT**.

**MOVE (F5)** - (Single function) The **MOVE** command is used to relocate a **MIDPOINT**. To move a **MIDPOINT**:

- 1) Repetitively press the **MID** key on the AUTOMATION SUBPANEL to place the **TIMELINE POINTER** on the **MIDPOINT** to be moved.
- 2) Using the NUMERIC KEYPAD, enter the position (in frames) where the **MIDPOINT** should be moved to on the **TIMELINE**.
- 3) Press **MOVE (F5)**.

**COPY(F6)** - (Single function) The **COPY** command is used to duplicate the state of a **MIDPOINT** and apply those values to an existing point on the **TIMELINE**. Copies are only permitted between *adjacent* **MIDPOINTS**, where the former is the source and the latter is the destination. To copy a **MIDPOINT**:

- 1) Utilizing the **BGN**, **MID**, or **END** keys on the AUTOMATION SUBPANEL, place the **TIMELINE POINTER** on the **MIDPOINT** that you wish to copy. The DMX automatically memorizes the contents of each point as you "park" on it.
- 2) Press one of the following:
  - A) The **MID** key if the adjacent destination point is a **MIDPOINT**.
  - B) The **END** key if the adjacent destination point is the **END**.
- 3) Press **COPY (F6)**.

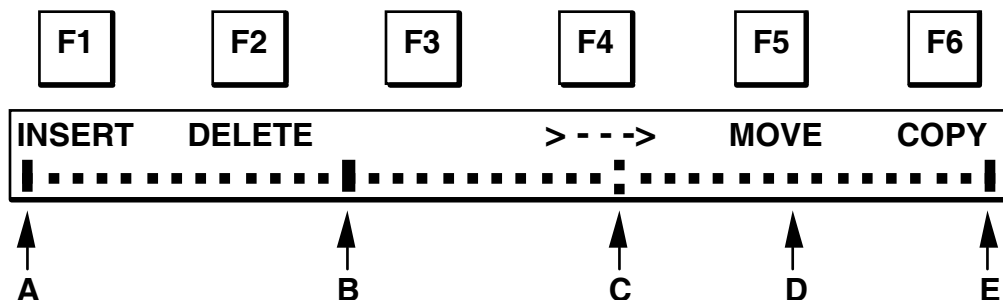
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**NOTE: The AUTOMATION FADER and the G.TO key are not valid for defining TIMELINE positions for both the MOVE and COPY functions.**

---

## EDIT MODE MENU, continued

---



### TIMELINE ICONS

**BEGINNING (A)** - Every event has at least a **BEGINNING** and an **END**. The **BEGINNING** is distinguished by a triple-height point at the far left of the **TIMELINE**. Pressing the **BGN** key on the AUTOMATION SUBPANEL will "park" the **TIMELINE POINTER** on the **BEGINNING** point.

**MIDPOINT(B)** - Similar in appearance to the **BEGINNING** and **END** points, a **MIDPOINT** is any point inserted between the two. Up to 18 **MIDPOINTS** may be programmed in each **EVENT**. Repetitive presses of the **MID** key on the AUTOMATION SUBPANEL will cycle the **TIMELINE POINTER** through all of the **MIDPOINTS**.

**POINTER (C)** - The **TIMELINE POINTER** displays the current position in the **TIMELINE**.

**TIMELINE (D)** - The 40 dots spanning the SOFTKEY DISPLAY provide a *rough* indication of relative positions between the **BGN**, **MID**, and **END** points on the **TIMELINE**.

**END (E)** - Every event has at least a **BEGINNING** and an **END**. The end is distinguished by a triple-height point at the far right of the **TIMELINE**. Pressing the **END** key on the AUTOMATION SUBPANEL will "park" the **TIMELINE POINTER** on the **END** point.

---

**NOTE:** The **EVENT DURATION** display above the **AUTOMATION FADER** always provides a field-accurate indication of the current **TIMELINE** position. Field 2 is designated with an asterisk at the left of the display.

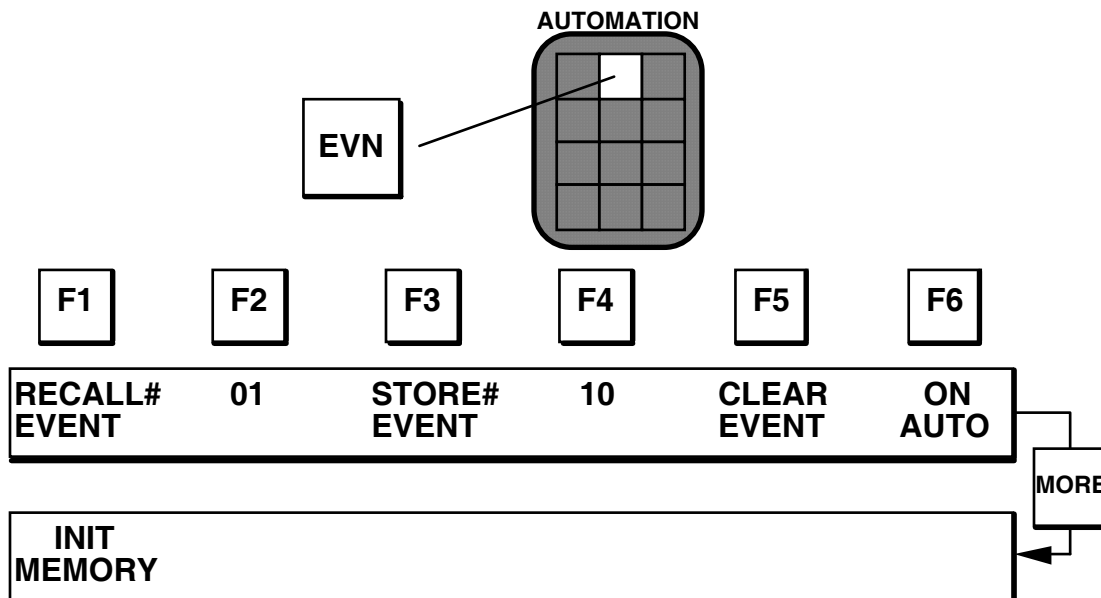
---



## EVENT MENU

---

Pressing the **EVN** key on the AUTOMATION subpanel opens the **EVENT** menu on the SOFTKEY DISPLAY.



The **EVENT** menu is used to store and recall **EVENT (TIMELINE)** data from memory. It is also used to store and recall mixer "snapshots" when the DMX-1000 is operating in **LIVE** mode.

**RECALL EVENT # (F1)** - (Single function) Pressing **(F1)** recalls the **EVENT FILE** displayed below **(F2)** from battery-backed RAM. Following a **RECALL**, the user-defined **EVENT NOTE** is displayed along the bottom of the SOFTKEY DISPLAY.

**EVENT # (F2)** - (Variable adjustment from 1 to 9999) The number below **(F2)** represents the **EVENT FILE** to be recalled. Used in conjunction with **(F1)**. A value may be set by:

- Adjustment of the softknob above **(F2)**.
- Repetitive presses of **(F2)**, which increments the current **EVENT #** value by 1.
- Presetting a value on the NUMERIC KEYPAD, followed by a single press of **(F2)**.

**STORE EVENT # (F3)** - (Single function) Pressing **(F3)** stores the **EVENT FILE** displayed below **(F4)** to battery-backed RAM. If an **EVENT NOTE** has been preset in the **NOTE** menu, it too will be stored as part of the current **EVENT FILE**.

---

**NOTE:** The *current* levels of all faders set to FULLTIME LIVE are stored as part of an **EVENT** when the STORE EVENT command is invoked.

---

## EVENT MENU, continued

---

F1	F2	F3	F4	F5	F6
RECALL# EVENT	01	STORE# EVENT	10	CLEAR EVENT	ON AUTO

**EVENT # (F4)** - (Variable adjustment from 1 to 9999) The number below **(F4)** represents the **EVENT FILE** to be stored. Used in conjunction with **(F3)**. A value may be set by:

- Adjustment of the softknob above **(F4)**.
- Repetitive presses of **(F4)**, which increments the current **EVENT #** value by 1.
- Presetting a value on the NUMERIC KEYPAD, followed by a single press of **(F4)**.

**CLEAR EVENT (F5)** - (Single function) Pressing **(F5)** clears the contents of the current, unsaved **EVENT**.

---

**NOTE:** After an **EVENT** is cleared, the **TIMELINE** will contain:

- **FADERS** set to their exact electrical position prior to the **CLEAR** function.
- An identical **BEGIN** and **END POINT**.
- 30 frame duration.

The **TIMELINE** is parked at the **BEGINNING** after an **EVENT** is cleared.

---

**AUTO (F6)** - (ON/OFF-type function) Pressing **(F6)** enables or disables the **AUTO-INCREMENT** feature for **EVENT** storage. When enabled, the **STORE EVENT#** under **(F4)** will automatically increment with each press of **(F3)**. When disabled, the **STORE EVENT#** under **(F4)** will not change after pressing **(F3)**.

## BRANCH MENU

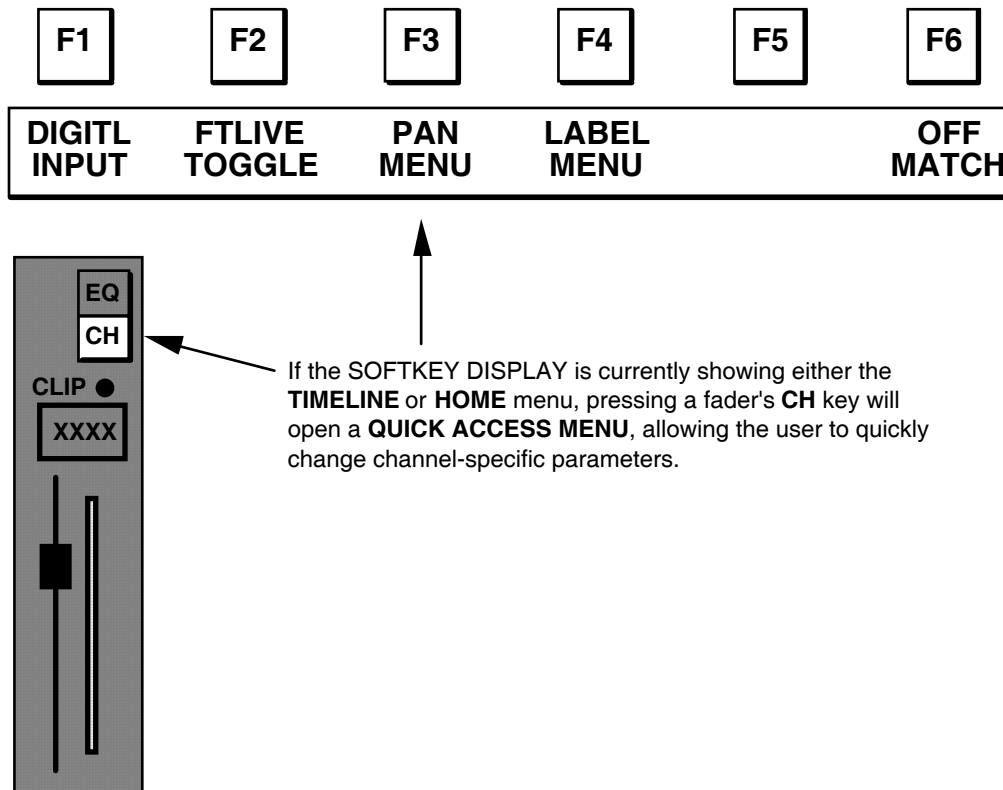
F1	F2	F3	F4	F5	F6
INIT MEMORY					

**INITIALIZE MEMORY (F1)** - (Single function) Pressing **(F1)** clears the entire **EVENT MEMORY**. All 400 **EVENTS** are permanently and unrecoverably erased.

## QUICK ACCESS MENU

---

If the SOFTKEY DISPLAY is currently displaying either the **TIMELINE** or **HOME** menu, pressing the **CH** key on any FADER subpanel opens the **QUICK ACCESS** menu on the SOFTKEY DISPLAY.



The **QUICK ACCESS** menu gives the user a streamlined method of changing channel-specific parameters that are likely to require alteration during a session. Parameters available from this menu are:

**INPUT (F1)** - (Toggle function) This item sets the selected channel for either an **ANALOG** or **DIGITAL** input. Since each DMX digital input is actually a 2-channel source, setting a single channel as **DIGITAL** will automatically set its "mate" to **DIGITAL**. Similarly, when setting a single input as **ANALOG**, both channels of a **DIGITAL** pair will be altered. This item is identical to (F3) in the **CHANNEL LABEL** branch menu.

**FULL-TIME LIVE TOGGLE (F2)** - (Toggle-type function) When pressed, this softkey toggles the state of the selected channel(s) between **FULL-TIME LIVE** and **NORMAL**. **FULL-TIME LIVE** inhibits control of a channel (fader) during **TIMELINE (EDIT MODE)** operation. Faders set to **FULL-TIME LIVE** are distinguished from "normal" faders by the brightness of the **CHANNEL LABEL** display above each fader. **FULL-TIME LIVE** channel labels stay at full brightness during **EDIT MODE**, while the other fader's **LABELS** are dimmed.

**MULTIPLE "CH" KEYS MAY BE SELECTED FOR THIS FUNCTION.**

**PAN MENU (F3)** - (Single function) Opens the **PAN** menu on the SOFTKEY DISPLAY for the selected FADER.

## QUICK ACCESS MENU, continued

---

F1	F2	F3	F4	F5	F6
DIGITL INPUT	FTLIVE TOGGLE	PAN MENU	LABEL MENU		OFF MATCH

**LABEL MENU (F4)** - (Branch menu selector) Pressing (**F4**) opens the **CHANNEL LABEL MENU** for the selected physical channel.

**(F5)** - (No function)

**MATCH (F6)** - (ON/OFF function) When enabled, **MATCH** sets the DMX control panel into a mode that facilitates matching a fader's mechanical to electrical position. With **MATCH** enabled, the **CLIP** LED on each fader changes function to guide the operator through the matching process. The following LED states reflect the status of fader synchronization:

- RED - Fader mechanical position is higher than its electrical level.
- GREEN - Fader mechanical position is lower than its electrical level.
- OFF - Fader mechanical position matches its electrical level.

