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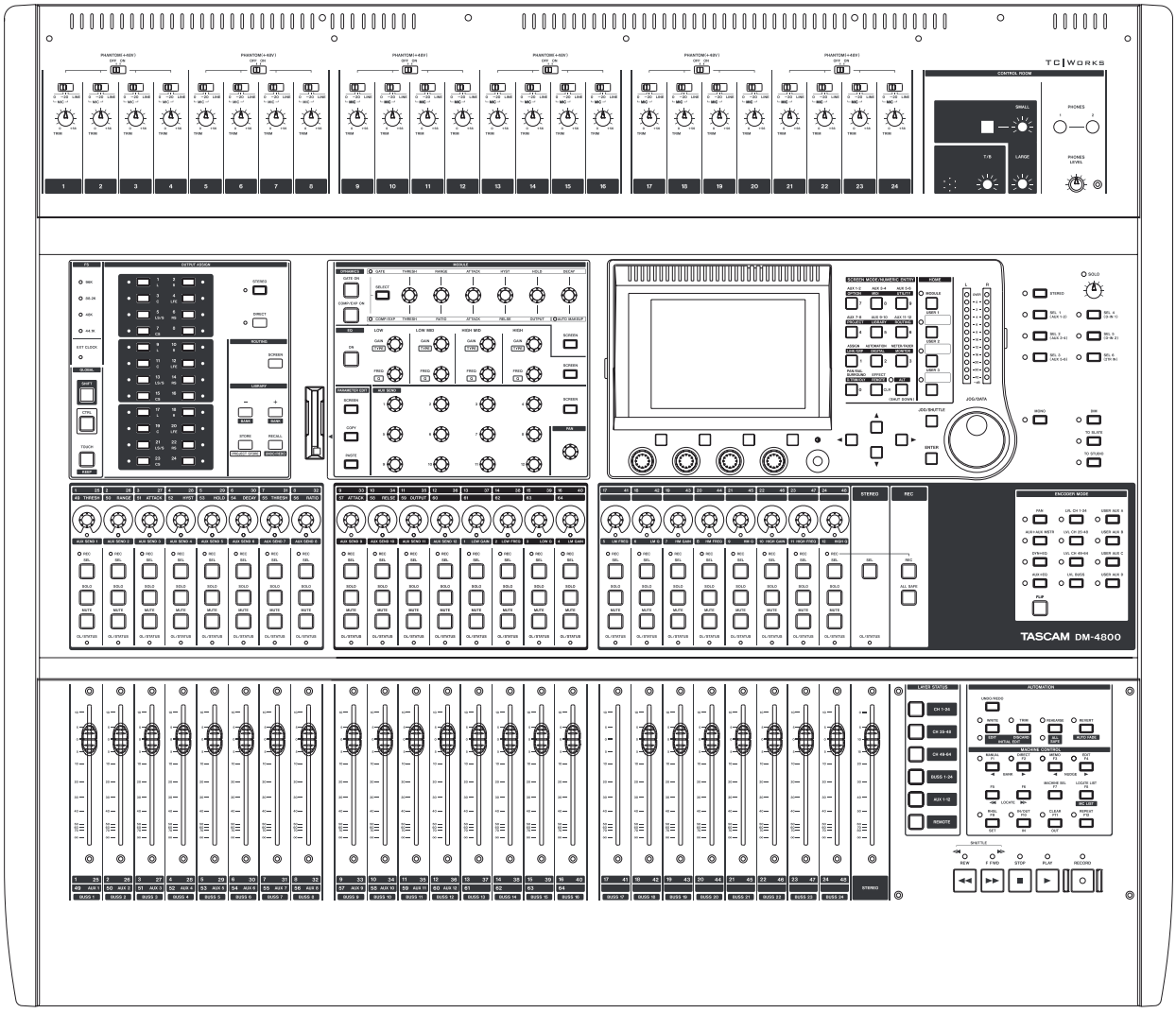
# TASCAM

## TEAC Professional Division

D00936910B

# DM-4800

Digital Mixing Console




## OWNER'S MANUAL

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# IMPORTANT SAFETY PRECAUTIONS

## For U.S.A

TO THE USER

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residental area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**CAUTION**
Changes or modifications to this equipment not expressly approved by TEAC CORPORATION for compliance could void the user's authority to operate this equipment.

**For the consumers in Europe**

**WARNING**
This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

**Pour les utilisateurs en Europe**

**AVERTISSEMENT**
Il s'agit d'un produit de Classe A. Dans un environnement domestique, cet appareil peut provoquer des interférences radio, dans ce cas l'utilisateur peut être amené à prendre des mesures appropriées.

**Für Kunden in Europa**

**Warnung**
Dies is eine Einrichtung, welche die Funk-Entstörung nach Klasse A besitzt. Diese Einrichtung kann im Wohnbereich Funkstörungen versursachen ; in diesem Fall kann vom Betrieber verlang werden, angemessene Maßnahmen durchzuführen und dafür aufzukommen.

CE Marking Information
a) Applicable electromagnetic environment: E4
b) Peak inrush current: 8A

In North America use only on 120V supply.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

This appliance has a serial number located on the rear panel. Please record the model number and serial number and retain them for your records.
Model number _____
Serial number _____

**WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

# IMPORTANT SAFETY INSTRUCTIONS

**1** Read these instructions.

**2** Keep these instructions.

**3** Heed all warnings.

**4** Follow all instructions.

**5** Do not use this apparatus near water.

**6** Clean only with dry cloth.

**7** Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

**8** Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

**9** Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. Grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

**10** Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

**11** Only use attachments/accessories specified by the manufacturer.

**12** Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

**13** Unplug this apparatus during lightning storms or when unused for long periods of time.

**14** Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

- Do not expose this apparatus to drips or splashes.
- Do not place any objects filled with liquids, such as vases, on the apparatus.
- Do not install this apparatus in a confined space such as a book case or similar unit.
- The apparatus draws nominal non-operating power from the AC outlet with its POWER switch in the off position.
- The apparatus should be located close enough to the AC outlet so that you can easily grasp the power cord plug at any time.
- An apparatus with Class I construction shall be connected to an AC outlet with a protective grounding connection.
- Batteries (battery pack or batteries installed) should not be exposed to excessive heat such as sunshine, fire or the like.

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# 1 – Introduction

***This section provides an overview of the features and facilities provided by the DM-4800. It also includes an overview of the operational procedures involved when using the unit. It is important to read this section to gain a basic understanding of the way that the DM-4800 works before proceeding with setting up and using the unit.***

The DM-4800 provides you with a new and flexible approach to mixing and recording.

Designed to integrate with the latest Digital Audio Workstation (DAW) personal computer software as well as with standalone recorders, it can form the heart of any recording studio.

Full-sized motorized faders, twenty-four rotary encoders with ring LED indicators, a dedicated "fat channel" set of controls providing instant access to the common channel settings, a large clear LCD display and ergonomically-placed dedicated system controls help to make the DM-4800 intuitive, as well as powerful, to use.

## Computer (DAW) integration

The DM-4800 can be used with a computer system: with the built-in USB port, which allows control of the DAW by the DM-4800, emulating popular controller hardware.

Additionally the optional FireWire expansion card (IF-FW/DM) can be fitted, which provides all the USB functionality, and also allows multi-channel digital audio to be transmitted and received between the DM-4800 and the DAW application.

In this second method, the DM-4800 may be used as an outboard mixer, freeing the computer's CPU from this task, and reserving the DAW for audio editing, etc.

In both cases, the TMCompanion software can be used for management of the DM-4800. See the documentation accompanying the latest release of the software for full details of the capabilities of the software with the unit.

## Other key points

Since the DM-4800 is designed with a working environment in mind, full control-room and studio monitoring facilities, including two sets of control-room monitor outputs, as well as talkback, are integrated.

The DM-4800 provides automation facilities which are independent of any external computer. Mix moves can easily be recorded, edited and replayed in the DM-4800 in standalone mode, requiring only a timecode source (including the internal generator).

Sony P2 9-pin protocols are also provided, allowing control of other studio equipment from one central unit.

Working in multiple locations is easier than ever before, as the DM-4800 works the way you do; in terms of projects where all information and settings are stored together for future recall.

The data for projects is stored on industry-standard CompactFlash cards for easy offline storage, archival and transportation between facilities.

In addition, computer-aided librarian functions make it simple to juggle the demands of a busy studio schedule.

Top-quality internal effects reduce the need for large outboard racks and allow still further for portability of projects.

Timecode, word sync, MIDI, etc. are also provided for the widest possible integration with other equipment in your setup.

## Please read this manual

Please take the trouble to read this manual carefully. Although every attempt has been made to make the DM-4800 as easy to use as possible, there are many features that may not be immediately obvious.

A little time spent studying the manual now may save you a lot of time and effort later on.

## About the DM-4800

The DM-4800 provides a fully comprehensive range of I/O facilities. Almost all inputs and internal busses are "soft", allowing connections to be patched internally (naturally, routing configurations may be stored and recalled).

**Inputs** For analog input, the DM-4800 provides twenty-four balanced inputs, with both high-quality mic amps, and balanced line connections as well as analog insert points (both mic and line connections may be made to the same channel at the same time, but only one may be used at a time). There are also eight assignable send outputs and inputs for external loop effects.

The digital side comprises three TDIF I/O ports, as well as ADAT "lightpipe" I/O, and two pairs of stereo S/PDIF or AES/EBU inputs and outputs.

Four TASCAM-standard card slots provide I/O expansion capabilities, with a variety of digital or analog options being available, including a FireWire expansion card for direct high-speed bidirectional communication between a DAW and the DM-4800.

**Channel modules** The DM-4800 provides 64 channel modules. These may be freely assigned internally to the 24 buss modules.

Of these 64 channel modules, 48 are "full-function" modules with 4-band EQ, digital trim and phase, and full dynamics processing with compressor/expanders and gates. The other 16 are more basic in the facilities provided, but still provide full buss assignment and aux sends.

The first 48 EQ-enabled channels can have two sources (*input* and *return*), which may be freely assigned, and can be switched, depending on whether the project is in the recording or tracking stage. See the section on assignments ("Routing & assignment" on page 58) for details of how channel sources are assigned.

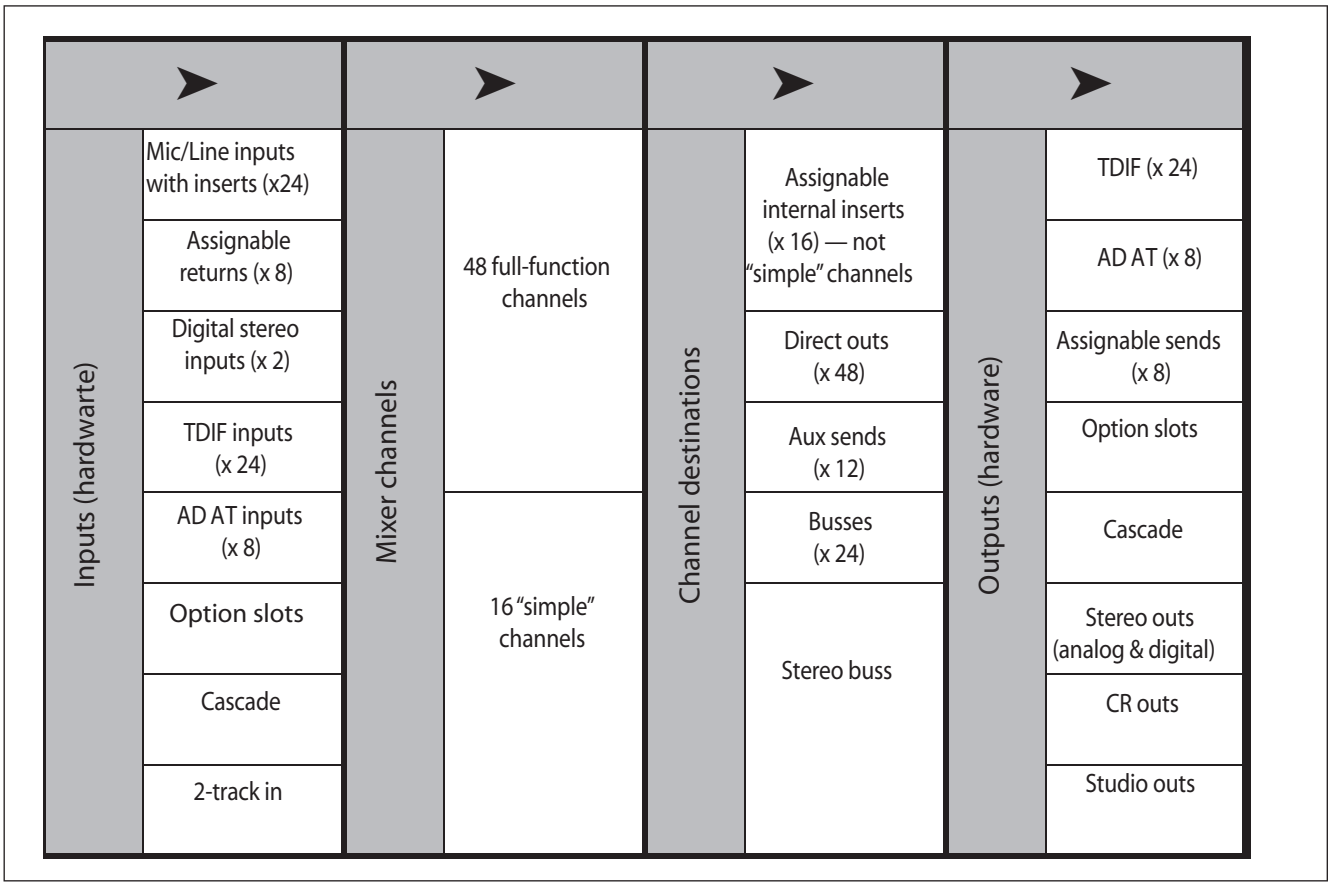


**Figure 1.1: Basic logical components of the DM-4800**

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**Channel destinations** There are 24 busses, 12 aux busses, and 16 assignable inserts (not to be confused with the "hard-wired" analog inserts on the input pre-amps) as well as the stereo buss module. Outputs from the channels can be assigned to these.

Furthermore, even when working at a sampling frequency of 88.2kHz or 96kHz, the DM-4800 retains the same number of channels and facilities as when operating at "conventional" sampling frequencies.

**Outputs** The sources for the outputs (built-in and optional slot) are then assigned to the actual physical outputs.

Physical outputs available include the built-in TDIF outputs (3 sets of eight outputs each), and eight channels of ADAT "lightpipe", as well as two stereo digital and one stereo analog sets of outputs.

Since buss outputs can be assigned to the TDIF and ADAT ports, this allows all the channels of a surround mix to be recorded together.

The option slot cards typically provide outputs as well as inputs.

### Effects

The DM-4800 incorporates two high-quality digital effects, including a digital reverb programmed by TC Works.

Signals may be routed internally to these effects using busses or aux sends, and the returns fed back to mixer channels for inclusion in the mix. Alternatively, the assignable inserts may be used to insert an effect into the signal path of a channel module.

External effects can be looped through the assignable analog sends and returns (the returns can then be assigned to channels), or kept in the digital domain by using the stereo digital I/O facilities.

In addition, channels 1 through 48 can use built-in dynamic processors to provide compression or expansion either pre- or post-EQ.

Gates can be inserted at the inputs, with a wide range of triggering options.

There are also analog inserts associated with each mic/line input, which allow additional processors to be inserted, before the DA converters. These insert points can also be used to bypass the DM-4800's internal mic amps and patch in external mic amps.

## Unpacking the DM-4800

The DM-4800's box contains the items listed below. When opening the package please be certain all the items listed are included. If any items are missing, please consult your TASCAM dealer.

- The DM-4800
- AC power cable
- A CF card, pre-formatted, and installed in the card slot of the DM-4800.
- A USB cable
- A CD-ROM containing the utility software and documentation for the DM-4800 (Windows and Mac compatible).
- This manual
- The *Quick Reference Guide*
- A guide to the use of the utility TM Companion software
- A guide to the use of the DM-4800's automation features
- Warranty card.

**WARNING**

*The DM-4800 is a large and bulky piece of equipment. We strongly suggest that you get someone to help you lift it out of the carton and locate it in the position where it will be used.*

*Lifting properly—When lifting, be sure of your footing and grip. Bend your legs to get close to the DM-4800, keeping your back straight, and then lift by straightening your legs. Hold the unit close to your body. Avoid twisting or turning your body while lifting or carrying the DM-4800.*

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## About the manual

Pushed controls on the DM-4800 are referred to as "keys".

Their virtual equivalents displayed on screen are referred to as "buttons".

Within this manual, the following typographic conventions are used:

- The name of a control or connector on the unit is written in the following way: **LINE/MIC**.
- Messages and text shown on the display of the DM-4800 are shown as follows: DIGITAL IN 1.
- The name of a control or connector on another unit is written in the following way: **AUX IN**.

### What's in the manual

**1, "Introduction" (page 10)** This section, providing an introduction to the DM-4800.

**2, "Basic operational concepts" (page 17)** This is important—it gives you basic information on the way in which you use the DM-4800's controls and menu systems, etc. as well as providing an explanation of way in which the DM-4800 stores data.

**3, "Connections" (page 48)** Provides information on how to connect the DM-4800 to other equipment in your setup.

**4, "Routing & assignment" (page 58)** Since the DM-4800 is a "soft" console, with many patches and assignments made through software rather than physical connections, you should read this section to understand how the inputs and outputs of the DM-4800, as well as the internal connections, are linked together.

**5, "Channel modules" (page 71)** This section describes the modules which form the basic "building blocks" of the DM-4800. Most of the mixing work you do on the DM-4800 will use the functions described here.

This section also contains information on using the DM-4800 in surround modes.

**6, "Effects" (page 94)** The parameters controlling the built-in effects of the DM-4800 are described here and a list of the preset libraries may also be found in this section.

**7, "MIDI" (page 96)** This provides information on the MIDI capabilities provided by the DM-4800.

**8, "Remote operation" (page 105)** The DM-4800 is capable of acting as a remote control unit for a wide variety of external devices, including DAW systems. This section explains how to use these capabilities.

**9, "Specifications" (page 118)** Specifications of the DM-4800, together with a guide to the popup messages that appear on screen.

Also note that there are two separate publications in addition to this manual and the printed *Quick Reference Guide*: these cover the automation features of the DM-4800 and the TMCompanion software, which are provided as electronic publications in PDF format.

### Notes and warnings

**TIP**

*We give hints and tips on using the DM-4800 in this way.*

**NOTE**

*These notes provide additional explanations for special cases, etc.*

**CAUTION**

*Cautions show that you may lose data or performance may suffer if the instructions are not followed.*

**WARNING**

*These warnings should be taken very seriously. They describe situations which can cause injury, or damage to equipment if the instructions are not followed.*

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## Before you start

The DM-4800 organizes your settings in projects. Projects include snapshot data, effect settings, dynamics processing and EQ settings, as well as automation data, and are stored on the CF card.

Until you create your first project, you cannot store your own settings.

**TIP**

*Create a project before you first start work with the DM-4800, so that you can make full use of the library and automation functions.*

Details of how to create and manage projects are provided in “About projects and libraries” on page 34.

## Special notes for touch-sensitive faders

The usual rules regarding precision electronic equipment naturally apply to the DM-4800. In addition, note the following that apply to the touch-sensitive faders:

- The faders need a human finger to operate their touch-sensitivity. Do not use a pencil, ruler, etc. to operate them. Even using your fingernails may not activate the touch-sensitivity.
- The humidity and temperature of your environment affects the touch-sensitivity of the faders. Under normal working conditions you should experience no issues. However, extremes of temperature and/or humidity may sometimes cause operational problems.

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## The features of the DM-4800

This section describes the different areas of the DM-4800 as well as providing a guide to hooking up other equipment for use in your studio setup.

The front surface of the DM-4800 may seem a little intimidating at first, but it is actually remarkably simple, considering the functionality built into the unit.

Controls are logically grouped, depending on their function:

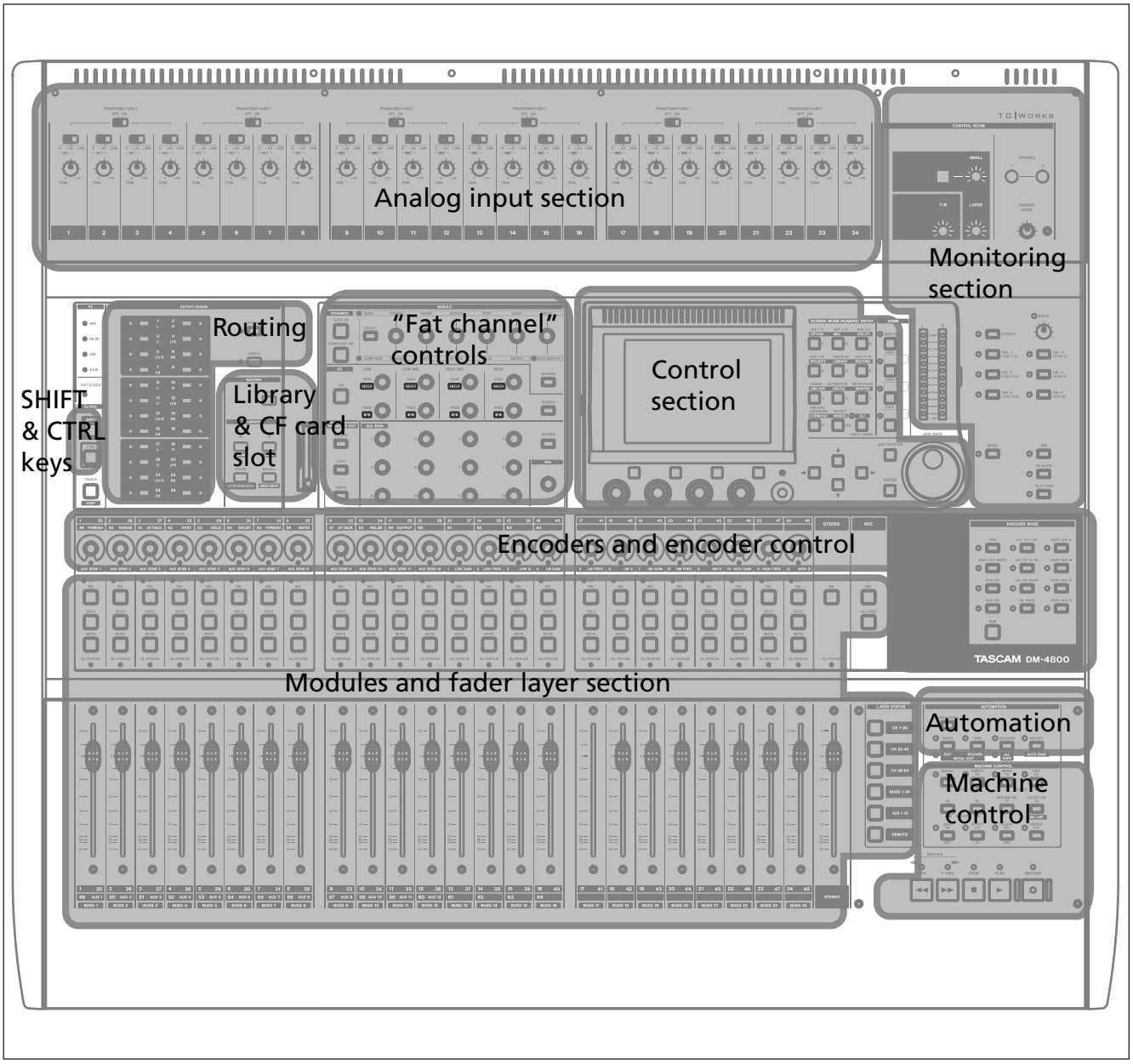


**Figure 1.2: Overview of the DM-4800**

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### Control section

This section contains the screen, the dedicated function keys, and the PODs, as well as the cursor keys and the data wheel.

The operation of this section is described in more detail in “Basic operational concepts” on page 17, which you should read in order to gain an understanding of how the PODs, etc. are used.

### Monitoring section

This section contains the controls for the control room and studio monitoring and cueing controls, as well as the talkback microphone and slate controls. The main stereo meters are also in this section.

See “Monitoring” on page 66 for details of this section’s operation.

### Module & fader layer control section

The faders and module control keys are in this section, together with the keys used to select the different layers.

See “Fader layers” on page 19 for details of how the fader layers are used on the DM-4800.

The **SEL** keys are used to select the modules to be edited. This can also be done with the touch-sensitive faders.

### Encoder section

The use of the encoders is described in “Encoders” on page 22.

See this section for a complete description of how the indicators surrounding the encoders are lit when the encoders perform different functions.

### Modifier section (SHIFT & CTRL keys)

These are keys which when pressed and held, affect the behavior of other keys.

### Library section and CF card slot

These keys perform recall, etc. of library entries. The CF card slot is used with a CF card to store projects and the data associated with these project.

### Machine control section

These controls are used to control a device (external hardware recorder, or DAW) connected to the DM-4800 using MIDI, USB or the 9-pin serial control protocol.

See “Remote operation” on page 105 for details of how to set up and use these controls in your projects.

### Analog input section

These are the built-in mic/line inputs and inserts. See the details later in this section (“Mic/line connections” on page 49) for details of how to connect and use them.

***This section introduces the basic ways in which you should use the controls of the DM-4800 to achieve your desired goals.***

**NOTE**

*Please take the time to read and understand this section, so that you understand how basic navigation and parameter editing operations are performed.*

Dedicated screen mode selection keys provide access to the different screens shown on the LCD display:

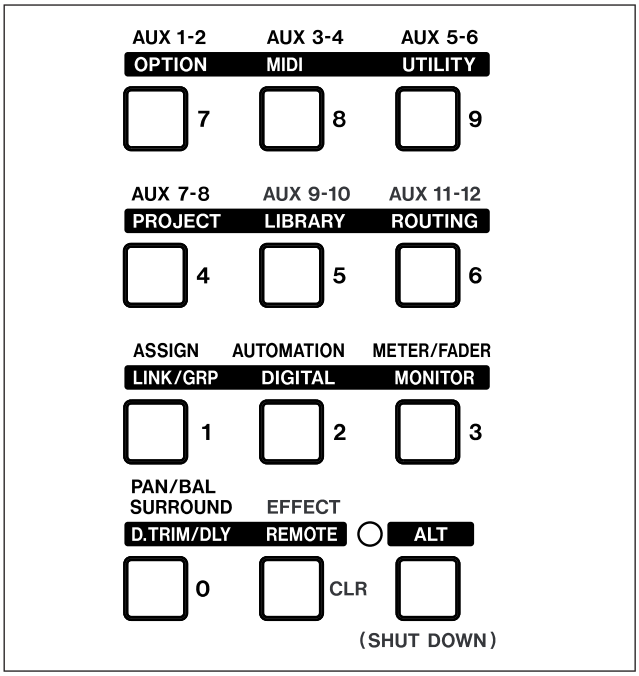


**Figure 2.1: Screen mode selection keys**

Press one of these keys to access the screen marked above the key in "normal" (for example, key **4** is used to select the AUX 7-8 screen).

For the alternative screen available from many keys, press the **ALT** key so that the **ALT** indicator lights (see "Smart keys" on page 19 for details of the behavior of this key), and then the appropriate key to select the screen whose title is written in inverted characters above the key. For example, key **5** normally brings up the AUX 9-10 screen, but using this key with the **ALT** key brings up the LIBRARY screens.

Many screens accessed with these keys include sub-screens or "pages". These sub-screens can be accessed using the POD keys ("The PODs" on page 20) or repeated presses of the same control key will cycle through these pages.

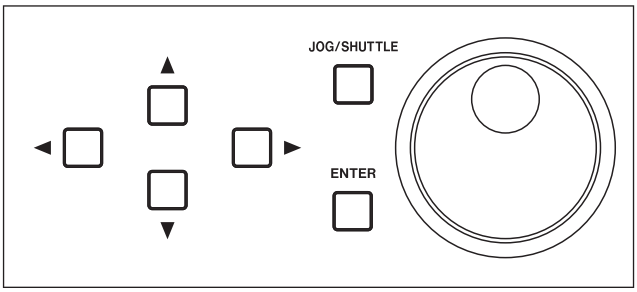


**Figure 2.2: Cursor and data wheel keys**

Use the cursor keys to navigate around the screen (sometimes, the wheel can also be used to navigate).

Radio buttons (exclusive-or options) or checkboxes (options) are set and unset using the **ENTER** key when the cursor highlights the option.

When a parameter is selected, the wheel is usually used to change the value.

For non-numerical values changed using the wheel, usually **ENTER** should be pressed to confirm the entry. Note that while the parameter is being edited, the displayed parameter blinks on screen, and the cursor cannot be moved until the new value is confirmed with the **ENTER** key.

The cursor keys are often used as "escape" keys to leave a screen without changing the value.

For a few parameters (chiefly connected with the remote unit location facilities), the number keys can also be used when the number is selected using **ENTER**. Confirm the entry of a value made in this way by pressing **ENTER**.

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## What's on the screen?

For almost all the screens displayed by the DM-4800, there are two common areas. The first is at the top, and we explain that area here (the second is the row of labels which identify the POD functions (described in "Special controls" on page 20)).

These top and bottom areas are for display, and their contents are automatically determined (they cannot be edited).

On the top row of the top section, the left side shows (on top) the current encoder mode (see "Encoders" on page 22) and immediately below that, the currently-selected module or modules. To the right of this, the current automation settings (on or off, or global mode) are shown.

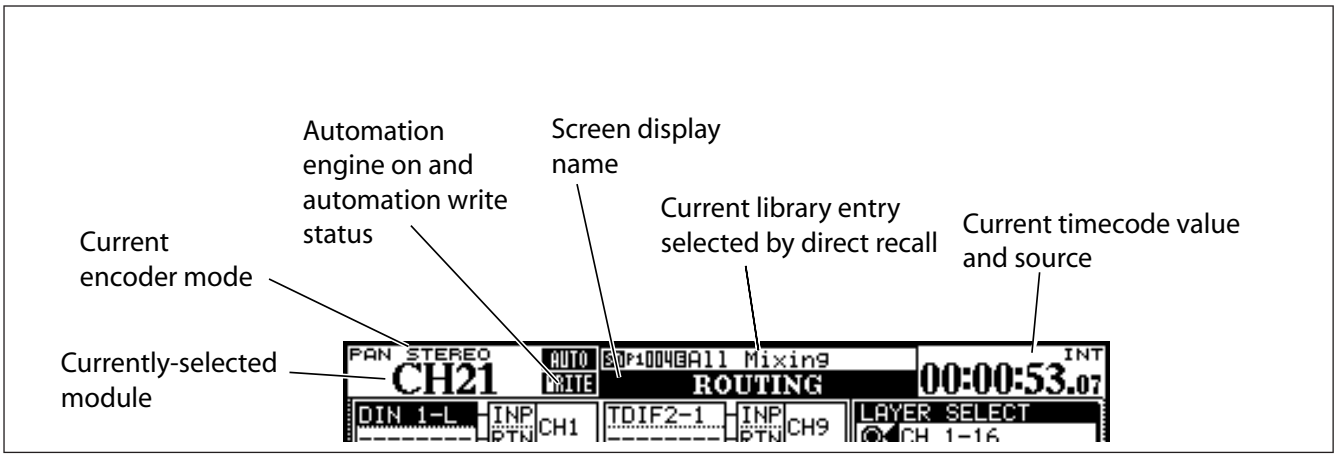



**Figure 2.3: Explanation of the top line of screen displays**

To the right of this, the name and number of the current library entry selected with the direct library functions are shown, and immediately below that, in larger letters, the title of the current screen.

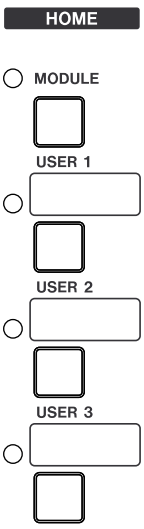
Finally, on the right, the current timecode value (with the source as set up as preference) is displayed.

**NOTE**

*The timecode displayed can be changed as a setup option. See "UPPER BAR DISPLAY" on page 42.*

## Jumping to commonly-used screens

Within a project, it's likely that you'll find yourself using some screens more than others. One of the main such screens is the module screen, allowing you to view and change a module's parameters at a glance.




For this reason, a dedicated **MODULE** key, with indicator, is provided to the right of the number keys. The module parameters shown are those of the module selected using the **SEL** keys.

The three **USER** keys are used to set up three commonly-used shortcuts to screens used frequently within a project.

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### Setting a USER screen

1 **Bring up the screen to which you want to make a shortcut,**

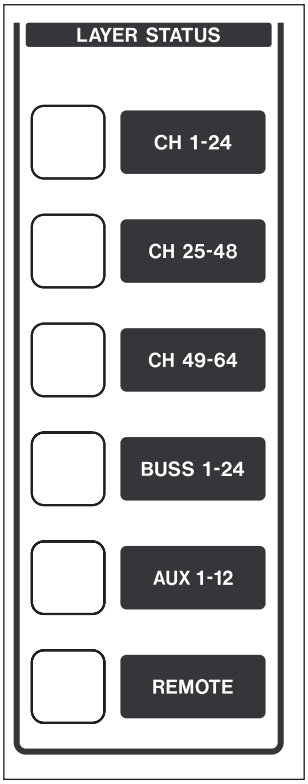
2 **Press and hold the SHIFT and CTRL keys (to the left of the unit).**

3 **While holding down these keys, press one of the USER keys. A popup telling you that the screen is assigned to the user key appears.**

4 **Release all the keys.**

Next time you press that **USER** key (without the **SHIFT** and **CTRL** keys), the display shows the screen you set previously.

## Fader layers




The DM-4800 has 24 channel faders and encoders, but is capable of controlling 64 channels, in addition to the 12 master aux sends and 24 buss levels.

The faders (and the encoders, when the encoders are associated with channels) are therefore arranged in layers, allowing different groups of faders to be accessed.

Use the **LAYER STATUS** keys (which light when the appropriate layer is active) to select these layers. These keys are located to the right of the master fader. When these keys are pressed, the faders move to the appropriate positions, reflecting the new fader layer.

The first three keys are used to select the channel modules (1 through 24, 25 through 48 and 49 through 64).

**NOTE**

*In the* **CH 49-64** *mode, faders 17 through 24 are disabled.*

The **BUSS 1-24** key selects the 24 busses.

The next key selects the aux sends, and uses the first 12 faders for this purpose (faders 13 through 24 are disabled here).

The faders may be used for remote DAW control, etc. in **REMOTE** mode.

## Smart keys

The DM-4800 features five “smart keys”: the **ALT** key and four “talkback” keys (**DIM**, **MONO**, **TO SLATE** and **TO STUDIO**). When the status of any of these keys is off, and the key is then pressed very briefly and released, the status of the key, as shown by the indicator, is changed to on after the key is released (latching).

If the status of the key is off, and the key is pressed and held down, the status is only changed as long as the key is held down (non-latching).

Note that if the status of one of these keys is on, the length of the key press makes no difference—the key status changes to off when the key is released.

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## Other global modifier keys

There are two other global "modifier" keys which are used to add additional functions to other keys outside the key area. These are the **CTRL** and **SHIFT** keys located at the left of the top panel.

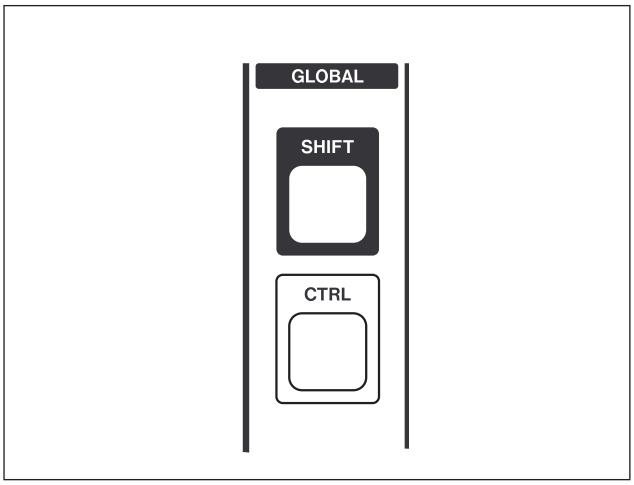


**Figure 2.4: Global modifier keys**

These are used to change the function of certain keys located outside the screen mode selection key block as well as for other specialized functions (for example, see "Setting a USER screen" on page 19).

**SHIFT**ed keys are marked with their shifted functions written underneath in white on a blue background, and keys modified with the **CTRL** key have their modified labels underneath, with the lettering in blue on a white background.

## Special controls

The DM-4800 incorporates a few controls that are not found on every digital mixer and which therefore may be a little unfamiliar.

These are the PODs, which are located immediately below the display, and the 24 encoders, located above the channel strips.

### The PODs

The DM-4800 has four unmarked encoder/key combinations (referred to as *PODs*) below the display.

The function of these pods varies according to the current screen display.

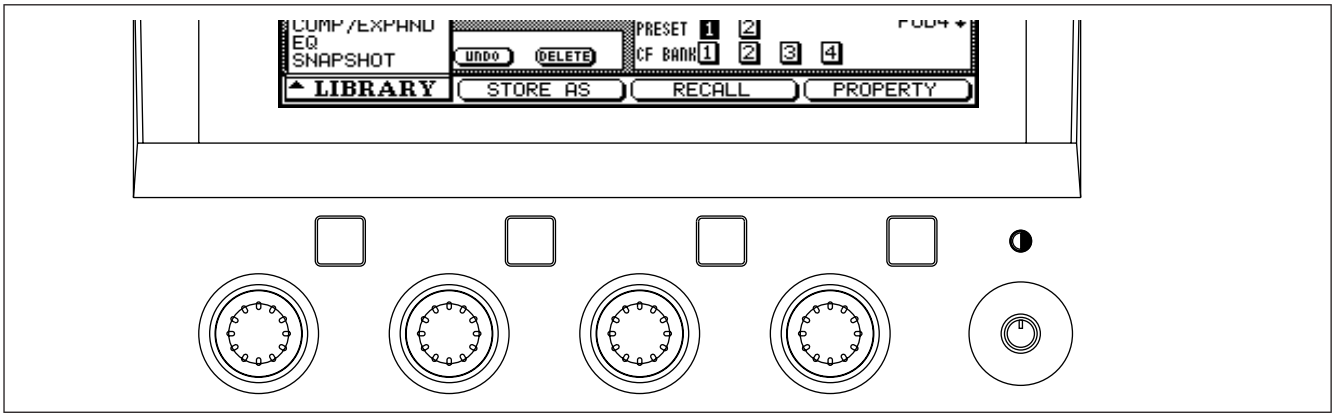


**Figure 2.5: POD controls**

Very often, in a screen with many controls displayed, the up and down cursor keys are used to move a highlighting box around the screen. These boxes highlight a maximum of four on-screen rotary controls, which are then controlled by the corresponding POD encoders (immediately below the on-screen controls).

Note also the contrast control to the right of the PODs.

**TIP**

*You can change between a white on black display and a black on white display by using the* **ALT** + **FLIP** *key combination.*

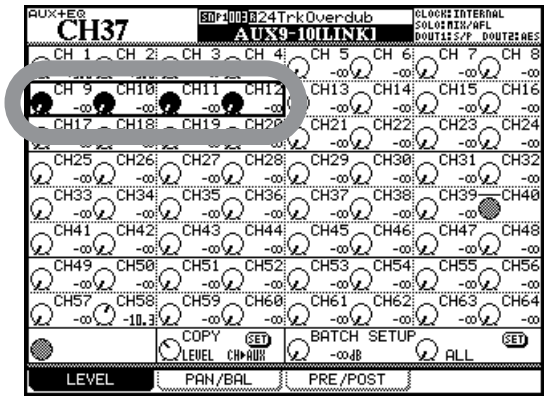


**Figure 2.6: POD knobs used in a multi-control screen**

POD knobs are also used on some screens to make a selection from a list. In these cases, the screen shows what POD knob should be used to change the selection:

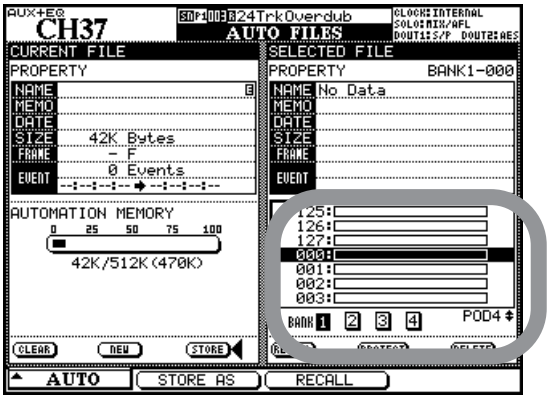


**Figure 2.7: POD knob 4 used as list selector**

The POD keys are often used as soft keys to perform an action, as shown on the bottom of the screen (on-screen buttons).

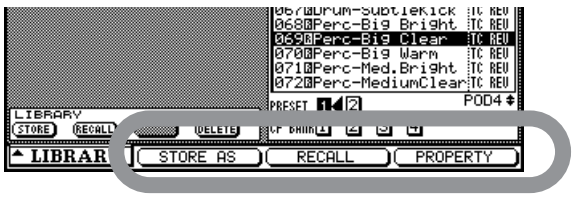


**Figure 2.8: POD keys 2 through 4 used as soft keys**

Other screens may use them as buttons which display a pull-up list of options. When the list is shown, the appropriate POD encoder, or the main wheel, is used to navigate through the list, and the POD key or **ENTER** key is used to confirm the entry.

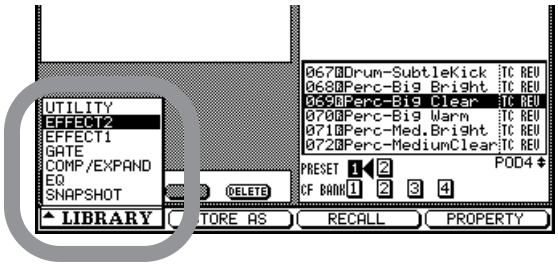


**Figure 2.9: POD 1 used with a pull-up menu list**

The POD keys may also be used to select "sub-screens" from within a major heading. In this case, simply pressing the appropriate POD key jumps to the next screen: as shown on the "tag":

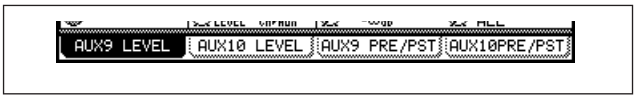


**Figure 2.10: POD keys used to select sub-screens**

**TIP**

*As well as using the POD keys to switch between tabbed pages, you can also make repeated presses of the key that was used to bring up the screen (with the* **ALT** *indicator lit if necessary) to change between these pages.*

The POD keys may also be used to jump to another screen with a different function.

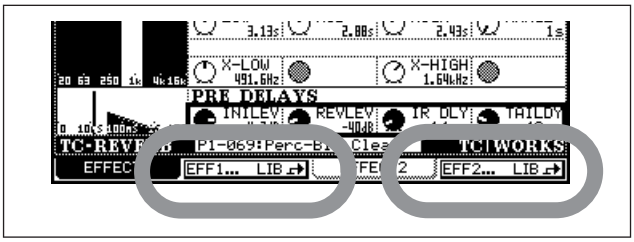


**Figure 2.11: POD keys 2 and 4 used to jump to other screens (library screens)**

**TIP**

*The POD knobs change values fairly coarsely, but be pressing and holding the* **SHIFT** *key (to the left of the unit), the POD knobs can be used for fine adjustment. This behavior can be changed (see "Encoder behavior (fine and coarse)" on page 26 below).*

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## Encoders

The 24 rotary encoders at the top of each channel can perform a variety of functions, selected using the twelve keys at the right of the top panel.

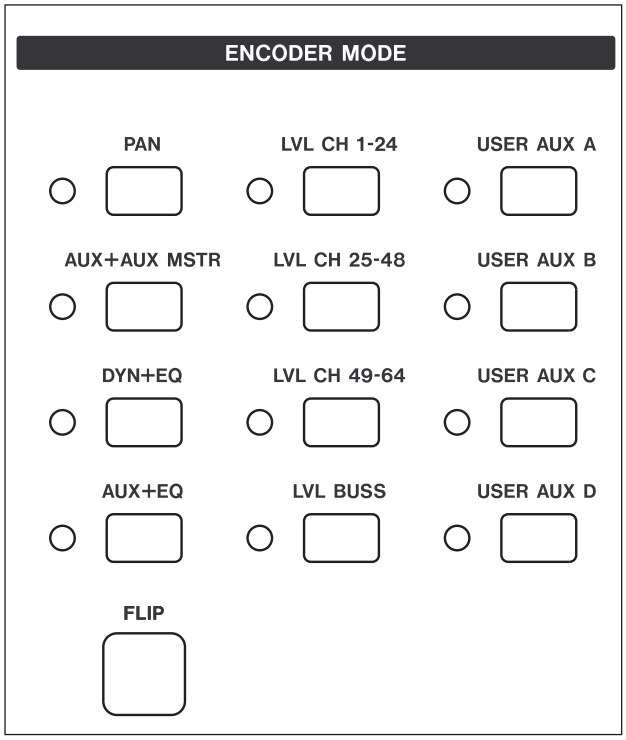


**Figure 2.12: Encoder functions**

As you can see, by using these keys, you can set the levels of channels, busses, and aux sends, even when you are not in that particular fader layer.

Also, the channel aux send, dynamics processor and EQ setting modes are useful for convenient viewing and setting of a number of channel parameters at once.

The current setting of the encoders can be read from the ring of indicators surrounding each encoder; as explained in “Reading the encoder indicators” on page 24

Other settings are available through the OPTION ENCODER MODE screen:

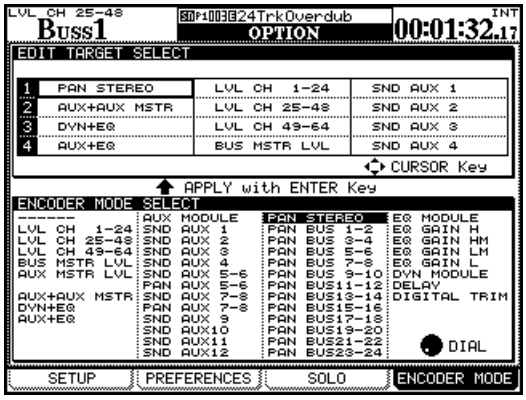


**Figure 2.13: Setting the encoder mode**

Use the cursor keys to navigate around the “map” of the twelve **ENCODER MODE** keys, the wheel to select an assignment for the selected key, and the **ENTER** key to complete the assignment.

**TIP**

*You may find that the preferences described in “Encoder Mode Follows Current Screen” on page 44 and “Current Screen Follows Encoder Mode” on page 44 make life easier when you are working with the encoders.*

### Flipping the encoders

The **FLIP** key exchanges the functions of the faders and the encoders, allowing the touch-sensitive faders to be used for automating tasks that might otherwise be performed by the encoders.

When this key is pressed, the faders automatically move to reflect the new values assigned to them.

**TIP**

*When setting up a cue mix on aux sends 1 and 2, for example, you can use the faders for this, while still keeping an eye on the main level settings (on the encoders).*

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## Encoder mappings

The following table provides a reference to the use of the encoders in the different modes (note that there are different options available depending on whether the DM-4800 is in stereo or surround mode):

| Display | Uses encoders | Scope of mode | Notes |
|---|---|---|---|
| ------ | None | Global | Encoders have no effect in this mode |
| LVL CH 1-24 | 1 – 24 | Global | Encoders act as faders for these modules |
| LVL CH25-48 | 1 – 24 | Global | Encoders act as faders for these modules |
| LVL CH49-64 | 1 – 16 | Global | First 16 encoders act as faders |
| BUS MSTR LVL | 1 – 24 | Global | 24 buss levels controlled by encoders acting as faders |
| AUX MSTR LVL | 1 – 12 | Global | 12 master aux levels controlled by encoders acting as faders |
| AUX+AUX MSTR | 1 – 12 (AUX)<br>13 – 24 (master aux) | Channel module<br>Global | Provides 12 aux sends for the selected channel module[a] and 12 master aux levels |
| DYN + EQ | 1 – 11, 13 –24<br>7– 11 | Channel module<br>Master module | First 11 encoders control dynamics settings, the rest control EQ for the selected module (1 through 48)<br>Encoders 7 through 11 control compressors for busses, aux sends and STEREO |
| AUX+EQ | 1–24<br>1 – 2 | Channel module<br>Buss and STEREO | Encoders 1 through 12 control aux sends/pan, and 13 through 24 control EQ settings (modules 1 through 48)<br>Aux send/pan 1 and 2 only |
| AUX MODULE | 1 – 12<br>1 – 2 | Channel module<br>Buss and STEREO | Used to set aux send/pan<br>Aux send/pan 1 and 2 |
| SND AUX[nn-nn] | 1 – 24<br>1 – 24 | Channel modules<br>Busses | Level to named Aux send (when linked)<br>Level to Aux sends 1 and 2 (when linked) |
| PAN AUX[nn-nn] | 1 – 24<br>1 – 24 | Channel modules<br>Busses | Pan to named Aux send pair (when linked)<br>Pan between Aux sends 1 and 2 (when linked) |
| SND AUX [n] | 1 – 24<br>1 – 24 | Current fader layer<br>Busses | Send level to named Aux send<br>Buss levels to Aux sends 1 and 2 |
| PAN STEREO | 1–24 | Current fader layer | Pan setting to stereo buss |
| PAN BUS [nn-nn] | 1 – 24 | Current fader layer | Pan setting to chosen buss pair |
| EQ MODULE | 13 – 24 | Channel module | EQ settings for selected module |
| EQ GAIN H | 1 – 24 | Current fader layer | High EQ band gain for current fader layer |
| EQ GAIN HM | 1 – 24 | Current fader layer | High-mid EQ band gain for current fader layer |
| EQ GAIN LM | 1 – 24 | Current fader layer | Low-mid EQ band gain for current fader layer |
| EQ GAIN L | 1 – 24 | Current fader layer | Low EQ band gain for current fader layer |
| DYN MODULE | 1 – 11<br>7 – 11 | Channel modules<br>Master module | Dynamics setting for selected module<br>Master module dynamics (comp/expander) |
| DELAY | 1 – 24 | Current fader layer | Digital delay for current fader layer |
| DIGITAL TRIM | 1 – 24 | Current fader layer | Digital trim for current fader layer |

**Table 2.1: Stereo encoder modes**

a. When used with a buss or the STEREO module, only aux 1–2 send and pan is available (encoders 1 & 2)

| Display | Uses encoders | Scope of mode | Notes |
|---|---|---|---|
| PAN SRND LR | 1-24 | Current fader layer | Surround LR Pan settings for current fader layer |
| PAN SRND FR | 1-24 | Current fader layer | Surround FR Pan settings for current fader layer |
| LVL SRND LFE | 1-24 | Current fader layer | Surround LFE Level settings for current fader layer |

**Table 2.2: Surround encoder modes**

## Reading the encoder indicators

The encoder indicators change their pattern, depending on the parameter currently being controlled by the encoders.

**Pan settings** When the encoders control the panning of the channels/busses associated with the fader (not in surround modes), the indicator patterns are as shown here.

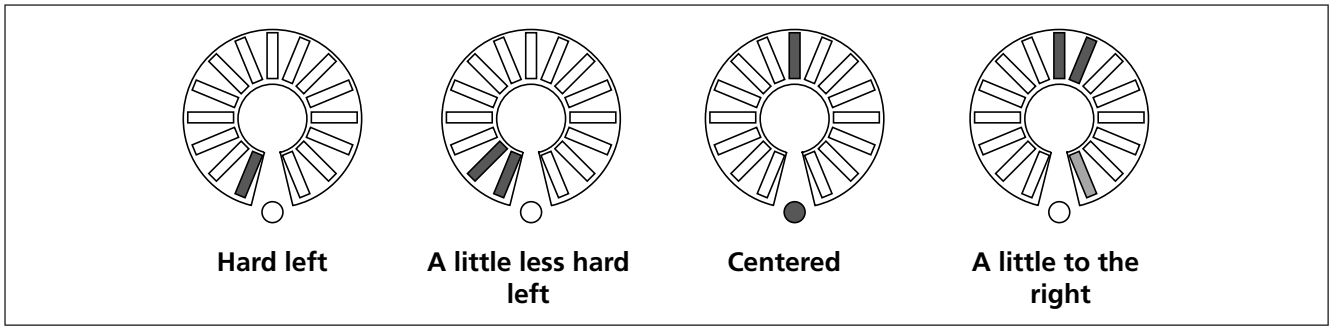


**Figure 2.14: Encoders in pan mode**

Note how the slight pan away from center half-lights the indicator at the end of the circle. This helps to indicate the fact that the pan position is not centered, even when the line of sight to the center indicator is blocked by the encoder knob.

**EQ settings** When the encoders control the 4-band EQ for the module selected with the **SEL** key, each of the four bands may have its gain, frequency and Q controlled by the encoders as shown by the labels under the encoders.

The first encoder in each band is used to control the gain, the indicators are used as below. “Half-steps” are indicated by dimmed indicators. Note also the slight boost and cut settings, which give an indication, even when the center is hidden by the control knob.

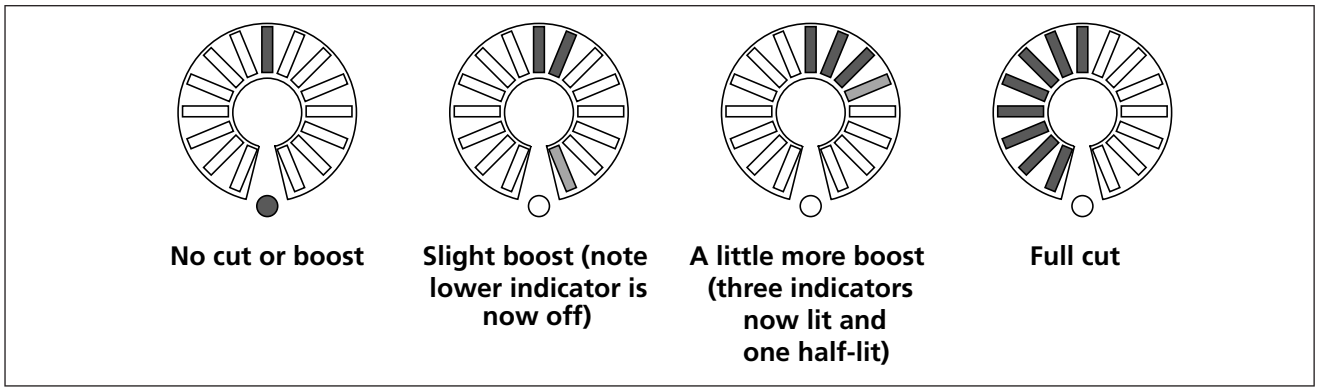


**Figure 2.15: Encoders in EQ gain mode**

The **F** encoders of each band in EQ mode show the frequency of the band in the following way:

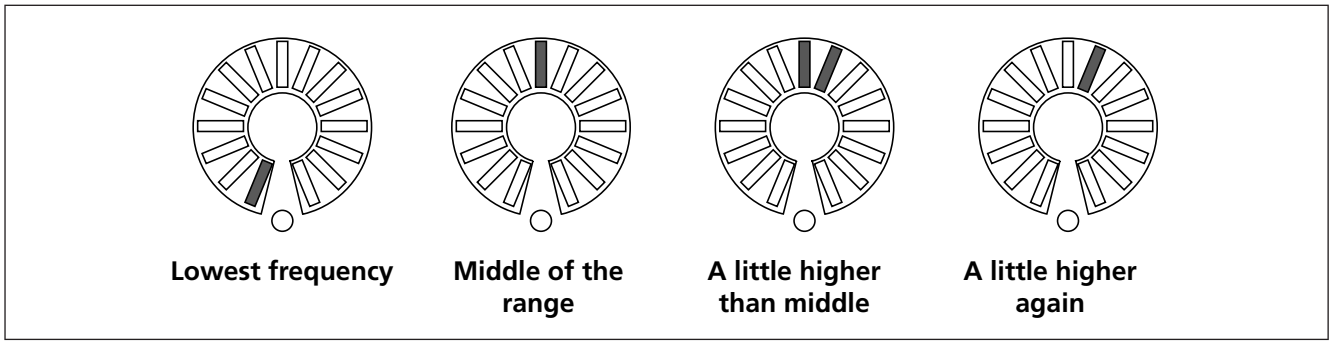


**Figure 2.16: Encoders in EQ frequency selection mode**

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The **Q** encoders of each EQ band are used to control the Q (bandwidth), as shown here:

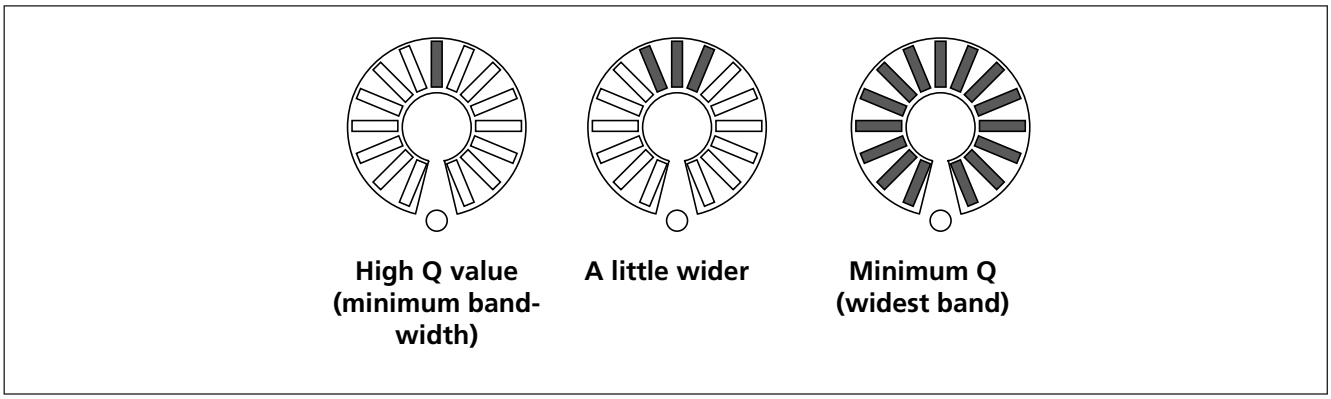


**Figure 2.17: Encoders in frequency Q adjustment mode**

**Module levels and AUX sends** The level is displayed up to the nominal level, and the nominal level is marked by the lower indicator lighting with all indicators up to the nominal position half-lit.

Levels above the nominal are shown by additional segments above the nominal segment lighting, and those below the nominal position changing to half-lit status, as shown in the illustration here.

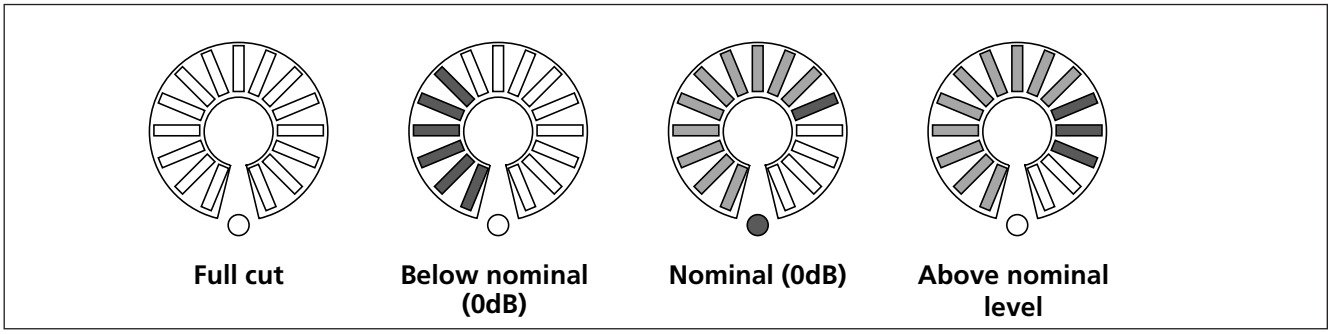


**Figure 2.18: Encoders used to make module level and aux send adjustments**

If the encoders are "flipped", the position of the channel faders is represented in the same way as for aux sends.

**Dynamics settings** These are "rotary" settings, with higher levels lighting more segments. An exception to this is the output level, which works in the same ways as an EQ gain encoder.

**Other settings** Aux levels from busses (including the stereo buss), delay time, and surround LFE levels are also "rotary" settings, with higher levels lighting more segments.

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**Encoder behavior (fine and coarse)** Typically, all encoders, as well as those in the "fat channel" and the PODs, change values several steps at a time. To change the resolution of these controls, so that they change only one step at a time, press and hold the **SHIFT** key (at the extreme left of the unit) while turning the encoder.

However, there is an option allowing this behavior to be changed so that the unshifted behavior makes fine adjustments while the shifted behavior makes coarse adjustments.

With the **ALT** indicator lit, press key **7** (**OPTION**).

Use the cursor keys to move down in the OPTION SETUP screen to the ENCODER OPERATION item, which allows you to select either 1Step (fine) or Coarse (multi-step) as alternatives for the unshifted mode.

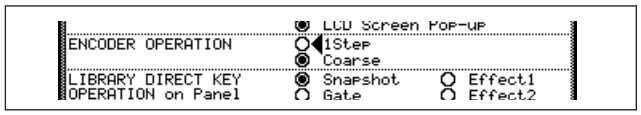


**Figure 2.19: ENCODER OPERATION menu item**

Press **ENTER** to select one of these options.

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## “Fat channel”

To the left of the display is an area containing a number of encoders and keys.

These controls are dedicated to module functions, and are divided into three sections: dynamics, EQ, and Aux sends.

When a channel module is selected, the appropriate screen can be shown, and the parameters adjusted using these controls.

These controls also allow you to copy and paste settings between channels.

Other parameters (and protection against overwriting existing parameters) can be copied using the screen as described in“UTILITY copying” on page 30.

Full details of EQ and dynamics processors are given in the section on Modules, but this section explains how to use these dedicated controls.

**NOTE**

*Some modules do not have dynamics processors, or equalization, or aux sends (see “About the DM-4800” on page 11). These controls described here are, of course, only valid for modules for which the appropriate facilities are available.*

### Dynamics processors

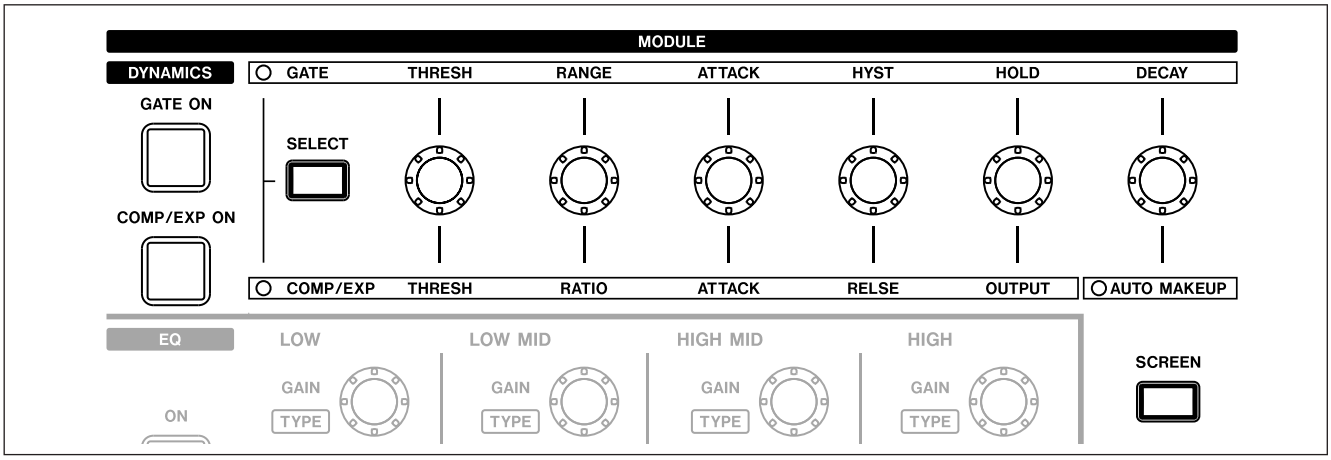


**Figure 2.20: Dynamics processor controls**

When a module with dynamics processing has been selected, press the **SCREEN** key as shown above to bring up the module’s dynamics screen.

The gate and compressor/expander can then be turned on and off using the **GATE ON** and **COMP/EXP ON** keys, respectively (these keys light when the appropriate processor for the selected module is active).

Use the **SELECT** key to determine whether the encoders will affect gate (**GATE**) or compressor/expander (**COMP/EXPAND**).

These encoders work as follows:

| | Gate | | Compressor/expander |
|---|---|---|---|
| **THRESH** | Threshold level | **THRESH** | Threshold level |
| **RANGE** | Range of gate | **RATIO** | Compression/expansion ratio |
| **ATTACK** | Attack time | **ATTACK** | Attack time |
| **HYST** | Hysteresis value | **RELSE** | Release time |
| **HOLD** | Gate hold time | **OUTPUT** | Output level (disabled if AUTO MAKEUP is on |
| **DECAY** | Decay time | **AUTO MAKEUP** | Auto level makeup switch (with indicator) |

**Table 2.3: Dynamics processor control assignments**

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## EQ controls

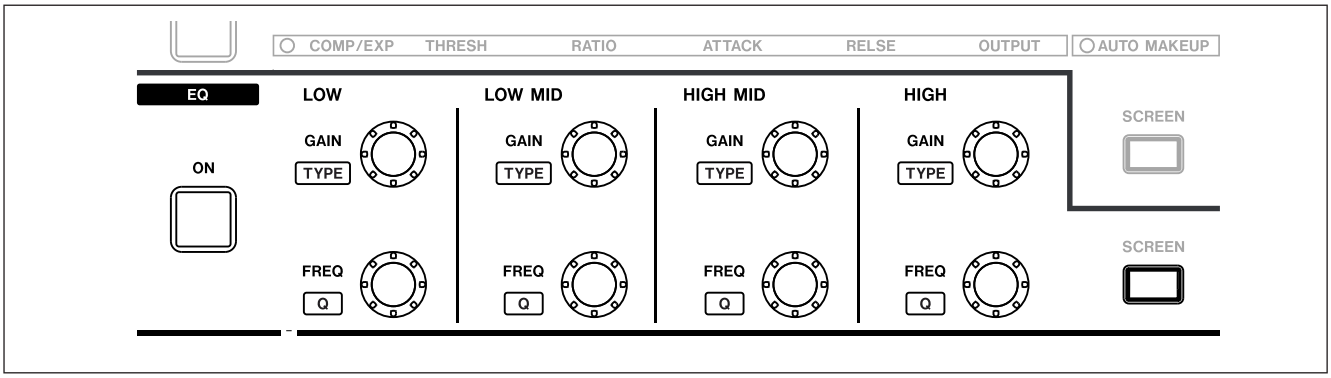


**Figure 2.21: Equalization controls**

Press the **SCREEN** key to bring up the EQ screen for the currently-selected module.

Turn the EQ on and off for the module using the **ON** key.

Gain and frequency for the four EQ bands are adjusted with the top row of four encoders (**GAIN**) and bottom row (**FREQ**).

To set the type of filter for a band, press and hold the **CTRL** key to the left of the unit, and turn the appropriate encoder in the top row (**TYPE**).

If the width of a filter (Q) can be set (depending on the filter type), you can do this by pressing and holding the **CTRL** key and turning the appropriate encoder in the bottom row (**Q**).

## Aux send levels

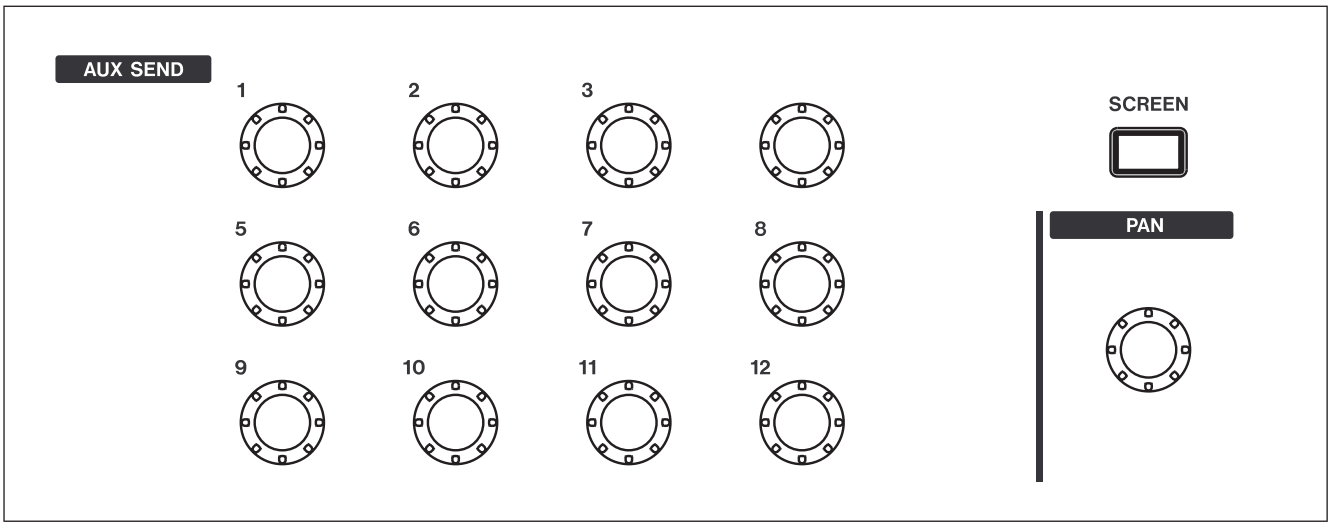


**Figure 2.22: Aux send controls**

Press the **SCREEN** key to bring up the aux/buss screen for the currently-selected module.

Use the appropriate control to adjust the Aux send level for the selected module.

If two aux sends have been linked, the odd-numbered controller acts as a pan control, panning the send between the two aux sends, and the even-numbered controller acts as a level control.

## Pan control

The **PAN** control to the right of the Aux send controls may be used as a pan/balance control for a selected module or pair of linked modules.

In surround modes, it controls the L/R balance of the surround matrix.

## Copy and paste of parameters

These operations can be carried out, whether or not the "fat channel" controls described above have been used to make the settings.

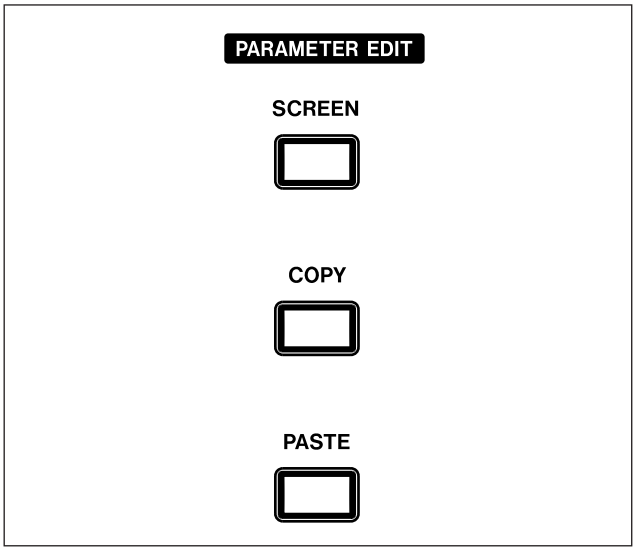


**Figure 2.23: PARAMETER EDIT in the "fat channel"**

**To copy channel parameters** Press and hold the **COPY** key, and press the **SEL** key of the channel from which the copy is to be made. A popup message appears to say that the parameters have been copied.

**To paste channel parameters** Press and hold the **PASTE** key, and press the **SEL** key of the channel to which the parameters are to be copied.

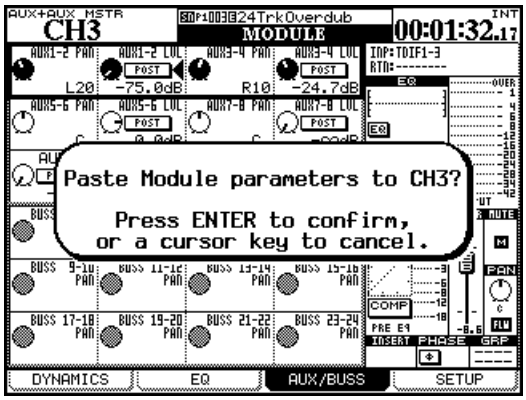


**Figure 2.24: Pasting channel parameters**

Press **ENTER** to paste the parameters (including pan, buss assignment, etc.) into the destination channel, or any cursor key to cancel the operation.

**To paste only the gate parameters** Press and hold the **PASTE** key, and the **GATE ON** key together, and press the **SEL** key of the channel to which the gate parameters are to be copied.

Press **ENTER** to confirm the operation, or a cursor key to cancel it.

**To paste only the compressor/expander parameters** Press and hold the **PASTE** key, and the **COMP/EXP ON** key together, and press the **SEL** key of the channel to which the compressor/expander parameters are to be copied.

Press **ENTER** to confirm the operation, or a cursor key to cancel it.

**To paste only the EQ parameters** Press and hold the **PASTE** key, and the **EQ ON** key together, and press the **SEL** key of the channel to which the equalization parameters are to be copied.

Press **ENTER** to confirm the operation, or a cursor key to cancel it.

Nothing happens if you try to paste inappropriate settings to the "wrong" channel (e.g. equalization settings have no meaning if pasted to an Aux master). If you are pasting all the channel settings that can be made using the "fat channel", though, those which are applicable to the destination channel will be pasted.

**The SCREEN key** The **SCREEN** key in the **EDIT PARAMETERS** section is used to jump to the channel parameter copy screen (see "UTILITY copying" on page 30 below).

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## UTILITY copying

This screen allows various parameters to be copied within and between channel modules.

It also allows the protection of various parameters to stop them being overwritten when they are copied and pasted between channels.

Press the **UTILITY** key (**ALT** + **9**) to access this screen.

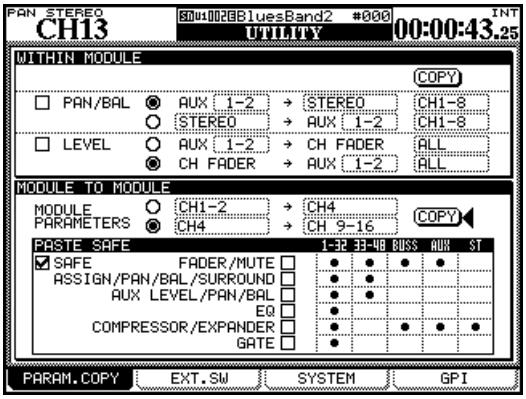


**Figure 2.25: UTILITY copy screen.**

**TIP**

*You can also use the* **PARAMETER EDIT SCREEN** *key (above the* **COPY** *and* **PASTE** *keys) to bring up this screen.*

### Copying within a module

The top half of the screen is used to control these functions, which allow the pan/balance settings and levels to be copied between aux busses and busses (including the stereo buss). This may be useful when setting up a studio monitor mix, for example, and the levels and pans of the aux sends used for the monitor mix should initially be set to the same as the channels.

1 **Check either of the two checkboxes (**PAN/BAL **and/or** LEVEL**) to select the settings to be copied.**

2 **In either of the two boxes associated with these checkboxes, the top row copies settings from the aux to buss, and the second row copies them from buss to aux.**

**Naturally, it is not possible to select both in the same box, though it is possible to select** CH -> AUX **in one box and** AUX -> CH **in the other.**

3 **Select the source and the destination parameters as explained here.**

- **For pan/balance copying, linked pairs of aux sends and busses are available, or an** ALL **selection is also available. Note that individual aux and busses are not available.**
- **The** STEREO **buss is available as a destination.**
- **The aux sends are selectable individually or as linked pairs as sources or destinations for level copying.**
- **Channels are divided into blocks of eight:** 1-8**,** 9-16**,** 17-24**,** 25-32 33-40**,** 41-48**,** 49-56**,** 57-64 **and** ALL**. Individual channels cannot be selected. This applies to both pan/balance and level copying.**

4 **Move the cursor to the on-screen** COPY **button and press ENTER. A confirmation popup message appears.**

5 **Press ENTER again to confirm the copy, or a cursor key to cancel.**

If neither of the checkboxes is checked when you press the COPY button, an error message is displayed.

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## Copying between modules

The on-screen controls for these operations are in the lower part of the screen.

This allows bulk copying of the following settings between modules:

- Fader and mute settings
- Buss assignment, pan and balance and surround settings
- Aux send levels and pan balance settings
- EQ parameters and switching
- Compressor/expander settings
- Gate settings

In the copy section, there are two “radio buttons”.

The first, when selected, allows copying of parameters to individual modules (channel modules, busses, aux sends or the stereo buss). If modules are linked, they are shown as pairs in the list of available destinations.

The second option allows copying of parameters to groups of modules (all channels (ALL CH), or in groups of four or eight (usually eight, but AUX 9–12 is a special case), all busses (ALL BUSS) or in groups of 8, all aux sends (ALL AUX) or in groups of 8, and the stereo buss.

1. **Select the top (one-to-one) or lower (one-to-many) radio button.**
2. **Use the wheel to select the source from which the parameters will be copied, using the left field, next to the radio buttons. In both options, you can select from any one of the channel modules, the buss modules, the aux modules or the stereo buss.**

   **Linked modules are displayed as a pair (e.g. CH1-2).**
3. **Press ENTER to confirm this setting, and move to the right field.**
4. **Select the destination module (first option) or group of modules (second option), and press ENTER to confirm this setting.**
5. **Move the cursor to the on-screen COPY button and press ENTER. A popup message asks you to confirm the copy operation. Press ENTER to confirm, or a cursor key to cancel.**

## Protecting parameters

It is possible to lock parameters of groups of modules against accidental overwriting during copy and paste operations.

Use the checkboxes in the PASTE SAFE section at the bottom of the screen to select groups of parameters to be protected:

- Faders and mutes
- Buss assignments, pan/balance and surround settings
- Aux levels and pan/balance
- EQ settings
- Compressor/expander settings
- Gate settings

The grid to the right of these checkboxes cannot be edited, and is for information only (the circles indicate that the settings are available for the modules listed in the top row, e.g. gates are only available for modules 1 through 48).

The SAFE checkbox to the left is also for information only, and cannot be edited or changed.

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## CF cards

Make sure that you have a CF card with sufficient space on it to hold the project (one with at least 32MB, such as the one supplied with the DM-4800, is recommended).

**NOTE**

*The DM-4800 does not retain unsaved project data when the power is turned off. Always save project data before turning off the DM-4800. See "Shutting down the DM-4800" on page 33.*

The capacity of the card determines the number of projects that can be stored on it (there is a maximum of 128 projects that can be stored on one card).

The size of a project depends on the number of library entries, and the amount and complexity of the automation data which forms part of the project.

Insert the card into the CF slot, pin socket edge first, and the maker's label towards the display (there is often an arrow printed on the card which should match the arrow printed on the DM-4800's top panel).

To eject a card, remove the TASCAM card cover, and press the square eject button just below the card slot.

**CAUTION**

*To avoid possible data loss or corruption, we strongly recommend that you only remove cards while the DM-4800 is turned off. No physical damage will be caused to either the unit or the card if you insert or remove cards with the power turned on, though.*

*Note that the TASCAM card slot cover may prevent you from seeing whether a card is actually properly inserted or not. Always make sure the card is properly inserted after the mixer has been transported, or the eject button has accidentally been touched. We recommend keeping the card cover in place at all times, to avoid dust etc. contaminating the card slot contacts.*

### Formatting a new card

New cards must be prepared before use (the one supplied with the DM-4800 is already formatted). Once formatted by the DM-4800, the card is formatted in FAT-32 format, allowing it to be backed up easily to a personal computer fitted with a CF card reader.

1 **Enter the** UTILITY **screen, and jump to the** SYSTEM **page (you can continue pressing the UTILITY key until this page appears):**

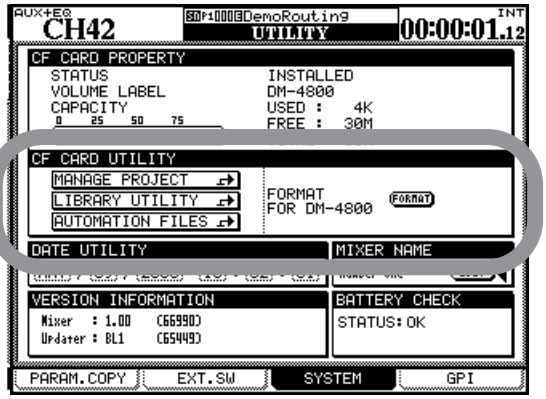


**Figure 2.26: Formatting a CF card**

2 **Move to the** CF CARD FORMAT **section, and use the ENTER key to press the on-screen** FORMAT **button.**

3 **A popup appears asking if you are sure you want to format the card. Press ENTER to continue (at any point before formatting starts, you can press a cursor key to exit).**

4 **One more popup appears, reminding you that the data on the card will be erased. Press ENTER to continue with the format operation.**

**As the card is being formatted, a popup appears.**

**NOTE**

*As this popup reminds you, the power to the DM-4800 should not be turned off while the formatting operation is taking place, otherwise the card will probably be unreadable.*

- **When the card has been formatted, a** Completed **popup appears briefly. The card can then be used.**
- **A failure in the formatting produces a message inviting a retry. If a card cannot be reformatted after a number of attempts, it is probably faulty, and you are advised not to use this card with the DM-4800.**
- You can jump from this screen directly to the project management (see "About projects and libraries" on page 34) or the library management screens (see "Library management" on page 38).
- The DM-4800 system date and time can be set here (see "Setting the date and time" on page 35).

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## Shutting down the DM-4800

**IMPORTANT CAUTION!!!** *Data associated with projects (automation, library entries, etc.) is not automatically stored on the card. If you turn off the DM-4800 without having shut down the DM-4800 properly, YOU MAY LOSE ALL YOUR DATA NOT STORED TO A PROJECT SINCE THE LAST SAVE!*

*As when you work with computers, we strongly recommend that you save your project data to card frequently to avoid any possible data loss.*

**How to shut down the DM-4800** In order to shut down the DM-4800:

1 **Press and hold the SHIFT and CTRL keys (left side of the surface–GLOBAL section).**

2 **While holding down the key, press the ALT key of the number keypad.**

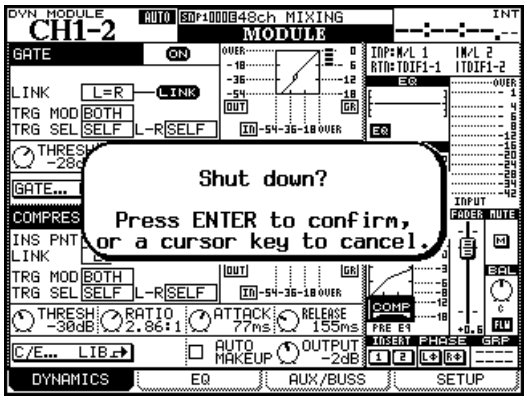


**Figure 2.27: Shutting down the DM-4800**

3 **A popup message (Figure 2.27, *Shutting down the DM-4800*) appears. Press ENTER to continue with the shutdown, or any of the cursor keys to cancel the operation.**

4 **When the all the data associated with the project has been saved, the screen shows an appropriate message. Use the switch on the rear panel to turn off the DM-4800.**

- **Alternatively, to reboot the DM-4800 without turning it off and on again, use the ALT + STOP + PLAY key combination.**

### Starting up the DM-4800

When you power down the DM-4800 after working on a project, the project is automatically loaded, if the CF card containing that project is inserted (a message appears on screen at the completion of the project load).

See “About projects and libraries” on page 34 for more details about how the DM-4800 uses projects and libraries to manage and store data.

If the CF card is not inserted, or if a different (or unformatted) CF card has been inserted, an appropriate message is displayed (asking if you want to format a blank card, for example).

If you do not shut down the DM-4800 as described above before powering it down, when you next power it up with the project CF card installed, the screen shows a message warning you:

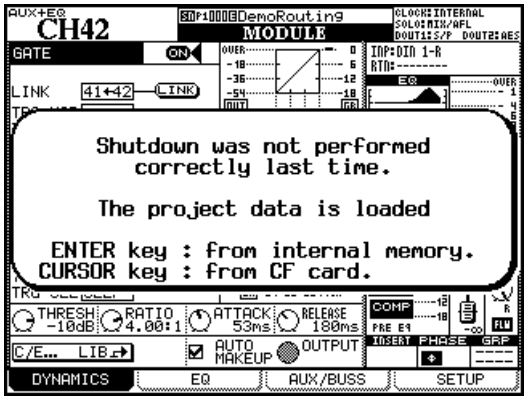


**Figure 2.28: Powering up the DM-4800 with no previous shutdown**

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Pressing **ENTER** will reload the last data which was in the internal memory (the "resume data"), and pressing a cursor key will load the project, ignoring any changes since the last project save.

## About projects and libraries

As mentioned earlier, the DM-4800 uses projects to store settings.

Projects contain system information, automation and routing information associated with a project, making it easy to return to a previous state when a project has to be conducted over more than one session.

When a new project is created, any of the following data from a previous project may also be associated with it (it is possible to pick and choose from this list):

- System data
- Snapshot (scene) data library
- EQ setting library
- Compressor/expander setting library
- Gate library
- Automation data
- Effect setting libraries

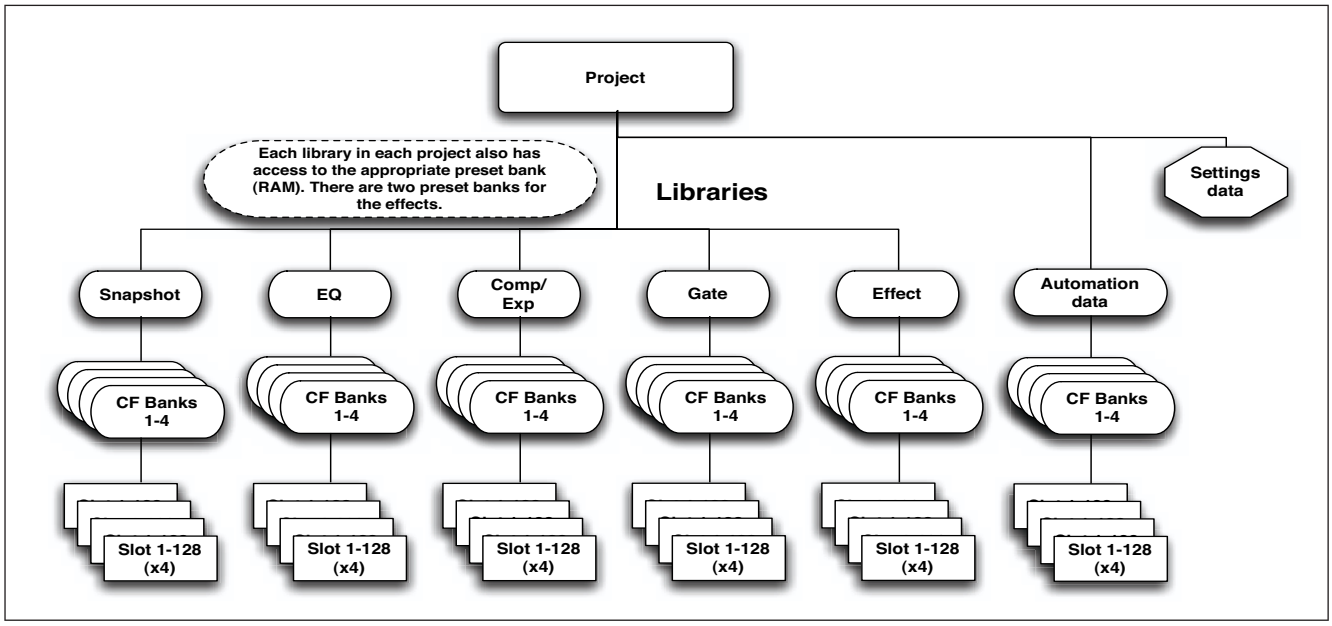


**Figure 2.29: Project structure**

Within each project there are five libraries and automation data, each divided into four banks, containing the settings for the storable parameters mentioned above.