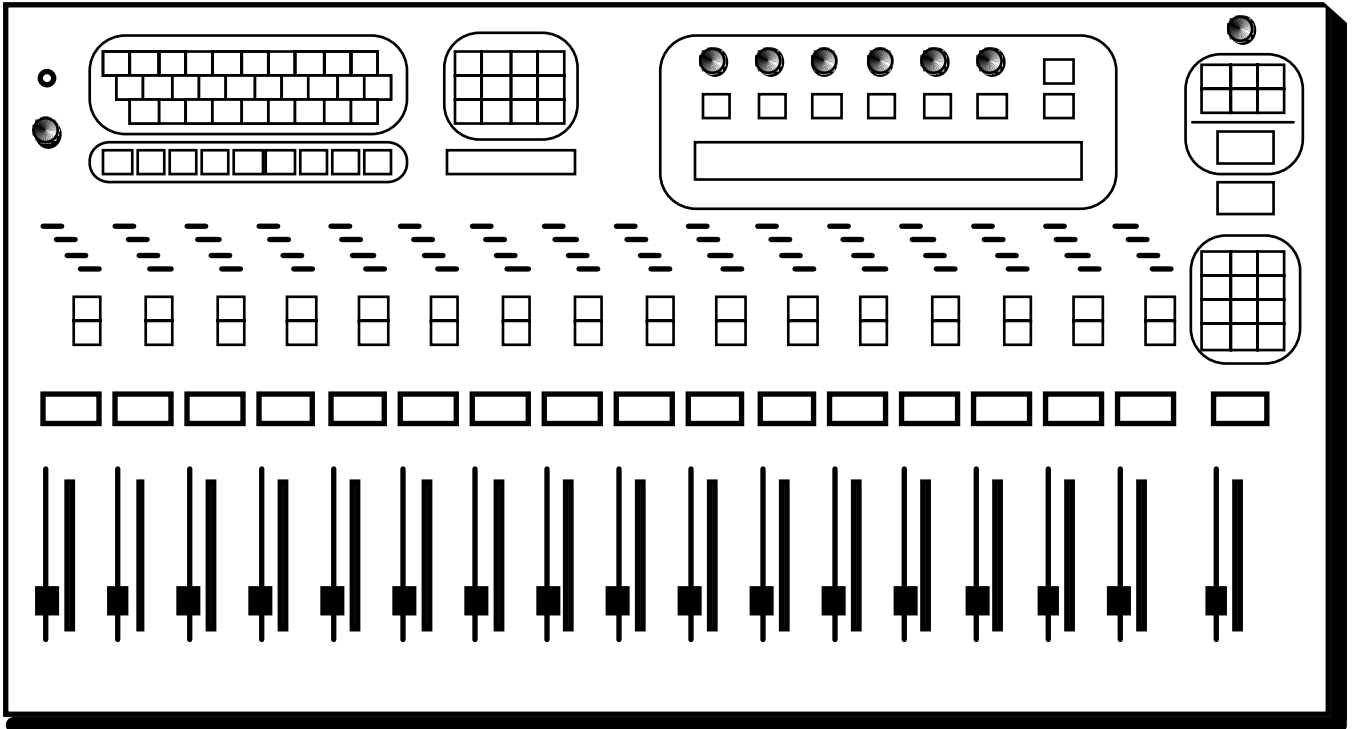
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**NOTE:** With **MATCH** mode enabled, changes to a fader's mechanical position will have no effect on its electrical level.

With **MATCH** mode disabled, physical changes to an out-of-sync fader will have no effect until the mechanical and electrical positions match, after which fader movement will alter the electrical level.

---

# SECTION 3



# TUTORIAL



**GETTING STARTED**

This tutorial is designed as a hands-on experience. The user will need the following:

- The DMX-1000
- An editing system
- A 2-channel source, preferably music (this will be the AVTR)
- Another 2-channel source (this will be the BVTR)
- A single-channel source, preferably speech (this will be the CVTR)
- A 4-channel RVTR

***THE ROUTER INTERFACE MUST BE ENCODED PRIOR TO THIS STEP.  
CONSULT THE INSTALLATION GUIDE FOR INSTRUCTIONS ON ENCODING  
THE ROUTER INTERFACE***

**PLEASE TURN TO THE NEXT PAGE TO BEGIN**

## ASSIGNING SOURCES TO FADERS

The steps involved in assigning audio sources to FADERS are:

- Enter the **ROUTER INTERFACE MENU** by pressing the **RTR** key on the **FUNCTION SELECT** subpanel.
- Press **MORE** to enter the **ROUTER INTERFACE** branch menu.
- Check the status of the display below **(F1)**. If "ON" is not currently displayed, press **(F1)** to achieve that result. This enables the **AUTOASSIGN** function of the **ROUTER INTERFACE**, which automatically **ASSIGNS** sources to faders in alphabetical order, based on **LOGICAL MACHINE** name.
- Press **(F2)** to **FREE ALL** current routing assignments. At this point, all **FADER SUBPANEL LED** displays should be dark (no assignments). This step is optional, and is included and suggested as a good starting-point. In actual operation, **FREE ALL** is typically used at the beginning of a session for those wishing to "start from scratch."
- Check the status of the display below **(F3)**. If "OFF" is not currently displayed, press **(F3)** to achieve that result. This disables automatic selection of the **Z.RECORDER** to faders. The **Z.RECORDER** has been omitted from this exercise for the sake of simplicity. In actual operation it is highly desirable to have the **Z.RECORDER** assigned to **FADERS**, ready for instant operation.
- Check the status of the displays below **(F5)** and **(F6)**. If "YES" is not currently displayed, press the appropriate softkey to achieve that result. This enables all 4 channels of any 4-channel device for routing and assignment to **FADERS**.
- The **SOFTKEY DISPLAY** should now be:

<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>	<b>F5</b>	<b>F6</b>
<b>ON ASSIGN</b>	<b>FREE ALL</b>	<b>NO Z.REC</b>	<b>TAKE</b>	<b>YES CH 1/2</b>	<b>YES CH 3/4</b>

- Press **MORE** to return to the **ROUTER INTERFACE** top menu.

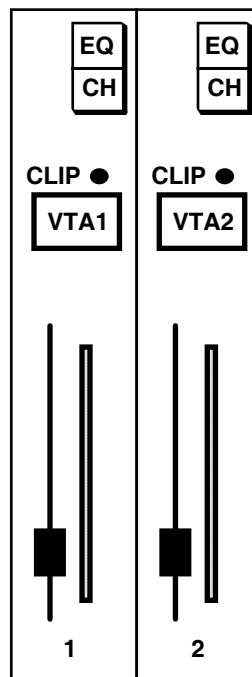
*At this point you will need to know how the **ROUTER INTERFACE** is encoded, and which **VTRs** are at your disposal. Since each **DMX-1000** installation is unique, the remainder of this exercise concentrates more on the fundamentals of source assignment, and less on actual keystrokes.*

## TUTORIAL, continued

---

### TO ASSIGN THE AVTR TO FADERS 1 AND 2:

- In the **ROUTER INTERFACE** top menu, repetitively press either (**F5**) or (**F6**) until "VTRA" is displayed.
- Select the **PHYSICAL SOURCE** that is to be the **AVTR**. In this exercise, the **AVTR** will playback a music reel. The **PHYSICAL SOURCE** may be preset in two ways:
  - 1) By repetitively pressing (**F1**) or (**F2**) until the appropriate **SOURCE NAME** is displayed.
  - 2) By entering the appropriate **SOURCE ID** on the NUMERIC KEYPAD, followed by a press of either (**F1**) or (**F2**). (It is recommended that a cross-reference of **SOURCES** and **SOURCE IDs** be kept near the mixer).
- Press the **TAKE** key. The result will be:



---

**SHORTCUT:** The **TAKE** key may be pressed immediately after entering the **SOURCE ID** on the NUMERIC KEYPAD.

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*THE TUTORIAL CONTINUES ON THE NEXT PAGE*

## TUTORIAL, continued

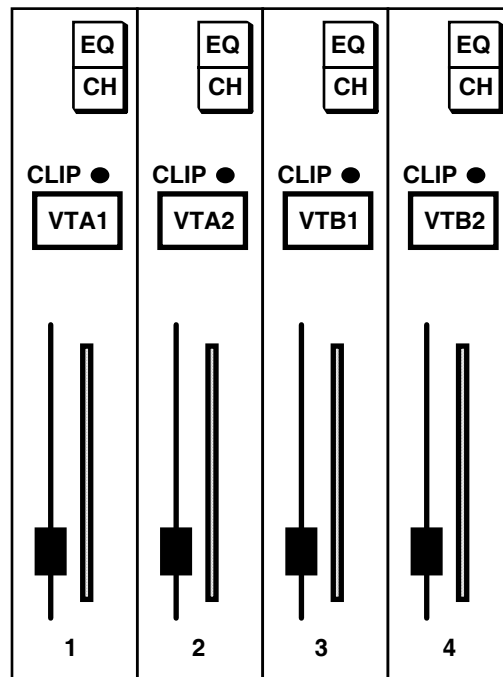
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### TO ASSIGN THE BVTR TO FADERS 3 AND 4:

- Press **(F6)** once to display **VTRB**.
- Select the **PHYSICAL SOURCE** that is to be the **BVTR**. In this exercise, the **BVTR** is a 2-channel source. As in the previous example, the **PHYSICAL SOURCE** may be preset by:
  - 1) Repetitively pressing **(F1)** or **(F2)** until the appropriate **SOURCE NAME** is displayed.
  - 2) Entering the appropriate **SOURCE ID** on the NUMERIC KEYPAD, followed by a press of **(F1)** or **(F2)**.

**OR**

  - 3) Entering the appropriate **SOURCE ID** on the NUMERIC KEYPAD, followed by a press of the **TAKE** key.
- After **TAKE** has been pressed, the result will be:

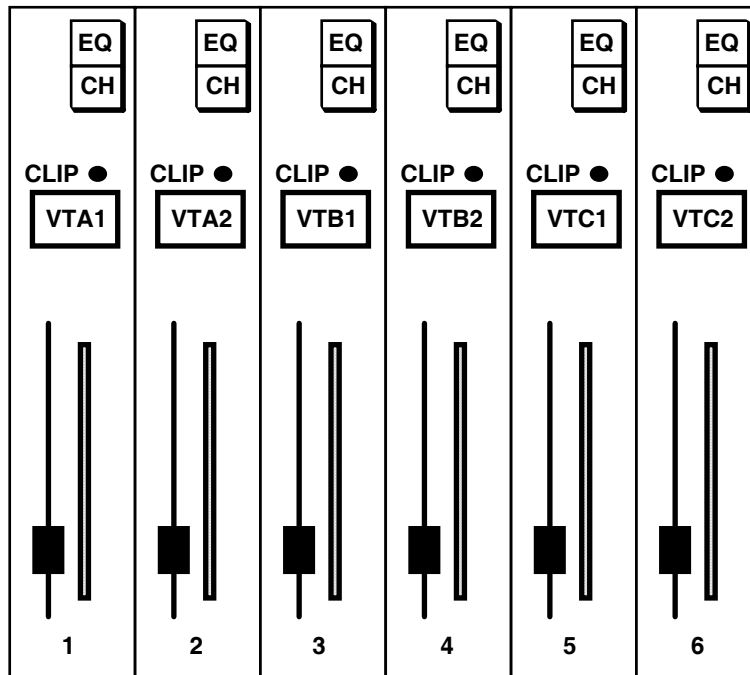


*THE TUTORIAL CONTINUES ON THE NEXT PAGE*

## TUTORIAL, continued

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Repeat the preceding procedure for the CVTR. When complete, the result will be:



Although the CVTR will only contribute a single channel to this mix, both available channels have been **ASSIGNED** to FADERS. The **ROUTER INTERFACE** *always* assigns both channels of a stereo pair to FADERS. The steps involved in customizing the fader assignments is discussed later in this section.

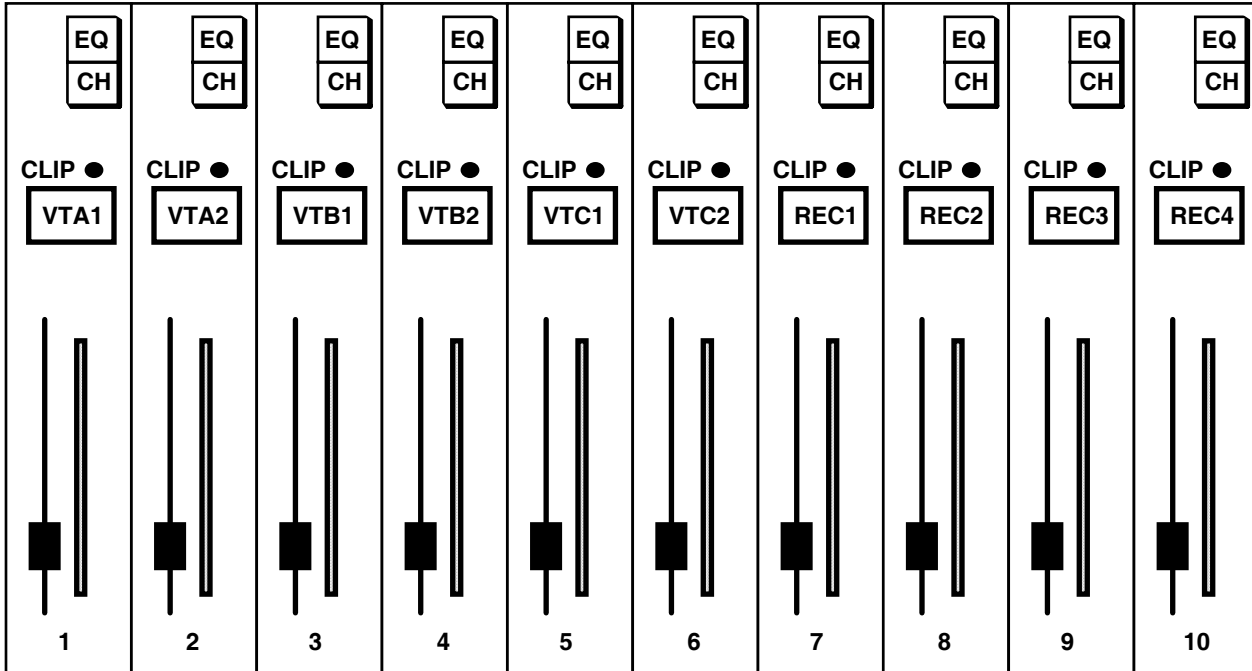
*THE TUTORIAL CONTINUES ON THE NEXT PAGE*

## TUTORIAL, continued

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### TO ASSIGN THE RVTR:

Repeat the preceding procedure for the RVTR. When complete, the result will be:



In this example, the RVTR has been **ASSIGNED** to hardware faders. This occurred because there *is* an adequate number of hardware faders to support both the source machines and the RVTR.