Each of these banks contains 128 "slots" to hold settings (numbered from 000 to 127).

In addition, the preset bank, stored in the DM-4800's memory, is available for recall of presets to be used as starting points for user settings. The effect library has access to two preset banks.

Individual slots and banks may be copied between projects after the project has been created.

Projects are stored on easily-transportable standard Compact Flash cards, allowing projects to be tracked in a project studio, and mixed and produced in a larger facility, for example.

Projects are date-stamped automatically (the DM-4800 contains a battery-backed clock) which helps you keep your work organized.

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## Setting the date and time

To set the date on the DM-4800, follow the steps below:

1 **Enter the UTILITY screen, and jump to the SYSTEM page:**

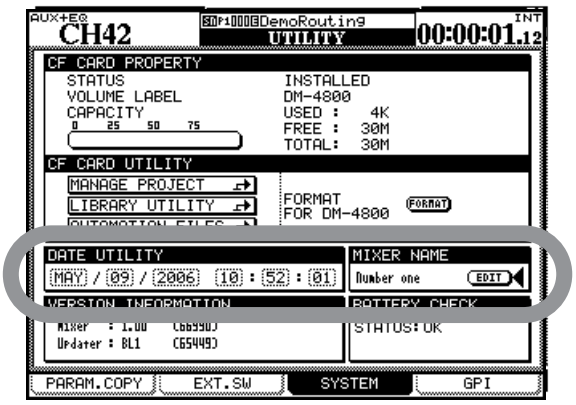


**Figure 2.30: Setting the date and time**

2 **Move the cursor to the** DATE UTILITY **section of the screen.**

3 **Use the cursor and wheel to set the date and time.**

**Note that the month is a three-letter abbreviation of the English month name** (JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC) **and the hours are set in 24-hour ("military") format.**

4 **When you have set the values, press ENTER. The DM-4800 shows a confirmatory pop-up message** (Date change was applied)**.**

The calendar in the DM-4800 takes account of the different month lengths, including leap years (valid up to and including the year 2099—you may want to consider an upgrade after that time!).

More seriously, the clock is backed up by the DM-4800's internal battery. This battery should last for several years. In the event of the battery running low, (you can use the UTILITY/SYSTEM screen to check), consult your TASCAM supplier.

## Naming the DM-4800

Note that it is possible to provide your mixer with a unique identifying name, which is useful if you are working in a facility with more than one unit.

Use the MIXER NAME field to the right of the date and time field to set this value. This name will be shown on the screen of the TASCAM Mixer Companion software to identify the unit.

## Creating a new project

When creating a new project, the project can be created from scratch, with manually selected sampling frequency, surround mode and mixer settings, taking the settings from a selected prior project that acts as a template, from preset library settings, or from the current settings.

1 **With the ALT indicator lit, press PROJECT so that the** NEW PROJECT **page is shown:**

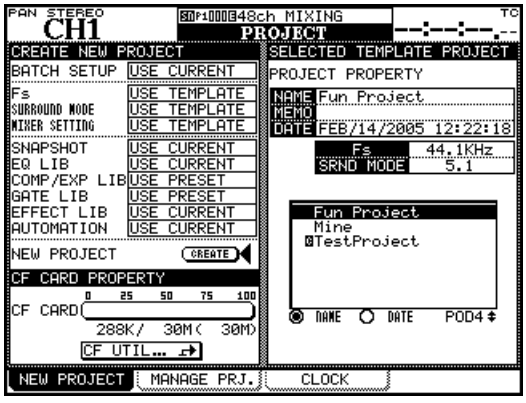


**Figure 2.31: The NEW PROJECT page**

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**To set up a new project from scratch** This is how you use the screen to set up a new project.

2 **Set the current sampling frequency and surround mode for the project in the top left sections of the screen.**

**Use POD 4 to select an existing project on the card to use as a template from which settings, etc. can be copied to the new project.**

3 **Use the cursor keys to select the options, which include using any of the current settings** (USE CURRENT) **or the preset settings,** (USE PRESET) **or from the project selected at the right of the screen that can be used a a template** (USE TEMPLATE) **for different aspects of a project. Press ENTER to confirm these settings as well.**

**TIP**

*To set all options as* CURRENT, TEMPLATE *or* PRESET, *use the* BATCH SETUP *at the top left as a short cut.*

4 **Move the cursor to the on-screen** CREATE **button and press ENTER, following instructions on screen until the project is created.**

**Using a template** Alternatively, if you already have projects stored on the card, you can select one of these to be used as a template. This is useful if your facility regularly handles a certain type of project with similar settings, as it allows you to set up the DM-4800 with known parameters and to maintain consistency between projects.

**TIP**

*Use the radio buttons* NAME *and* DATE *to sort the available projects by their name (alphabetic order) or the date of creation.*

## Managing projects

Projects may be deleted, renamed, etc. as well as being copied (this last option allows you to keep different versions of the same basic project, with different EQ settings, library entries, etc.).

**TIP**

*You can also use the software on a computer to read the data stored on the CF card, back it up to the computer, and save it to another card. Consult the documentation of the software to find out how to do this.*

Use the MANAGE PRJ. screen (press the **PROJECT** key with the **ALT** indicator lit until this screen appears) to manage card-stored projects**:**

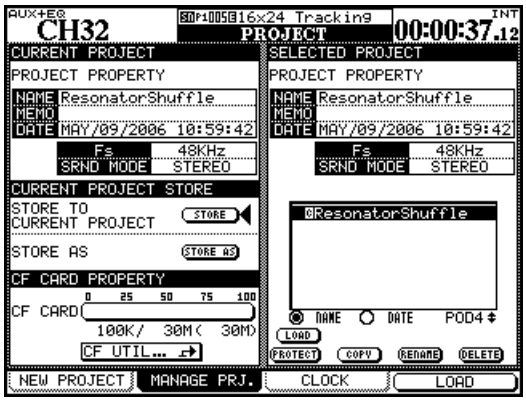


**Figure 2.32: The project management page**

The currently-loaded project is indicated by an inverted C character by its name.

Use the POD 4 encoder to scroll through the list of available projects.

**Loading a project** Use the POD 4 key as a shortcut key (LOAD) to load the highlighted project, or use the cursor keys to move the cursor to the on-screen LOAD button and press **ENTER**.

A popup message briefly appears while loading the project, and also when the load process is completed.

**NOTE**

*The default internal data when loaded does not allow the storage of automation, or the storage or recall of library entries. We strongly recommend that you set up a project before starting work with the DM-4800.*

**Copying a project** This action takes the highlighted project and creates a new project based on it. When the on-screen **COPY** button is pressed, the rename popup appears with a name and comments based on the source project. See "Naming library entries" on page 41 for details of how to enter and edit names.

Rename the project with a unique name (duplicate names are not allowed, and a popup message will inform you if you try to use an existing name) and when you are finished, press the on-screen STORE button (CANCEL cancels the copying process).

**Deleting a project** Move the cursor to the project to be deleted and press the on-screen DELETE button.

A popup appears asking if you are sure you want to delete the project. Press **ENTER** to delete, or a cursor key to cancel the delete process.

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**NOTE**

*Remember that deleting a project also deletes all the custom library entries (snapshot, effect and dynamics processor settings, etc. and the automation data) associated with the project. Only delete the project if you are certain that you do not want any of the project data any more.*

**Renaming a project** This is very similar to the copy procedure (see above) where the on-screen RENAME button is pressed to provide a new unique name for the project (as described in "Naming library entries" on page 41).

In addition to these facilities named above, there is an on-screen button allowing a direct jump to the CF card maintenance screen, allowing formatting of a card, etc.

**Protecting a project** The on-screen PROTECT button allows a project to be locked against accidental writing or deletion.

Highlight a project in the right-hand list, and press this on-screen button to protect it. A padlock icon appears beside the project name in the list.

This button is also used to unprotect a protected project, allowing data to be written to it again, or for the project to be deleted.

## Saving project data

- **From the** MANAGE PRJ. **screen, move the cursor to the on-screen** STORE **button.**

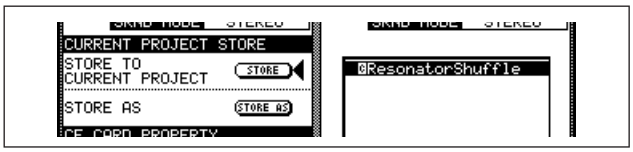


**Figure 2.33: Storing a project**

- **Press ENTER to store the current project settings. Appropriate popup messages appear, finishing with "**Completed**" when all save operations are complete.**

**TIP**

*Get into the habit of doing this at critical points in your project.*

You can also use the STORE AS button to bring up the naming panel (see "Naming library entries" on page 41), allowing the current project settings to be stored under a different name (similar to the Save As... on many computer programs), allowing different versions of a project to be available.

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## Library management

Each project on the DM-4800 contains the following libraries for storing and recalling commonly-used settings:

- Snapshots (scene memories)
- EQ settings
- Compressor/expander settings
- Gate settings
- Effect settings (for internal effects 1 and 2)

Up to four card-stored banks of each library type are available in each project. These banks are independent of each other and independent of the banks in other projects.

It is, of course, possible to copy library entries (or entire banks) between projects, as well as using existing projects as templates, allowing favorite effect settings, for example, to be used throughout a group of projects.

There is also an internal bank, containing read-only preset settings, which can be accessed by all projects.

In each bank, there may be up to 128 entries. The entries in the internal banks comprise read-only presets, which may be used unchanged, or recalled and used as the basis for original settings.

Library entries may be named and are automatically time-stamped, to provide a reference for just when and why a particular effect or setting was created.

Management of the library banks and the library entries contained in them is done from within a special utility screen accessed from a pull-up menu.

Note that all libraries are very similar in their basic operation, and differ only in details. If there are any specific differences relating to an individual library, they are described in the appropriate section of the manual.

To enter the library management screen, insert a formatted CF card (or insert a blank card and format it—see “Formatting a new card” on page 32) and press the **LIBRARY** key:

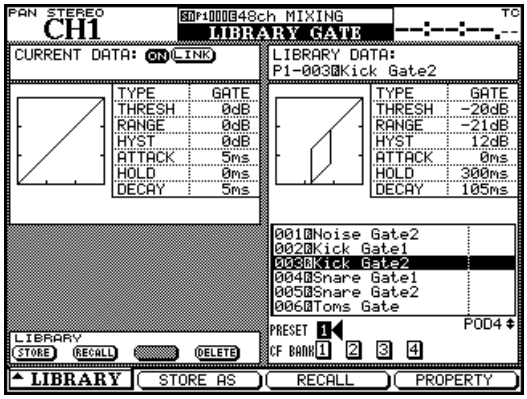


**Figure 2.34: Library screen (gate library shown as example)**

Use the POD 1 key to pull up the menu which allows a jump to the appropriate library. **(see Figure 2.35, *Library selection pull-up menu*).**

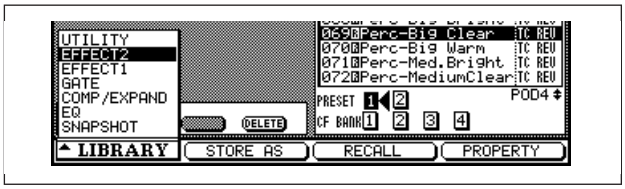


**Figure 2.35: Library selection pull-up menu**

Use the POD 1 wheel to highlight the required option in the menu, and the POD 1 key or **ENTER** key to select the highlighted option.

In most library screens, a small graphical representation of the currently-loaded setting (snapshot, EQ setting, etc.) occupies the top left of the screen, while the top right part of the screen is used to show a corresponding representation of the currently highlighted library entry.

**Using library banks** Select the bank within the current project by using the cursor keys to highlight the PRESET or CF BANK to be used, and pressing **ENTER**.

This bank is used to recall a preset or previously stored setting or to store the current settings.

- Current data is always stored on the left side of the library screen, and the library data in the currently-selected bank and slot is shown on the right.

Bank selection can also be done by pressing the **+** and **–** keys to the left of the display in the **LIBRARY**

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section with the **SHIFT** key pressed. This refers to the banks of the current library as selected for this purpose in the OPTION SETUP screen.

**Viewing library entries** POD 4 or the wheel may be used to scroll through and highlight the library entries in the currently-selected bank. The on-screen representation changes as the entries are highlighted. POD 4's key can be used as a "soft key" here to bring up a popup with the properties of the highlighted entry.

Pressing the POD 2 switch brings up an edit screen, allowing the title, etc. of the library entry to be edited (see "Naming library entries" on page 41).

**Recalling library entries** When a library entry is highlighted, using the **RECALL** key to the left of the "fat channel" recalls the entry in the library currently selected in the OPTIONS/SETUP screen. Settings change to that of the entry. The POD 3 switch or the on-screen RECALL button may also be used to recall a library entry from the library currently being used, regardless of the OPTIONS setting (navigate to the on-screen button and press **ENTER**).

The **+** and **–** keys can also be used (without the **SHIFT** key) to recall the library entries within the bank in sequence.

**TIP**

*By using the* **SHIFT** *key and the* **RECALL** *key, the recall action can be undone. Pressing the* **SHIFT** *+* **RECALL** *key combination after an undo operation will redo the recall action.*

**Storing library entries** The current settings can be stored as a library entry to the currently-selected library in OPTIONS/SETUP by using the dedicated **STORE** key to the left of the "fat channel". They will be stored to the slot in the library highlighted at the right of the screen. The on-screen STORE button may be used to store the currently-shown library settings to the appropriate library (navigate to it and press **ENTER**).

If this action will overwrite an existing library entry, this is shown as a popup message. Popup messages are also shown if the settings cannot be stored (maybe because there is no space on the card) or if the destination slot contains a read-only preset.

Use the POD 2 switch with the on-screen STORE AS button. Pressing it brings up the naming panel, and the renamed entry can then be stored.

**TIP**

*You can copy library entries directly between banks (see "Library utilities" on page 39), but you also can load a library entry from one bank, thereby making it the current entry, select another bank, and store the current entry to that bank.*

**Deleting library entries** When a library entry is highlighted on the right side of the screen, you can delete it from memory, using the on-screen DELETE button.

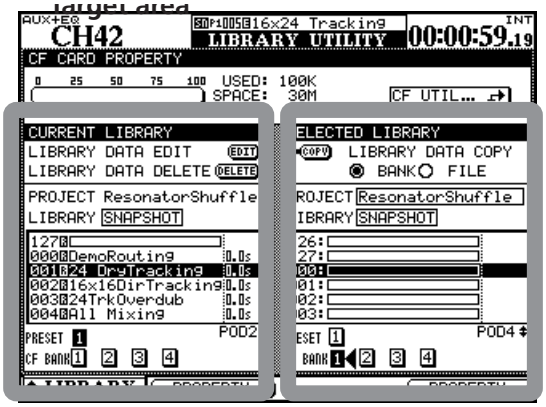
Navigate to the button, and press **ENTER**. A popup message appears, asking you to confirm that the library entry is to be deleted. Confirm the deletion with **ENTER**, cancel it with a cursor key.

An error message pops up if you try to delete a read-only library entry.

## Library utilities

These utilities allow batch operations, etc. to manage library data and the CF cards.

Access this screen with the UTILITY option in the pull-up menu:




Target area Source area

**Figure 2.36: Library utility screen**

This screen allows the bulk copying and management of library data between libraries and banks, as well as between projects.

The left side of the screen is used to show and set details of the "target" destination of the copying and management process, and the right side is used for the source of the data to be copied. Naturally, when copying data from one library to another, both libraries must be of the same type—it is not possible to copy EQ settings to an effect library, for example.

**Target parameters** Within the "target" section of the screen, you can edit the properties (use the on-screen EDIT button) of the library entry highlighted in the scrolling list, in the selected bank.

Use the on-screen buttons at the bottom of the left side of the screen to select the bank to be used as a target.

Use the POD 2 encoder to scroll through the list of entries in the selected bank.

The on-screen DELETE button deletes the currently-highlighted library entry.

The target project is fixed as the currently-loaded project and cannot be fixed—to copy data to a project other than the one currently loaded, you must first load the desired target project to make it active.

However, from this screen it is possible to change the currently-loaded library type (this changes the library type on both sides, of course).

**Source parameters** The source parameters are similar to the target parameters described above.

You can select the library type (which changes both the source and target types), as well as the banks within the source library.

Also note that you can select another project from internal memory or card from which to extract library entries and copy them over to the target library bank.

Use the POD 4 encoder to scroll through the bank.

The actual copying is done by selecting either BANK (the complete contents of the selected source bank) or FILE (the highlighted entry in the source), moving the cursor to the on-screen COPY button and pressing ENTER.

Appropriate popup messages warn you about overwriting, failed copy operations, etc.

Also note the "fuel gauge" showing the used/free space of the CF card and the "jump button" allowing easy access to the CF card utility screen.

**NOTE**

*Copying a whole bank overwrites the whole contents of the target bank. For example, if the target bank contains 99 entries, but the source bank from which the copy is made contains only one, after the copy the target bank will contain one entry only.*

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## Naming library entries

When naming library entries, projects etc., the following method is used to enter new names, or edit existing ones. Names and memos of up to 16 characters can be stored:

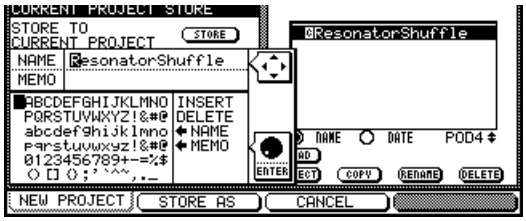


**Figure 2.37: Setting and editing titles and memos**

- **Use the cursor keys to move left and right within a title.**
- **Use the wheel to navigate around the character palette, and press ENTER to enter the highlighted character at the title's cursor position.**
- **The character palette also contains an** INSERT **and a** DELETE **symbol. When the wheel is used to highlight these, and ENTER is pressed, a blank space is inserted, or the current character is deleted, respectively, at the title cursor position.**
- **Library naming screens also contain** ←NAME **and** NAME→ **fields (and sometimes also contain** ←MEMO **and** MEMO→ **fields) which are used to transfer the stored name to the edited name or the edited name to the stored name respectively. Highlight the appropriate field and press ENTER to perform the copy.**
- **When the characters of the title have been entered, press the on-screen** STORE **(POD 2) to enter the name and store the library entry (or project). POD 3** (CANCEL) **cancels the naming process.**

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## Options

The OPTIONS screens allow you to set preferences to suit your working style. There are four option screens, all accessed through the **OPTION** key.

The SETUP and PREFERENCES screens set general parameters relating to the operation of the DM-4800, while the SOLO screen, as its name suggests, is concerned with solo operations.

The ENCODER MODE screen has been described in “Encoder mappings” on page 23.

### SETUP screen

Press the **OPTION** key until the SETUP screen appears. Use the cursor to navigate around the checkbox and radio button parameters, and the **ENTER** key to select and de-select settings.

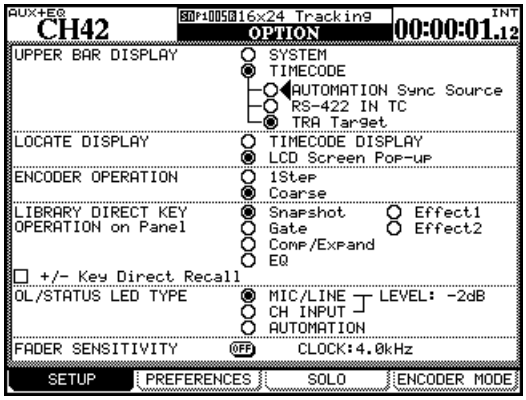


**Figure 2.38: The SETUP option screen**

**UPPER BAR DISPLAY** This parameter has two options: TIMECODE and SYSTEM. When set to TIMECODE, the top right field of the display shows incoming timecode, and when set to SYSTEM, certain system parameters (clock source, solo mode, etc.) are displayed.

**Figure 2.39: Display top line set to SYSTEM**

The source of the timecode selected in this way is also selectable between the timecode used for automation sync (AUTOMATION Sync Source), timecode received at the 9-pin serial port (RS-422 IN TC), and any other timecode received.

**TIP**

*The TASCAM Mixer Companion software can also display the timecode in a window on a personal computer.*

**LOCATE DISPLAY mode** This parameter determines how a location entry will be shown on the display: in the timecode position (TIMECODE DISPLAY) or as a separate popup display on the screen (LCD Screen Popup).

**ENCODER OPERATION mode** When using the encoders (“Encoder behavior (fine and coarse)” on page 26), or the PODs, the parameter being edited may sometimes have too many values to allow easy setting using the encoder (for example, there are 127 different pan positions). Using the 1Step setting, one “click” of the encoders corresponds to one step in the parameter values. Using the Coarse option allows the changing of the parameter values to be accelerated, with fewer clicks of the encoder. See also “Encoder behavior (fine and coarse)” on page 26.

**LIBRARY DIRECT KEY OPERATION** This parameter controls the type of library accessed by the **RECALL** and **STORE**, and the **+** and **–** keys in the **LIBRARY** section to the left of the “fat channel”. There are six choices: Snapshot refers to the overall mixer settings, Gate to the gate libraries, Comp/Expand to the dynamics processor settings for gate and expander effects, EQ to the equalization setting library, and Effect1 and Effect2 to the first and second internal effector settings, respectively.

If the +/- Key Direct box is checked, this allows instant recall of a library entry selected using the **+** and **–** keys.

**OL/STATUS LED TYPE** The **OL/STATUS** LED indicators above each fader can serve one of two purposes: firstly, if either of the two “overload” options (MIC/LINE or INPUT) is selected, they act as overload or signal detection indicators (depending on the setting) when the input level exceeds the level set in the LEVEL field (OVER, 0, -2, -4, -6, -8, -10, -12, -16, -20, -30 or -42(dB)).

This status can be set for either the MIC/LINE inputs 1 through 24 or for the INPUT associated with the module, using the appropriate radio buttons.

Set the level for the overload lighting by moving to the value, pressing the **ENTER** key, turning the wheel to set the value and pressing **ENTER** to confirm the value.

Otherwise, if the AUTOMATION option is selected, these indicators show the current automation status of the channels, as explained in the separate *Automation Manual*.

**FADER SENSITIVITY** This parameter allows you to specify the sensitivity of the faders, as used in the automation process.

The DM-4800 fader touch sensing capabilities are dependent on the ambient humidity and environment. Depending on these factors, it may sometimes happen that faders which have been touched are not recognized as having been touched, or the faders are recognized as having been touched when they have not actually been touched.

The value of the sensitivity is set by default to 3.3kHz, but you may wish to set it to any of the following values: 1.2kHz, 1.4kHz, 1.7kHz, 2.0kHz, 2.5kHz, 3.3kHz, 5.0kHz. High values mean higher touch sensitivity.

While the FADER SENSITIVITY on-screen button is switched ON and this screen is visible, touching any of the faders with your fingers will illuminate the **STATUS/OL** indicator for as long as the fader is touched. This provides a useful check for the sensitivity of the faders.

**TIP**

*Set this to a higher value if the indicators do not light when you touch some faders, and to a lower value if they remain lit when you release some faders.*

## PREFERENCES

The following general working preference settings are available from this screen:

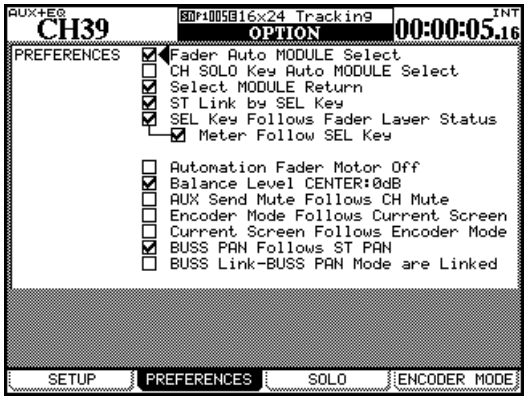


**Figure 2.40: The PREFERENCES screen**

**Fader Auto MODULE Select** When enabled, this option allows a module to be selected whenever its fader is touched, in addition to the usual method of pressing the **SEL** key. In some screens, when this option is enabled, this may only mean that the module shown at the top left of the screen changes when its fader is touched.

**CH SOLO Key Auto MODULE Select** When this is enabled, soloing a channel selects the module.

**Select MODULE Return** When checked, this option allows the MODULE screen of the appropriate module to appear if the **SEL** key of the module is pressed and held for about two seconds.

**ST Link by SEL key** When checked, this option allows the stereo linking of two adjacent modules (when the left module of the pair is odd-numbered) by pressing and holding the **SEL** key of one module and pressing the **SEL** key of the other.

**SEL Key Follows Fader Layer Status** allows the setup of the automatic linking of the selected channel to the selected fader layer.

When this option is checked, if a channel is selected, the fader layer is changed, and then the fader layer is changed back again, the originally-selected channel is automatically selected.

For example, if this option is active, and **SEL** 2 key is lit with fader layer 1-16 active, fader layer 17-32 is then selected, **SEL** key 3 (channel 19) is selected, and then fader layer 1-16 is then re-selected, **SEL** key 2 will be active.

If the option is not active, no **SEL** key which is lit remains lit when the fader layer is changed.

**Meter Follows SEL key** When this option is checked, and the previous SEL Key Follows Fader Layer Status option is also checked, the meter layer automatically changes when the fader layer is changed (see "Meters" on page 69). The modes are as follows:

| Fader layer | SEL keys | Meter layer |
|---|---|---|
| CH 1–24 | CH 1–24 | CH 1–24 |
| CH 25–48 | CH 25–48 | CH 25–48 |
| CH 49–64 | CH 49–64 | CH 49–64 |
| BUSS 1–24 | BUSS 1–246 | BUSS |
| AUX 1–12 | AUX 1–12 | AUX |

**Figure 2.41: Layer/SEL key matching**

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**Automation fader OFF** When this option is active (checked), in automation mode, when the automated mix is being read (played back), the faders do not move.

**Balance Level CENTER:0dB** When two channels are linked together as a stereo pair, the pan controls change to a balance control. In the center position, the level may either be set to 0dB (checked) or a 3dB cut (unchecked).

**AUX Mute follows CH Mute** When this is checked, Aux sends from a channel are muted when the channel is muted.

**Encoder Mode Follows Current Screen** This option switches the encoder function automatically (see "Encoders" on page 22) when a relevant screen (e.g. an aux send global screen) is selected.

**Current Screen Follows Encoder Mode** The converse of the previous option; when the encoder mode is changed, the appropriate screen is shown.

It is possible to have both this and the previous option active at the same time.

**BUSS PAN Follows ST PAN** When checked, and the BUSS PAN mode is ON, this option allows the stereo pan channel control to control the balance between the odd and even busses. No effect in surround mode.

**BUSS Link/BUSS PAN Mode are Linked** When this is checked, the buss links and the buss pan modes (in the modules) are automatically linked together.

## SOLO

The solo modes on the DM-4800 can be set up in a number of different ways using this screen:

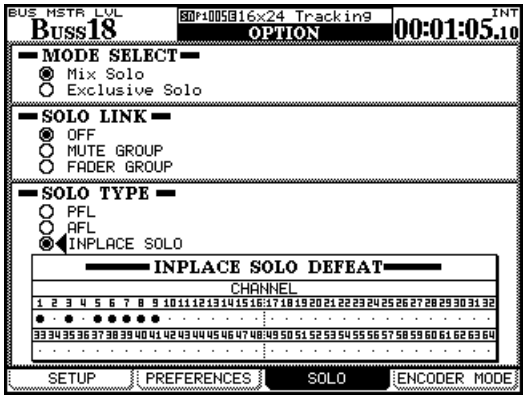


**Figure 2.42: SOLO options**

**MODE SELECT** Either Mix Solo or Exclusive Solo can be selected here. The Mix Solo mode allows a number of channels (that is, all whose **SOLO** keys are lit in solo mode) to have their outputs added together to the solo mix. The Exclusive Solo mode only allows one channel (the one whose **SOLO** key was pressed last) to be soloed at one time.

**SOLO LINK** This option allows the fader and mute groups to be used with the solo function. This is explained more fully in the solo part of the section describing monitoring. Briefly, if one of the group options (MUTE GROUP or FADER GROUP) is enabled, selecting a group master module solos or unsolos the whole of the group. If a group slave module is selected, the solo status of only that slave module is affected.

**SOLO TYPE** There are three options that may be selected here: PFL (pre-fader listen), AFL (after- or post-fader listen) and INPLACE SOLO. Briefly; the PFL option provides a way of listening to the signal before it is sent through the panpot and fader. The stereo outputs are unaffected (soloing is only done through the **CR** and **STUDIO** monitor outputs). An AFL selection will output the post-fader signal from the selected channels through the monitoring system. By contrast, soloing a channel in the Inplace Solo mode monitors the soloed signal(s) via the stereo and buss outputs while all the other signals are cut from the stereo and buss outputs.

**INPLACE SOLO DEFEAT** This option is a defeat option to prevent channels selected in this way from being muted when other channels are soloed. It can be used with a pair of effect returns, for instance, so that these effect returns will always be added in the inplace mix, together with those other channels selected for inplace soloing. Inplace soloing will output the soloed channel(s) from the stereo outputs, and cut all other channels. Use the cursor keys (or channel **SEL** key) to highlight a channel, and the **ENTER** key to change the status of the INPLACE SOLO DEFEAT setting.

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## Utilities

There are four UTILITY screens, accessed with the **UTILITY** key.

The first of these (PARAM COPY) provides a method of copying values between channel parameters. This is explained in “UTILITY copying” on page 30.

The second (EXT. SW) determines the function of the external footswitch.

The third (SYSTEM) allows CF card management and date setting. These have already been described in “Formatting a new card” on page 32 and “Setting the date and time” on page 35 and are not described again here.

The last allows the setup of the GPI control protocol from the DM-4800.

### SWITCH utility

When a footswitch is connected to the rear of the unit, it can be set up using this screen in the following way:

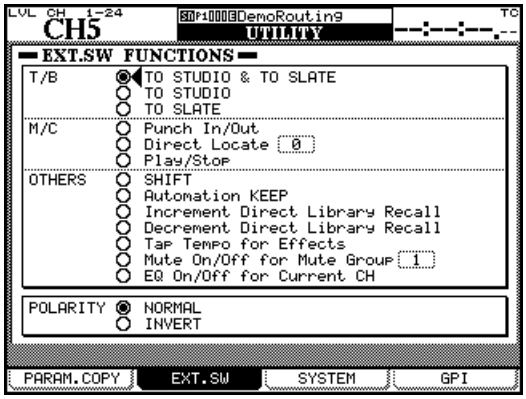


**Figure 2.43: UTILITY external switch settings**

**Talkback** The footswitch can be set to act as a hands-free talkback switch, with the destination being set from the following options: TO STUDIO & TO SLATE, TO STUDIO, and TO SLATE. In these cases, the footswitch acts in “smart mode” (see “Smart keys” on page 19).

**Machine Control** Especially in cases where the artist is also the recording engineer, the following hands-free transport operations can be very useful: Punch In/Out, Direct Locate [n], Play/Stop. See “Remote operation” on page 105 for full details of how these functions operate. In these cases, the footswitch operates in the same way as the front panel keys.

**Other functions** The following functions duplicate commonly-used keys. SHIFT duplicates the use of the **SHIFT** key (to the left of the unit). Automation KEEP performs a keep operation (see the separate *Automation Manual* for details). Increment Direct Library Recall and Decrement Direct Library Recall allow direct stepping up or down through the current bank of the current library (see also “Recalling library entries” on page 39). Tap Tempo for Effects allows the footswitch to be used for tapping in the tempo used for a synchronized Effects (useful if both hands are busy playing an instrument!). Mute On/Off for Mute Group [n] provides easy hands-free mute grouping for a specified group, and the EQ On/Off for Current CH allows easy A/B comparisons of EQ settings versus flat response.

**Polarity** This is not a function assignment, but allows the switch’s polarity to be reversed (the DM-4800 expects a push-to-make momentary switch, but by flipping the polarity to INVERT, a push-to-break switch can be used instead).

### GPI settings

The DM-4800 allows you to send 8 output signals from the GPI port (‘D’ sub 9-pin connector) on the rear panel, and control external devices from the DM-4800.

The DM-4800 allows you to assign different trigger settings for GPI signal output to each of the GPI ports.

You can choose the trigger source to be one of the following: a fader, **MUTE** key control, transport control, machine control key status and its operation, or a timecode value.

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**Making connections** The specifications of the GPI ports on the rear panel are as follows:

Arrangement of the serial port pins:

| Pin number | Function |
|---|---|
| 1 | GPI output port 1 |
| 2 | GPI output port 2 |
| 3 | GPI output port 3 |
| 4 | GPI output port 4 |
| 5 | GND |
| 6 | GPI output port 5 |
| 7 | GPI output port 6 |
| 8 | GPI output port 7 |
| 9 | GPI output port 8 |

**Table 2.4: GPI pin assignments (output level: 5V)**

**Setting the GPI** GPI settings are made using the UTILITY GPI screen.

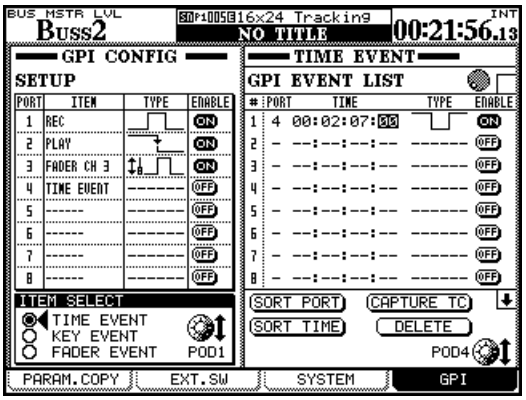



**Figure 2.44: GPI setting screen**

The GPI CONFIG section on the left of the screen allows you to set the item and the type of the GPI trigger for each of the ports and the on/off status of the GPI function.

The right side of the screen allows you to the event that happens at a particular time, when the GPI is controlled by timecode.

**GPI CONFIG section** Use the cursor keys to select the elements in this list.

Use the POD 1 knob to set the item that controls each of the GPI ports in the ITEM column of the SETUP list.

1 **Pre-select the item type from the** ITEM SELECT **section**

TIME EVENT**: The GPI port is controlled by the timecode value on the right event list.**

KEY EVENT**: The status of the transport keys, the F1-F12 keys, and the MUTE keys control the GPI port.**

FADER EVENT**: The GPI port is controlled by the status of the selected fader.**

2 **Using the cursor key, highlight the port's** ITEM **column, and select the item using the wheel.**

Depending on which item type is selected in step 1 above, the options given vary as follows:

- TIME EVENT**:** TIME EVENT **or no assignment** (------)
- KEY EVENT**:** REW**,** FF**,** STOP**,** PLAY**,** REC**,** F1-F12**,** MUTE (CH1–64**,** BUSS1–24**,** AUX1-12**), or no assignment** (------)
- FADER EVENT**:** FADER (CH1–64**,** BUSS1–24**,** AUX1-12**,** STEREO) **or no assignment** (------)

3 **Press the ENTER key to confirm the setting.**

**Selecting the type** The type of output from each of the ports is set in the TYPE column in the SETUP list.

4 **Using the cursor keys, highlight the port's** TYPE **column and select the item using the wheel.**

**Depending on the item selected, the options given vary as follows:**

- TIME EVENT**:** TYPE **column shows "------"; the setting of the type is done in the** GPI EVENT LIST **on the right of the screen.**
- FADER EVENT**: the different event types are listed below:**

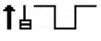
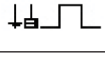
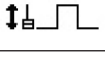
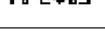
| | |
|---|---|
|  | output low pulse when the fader starts |
| | output high pulse when the fader starts |
| | output low pulse when the fader stops |
|  | output high pulse when the fader stops |
| | output low pulse when the fader starts or stops |
|  | output high pulse when the fader starts or stops |
|  | output changes to low level when the fader starts, and to high level when the fader stops |
| | output changes to high level when the fader starts, and to low level when the fader stops |

**Table 2.5: GPI fader event types**

**NOTE**

*"When the fader starts" means when the fader level is brought up from the lowest level and "when the fader stops" means when the fader level is brought down to the lowest level.*

*The output pulse time is approximately 150ms*

- KEY EVENT**: the different event types are listed below:**

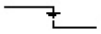
| | |
|---|---|
| | output low pulse when the key status changes |
| | output high pulse when the key status changes |
|  | change to low level when the key status is turned on, and to high level when the key status is turned off |
| | change to high level when the key status is turned on, and to low level when the key status is turned off |

**Table 2.6: GPI key event types**

**NOTE**

*The output pulse time is approximately 150ms.*

*Options for F5-F8 are either low pulse output or high pulse output.*

**ON/OFF setting** Set this to ON when you want to activate the selected GPI port.

When the ITEM is set to TIME EVENT, this column will always display OFF and the on/off setting is determined by the setting in the GPI EVENT LIST on the right of the screen.

**TIME EVENT section** You can set up to 16 time events in the GPI EVENT LIST which is set up as follows:

- **To move the cursor vertically within the list, use the up and down cursor keys, or the POD 4 knob.**
- **To move the cursor horizontally (across the columns), use the right and left cursor keys.**
- **Any arrows at the top and the bottom of the right side of the list mean that there are more time events outside the screen. To scroll the list vertically, use the POD4 knob (not the up and down cursor keys).**

**Selecting the port** Each time event is associated with a port, whose ITEM has been set to be a TIME EVENT in the GPI CONFIG section

1 **Select GPI ports in the** PORT **column of the** GPI EVENT LIST **by using either the cursor key or the POD 4 knob to highlight a cell in the** PORT **column, then press the ENTER key to confirm the selection. You can select the same port for more than one time event.**

**Setting the time** Set the time when an event is to be executed.

2 **Highlight a cell in the** TIME **column Use either the cursor keys or the POD4 knob.**

3 **Use the wheel to set the time, then press the** ENTER **key to confirm.**

**Setting the type** You can set the output type for each of the GPI ports.

4 **Highlight a cell in the** TYPE **column using either the cursor key or the POD4 knob**

5 **Use the wheel to select the type.**

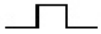
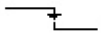
| | |
|---|---|
| | output low pulse at the designated time |
|  | output high pulse at the designated time |
|  | change to low level at the designated time |
| | change to high level at the designated time |

**Figure 2.45: GPI pulse types**

**ON/OFF setting** Set this to ON to activate the settings of individual time events.

**Editing the GPI EVENT LIST** You can edit the GPI EVENT LIST by highlighting one of the buttons at the bottom right on the screen and pressing the **ENTER** key.

- SORT PORT**: This sorts the** GPI EVENT LIST **by port number.**
- SORT TIME**: This sorts the** GPI EVENT LIST **by time value.**
- CAPTURE TC**: This sets the** TIME **value of the highlighted time event to the current timecode value.**
- DELETE**: This deletes the highlighted time event.**

**NOTE**

*You can use the wheel to scroll within the* GPI EVENT LIST *while the cursor is pointing at the* CAPTURE TC *or DELETE buttons. The wheel icon at the upper right corner of the list turns solid while you do this.*

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# 3 – Connections

***This section describes how the DM-4800 connects to other equipment in your studio.***

***Since the DM-4800 is extremely "soft" in terms of the internal routing and patching, it is unlikely that you will need to spend a lot of time connecting and disconnecting equipment once you have your setup in place.***

A patchbay is also probably less necessary with the DM-4800 than with many other mixers. See "Routing" on page 59 for full details of how the routing and assignment are managed.

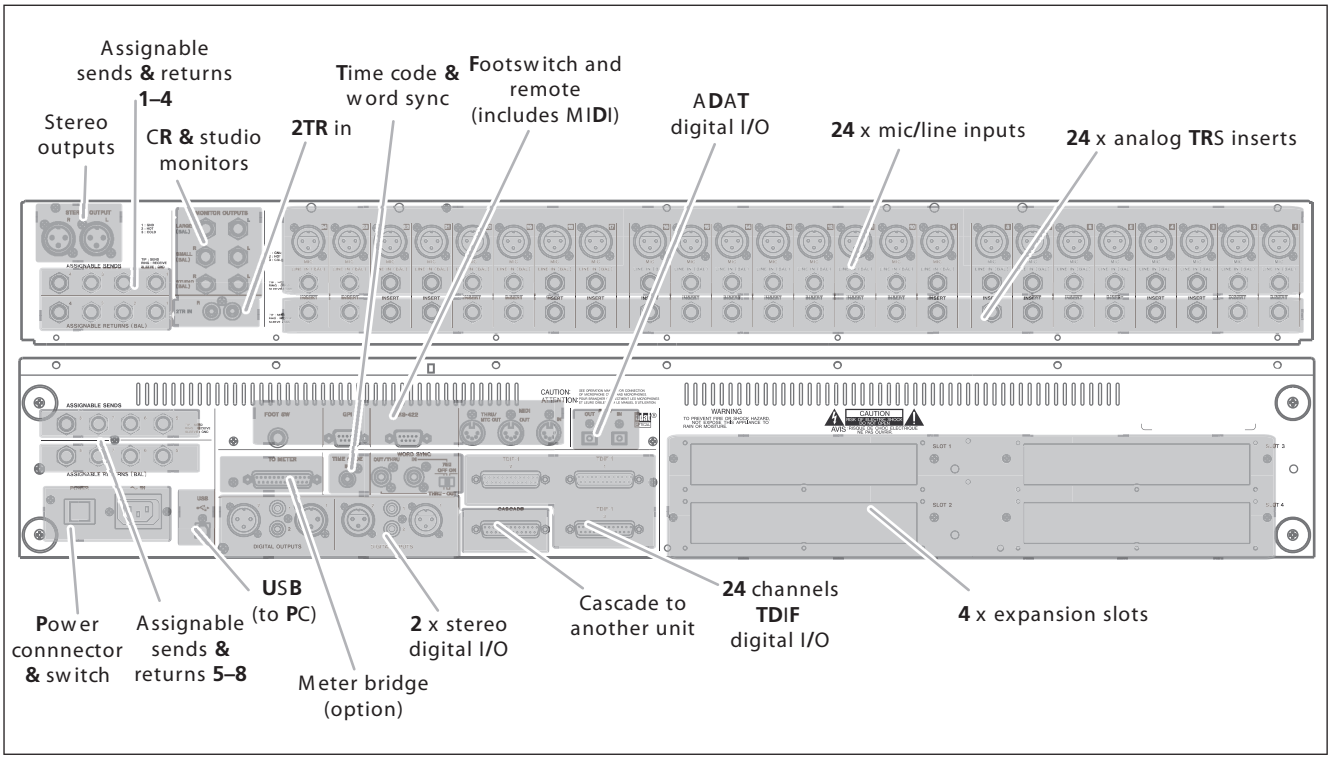


**Figure 3.1: Overview of rear panel features**

The illustration above provides an overview of the way in which the rear panel connections are arranged.

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# Analog connections

## Mic/line connections

All these connections (microphone and line) are balanced. The XLR connections follow the standard of pin 1 ground, pin 2 hot and pin 3 cold. The TSR 1/4" jacks are tip hot, sleeve ground, ring cold (this applies to all balanced 1/4" jacks on the DM-4800).

Both the XLR mic connection and the 1/4" jack connection can be made at one time, but it is only possible to accept input signals from one source at a time.

The choice between the mic and line inputs is made with the **MIC/LINE** selector switches for each input channel.

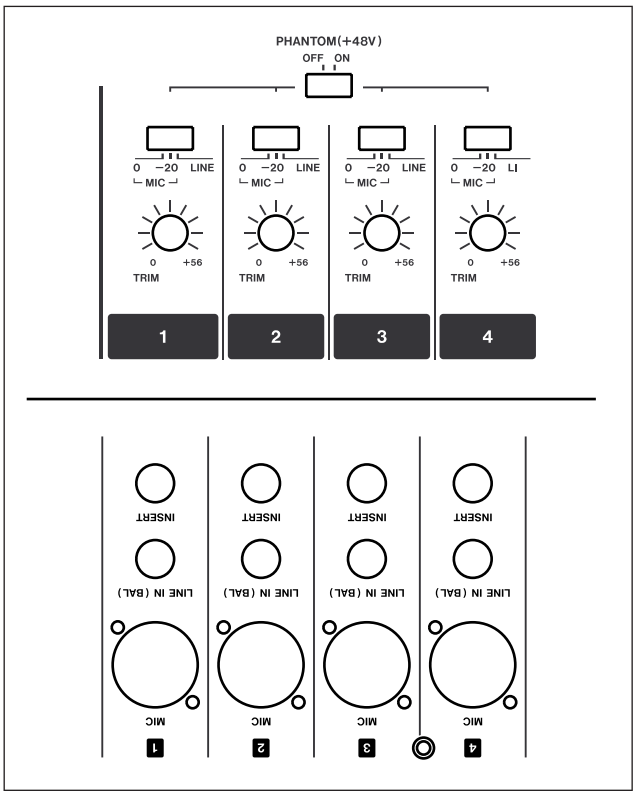


**Figure 3.2: Analog channel inputs and controls**

Note that the switch also has a **–20** position, providing a 20dB pad for high-output microphones.