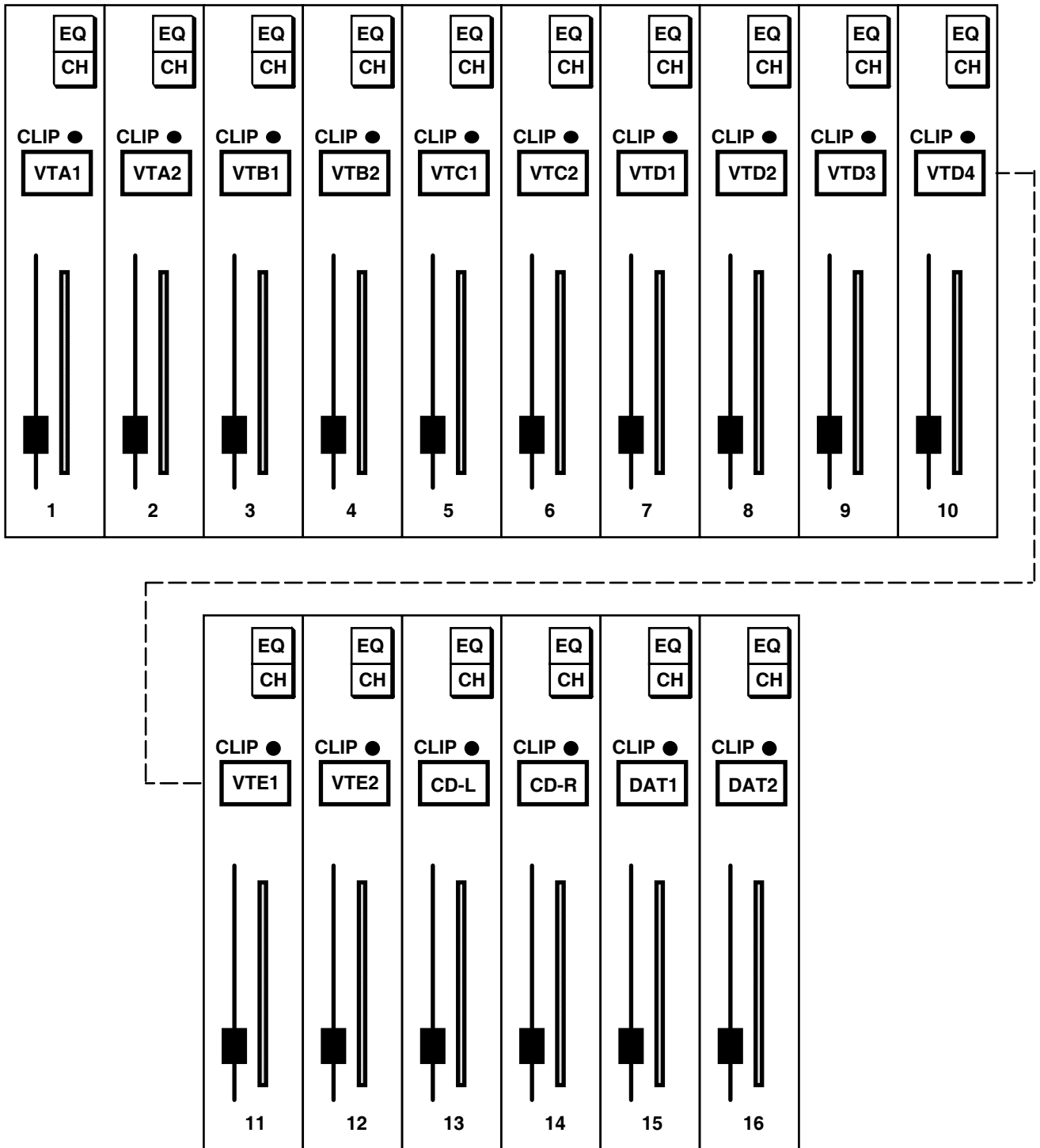
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**NOTE: ASSIGNING the RVTR to FADERS provides the user with more immediate visual feedback regarding the LEVELS and PANNING of the RVTR channels. This mode of operation is desirable for**

- **PREREAD EVENTS**
  - **SIMPLIFIED ACCESS TO SETUP AND PAN MENU SETTINGS**
- 

However, if additional source machines are added, the RVTR may be shifted off of the the 16 hardware faders and over to the software "pseudofaders" of the **REC** menu. The diagram on the following page is an example of such a configuration.

**TUTORIAL, continued**



**REC menu:**

0.0dB REC1	0.0dB REC2	0.0dB REC3	0.0dB REC4	PREREAD INIT	CLEAR
---------------	---------------	---------------	---------------	-----------------	-------

**USING THE PAN MENU**

Now that the **CHANNELS** are **ASSIGNED** to **FADERS**, the panning of those sources must be verified and/or altered to suit the needs of a particular edit. For this example, channels 1 and 2 of the AVTR will be sent "hard left" and "hard right," respectively, while the 2 channels of the BVTR will be sent to both **BUS 1** and **BUS 2**.

The steps involved in sending the AVTR Channel 1 to **BUS 1** are:

- 1) Press the **CH** key on **FADER 1**.
- 2) Press the **PAN** key on the F/X SUBPANEL. The current **PANNING** for that channel is displayed.
- 3) With repetitive presses of function keys (**F1 - F4**), set the menu as follows:

<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>	<b>F5</b>	<b>F6</b>
<b>0.0dB BUS1</b>	<b>OFF BUS2</b>	<b>OFF BUS3</b>	<b>OFF BUS4</b>	<b>MON MATCH</b>	<b>OFF GLOBAL</b>

This routes the AVTR channel 1 "hard left."

- 4) Press the **CH** key on **FADER 2**.
- 5) Alter the **PAN** menu as follows:

<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>	<b>F5</b>	<b>F6</b>
<b>OFF BUS1</b>	<b>0.0dB BUS2</b>	<b>OFF BUS3</b>	<b>OFF BUS4</b>	<b>MON MATCH</b>	<b>OFF GLOBAL</b>

This routes the AVTR channel 2 "hard right."

The steps involved in sending both of the BVTR Channels to both **BUS 1** and 2 are:

- 1) Press the **CH** key on **FADER 3**.
- 2) With repetitive presses of function keys (**F1 - F4**), set the menu as follows:

<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>	<b>F5</b>	<b>F6</b>
<b>0.0dB BUS1</b>	<b>0.0dB BUS2</b>	<b>OFF BUS3</b>	<b>OFF BUS4</b>	<b>MON MATCH</b>	<b>OFF GLOBAL</b>

This routes the BVTR channel 1 to both buses.

- 3) Press the **CH** key on **FADER 4**

4) Alter the **PAN** menu as you did for **FADER 3**.

**USING THE MON MENU**

With preliminary **PAN** settings complete, one final setup aspect remains: Monitoring. Being completely independent from the **PAN** setups, the settings in the **MON** menu only affect how a source is heard when selected directly on the **MONITOR BUS** – either manually or via edit system control.

The operation of the **MON** menu is similar to the **PAN** menu, except that the settings in the **MON** menu are only ON/OFF, as opposed to being continuously variable.

Monitoring setup is completely a matter of personal choice, and often changes throughout a session. Some users want single-channel sources to feed all monitor buses, others may prefer to match the **MON** setups with the **PAN** menu setups. For this part of the tutorial the user should experiment with different monitoring setups and note the interaction and differences between configurations.

---

**NOTE: The MON menu need not be utilized if the MONITORING MODE is set to anything other than MON FOLLOW (review the chapter on MONITOR MODE, in Section 2 of this guide).**

---

Bear in mind that where monitoring is concerned, the RVTR is a special case. Audio previews may yield undesirable results if the RVTR's monitoring setup does not suit the application. The following rules apply to the RVTR and preview switching:

- The RVTR's faders must be set to **EDIT MODE** (as opposed to **FULLTIME LIVE**).
- The RVTR's faders must be set to **PREFADE LISTEN (PFL)**.
- **PANNING** for all channels of the RVTR must be disabled for all **MIX BUSES** (except on **PREREAD** events).
- During a preview, the DMX will replace the targeted channel or channels – as set in the Mark Table of the edit system – on **every MONITOR BUS** that it (they) appear on. For example, an Audio Channel 1 preview sounds much different between the following setups:

1) If the monitoring setup for the RVTR Channel 1 is:

<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>	<b>F5</b>	<b>F6</b>
<b>0.0db MON 1</b>	<b>OFF MON 2</b>	<b>OFF MON 3</b>	<b>OFF MON 4</b>	<b>DEC CHANNEL</b>	<b>INC</b>

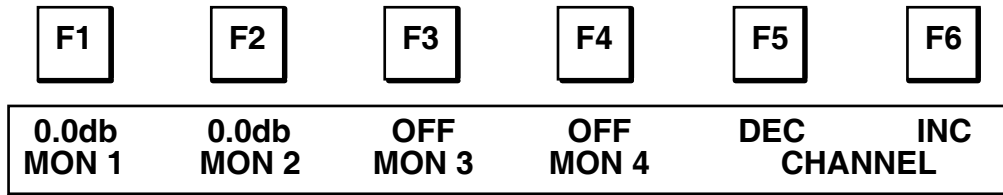
Then new audio for Channel 1 will only be heard on **MONITOR BUS 1**.



## TUTORIAL, continued

---

2) If the monitoring setup for the RVTR Channel 1 is:



Then new audio for Channel 1 will be heard on both **MONITOR BUS 1 AND 2**, even if the new audio source is only panned to **MIX BUS 1**.

---

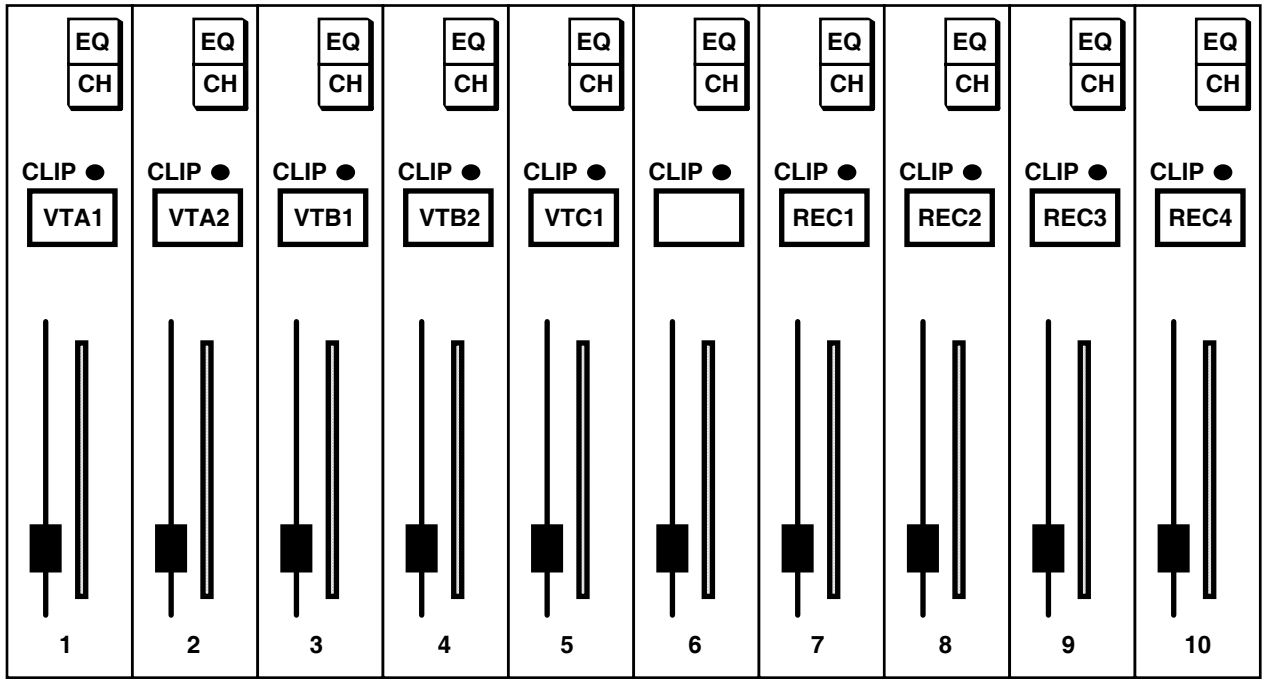
**SHORTCUT:** The **APV** menu provides **DEFAULT** and **USER** presets for **RVTR MONITORING**.

---

## CUSTOMIZING THE FADER ASSIGNMENTS

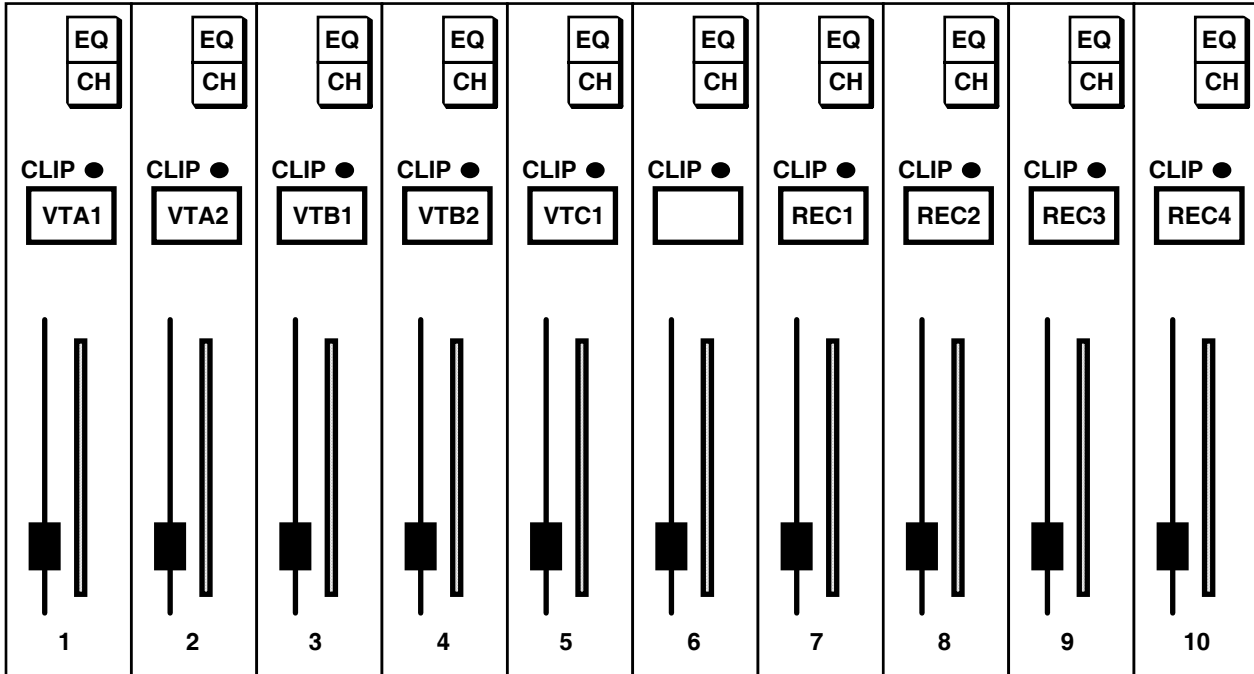
Recall that earlier in this Tutorial, both channels of the CVTR were **ASSIGNED** to FADERS even though only a single audio track from that machine is to be utilized. In this exercise we will **DEASSIGN** the unused CVTR channel, making room on the control panel for other potential sources.