The analog input signal level can be adjusted using the analog **TRIM** controls (there is also an internal software digital trim control for each input channel, independent of these analog controls).

A +48V phantom power supply is provided for balanced condenser microphones. This is switchable in groups of 4 (inputs 1–4, 5–8, 9–12, 13–16, 17–20, and 21–24).

**WARNING**

*To avoid damage to the microphones and/or the DM-4800, do not connect or disconnect condenser microphones to and from the DM-4800 with the phantom power to that input switched on. Always switch the phantom power off before connecting or disconnecting condenser microphones.*

*Do not use unbalanced dynamic microphones connected to the XLR connectors with the phantom power turned on. This may cause damage to the microphones and/or the DM-4800.*

The 1/4" balanced input jacks accept +4dBu connections, but you can use the **TRIM** controls to allow them to accept –10dBV connections (from synthesizers, etc.).

Note that if additional analog inputs are required, the optional IF-AN/DM slot card can be used to provide such inputs.

**TIP**

*Signal/overload indicators for the input channels are selectable in the preferences screen. See "OL/STATUS LED TYPE" on page 42 for full details.*

**Channel inserts** The analog inserts for each analog input channel allow you to use your favorite analog compressors/gates, etc. before the sound gets converted to the digital domain.

**NOTE**

*These are not the same as the "soft" (assignable) insert loops which are described in "Insert patching" on page 61.*

These 1/4" jacks are wired: tip send, ring return, sleeve common ground. The nominal send and return levels of these inserts is –2dBu which allows them to be used with a wide range of studio equipment.

**2 TR IN** This pair of unbalanced RCA jacks provides a –10dBV return for the analog outputs of a 2-track recorder connected to the DM-4800.

**ASSIGNABLE RETURNS** These are pseudo-balanced 1/4" TRS jacks at +4dBu (wired as described above). As the name suggests, they provide analog return inputs which can be assigned to a variety of sources (see "Routing" on page 59).

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### Analog outputs

The dedicated analog outputs are relatively few, since it is expected that most signals will remain in the digital domain after they have entered the DM-4800.

**STEREO OUT** Balanced XLR connections (1 ground, 2 hot, 3 cold), which output the stereo buss signals, which can be used to feed the analog inputs of a 2-track recorder, or a specialist chain of analog devices used for mastering.

**NOTE**

*There are no dedicated stereo digital outputs. The stereo buss may be routed internally to a variety of digital outputs in different formats. See "Output routing" on page 61 for details.*

**ASSIGNABLE SENDS** These are pseudo-balanced 1/4" TRS jacks at –2 dBu (wired as described above). As the name suggests, they provide analog send outputs which can be assigned from a variety of sources (see "Routing" on page 59).

**Monitoring (LARGE (BAL) & SMALL (BAL))** Two pairs of balanced 1/4" jacks provide feeds to the stereo control room monitoring systems (amp/speaker or powered monitors) at +4 dBu levels. The level is adjusted using the hardware **CR** control and the levels can be adjusted individually, and switching between the two sets of speakers is performed using a dedicated top panel key.

**Monitoring (STUDIO (BAL))** This pair of balanced 1/4" jacks provides a+4 dBu feed to the studio monitoring system. The level is controlled by software from the MONITOR/MONITOR screen.

## Digital connections

### Digital audio I/O

**TDIF I/O** There are three 25-pin TDIF-1 connectors each carrying eight channels of input and eight of output. These can be used to connect DTRS recorders, etc. as well as other devices whose digital I/O conforms to the TDIF-1 standard.

**WARNING**

*Make connections to these terminals only using approved TDIF cables. Use of any other cables will result in signal degradation, and may even damage equipment.*

**ADAT "lightpipe" OUT & IN** These TOSLINK optical connectors carry eight output channels and eight input channels of audio respectively.

Connect them to appropriately-equipped equipment using standard optical digital audio cables.

**CASCADE** This is a special connector, used only to connect another DM-4800 unit, to extend the capabilities of the DM-4800.

**WARNING**

*Only use the special TASCAM cascade cable here. Use of any other type of cable may result in damage to the equipment.*

**Digital inputs and outputs** There are two sets of stereo digital inputs and two sets of stereo digital outputs.

Each set comprises an unbalanced RCA connector (typically for use with S/PDIF equipment), and an XLR connector (typically for use with AES/EBU equipment).

Though connections can be made to both the RCA and XLR connectors together, only one can be used for input at any one time (output from these jacks is made in parallel). Selection is made in software.

We strongly recommend that to maintain signal quality, you only use cables designed for digital equipment.

## Digital I/O setup

After the connections have been made, the inputs and outputs can be set up for use.

Press the **DIGITAL** key (**AUTOMATION** (**2**) with the **ALT** indicator lit) so that the FORMAT screen appears:

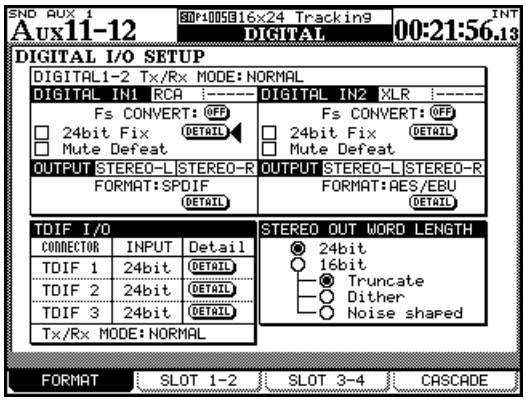


**Figure 3.3: DIGITAL SETUP screen**

This screen allows the viewing and changing of the format parameters relating to the two digital audio inputs and outputs, as well as the three built-in TDIF connectors.

There are a number of on-screen DETAIL buttons which, when pressed, show a popup with details of the word length, sampling frequency data format, etc. of the appropriate input or output.

**Digital inputs** The word length (16BIT or 24BIT) and the input selected using the routing screens (XLR or RCA) are automatically determined and displayed.

Also, in the case of a "double-speed" input (that is, 88.2kHz or 96kHz), the display shows HISPEED, otherwise it shows NORMAL.

The DM-4800 includes a frequency converter, which is capable of taking an input frequency of 44.1, 48, 88.2 or 96kHz (±6%) and converting it to the project frequency. Use the on-screen FS CONVERT button to turn the converter on and off.

**NOTE**

*The signal from any input used with a sampling frequency converter cannot be used as a sync clock source (see "Clock setting" on page 56).*

The 24bit Fix checkbox allows the input of 16-bit data at these connectors and removes any inconsistencies associated with spurious status information, fixing the word length at 24 bits.

**Mute Defeat** The Mute Defeat checkbox should normally be left unchecked. In the event of bad digital audio data being received (out of range, or corrupt, etc.), the DM-4800 will usually mute the input to prevent possible damage to monitoring equipment. However, this automatic muting can be turned off with this checkbox. Some AES/EBU sources produce data which does not quite conform to the AES/EBU standards, and will cause the DM-4800 to reject these sources, and mute the input, even though such data is actually valid.

Note that an appropriate popup appears if invalid audio data is received, informing you of the type of error and the input at which the bad data is received.

The output channels are determined automatically (either as stereo or 2 x mono) according to the output routing (see "Output routing" on page 61, but the format is set between AES/EBU and S/PDIF using the wheel and the **ENTER** key.

The TDIF inputs automatically detect sampling frequency, etc. but you may want to set the word length (16, 20 or 24 bits) using the wheel and **ENTER**. Note that the three TDIF terminals can take different word lengths.

**Stereo output** Finally, you can determine the format of the output from the stereo buss when it is routed to a digital output. The word length can be set at 24 bits, or reduced to 16 bits.

If the word length of the digital stereo buss is reduced to 16 bits, there are three options available: Truncate, Dither, and Noise Shape.

A full discussion of the principles involved here is outside the scope of this manual. Many of the books from Focal Press provide excellent background information on digital audio, timecode issues, etc.

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## Slot card configuration

As mentioned, you can expand the capabilities of the DM-4800 with the optional slot cards available.

These cards are as follows:

**IF-AN/DM** providing eight channels each of A/D and D/A conversion. Referred to on screen as AD/DA Card. Can be installed in any of the four slots.

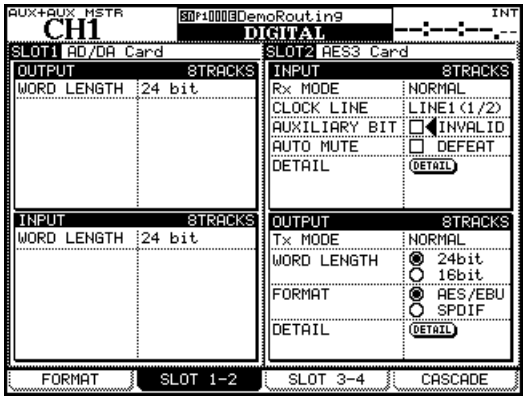


**Figure 3.4: IF-AN/DM (at left) and IF-AE/DM (at right)**

The parameters available allow the viewing (but not the setting) of the word length (for input and output) and the eight output tracks associated with the card.

**IF-AE/DM** providing eight channels of input and output in AES/EBU format. Referred to on screen as AES3 Card. Can be installed in any of the four slots.

The inputs and outputs can be set independently for normal operation or double-speed operation.

An on-screen DETAIL button allows the viewing of information related to each of the four stereo input and output channels (a popup appears on screen).

MUTE DEFEAT can be enabled or disabled for each of the four channels (see above for details of this).

management facilities, master SPL settings, etc.

The current status of the input and output channels is also shown on the screen.

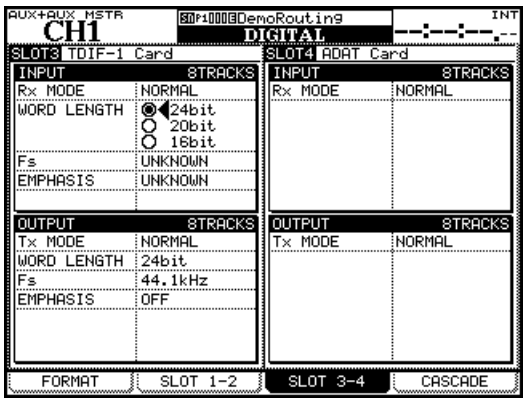


**Figure 3.5: IF-TD/DM (at left) and IF-AD/DM (at right)**

**IF-TD/DM** providing eight channels of digital I/O in TDIF-1 format. Referred to on screen as TDIF-1 Card. Can be installed any of the four slots.

**IF AD/DM** providing eight channels of digital I/O in ADAT "lightpipe". Referred to on screen as ADAT Card. Can be installed in any of the four slots.

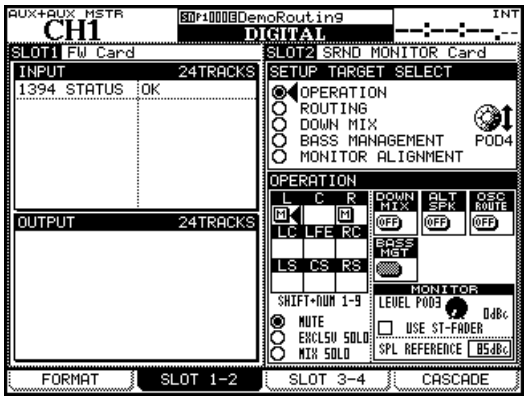


**Figure 3.6: IF-FW/DM (at left) and IF-SM/DM (at right)**

**IF-FW/DM** Provides 24 channels of audio I/O in each direction over an IEEE.1394 interface (as well as carrying MIDI to and from a host computer). Referred to on screen as FW Card. Can be installed in slot 1 or slot 3.

**IF-SW/DM** Provides facilities for analog surround monitoring setups, including downmixing and bass

Referred to on screen as SRND MONITOR Card.

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## Cascade configuration

The cascade facility allows the connection of two DM-4800 units. This effectively gives you one double-sized DM-4800 mixing console. The following items are shared.

- The Stereo buss, Busses 1–24, Aux busses 1–12, and the solo buss can be shared.
- The audio clock is provided by the master to the slave.
- Timecode is provided by the master to the slave over the cascade cable.
- Various settings and operations can be interlocked between the two units. See below.

**Master/slave setting** You need to set one DM-4800 to be the cascade master and the other to be the cascade slave. Any set-up that affects the operation of the system as a whole will be performed on the cascade master.

• An audio clock source is selected from the clocks fed to the cascade master. You cannot select the audio clock source on the cascade slave.

• Timecode fed to the cascade slave cannot be used as the synchronization source.

• The cascade connection can be turned ON and OFF only on the cascade master.

• When the cascade connection is ON, the parameter set-ups on the cascade master (parameters to be interlocked) are reflected on the cascade slave.

In a cascade chain, one unit is designated as the *master* unit, and the other as a slave. The *master* unit must always act as the word sync master for the cascade chain (though it can act as a word sync slave in the overall audio system).

### Making the cascade connection

There is one connection to be made between the two units. This connection must be made between the **CASCADE** connectors with the power off on both units. It carries all appropriate audio signals as well as the timecode sync signals and control signals.

**WARNING**

*To avoid possible damage to equipment, only use a TASCAM cascade cable (PW-1000CS) designed and produced for this purpose when making this connection.*

### Setting up the cascade

When the connection between the two DM-4800s has been made:

1 **Turn on both units. Wait until the units are fully booted, and then go to the** CASCADE **screen (**DIGITAL **screens) on the unit which will be used as the cascade master:**

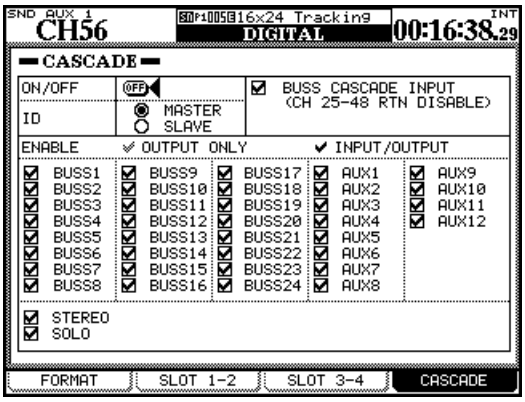


**Figure 3.7: CASCADE screen**

2 **Set the unit up as the cascade master (**MASTER**) using the on-screen radio button.**

3 **Now enter the same screen on the other (slave) unit, and set that one up as the cascade slave (**SLAVE **button).**

4 **On the master unit, turn the** CASCADE ON/OFF **button** ON **(note that you cannot assign master or slave settings while this is** ON**).**

**Press ENTER to confirm the cascade connection.**

5 **When a successful connection has been made, the master display shows** Cascade connection established!**. Press ENTER to dismiss this message.**

**An error message is displayed if the cascade cannot be established or if it is made, and subsequently becomes disconnected.**

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**NOTE**

*When the cascade connection is established, the slave unit's clock source is automatically set to* CASCADE *and the settings of the slave unit become those of the master unit.*

## Using the cascade

Since the cascade function allows busses, aux sends, etc. to be shared, and controlled from the master unit, the two DM-4800s can be used as one large digital console with twice the number of inputs and channels, etc.

However, due to internal considerations, if the busses are cascaded, the return inputs for channels 25 through 48 are unavailable. In order to enable the cascade function for the busses (and thereby disable these return inputs), the BUSS CASCADE INPUT checkbox must be checked. When this is unchecked, the checkboxes for the buss inputs are automatically disabled (grayed out) and return channels 25 through 48 are available.

The ENABLE checkboxes allow the selection from the master unit of which busses and functions will be shared.

Soloing, and control of the stereo buss on the slave machine can also be carried out from the master when the appropriate checkboxes are checked.

**Interlocked settings** The following settings are interlocked between the two DM-4800 units while a cascade connection is established.

These initial settings on the cascade master listed below will be reflected on the cascade slave immediately after the cascade connection has been established.

After the cascade connection has been made, whenever a setting is changed either on the cascade master or the cascade slave, the changed setting will be reflected on the setting of the other unit. However, the on/off setting of the cascade connection can only be changed on the cascade master (when the timecode is not running.

- Layer status
- Flip mode
- Encoder mode
- Surround mode
- Surround 5.1 rear mono
- DIGITAL CASCADE screen setup (except for ID and on/off settings)
- OPTION SETUP screen setup (except for FADER SENSITIVITY)
- OPTION PREFERENCE screen setup
- OPTION SOLO screen setup (except for INPLACE SOLO DEFEAT setup)
- OPTION ENCODER MODE screen setup
- METER/FADER METER screen setup
- SNAPSHOT RECALL SAFE setup on the LIBRARY SNAPSHOT screen
- AUTO SETUP screen setup
- Key setup in the AUTOMATION section (WRITE, TRIM, ALL SAFE, REHEARSE, INITIAL EDIT)

**Interlocked operations** The following operations are interlocked while two DM-4800 units are connected together as a cascade.

Whenever any of the operations below is executed either on the cascade master or the cascade slave, the other will follow, performing the same operation.

Snapshot related operations:

- Recall
- Store
- Delete

Automation key operations:

- **WRITE** key
- **TRIM** key
- **REVERT** key
- **REHEARSE** key
- **ALL SAFE** key
- **INITIAL EDIT** and **INITIAL EDIT DISCARD** keys

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## Other connections

**MIDI connections (IN, OUT and THRU)** Use these standard MIDI connectors to connect the DM-4800 to other equipment. The **THRU** terminal also functions as a MIDI Timecode output terminal.

This MIDI functionality can be used to provide either open or closed MMC loop control of remote devices. See "MIDI" on page 96 for details.

**NOTE**

*The USB connector provides MIDI to and from a host computer for DAW control, etc. There is no need to make a separate MIDI connection to and from such a computer.*

**RS-422 serial control terminal** This 9-pin D-sub connector is used to provide control of suitably-equipped devices, using P2 protocol, etc. See "Remote operation" on page 105 for details.

**GPI terminal** This 9-pin D-sub connector is used to output signals on up to eight GPI ports, using a common frame ground). See "GPI settings" on page 45 for full details of how to set up and use this port (in addition to the pinouts).

**TIME CODE** This unbalanced RCA jack accepts linear SMPTE/EBU timecode for synchronization with other devices. Note that the DM-4800 does not generate linear timecode, and can neither accept nor generate vertical timecode.

**WORD SYNC (IN and OUT/THRU)** In any digital audio setup, it is important that there is one, and only one, word sync source.

**WARNING**

*More than one such word sync source can cause serious problems, including possible damage to monitoring equipment.*

The DM-4800 can act as a word sync master or slave (set up in software—see "Clock setting" on page 56).

The switch allows the **OUT** to act as a **THRU** when the DM-4800 is receiving word sync signals, as well as enabling and disabling 75Ω termination on the input.

**TO METER** Use the cable provided with the optional meter bridge (MU-1000) to connect the meter bridge to this connector of the DM-4800.

**FOOT SW** Connect a standard momentary foot (or other) switch to this 1/4" jack. It can either be push-to-make or push-to-break, as the polarity can be changed in software.

For details of how to do this, as well as how to set up the footswitch, see "SWITCH utility" on page 45.

**USB** This is used to connect the DM-4800 to a host computer for bi-directional control. This is, the computer can control the DM-4800—see the documentation supplied with the TASCAM TM Companion utility software—and the DM-4800 can be set up as a DAW controller, controlling the DAW software running on the host computer.

We strongly suggest that you use only the USB cable supplied with the DM-4800 to make the USB connection, and that this connection and disconnection are made with the DAW software, or any other software communicating with the DM-4800, not running.

Note that no drivers are necessary when using the DM-4800 with OS X or Windows XP.

**Power input** As always, check to make sure that the voltage requirements marked on the unit match your power supply. Use a properly grounded power supply, and connect the DM-4800 to it using a power cord which provides grounding facilities (such as the one provided with the DM-4800).

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## Clock setting

When the connections have been made to the DM-4800, you must select a clock source. The master clock source is also used to determine the sampling frequency for the whole project.

Remember that the DM-4800 can act as a clock source or clock master, but there must be only one master clock source in your studio setup.

Press the **PROJECT** key until the CLOCK screen appears:

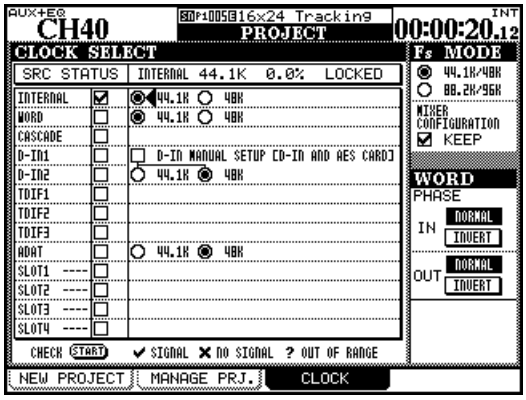


**Figure 3.8: PROJECT CLOCK screen**

**Fs MODE** The first item to be selected is the use of the high-speed or normal clock. When the lower 88.2K/96K (high-speed) option is selected, many of the 44.1K and 48K legends on the screen as shown above (Figure 3.8, *PROJECT CLOCK screen* change to 88.2K and 96K respectively.

In addition, in high-speed mode, the digital inputs are also available, and the number of available clock sources on the optional AES/EBU interface card (if fitted) is reduced.

In both the high-speed and the normal speed clock screen, the current clock status is displayed at the top of the screen (as shown above).

**Checking the clock** You can make a check of the system by moving the cursor down to the bottom of the screen and pressing the CHECK [START] button.

After confirming that you want to do this, a popup appears, informing you of the status of all potential clock sources.

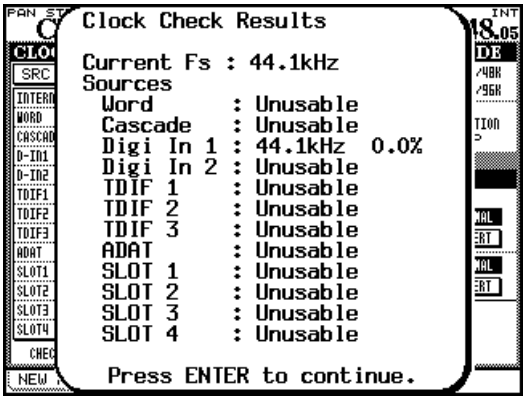


**Figure 3.9: Checking the clock sources**

**Varispeed clocking** Note that the DM-4800 is able to accept audio data and clock signals from "varispeed" devices, provided the playback speed and hence the sampling frequency is within 6% of the nominal frequency.

Of course, when the out-of-normal clock is to be re-transmitted to other devices, it depends on the implementation of the other devices as to whether the clock can successfully be accepted by them.

**Clock change action** When the FS mode (that is, changing between high-speed and normal) is changed, you can select KEEP to remain the existing mixer configuration (MIXER CONFIGURATION). If KEEP is not selected the settings will be initialized.

When you make the change to the clock, an appropriate popup message appears, telling you what is about to happen (either the mixer will reboot, or the data will be initialized). Press **ENTER** to carry on with the operation or a cursor key to cancel it.

**WARNING**

*Whichever option you select here, remember that changing the clock source and/or frequency may produce "thumps" and noise which may cause damage to your hearing and the monitoring system, etc. Turn down the levels of all such equipment before making the change to the clock settings.*

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**Changing the clock** If the desired clock source has a frequency selection option, select the frequency.

The stereo digital inputs (D-IN1 and D-IN2) can have their sampling frequency manually set here (but remember that if the frequency converter is turned on, they cannot act as clock sources). To enable the manual setup for both digital inputs, which copes with ambiguous embedded C bit (channel status bit) information, check the checkbox, and select the sampling frequency. Note also that if the optional AES/EBU slot card is fitted, the settings made here are applied to this card as well.

The following options relate to the different clock sources available:

| | Normal | High-speed |
|---|---|---|
| **Internal** | 48K/44.1K | 96K/88.2K |
| **Word (WORD SYNC) connection** | 48K/44.1K | 96K/88.2K |
| **Cascade** | No options | |
| **Digital in 1/2** | Manual setup, 48K/44.1K | Manual setup, 48K/44.1K96K/88.2K |
| **TDIF 1/2/3** | No options | |
| **ADAT** | 48K/44.1K | 96K/88.2K (note that this is dual-line input at high speed) |
| **AES card** | 1/2, 3/4, 5/6, 7/8 | 1/2, 3/4, 5/6, 7/8 |
| **TDIF card** | No options | |
| **ADAT card** | 48K/44.1K | |
| **AD/DA card** | No options—this card is not capable of acting as a clock source | |
| **FireWire card** | No options—this card is not capable of acting as a clock source | |
| **Surround monitor card** | No options—this card is not capable of acting as a clock source | |

**Table 3.1: Clock options in normal and high-speed modes**

When you have selected the appropriate option for the clock source, move the cursor to the checkbox and press **ENTER**.

A checkmark (✔) appears in the box if a valid clock signal is present, a cross (✘) if it is not present, and a question mark (**?**) if the clock signal is out of range. An appropriate popup message is shown in the event of an error in the selected clock signal.

If the clock signal is a valid one, and one which can be used, an appropriate popup message (depending on the action selected when the clock is changed (“Clock change action” on page 56) is shown).

Press **ENTER** to change the clock, or a cursor key to cancel the action.

**Clock phase** The phase of the clock signal received at the **WORD SYNC IN** or transmitted or passed through the **WORD SYNC OUT/THRU** terminal (see also “WORD SYNC (IN and OUT/THRU)” on page 55) can be inverted using the on-screen phase controls.

**OUT SPEED** Note that in high-speed mode, the clock transmitted from the **WORD SYNC OUT** can be either the high-speed (88.2/96) clock or the corresponding normal speed (44.1/48) clock.

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# 4 – Routing & assignment

***This section deals with the routing of signals between the different sections of the mixing console, with the assignment of channels to busses, etc. and with metering and the monitoring of the signals in the control room and studio.***

The DM-4800 is equipped with two types of mixer channel modules, with the first 48 fully equipped with EQ and full dynamics processing, and modules 49 through 64 being more similar to the basic return channels on a traditional recording mixer. See the table below for an explanation of the facilities provided.

Note also that there are two modes for the first 48 channels—*input* and *return* modes—similar to the channel modes found on many recording mixers, allowing replay and mixing of recorded tracks without physical repatching. As with many such recording mixers, the "return" has fewer features than an input source, and these are shown in the table below.

| | Modules | | | | | |
|---|---|---|---|---|---|---|
| | **Channels 1–48 (input)** | **Channels 1–48 (return)** | **Channels 49–64** | **Aux modules (1–12)** | **Buss modules (1–24)** | **Stereo buss module** |
| **Gate** | Yes | — | — | — | — | — |
| **Compressor/ expander** | Yes | — | — | Yes | Yes | Yes |
| **Phase switch** | Yes | — | Yes | — | — | — |
| **Digital trim** | Yes | — | Yes | — | — | — |
| **"Soft" inserts** | Yes | — | — | Yes | Yes | Yes |
| **4-band EQ** | Yes | — | — | — | — | — |
| **Channel delay** | Yes | — | — | Yes | Yes | Yes |
| **Pan / surround pan[a]** | Yes | — | Yes | — | — | — |
| **Aux sends** | Yes | Yes[b] | Yes | — | Yes[b] | Yes[b] |
| **Mute** | Yes | — | Yes | Yes | Yes | — |
| **Solo** | Yes | — | Yes | — | — | — |
| **Direct** | Yes | — | — | — | — | — |
| **Buss outputs** | Yes | — | Yes | — | — | — |
| **Stereo outputs** | Yes | — | Yes | Yes | Yes | — |

**Table 4.1: Module facilities on the DM-4800**

a. Depending on current surround setting
b. Aux 1–2 only

The level of all modules is controllable via faders, and adjacent odd-even pairs of all modules can be linked (except for the stereo buss, of course).

The operation of all these modules is almost identical and so they are described together here, with appropriate notes when a feature only appears on certain channel modules.

- As well as the physical insert points described in "Channel inserts" on page 49, the DM-4800 also includes "soft" inserts, which allow the interconnection of internal components for more complex recording and mix situations ("Insert patching" on page 61).

- Assignment of modules to the 24 busses as well as to the stereo busses is carried out by dedicated keys (to the left of the display).
- Assignment of physical hardware inputs to modules, and of internal components to physical hardware outputs, together with the internal patching between mixer sections, as well as the setting up of the "soft" inserts, is done in the ASSIGN screens (see "Routing" on page 59).

## Routing

Use the ROUTING screens to set up the routing of input sources to modules, etc. as well as to set outputs. There are four of these screens: one for INPUT, one for OUTPUT, one for the OUTPUT SLOTs and one for the soft INSERTS.

To enter these screens, press the **ROUTING** key (**ALT + 6**) until the appropriate screen is shown on the display.

**NOTE**

*Assignment of channels to busses is done by means of the buss keys to the left of the display, or by means of the* ASSIGN *screens (use the* **ASSIGN** *key here).*

### Input routing

The INPUT screen allows you to select input sources from a list composed of (mainly) the physical inputs of the DM-4800, and route them to input destinations (channels and dynamics triggers).

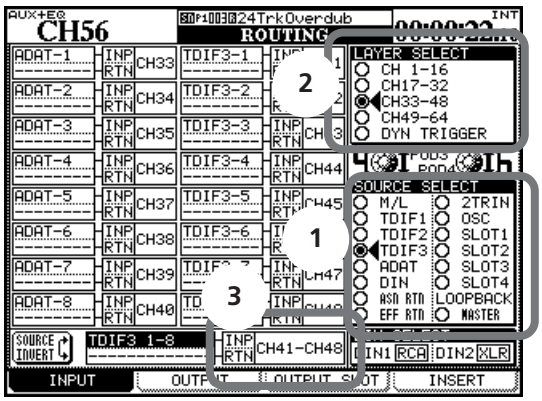


**Figure 4.1: Routing inputs**

**1 Select the source group with the POD 4 encoder.**

**The input sources are as follows, as listed at the lower right of the screen (1 in Figure 4.1, *Routing inputs*):**

| | |
|---|---|
| M/L | Mic/line input channels (see "Mic/line connections" on page 49). |
| TDIF1/TDIF2/ TDIF3 | The three built-in TDIF 8-channel input ports (see "TDIF I/O" on page 50). |
| ADAT | The eight optical "lightpipe" inputs (see"ADAT "lightpipe" OUT & IN" on page 50). |
| DIN | The two stereo digital inputs (see "Digital inputs and outputs" on page 50). |

**Table 4.2: Input sources**

| | |
|---|---|
| ASN RTN | The eight analog assignable returns (see "Analog inputs" on page 33). |
| EFF RTN | The internal effect returns (see "Insert patching" on page 61). |
| 2TRIN | The 2-track master recorder inputs (see "2 TR IN" on page 49). |
| OSC | Internal oscillator |
| SLOT1/SLOT2/ SLOT3/SLOT4 | The inputs provided by any cards fitted to the slots (see "Slot card configuration" on page 52 for details). |
| LOOPBACK options | Explained below ("Loopback options" on page 60). |

**Table 4.2: Input sources (Continued)**

**2 Select the destination layer of these input sources by using the POD 3 encoder (2 in Figure 4.1, *Routing inputs*). Choose between:**

| | |
|---|---|
| CH 1-16 | Channel modules 1 through 16 |
| CH 17-32 | Channel modules 17 through 32 |
| CH 33-48 | Channel modules 33 through 48 |
| CH 49-64 | Channel modules 49 through 64 |
| DYN TRIGGER | The eight dynamics processor triggers also described in "Trigger settings" on page 78 |

**Table 4.3: Destination layers**

**If either of the first two options is selected, each destination module is shown in the list with an INP (input) and RTN (return) available for routing selection. Channels 49 through 64 only present the input (though this has only the capabilities of returns in other channels).**

**3 Use the cursor keys to select the source field (either the input or return in the case of channels 1 through 48), and use the wheel to select**

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**the input source (from the available sources within the selected source block).**

4 **You must then press ENTER to confirm the routing selection.**

**TIP**

*Note that linked modules allow you to select independent sources.*

*Also note that while the same source may be routed to more than one destination layer (you might want to try recording a vocal line with different compression settings, for example), a channel destination can only accept one source (of course!).*

**Batch routing** It may be a little troublesome at times to select eight consecutive inputs and then route them to eight separate consecutive destinations.

To set up eight input/destinations at one time, move the cursor down to the batch setup area at the bottom center of the screen (**3** in Figure 4.1, *Routing inputs*). The destination is on the right and the source is on the left.

1 **Move the cursor to the destination field and use the wheel and ENTER key to select eight destinations (not in dynamic trigger layer selection) from the destination source selected with POD 3.**

2 **Move the cursor to the input source selection on the left.**

3 **Use the wheel to select a group of eight inputs from the input source selected using POD 4 (some input sources have only eight inputs anyway and in double-frequency mode some sources may only have four inputs). You can use POD 4 to select another input source.**

4 **Press ENTER. When you press ENTER, the eight input sources are assigned in order to the eight destinations.**

**Flipping the channels** It is possible to "flip" individual channel inputs between the input and return sources (so that the "input" source becomes the "return" and vice versa) on an individual basis within the MODULE screens (see "INPUT/RETURN selection" on page 83), but it is sometimes convenient to be able to do this for batches of eight channels at a time.

This is done from this INPUT screen using the BATCH SETUP at the bottom of the screen. Of course this can only be done for channels 1 through 48, as these are the only ones for which the input and return sources may be selected.

1 **Use the wheel to select the destination field (the left field) and confirm with ENTER.**

2 **Move to the on-screen button** SOURCE INVERT **(inverts the sources) and press ENTER. A popup appears asking for confirmation. Press ENTER again to flip the selected eight channels (a cursor key cancels).**

**Loopback options** The loopback options provide even more flexibility in internal routing, but they should be approached with caution.

They allow the 24 busses, aux 1 through 12 or stereo buss, or the direct channel outputs of the first 48 channels (similar to direct outputs on an analog console) to be used as input sources to channels.

The display shows Bx/Dy (x can be from 1 through 24 and is repeated twice, while y is from 1 through 48, e.g. B1/D25) or BUSS 1 through BUSS 24 or AUX 1 through AUX 12 or STEREO L or STEREO R when a loopback routing is selected.

When a channel has a direct output selected, the direct output from that channel overrides the correspondingly-numbered buss.

The direct option allows the selection of only the direct module outputs (1–48) as sources. Note that the selection of **DIRECT** as a channel destination, using the selection keys, removes the channel from the busses.

**WARNING**

*As the name of these loopback options suggests, they allow flexible internal repatching, which could result in a loop whereby the output of a buss also acts as an input to the same buss, resulting in a feedback loop. When monitoring, this can result in damage to hearing and monitoring equipment.*

*Before using these options, we suggest that you work out on paper what exactly you are trying to achieve, and it may help if you draw a diagram to help you work out the ultimate sources and destinations of the routing in your system.*

**Digital input selection** At the bottom right of this screen, the physical connector (XLR or RCA) for each of the stereo digital inputs can be selected.

## Output routing

The output routing screen allows you to tie the logical outputs from the different parts of the DM-4800 to the physical output ports.

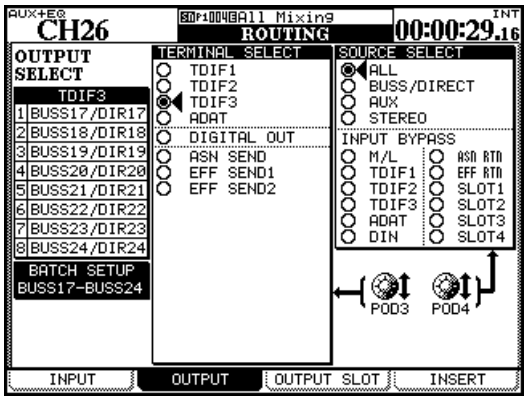


**Figure 4.2: Routing outputs**

There are two such screens, one dedicated to the built-in outputs of the DM-4800, and the other dedicated to the outputs provided by any optional cards fitted in the slots.

Use POD 3 to select the physical terminals to which the output sources will be routed.

Select from:

- TDIF1, TDIF2, TDIF3 The three TDIF format connectors
- ADAT The optical ADAT output
- DIGITAL OUT The stereo digital outputs
- ASN SEND The eight analog assignable sends
- EFF SEND1, EFF SEND2 These are not physical outputs, but virtual patches to the inputs of the internal effects.

Use the POD 4 control to select the output source. Select from:

- ALL (all of the output sources mentioned below)
- BUSS/DIRECT The 24 busses, and any direct channel outputs
- AUX The 12 aux sends
- STEREO The stereo buss

There is a second selection called INPUT BYPASS, which allows you to select the same input sources as for input routing (see "Input routing" on page 59). These inputs are routed directly to the selected outputs, just like a patchbay.

**TIP**

*These "bypass sends" can be useful for physical format conversion, etc. For example, if you have material on a medium that can only be output in ADAT optical, for example, and you need it transmitted to your DAW which has only TDIF format inputs, with no extra processing, this feature allows you to do just that.*

**Slot card outputs** The third page of this screen allows the selection of the output sources (including the input bypass sources) and their assignment to the outputs of the optional slot cards fitted to the DM-4800.

The exact configuration of the outputs of the slot cards and their use depend on the actual slot card fitted, as well as the surround mode currently selected. For example, the FireWire expansion card currently provides up to 24 destination channels to a DAW.

Consult the documentation relating to the appropriate card(s) fitted to your system for details.

## Insert patching

**NOTE**

*It is important to note the difference between the hardware inserts and the software inserts described here on the DM-4800. The hardware inserts are completely in the analog domain and apply only to the mic/line inputs.*

The software inserts are available to many more internal modules. Although these insert loops may exit from the DM-4800 in either the analog or digital domain, they may also remain completely within the unit, using internal "patch" connections.

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These “soft” inserts allow 16 different input and output pairs to be defined as inserts at definable points in the DM-4800 signal path.

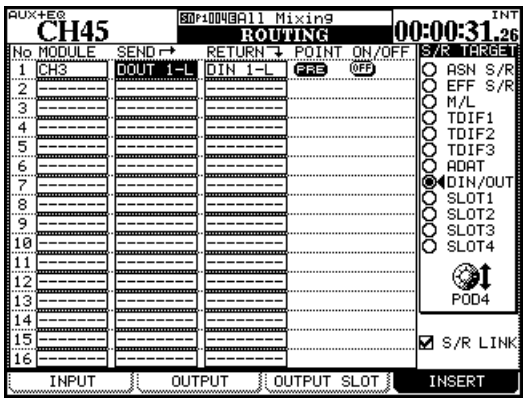


**Figure 4.3: Routing inserts**

1 **Use the POD 4 encoder to select the send/return target group from the list at the right of the screen, and select a point using the left column of the screen at which the send/return pair will be inserted.**

- ASN S/R **The four pairs of external analog send and return jacks**
- EFF S/R **The internal effects unit sends and returns**
- M/L **The microphone/line inputs (note that these can only be used as returns, not as sends)**
- TDIF1, TDIF2, TDIF3 **The three built-in TDIF I/O ports**
- ADAT **The “lightpipe” ADAT ports**
- DIN/OUT **The two stereo digital inputs and outputs**
- SLOT1, SLOT2 **The optional cards fitted in the slots (note that a card such as the surround monitor card only has outputs and can therefore only act as a send group)**

2 **Select a send point in the** SEND **column from the group selected with POD 4 (this does not have to be the same as the return group—you could even have an analog send to an external effect with a digital return, for example).**

3 **Confirm with the ENTER key.**

4 **Select the return point in the** RETURN **column from the group selected in the** S/R TARGET **area.**

5 **Confirm with the ENTER key.**

**NOTE**

*Note that you cannot use a return module which has already been assigned as an input point in the* INPUT *screen.*

When you have selected the send, return and module, you can then use the on-screen switches to select whether the insert point will be pre-fader (PRE) or post-fader (POST)—channel modules only, as the other modules do not allow the selection of the insert point, and this option is therefore not available when non-channel modules are selected.

The insert point can also be turned ON and OFF here (allowing you to make easy A/B comparisons).

**Send/return linking** In some cases, the sends and returns form a clearly-defined pair (for example, the assignable sends and returns). To make insert setup operations easier, check the S/R LINK checkbox at the bottom left of the screen.

When this is checked, selecting a send point in the will automatically select the corresponding return point (or vice versa).

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## Channel-to-buss assignment

You may have noticed that the channel-to-buss assignment functions are not available from the routing screens.

Because this is such a commonly-performed operation, it is most easily performed from the front panel, using dedicated controls, though it is also possible to use the display to view and set these assignments for many modules simultaneously.

### Assignment using the front panel

This method uses the dedicated assignment keys to the left of the “fat channel”:

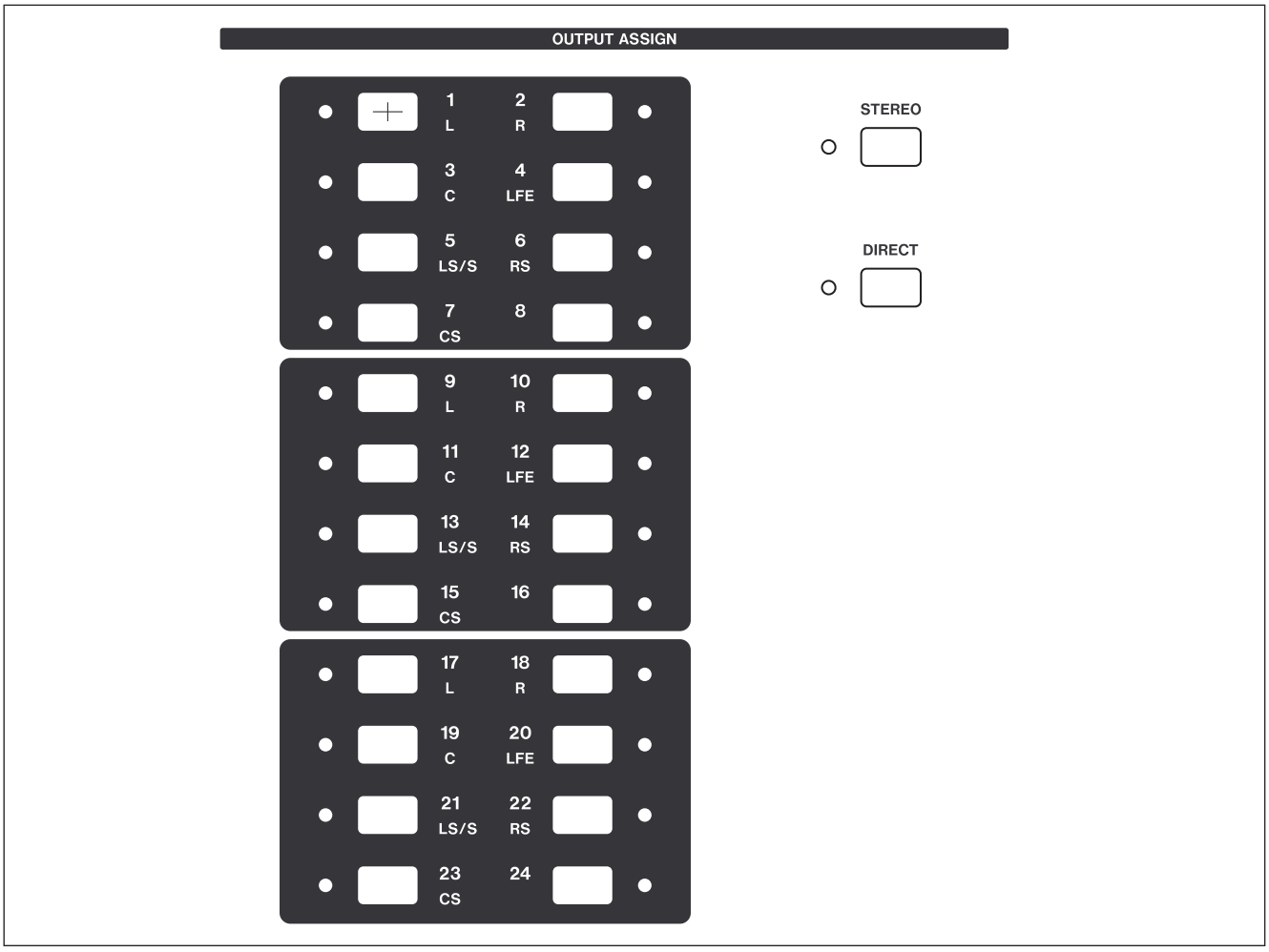


**Figure 4.4: Assignment keys**

When a module (not a buss module) is selected, any buss assignment made is shown by the appropriate indicator(s) lighting.