- Press the **ASN** key (on the FUNCTION SELECT subpanel) to open the **ASSIGNMENT MENU**.
- Press **MORE** to reach the **ASSIGNMENT** branch menu.
- Press the **CH** key on the FADER SUBPANEL labeled **VTC2**.
- Press **(F6)** above the SOFTKEY display (**FADER DEASSIGN**). The result will be:



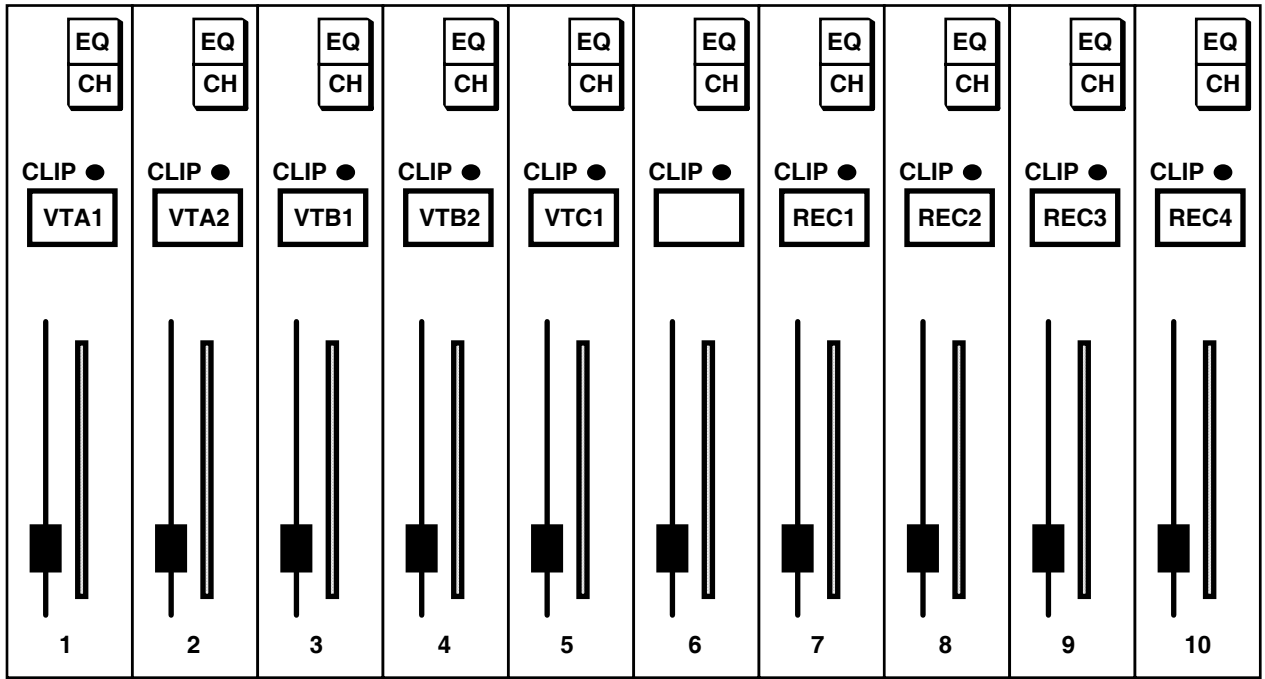
## TUTORIAL, continued

---



The above gap between the CVTR and the RVTR may now be closed (an optional step) by:

- Press **MORE** to return to the **ASSIGNMENT** top menu.
- Repetitively press **(F5)** or **(F6)** until **RVTR** is displayed.
- Toggle the state of **(F1 - F4)** as necessary to achieve **YES** below each function key.
- Press the **CH** key on FADER SUBPANEL #6. The RVTR faders will be re-assigned as:



### TIMELINE CONTROL VIA AN EDIT SYSTEM

The DMX-1000 uses a derivative of ESAM II protocol. Although ESAM II is designed for traditional PGM/PST operations, the DMX converts the available data into its **TIMELINE** equivalent. There are several prerequisites for comprehensive editor control of the DMX:

- 1) All items in the DMX **EDITOR** menu must be enabled.
- 2) One of the standardized setups should be selected in the **APV** menu.
- 3) The operational mode of the DMX must be **EDIT MODE** (selected on the AUTOMATION subpanel).
- 4) The editing system's Audio Crosspoint table must correspond to :

BLK = 00  
AVTR = 01  
BVTR = 02  
CVTR = 03  
DVTR = 04  
EVTR = 05  
FVTR = 06  
GVTR = 07  
HVTR = 08  
AUX = 09  
RVTR = 10  
Z.REC = 11  
PREREAD = 20

2

### CREATING AN EVENT

For this example, a 30-frame dissolve will be created between a stereo source on the AVTR and a stereo source on the BVTR.

### SETTING LEVELS

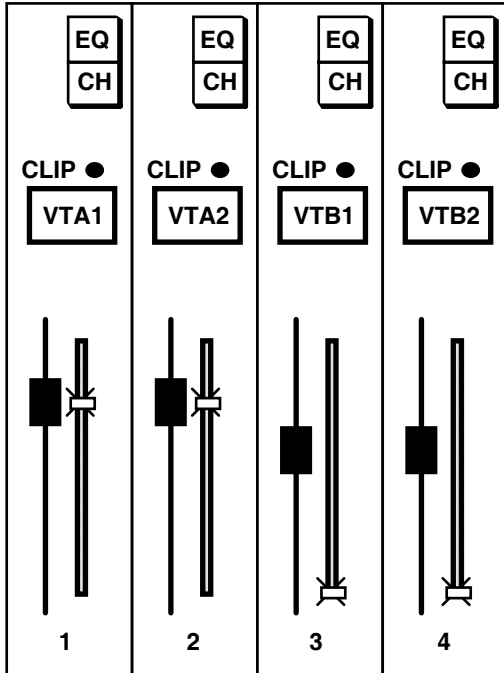
- 1) To ensure that no extraneous **EVENT** data exists, clear the current **EVENT** by pressing the **<EVN>** key on the AUTOMATION subpanel, followed by **<(F5)>**.
- 2) Select the **AVTR** from the editing system's keyboard and set **FADERS 1 and 2** to appropriate levels. Notice that the LED displays next to **FADERS 1 and 2** move in relation to the changes you make in mechanical fader levels. Also notice that all the other LED displays have been set to  $\infty$ , regardless of fader mechanical position.
- 3) Select the **BVTR** from the editing system's keyboard and set **FADERS 3 and 4** to appropriate levels. Notice that when the **BVTR** is selected, the LED level indicators on **FADERS 1 and 2** reset to  $\infty$ .

Refer to the diagrams at the top of the next page to verify your setup.

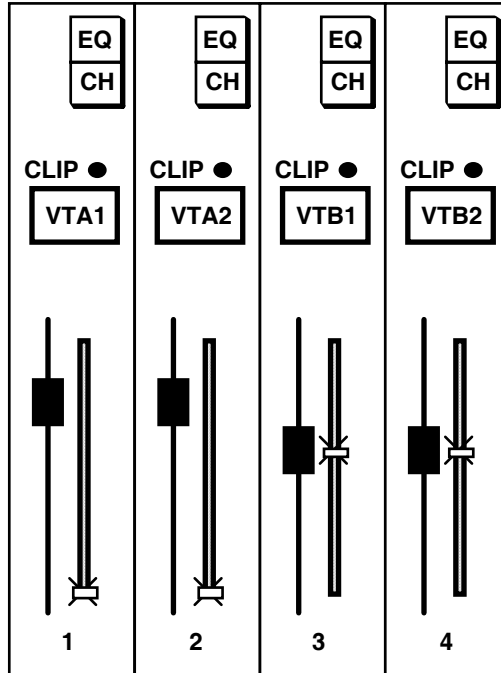
## TUTORIAL, continued

---

With the AVTR selected on the editing system, the DMX should look like this:



With the BVTR selected on the editing system, the DMX should look like this:



- 4) Program the dissolve on the editor keyboard.
- 5) Select either **RECORD** or **PREVIEW** on the editor keyboard.
- 6) At the start of preroll, the DMX will set up a **TIMELINE** that transitions from the AVTR to BVTR in 30 frames. The **TIMELINE** is automatically parked at the **BEGINNING**, setting the DMX faders as depicted in the above left graphic.
- 7) At the transition point, the LED displays on **FADERS 1 and 2** will begin to move lower, while the LED displays on **FADERS 3 and 4** will begin to move higher, as depicted on the top of the next page.

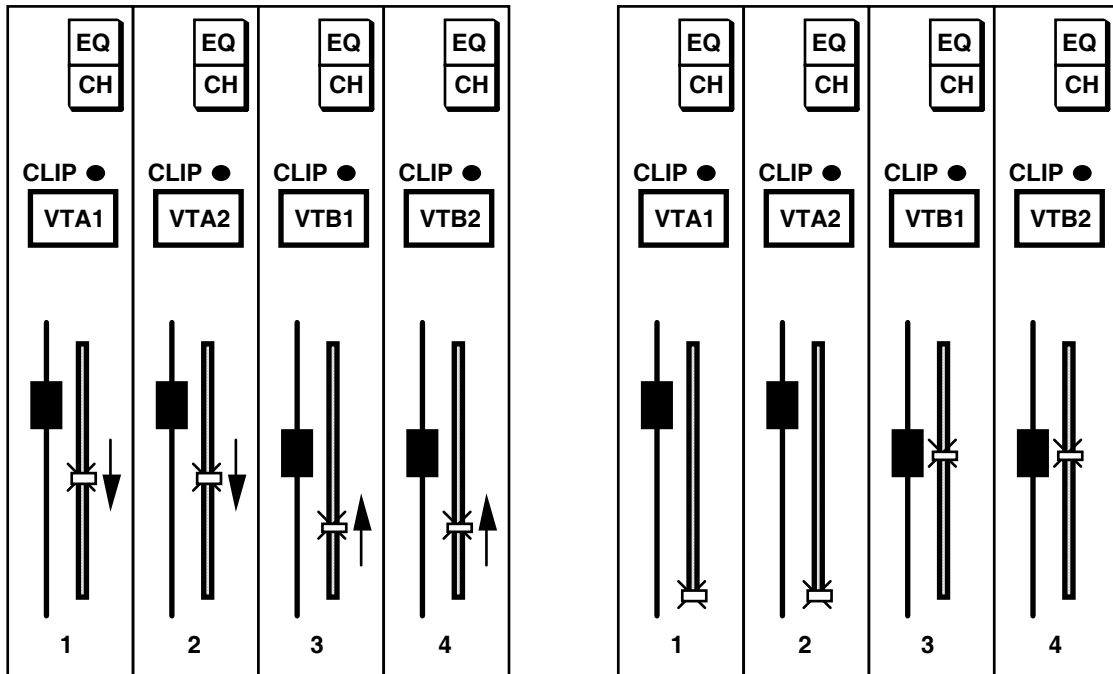
CONTINUED ON NEXT PAGE

## TUTORIAL, continued

---

How the LED displays react during the transition:

At the end of the transition, the DMX should look like this:



8) Note that during the transition, the **EVENT DURATION** display next to the **AUTOMATION FADER** will count from 0 to 30 frames.

## **CHANGING LEVELS**

Using the previous example as a basis, let's assume that there are two problems within the transition:

- 1) The dissolve duration is too short.
- 2) The BVTR's levels are too low.

Both of these "problems" are simple to correct:

- To change the transition duration, use the editor keyboard to reprogram the edit.
- To change the BVTR levels, select the BVTR from the edit system and reset the fader levels. The **TIMELINE** will update automatically.

---

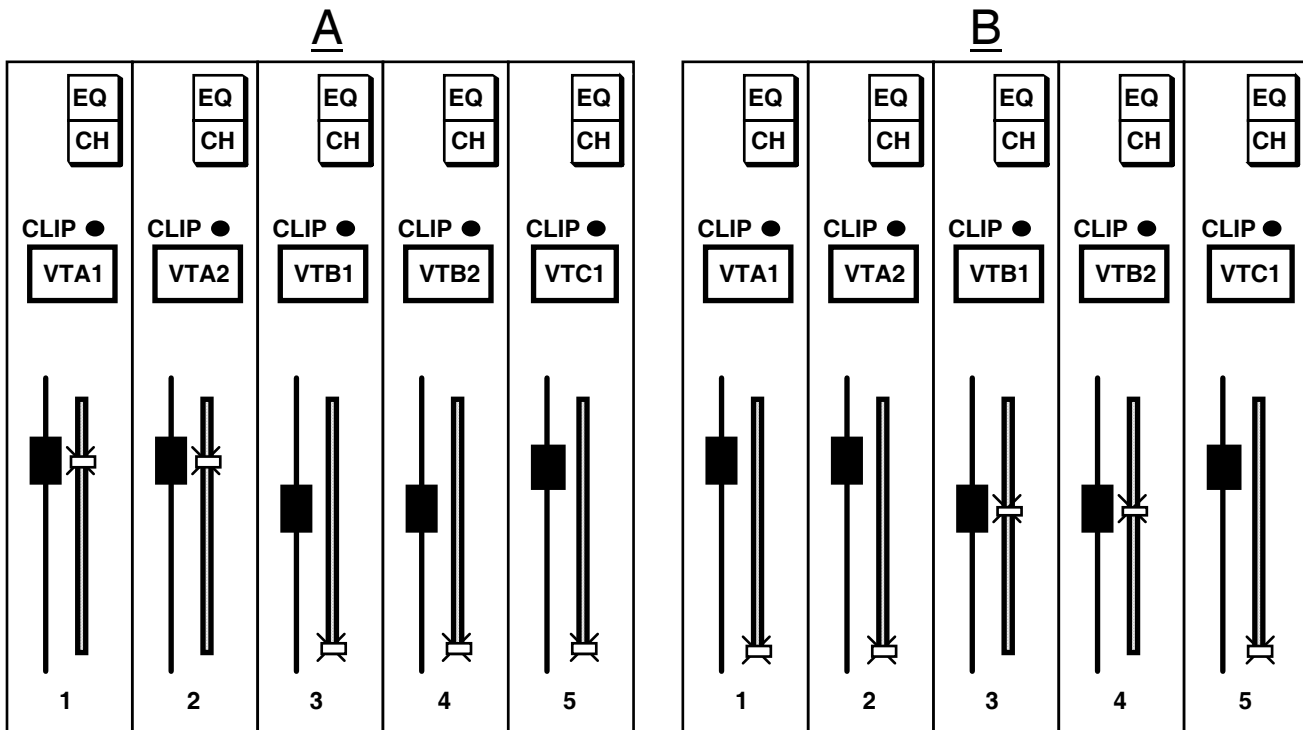
**NOTE: During a transition, all faders involved in the transition are "locked." When the TIMELINE reaches the END, all faders are reactivated.**

---

## ADDING A SOURCE

In this example, the AVTR will dissolve to **both** the BVTR and CVTR. Using the previous example as a basis, the steps involved are:

- 1) In the DMX **EDITOR** menu, disable **SOURCE ASSIGNMENT** by toggling (**F3**). This will prevent any further changes to the **TIMELINE** by the editing system.
- 2) Press **BGN** on the AUTOMATION SUBPANEL to park the **TIMELINE** at the beginning. Since the previously-programmed **TIMELINE** was a dissolve from the AVTR to the BVTR, the LED displays next to each fader should look like figure A, below.



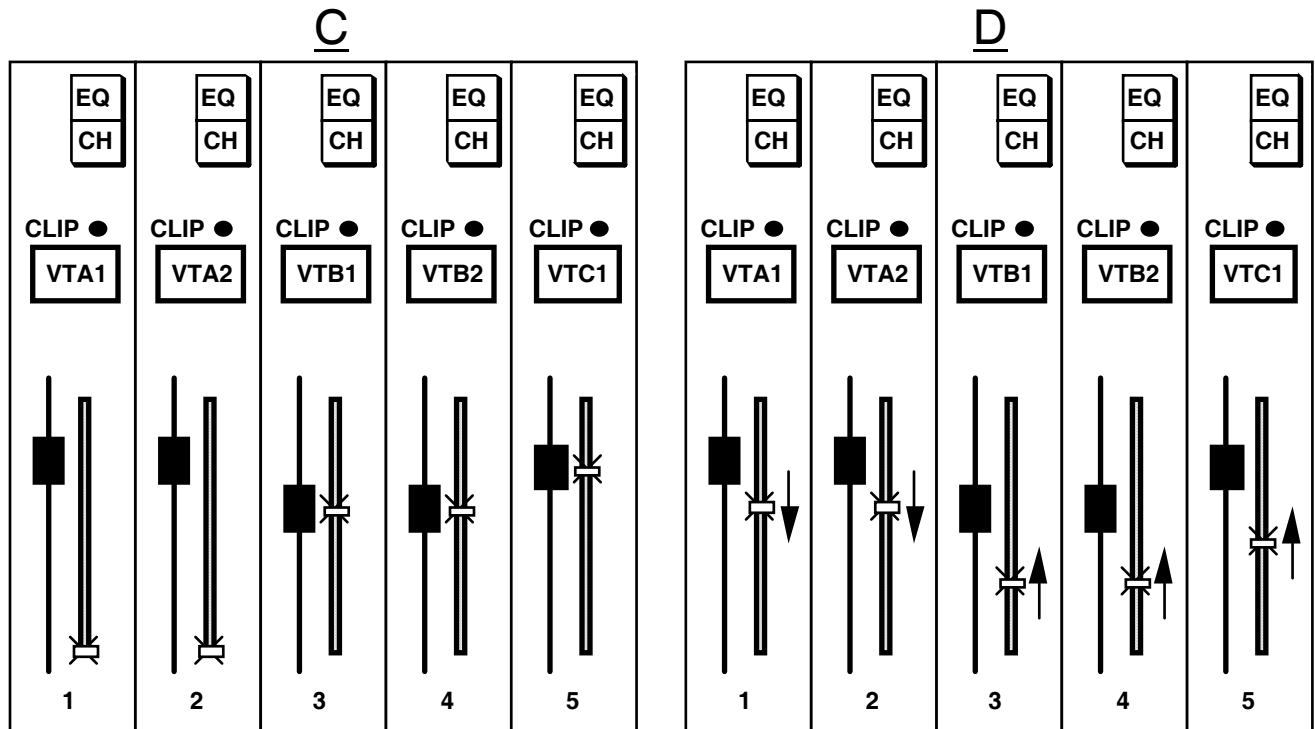
- 3) Press **END** on the AUTOMATION SUBPANEL to park the **TIMELINE** at the end. The LED displays next to each fader should look like figure B, above.