Use these assignment keys to assign the module to the busses (which in turn may be routed to multitrack inputs, etc., using the routing screens described earlier in “Output routing” on page 61).

It is also possible to assign a module to the stereo buss using the dedicated **STEREO** key.

In addition, a **DIRECT** key provides the capability of producing a direct channel output which can then be used for routing in the ROUTING screens. When this is selected, any buss assignments are removed.

**Using the assignment screens** These screens (access through key **1**, **ASSIGN**) allow you to assign channels to the busses, and the busses and the aux

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sends to the appropriate destinations, in an easy graphical solution.

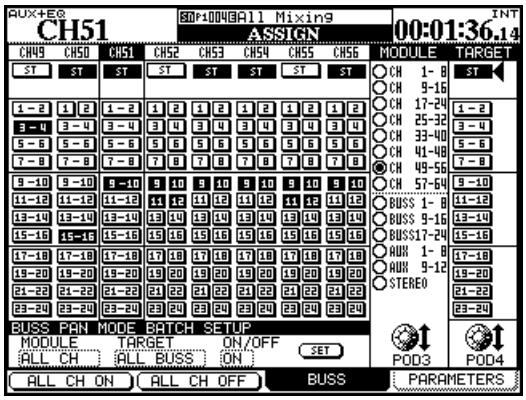


**Figure 4.5: Buss assignment screen (linked busses)**

Use the POD 3 encoder to select banks of eight channel modules at a time, and the display changes as these are selected. You can also select busses in groups of eight, as well as the aux sends (see below).

Use the wheel or left and right cursor keys to navigate round the screen (you can also use the **SEL** keys or fader selection), and the **ENTER** key to assign and de-assign busses or the stereo (ST) or direct outputs (DIR) (not shown above, as the direct outputs are not available for channels 49 through 64). As you make and break these assignments, the indicators by the control surface keys mirror the screen settings (and the other way round).

**Pan switch** There is an invisible "pan switch" which links and unlinks pairs of busses (this also depends on the linked pan mode).

When this switch is set, and busses are linked, they are also joined for panning and they are assigned in pairs.

However, when this switch is not set, the buss pairs can be split for individual assignment.

- **Pressing and holding the SHIFT key while pressing one of the ASSIGN keys operates a split or join function on a buss pair, allowing busses to be individually assigned when split.**

In Figure 4.5, *Buss assignment screen (linked busses)*, channels 49 through 51 have the busses linked (except for 1 and 2 on channel 50). The other busses are separated.

The linked pan mode ("BUSS Link/BUSS PAN Mode are Linked" on page 44) also determines whether splitting a buss pair either splits the busses for channels individually (as in the example screen above), or all together for all channels. When this parameter is set off, buss pairs may be split individually, and when it is on, buss pairs are split together.

Note that buss assignment is also connected to module linking. When two channels are linked, assigning one of the linked channels to a buss also links the other channel 2 to the buss.

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**Surround assignments** In surround mode with the pan switch on, the meaning is different—channel modules are assigned to the panned groups of surround channels for fine adjustment.

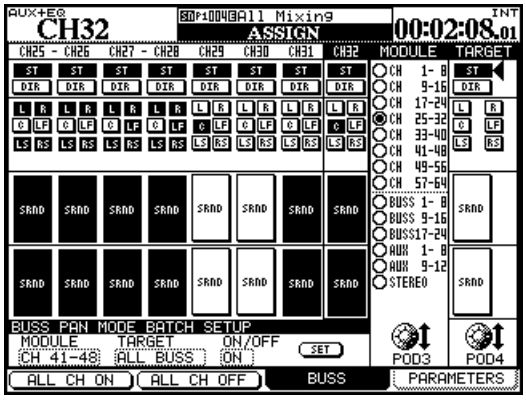


**Figure 4.6: Surround channel assignment screen**

In addition to using the cursor and **ENTER** keys for assigning the channels modules to the surround busses, the **ASSIGN** keys can also be used.

With the pan switch on, use any of the **ASSIGN** keys 1 through 8 to turn surround 1 on and off (all indicators light together), **ASSIGN** keys 9 through 16 to turn surround 2 on and off, and **ASSIGN** keys 17 through 24 to turn surround 3 on and off.

See “Surround operations” on page 88 for further details of this and other surround operations, including the individual assignment of channels to surround matrix output channels with the pan switch off.

**Non-channel assignments** Assignments from the busses may be made to the stereo buss as well as to the aux 1–2 send busses (which can therefore be used as studio monitors).

Assignments from the aux sends can be made to the stereo buss only.

Assignments from the stereo buss are to the aux 1–2 send busses (again for monitoring).

**Bulk assignment** The POD 1 and POD 2 switches correspond to “assign all” and “de-assign all” on-screen buttons.

For channel assignments, use the POD 4 encoder to select a target buss (or the stereo buss or direct output) for channels and then press ALL CH ON (POD 1) or ALL CH OFF (POD 2) to assign or de-assign all channels to or from the selected target.

Buss assignments may be made to the stereo buss and/or the aux 1–2 buss pair. The labels of the on-screen buttons change here to ALL BUSS ON (POD 1) and ALL BUSS OFF (POD 2). When the stereo buss is selected as the source, these labels change to ON and OFF.

For aux sends and the stereo buss, the button labels are ALL ON (POD 1) and ALL OFF (POD 2).

**Buss panning** The balance between odd- and even-numbered busses is set in the MODULE AUX/BUSS screens (see “Aux and buss setup” on page 81). See also “BUSS PAN Follows ST PAN” on page 44 for details of how buss and stereo panning are linked.

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## Monitoring

The DM-4800 provides comprehensive monitoring and metering facilities allowing both control room (for both large and small speaker sets) and studio cue mixes to be produced.

This section describes the monitoring procedures and setup when working in stereo. When working with surround mixes, there are obviously some important differences, and these are described in “Surround operations” on page 88.

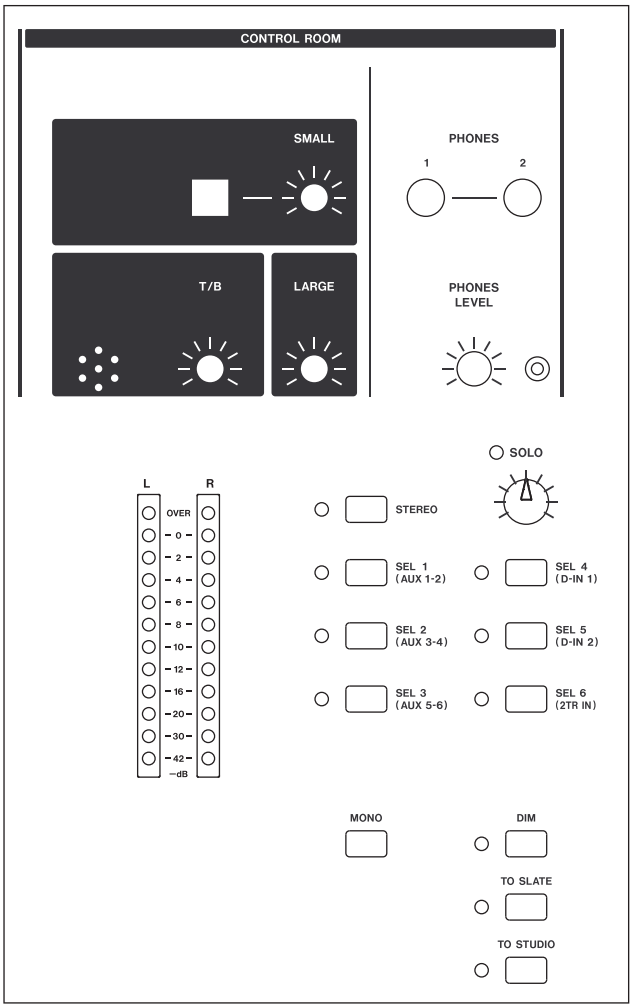


**Figure 4.7: Monitoring and metering controls**

### Selecting the CR source

The dedicated keys and indicators to the right of the meters allow instant switching of the control room monitor sources and the two **PHONES** outputs, which mirror the output from the control room monitor outputs.

The first key is hard-wired to the stereo buss (**STEREO**) and cannot be changed.

The next six keys, in order, default to the aux 1–2 sends (typically used for studio cue), the aux 3–4 and aux 5–6 sends, digital input 1 and digital input 2 (e.g. stereo recorders) and the analog 2-track inputs (again, this could be an analog stereo master recorder).

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However, these assignments can be changed using the MONITOR screen:

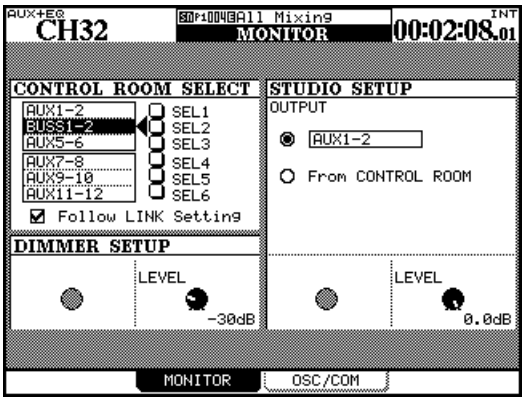


**Figure 4.8: Monitor parameters screen**

Move the cursor to the selection wheel of any of the six selectors, use the wheel to select the source, and press **ENTER**.

The sources that may be selected for these monitor selectors are:

- The aux sends
- The linked pairs of aux sends
- The busses
- The linked buss pairs
- The two digital stereo inputs
- The analog 2-track input
- Oscillator

The Follow LINK setting allows a stereo setting to be made from a mono source, by following the links between adjacent aux sends or busses.

When this checkbox is off, and an unlinked odd-numbered aux send or buss is selected as the monitor source, that source is output in mono from the monitor outputs.

When this checkbox is on, and a linked odd-numbered aux send or buss is selected as the monitor source, that source is output from the left monitor channel, and the linked even-numbered aux send or buss is output from the right monitor channel.

When a linked pair of sends or busses is selected as the monitor source, this checkbox has no effect.

The overall volume of the analog output to the control room monitors connected to the **LARGE (BAL)** analog outputs (“Monitoring (LARGE (BAL) & SMALL (BAL))” on page 50) is controlled using the dedicated **LARGE** volume control.

The **SMALL** key is used to switch between the large and small (near-field) monitor pairs (i.e. the monitor speakers connected to the **SMALL (BAL)** outputs) in the control room. The volume of the small pair can be adjusted independently of the level of the large pair using the **SMALL** rotary control.

The **DIM** “smart key” (see “Smart keys” on page 19) lowers the level from the control room outputs when active. The amount by which the level is dimmed is set from this screen using the POD 2 encoder.

**NOTE**

*Monitoring in surround mode is a different process, best achieved through use of the optional IF-SM/DM surround monitor card.*

## Studio cue source

The studio source may be set up to mirror the control room source by selecting the From CONTROL ROOM option, or it may be set independently using the upper option.

Turn the wheel and press **ENTER** to make the selection. The options available here are:

- The stereo buss
- The linked pairs of aux sends
- The linked buss pairs
- The two digital stereo inputs
- The analog 2-track input
- The internal oscillator
- The control room monitor

**TIP**

*Since there are several options in the routing, etc. that only affect the aux 1–2 sends, we suggest that you use these as a separate studio cue feed.*

The volume of the studio cue is adjusted from this screen using the POD 4 encoder.

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## Talkback, etc.

The internal talkback microphone is located above the meters. The sensitivity of the microphone is adjusted using the **T/B** control next to the microphone.

The **TO SLATE** and **TO STUDIO** keys are both "smart keys". When active, they route the talkback microphone to the busses and/or aux sends as selected below, and to the studio respectively, and dim the control room outputs.

The **MONO** key (also a "smart key") provides mono control room monitoring, combining the left and right signals into one mono signal.

**Talkback source** However, note that the internal talkback microphone does not have to be used as the talkback source. Any one of the mic/line sources can be selected as a communication source (for example, a boundary field microphone situated in a large control room can allow comments from a production group to be routed to the artistes in the studio).

Select the talkback source (T/B SOURCE) in the MONITOR OSC/COM screen:

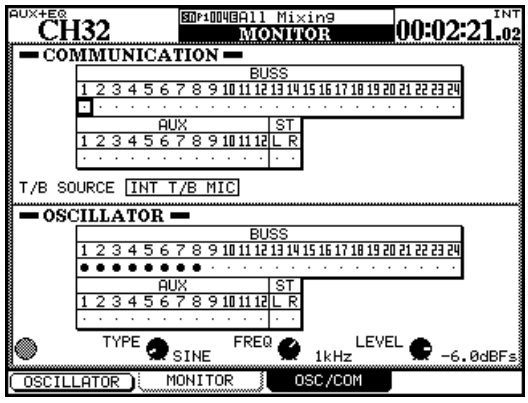


**Figure 4.9: Monitor oscillator and communication screen**

Use the cursor to navigate to this field, the wheel to make the selection between INT T/B MIC (internal microphone) and MIC/LINE 1 through 24. Press **ENTER** to confirm the setting.

**Slate definition** The COMMUNICATION fields allow you to choose the busses and aux sends which will act as the "slate" when the **TO SLATE** key is enabled for sending talkback. Any combination of busses, aux sends and the stereo buss can be selected (cursor keys and **ENTER** key) as slate destination. Linking of busses and aux sends has no effect on this screen.

## Oscillator and noise generator

In order to help with signal tracing, the setting of SPLs, etc., the DM-4800 provides an internal tone/noise generator.

The POD 1 switch turns the generator on and off.

Use POD 2 to set the type of generator: either a sine-wave oscillator (SINE), a white noise generator (WHITE), or a pink noise generator (PINK).

POD 3 sets the frequency if the sine wave oscillator has been selected. There are four choices: 100Hz, 440Hz (standard tuning A), 1kHz and 10kHz.

POD 4 sets the level from –36dBFS to 0dBFS in 0.5dB steps. Remember that –16dBFS is the nominal level, so you can use this setting when setting up SPLs, etc. for your monitoring system.

**Oscillator destination** Use the OSCILLATOR fields (cursor keys and **ENTER** key) to route the generator fields to any combination of busses, aux sends or the stereo buss. This is an extremely useful "patch-free" method of signal tracing.

## Meters

The main monitor meters provide a "pre-dim" and "pre-level control" reading of the source selected to feed the control room outputs.

The meters are set up so that the **OVER** indicator lights at over full-scale output (the exact level is set as described in "Meter ballistics" on page 69). A reading corresponding to –16 on the meters is equivalent to a nominal analog level (+4dBU or –10dBV).

**Meter ballistics** The meter ballistics, etc. for all meters, including software meters, and these are set up in the METER/FADER METER screen (see "Metering screen (1st 24 channel module meters)" on page 69).

Use POD 2 to set the level at which the meter OVER indicators will light (relative to full-scale):

-0.20dB, -0.17dB, -0.13dB, -0.10dB, -0.06dB, -0.03dB

Use POD 3 to set the meter release time between Slow, Normal and Fast.

Use POD 4 to set the meter hold time between Off (no hold), 1, 2, 4 and 8 seconds, and ∞ (infinite hold until this parameter is reset).

Each module also has its own set of meters which follow these meter settings above. These are located in the common global area of the module screens ("Global module settings" on page 72) which can be set there as being pre- or post-fader.

There is also a series of metering screens, as mentioned above, allowing different sets of modules to be metered.

**On-screen meter selection** Use the left-hand column of radio buttons to select the following modules for metering:

| | |
|---|---|
| CH 1-24 | The first 24 channel modules |
| CH 25-48 | The second 24 channel modules |
| CH 49-64 | The last 16 "return" modules |
| Buss 1-24 | The 24 busses |
| AUX 1-12 | The 12 aux sends |

**Table 4.4: Meter selection**

In every case, the stereo buss meters are visible at the lower right of the screen:

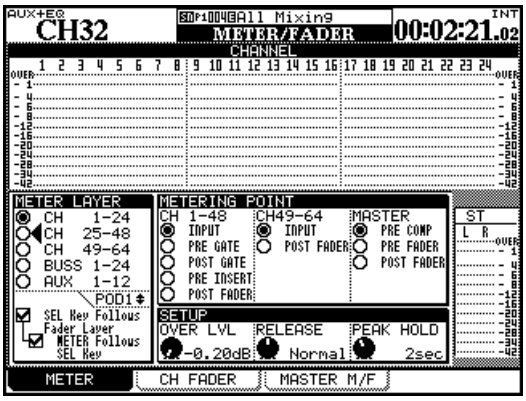


**Figure 4.10: Metering screen (1st 24 channel module meters)**

The options at the extreme lower left echo the same settings made in the preferences (as explained in "SEL Key Follows Fader Layer Status" on page 43).

**Metering points** The center METERING POINT array of radio buttons allows the selection of where the metering for the different groups of modules takes place.

For the "full-feature" modules from 1 through 48 (CH 1-48), the points are at the input stage (INPUT), before the gate (PRE GATE), after the gate (POST GATE) or after the EQ stage (PRE INSERT), and after the fader (POST FADER).

For the channel modules from 49 through 64 (CH 49-64), there are only 2 meter points: at the input stage (INPUT) and after the fader (POST FADER).

The master channels (MASTER) can be metered pre-compressor/expander (PRE COMP), pre-fader (PRE FADER) or post-fader (POST FADER).

**NOTE**

*If the optional meter bridge is fitted, the settings made here apply to the meter displays on the meter bridge, as well as to the on-screen meter displays.*

**TIP**

*The TASCAM Mixer Companion software provides a software "meter bridge".*

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## Soloing

Dedicated **SOLO** keys for each module allow either mixed or in-place soloing. The type of solo (PFL, AFL, in-place) is determined by the settings made on the OPTION SOLO screen (“SOLO TYPE” on page 44).

Channels can be protected from muting during in-place soloing of other channels using the defeat function described in “INPLACE SOLO DEFEAT” on page 44.

When a channel is soloed, its **SOLO** key lights, and the **SOLO** indicator in the **MONITOR** section flashes or is lit when one or more channels are soloed, to indicate that solo mode is active.

PFL soloing flashes the indicator slowly, AFL flashes it fast, and the inplace solo mode lights it steadily.

Pressing the channel’s **SOLO** key once more cancels the solo.

**TIP**

*Pressing and holding* **SHIFT** *and pressing any lit* **SOLO** *key cancels all solos on the current fader layer.*

*Pressing and holding* **CTRL** *and pressing any lit* **SOLO** *key cancels all solos on all fader layers.*

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***The channel modules are the "heart" of the DM-4800, corresponding to the channel strips on an analog console. Because they are used so often, and settings have to be made frequently, there are a number of ways of viewing and making the settings for these modules, as explained in this section.***

## General principles

There are several ways of setting many of the channel parameters.

- The first is by means of the MODULE screens accessed with the **MODULE** keys (see "Jumping to commonly-used screens" on page 18).

There are four module screens:

DYNAMICS allows the setting of the modules' compressor/expanders (channels 1 through 48, stereo, aux and buss modules) and gates (channels 1 through 48).

EQ allows the setting of the 4-band parametric EQ (channels 1 through 48).

AUX/BUSS allows the setting of the aux sends and the buss assignments.

SETUP provides a way of viewing and setting overall channel parameters.

Various parameters and options are globally available from all module screens (see "Global module settings" on page 72).

- The second way of viewing and changing the parameters is by means of the dedicated screens accessed through the screen mode selection keys (see "Basic operational concepts" on page 17) and the POD controls. These screens allow the viewing and setting of the same parameter for many different modules from the same screen.
- The screens relating to the EQ, dynamics and aux sends may all be displayed, and the parameters changed using the "fat channel" controls (see "Fat channel" on page 27).
- In addition, the encoders may be used to control one parameter (not all parameters may be controlled in this way, but commonly-used ones) of all the modules in the current fader layer or to control many parameters of the currently selected module. See "Encoders" on page 22 for details.

**TIP**

*The encoder control methods can also be combined automatically with the screen displays. See the options "Encoder Mode Follows Current Screen" on page 44 and "Current Screen Follows Encoder Mode" on page 44 which enable automatic links between the screen and the encoder modes.*

**NOTE**

*Many of the screens and parameters described here apply only when the DM-4800 is in stereo mode. For differences and additional features implemented when surround mode is selected, see "Surround operations" on page 88.*

**ASSIGN PARAMETERS screen** Also note the PARAMETERS screens (available from the **ASSIGN** key), which allows a number of different settings to be applied to many channels simultaneously.

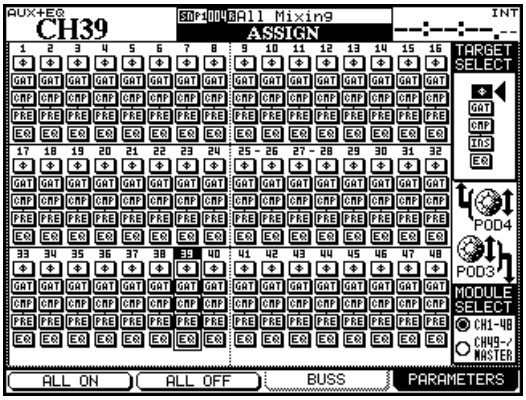


**Figure 5.1: Assign parameters screen (first 48 channel modules)**

The screen above shows the first 48 channel modules. The screen below shows the last 16 channels modules and the master modules:

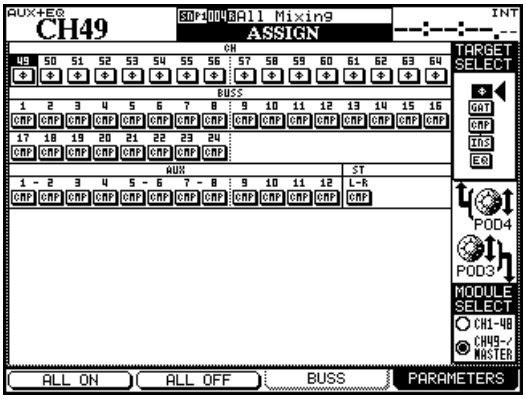


**Figure 5.2: Assign parameters screen (channel modules 49–64 + master modules)**

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1 **Use POD 3 to switch between the two screens.**

2 **Use the POD 4 encoder to select phase, gate switching, compression, compressor/expander insert point position (pre or post) or EQ on/off.**

3 **Use the left/right cursor keys, wheel or SEL keys to navigate around the screen and the ENTER key to turn the following on or off (see later in this section for details of these channel features).**

**Note that the only feature available for the busses, the aux sends and the stereo buss is the compressor/expander dynamics processor.**

- ∅—reverse ("pressed") or normal phase (channel modules 1–64 only)
- GAT—gate dynamics processor (1–48)
- CMP—compressor/expander dynamics processor (1–48, aux, buss and stereo)
- PRE/PST—pre/post EQ point for compressor (1–48)
- EQ—turns the EQ on and off for that channel module (1–48)

It is also possible to use the POD 4 encoder to select phase, gate switching, compression, software insert position, compressor position, or EQ on/off as a global setting, and use the POD 1 key (ALL ON) or POD 2 (ALL OFF) to switch these on or off respectively.

## Global module settings

These settings are common to the four different module screens, and do not change when the module screen is changed.

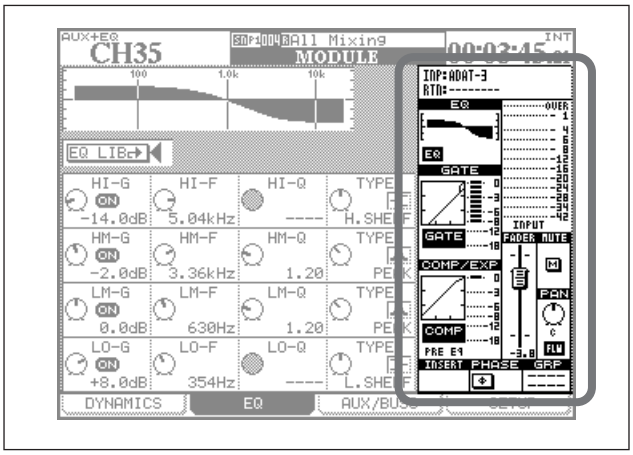


**Figure 5.3: Common "global" module settings**

Navigate to the appropriate on-screen control, and use the **ENTER** key to turn switches on and off, and POD 4's encoder to adjust the fader level and pan/balance control when these are highlighted.

**NOTE**

*As explained in Figure 4.1, Module facilities on the DM-4800, not every module is equipped with all these features. Only those features available on the currently selected module are actually shown on the display.*

**Input and return display** Cannot be changed here, but shows the current input and return assignments.

**EQ display and button** The EQ display provides a graphical display of the EQ settings. It cannot be changed. However, the EQ button allows the EQ of the channel to be switched in and out, allowing easy A-B comparisons.

**GATE display and button** The GATE display provides a graphical display of the gate settings, and cannot be changed. The GATE button allows the gate to be switched on and off for A-B comparisons.

**COMP/EXP display and COMP button** The COMP/EXP display provides a graphical display of the current compressor/expander settings, and cannot be changed. The COMP button allows the compressor/expander to be turned on and off for comparison.

**Compressor/expander point button** Use this button to change the point at which the compressor/limiter is inserted in the channel between a pre-EQ (PRE EQ) or post-EQ (POST EQ) position (channels 1 through 48 only—busses, aux and the stereo buss are fixed at pre fader).

**Meters and pick-off point button** Show the current module levels. The button allows the pick-off point to be set as follows:

| Channels 1–48 | Channels 49–64 | Buss, aux, stereo |
|---|---|---|
| INPUT | INPUT | — |
| PRE GATE | — | — |
| POST GATE | — | PRE COMP |
| PRE INSERT | — | PRE FADER |
| POST FADER | POST FADER | POST FADER |

**Table 5.1: Available metering points**

**Fader** Allows precise setting and echoes the physical fader setting. When this is highlighted, it can be controlled using the POD 4 encoder.

Also see "Fader control" on page 73 for details of how to view and make fader settings globally.

**TIP**

*You can use the one-step mode for ultra-fine control here. See "Encoder behavior (fine and coarse)" on page 26.*

**MUTE button** Allows the module to be muted and un-muted (echoes the status of the hardware **MUTE** key).

**PAN (BALANCE) control** Use POD 4 to change the value of this control (pan changes to balance when channels are linked).

**PAN follow button** Use this control like the buss option described in "BUSS PAN Follows ST PAN" on page 44.

**INSERT button** (with linked or stereo modules, two such buttons are available), allowing you to turn the soft insert(s) on and off (see "Insert patching" on page 61) for details.

**Phase button** (with linked or stereo modules, two such buttons are available), allowing you to reverse the phase of the input on the selected channel(s).

**AUX1-2 button** (on buss and stereo modules only), allowing the buss or stereo mix to be routed through to the aux 1-2 pair (typically for studio foldback purposes).

**STEREO button** (on buss and aux modules only) allowing the buss or aux send to be routed to the stereo buss.

**Group assignment displays** These display, but do not allow change on this screen, any fader or mute group assignments.

**NOTE**

*The buss assignments of channel modules are not shown on the display, as the appropriate buss assign indicators light to show the buss assignments when a channel module is selected.*

## Fader control

From the METER/FADER screens, select either the CH FADER or MASTER M/F tabs:

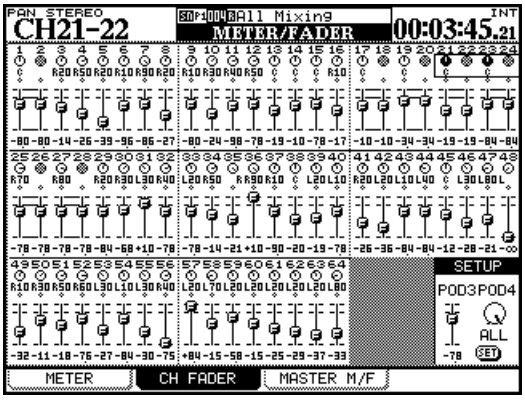


**Figure 5.4: Channel fader screen**

In the channel fader screen shown here, the current fader/pan positions and mute status of all 64 channel modules are shown.

Moving the cursor around this screen highlights pan controls or faders in blocks of four (you can also use the channel **SEL** keys or auto to jump around the screen). Use the four POD encoders to adjust the on-screen controls.

Linked channels may have their pan position or fader level set using either POD control.

Mute status and links are also visible on this screen, though these cannot be set here.

Note that in surround mode, the surround L-R panning is displayed and set here using the POD controls when the on-screen pan controls are highlighted.

**Setting levels in blocks** To set a master level in blocks of eight channels, move the cursor to the bottom right of the screen (SETUP) and then use POD 3 encoder to adjust the fader level. POD 4 selects the group to be set (in groups of eight channels), or all channels (ALL).

Press the on-screen **SET** button when done. A popup message asks you to confirm the setting (**ENTER**) or cancel the operation (cursor key).

**Master screen** The MASTER METER/FADER screen works in a similar way. The top of the screen shows the buss, aux send and stereo meters (metering points

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selected by moving the cursor to METERING POINT, and using the wheel and **ENTER** to set the point).

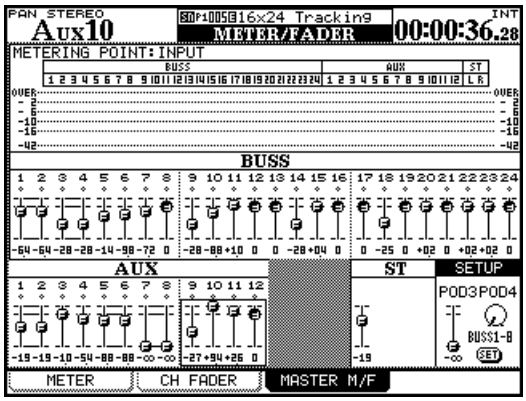


**Figure 5.5: Master fader screen**

Buss and aux levels are selectable in groups of 4, and the levels can be adjusted as with the channels using the POD encoders.

The SETUP section of the screen allows setting of the first, second or third groups of eight buss levels, the aux levels, or all aux and all buss levels, in the same way as for the channel modules; using POD 3 to set the level, and POD 4 to select the target, with the **ENTER** key used to confirm the setting.

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## Dynamics processors

This section covers the use of the DM-4800's built-in compressor/expanders and gates.

Compressor/expander dynamics processors are available in all modules except channel modules 49 through 64.

Gates are available in channels 1 thorough 48 (input only).

The module screen accessed by the **DYNAMICS** key shows the settings for the currently selected input channel (as shown by the **SEL** indicator).

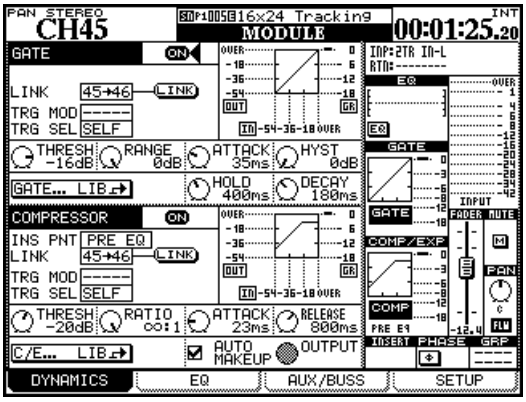


**Figure 5.6: Unlinked DYNAMICS screen (channels 1 through 48)**

If the selected channel is linked as part of a stereo pair, the settings affect both channels.

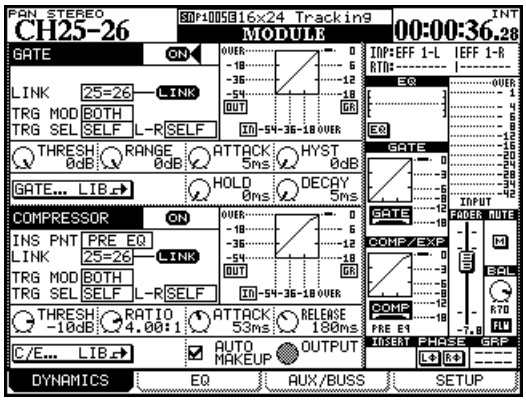


**Figure 5.7: Linked DYNAMICS screen (channels 1 through 48)**

**LINK** This and the two trigger settings following, apply both to compressor/expanders and to gates (where available). The link features means that both processors are linked by a common trigger signal. The two processors must be in adjacent channels of an odd-even pair (e.g. channels 3 and 4 can link their processors, channels 4 and 5 cannot).

When two channels are linked, but the processors are linked, the processor source can be selected.

**Trigger mode (TRG MOD)** is only valid when two gates or expanders are linked. This option (selected using the wheel and **ENTER** key) allows the triggering for both processors to be initiated by the left channel, the right channel, or BOTH (both channels act as triggers—in other words, the first channel to be triggered will automatically activate the second channel's processor).

**Trigger selection** Allows the selection of a channel (the choice is 1–24 in the case of modules 1 through 24, or 25–48 in the case of modules 25 through 48), the selected module (shown as SELF) or a globally-defined trigger source (see "Input routing" on page 59), shown as TRGx as the trigger for the compressor (this can include a mic/line source routed to a trigger).

**TIP**

*By feeding an input signal through a channel with EQ and selecting this as a trigger source, you can implement sidechain compression, without the use of a single patch cord!*

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## Gates (input channels 1–48)

**GATE** This is an on-screen button, allowing you to turn the channel gate (1 through 48, inputs only) on and off. Duplicated in the global section at the right of the screen.

**Threshold (**THRESH**)** , controlled by the POD 1 knob, allows the setting of the threshold at which the gate will open. Variable from -80dB to 0dB in 1dB steps.

**Range (**RANGE**)** , controlled by the POD 2 knob, sets the gate range, from 60dB to 0dB in 1dB steps.

**Gate attack time** (ATTACK), controlled by the POD 3 knob. Variable from 0ms to 125ms in 1ms steps.

**Hysteresis (**HYST**)** , controlled by the POD 4 knob, from 0dB to 24dB in 1dB steps.

**NOTE**

*Hysteresis is a second threshold. The* Threshold *value is used when opening the gate, and that of* Hysteresis*, typically set a few dB lower than* Threshold*, when closing the gate. This means that once a signal has dropped below the* Hysteresis *level, it must rise again to the* Threshold *level for the gate to re-open, thus reducing or eliminating gate "chatter".*

**Gate hold time (**HOLD**)** , controlled by the POD 3 knob on the second row. Variable from 0ms to 990ms in 100 steps.

**Gate decay time (**DECAY**)** , controlled by the POD 4 knob on the second row. Variable from 5ms to 5.0s.

| Decay time | Step size |
|---|---|
| 5ms to 200ms | 5ms |
| 200ms to 300ms | 10ms |
| 300ms to 500ms | 20ms |
| 500ms to 1.00s | 50ms |
| 1.00s to 3.00s | 0.1s |
| 3.00s to 5.00s | 0.2s |

**Table 5.2: Gate decay times**

## Compressor/expanders

**COMP/EXPAND** This is an on-screen button, allowing you to turn the channel compressor/expander on and off. Duplicated in the global section at the right of the screen.

**Insert point (**INS PNT**)** allows the compressor/expander to be inserted either pre-EQ or post-EQ (channels 1 through 48—buss, aux and stereo are pre-fader only). Move the cursor to this field and use the **ENTER** key to change this setting.

The link and trigger settings work in the same way as for the gate (see above).

**Threshold** (THRESH), controlled by the POD 1 knob, and variable from -48dB to 0dB in 1dB steps.

**Compression/expansion ratio** (RATIO), controlled by the POD 2 knob, and variable from 1:1 to ∞:1 (infinite compression).

The steps are as follows: 1.00:1, 1.05:1, 1.11:1, 1.18:1, 1.25:1, 1.33:1, 1.43:1, 1.54:1, 1.67:1, 1.82:1, 2.00:1, 2.22:1, 2.50:1, 2.86:1, 3.33:1, 4.00:1, 5.00:1, 6.67:1, 10.0:1, 20.0:1, ∞:1.

When the processor is used as an expander, the values are: 1.00, 2.00, 4.00, 8.00, 16.0, 32.0, 64.0.

**Attack time** (ATTACK), controlled by the POD 3 knob, and variable from 0ms to 125ms in 1ms steps.

**Release time** (RELEASE), controlled by the POD 4 knob, and variable from 5ms to 5.0s in 100 steps.

| Release time | Step size |
|---|---|
| 5ms to 200ms | 5ms |
| 200ms to 300ms | 10ms |
| 300ms to 500ms | 20ms |
| 500ms to 1.00s | 50ms |
| 1.00s to 3.00s | 0.1s |
| 3.00s to 5.00s | 0.2s |

**Table 5.3: Compressor/expander release times**

**Auto make-up** (AUTOmk-up), controlled by the **ENTER** key. This is used if the compression settings have resulted in gain reduction. Not shown if the processor is being used as an expander.

**Output gain** (OUTGAIN), controlled by the POD 4 knob on the last row (grayed out if the auto make-up above is on). Variable from -20dB to +20dB in 1 dB steps. Not shown if the processor is being used as an expander.

**Library jump buttons** There are two such on-screen library jump buttons on channels 1 through 48 (gate and compressor/expander). Other (master) modules only have the compressor/expander jump keys.

These buttons are labeled GATE... LIB→ and C/E... LIB→ respectively.

When pressed, the appropriate library screen is brought up, where the current settings can be stored for future use, or preset or previously-stored settings can be recalled for use in the project.

## Preset dynamics library entries

The following preset entries are provided either to be used "as-is", or to be used as templates or starting points for experimentation.

These library entries are read-only (marked with an inverse R on the display), and may not be overwritten. However, it is possible to load the entries, edit the parameters, and then store them to a different library entry.

As always, there are no hard and fast rules as to what "works". Feel free to use the settings in a variety of contexts and change them as seems appropriate to you.

**Compressor/expander library entries** Use these settings for the compressor/expander either "as is" or edit them to your needs and store them as part of the project.

| Program Number | Name | Comment |
|---|---|---|
| 000 | Sample Snare | For use with snare drums |
| 001 | Slap Bass | For use with slap-type bass inputs |
| 002 | Electric Bass | For use with electric bass guitar |
| 003 | Wood Bass | For use with upright bass (double-bass or contra-bass) |
| 004 | Synth. Bass 1 | For use with synthesized bass lines |
| 005 | Synth. Bass 2 | For use with synthesized bass lines |
| 006 | Acoustic Guitar | To be used with acoustic guitars (nylon or steel-strung) |
| 007 | Electric Guitar 1 | For use with electric guitars |
| 008 | Electric Guitar 2 | For use with electric guitars |
| 009 | Electric Guitar 3 | For use with electric guitars |
| 010 | Brass | Effective with brass (horn) sections, etc. |
| 011 | Vocal 1 | Use with vocal lines |
| 012 | Vocal 2 | Use with vocal lines |
| 013 | Total Comp 1 | Overall compressor setting |
| 014 | Total Comp 2 | Overall compressor setting |
| 015 | Total Comp 3 | Overall compressor setting |
| 016 | Post Pro.1 | Useful in post-production environments |
| 017 | Post Pro.2 | Useful in post-production environments |
| 018 | Narration | For the spoken word |
| 019 | Expander1 | Expander setting |
| 020 | Expander2 | Another expander setting |
| 021 | Slow Attack | An expander with a slow attack |
| 022 | E Guitar Clean1 | Expander setting suitable for electric guitar |

**Table 5.4: Compressor/Expander preset library entries**

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**Gate library entries** These gate settings may be used as they are or used as jumping-off points for your own settings.

| Program Number | Name | Comment |
|---|---|---|
| 000 | Noise Gate1 | General noise gate setting |
| 001 | Noise Gate2 | General noise gate setting |
| 002 | Kick Gate1 | Suitable for bass (kick) drum |
| 003 | Kick Gate2 | Another kick drum setting |
| 004 | Snare Gate1 | Useful when recording snare drums |
| 005 | Snare Gate2 | Another snare setting |
| 006 | Toms Gate | Use when recording the toms of a drum kit |
| 007 | Slow Gate | A gate with slow response |
| 008 | Bass Gate1 | The settings suit a bass |
| 009 | Base Gate2 | Another bass gate setting |
| 010 | E Guitar Clean1 | Suitable for clean electric guitars |
| 011 | E Gt Distortion | Suitable for distorted electric guitars |
| 012 | E Gt Heavy Dist. | Suitable for heavily distorted guitars |

**Table 5.5: Gate/Expander preset library entries**

## Trigger settings

As mentioned earlier, the DM-4800 can have sources assigned to triggers (up to eight), allowing dynamics processors to be triggered by a wide range of input signals.

The assignment of the eight input triggers is done from the ROUTING INPUT screen.

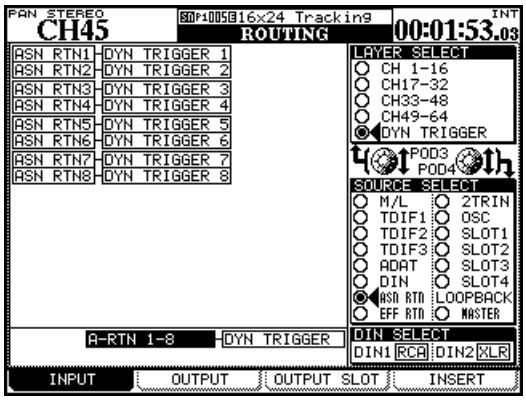


**Figure 5.8: Assigning dynamics processor triggers**

1 **Press the ROUTING key until the** INPUT **screen is shown.**

2 **Use POD 3 to select the** DYN TRIGGER **(dynamics trigger) option.**

3 **Use POD 4 to select the source group for the first trigger: mic/line inputs** (M/L)**, one of the three** TDIF **inputs, the** ADAT **inputs, the digital inputs** (DIN)**, the eight assignable returns** (ASN RTN)**, the returns from the internal effects** (EFF RTN)**, the input from the 2-track recorder** (2TRIN) **or the slot cards** (SLOT 1 **through** SLOT 4)**. Although the** OSC **(oscillator) and** LOOPBACK **options are available, they are not particularly useful here.**

4 **Move the cursor to the** DYN TRIGGER 1 **field, and use the wheel to select the input from the source group.**

5 **Press ENTER when the input is selected (you must do this) and move to the** DYN TRIGGER 2 **field.**

**You can use POD 4 to select another source group at any time.**

When you have set up the triggers, they are available for use in any gate or compressor/expander. Note that the same trigger can be used for many different processors.

**TIP**

*You can set up eight consecutive inputs as the eight input triggers by moving the cursor to the bottom of the screen (*BATCH SETUP*), selecting a group of eight inputs using the wheel, and pressing* **ENTER**. *This batch assignment can later be "fine-tuned", changing only one or two entries in the list, if required.*

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## EQ

The four-band EQ provided on the first 48 channel modules of the DM-4800 allows precise sound shaping, combined with flexibility, and repeatability, thanks to the library store and recall facilities.

It is also easy to copy and paste EQ settings from one module to another (see “Fat channel” on page 27.

To view the EQ settings for a module, press the **MODULE** key until the EQ page is shown.

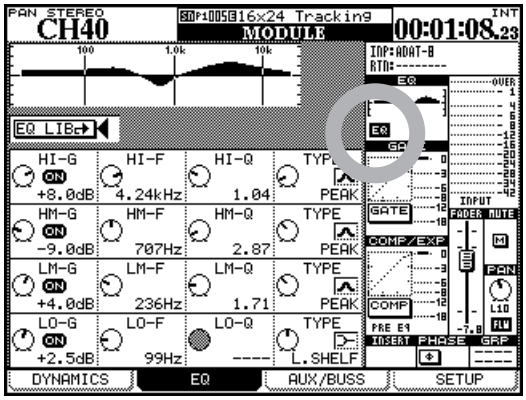


**Figure 5.9: Module EQ screen**

**TIP**

*The instructions here refer to POD use, but you can put the encoders into EQ mode, and use the encoders to adjust individual EQ parameters for the selected channel (see “Encoders” on page 22 for full details). It is also possible to link the screen display to the encoders, or the other way round, so that changing one automatically changes the other. See “PREFERENCES” on page 43.*

*You can also use the dedicated “fat channel” keys and controls as described in ““Fat channel”” on page 27.*

Use the cursor keys to move the “box” around the screen, and the four POD encoders to change the values of the gain (where appropriate), frequency, Q (where appropriate) and the type of filter for the selected band.

Turn the EQ on and off using the **EQ** key in the “fat channel”, or by using the on-screen EQ button (circled in Figure 5.9, *Module EQ screen*)

Turn the individual band highlighted by the on-screen box on and off using the **ENTER** key.

As you make changes to the EQ setting, the graph at the top of the screen changes as does the one by at the top of the “global section”.

All bands have the same frequency range: from 31 Hz to 19 kHz (in 112 steps).

The amount of gain is ±18 dB for all bands.

Q (where appropriate) can be set to any of the following 24 values: 8.65, 4.32, 2.87, 2.14, 1.71, 1.41, 1.20, 1.04, 0.92, 0.82, 0.74, 0.67, 0.61, 0.56, 0.51, 0.47, 0.44, 0.40, 0.38, 0.35, 0.33, 0.30, 0.28, or 0.27.

The types of EQ filter available are:

*Low band:* Low shelf (L.SHELF), peak (PEAK), and high-pass filter (HPF)

*Low-mid band:* Peak (PEAK) or notch (NOTCH)

*High-mid band:* Peak (PEAK) or notch (NOTCH)

*High band:* High shelf (H.SHELF), peak (PEAK), low-pass filter (LPF)

Note that the following parameters are used by the different EQ filters:

*Peak filter:* Gain, Frequency, Q

*Shelving filters (high and low):* Gain and Frequency

*HPF and LPF:* Frequency

*Notch filters:* Frequency and Q

Unused parameters are grayed out on screen or if encoders are elected to set the EQ, the encoders for the unused parameters are disabled, and no indicators are lit. The “fat channel” controls have no effect on unused parameters.

**Encoders and EQ** The encoders can be used to make EQ settings (unmodified **ENCODER** key 4) as described in “Encoders” on page 22.

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## EQ library

You can recall and use preset EQ settings from the DM-4800 library, as well as storing your own settings to user areas of the library for further use (see “Library management” on page 38 for details of how library functions work with the DM-4800).

To access the EQ library, move the cursor to the on-screen EQ LIB button, and press **ENTER**. The EQ library screen appears:

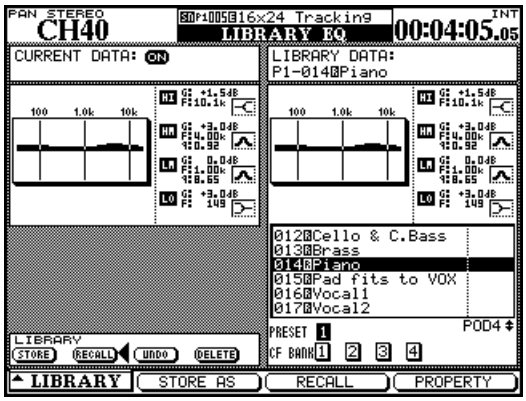


**Figure 5.10: EQ library**

Use the POD 4 encoder or wheel to scroll through the library entries in the selected preset or CF card bank, and POD 3 switch to recall the entry.

A graphical and numerical representation of the highlighted EQ library setting, as well as the currently-loaded setting, are shown.

The preset library entries have names such as Wood Bass or Sample Snare, but of course they can be used for any sound source.

| Number | Title | Comment |
|---|---|---|
| 000 | Snare Drum | Suitable for a snare drum |
| 001 | Bass Drum | Suitable for kick (bass) drum |
| 002 | Sample Snare Dr. | EQ for a sampled snare sound |
| 003 | Sample Bass Dr. | For a sampled kick (bass) drum sound |
| 004 | Wood Bass | Upright plucked double bass |
| 005 | Synth. Bass 1 | For synth bass sounds |
| 006 | Synth. Bass 2 | |
| 007 | Acoustic Guitar | Suitable for acoustic guitars |
| 008 | Electric Guitar 1 | For electric guitars |
| 009 | Electric Guitar 2 | |
| 010 | Electric Guitar 3 | |
| 011 | Violins & Violas | For the upper instruments in a string ensemble |
| 012 | Cello & C.Bass | For the lower instruments in a string ensemble |
| 013 | Brass | For brass sections |
| 014 | Piano | Acoustic piano setting—starting point for experimentation |
| 015 | Pad fits to VOX | For “pad” sounds to match vocals |
| 016 | Vocal 1 | Vocal EQ starting points |
| 017 | Vocal 2 | |
| 018 | Hum Cancel | Elimination of AC (mains) noise |
| 019 | Radio Voice | “Squawk-box” vocal setting |

**Table 5.6: EQ library presets**

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## Aux and buss setup

The third page of the MODULE screens provides a way to view and make the aux send settings and the buss panning between odd- and even-numbered busses (channel modules only in stereo mode, not surround mode when the buss pan follow mode is off—see "BUSS PAN Follows ST PAN" on page 44). Note also the on-screen FLW button below the pan pot on the right of the screen, which links buss and stereo panning.

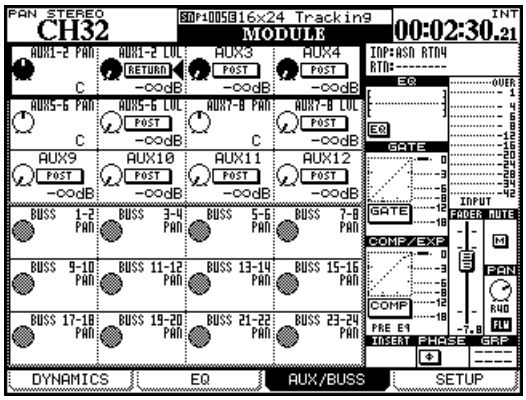


**Figure 5.11: Module aux and buss screen**

Use the cursor keys to move the "control box" of four PODs up and down.

For unlinked aux sends, the four POD encoders are used to set the send levels for the individual aux sends.

For linked aux sends, the PODs are paired, with the left encoder being used to set the pan (or balance in the case of linked channels) position between the two aux sends, and the right encoder setting the level.

Use the cursor keys and **ENTER** key to set the pre/post aux send position.

**NOTE**

*Aux 1-2 have an extra option here. In addition to being able to select the pre- and post-fader aux send position, channels 1 through 48 can also use the "return" signal ("Input routing" on page 59) as an aux send, allowing recorder returns to be used as a cue feed to the studio, etc.*

**Aux send screens (unlinked)** Pressing the dedicated **AUX** function keys brings up appropriate screens which allow the viewing and setting of aux sends for all channels:

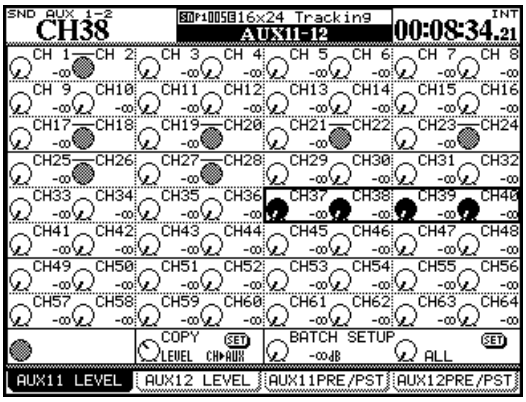


**Figure 5.12: Aux send screen (unlinked)**

Moving the cursor around the screen highlights four on-screen controls where the POD encoders are used to set the values. In the case of linked channels, the left POD of the pair is used to set the level.

The POD 2 key is used to select the screen for the even-numbered aux send level setting.

**Copying settings between aux sends and channel levels** At the bottom of the screen is a facility that allows the copying of channel levels to the aux sends, or the other way round. This is useful when setting up a studio cue monitor mix based on the channel settings.

Use POD 2 to select between CH>AUX and AUX>CH, move the cursor to the on-screen SET button, and press **ENTER**. A popup appears to confirm this setting (**ENTER** to confirm, cursor keys to cancel).

**Batch setting** By using POD 3 to set the level, POD 4 to set the destination either for the odd-numbered (ODD), or for the even-numbered (EVEN), in groups of eight channels, or for all (ALL) channels together. When you move the cursor to the in-screen SET button, and press ENTER, a popup appears to confirm this setting (**ENTER** to confirm, cursor keys to cancel).

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**Source selection** POD keys 3 and 4 select the aux send source screens. Select between pre-fader (PRE) or post-fader (POST). For aux 1 and 2 only, the RETURN input can also be selected as the send source (for studio cue monitoring).

Linked channels are controlled together by the odd-numbered (left) POD of the pair.

The BATCH SETUP section at the bottom right of the screen allows the setting of the same source for groups of eight channels, or for all (ALL) channels together. A popup appears to confirm this setting (**ENTER** to confirm, cursor keys to cancel).

## Aux send pan/balance screens (linked)

When two aux sends are linked (for stereo cue or to feed the stereo inputs of an effects processor, for example), these screens change slightly.

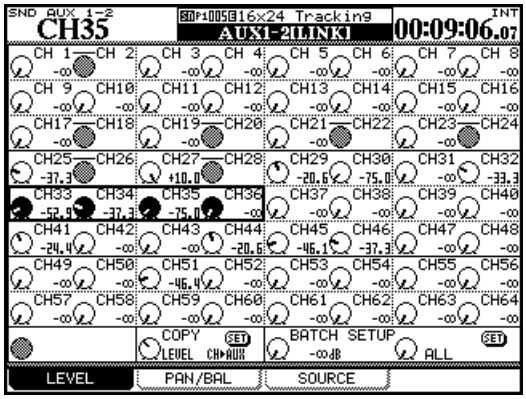


**Figure 5.13: Aux pan/balance screen (linked)**

In addition to the screen controlling the linked send levels to the linked aux sends and the screen controlling the sources to the linked aux sends, there is a third screen, which provides the ability to view and adjust the pan (and balance for linked channels) settings to the linked aux sends (accessed with the POD 2 key).

This works in the same way as the previous screens, with the addition of a batch pan setting facility.

There is also a way of copying the current channel pan settings to the aux send pair pan settings (and the other way round). This can be used for setting up monitor cue mixes based on the stereo mix, or simply for echoing the current position in the mix when feeding stereo effect processors.

Use the POD 2 encoder to select whether to copy the pan/balance settings from the channels to the aux sends (CH→AUX) or from the aux sends to the channels (AUX→CH). Use the on-screen SET button to actually perform the parameter copy. A popup appears to confirm this setting (**ENTER** to confirm, cursor keys to cancel).

**Using the encoders** You can use the first eight encoders in one of the aux modes (see “Encoders” on page 22) to set the aux send levels and/or pans (depending on the setting) for the selected channel module.

Note that if the preference for the encoders to follow the current screen is set (see “Encoder Mode Follows Current Screen” on page 44) the encoders will automatically change to the aux send and pan/balance mode when the aux screens are selected.

**Using the “fat channel”** Use the “fat channel” encoders to set the levels of the 12 aux sends, and the **SCREEN** key to jump quickly to the aux send screen for the selected channel.

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## Module setup

The fourth channel module screen is called the SETUP screen and allows the setting of general parameters affecting the use of the module. Note the block diagram at the top of this screen, showing the current configuration of the channel module, along with the enabled/disabled status of the components (dynamics processors, EQ, etc.). As changes are made to the setting, this block diagram is updated to reflect the current status of the module:

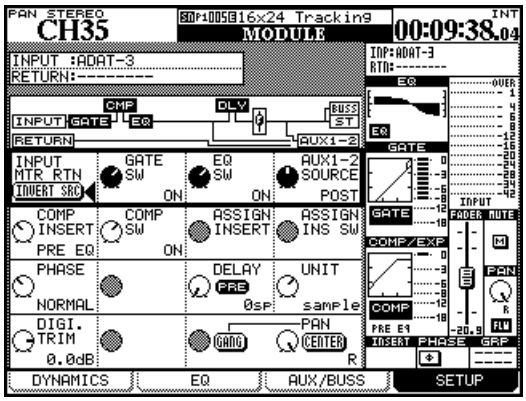


**Figure 5.14: Channel module SETUP screen**

As with the other module screens, the cursor keys are used to move a box around the screen, and the POD encoders and **ENTER** key are used to make changes to the parameters.

**NOTE**

*Note that buss modules allow the setting of Aux 1–2 level and pan here, together with stereo level and pan. Aux modules provide only stereo level and pan here, and the stereo buss provides only Aux 1–2 level and pan.*

**INPUT/RETURN selection** On channels 1 through 48, as explained earlier, two different inputs may be selected, which may be switched or "flipped" globally in blocks of eight ("Flipping the channels" on page 60) or may be changed on this screen using the on-screen INVERT SRC (source invert) button (POD 1, first row).

When you press **ENTER**, a popup message asking you to press **ENTER** once more to confirm the flip operation (or a cursor key to cancel).

**GATE switching** Use POD 2 on the first row as a rotary switch to turn the gate for the module on or off.

**AUX 1-2 SOURCE** It is suggested that the aux 1 and 2 sends are used as studio foldback (cue) sends. The fourth POD control on the first row of this screen allows you to choose pre-fader or post-fader inputs or the return channel to be used as the feed to aux 1-2 (this is independent of the input return selection).

**Dynamics insert point** Depending on the basic type of processor (compressor or expander) that has been recalled from the library, the screen may show COMP (compressor) or EXP (expander). Use POD 1 to move the insert point pre- or post-EQ.

**Dynamics on/off** Depending on the basic type of processor (compressor or expander) that has been recalled from the library, the screen may show COMP (compressor) or EXP (expander) here. Use the POD 2 encoder (second line) to turn this dynamics processor on or off.

**Assignable insert position** Use the POD 3 encoder (second line) to turn the insert point of the assignable "soft" insert to pre- or post-fader position.

**Phase control** Use the POD 1 encoder of row 3 to reverse the input phase of the channel module. If two channels are linked, then a phase control for each channel will be shown (POD 1 and POD 2). Also, see "Phase/trim/delay" on page 84 below.

**Module delay** A delay can be applied to channels on an individual basis, to compensate for the latency of other equipment, the acoustic delays caused by microphone placement, etc. The delay time can be expressed in milliseconds or in samples.

The delay point can also be set to be pre- or post-module (see also "Delay" on page 85).

Use the POD 3 encoder to set the delay time (in 0.1ms or single sample steps).

Move the cursor to the pre-post field and choose either pre- or post-module delay.

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The maximum delay time is 16383 samples, at every sampling frequency. In milliseconds, this equates to:

| FS | Maximum delay (ms) |
|---|---|
| 44.1 | 371.5 |
| 48 | 341.3 |
| 88.2 | 185.7 |
| 96 | 170.7 |

**Table 5.7: Channel delay**

Use the POD 4 encoder to switch between milliseconds and samples as the units in which the delay time is set and displayed.

**Digital trim** Allows the module's input to be adjusted. This is post-phase and pre-gate. It is entirely independent of the analog **TRIM** controls on the mic/line inputs.

The value of this digital trim can be adjusted from a cut of –50dB to a boost of +10dB in 0.5dB steps. Also see "Phase/trim/delay" on page 84 below.

**Dithering (stereo buss module only)** When going from 24-bit to 16-bit, using dithering is often a good way of reducing noise, etc. The POD 2 encoder can be used to set dithering Off (24-bit) or to the 16-bit (On) setting. The exact form of bit-reduction used can be set here as well as in the DIGITAL FORMAT screen (see "Digital I/O setup" on page 51): TRUNCATE, DITHER and NOISE SHAPED.

**Pan and balance settings** Many of these settings are dependent on whether the channel being edited is linked to another channel, as well as to whether the project is a stereo or surround project.

The POD 4 encoder is used to set the pan or balance. Beside the on-screen representation of this control is a CENTER button. Use this to center the pan or balance setting easily.

In the "normal" (unlinked, stereo) case, the odd-numbered (left) panpot of a pair of channels can be ganged together with the even-numbered (right) panpot. Use the on-screen GANG button to link the panpots of the channels in this way.

**A linked pair** of channel modules has the pan control of a mono channel replaced by a balance control. In the case of such a control, no ganging of control is possible, but two other controls are provided.

The first, controlled by the POD 2 encoder, allows either of the two modules to used as a mono signal (LMono, Rmono) or the two together as a stereo signal (STEREO). In the first two cases, the balance control effectively acts as a pan control).

The second control, set using the POD 3 encoder, controls the width of the stereo image created by the two controls from a mono point source (center) to a stereo (counterclockwise) image. Turning the pointer clockwise from the center reverses the left and right channels.

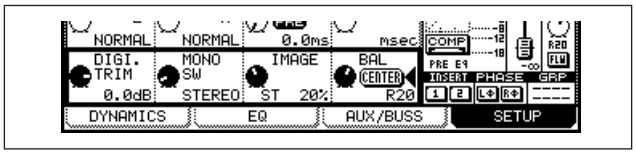


**Figure 5.15: Linked pair balance controls**

## Phase/trim/delay

**Phase** The phase of an input signal, as explained above, can be set either to normal or reversed.

Use the ASSIGN PARAMETERS screen ("Global module settings" on page 72) to view and set the phase for all input at once.

**Digital trim** You can also set the digital trim value from a common screen. Press the **DIGI. TRIM/DELAY** key (**ALT** + key **0**) to bring up the trim screen.

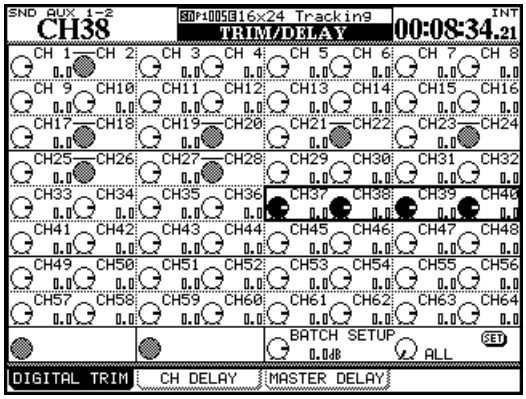


**Figure 5.16: Digital trim setting**

Use the cursor keys to select blocks of four channels and the PODs to set the values.

You can also set all, odd-numbered, even-numbered or blocks of eight channels to the same value using the BATCH SETUP facility at the bottom of the screen. Use the **ENTER** key to SET the value set with the POD 3 encoder to the channels chosen with POD 4.

**Delay** You can "slip" modules relative to each other in order to compensate for microphone placement, etc. This is the second tab of the DIGITAL TRIM/DELAY screen (it can also be set from the individual module screens).

As with other screens, you can use the cursor to move around and highlight the settings for four modules, and the POD encoders to adjust these settings.

The BATCH SETUP works in the same way as the digital trim described above, with a few additions.

First, POD 1 can be used to change the position of the delay between pre-and post-fader for all channels. Additionally, POD 2's encoder changes the unit in which delay is measured between samples and milliseconds.

POD 3 and 4 and the **ENTER** key work in the same way as they do for the digital trim batch setup.

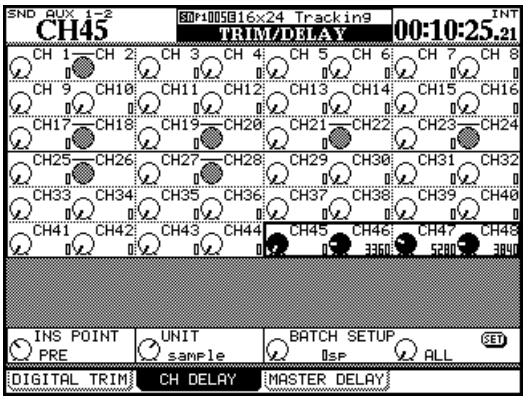


**Figure 5.17: Channel delay screen**

In addition to the channel delay, aux, buss and stereo modules can also have delay added.

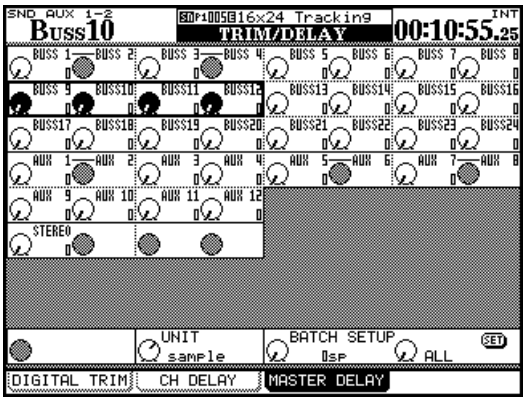


**Figure 5.18: Master delay screen**

The operational difference between this and the channel delay screen is that the pre/post setting is not available on this screen.

## Stereo linking

You can link two modules (channel modules, busses and aux sends) as stereo pairs when working with stereo input sources or stereo effect sends, etc.

When modules are linked, setting the following parameters (where these are available) on one of the paired modules echoes the settings on the other module of the pair:

- Digital trim
- Gate settings
- Compressor settings and insertion point
- EQ settings
- Aux send levels/pan-balance setting/pickoff point
- Mute
- Fader level
- Assignment
- Delay time
- Solo settings
- Grouping

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- Automation status
- Pan mode

Where these settings are made using physical controls, moving one control of the pair will move the other control of the pair, and will affect the settings.

Only adjacent modules can be linked, with the odd-numbered module being the left channel of the pair (that is, 1 and 2 can be linked, but 2 and 3 cannot).

To link modules:

1 **Press and hold the SEL key of one module of the pair to be linked.**

2 **Press the SEL key of the second module. A popup message appears:**

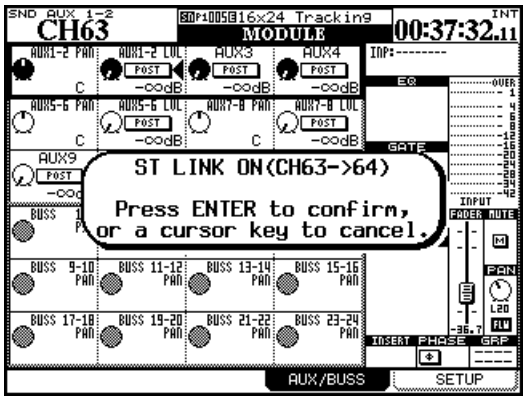


Figure 5.19: Linking modules

3 **Press ENTER to link the two modules, or a cursor key to cancel the operation.**

- **Unlink modules in the same way (press and hold one SEL key of the pair, and press the other SEL key to bring up a popup message).**

It is also possible to use the ST LINK screen brought up using the **ST LINK/GROUP** key.

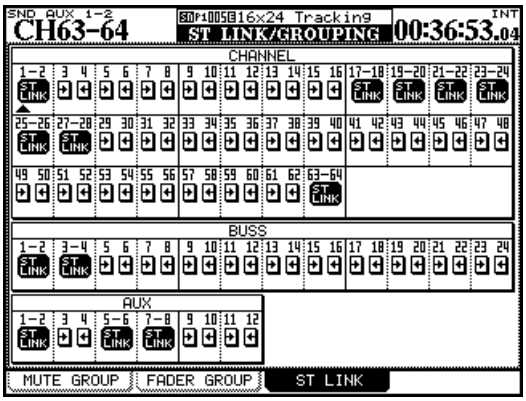


Figure 5.20: Stereo linking screen

Use the cursor keys or channel **SEL** keys to move the cursor and the **ENTER** key to make or break links.

No popup message appears when making or breaking stereo links in this way.

**Balance** One major difference between stereo linked channels and individual mono channels is in the pan and balance controls (see “Pan and balance settings” on page 84).

**Linked dynamics** Another major difference lies in the way that triggers, etc. are set for the dynamics processors of the module. See “Dynamics processors” on page 75 for details of how this works.

## Mute groups

In each mute group of channels, there is one master channel.

Altering the mute status of this master changes the status of the slave channels of the group.

Slave channels can change their status independently of the rest of the group. A slave channel can belong to only one group at a time.

Use the **LINK/GRP** key (**ALT** + **1**) to bring up the links screens:

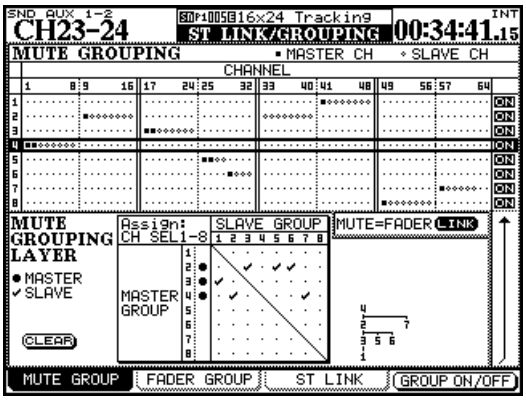


Figure 5.21: Mute grouping

Use the cursor to highlight a group (numbered at the side of the screen) and use the channel **SEL** keys to add the channels to the group. Change fader layers if necessary, to add other channels to the group.

The first channel added to the group becomes the master, marked by a solid "blob". The **SEL** key flashes, when the group is highlighted on screen.

Other channels can be added to the group following the master, marked by hollow "blobs" (if a channel already belongs to a group as a slave, it is removed from its original group). Slave channels in a group have their **SEL** key lit.

To remove a channel from a group, press its **SEL** key so that it is unlit.

**Clearing groups** Pressing the flashing master **SEL** key brings up a popup panel:

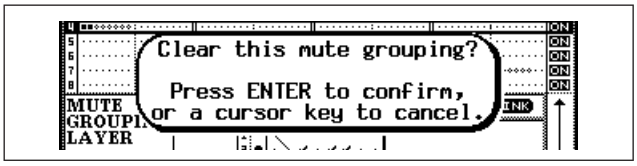


**Figure 5.22: Clearing a group**

Pressing **ENTER** removes the whole group (cursor keys cancel the clear operation and leave the group as is).

The POD 4 switch or **ENTER** turn the highlighted group on or off, but do not clear the settings.

**Grouping groups** A group can become a subgroup of another group, using the matrix at the bottom of the screen.

Move the cursor so that it highlights a master group (down the left side of the matrix—the **SEL** key corresponding to the master group lights) and use **SEL** keys 1 through 8 (regardless of layer) to set subgroups.

A "tree" diagram appears at the side of the matrix as you set up the groups:

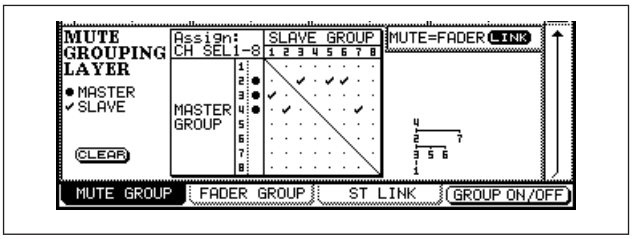


**Figure 5.23: Grouping groups**

In Figure 5.23, *Grouping groups*, group 1 is controlled by group 3, which in turn is controlled (together with groups 5 and 6) by group 2, which is controlled in turn (together with group 7) by group 4.

In other words, the **MUTE** key of the master channel of group 4 affects the **MUTE** keys of all channels of groups 2 and 7, 3, 5 and 6, and 1.

**Linking fader groups to mute groups** The on-screen MUTE->FADER LINK button allows the settings made for the mute groups to be linked to the fader groups. Changes made to mutes will be reflected in the faders and vice versa.

## Fader groups

These work in the same way as for mute groups.

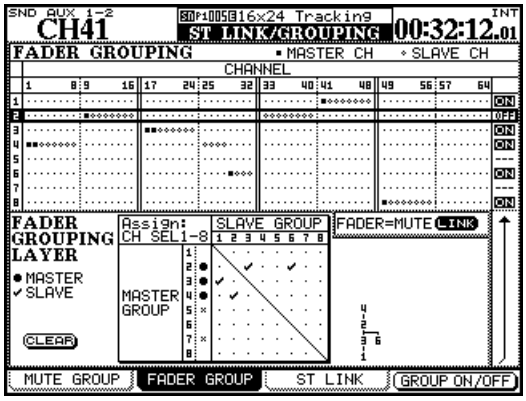


**Figure 5.24: Fader grouping**

Master and slave channels are set for each group using the **SEL** keys, and groups can be grouped in exactly the same way as mute groups.

Groups can be turned on and off.

Although these settings and actions are independent of the mute group settings described above, there is a FADER->MUTE LINK on-screen button that allows the settings made for the fader groups to be transferred and linked to the mute group settings.

**TIP**

*Either fader or mute groups can also be used as the source for "solo groups", where pressing the* **SOLO** *key of the master channel will solo all slave channels. See "SOLO" on page 44.*

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## Surround operations

There are several screens and functions which change from those described previously when a surround mode is selected.

There are three surround matrices available, which can be assigned and mixed differently, but each matrix must be of the same format (for example, it is not possible to have an LCRS and 5.1 surround setup at the same time).

### Changing surround mode

The surround mode is set from the PAN/BAL SURROUND MODE screen:

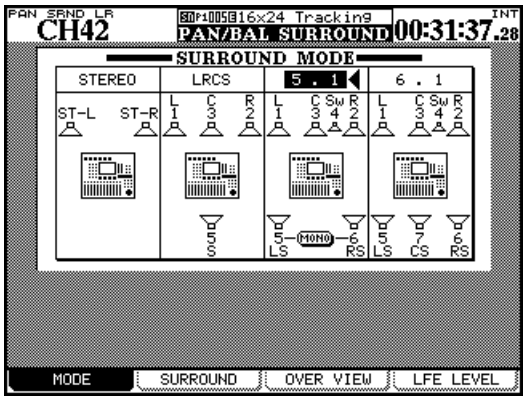


**Figure 5.25: Selecting surround mode**

Use the cursor keys to move the triangle cursor between STEREO, LRCS, 5.1 and 6.1.

Press **ENTER** to confirm the selection. A popup message appears asking you to press **ENTER** again to change the surround mode, or a cursor key to cancel the operation.

**WARNING**

*To avoid possible damage to speakers and equipment, we recommend that you turn off all monitoring equipment when changing the surround mode.*

Note that when the 5.1 option is selected, the rear speakers can be linked as MONO using the on-screen switch.

**Buss assignments** When a surround mode is selected, the 24 busses are used to feed the surround channels as follows (busses 9 through 16 are used for surround 2, 17 through 24 are used for surround 3, and are assigned in the same pattern as 1 through 8):

| Buss | LCRS | 5.1 | 6.1 |
|---|---|---|---|
| 1 | L | L | L |
| 2 | R | R | R |
| 3 | C | C | C |
| 4 | — | LFE | LFE |
| 5 | S | LS | LS |
| 6 | — | RS | RS |
| 7 | — | — | CS |
| 8 | — | — | — |

**Table 5.8: Buss assignments in surround mode**

These assignments cannot be changed.

### Assigning channels to surround busses

There are two modes in which the surround busses can be assigned: pan mode on and pan mode off.

This setting is made by pressing and holding the **SHIFT** key together with one of the **ASSIGN** keys.

Note that this pan mode works in a slightly different way to the pan mode in stereo setting (“Pan switch” on page 64). Note especially:

- The Buss Link and Pan preference has no meaning in surround mode. Channels can always have the pan mode turned on and off independently.
- There are three surround matrices. These can have pan mode turned on and off independently for each channel (**SHIFT** + **ASSIGN 1** through **8** for the first matrix, **SHIFT** + **ASSIGN 9** through **16** for the second, and **SHIFT** + **ASSIGN 17** through **24** for the third).

When pan mode is on, the channel settings in the BUSS ASSIGN screen look like all the channels in surround set 3 (surround matrix 3) and channels 25 through 30 in surround matrix 2 in Figure 5.26, *Surround assignment*.

When pan mode is off, the channel settings in the BUSS ASSIGN screen look like all channels in surround set 1 (surround matrix 1), and channels 31 and 32 in surround matrix 2as shown in Figure 5.26, *Surround assignment*:

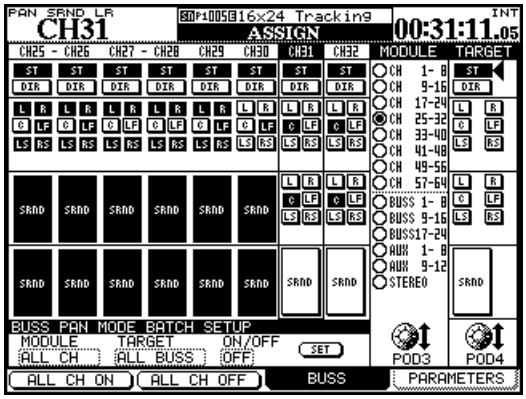


**Figure 5.26: Surround assignment**

The difference between these two modes is that when pan mode is off, the channels can be assigned individually to the surround channels (following Table 5.8, *Buss assignments in surround mode*).

When pan mode is on, the channels can be assigned to the surround matrices as a whole (either 1, 2 or 3).

- **In both cases, the POD 3 encoder is used to set the modules displayed on screen (the SEL keys can also be used).**
- **The POD 4 encoder is used to select the busses to which the module is assigned, and the ENTER key is used to assign the module, or release the module from the assignment.**
- **The ASSIGN indicators also mirror the current assignment status, and the ASSIGN keys can also be used to make or break assignments.**

Note that when the pan mode is on, all the **ASSIGN** indicators of one buss group (surround matrix) are turned on with one key.

## Surround panning

There are two ways of viewing and setting the pan position in the surround modes: an overview and a detailed channel view (the L-R balance can also be set in the FADER screen).

In the overview screen, 24 modules' basic surround panning facilities are displayed:

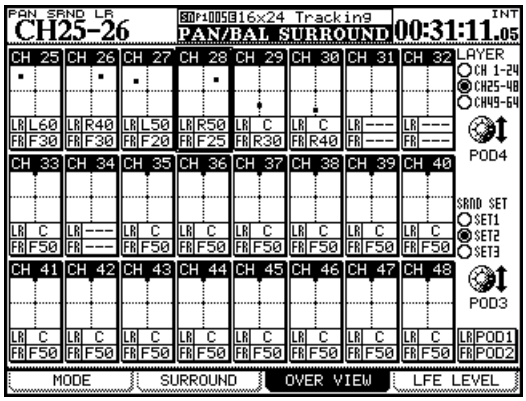


**Figure 5.27: Surround overview**

- **Use the POD 3 encoder to select surround matrix 1, 2 or 3** (SRND SET)**.**
- **Use the POD 4 encoder to select the first 24 channel module layer, the second 24 or the third 16 module layer** (LAYER)**.**

Using the same assignments as in Figure 5.26, *Surround assignment*, the modules where the pan mode is off (channels 31 and 32 in matrix 2 in Figure 5.27, *Surround overview*) cannot have any parameters changed.

However, for channels with the pan mode on (channels 25 through 30 in matrices 2 and 3 in Figure 5.26, *Surround assignment*), the following controls may be used:

- **POD 1 moves the channel position (shown as a dot in the square) around from left to right** (LR)**, and POD 2 moves it from front to rear** (FR)**.**

**NOTE**

*In this screen, and the module surround screen, settings are made independently for each channel, regardless of the current channel link status.*

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**Module screen** When the pan mode is on, the left-right and front-rear pan settings can be made from the module AUX/BUSS screen:

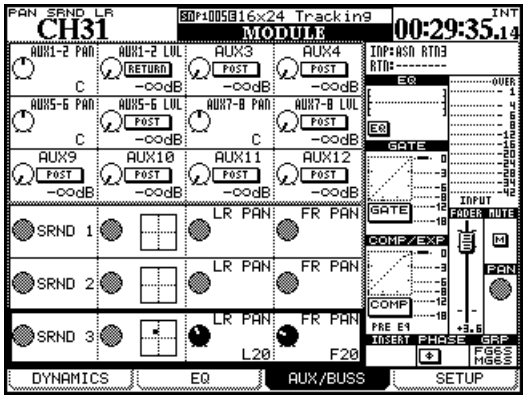


**Figure 5.28: Module surround panning**

In Figure 5.28, *Module surround panning*, pan mode is off for surround matrices 1 and 2, and so the pan controls are disabled for these matrices.

The SURROUND screens (Figure 5.29, *Surround panning (pan mode on)*), showing the settings for individual modules with the pan mode provide more complete control over the surround settings (surround screens with pan mode off are shown in Figure 5.30, *Surround screen (pan mode off)*):

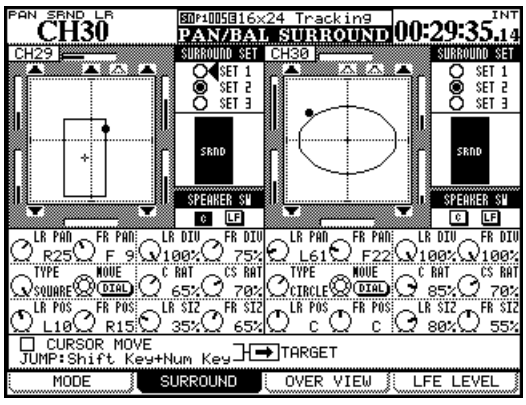


**Figure 5.29: Surround panning (pan mode on)**

Each module has a graphical representation of the current setting for the currently selected matrix. Channels to which the module is currently are assigned are shown as filled symbols; unassigned channels are shown as hollow symbols. This graphical part of the screen is for display only—use the cursor keys to navigate to the on-screen controls below and to the right of this circle.

- **The SURROUND SET radio buttons to the right of the circle allow the selection of one of the three surround matrices. Use the ENTER key to select one of these matrices.**
- **Below this, there is a switch for the center speaker (C), usually reserved for dialog in movie post-production, and another for the low-frequency speaker (LF). Use the ENTER key for these.**
- **Below this, use the POD 1 encoder to set the left-right pan position, and POD 2 for the front-rear. PODs 3 and 4 set the left-right and front-rear divergences respectively.**

Note the "bargraph" displays shown on the screen beside each speaker in the matrix which show the relative levels of the channels as the position is moved.

**Pattern panning** In the second row of POD controls, POD 1 sets the type of pattern controlled by the wheel (TYPE). The choices are: CIRCLE (where the signal follows a circular path around the center), SQUARE (a square path) and two SLANTs (diagonally across the sound stage). POD 2 moves the signal around the pattern, and POD 3 and POD 4 control how much of the signal is sent to the center front (C) and center surround speakers (CS).

As mentioned, the wheel or POD 2 may be used to move the signal of the channel whose **SEL** key is selected along the pattern. The position of the cursor on the screen does not determine the channel whose signal is edited.

The last row of PODs allows the pattern to be sized and moved relative to the center of the sound stage. POD 1 (LR POS) and POD 2 (FR POS) move the pattern left-to-right and front-to-back respectively, and POD 3 (LR SIZ) and POD 4 (FR SIZ) affect the size. See Figure 5.29, *Surround panning (pan mode on)* to see how these parameters can be used to affect the sound pattern for the selected channel.

**Using the cursor keys** As well as the above methods, when the CURSOR MOVE checkbox is selected, the cursor keys do not move the cursor around the screen, but move the signal around the sound stage. The TARGET box selects which channel is currently controlled in this way. Press **ENTER** to uncheck the box and start using the cursor keys in the usual way again.

**Jump keys** Press and hold **SHIFT** and press one of the numbered **SCREEN MODE** keys to move the signal to the appropriate point in the sound stage (**7** is front left, **8** is front center, **9** is front right, etc.).

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**Pan mode off** When pan mode is off, the screen is much simpler. No pan controls are available, and the only controls which may be set are the surround matrix selection and the individual speaker selection on-screen buttons.

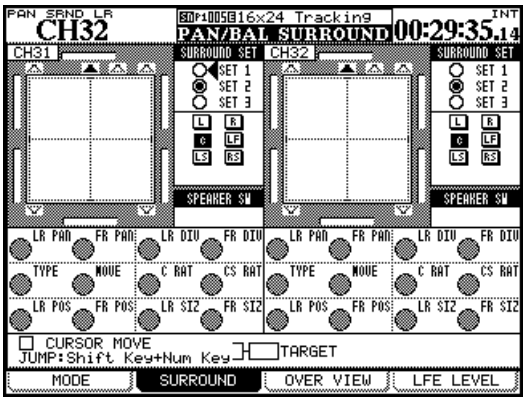


**Figure 5.30: Surround screen (pan mode off)**

## LFE level

The amount of signal sent by each channel to the LFE output can be set in the LFE LEVEL screen:

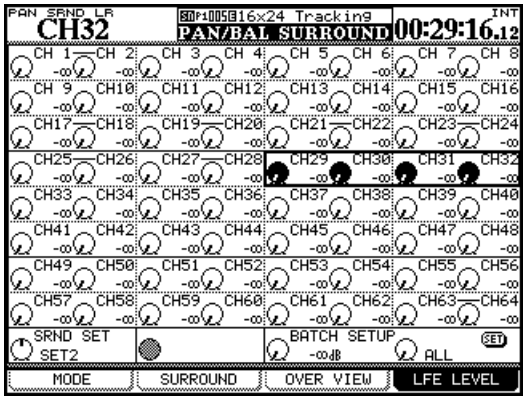


**Figure 5.31: LFE level**

Select the channel or use the cursor to move the box cursor around the screen, and the POD encoders to adjust the LFE level.

**NOTE**

*If a channel is not assigned to the LFE, adjusting the level here will have no effect.*

At the bottom of the screen, you can use the POD 1 encoder to select surround matrix 1, 2 or 3 (SRND SET).

POD 3 encoder allows a batch LFE level to be set, and POD 4 sets the scope of the level setting (ALL, ODD, EVEN, or groups of eight channels) for the currently selected surround matrix.

Use **ENTER** to make the batch setting.

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## Snapshots

Mixer settings can be stored in a library and recalled, either manually from the control surface, or remotely through MIDI Program Change messages.

Snapshots contain the following data:

- EQ parameters
- Dynamics parameters
- Fader and mute settings
- Groupings and group settings
- Aux send settings (level, status, pan-balance)
- Pan and balance settings, image, mono switch
- Surround parameters and pan mode
- Link settings
- Digital trim
- Phase switch
- Digital delay time and point
- Buss, stereo and direct assignments or surround assignments
- Effect parameters
- routing settings

These are all stored together with a transition time, which allows faders to move gradually from one position to the new position.

In addition, there are also some “safety switches” which prevent certain parameters being re-set when the snapshot is recalled (for example, it might be tedious to have all signals re-routed when a new snapshot is recalled).

Each snapshot can, of course, be named for easy recognition later.

### Snapshot library management

The snapshot library screen is accessed through the **LIBRARY** key:

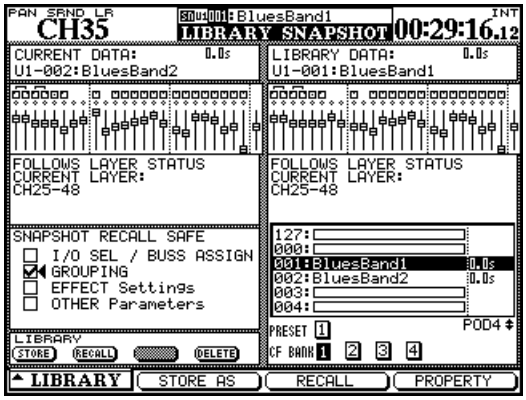


**Figure 5.32: Snapshot library**

If the snapshot library is not shown, use the POD 1 encoder and key to select the snapshot library, as shown in Figure 2.35, *Library selection pull-up menu*.

As the wheel or POD 4 encoder is used to scroll though the list of stored snapshots in the current bank or preset list, the representation of the current fader layer in that snapshot is shown on the right of the screen (the current settings are provided for reference on the left of the screen).

The RECALL SAFE list on the lower left of the screen allows various parameters to remain unchanged on recall when a snapshot is recalled. These are:

- I/O routing and buss assignment settings
- Mute and fader group assignments
- Current effect settings
- The OTHER parameters (i.e. those not listed above, allowing you to change only grouping, for example, while keeping fader settings, EQ settings and routing).