CONTINUED ON NEXT PAGE

## TUTORIAL, continued

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- 4) "Catch" **FADER 5** by moving the fader to meet the illuminated LED at the bottom of the display. When the LED begins tracking with fader motion, you've "caught" the fader, and levels are controllable.
- 5) Press **PLAY** for the CVTR on the edit system and set an appropriate level for that machine. Both the BVTR and CVTR may be played to achieve the proper balance. Once levels have been set, the LED displays next to each fader should look something like figure C, below:



- 6) Press **BGN** on the AUTOMATION SUBPANEL to park the **TIMELINE** at the beginning.
- 7) Select either **RECORD** or **PREVIEW** on the editing system. At the transition start point, the LED displays next to each fader will react as in figure D, above.

---

**NOTE: SOURCE ASSIGNMENT must be disabled in the DMX EDITOR menu for multiple-VTR transitions.**

---

## **STORING THE EVENT**

To **STORE** the previous **EVENT**:

- 1) Press the **EVN** key on the AUTOMATION SUBPANEL.
- 2) Enter an address into (**F4**) utilizing the softknob or NUMERIC KEYPAD.

3) Press **(F3)** to **STORE** the **EVENT**.

### CREATING A CUSTOM TIMELINE EVENT

In this example, a stereo music track on the AVTR will be mixed with a mono announce track from the CVTR channel 1. The music, starting at a full level, must dip to an underlevel so that an announce track may be heard over it. However, let's assume that the announce track has two problems:

- There is a great deal of background noise
- We need to pick-up the announcer in mid-sentence – which gives us only 5 frames of "air" to deal with.

An additional spec stipulates that there shouldn't be any gap between when the music hits its underlevel and when the announcer is heard. Due to the high degree of background noise, a direct cut to the announcer is deemed unacceptable.

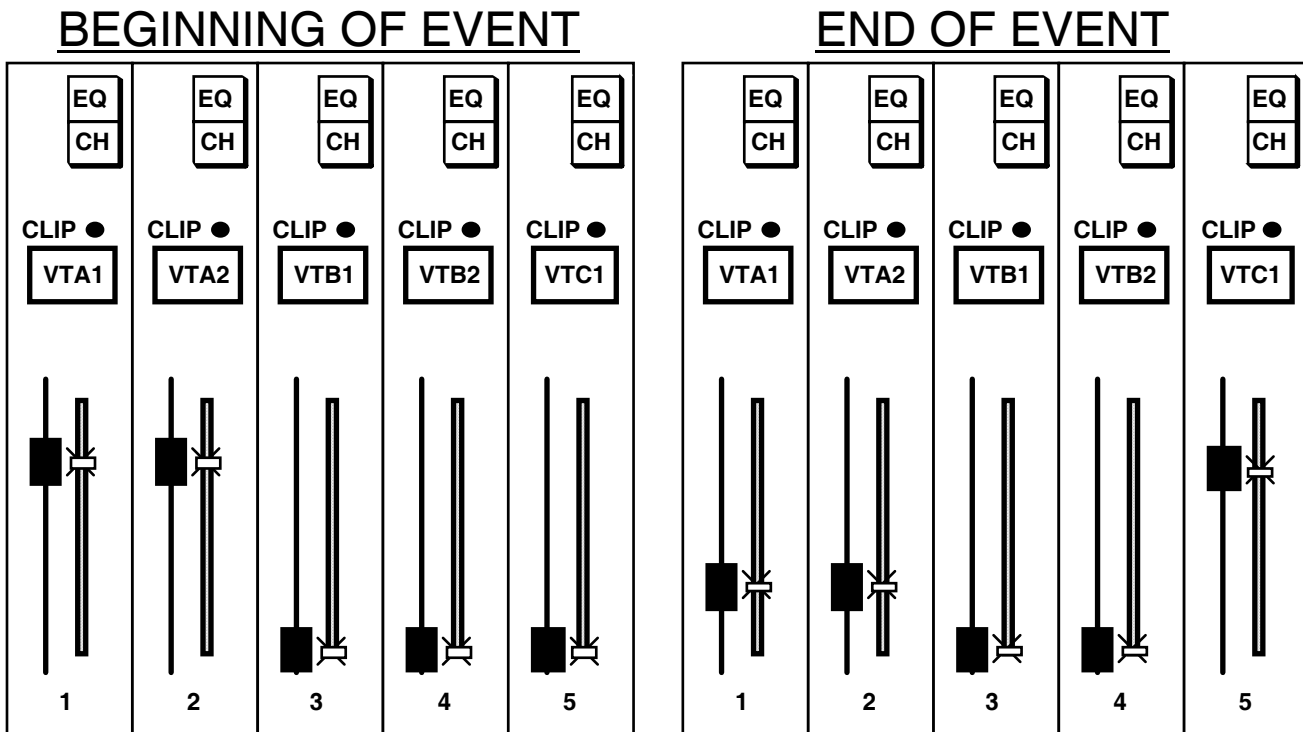
Here's what needs to be done:

- Start with the music at full level.
- Dip the music to an underlevel over the course of 20 frames.
- 15 frames into the music transition, fade up the announcer over the course of 5 frames.

Here's one way of doing it:

- 1) Bring all faders to  $\infty$  (this optional step is performed only to "clean-up" the console...allowing the user to concentrate only on the specific faders involved in the **EVENT**).
- 2) Clear the current **EVENT** by pressing **<EVN><(F5)>**.
- 3) Since the entire **EVENT** will take place over the course of 20 frames, enter that as the **EVENT DURATION** by presetting **<2><0>** on the NUMERIC KEYPAD, followed by a single press of the **DUR** key on the AUTOMATION SUBPANEL.
- 4) In the DMX **EDITOR** menu, disable **SOURCE ASSIGNMENT** and **RATE**. This will prevent **TIMELINE** programming by the editing system.
- 5) Roll the AVTR (music) and set **FADERS 1** and **2** to achieve a "full" level.
- 6) Press the **END** key to park the **TIMELINE** at the end (20 frames from the beginning).
- 7) Set the AVTR's faders to achieve an underlevel.
- 8) Roll the CVTR and set **FADER 5** to achieve a normal speech level.

REFER TO THE DIAGRAM AT THE TOP OF THE NEXT PAGE TO VERIFY YOUR SETUP



Using the **AUTOMATION FADER**, move through the **EVENT**. Notice that all faders are "in motion" from the time the **EVENT** starts, to the time it ends. **THIS IS NOT WHAT WE WANT TO HAPPEN!** What has been programmed thus far is a simple crossfade; no different than the previous tutorial example. What we *do* want is a 20 frame transition between two preset AVTR levels, along with a 5 frame fade-up of the CVTR that starts 15 frames into the **EVENT**.

- 9) Using either the **AUTOMATION FADER** or the **G.TO** command, place the **TIMELINE CURSOR** 15 frames into the **EVENT**.
- 10) Press (**F1**) to **INSERT** a **MIDPOINT** at that location.
- 11) "Catch" **FADER 5** and place the level at  $\infty$ .
- 12) Since **FADER 5** is at  $\infty$  at both the **BEGINNING** and **MIDPOINT**, its level will not change until 15 frames into the **EVENT**, which now runs properly.
- 13) Alterations to levels at the **BEGINNING**, **MIDDLE**, or **END** may be accomplished by parking on one of the three points and changing the fader levels.

THE TUTORIAL CONTINUES ON THE NEXT PAGE

### **MOVING A MIDPOINT**

In this example, we'll relocate the **MIDPOINT** from the last example. To move the **MIDPOINT** from 15 to 10 frames from the **BEGINNING**:

- 1) Press the **E.M.** key to access the **TIMELINE**.
- 2) Press the **MID** key to park the **TIMELINE CURSOR** on the **MIDPOINT**.
- 3) Using the NUMERIC KEYPAD, enter <1><0>.
- 4) Press the **MOVE** function key (**F5**) to move the **MIDPOINT**.

### **SCALING AN ENTIRE EVENT**

In this example, we'll change the previous **EVENT's** overall **DURATION** from 20 frames to 30 frames. While this process will alter the time between **MIDPOINTS**, the relative offsets are preserved.

- 1) Press the **E.M.** key on the AUTOMATION subpanel to access the **TIMELINE**.
- 2) Press the **END** key on the AUTOMATION subpanel.
- 3) Using the NUMERIC KEYPAD, enter <3><0>.
- 4) Press the **DUR** key on the AUTOMATION subpanel.

*THE TUTORIAL CONTINUES ON THE NEXT PAGE*

## TUTORIAL, continued

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### CREATING AN AUTOMATED PAN

---

In this example, a single source from the CVTR will **PAN** from Left to Right over the course of 60 frames. The steps involved are:

- 1) Bring all faders to  $\infty$  (this optional step is performed only to "clean-up" the console...allowing the user to concentrate only on the specific faders involved in the **EVENT**).
- 2) Clear the current **EVENT** by pressing **<EVN><(F5)>**.
- 3) Since the entire **EVENT** will take place over the course of 60 frames, enter that as the **EVENT DURATION** by presetting **<6><0>** on the NUMERIC KEYPAD, followed by a single press of the **DUR** key on the AUTOMATION SUBPANEL.
- 4) In the DMX **EDITOR** menu, ensure that **SOURCE ASSIGNMENT** is disabled. This will prevent **TIMELINE** programming by the editing system.

---

**NOTE: With RATE enabled in the DMX EDITOR menu, changes to the duration of the PAN may be controlled via the editing system.**

---

- 5) Press the **CH** key on **FADER 5**, followed by the **PAN** key on the F/X SUBPANEL.
- 6) Ensure that **GLOBAL** mode (**F6**) is **OFF**.
- 7) With repetitive presses of function keys (**F1 - F4**), set the menu as follows:

<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>	<b>F5</b>	<b>F6</b>
<b>0.0dB BUS1</b>	<b>OFF BUS2</b>	<b>OFF BUS3</b>	<b>OFF BUS4</b>	<b>MON MATCH</b>	<b>OFF GLOBAL</b>

This routes the CVTR "hard left."

- 8) Press the **END** key on the AUTOMATION SUBPANEL.
- 9) Alter the **PAN** menu as follows:

<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>	<b>F5</b>	<b>F6</b>
<b>OFF BUS1</b>	<b>0.0dB BUS2</b>	<b>OFF BUS3</b>	<b>OFF BUS4</b>	<b>MON MATCH</b>	<b>OFF GLOBAL</b>

This routes the CVTR "hard right."

- 10) When the **EVENT** is **RUN**, the CVTR will pan from left to right in 60 frames.



### PROGRAMMING A PAUSE IN THE TIMELINE

In this example, we'll alter the previous **EVENT** to include a brief (5 frame) pause in the **PAN** when it reaches the "center."

- 1) Press the **E.M.** key on the AUTOMATION subpanel to access the **TIMELINE**.
- 2) Using the NUMERIC KEYPAD, enter <3><0>.
- 3) Press the **G.TO** key on the AUTOMATION subpanel. This parks this **TIMELINE** at the halfway point.
- 4) Using the NUMERIC KEYPAD, enter <3><5>.
- 5) Press the **G.TO** key on the AUTOMATION subpanel.
- 6) Press the **INSERT (F1)** key on the SOFTKEY DISPLAY.
- 7) Press the **MID** key to park the **CURSOR** on the first **MIDPOINT** (at 30 frames).
- 8) Press the **MID** key again to park the **CURSOR** on the next **MIDPOINT** (at 35 frames).
- 9) Press the **COPY (F6)** key to **COPY** the first **MIDPOINT's** values to the second **MIDPOINT**.

Since both **MIDPOINTS** contain the same values, the transition will pause for 5 frames when the **TIMELINE** is **RUN**.

### USING THE Z.RECORDER

In this example, the CVTR's announce track (that was used in an earlier example) will be transferred to the **Z.RECORDER** for isolation of a phrase.

#### ASSIGNING THE Z.RECORDER TO FADERS

- Press the **RTR** key (on the FUNCTION SELECT subpanel).
- Press **MORE** to reach the **ROUTER INTERFACE** branch menu.
- Check the status of **(F3)**. If not currently displaying **YES**, press **(F3)** to achieve that result. This enables the **Z.RECORDER** for **ASSIGNMENT**.
- Press **(F4)**. The **Z.RECORDER** will now be placed on FADERS.

#### ROUTING VTRC TO THE Z.RECORDER

- Press the **Z.RC** key (on the FUNCTION SELECT subpanel).
- Press **MORE** to reach the first **Z.RECORDER** branch menu.
- Utilizing the softknob above **(F1)**, scroll through the list of available sources until **VTC1** is displayed. This routes **VTC1** to input 1 of the **Z.RECORDER**.

- Check the status of **(F5)**. If **MONO** is not displayed, press **(F5)** to achieve that result.
- Press the **HOME** key once to return to the top level of the **Z.RECORDER** menu.

## **TUTORIAL, continued**

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- Utilizing the softknob above (**F4**), set a desired **START TIME**. This can be any value between 0.00 and 40.00 seconds. (For this example, set this parameter to 5.00 seconds)
- Utilizing the softknob above (**F5**), set a desired **END TIME**. This can be any value between 0.00 and 40.00 seconds. (For this example, set this parameter to 15.00 seconds)

---

**NOTE: The values for START and END times may be entered via the NUMERIC KEYPAD, followed by a single press of (F4) or (F5).**

---

### MAKING THE RECORDING

- Playback **VTC1**.
- When appropriate, press the **REC.** key in the **Z.RECORDER** top menu (may also be triggered via the GPI interface).

### PLAYING-BACK THE Z.RECORDER

- Set the fader labelled **ZRC1** to **UNITY**.
- Press (**F1**) in the **Z.RECORDER** menu to **PLAY** the recorded segment (may also be triggered via the GPI interface).

### ISOLATING A SEGMENT

- Press **MORE** to reach the first **Z.RECORDER** branch menu.
- Press (**F6**) to enable **LOOP MODE**.
- Press the **HOME** key once to return to the top level of the **Z.RECORDER** menu.
- Press (**F1**) to **PLAY** the **Z.RECORDER**. The previously-defined segment will **PLAY** continuously, seamlessly returning to the **START** after reaching the **END**.
- Adjust the softkobs above (**F4**) and (**F5**) to fine-tune the segment.
- Press **MORE** to reach the first **Z.RECORDER** branch menu.
- Press (**F6**) to disable **LOOP MODE**.
- Press the **HOME** key once to return to the top level of the **Z.RECORDER** menu.

## **SWAP COMMANDS FROM AN EDIT SYSTEM**

A **SWAP** command from an edit system instructs the mixer to remap all of the current **RVTR CHANNELS** with respect to all of a particular source VTR's **CHANNELS** . A number of operations are accomplished during a **SWAP**:

- The **CHANNEL NUMBERS** are appropriately reassigned.
- The fader levels of the new source VTR (former **RVTR**) are set to match those of the previous **RVTR**.
- If one or more **CHANNELS** of the original source VTR were set to **FULLTIME LIVE**, all **CHANNELS** of the new source VTR (former **RVTR**) are set to **FTL**.
- All **FADER SUBPANELS** involved in the **SWAP** will temporarily display the word "SWAP" to alert the user to the change in setup.

**SWAP** interchanges **CHANNEL NUMBERS**, *not* **CHANNEL LABELS**. Except for the momentary indication of "SWAP" in a **FADER**'s display, none of the **FADER LABELS** will be altered.

---

**HINT:** FOR THE MOST VISUAL FEEDBACK, SET THE DMX TO "**SHOW CH#**" (IN THE CH# MENU) WHILE LEARNING HOW TO USE SWAP.

---

## **RULES FOR SWAPPING**

For consistent editor/DMX operations, the following rules must be followed:

- The edit system's Audio Crosspoint Table must contain unique entries (do not assign the same crosspoint number to more than one source).
- The edit system must be capable of downloading its table to the DMX (on GVG *SUPER EDIT* systems, this is accomplished with the keystrokes: <SHIFT><RESET>).
- Do not **SWAP** if the **EDITOR INTERFACE** is disabled.
- Any changes to the editor's Audio Crosspoint Table must be followed by a download to the DMX.
- A recall of a new DMX **CONFIGURATION FILE** must be followed by a download of the editor's Audio Crosspoint Table.

A good way to check the coincidence of the editor/DMX table is to view the DMX MONITOR DISPLAY as each source key is selected on the edit system (ensure the first level of the **MODE** menu is set to **VTR FOLLOW**). If the proper **LOGICAL NAMES** are displayed, the tables are coincident.

### PREREAD EDITING

This example illustrates how the mixer behaves during a typical **PREREAD** event, where the **RVTR** dissolves to the **AVTR** in 30 frames.

As discussed in the chapter on the **APV** feature, the DMX-1000 can automatically set itself for a **PREREAD** event. However, the operator needs to verify a few items on both the edit system and the DMX to achieve the automation.

### EDIT SYSTEM SETUP

The operator must decide which of the available "mark table" sources can be assigned with an audio mixer crosspoint of **20**. Typically, an **AUX** source is used for this purpose. By assigning a **SOURCE** this special crosspoint value, selection of that source on the edit system opens the **RVTR**'s faders.

- For this example, set the **AUX** audio crosspoint to **20**.
- Set-up a **PREREAD** edit that dissolves from **AUX** to the **AVTR** in **30 frames**.

### DMX-1000 SETUP

For a seamless **PREREAD** match-in, the **RVTR's FADERS** must be set-up as follows:

#### IF THE RVTR IS ASSIGNED TO FADERS

- Physical position of the faders must be at 0.0db (unity).
- Each **RVTR** channel must be **PANNED** to itself. This is easily accomplished with the **PREREAD INIT** feature in the **REC** menu.

#### IF THE RVTR IS NOT ASSIGNED TO FADERS

- Depress the **REC** key and check the **RVTR's** pseudofader levels. If they are not at 0.0dB, press <**UNY**><**ENT**>.
- To ensure that each **RVTR** channel is **PANNED** to itself, press the **PREREAD INIT** softkey in the **REC** menu.

Using either of the above procedures sets-up the **RVTR** for a seamless **PREREAD** match-frame edit. Also ensure that the **RVTR's** faders (hardware or pseudo) are set to **EDIT MODE** (as opposed to **FULLTIME LIVE**).

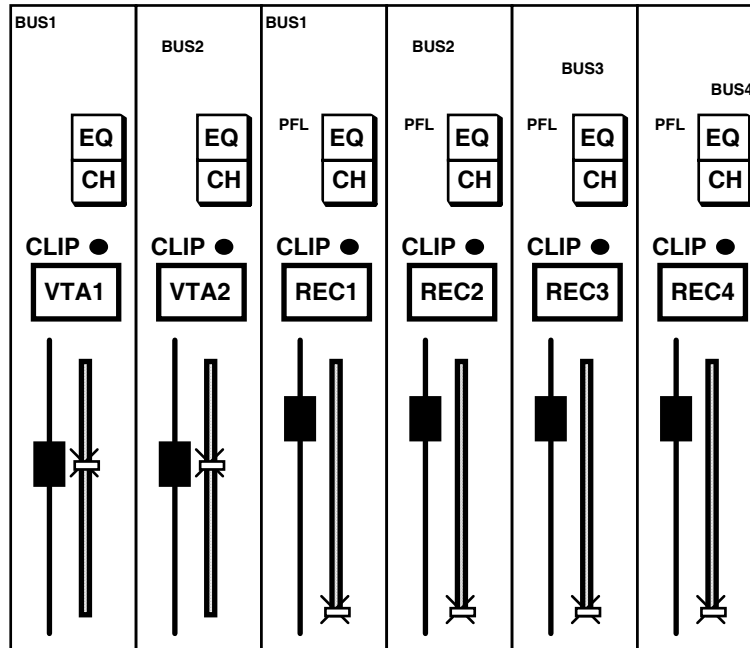
***For this example, set-up the DMX so that the RVTR is on FADERS.***

The diagrams on the following pages depict how the DMX reacts to editor commands when configured as above.

## TUTORIAL, continued

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A) This is the state of the mixer when the AVTR is selected from the edit system.



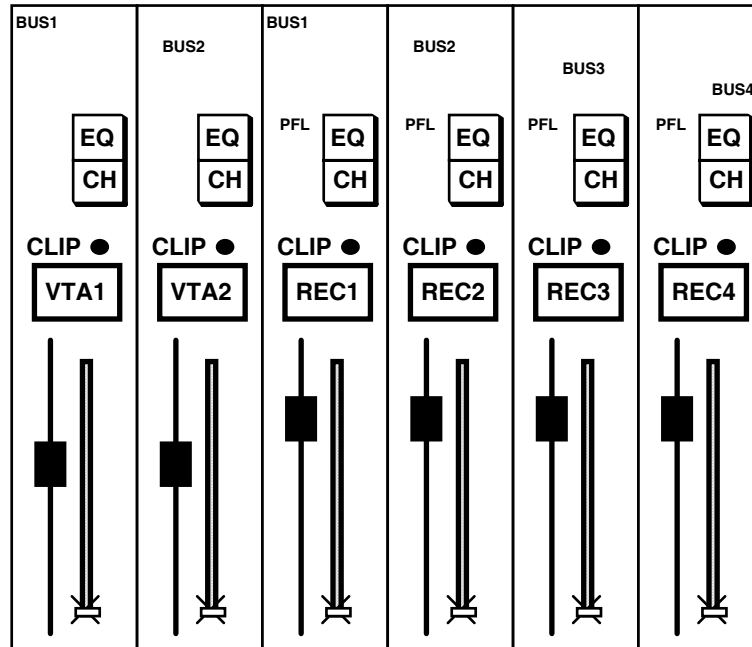
Note the following:

- The AVTR's electrical levels match the physical FADER position.
- The RVTR FADERS are set to **PFL**, enabling monitoring/preview switching of the record VTR through the **APV** menu.
- The electrical level of the RVTR FADERS is at  $\infty$ , despite the fact that the physical position of the FADERS is 0.0dB.
- The RVTR's **PANNING** is set for discrete feeds to the **MIX BUS**.

## TUTORIAL, continued

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B) This is the state of the mixer when the RVTR is selected from the edit system.



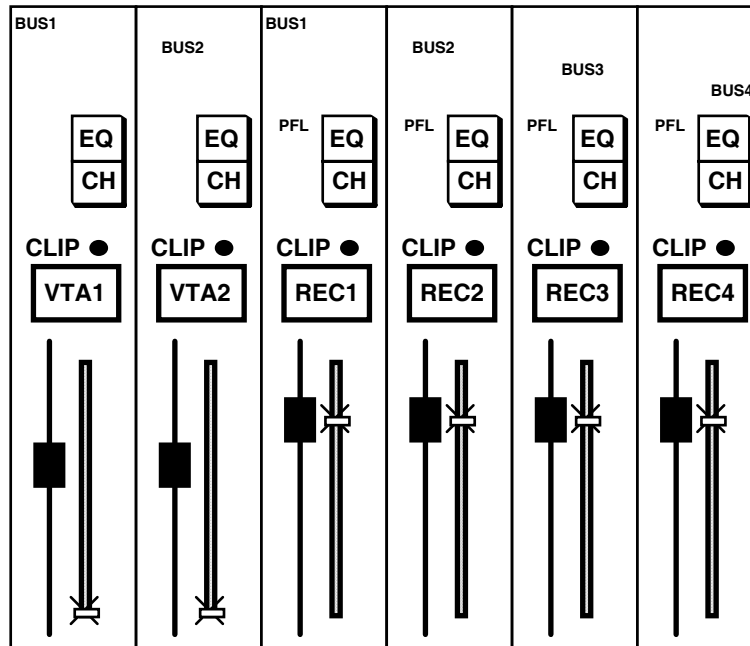
Note the following:

- The electrical level of both the AVTR and RVTR FADERS is at  $\infty$ .
- The RVTR should not be set for EE audio playback on the digital audio channels. However, since the RVTR level jumps to  $\infty$  when the RVTR is selected, the possibility of feedback is reduced.
- Since the RVTR is set to **PFL**, its pre-recorded program material is heard through the **APV** system.

## TUTORIAL, continued

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C) This is the state of the mixer when **AUX** is selected on the edit system.



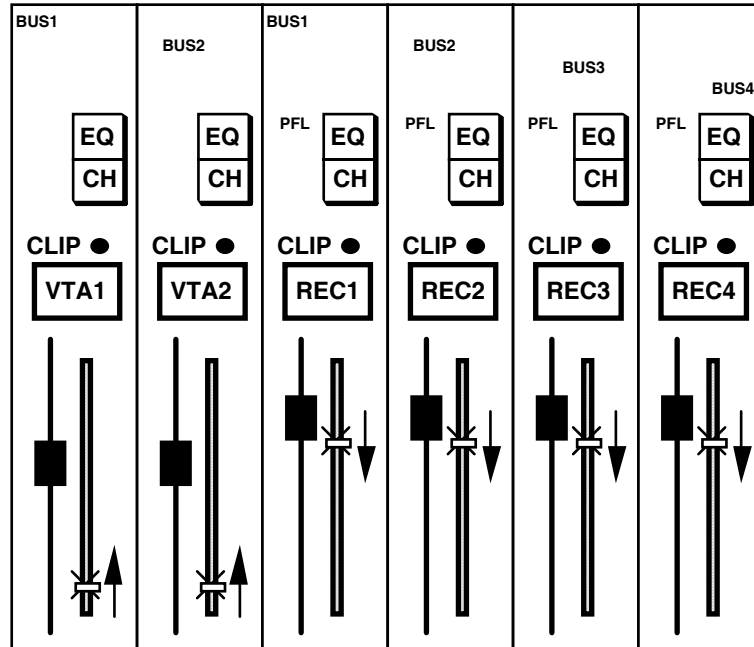
Note the following:

- The RVTR's electrical levels match the physical FADER position, which should be 0.0dB
- The electrical level of the AVTR is at  $\infty$ .

## TUTORIAL, continued

---

D) This is the state of the mixer during a **PREREAD** transition from **AUX** to the **AVTR**.



Note the following:

- Since **AUX** has been assigned an **AUDIO MIXER CROSSPOINT VALUE** of 20, the **RVTR FADERS** are treated as a **SOURCE** for the transition.
- At the start of the transition, the RVTR's electrical levels are at 0.0dB.
- At the start of the transition, the AVTR's electrical levels are at  $\infty$ .
- The arrows indicate the direction of electrical level transition during the event.

## **IMPORTANT**

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**DO NOT USE AUX (OR WHICHEVER EDITOR SOURCE YOU HAVE ASSIGNED WITH AN AUDIO CROSSPOINT OF 20) IN A NORMAL (NON-PREREAD) EDIT. THIS WILL RESULT IN FEEDBACK.**

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## INTERFACING THE DMX-1000 WITH AN EDITING SYSTEM

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### GVG SUPER EDIT SYSTEMS-Version 6.x software and earlier

START-UP QUESTIONS (<CTRL><B> or <SHIFT><INIT> depending on editor model)

- **RVTR AUD PVW / MIXER AUD PVW** should be set to **MIXER AUD PVW**
- **AMIX SWAP ON / AMIX SWAP OFF** should be set to **AMIX SWAP ON**.

### AUDIO CROSSPOINT ASSIGNMENT PAGE

For normal operation, set-up the Super Edit Audio Crosspoint table as follows:

<b>RVTR</b>	<b>=</b>	<b>010</b>
<b>AVTR</b>	<b>=</b>	<b>001</b>
<b>BVTR</b>	<b>=</b>	<b>002</b>
<b>CVTR</b>	<b>=</b>	<b>003</b>
<b>DVTR</b>	<b>=</b>	<b>004</b>
<b>EVTR</b>	<b>=</b>	<b>005</b>
<b>FVTR</b>	<b>=</b>	<b>006</b>
<b>AUX</b>	<b>=</b>	<b>009</b>
<b>BLK</b>	<b>=</b>	<b>000</b>

The following DMX sources are also available by entering the following codes in the Super Edit Audio Crosspoint menu in place of the standard sources:

<b>GVTR</b>	<b>=</b>	<b>007</b>
<b>HVTR</b>	<b>=</b>	<b>008</b>
<b>ZREC</b>	<b>=</b>	<b>011</b>
<b>PREREAD</b>	<b>=</b>	<b>020</b>

### ***CAUTION:***

---

**SETTING THE GVG EDITOR FOR "MIXER OFF" (available on most systems as <SHIFT><SWR OFF>) WILL DISABLE ALL CONTROL OF THE DMX, INCLUDING PREVIEW SWITCHING.**

---

## INTERFACING THE DMX-1000 WITH AN EDITING SYSTEM

### **GVG SUPER EDIT SYSTEMS-Version 7.0 software**

The tables below represent the edit screen menus on GVG editing systems running V7.0 or later software. Only the highlighted areas are applicable to DMX operation, and should be set exactly as shown for proper operation.