- **Use the POD 3 switch or the cursor at the RECALL on-screen button to recall the currently selected library entry. A popup message appears briefly.**

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## Storing snapshots

Snapshots may be stored to any of the four banks on the CF card.

- **The cursor keys are used on the right side of the screen to select the bank in which the snapshot is stored, and the POD 4 encoder is used to select the destination. Alternatively, the direct LIBRARY keys may be used for this purpose.**

Either press the POD 2 switch (STORE AS) or use the on-screen STORE button and **ENTER**:

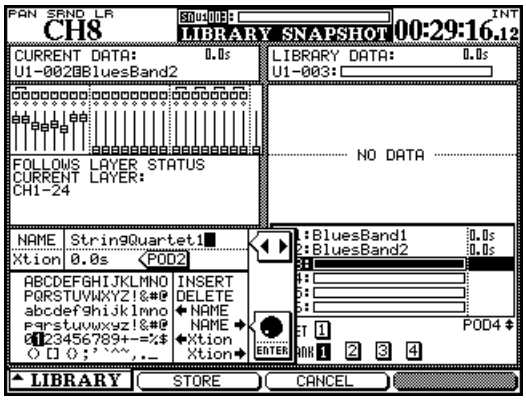


**Figure 5.33: Storing a snapshot**

- **On the left side of the screen, use the wheel and ENTER key to edit the name of the snapshot. The name can be copied from an existing entry and pasted to a library entry.**
- **POD 2 is used to alter the transition time** (Xtion)**. This time can also be copied to and from library entries.**
- **Finally, the POD 2 switch** (STORE) **is used to store the current settings to the selected slot (or POD 3** (CANCEL) **is used to cancel the operation). If a snapshot already exists in the destination area, a popup message appears to confirm the overwriting operation.**

## Information about a snapshot

When the library screen is visible, pressing the POD 4 switch brings up a popup information panel about the snapshot whose library entry is highlighted in the right-hand list.

The panel contains the following information:

- Name and transition time.
- Creation date and time (card bank data only).
- Project with which the snapshot is associated, together with the sampling frequency used (card bank data only).

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***The DM-4800 incorporates two internal effectors: TASCAM FX2.0 and a TC Works reverb. This section discusses the setup and use of these effects.***

## Routing the effects

As explained in "Routing" on page 59, internal effect inputs and outputs are treated as sources and destinations for routing.

The two screens shown here are examples of how the internal routing is used with the internal effects.

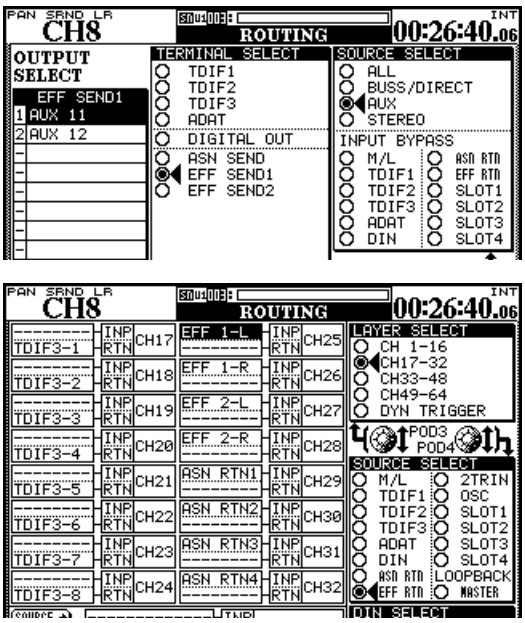


**Figure 6.1: Internal effect send and return routing**

In the OUTPUT routing screen, the Aux sends are selected as outputs, and the terminal destination is selected as one of the internal effects.

Here, Aux 11 and Aux 12 are selected as aux sends to effect 1 (effect 2 would be set up in the same way).

For the return, the INPUT screen is used. The source is set to EFF RTN (effect return) and channels 25 through 28 are selected as effect returns.

**WARNING**

*Since there are no dedicated effect returns, the channels used for returns also have aux feeds that may accidentally be used to feed the effects being returned on that channel. If this is done, there will be a feedback loop that may damage your hearing, and your monitoring equipment.*

## Setting up the effects

The **EFFECT** key brings up the effect screens, where the basic setup of the internal effects is done.

First, an effect is recalled from the preset library, or from a setting previously stored on a CF card.

When the effect setting has been recalled, it may be used as it is, or edited using the editing screen.

After pressing the **EFFECT** key, pressing the POD 2 switch brings up the effect 1 library, for managing the library effects for the first effect loop, and pressing the POD 4 switch brings up the effect 2 library, for managing the other effect loop (shown in Figure 6.2, *Effect library screen* below):

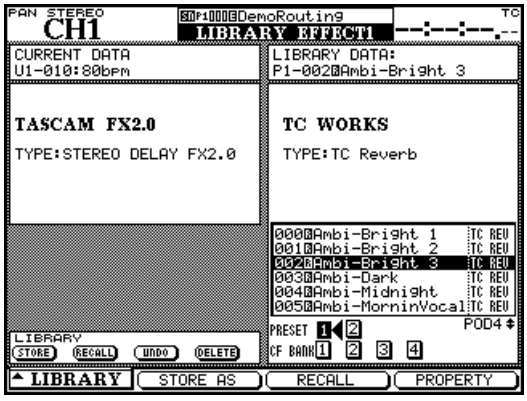


**Figure 6.2: Effect library screen**

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Use the cursor keys and **ENTER** to select an effect from PRESET 1 (TC Works reverb), PRESET 2 (TASCAM effect) or any of the four memory banks on the CF card.

Use the wheel or POD 4 encoder to scroll through the entries and press the POD 3 switch to recall the entry to the effect loop.

Press the **EFFECT** key once more to return to the setting screen:

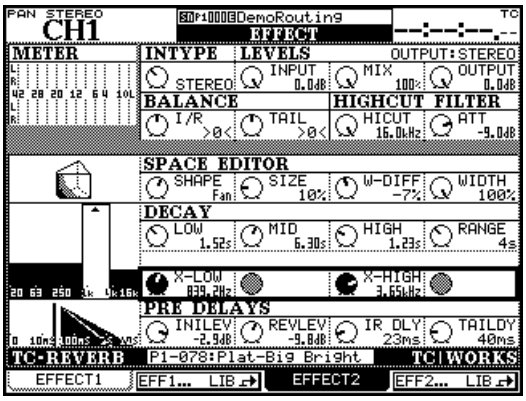


**Figure 6.3: Effect setting**

The exact screen depends on the effect selected, as explained below, but the top row is common to all effects, whether TASCAM or TC Works:

| POD 1 | POD 2 | POD 3 | POD 4 |
|---|---|---|---|
| INPUT type selection (mono or stereo) | INPUT Sets the input level to the effect | MIX From dry (0%) to fully wet (100%)<br>For guitar compressor, distortion, compressor, exciter, De-esser: Bypass — On or Off | OUTPUT output level |

**Table 6.1: Common effect parameters**

For more information on the TASCAM FX2.0/TC Reverb parameters, visit our website.

## Effect libraries

The effect libraries allow the storage and recall of effects. They work in the same way as other libraries, allowing you to name settings and store them to card banks.

Refer to the TASCAM FX2.0/TC Reverb preset list posted on our website.

Effects can be stored in any of the card banks, and recalled to either of the effect slots.

See “Library management” on page 38 for details of how libraries are operated.

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***As well as the MIDI ports, the DM-4800 can pass MIDI to and from a PC connected using the USB connection. This section explains some of the ways in which the card is used.***

## MIDI port switching and filtering

Press the **MIDI** key and navigate to the SETUP page to bring up the following screen:

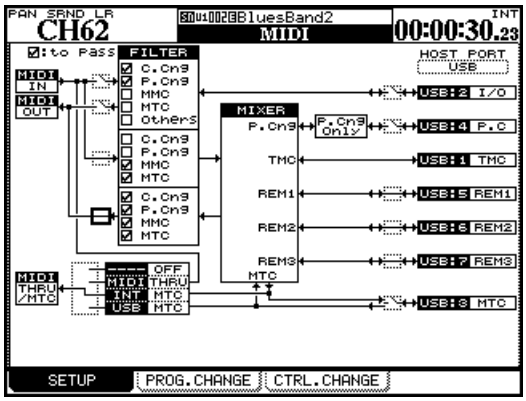


**Figure 7.1: MIDI setup**

The three boxes to the left of the screen (MIDI IN, MIDI OUT and MIDI THRU/MTC) refer to the three physical MIDI connectors on the rear panel.

The HOST PORT boxes on the right of the screen refer to the different virtual MIDI ports carried between the DM-4800 and the host PC, through the USB connection.

The different virtual MIDI ports are dedicated to different tasks. Working from the top of the screen (the numbers in parentheses refer to the port numbers shown in a DAW application, etc.:

- I/O (2) handles MIDI messages, bypassing the mixer section, and acting through the DM-4800's physical MIDI ports.
- P.C. (4) handles Program Change messages only.
- TMC (1) is reserved for communication with the PC software (TASCAM Mixer Companion).
- REM1(5), REM2 (6) and REM3 (7) are bi-directional ports that may be used for remote MIDI control of the DM-4800 or the DM-4800 to control another device.
- MTC (3) is a dedicated MIDI Time Code port.
- **Enable and disable these ports, along with the physical MIDI ports, by using the cursor keys and ENTER key to open and close the on-screen switches. Note that the TMC connection (1) cannot be turned off.**

The FILTER boxes allow the following MIDI messages to be passed (checked) or blocked (unchecked): Control change (C.Cng), Program change (P.Cng), MIDI Machine Control (MMC), MIDI Timecode (MTC), and other messages (Others).

The first part of the filter block refers to those messages received at the physical **MIDI IN** and transmitted to the virtual I/O port, as well as those MIDI messages that go the other way (from the I/O port to the physical **MIDI OUT**). Note that both the physical and virtual switches must be set here for data to go between these ports.

The next part of the block governs the filtering between the physical **MIDI IN** port and the mixer.

The final part of the filter block governs the filtering of the MIDI data sent out by the mixer from the physical **MIDI OUT** port.

Below the filter is the 4-way switch (use the wheel and **ENTER** key to set this up) allowing switching between:

- OFF — no MIDI data is sent from the **THRU** port.
- THRU — the data received at the physical **MIDI IN** is echoed through the THRU port.
- INT MTC — the internal MIDI timecode generator's output is sent through the **THRU** port.
- USB MTC — the MIDI timecode received at the USB MTC port is echoed at the **THRU** port.

## Program Change messages and the DM-4800

The DM-4800 can receive Program Change messages to recall snapshot settings, or settings from either of the two effect libraries.

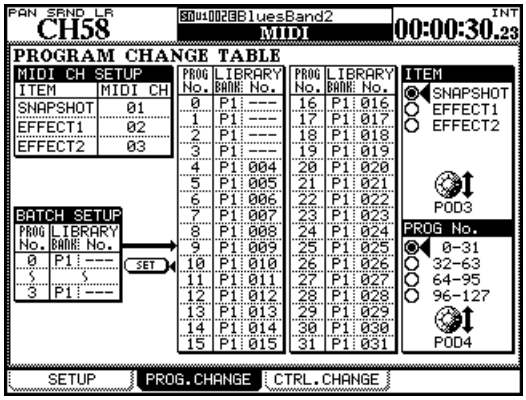


**Figure 7.2: MIDI Program Change screen**

1. **Use the MIDI key to bring up the** PROG. CHANGE **screen ("MIDI Program Change screen" on page 97).**
2. **Use the POD 3 encoder to choose which library item to select (**SNAPSHOT**,** EFFECT1**, or** EFFECT2**).**
3. **The screen shows 32 programs at a time. Use the POD 4 encoder to select which group of 32 programs will be shown.**
4. **Use the cursor keys and wheel to select and set incoming program change numbers (**PROG No.**), — 0 through** 127**; the bank (**LIBRARY BANK**) —** P1 **for preset,** B1 **through** B4 **for the user CF card banks; and the number in the library (**LIBRARY No.**) 000 through 127.**

**NOTE**

*The effect libraries have two preset banks - these are labeled as* P1 *and* P2 *here.*

**Setting the MIDI channels** To allow the program changes to be made independently for the three types of library recall, select different MIDI channels for the snapshot and effect libraries using the MIDI CH SETUP block at the top left of the screen.

**Batch setup** In order to assign a group of contiguous program change values to a contiguous group of library entries in the same bank, use the BATCH SET UP block at the lower left of the screen.

- **Select the starting and ending incoming Program Change numbers (**PROG No.**). You must press ENTER to confirm these values.**
- **Select the library bank (**P1 **or** B1 **through** B4**) for the batch process.**
- **Select the starting Library slot number (**LIBRARY No.**). The highest library slot number is automatically determined from the Program Change values set earlier.**

**TIP**

*It is possible to ignore a range of incoming Program Change values by setting the Library slot number to --- in the* BATCH SETUP *portion of the screen.*

- **When all values have been set, move the cursor to the on-screen** SET **button and press ENTER.**

**NOTE**

*Program Change messages are sent and received through USB MIDI port 4. Enable this port in the* MIDI SETUP *screen ("MIDI port switching and filtering" on page 96) or the MIDI input and filter switches for the physical MIDI ports.*

## MIDI Implementation Charts

The following charts provide details of the MIDI implementation for the physical **MIDI IN** and **MIDI OUT** ports, as well as for the MIDI data sent and received over the USB connection to a personal computer.

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## MIDI IN and OUT ports

This refers to the physical **MIDI IN** and **MIDI OUT** ports.

TEAC [Digital Mixer] Date : 29.May.2006

Model:DM-4800 MIDI Implementation Chart Version : 1.0

| Function... | | Transmitted | Recognized | Remarks |
|---|---|---|---|---|
| Basic | Default | 1-16 | 1-16 | Memorized |
| Channel | Changed | 1-16 | 1-16 | |
| Mode | Default | 1 | 1 | |
| | Messages | x | x | |
| | Altered | ********** | x | |
| Note | | x | x | |
| Number | :True voice | ********** | x | |
| Velocity | Note ON | x | x | |
| | Note OFF | x | x | |
| After | Key's | x | x | |
| Touch | Ch's | x | x | |
| Pitch Bend | | x | x | |
| Control | 1-5, 7-31, 64-95 | o | o | Assignable |
| Change | 0, 6, 32-63, 96-119 | x | x | *1:MIDI Mixer Mode |
| | 1-2,4-5,7-8,10-13,16-19 | o | o | *1:MIDI Controllers Mode |
| | 64,67,84,99,101 | o | o | |
| | 0,3,6,9,14-15,20-63 | x | x | |
| | 65-66,68-83,85-98,100 | x | x | |
| | 102-119 | x | x | |
| | 0-119 | o | o | *1:MIDI Faders Mode |
| Prog | | o(0-127) | o(0-127) | Assignable,*1,*2 |
| Change | :True # | ********** | ********** | *1:MIDI Controllers Mode |
| System Exclusive | | o | o | *1,*3 |
| Common | :MTC quarter frame | o | o | *1 |
| | :Song Pos | x | x | |
| | :Song Sel | x | x | |
| | :Tune | x | x | |
| System | :Clock | x | x | |
| Real Time | :Commnads | x | x | |
| Aux | :Local ON/OFF | x | x | |
| Messages | :All Notes OFF | x | x | |
| | :Active Sense | x | x | |
| | :Reset | x | x | |
| Notes | | This implementation chart is for MIDI messages, below.<br>* Outgoing MIDI Messges from physical MIDI OUT port by operating DM-4800<br>* Incoming MIDI messages from physical MIDI IN port that affects DM-4800 operation.<br>(except the messages via USB-MIDI Inferface Port)<br><br>*1: User's choice, memorized.<br>*2: For Snapshot, Effect1 and Effect2 Library Recalls.<br>*3: MMC, MTC Full Message and Device Inquiry. | | |

Mode 1:OMNI ON, POLY Mode 2:OMNI ON, MONO o:Yes

Mode 3:OMNI OFF,POLY Mode 4:OMNI OFF,MONO x:No

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## MTC OUT port

This refers to the physical **MIDI MTC** port.

TEAC [Digital Mixer] Date : 29.May.2006

Model:DM-4800 MIDI Implementation Chart Version : 1.0

| Function... | | Transmitted | Recognized | Remarks |
|---|---|---|---|---|
| Basic | Default | 1-16 | 1-16 | |
| Channel | Changed | 1-16 | 1-16 | |
| | Default | - | - | |
| Mode | Messages | x | x | |
| | Altered | ********** | | |
| Note | | x | x | |
| Number | :True voice | ********** | x | |
| Velocity | Note ON | x | x | |
| | Note OFF | x | x | |
| After | Key's | x | x | |
| Touch | Ch's | x | x | |
| Pitch Bend | | x | x | |
| Control | 0-119 | x | x | |
| Change | | | | |
| Prog | | x | x | |
| Change | :True # | ********** | ********** | |
| System Exclusive | | x | o | MTC Full Message *1 |
| Common | :MTC quarter frame | x | o | *1 |
| | :Song Pos | x | x | |
| | :Song Sel | x | x | |
| | :Tune | x | x | |
| System | :Clock | x | x | |
| Real Time | :Commnads | x | x | |
| Aux | :Local ON/OFF | x | x | |
| Messages | :All Notes OFF | x | x | |
| | :Active Sense | x | x | |
| | :Reset | x | x | |
| Notes | | *1: User's choice, memorized. | | |

Mode 1:OMNI ON, POLY Mode 2:OMNI ON, MONO o:Yes

Mode 3:OMNI OFF,POLY Mode 4:OMNI OFF,MONO x:No

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## USB MIDI Control Port (1)

This refers to the first virtual MIDI port carried over USB.

TEAC [Digital Mixer] Date : 29.May.2006

Model:DM-4800 MIDI Implementation Chart Version : 1.0

| Function... | | Transmitted | Recognized | Remarks |
|---|---|---|---|---|
| Basic | Default | 1-16 | 1-16 | |
| Channel | Changed | 1-16 | 1-16 | |
| | Default | - | - | |
| Mode | Messages | x | x | |
| | Altered | ********** | | |
| Note | | x | x | |
| Number | :True voice | ********** | x | |
| Velocity | Note ON | x | x | |
| | Note OFF | x | x | |
| After | Key's | x | x | |
| Touch | Ch's | x | x | |
| Pitch Bend | | x | x | |
| Control Change | 0-119 | x | x | |
| Prog | | x | x | |
| Change | :True # | ********** | ********** | |
| System Exclusive | | o | o | *1 |
| Common | :MTC quarter frame | x | x | |
| | :Song Pos | x | x | |
| | :Song Sel | x | x | |
| | :Tune | x | x | |
| System | :Clock | x | x | |
| Real Time | :Commnads | x | x | |
| Aux | :Local ON/OFF | x | x | |
| Messages | :All Notes OFF | x | x | |
| | :Active Sense | x | x | |
| | :Reset | x | x | |
| Notes | | *1: TEAC Syx,MTC Full Message and Device Inquiry. | | |

Mode 1:OMNI ON, POLY Mode 2:OMNI ON, MONO o:Yes

Mode 3:OMNI OFF,POLY Mode 4:OMNI OFF,MONO x:No

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## USB MIDI Interface port (2)

This refers to the second virtual MIDI port carried over USB.

TEAC [Digital Mixer] Date : 29.May.2006

Model:DM-4800 MIDI Implementation Chart Version : 1.0

| Function... | | Transmitted | Recognized | Remarks |
|---|---|---|---|---|
| Basic | Default | 1-16 | 1-16 | |
| Channel | Changed | 1-16 | 1-16 | |
| | Default | 1 | 1 | |
| Mode | Messages | o | o | |
| | Altered | ********** | | |
| Note | | o | o | |
| Number | :True voice | 0-127 | o | |
| Velocity | Note ON | o | o | |
| | Note OFF | o | o | |
| After | Key's | o | o | |
| Touch | Ch's | o | o | |
| Pitch Bend | | o | o | |
| Control Change | 0-119 | o | o | |
| Prog | | o | o | |
| Change | :True # | 0-127 | 0-127 | |
| System Exclusive | | o | o | *1 |
| Common | :MTC quarter frame | o | o | |
| | :Song Pos | o | o | |
| | :Song Sel | o | o | |
| | :Tune | o | o | |
| System | :Clock | o | o | |
| Real Time | :Commnads | o | o | |
| Aux | :Local ON/OFF | o | o | |
| Messages | :All Notes OFF | o | o | |
| | :Active Sense | o | o | |
| | :Reset | o | o | |
| Notes | | * Incoming MIDI messages from physical MIDI IN port are transmitted to USB MIDI Interface port through the MIDI filter.<br>* Incoming MIDI messages from USB MIDI Interface port are transmitted to physical MIDI OUT port through the MIDI filter.<br>*1: Ignore if greater than 513 bytes. | | |

Mode 1:OMNI ON, POLY Mode 2:OMNI ON, MONO o:Yes

Mode 3:OMNI OFF,POLY Mode 4:OMNI OFF,MONO x:No

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## USB MIDI MTC Port (3)

This refers to the third virtual MIDI port carried over USB, used for MIDI Time Code.

TEAC [Digital Mixer] Date : 29.May.2006

Model:DM-4800 MIDI Implementation Chart Version : 1.0

| Function... | | Transmitted | Recognized | Remarks |
|---|---|---|---|---|
| Basic | Default | 1-16 | 1-16 | |
| Channel | Changed | 1-16 | 1-16 | |
| | Default | - | - | |
| Mode | Messages | x | x | |
| | Altered | ********** | | |
| Note | | x | x | |
| Number | :True voice | ********** | x | |
| Velocity | Note ON | x | x | |
| | Note OFF | x | x | |
| After | Key's | x | x | |
| Touch | Ch's | x | x | |
| Pitch Bend | | x | x | |
| Control Change | 0-119 | x | x | |
| Prog | | x | x | |
| Change | :True # | ********** | ********** | |
| System Exclusive | | o | o | MTC Full Message *1 |
| Common | :MTC quarter frame | o | o | *1 |
| | :Song Pos | x | x | |
| | :Song Sel | x | x | |
| | :Tune | x | x | |
| System | :Clock | x | x | |
| Real Time | :Commnads | x | x | |
| Aux | :Local ON/OFF | x | x | |
| Messages | :All Notes OFF | x | x | |
| | :Active Sense | x | x | |
| | :Reset | x | x | |
| Notes | | *1: User's choice, memorized. | | |

Mode 1:OMNI ON, POLY Mode 2:OMNI ON, MONO o:Yes

Mode 3:OMNI OFF,POLY Mode 4:OMNI OFF,MONO x:No

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## USB MIDI Program Change Port (4)

This refers to the fourth virtual MIDI port carried over USB, used for Program Change messages.

TEAC [Digital Mixer] Date : 29.May.2006

Model:DM-4800 MIDI Implementation Chart Version : 1.0

| Function... | | Transmitted | Recognized | Remarks |
|---|---|---|---|---|
| Basic | Default | 1-16 | 1-16 | Memorized |
| Channel | Changed | 1-16 | 1-16 | |
| | Default | - | - | |
| Mode | Messages | x | x | |
| | Altered | ********** | | |
| Note | | x | x | |
| Number | :True voice | ********** | x | |
| Velocity | Note ON | x | x | |
| | Note OFF | x | x | |
| After | Key's | x | x | |
| Touch | Ch's | x | x | |
| Pitch Bend | | x | x | |
| Control | 0-119 | x | x | |
| Change | | | | |
| Prog | | o(0-127) | o(0-127) | Assignable,*1,*2 |
| Change | :True # | ********** | ********** | |
| System Exclusive | | x | x | |
| Common | :MTC quarter frame | x | x | |
| | :Song Pos | x | x | |
| | :Song Sel | x | x | |
| | :Tune | x | x | |
| System | :Clock | x | x | |
| Real Time | :Commnads | x | x | |
| Aux | :Local ON/OFF | x | x | |
| Messages | :All Notes OFF | x | x | |
| | :Active Sense | x | x | |
| | :Reset | x | x | |
| Notes | | *1: User's choice, memorized.<br>*2: For Snapshot, Effect1and Effect2 Library Recalls. | | |

Mode 1:OMNI ON, POLY Mode 2:OMNI ON, MONO o:Yes

Mode 3:OMNI OFF,POLY Mode 4:OMNI OFF,MONO x:No

# 7 – MIDI : MIDI Implementation Charts

## USB MIDI Remote Port (5, 6, 7)

This refers to the three remote virtual MIDI ports carried over USB for remote control.

TEAC [Digital Mixer] Date : 29.May.2006

Model:DM-4800 MIDI Implementation Chart Version : 1.0

| Function... | | Transmitted | Recognized | Remarks |
|---|---|---|---|---|
| Basic Channel | Default | 1-16 | 1-16 | Memorized |
| | Changed | 1-16 | 1-16 | |
| Mode | Default | 1 | 1 | |
| | Messages | x | x | |
| | Altered | ********** | | |
| Note Number | :True voice | 0 | 0 | *1:HUI Mode Active Sensing |
| | | ********** | | |
| | :True voice | 00h-70h | 00h-73h | *2:Mackie Ctrl Mode:Key,LED |
| | | ********** | | |
| Velocity | Note ON | 90H,v=127 | 90H,v=0 | *1:HUI Mode Active Sensing |
| | Note OFF | x | x | |
| | Note ON | 90H,v=0,127 | 90H,v=0,127 | *2:Mackie Ctrl Mode:Key,LED |
| | Note OFF | x | x | |
| After Touch | Key's | x | x | |
| | Ch's | x | x | |
| Pitch Bend | | o | o | *2:Mackie Ctrl Mode:Fader |
| Control Change | 00h-07h,20h-27h | o | o | *2:HUI Mode:Fader |
| | 0Ch,2Ch | x | o | *2:HUI Mode:LED |
| | 0Fh,2Fh | o | x | *2:HUI Mode:Switch Ctrl |
| | 10h-17h | x | o | *2:HUI Mode:V-Pot LED |
| | 40h-47h | o | x | *2:HUI Mode:V-Pot Ctrl |
| | others | x | x | |
| | 10h-17h,3Ch | o | x | *2:Mackie Ctrl Mode:Encoder |
| | 30h-37h | x | o | *2:Mackie Ctrl Mode:RingLED |
| | others | x | x | |
| | others | x | x | |
| Prog Change | | x | x | |
| | :True # | ********** | ********** | |
| System Exclusive | | o | o | *2,*3 |
| Common | :MTC quarter frame | x | o | *4 |
| | :Song Pos | x | x | |
| | :Song Sel | x | x | |
| | :Tune | x | x | |
| System Real Time | :Clock | x | x | |
| | :Commnads | x | x | |
| Aux Messages | :Local ON/OFF | x | x | |
| | :All Notes OFF | x | x | |
| | :Active Sense | x | x | |
| | :Reset | x | x | |
| Notes | | *1: For Active sensing in HUI Emulator mode.<br>*2: User's choice, memorized.<br>*3: HUI Protocol,Mackie Control Protocol<br>*4: For Display only | | |

Mode 1:OMNI ON, POLY Mode 2:OMNI ON, MONO o:Yes

Mode 3:OMNI OFF,POLY Mode 4:OMNI OFF,MONO x:No

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***The DM-4800 is capable of acting as a remote control unit for a wide variety of external devices. The exact functionality of the machine control depends, of course, on the device to be controlled.***

The device control is carried out through the MIDI connections, including the USB MIDI ports (for MMC), or the serial port via P2 protocol (**RS-422**).

Different devices can be selected for simultaneous control by the DM-4800, with different devices being controlled in different ways. For instance, it is possible to select one device to have its transport functions controlled by the DM-4800, while the DM-4800 controls the track arming functions of another device.

**NOTE**

*In this section, the term "controller" is used to refer to a part of the DM-4800 software controlling an external device, rather than a hardware feature of the device or the DM-4800.*

## Selecting devices for transport control

The **REMOTE** key is used to set up external devices for transport and machine control.

1 **With the ALT indicator lit, press the REMOTE key.**

2 **Use the POD 2 key to bring up the machine control screen** (MACHINE CTRL)**:**

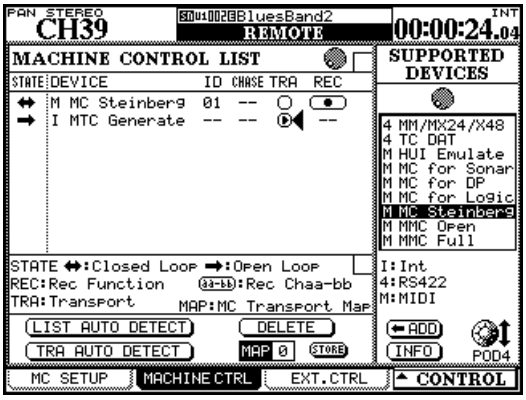


**Figure 8.1: Adding external devices for control by the DM-4800**

3 **With the cursor pointing to either the** <-ADD **or** INFO **buttons at the right of the display, use the wheel to scroll through the list of devices on the right of the screen that may be controlled by the DM-4800** (SUPPORTED DEVICES)**.**

4 **When a device to be controlled by the DM-4800 is selected in the list, move the cursor to the** <-ADD **button, and press ENTER. The device will be added to the list.**

To obtain more information regarding a particular item in the list of devices which may be controlled by the DM-4800, highlight the item, move the cursor to the INFO button, and press **ENTER**. A popup screen provides information regarding the list item.

At the bottom of the list is a key to the method used for controlling each item in the list:

| Display | Meaning |
|---|---|
| I | Internal devices |
| M | MIDI Machine Control |
| 4 | P2 (RS-422) |

**Table 8.1: Machine control methods**

The current list of devices (at the time of writing) is:

| Device | Screen display | Control type |
|---|---|---|
| MIDI Timecode generator | MTC Generate | I |
| DTRS recorder | DTRS | 4 |
| VTR (playback only) | VTR PLAYonly | 4 |
| 2-track VTR with record support | VTR 2Trk REC | 4 |
| 4-track VTR with record support | VTR 4Trk REC | 4 |
| MMR-8 or MMP-16 TASCAM HD recorder | MM/MX-2424 | 4 |
| DAT recorder with timecode track | TC DAT | 4 |
| Mackie HUI emulation | HUI Emulate | M |
| Mackie Control emulation for Sonar DAW | MC for Sonar | M |
| Mackie Control emulation for MOTU Digital Performer | MC for DP | M |
| Mackie Control emulation for Apple Logic | MC for Logic | M |
| Mackie Control emulation for Steinberg Nuendo & Cubase | MC Steinberg | M |
| Open MIDI Machine Control | MMC Open | M |
| Closed MIDI Machine Control loop | MMC Full | M |

**Table 8.2: Current device support**

Other devices may be added to the list of supported devices in the future. If the list does not contain the

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name of a device that you wish to control, please contact your local TASCAM Web site regarding the availability of a software upgrade which contains the control capability for your device.

Up to 16 devices may be added to the Machine Control List. If more devices are connected and added to the list than can be shown on screen, arrow marks appear at the top and bottom of the list.

When an entry in the Machine Control List is highlighted (that is, the cursor is on the left of the screen), the wheel is used to scroll through the list, including those items which may not be visible on the screen.

## Deleting devices from the list

If a device is added in error to the Machine Control List (or is no longer required), move the cursor to the on-screen DELETE button, use the wheel to select the device and press **ENTER**. The item in the list will be deleted.

This process can be repeated to clear the list.

## Auto-detection of devices

In addition to the manual addition of controlled devices, there are two auto-detect buttons. One is used is used for detecting all devices attached to the DM-4800 (LIST AUTO DETECT) and the other is used for transport mapping (see "Transport mapping memories" on page 107 below).

Move the cursor to the on-screen LIST AUTO DETECT button and press **ENTER** to scan the control ports and report on the detected devices, adding the controllers to the Machine Control list (see "Transport mapping memories" on page 107).

**NOTE**

*Because not every device that may be controlled by the DM-4800 is capable of reporting its presence accurately, some devices will not appear on the list, and must be added to the list manually.*

When attempting to identify a MIDI device, the DM-4800 first sends out an MMC Read Signature command. It adds a generic "closed loop" device for every device ID that responds to this command.

It also sends out a MIDI Device Inquiry Message. If a remote device replies to this message, and an appropriate controller is available, this controller replaces the generic MMC closed-loop controller.

After power has been applied, it may take between one and two minutes for the remote devices to be recognized. Even if they have been added to the memorized Machine Control list previously, it may not be possible to control them immediately the system is powered up.

## Selecting the control type for the devices

The Machine Control list is composed of a number of columns. These are explained below:

**STATE** An icon shows the state of the controlled device. A one-way arrow represents an open-loop device (that is, commands are sent from the DM-4800 to the device, but no information is transmitted back from the device to the DM-4800 along the same channel—information is transmitted from the other device through a different channel, such as timecode or MIDI).

A double-ended arrow represents a closed loop, where information flows both ways between the remote device and the DM-4800 along the same channel.

A cross indicates that the device is not being controlled by the DM-4800.

Two dashes (--) show that the type of control is not relevant here (for instance, the internal MIDI timecode generator).

**DEVICE** The name of the device being controlled, together with its control type. These list items cannot be changed or edited.

**ID** In the case of DTRS units, it refers to the unit ID, and cannot be edited. In the case of MMC units, it refers to the MMC ID (up to three decimal digits) of the unit. This list item cannot be changed or edited.

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**CHASE** This applies to DTRS units, and allows the CHASE mode of the selected unit to be turned on or off. Any unit which can have its chase mode controlled by the DM-4800 has this item represented by a square box. Units whose CHASE mode cannot be remotely controlled have this item represented by two dashes (--). Use the cursor keys to navigate to the list item, and the **ENTER** key to toggle between on (a check mark is shown in the box) and off (the box is empty).

**TRA** This parameter allows the transport controls of the DM-4800 to control the transport of the selected device (TRA).

Only one device at a time can be selected for transport control, as shown by the circled ⠶ symbol. If a device has been selected for transport control, and it is required to control another device, the first device selected for external control will automatically be deselected from transport control.

If the device is not active when an attempt is made to assign the transport control here, a popup message appears and the assignment is not made.

An exception to the above is when the internal timecode generator is selected for control—in this case, the automation sync source may be set to the internal generator using a popup message.

Some machines may unthread the tape if the **STOP** key is pressed while the transport is stopped.

**NOTE**

*The exact way in which the transport controls work with the external device depends on the capabilities of the device. For instance, the notion of "record" is not very meaningful when applied to the internal timecode generator.*

*If you require further information on the control features of a specific device that are not detailed here, please contact your TASCAM support personnel, who should be able to supply you with further information.*

**REC** This allows the selection of the **REC** keys (the **REC** key above the stereo fader + the channel **SEL** keys) on the DM-4800 which arm the tracks on the remote external device.

Use the wheel to choose between 1-8, 9-16, 17-24, 25-32, 33-40 and 41-48 (8 tracks), 1-16, 17-32 and 33-48 (16 tracks), 1-24, 9-32, 17-40 and 25-48 (24 tracks).

Use the **ENTER** key to confirm the choice.

An appropriate pop-up error message is displayed if an attempt is made to assign two overlapping groups of **REC** controllers. Use the **ENTER** key to accept the new assignment, or the cursor keys to dismiss this message and return to the previous assignment.

**NOTE**

*The module* **REC** *keys only have effect on channels 1 through 48.*

**All safe** The **ALL SAFE** key above the **STEREO** fader can be used to turn off the track arming for all tracks for all assigned **REC** keys. While **ALL SAFE** is active, the **REC** keys are disabled, until **ALL SAFE** is turned off again. The recording status that was active before the **ALL SAFE** was turned on is restored when **ALL SAFE** is turned off again.

## Transport mapping memories

So that commonly-used machine control settings can be stored and recalled easily, the DM-4800 provides 10 memories of machine control transport mappings (numbered from 0 through 9).

Each of these may contain a device (only one) which may be controlled by the transport control facilities of the DM-4800.

Each of these mappings also includes the SCR setting and the TRA setting.

As an example of the practical use of this, take the example of three tape units connected to a VTR, chasing to timecode supplied by the VTR. Usually, the transport keys will control the VTR, and the **REC** keys will control the three tape units. The tape units will be locked and chasing the VTR. Sometimes, though, it will be necessary to control the tape units directly. Recording functions are still assigned to the tape units.

The mappings are automatically assigned when the TRA AUTO DETECT button is "pressed" after the units have been added to the list.

A pop-up window appears asking if the autodetect process should take place (as it will delete all previous mappings).

Press **ENTER** to continue with the autodetection, or any of the cursor keys to cancel the process.

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When the scan is complete, a pop-up screen appears, showing the detected devices and their assignments to the control maps.

Any selected devices that may be controlled are detected and a new map is created for each such device.

A message is shown if there are more devices connected than can be added to the list (that is, more than 10).

If there are IDs associated with the devices, these are also shown.

## To use a transport mapping

Of course, at least one transport mapping must exist before this operation can be carried out.

1. **Press and hold down the MACHINE SEL (F7) key.**
2. **Press the numeric key corresponding to the map you want to use (0 through 9).**

The DM-4800's transport control keys will now control the device selected in that map and the other mapping features will also be enabled. A popup shows the currently-recalled memory (or a message if no mapping has been recalled).

The MAP field at the lower part of the screen shows the currently-loaded map.

## Viewing the transport mappings

To view the transport mappings (that is, the list of the devices that will be controlled in each mapping):

1. **Press and hold SHIFT and press the LOCATE LIST (F8) key. The device controlled in each map, together with its ID, is shown.**
2. **Press the ENTER key to continue operations.**

## Editing a mapping

When a mapping has been made, parameters other than the transport control may be edited (for instance, the use of the **REC** keys).

To make these changes a permanent part of the currently-loaded map:

1. **Move the cursor to the number by the MAP field.**
2. **Use the wheel to select the mapping memory into which the current mapping will be stored. Press ENTER.**
3. **Press ENTER (the on-screen STORE button).**

## Machine control setup

With the **ALT** indicator lit, press the **REMOTE** key. Use the first soft key to bring up this screen:

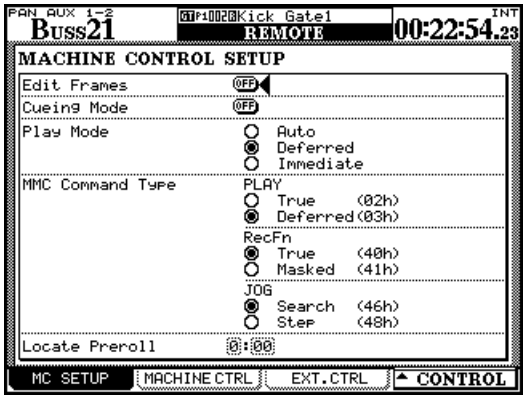


**Figure 8.2: Machine control setup parameters**

This allows the setting of various machine control parameters.

### Edit Frames

When this is set on, location memories, etc. are edited to frame accuracy. When it is set to off, location settings are made to second accuracy.

### Cueing mode

When this is on (checked), the **FF** and **REW** keys act as shuttle keys. Press the key in play mode to enter fast cueing shuttle mode, and release it to re-enter play mode.

In non-play mode, these keys function normally, even with this option selected.

### Play Mode

This function determines the way in which the **PLAY** key works in conjunction with the location facilities. There are three settings: Auto, Deferred and Immediate.

**AUTO** The **PLAY** indicator flashes as the unit is locating to a location point. When the location point is reached, playback starts automatically. However, if the **PLAY** key is pressed before the location point is reached, the unit stops locating and starts playing.

**DEFERRED** The unit stops after location is completed. However, if the **PLAY** key is pressed while the unit is locating, the **PLAY** indicator flashes, and playback starts when the location point is reached.

**NOTE**

*Because an open MMC connection cannot determine when the locate point has been reached, deferred play is not possible for a machine controlled in this way.*

**IMMEDIATE** The unit stops after location is completed. If the **PLAY** key is pressed while the unit is locating, the machine goes straight into play mode, without locating.

### Play Command Type

Use this option to make the play commands from the DM-4800's MIDI Machine Control compatible with the unit being controlled.

There are two options: True (02h) and Deferred (03h). Consult the documentation of your other equipment for details of compatibility.

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### Record Command Type

Use this option to make the record commands from the DM-4800's MIDI Machine Control compatible with the unit being controlled.

There are two options: True (40h) and Masked (41h). Consult the documentation of your other equipment for details of compatibility.

### Locate Preroll

Move the cursor to the numeric field, which shows the pre-roll time when a location point is reached (displayed in minutes and seconds). For example, if this field shows 0:10, if a location operation is carried out to a location memory of 00:20:32, the actual point located to is 00:20:22.

Note that this is used only in the case of Direct location ("Location to a location memory" on page 116), and not in the case of manual location operations ("Manual location" on page 116), which locates to the value entered, irrespective of the pre-roll time set here.

Use the wheel to set the pre-roll value and confirm the setting of this value with the **ENTER** key.

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## MIDI Control by the DM-4800

In addition to MIDI Machine Control (MMC) by the DM-4800 (see "Remote operation" on page 105), it is also possible for the DM-4800 to act as a remote MIDI controller for MIDI devices.

You can either create a looped MIDI system by connecting INs and OUTs, or simply connect the DM-4800's **MIDI OUT** to the **MIDI IN** of the remote device.

### MIDI controllers

This option allows you to use the POD controls to send MIDI Control Change messages to the destination (connected to **MIDI OUT**).

This function is only active when the REMOTE fader layer is selected and the MIDI CONTROLLERS screen is displayed, or was the last external control screen displayed

1 **Use the** REMOTE EXT.CTRL **screen to set up the device control:**

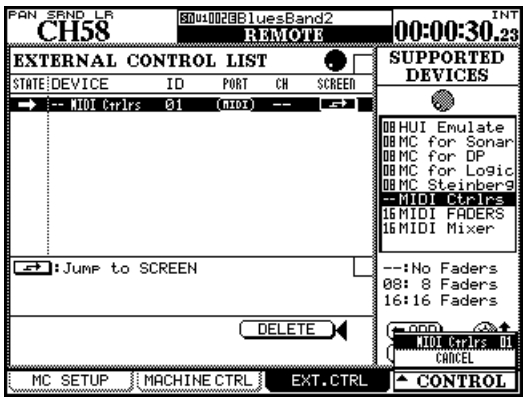


**Figure 8.3: External Control**

**With the cursor highlighting the list at right, use the POD 4 control to highlight the MIDI controller option** (MIDI Ctrlrs) **and press the on-screen** ADD **button.**

2 **Move the cursor to the** SCREEN **column with the on-screen button, and press ENTER, or (as shown in Figure 8.3, *External Control*), press the POD 4 switch to bring up the popup menu (if MIDI controllers is the only selected device, then this will be the only option other than** CANCEL**), and use POD 4 to highlight the controller option.**

3 **Press ENTER to bring up the controller setting screen:**

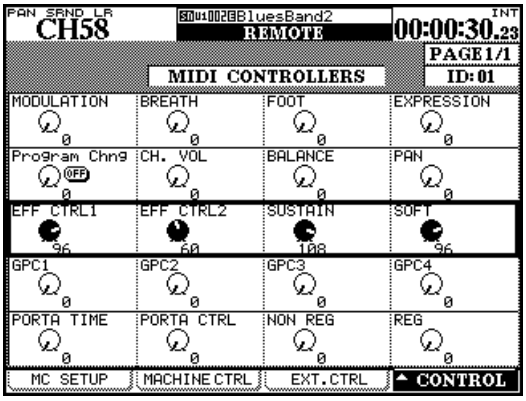


**Figure 8.4: MIDI Controllers**

4 **The highlighted POD controls can then be used to send the named common MIDI Control Change messages on the MIDI channel selected as the** ID **in the** EXT.CTRL **screen. If the MIDI IN is receiving messages on that channel from devices which transmit these controller messages, the results are reflected on the screen here.**

**TIP**

*These Control Change messages conform to the MIDI standard (Modulation=1, etc.).*

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## MIDI faders

In this mode, the first 16 faders are used to transmit a defined Control Change message when the **REMOTE** fader layer mode is selected and the MIDI FADERS screen is displayed, or was the last external control screen displayed.