#### VTR ASSIGNMENT PAGE

LABEL	REEL	PORT	MODEL	QC	VIDX	AUDX	TYPES AVAILABLE
RVTR	MASTER	01	07	03	008	010	00=BVU8
AVTR	001	02	07	03	002	001	01=BVU9SP
BVTR	002	03	07	03	003	002	02=BETA-SP
CVTR	003	04	02	03	004	003	03=APR5003
DVTR	004	05	02	03	005	004	04=BVH2000
EVTR	005	06	05	03	006	005	05=PCM7030
FVTR	006	07		03	007	006	06=BVH2500
AUX	BARS				018	009	07=DVR20
BLK	BLACK				001	000	08=AU660
							09=AJD132
PVSW	E-E	PORT					
VIDSW	GVG3000	PORT	09	38.4	ODD		
MIXER	ZAXCOM	PORT	08	38.4	ODD		

#### INITIALIZATION PAGE #2

INITIALIZATION PAGE #2	
31 LINEAR JOG	46 N/A
32 LOCK JOG ON	47 PRNTR/COM BAUD=1200
33 N/A	48 N/A
34 PRINT OFF	49 N/A
35 QUEST RECHECK ON	50 SLAVE STEAL=ASK
36 OPEN END PROTECT ON	51 N/A
37 EDIT TIMER ON	52 N/A
38 SOFT LOAD OFF	53 N/A
39 LEARN EMEM	54 FILM MODE
40 MONITOR ON SWR OFF	55 REC ABORT ON
41 N/A	56 PREREAD AUTO-OFF=OFF
42 N/A	57 PEGS AUTO-OFF=ON
43 BVH SYNC HEAD ON	58 AUTO ARC=OFF
44 MIXER AUDIO PVW	59
45 AMIX SWAP ON	60

**CAUTION:**

---

**SETTING THE GVG EDITOR FOR "MIXER OFF" (available on most systems as <SHIFT>  
<SWR OFF>) WILL DISABLE *ALL* CONTROL OF THE DMX, INCLUDING  
PREVIEW SWITCHING.**

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## INTERFACING THE DMX-1000 WITH AN EDITING SYSTEM

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### GVG SABRE 4100 EDITING SYSTEM

The Sabre 4100s editing system communicates with the DMX-1000 via any numbered port on the Device Control Engine (DCE) frame. Setup for the chosen port is via Sabre's *Device Setup* window (select **Zaxcom\_DMX\_1000** as the driver).

For normal operation, set-up Sabre's Audio Crosspoint table as follows:

<b>RVTR</b>	<b>=</b>	<b>010</b>
<b>S1 (AVTR)</b>	<b>=</b>	<b>001</b>
<b>S2 (BVTR)</b>	<b>=</b>	<b>002</b>
<b>S3 (CVTR)</b>	<b>=</b>	<b>003</b>
<b>S4 (DVTR)</b>	<b>=</b>	<b>004</b>
<b>S5 (EVTR)</b>	<b>=</b>	<b>005</b>
<b>S6 (FVTR)</b>	<b>=</b>	<b>006</b>
<b>S7 (GVTR)</b>	<b>=</b>	<b>007</b>
<b>S8 (HVTR)</b>	<b>=</b>	<b>008</b>
<b>S9 (ZREC)</b>	<b>=</b>	<b>011</b>
<b>S10 (BLK)</b>	<b>=</b>	<b>000</b>
<b>S19 (AUX)</b>	<b>=</b>	<b>009</b>

Control of certain mixer functions may be accomplished with Sabre's **Power Panel**.

Sabre supports remote recall and upload/download of DMX-1000 **EVENT** registers.

## **INTERFACING THE DMX-1000 WITH AN EDITING SYSTEM**

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## **INTERFACING THE DMX-1000 WITH AN EDITING SYSTEM**

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### **ACCOM EDITING SYSTEMS**

The AXIAL 2020 and 2010 editing systems are supplied with a ZAXCOM DMX-1000 software driver. Additionally, the user may customize the audio mixer driver to suit the installation. Please consult the Axial editing system manual for mixer configuration instructions.

## **INTERFACING THE DMX-1000 WITH AN EDITING SYSTEM**

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### **CMX EDITING SYSTEMS**

Please consult CMX for the latest software and instructions on interfacing to the DMX-1000.

## **INTERFACING THE DMX-1000 WITH AN EDITING SYSTEM**

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### **SONY EDITING SYSTEMS**

The Sony 9000/9100 edit systems communicate with the DMX via an Intelligent Device Controller (IDC), supplied with the edit system. For comprehensive control of the DMX-1000, use Sony Audio Driver **BZE-9611 V2.02x5** or later. Among other functionality, use of this software permits upload/download of mixer **EVENTS** to/from the EDL.

To set-up the IDC:

On the Sony keyboard:

Press **<SHIFT><SETUP>** for the IDC

Press **F8** (entry)

Press **F6** (Serial I/F Mixer)

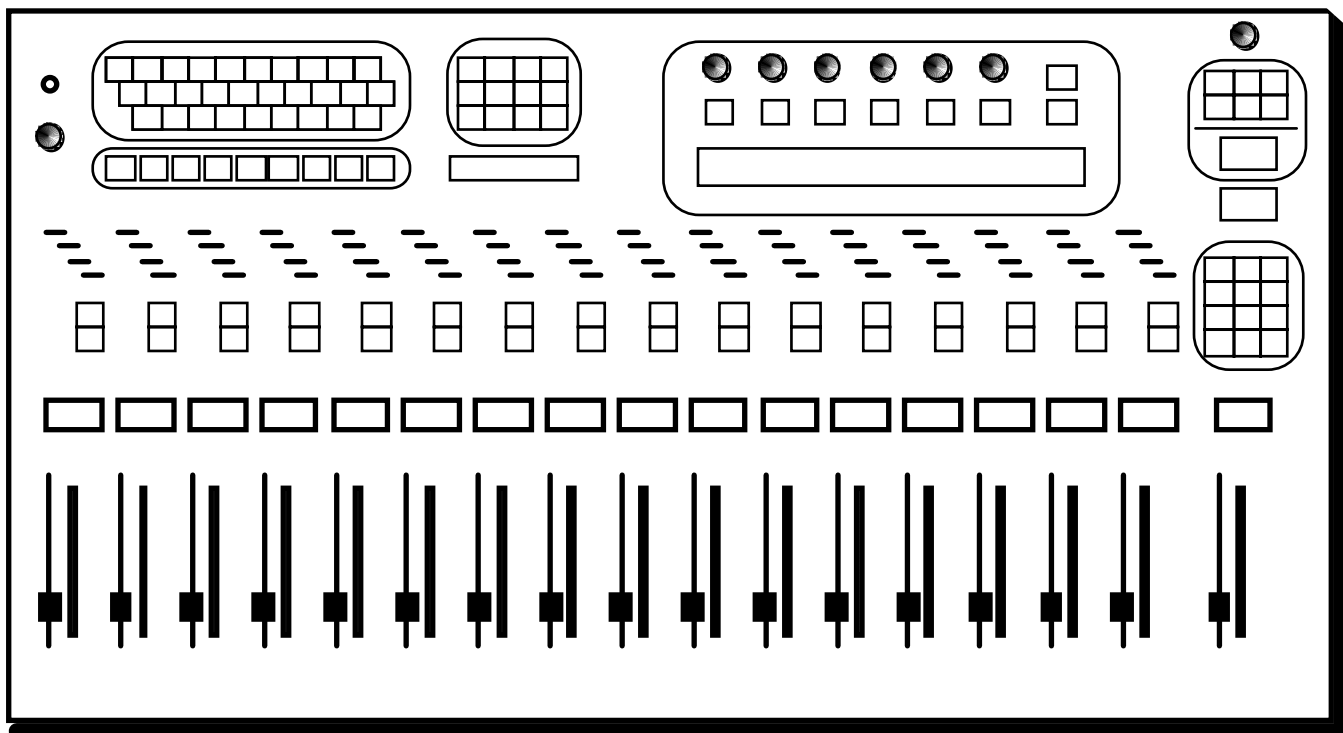
Now enter the following data:

Data-1	00h
Data-2	00h
Data-3	0Bh
Data-4	63h
Data-5	08h
Data-6	00h
Data-7	00h
Data-8	00h

Press **RETURN**



# SECTION 4



## TROUBLESHOOTING



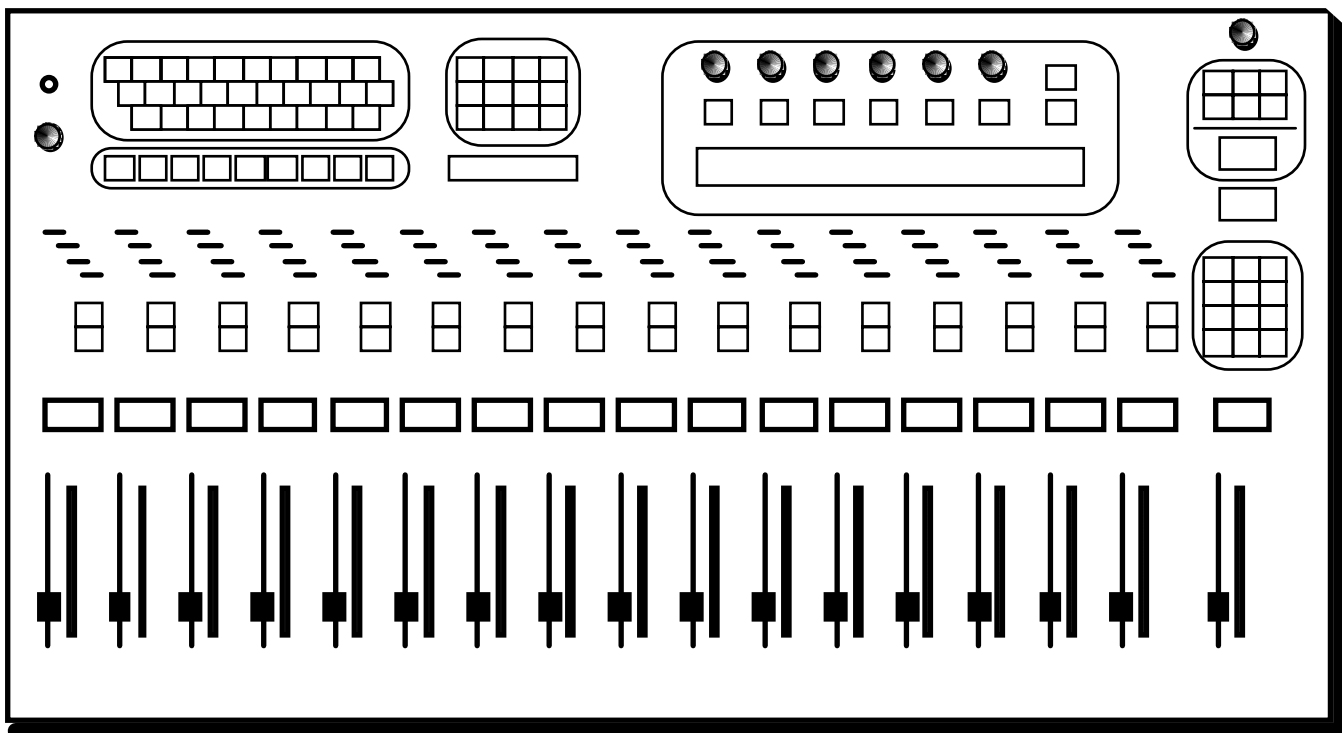
## TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	WHAT TO DO
No audio is audible on monitor speakers	<b>MONITOR REMOTE</b> (system option) channel enables are off.	Press (illuminate) <b>MN1,2, 3, and 4</b> on the remote panel.
RVTR not audible on monitor speakers	1. <b>APV</b> levels set to <b>OFF</b>  2. <b>RVTR</b> channels not set-up for <b>APV</b> monitoring	1. Go to the <b>APV</b> top menu and adjust the levels  2. Go to second level of the <b>APV</b> menu and select either <b>4-SPKR, 2-SPKR, or MONO</b> , depending on the installation
No audio from the RVTR is recorded on RVTR during a <b>PREREAD</b> event	RVTR outputs are not feeding the <b>DMX MIX BUS(ES)</b>	Go to <b>REC</b> menu and select <b>PREREAD INIT</b>
Feedback is recorded on RVTR when in record	RVTR outputs are feeding the <b>DMX MIX BUS(ES)</b>	Go to <b>REC</b> menu and select <b>PREREAD CLEAR</b>
Monitor levels of RVTR are inconsistent from channel to channel	<b>APV</b> levels of RVTR not set equally	With the <b>APV</b> top menu displayed, press <b>UNY</b> and <b>ENT</b>
<b>MONITOR BUS</b> sounds different than <b>MIX BUS</b>	<b>MONITOR</b> and <b>PAN</b> menus do not coincide	1. Possible under normal operation  2. Reassign <b>MON</b> menu to match <b>PAN</b> menu
Faders do not respond in edit mode	Not at a <b>BEGIN, MID, or END</b> point	1. Press <b>BGN, MID, or END</b> to park on a point  2. <b>INSERT</b> a point on the Timeline
Don't hear buses 3 and 4 in a 2-speaker installation	Mixer not setup for 2-channel operation	Go to <b>APV</b> menu and select <b>2-SPKR</b> mode

## TROUBLESHOOTING, continued

SYMPTOM	PROBABLE CAUSE	WHAT TO DO
No output from a <b>MIX BUS</b> , even with a fader above $\infty$	1. Electrical level of fader is at $\infty$  2. <b>MIX BUS</b> turned <b>OFF</b>	1. "Catch" the fader's LED display and reset the level  2. Go to the <b>BUS</b> menu and enable the <b>MIX BUS</b>
<b>MIX BUSES</b> have low or inconsistent levels	1. <b>MIX BUSES</b> not set to <b>UNITY</b>  2. <b>AUTOMATION FADER</b> not set to <b>100%</b> in <b>LIVE MODE</b> .	1. Go to the <b>BUS</b> menu and set all <b>MIX BUSES</b> to <b>UNITY</b>  2. Move the <b>AUTOMATION FADER</b> until <b>100%</b> is displayed in the <b>EVENT DURATION</b> window.
Analog audio is distorted	Input <b>GAIN</b> is set too high	Lower the analog input <b>GAIN</b> (accessed in the <b>SETUP</b> menu)
Editing system does not select the correct sources on the DMX	Editor's Audio Crosspoint Table is not coincident with the DMX crosspoint table.	1. Perform a download of the crosspoint table to the DMX or 2. Select <b>TABLE INIT</b> from the <b>S.UP</b> menu, and reset the editor to conform to the "standard setup."
No editor control of <b>TIMELINE</b>	1. <b>TIMELINE</b> not parked at the beginning  2. Components of <b>DMX EDITOR</b> menu disabled.  3. Mixer interface not enabled on edit system.	1. Press <b>BGN</b>  2. Go to the <b>DMX EDITOR</b> menu and enable <b>SOURCE</b> , <b>START</b> , and <b>DURATION</b> as required.  3. Enable interface

# SECTION 5



## GLOSSARY



## GLOSSARY

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**ATTACK:** The length of time it takes for a compressor, limiter, or gating device to respond to the input signal.

**BLACK BURST:** A composite video signal often used as a timing reference for professional video and audio equipment. Also called **BLACK**.

**BOUNCING TRACKS:** Transferring two or more previously recorded tape or disk tracks to a single track, thus allowing rerecording on the previously used tracks.

**BREATHING:** An audible rising and falling of objectionable background noise that may occur when using a compressor. Also called **PUMPING**.

**BUS, F/X SEND:** On the DMX, refers to the two mixing networks available for feeding external signal processing devices.

**BUS, MIX:** On the DMX, refers to the mixing network available for feeding VTRs, ATRs, DAT, etc. Also referred to as a **PROGRAM BUS**.

**BUS, MONITOR:** On the DMX, refers to the mixing network available for feeding the edit suite's speaker system.

**BUS:** A mixing network that combines the outputs of other channels. The DMX has four mix buses, four monitor buses, and two FX send buses.

**CANCELLATION:** The severe attenuation that occurs when two identical out-of-phase signals are combined. Often remedied with the DMX phase inversion feature.

**CHANNEL:** A single, complete signal path throughout the mixer.

**COMPRESSION RATIO:** The ratio of the input and output signals in a compressor.

**COMPRESSOR THRESHOLD:** See **Threshold, Compressor**.

**COMPRESSOR:** A device that reduces a signal's output level in relation to its input level.

**CONFIG:** A file that contains setup information for the DMX.

**CUE:** On the DMX, refers to the analog cue track available on most digital video recorders.

**DECIBEL (dB):** A unit of audio level.

**EDIT MODE:** A mode on the DMX where **TIMELINE** events are created, edited, stored, recalled, and run.

**EQUALIZER, PEAKING:** A device that supplies a peak amount of boost or attenuation at the turnover frequency, and to a lesser degree at the frequencies above and below the turnover frequency.

**EQUALIZER, SHELving:** A device that supplies a constant amount of boost or attenuation at all frequencies beyond the equalizer's turnover frequency.

**EQUALIZER:** A device that can boost, attenuate, or filter the frequency response of a sound source.

**EVENT:** On the DMX, refers to the contents of a **TIMELINE**.

**F/X SEND BUS:** See **Bus, F/X Send**

**FILTER, HIGH CUT:** A filter that attenuates high frequencies, while passing those below a specified frequency.

**FILTER, LOW CUT:** A filter that attenuates low frequencies, while passing those above a specified frequency.

**FILTER, NOTCH:** A filter capable of attenuating an extremely narrow band of frequencies.

## GLOSSARY, continued

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**FULLTIME LIVE (FTL):** On the DMX, refers to a mode of operation available for the individual channels, forcing them to **LIVE** mode at all times. FTL disables all editor and **TIMELINE** control of the selected channel.

**GATE:** An expander with a threshold that is set to reduce or eliminate unwanted low-level sounds, such as room ambience, rumble, and leakage, without affecting the primary audio source.

**GROUP MASTER:** On the DMX, refers to the hardware fader that controls a subset of channels. Group Masters are labeled: MST1, MST2, etc.

**GROUP:** On the DMX, refers to a subset of channels that are controlled by a single hardware fader.

**HARD WIRED:** Description of components that are directly wired to each other without intermediate interconnections.

**HEADROOM:** 1) The difference in level between the loudest sound and the average loudness of other sounds in a recording. 2) The amount of increase in loudness level that a tape, amplifier, or other audio device can take, above working level, before distortion occurs.

**HERTZ (Hz):** Unit of measurement of frequency, numerically equal to cycles per second.

**HI CUT FILTER:** See **Filter, High Cut**

**LED:** Light Emitting Diode, often used as an indicator.

**LIMITER THRESHOLD:** See **Threshold, Limiter**

**LIMITER:** A compressor that maintains a constant output level, regardless of its input level. Generally, at ratios above 10:1, a compressor acts as a limiter.

**LIP FLAP:** Lip movement in the video when there is no sound in the audio.

**LIVE:** A mode on the DMX where the entire mixer is available for on-the-fly level adjustment.

**LOGICAL NAME:** The standard names assigned to sources by an editing system. Examples are: AVTR, BVTR, CVTR, RVTR, etc. Logical Names are those that are engraved on an edit system's keycaps.

**LOW CUT FILTER:** See **Filter, Low Cut**

**MILLISECOND (ms):** One thousandth of a second.

**MIX BUS:** See **Bus, Mix**

**MONITOR BUS:** See **Bus, Mon**

**OCTAVE:** The interval between two sounds that have a frequency ratio of 2 to 1.

**OSCILLATOR:** A device that generates pure tones in the form of sine waves.

**PAN:** 1) A menu on the DMX that facilitates the routing of sources to the Mix Buses.  
2) Varying the proportion of signal level routed to two or more locations.

**PEAKING EQUALIZER:** See **Equalizer, Peaking**

**PHASE:** The time relationship between two or more signals. When the relationship is coincident, the sources are considered *in phase*, and their amplitudes are additive. When the time relationship is not coincident, the signals are *out of phase* and their amplitudes are subtractive. The DMX has a *phase inversion* feature to correct this condition.

**PHASING:** An effect created by splitting a signal in half and time delaying one of them.

**POSTFADER:** Refers to an altered level picked-off just past the mixing stage in a mixer.

**PREFADER:** Refers to an unaltered level picked-off prior to the mixing stage in a mixer.

## Glossary, continued

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**PREREAD:** A feature on some digital recording devices that allows a single device to simultaneously playback and record. Also known as **Read Before Write**, or **Read Modified Write**.

**PUMPING:** An audible rising and falling of objectionable background noise that may occur when using a compressor. Also called **BREATHING**.

**Q:** In a bandpass equalizer, the ratio of the center frequency to bandwidth. Simply put: the range of frequencies an equalizer will affect.

**RELEASE TIME:** The time it takes a compressor, limiter, or gate to return to its normal level after the input signal has been attenuated or withdrawn.

**SHELVING EQUALIZER:** See **Equalizer, Shelving**

**SHELVING EQUALIZER:** See **Equalizer, Shelving**

**SLATE:** On the DMX, refers to an operational feature that automatically switches between three tone frequencies at predetermined times. Used at the head of a recording for later playback calibration.

**SOLO:** On the DMX, refers to monitoring a single audio source.

**THRESHOLD, COMPRESSOR:** The level at which a compressor begins functioning.

**THRESHOLD, GATE:** The level at which a gate begins functioning.

**THRESHOLD, LIMITER:** The level above which a limiter begins functioning.

**TIMELINE:** The method of plotting changes in the state of the mixer as a function of time.

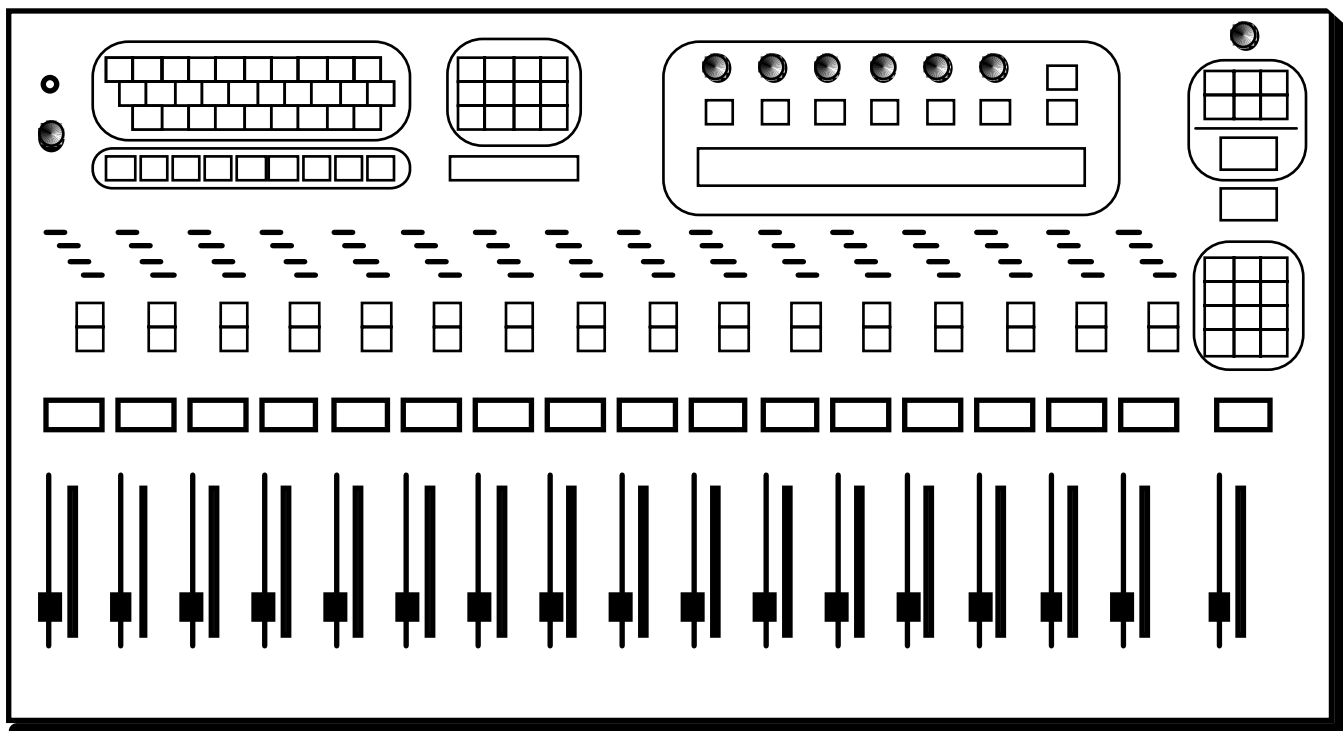
**TURNOVER FREQUENCY:** 1) In a shelving equalizer, the frequency at which the equalization curve begins to flatten-out, or shelf. 2) In a peaking equalizer, the very peak of the equalization curve, typically bell-shaped.

**UNITY:** Output gain equal to input level.

**Z.RECORDER:** An integrated Random Access Memory Recorder in the DMX.



# SECTION 6



# APPENDIX



## **CREATING A CUSTOM DEFAULT CONFIGURATION**

---

The **CONFIGURATION MENU** (a branch of the **SETUP** menu) permits the storage and retrieval of up to 10 DMX configurations. Items stored as part of a **CONFIG FILE** are:

- **ALL SETUP MENUS (EXCEPT ROUTER)**
- **tone MENUS**
- **ROUTING ASSIGNMENTS**
- **FADER ASSIGNMENTS**
- **MONITOR ASSIGNMENTS**
- **MONITOR MASTER LEVELS**
- **MONITOR DIM LEVELS**
- **PANNING ASSIGNMENTS/BALANCE**

The operator has unrestricted storage and retrieval access to **CONFIG FILES 1-9**. However, **CONFIG FILE #10** is designed as a recall-only file – containing a facility's "standard setup." To store a configuration to **CONFIG FILE #10**:

- Access the **CONFIG MENU**.
- Set **(F4)** to "10."
- Press **(F3)** quickly three times (the 3 presses must occur before **(F3)**'s LED illuminates).

During normal mixing operations **CONFIG #10** is essentially non-volatile. However, the following operations *will* alter this register:

- An interruption of power from the control panel's lithium battery.
- A **RECALL** of a **CONFIG** file from disc.

### **RECOMMENDATIONS:**

- Store an up-to-date default **CONFIG** file on a floppy disc in a safe location.
- Instruct all operators to base their **CONFIG** files on the default file.

## **RESETTING THE MEMORY**

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As with most software-based devices, external influences may corrupt the system's Random Access Memory (RAM). Indications of this condition include: Erratic operation, corrupted displays, and loss of functionality.

If any of the above indications are present, **the first action should be to CLEAR THE CURRENT EVENT. If that operation is unsuccessful, turn-off the DMX control panel, wait 5 seconds, and then re-power.** If this does not restore normal operation, a full memory reset is in order. Unlike the power-down/power-up procedure, a memory reset will completely clear all **USER CONFIGURATIONS (CONFIGs 1-9)** and all **EVENTS**. Therefore, use the following procedure only as a last resort:

### **TO RESET THE MEMORY:**

- Press the **S.UP** key.
- Press the **MORE** key three times. The following message will appear on the SOFTKEY DISPLAY:

**PRESS F1 FOR A COMPLETE CONSOLE RESTART  
ALL OF YOUR CONFIGURATIONS WILL BE LOST!**

- If you wish to proceed, press (**F1**).
- The **CONFIG MENU** will now be displayed in the SOFTKEY DISPLAY, along with **RESET DIAGNOSTIC MESSAGES**. When the message "Warm Boot Successful" is displayed, the system is ready to use.
- If desired, recall **CONFIG #10** (facility default) or reload a **CONFIG FILE** from disc.





**ZAXCOM AUDIO**  
**DMX-1000**  
*DIGITAL AUDIO MIXER*

**OPERATION GUIDE**  
*SOFTWARE VERSION 2.0+*

ZAXCOM AUDIO is a division of:  
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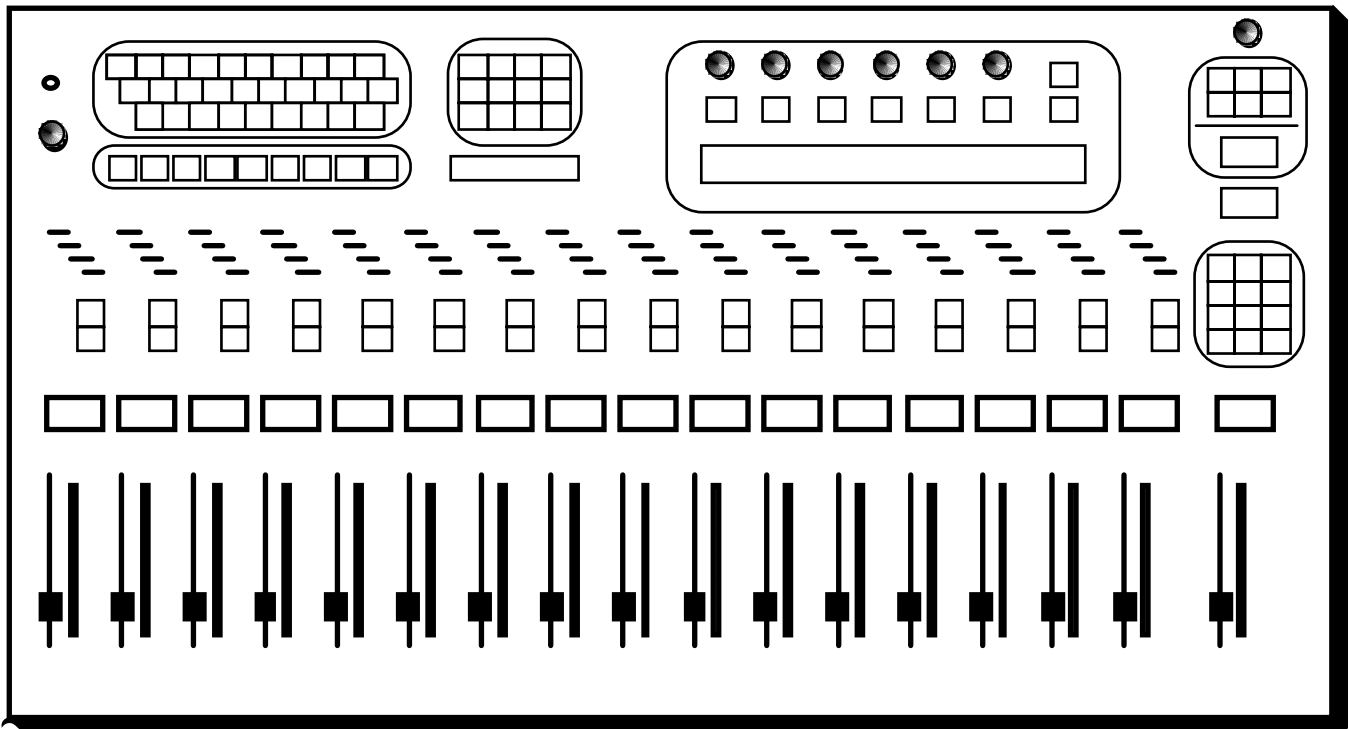
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BUSINESS HOURS:  
MONDAY-FRIDAY (9:00 AM - 5:00 PM EST)



# DMX-1000

*DIGITAL AUDIO MIXER*



## OPERATION GUIDE

*SOFTWARE VERSION 2.0+*