1 **Select the** MIDI FADERs **option from the external control screen (Figure 8.3, *External Control*).**

2 **Set the Control Change message using the** CONTROL **setup screen (below at Figure 8.5, *MIDI Faders setup screen*) or in the** ID **field of the** EXT. CTRL **screen:**

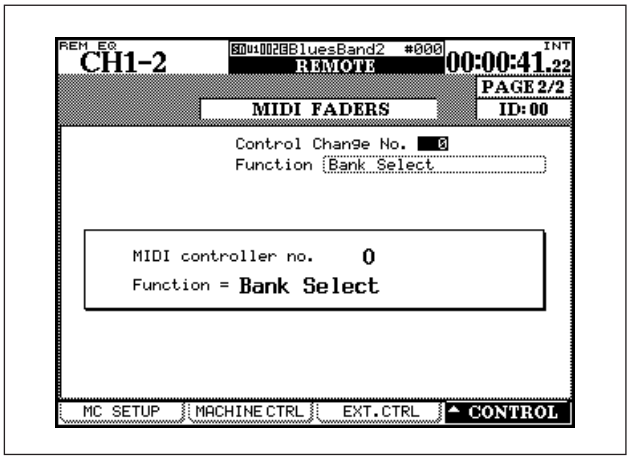


**Figure 8.5: MIDI Faders setup screen**

3 **Use the wheel to select the control change number (the "translation" of this number appears automatically underneath the number).**

**The MIDI Control Change messages transmitted by the fader are sent on the MIDI channel corresponding to the fader number. Faders 17 through 24 are not used here.**

## MIDI Mixer

This allows you to use the 24 faders, the **MUTE** keys, and the encoders (as pan controls) on the 16 different MIDI channels of a device connected to the **MIDI OUT** port.

This may be used for older DAWs, or for plug-in control where HUI or Mackie Control emulation is not appropriate.

The **REMOTE** fader layer must be selected and the MIDI MIXER screen must be displayed or be the last external control displayed.

1 **Select the** MIDI Mixer **option from the external control screen (Figure 8.3, *External Control*).**

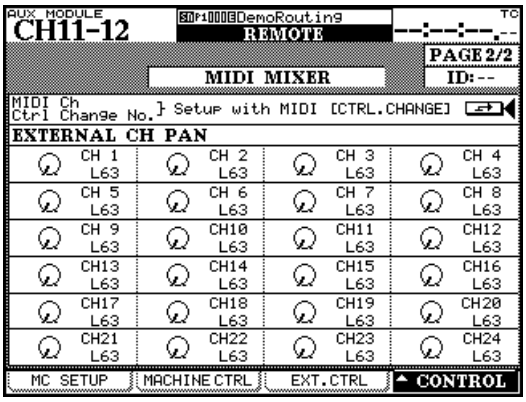


**Figure 8.6: MIDI Mixer screen**

**2 Use the mixer using the** MIDI CTRL.CHANGE **setup screen (below at Figure 8.7, *MIDI control change screen*):**

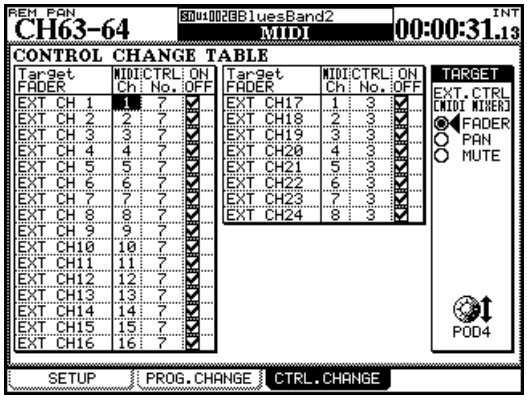


**Figure 8.7: MIDI control change screen**

**Only one control can only be assigned to a given MIDI channel/controller combination.**

- **There are 24 faders available in the** REMOTE **layer, 24 mute controls, and 24 pan controls.**

**NOTE**

*The following Control Change messages may be assigned to these controls: 1–5, 7–31, and 64–95. In some double-byte controllers, the DM-4800 controls the LSB of the message.*

*These are bi-directional assignments—changes made on the remote device will be reflected on the DM-4800 control surface (in* **REMOTE** *mode).*

*Panning is not possible in surround modes which are not stereo.*

## DAW controllers

The DM-4800 also supports dedicated control of popular DAW (Digital Audio Workstation) packages through Mackie Control, as well as providing a generic Mackie HUI emulation.

See the documentation of your DAW package to find out how to set it up for use with external controllers of these types.

Unlike the controller, fader and mixer functions, the control here is made through the "embedded" MIDI channels carried on the USB interface through ports 5, 6 and 7. Up to 3 virtual DAW controllers may be assigned in a DAW, each using a different MIDI port, allowing the 24 modules of the DM-4800's control surface to be split into three groups of eight modules each, each representing a different device. Data is transferred bi-directionally, with the faders and control surface of the DM-4800 reflecting the current DAW status.

When such a connection is made, the faders work on the selected DAW channels, the related encoders provide pan controls (some emulations provide sends and EQ), and the **SOLO** and **MUTE** keys work on the selected channels.

Use the TRA (transport) and REC (record enable) on-screen buttons to allow the DM-4800's transport key to control the DAW (also see "Selecting devices for transport control" on page 105):

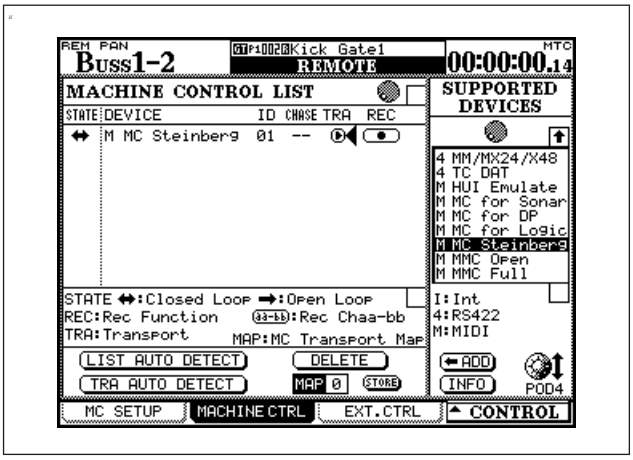


**Figure 8.8: Machine control setup for DAW transport control**

Several other keys of the DM-4800 control surface may also be available as DAW controls, depending on the current implementation (see the appropriate DAW documentation for exact details of the implementation for each emulation).

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**HUI** This provides an emulation of the Mackie HUI control surface:

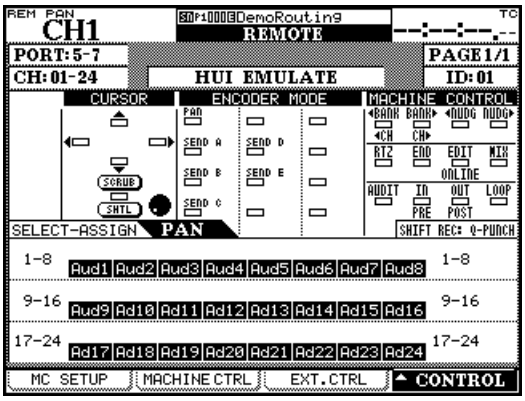


**Figure 8.9: HUI emulation**

**Sonar** This Mackie Control emulation applies to the Sonar DAW:

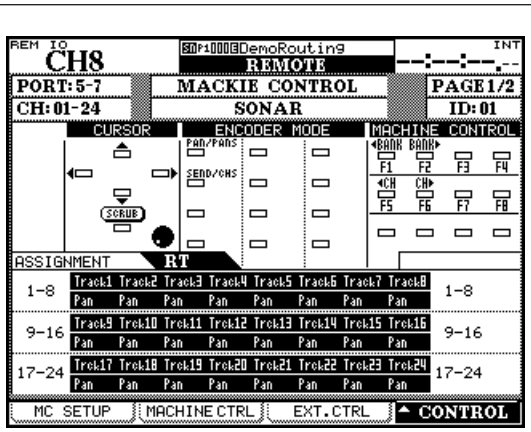


**Figure 8.10: Sonar control**

**Digital Performer** This Mackie Control emulation is used with the MOTU Digital Performer DAW:

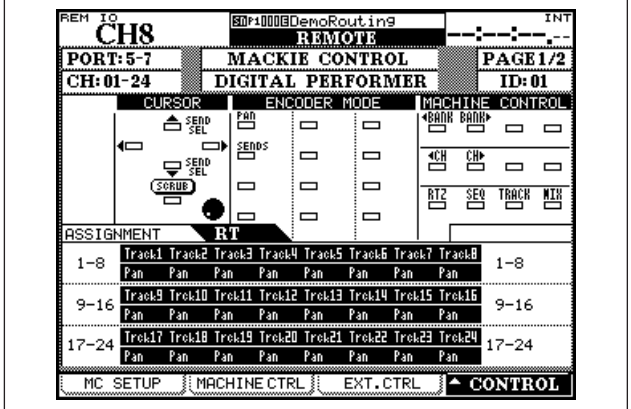


**Figure 8.11: DP control**

**Logic** This Mackie Control emulation is used with the Apple Logic DAW:

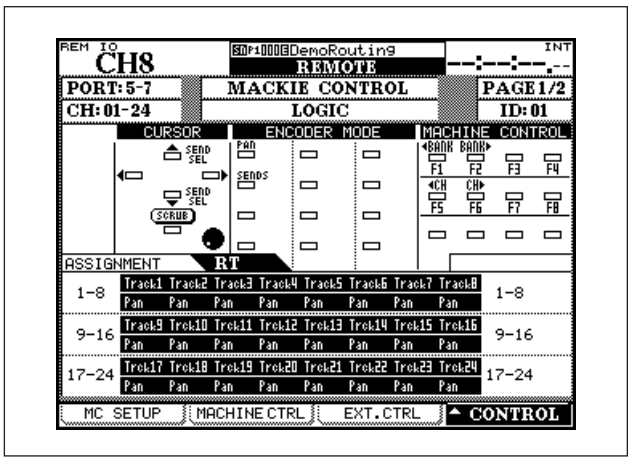


**Figure 8.12: Logic control**

**Steinberg** This applies to the Steinberg Cubase/ Nuendo DAWs, versions 2.2 and above:

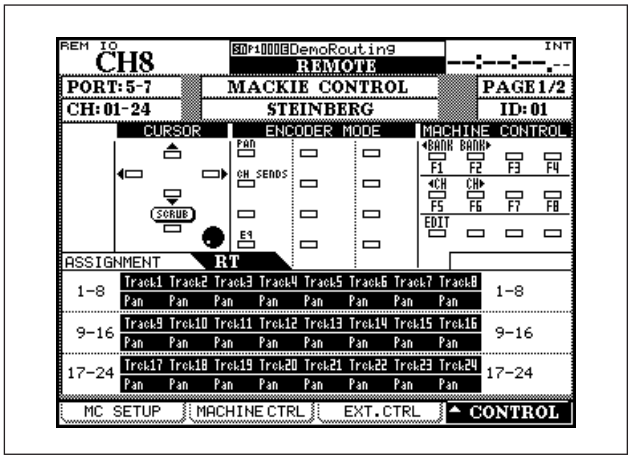


**Figure 8.13: Steinberg control**

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## Location memories

The DM-4800 allows the storage and recall of up to ten location memories, allowing easy location of the controlled devices to predetermined cue points.

### Selecting the location point display

As explained in "LOCATE DISPLAY mode" on page 42, the LOCATE DISPLAY MODE setting in the OPTION SETUP screen is used to determine whether the LED time counter shows the location memories as they are entered, edited and recalled, or whether they are shown as "popup" panels on the LCD display screen.

When this section mentions "the display" showing location memory values, this refers to the display that has been selected in this option.

**NOTE**

*Depending on the settings for frame display ("Edit Frames" on page 109), the frames value may or may not be shown on the display when location memories are being edited, etc.*

### Storing a location memory "on the fly"

This procedure allows you to set a location memory, regardless of whether timecode is currently being received or not. If timecode is not currently being received, the value of the location memory is the last received value as shown on the time counter on the display.

The value on the time counter, regardless of source, is stored as the location memory. This may be timecode or MTC.

1. **Press the MEMO key. The indicator starts to flash.**
2. **Press any of the numeric keys, corresponding to the ten location memories available.**
3. **The MEMO indicator stops flashing and the currently-displayed timecode value is stored in the location memory corresponding to the numeric key which was pressed.**

### Manually entering and editing a location memory

The procedure below can be used for editing existing location memories or for adding new ones:

1. **Press the EDIT key. The indicator starts to flash.**
2. **Press one of the number keys to select the location memory which will store the value. The EDIT indicator lights steadily.**
3. **Enter the timecode value using the numeric keypad. The display shows the value, "filling up" from the right digit towards the left.**

   **Or, if the EDIT key is pressed again after the location memory number has been pressed, the indicator starts to flash again, allowing the checking and editing of another location memory.**
4. **Press the ENTER key when the timecode value for the location memory has been entered.**
5. **Press EDIT again once to edit another location memory, or press EDIT twice to exit the location memory editing mode.**

   **If the CLR key is pressed before the ENTER key, a location memory entry which has been made in error is cleared. Pressing ENTER stores the cleared memory.**

It is possible to switch between the capture, edit and location procedures at any time.

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## Location to a location memory

When the location memories have been entered, they are recalled in the following way:

1 **Press the DIRECT key. The indicator lights.**

2 **Press any one of the numeric keys, corresponding to the ten location memories.**

3 **The controlled device locates to the memory stored in the location memory.**

**What happens next depends on the** PLAY MODE **setting (see "Play Mode" on page 109).**

**NOTE**

*If a pre-roll time has been set ("Locate Preroll" on page 110), the controlled device will locate to the location memory point, minus the value set as the preroll time.*

## Viewing a list of location memories

To view a popup list of all the location memories which have been stored:

- **Press the LOCATE LIST key.**
- **The location memory source (timecode or MTC) is shown, along with the value of each location memory. The DIRECT indicator also lights.**
- **Press a number key (from 0 through 9) to locate to a location point on the list while the list is showing.**

## Manual location

It is also possible to enter a location point manually, (from a cue list, for instance) and locate straight to it.

1 **Press the MANUAL key so that the indicator lights.**

2 **Use the number keys to enter a number in** hh:mm:ss **(and optionally frames) format.**

3 **When the ENTER key is pressed, the controlled device starts to locate to the location point just entered.**

This location point can be stored by pressing the **MEMO** key so that the indicator flashes, followed by pressing the **MANUAL** key again.

To locate to this point again after storing the location point, press the **MANUAL** key, followed by the **ENTER** key.

Note that the pre-roll time ("Locate Preroll" on page 110) does not apply here.

## Repeat play

Location memories 8 and 9 (accessed with the **8** and **9** keys) are used as the start and end points of a repeat loop that can be played by pressing the **REPEAT** key in the **MACHINE CONTROL** section.

While the repeat loop is in progress, the indicator flashes while the playback position is outside the loop points, and lights steadily while it is inside them.

The repeat is always between points 8 and 9, regardless of their order. These points must be more than 5 seconds apart.

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## Auto punch operations

For units supporting auto punch, the three keys: **RHSL**, **IN/OUT** and **CLEAR** are used to set punch points and perform punch operations.

It is a good idea to start this process with at least one track armed for recording:

1 **Press RHSL so that the indicator lights. Play back the source, and press the RECORD key at the punch-in point (it will flash). Press PLAY at the punch-out point.**

**The RHSL indicator should now light steadily.**

2 **Press the RHSL key to enable rehearsal mode. Press PLAY, and playback will start from the pre-roll position. At the in point, the RECORD key flashes, and goes off at the OUT point.**

**Repeat the rehearsal until you are happy, and then press the IN/OUT key. The indicator flashes. Pressing PLAY starts playback at the pre-roll point. Playback continues until the in point, when the unit drops into record (RECORD lights) until the out point, when the DM-4800 punches out. Repeat until you're happy with the take.**

3 **To review the punch recording, press the IN/OUT key so that the indicator lights steadily.**

- **Press CLEAR from rehearsal mode to return to normal operation and clear the punch points.**
- **Press CLEAR from punch or review mode to clear the mode and the punch points.**

When punch operations are taking place, the punch-in and punch-out points may be viewed and edited in location memories **4** and **5** respectively. When the **CLEAR** key is pressed to finish punch operations, the original location memories (if any) are restored.

## ALL INPUT and AUTO MON

The **F5** acts as an **ALL INPUT** and F6 as an **AUTO MON** key for DTRS devices controlled through the P2 protocol. A popup appears (if the remote device supports this function) to show the function is enabled.

Devices controlled using the P2 protocol (including DTRS units controlled over P2) can accept these commands, but some cannot, depending on the manufacturer's implementation of the protocol.

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# 9 – Specifications

***This section provides technical and reference information about the DM-4800, together with a list of messages you may see on the display of the DM-4800 and instructions about how to respond to them.***

## Analog audio I/O

All specifications are given with the factory reference level of –16dBFS.

| | |
|---|---|
| **MIC** inputs (channels 1 through 24) | Balanced XLR-type female connectors[a]<br>Adjustable input level: (–60dBu (TRIM max) to –4dBu (0dB pad))<br>(–40dBu (TRIM max) to +16dBu (–20dB pad))<br>Input impedance 2.2kΩ |
| **PHANTOM (+48V)** | +48V phantom power. Switchable in blocks of 4 channels<br>(1–4, 5–8, 9–12, 13–16. 17–20, 21–24) |
| **LINE IN (BAL)** inputs (channels 1 through 24) | Balanced 1/4" jacks[b]<br>Adjustable input level (–44dBu (TRIM max) to +12dBu (TRIM min))<br>Input impedance 10kΩ |
| **INSERT** connections (channels 1 through 24) | 1/4" TRS jacks[c]<br>Send: nominal output level –2dBu, maximum output level +14dBu, impedance 100Ω<br>Return: nominal input level –2dBu, headroom 16dB, impedance 10kΩ |
| **ASSIGNABLE RETURNS (BAL)** (1 through 8) | Balanced 1/4" jacks<br>Nominal input level: +4dBu<br>Headroom: 16dB<br>Input impedance: 5kΩ |
| **ASSIGNABLE SENDS** (1 through 8) | Pseudo-balanced 1/4" jacks<br>Nominal output level: –2dBu<br>Maximum output level: +14dBu<br>Output impedance: 100Ω |
| **2 TR IN (L/R)** | 2 x RCA pin jacks<br>Nominal input level –10dBV<br>Headroom: 16dB<br>Input impedance: 10kΩ |
| **STEREO OUTPUT (L/R)** | Balanced XLR-type male connectors<br>Nominal output level: +4dBu<br>Maximum output level: +20dBu<br>Output impedance: 100Ω |
| **MONITOR OUTPUTS (LARGE (BAL) & SMALL (BAL))** | Balanced 1/4" jacks (2 pairs)<br>Nominal output level: +4dBu<br>Maximum output level: +20dBu<br>Output impedance: 100Ω |
| **MONITOR OUTPUTS (STUDIO)** | Pseudo-balanced 1/4" jacks<br>Nominal output level: –2dBu<br>Maximum output level: +14dBu<br>Output impedance: 100Ω |
| **PHONES** | 2 x 1/4" stereo jacks<br>50mW + 50mW total[d]<br>32Ω |

a. all XLR-type connectors are wired 1=ground, 2="hot", 3="cold"
b. all balanced 1/4" jacks are wired sleeve=ground, ring=cold, tip=hot
c. all TRS 1/4" jacks are wired sleeve=ground, ring=return, tip=send
d. Maximum with both **PHONES** jacks driven at maximum

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## Digital audio I/O

| | |
|---|---|
| **DIGITAL INPUTS** (**1**, **2**) | 2 x XLR-type female connectors (input impedance 110Ω) *or*<br>2 x RCA pin jacks (input impedance 75Ω) (selectable)<br>AES3-1992 or IEC60958 data format (automatically detected)<br>24-bit word length<br>Switchable sampling frequency conversion available |
| **DIGITAL OUTPUTS** (**1**, **2**) | 2 x XLR-type male connectors (output impedance 110Ω)<br>2 x RCA pin jacks (output impedance 75Ω)<br>AES3-1992 or IEC60958 data format (software selectable)<br>24-bit word length |
| **TDIF** (**1**, **2**, **3**) | 3 x 25-pin (female) D-sub connectors (metric lock screws)<br>Conform to TDIF-1 standard<br>24-bit word length |
| **ADAT IN/OUT** | 2 x "Lightpipe" optical connectors<br>Conform to ADAT OPTICAL specifications<br>24-bit word length |
| Sampling frequencies | Internal 44.1kHz/48kHz, 88.2kHz/96kHz (high sampling frequencies)<br>External ±6.0% |
| Signal delay | < 1.8ms — Fs = 48kHz, LINE IN to STEREO OUTPUT<br>< 0.90ms — Fs = 96kHz, LINE IN to STEREO OUTPUT |

## Miscellaneous I/O connections

| | |
|---|---|
| **WORD SYNC IN** | BNC connector<br>Switchable 75Ω termination<br>TTL level |
| **WORD SYNC OUT/THRU** | BNC connector<br>Switchable between through and output<br>TTL level |
| **MIDI IN**, **OUT, THRU/MTC OUT** | 3 x 5-pin DIN connectors—conform to MIDI specifications |
| **USB** | USB 1.1 'B' type connector (12Mbps) |
| **TIME CODE IN** | RCA pin jack<br>Conforms to SMPTE specifications |
| **FOOT SW** | 1/4" mono jack |
| **TO METER** | 25-pin female D-sub connector (non-metric lock screws)<br>For use with the optional MU-1000 |
| **RS-422 (for Sony 9-pin)** | 9-pin female D-sub connector (non-metric lock screws)<br>wired to RS-422 standards |
| **GPI (for Machine start)** | 9-pin female D-sub connector (non-metric lock screws) wired for GPI control<br>Pin 1=GPI 1, Pin 2=GPI 2, Pin 3=GPI 3, Pin 4=GPI 4, Pin 5=GND, Pin 6=GPI 5,<br>Pin 7=GPI 6, Pin 8=GPI 7, Pin 9=GPI 8 |

# 9 – Specifications : Equalization

## Equalization

| | | |
|---|---|---|
| **EQ** switch | On/Off | |
| **HIGH** filter | Gain: | ±18dB, 0.5dB resolution |
| | Frequency: | 31Hz to 19kHz |
| | Q: | 0.27 to 8.65 |
| | Type: | Hi-shelving, Peak, LPF |
| **HI MID** filter | Gain: | ±18dB, 0.5dB resolution |
| | Frequency: | 31Hz to 19kHz |
| | Q: | 0.27 to 8.65 |
| | Type: | Peak, Notch |
| **LO MID** filter | Gain: | ±18dB, 0.5dB resolution |
| | Frequency: | 31Hz to 19kHz |
| | Q: | 0.27 to 8.65 |
| | Type: | Peak, Notch |
| **LOW** filter | Gain: | ±18dB, 0.5dB resolution |
| | Frequency: | 31Hz to 19kHz |
| | Q: | 0.27 to 8.65 |
| | Type | Low-shelving, Peak, HPF |

All filters are fitted with “gain flat” switches

## System performance

| | | |
|---|---|---|
| THD (maximum level, 1kHz, TRIM: minimum) | 20Hz – 22kHz LINE IN to INSERT SEND | < 0.005% |
| | LINE IN to STEREO OUTPUT | < 0.008% |
| Frequency response (nominal level, 1kHz, TRIM: minimum) | 0.5dB/-1.0dB MIC/LINE to INSERT SEND | 20Hz – 20kHz (44.1/48kHz) |
| | 0.5dB/-1.5dB MIC/LINE to INSERT SEND | 20Hz – 40kHz (88.2/96kHz) |
| | 0.5dB/-1.0dB MIC/LINE to STEREO OUTPUT[a] | 20Hz – 20kHz (44.1/48kHz) |
| | 0.5dB/-1.5dB MIC/LINE to STEREO OUTPUT[a] | 20Hz – 40kHz (88.2/96kHz) |
| Noise level (20Hz – 22kHz, TRIM: max, 150Ω) | MIC in (PAD off) to INSERT SEND (A weight) | < –128dBu (EIN) |
| | STEREO OUT (Input no assign) | < –83dBu |
| | ASSIGNABLE RETURN to ASSIGNABLE SEND | < –85dBu |
| | 2TR IN to CR OUTPUT (CR: max, 0dB) | < –78dBu |
| | 2TR IN to STUDIO OUT (STUDIO OUT 0dB) | < –84dBu |
| Crosstalk @ 1kHz | STEREO/BUSS/AUX OUTPUTS | > 90dB |
| | MONITOR OUTPUTS | > 90dB |

a. **MIC/LINE** to channel module to **STEREO OUTPUT**, channel and stereo faders at 0dB, pan hard left or hard right

## Physical characteristics

| | |
|---|---|
| Displays | Backlit 320 x 240 LCD with contrast control<br>2 x 12-segment LED meters |
| Faders | 25 x 100mm stroke, motor-driven touch-sensitive faders |
| Maximum overall dimensions (w x d x h) including rest | 933 x 824 x 230 (mm) 36.75 x 32.4 x 9.1 (in) |
| Weight | 35kg (71lbs) |
| Voltage requirements | 120VAC, 60Hz<br>230VAC, 50Hz<br>240VAC, 50Hz |
| Power consumption | 90W |
| Supplied accessories | Power cord, *Quick Start* guide, CF memory card, USB cable, TM Companion CD-ROM, warranty card |

## Dimensional drawing

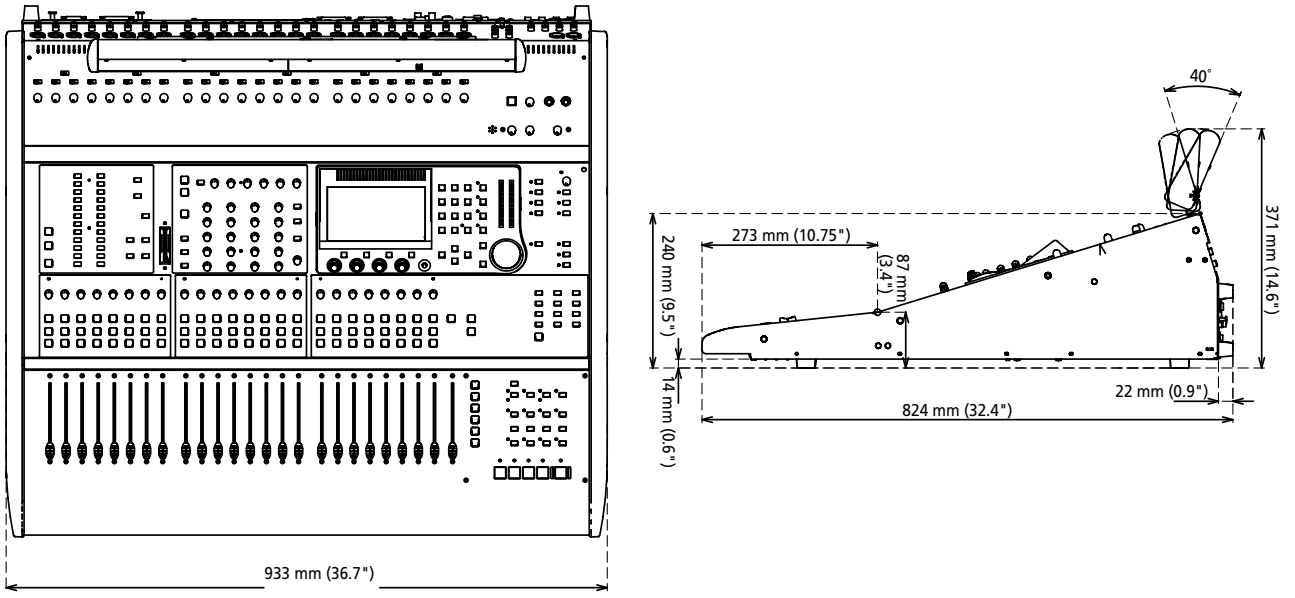


**Figure 9.1: Dimensional drawing (including optional MU-1000 meter bridge)**

## Messages and troubleshooting

This provides an alphabetical list of the messages that you may see on the DM-4800, which provide information on the operation that you are performing.

Not all of these messages are error messages.

"Information" messages, i.e. those which pop up briefly and provide information about a change in status, etc., are marked with a ●.

"Confirm" messages, where a response may be necessary (usually confirm with the **ENTER** key or cancel with the cursor keys) are marked with a ✔.

Messages demanding action other than a simple confirmation are shown with a (✖), but even these do not necessarily indicate an error.

| Action | Message | Meaning |
|---|---|---|
| ● | Already assigned. | The RECORD key has already been assigned to a remote unit. |
| ✔ | Are you sure to delete this project ?<br><projectname><br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation when deleting a project. |
| ✔ | Automation Bank Memory is full.<br>Check the Bank memory.<br>Press ENTER to continue. | An attempt is being made to store automation data to a memory bank that is already full. |
| ✖ | Automation data and Current Status have different<br>timecode types.<br>Press ENTER to continue. | The automation data uses a timecode of a different frame type from the current timecode. |
| ✖ | Automation data and Current Status use different Fs.<br>Press ENTER to continue. | The automation data uses a sampling frequency of a different value from the current sampling frequency. |

**Table 9.1: Popup messages**

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| Action | Message | Meaning |
|---|---|---|
| ✔ | Automation Data is not modified,<br>execute the KEEP?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation that you want to store (keep) unmodified automation data. |
| ● | Automation data was recalled. | The selected automation data has been recalled into memory. |
| ● | Automation data was stored. | The current automation data has been stored to card. |
| ✖ | Automation memory is consumed 100%<br>You cannot go on writing any more!<br>without slicing or erasing these data<br>PressENTERtocontinue. | The automation memory is completely full. Some automation data will have to be erased. |
| ✖ | Automation Memory is consumed 95%<br>Please Stop TC and<br>Store Current Automation data,<br>Right Now<br>Press ENTER to continue. | The automation memory is getting full. Stop the timecode source, and store the automation data. |
| ● | Automation Redo executed. | An undo/redo operation has been successfully performed. |
| ● | Automation Undo executed. | An undo/redo operation has been successfully performed. |
| ✔ | AUX 1-2 Level<br>Set up Ch parameters?<br>Press ENTER to confirm,<br>or a cursor key to cancel | Used when batch copying parameters from channel to Aux 1-2 settings. |
| ✔ | AUX1 Pan/Bal<br>Copy Aux1-2Level -> Ch Fader Level?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Copying the AUX 1-2 pan and balance settings to the channels. |
| ✔ | AUX1 Pan/Bal<br>Copy Ch Pan/Bal -> Aux1-2 Pan/Bal?<br>Press ENTER to confirm,<br>or a cursor key to cancel | Copying the channel pan and balance levels to the Aux 1-2 pan and balance. |
| ✔ | AUX1-2 Level<br>Copy Aux 1-2Pan/Bal -> Ch Pan/Bal?<br>Press ENTER to confirm,<br>or a cursor key to cancel | Copying the AUX 1-2 pan and balance settings to the channels. |
| ✔ | AUX1-2 Level<br>Copy Ch Fader Levels -> Aux1-2 Level?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Copying the channel fader levels to the Aux 1-2 levels. |
| ✔ | AUX1-2 to STEREO is assigned<br>Press ENTER to continue. | In the master buss assignment, this message appears if an attempt is made to override an existing assignment ("Routing & assignment" on page 58). |
| ✔ | AUX1 Level<br>Copy Ch Fader Level -> Aux 1 Level?<br>Press ENTER to confirm,<br>or a cursor key to cancel | Copying the Aux 1-2 parameter settings to the channels. |
| ✖ | Battery is defective<br>Can't save system data.<br>Please contact TASCAM service.<br>Press ENTER to continue | The internal battery is defective, or has lost charge, so data can't be stored. Contact TASCAM service or your distributor for a replacement battery. |
| ✔ | Can't copy project<br>The CF Card is full.<br>Press ENTER to continue | An attempt has been made to copy a project on a full CF card. |
| ✖ | Can't recall COMP/EXP Library<br>Bank a-bbb | The named compressor/expander library item cannot be recalled. The data may be missing or corrupt. |
| ✖ | Can't recall COMP/EXP Library<br>Preset 1-bbb | The named compressor/expander library preset cannot be recalled. The data may not exist or may be corrupt. |

**Table 9.1: Popup messages (continued)**

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| Action | Message | Meaning |
|---|---|---|
| ✖ | Can't recall Effect<br>Bank a-bbb | The named effect library item cannot be recalled. The data may be missing or corrupt. |
| ✖ | Can't recall Effect<br>Preset 1-bbb | The named effect library preset cannot be recalled. The data may not exist or may be corrupt. |
| ✖ | Can't recall EQ Library<br>Bank a-bbb | The named EQ library item cannot be recalled. The data may be missing or may be corrupt. |
| ✖ | Can't recall EQ Library<br>Preset 1-bbb | The named EQ library preset cannot be recalled. The data may not exist or may be corrupt. |
| ✖ | Can't recall GATE Library<br>Bank a-bbb | The named gate library item cannot be recalled. The data may be missing or corrupt. |
| ✖ | Can't recall GATE Library<br>Preset a-bbb | The named gate library preset cannot be recalled. The data may not exist or may be corrupt. |
| ✖ | Can't recall snapshot<br>Bank a-bbb | The named snaphot cannot be recalled. The data may be missing or corrupt. |
| ✖ | Can't recall snapshot<br>Preset 1-bbb | The named snaphot preset cannot be recalled. The data may not exist or may be corrupt. |
| ● | Can't recall to this Module. | An attempt has been made to recall the wrong sort of data to the selected module (e.g. an effect to an Aux module). |
| ✖ | Can't Store Automation data.<br>This file is protected. | An attempt has been made to store automation data to a file which has had protection applied. Select another file as a destination or un-protect this file. |
| ✖ | Can't copy library data.<br>The CF card is full<br>Press ENTER to continue. | An attempt to copy library data on a CF card has failed. The card may be full. |
| ✔ | Can't turn Fs convert On<br>Digital In1 is chosen as<br>Master Clock<br>Press ENTER to continue. | Frequency sampling conversion cannot be used when one of the DIGITAL INs is being used as a word sync source. |
| ✖ | Cannot Copy parameters within Module.<br>Press ENTER to continue. | A message produced when an unsuccessful attempt has been made to copy parameters inside the same module. |
| ● | Cannot assign fader grouping layer. | An attempt has been made to make an invalid fader group ("Fader groups" on page 87). |
| ✖ | Cannot create more<br>than 128 projects. | There is a limit of 128 projects that can be created on one CF card. Delete an unwanted project and try again. |
| ● | Cannot do this<br>while automation is running. | Some operations cannot be performed while automation is on. |
| | Cannot switch the cascade ID<br>when cascade is on.<br>Press ENTER to continue. | Can't change between master and slave modes when a cascade is active. |
| ● | Can't Change Mode during TRIM ALL. | Can't change the automation mode while TRIM ALL mode is active. |
| ✔ | Can't copy library data.<br>The CF Card is full.<br>Press ENTER to continue. | An attempt has been made to copy library data to a full CF card. |
| ✔ | Can't create project.<br>The CF Card is full.<br>Press ENTER to continue. | An attempt has been made to create a project on a full CF card. |
| ● | Can't DELETE Automation data | An attempt has been made to delete protected automation data. |
| ✔ | Can't delete xxxx Bank N-n. Press ENTER<br>to continue. | An attempt to delete a library entry has failed. |

**Table 9.1: Popup messages (continued)**

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| Action | Message | Meaning |
|---|---|---|
| ● | Can't Enter Initial Edit Mode during Stop Process. | It's not possible to enable the automation initial edit mode while stopped. |
| ● | Can't Enter Initial Edit Mode during Chase Process. | It's not possible to enable the automation initial edit mode while chasing. |
| ● | Can't Enter Initial Edit Mode during Writing. | It's not possible to enable the automation initial edit mode while writing. |
| ✖ | Can't load project. Press ENTER to continue. | Couldn't load the last stored project when boot. |
| ✔ | Can't select this port. Item is not TIMEEVENT. PressENTER to continue. | An attempt has been made to assign a timecode value to a GPI even that is not classified as timecode. |
| ✔ | Can't store library data. The CF Card is full. Press ENTER to continue. | An attempt has been made to store a project to a full CF card. |
| ✔ | Can't store project. The CF Card is full. Press ENTER to continue. | An attempt has been made to store a project to a full CF card. |
| ✔ | Can't undo COMP/EXP Library-Recall. Press ENTER to continue. | The library recall can't be undone. |
| ✔ | Can't undo EffectN-Recall. Press ENTER to continue. | The library recall can't be undone. |
| ✔ | Can't undo EQ Library-Recall. Press ENTER to continue. | The library recall can't be undone. |
| ✔ | Can't undo GATE Library-Recall. Press ENTER to continue. | The library recall can't be undone. |
| ✔ | Can't undo Snapshot-Recall. Press ENTER to continue. | The library recall can't be undone. |
| ✖ | Cascade communication stopped. Please check cascade cable. Press ENTER to continue. | The cascade connection has unexpectedly ended - it is possible the cable is unplugged. |
| ✔ | CASCADE Connection ended. Please choose new clock master. Set Internal Clock. Press ENTER to confirm. or a cursor key to cancel. | The cascade connection to a slave has been broken and the message invites resetting with the unit's internal clock. |
| ✔ | Cascade connection established. Press ENTER to continue. | Successful cascade connection. |
| ✖ | Cascade Slave not found. Cascade connection not established. Press ENTER to continue. | An attempt has been made to make a cascade, but no slave is available. |
| ✔ | CF card is not available. Can't delete automation data on CF card. Press ENTER to continue. | Automation data stored on CF card cannot be deleted. Reinsert the card or retry with another card. |
| ✖ | CF card is not available. Can't load project. Press ENTER to continue. | When power is turned on, the last project stored cannot be automatically loaded. Reinsert the card or retry with another card. |
| ✖ | CF card is not available. Can't store automation data on CF card. Press ENTER to continue. | Automation data can't be stored. Reinsert the card or retry with another card. |
| ✔ | CF card is not available. Can't store current project. Turn off power? Press ENTER to confirm, or a cursor key to cancel. | An attempt to shut down the DM-4800 has failed, because a CF card is not available. Reinsert the card or retry with another card. |

**Table 9.1: Popup messages (continued)**

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| Action | Message | Meaning |
|---|---|---|
| ✖ | CF card is not available<br>Press ENTER to continue. | An attempt has been made to read or write to a CF card that is not inserted, etc. Reinsert the card or retry with another card. |
| ✔ | CH DELAY Time<br>Update setup?<br>Press ENTER to confirm,<br>or a cursor key to cancel | Shown when performing bulk setup of the channel delay time. |
| ✔ | CH Module LFE LEVEL<br>Ch parameters setup?<br>Press ENTER to confirm,<br>or a cursor key to cancel | Shown when performing bulk setup of the channel LFE level. |
| ✔ | CH Module PAN/BAL<br>Ch parameters setup?<br>Press ENTER to confirm,<br>or a cursor key to cancel | Shown when performing bulk setup of the channel pan and balance parameters. |
| ● | CH1 COMP/EXP Library redo completed. | The undo/redo operation is now complete. |
| ● | CH1 COMP/EXP Library undo completed. | The undo/redo operation is now complete. |
| ● | CH1 EQ Library redo completed. | The undo/redo operation is now complete. |
| ● | CH1 EQ Library undo completed. | The undo/redo operation is now complete. |
| ● | CH1 GATE Library redo completed. | The undo/redo operation is now complete. |
| ● | CH1 GATE Library undo completed. | The undo/redo operation is now complete. |
| ● | Ch1xx<br>EQ Library undo completed. | Shown when undoing or redoing library operations. |
| ● | Chxx<br>COMP/EXP Library redo completed | Shown when undoing or redoing library operations. |
| ● | Chxx<br>COMP/EXP Library undo completed | Shown when undoing or redoing library operations. |
| ● | Chxx<br>EQ Library redo completed | Shown when undoing or redoing library operations. |
| ● | Chxx<br>GATE Library redo completed | Shown when undoing or redoing library operations. |
| ● | Chxx<br>GATE Library undo completed | Shown when undoing or redoing library operations. |
| ✔ | Clear all fader grouping layers?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Shown when all grouping layers are to be cleared. |
| ✔ | Clear Current Automation ALL data?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation when starting a new automation project – all current automation data will be cleared. |
| ✔ | Clear Current Automation Event Data?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | When setting up automation, this message appears to confirm the clearing of all current data. |
| ✔ | Clear this fader grouping?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Shown when the currently selected fader grouping is to be cleared. |

**Table 9.1: Popup messages (continued)**

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| Action | Message | Meaning |
|---|---|---|
| ✔ | Clock Check Results<br>Current Fs: 48kHz<br>Sources<br>Word : 44.1kHz0.0%<br>Digi IN 1 : Out of Range<br>Digi IN 2 : Fs convert On<br>TDIF 1 : 44.1kHz0.0%<br>TDIF 2 : 44.1kHz0.0%<br>TDIF 3 : Unusable<br>ADAT : 44.1kHz+1.0%<br>SLOT 1 : 48kHz+0.2%<br>SLOT 2 : Unusable<br>Press ENTER to continue. | Results of performing a word sync check. |
| ✖ | Clock Info: Digital In1<br>C-bit : Illegal data.<br>Press ENTER to continue. | Shown when badly-formed digital audio is received at one of the DIGITAL INs. |
| ✖ | Clock Info: Digital In1<br>Fs mode : Not indicated<br>Check D-IN MANUAL SETUP<br>Press ENTER to continue. | An attempt is made to use a clock source, but the sampling frequency cannot be determined. |
| ✔ | Clock Info: INTERNAL<br>Fs: 44.1kHz<br>Press ENTER to confirm,<br>or a cursor key to cancel. | A valid clock source has been selected. |
| ✖ | Clock Info: WORD<br>New clock source is out of range.<br>Master clock is unchaged.<br>Press ENTER to continue. | A clock source has been changed, but the new clock is out of the permissible range. |
| ✖ | Clock Info: WORD<br>No signal<br>Press ENTER to continue. | A clock source has been selected, but no signal is present. |
| ✔ | ClockInfo: CASCADE<br>Fs: fff kHz<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Informational message on slave about new cascade clock setting. |
| ✖ | ClockInfo: CASCADE<br>No signal<br>Press ENTER to continue. | If the clock is meant to be the cascade clock, but no valid clock signal is found, this message appears. |
| ✔ | COMP/EXP Library BANK a-bbb<br>Name : TASCAM DATA<br>Create data: DEC/15/2004<br>20: 35: 45<br>Project Name: PROJECT ORCA<br>Project FS: 44.1kHz<br>Press ENTER to continue. | Information about a library entry (compressor/expander). |
| ✔ | COMP/EXP Library Preset a-bbb<br>Name : TASCAM DATA<br>Press ENTER to continue. | Information about a library preset entry (compressor/expander). |
| ● | COMP/EXP Library<br>Bank a-bbb recalled. | A library entry has been recalled (compressor/expander). |
| ✖ | COMP/EXP Library<br>Preset 1-bbb is Read-only! | An attempt has been made to store to a protected library entry (compressor/expander). |
| ● | COMP/EXP Library<br>Preset 1-bbb recalled. | A library preset entry has been recalled (compressor/expander). |
| ● | Completed. | The selected operation (e.g. format or creation of project) has been completed successfully. |
| ● | Completed. | An automation operation has been successfully completed. |

**Table 9.1: Popup messages (continued)**

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| Action | Message | Meaning |
|---|---|---|
| ✔ | Confirm LIST Auto Detect?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirming the auto-detection of machine control list. |
| ✔ | Confirm TRA Auto Detect?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirming the auto-detection of transport control mapping. |
| ✔ | Copy from Ch2 Automation configuration | Confirmation when copying automation configuration. |
| ● | Copy Module parameters to CHn. | Notification that a parameter copy operation between modules has been carried out correctly. |
| ✔ | Copy Module parameters to CHn?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation that parameters are to be copied to another module. |
| ✔ | Copy parameters<br>within Module?<br>Press ENTER to confirm<br>or a cursor key to canvel. | Confirmation when performing a parameter copy operation within the same module. |
| ✔ | Copy to xxxx fader level<br>Press ENTER to confirm,<br>or a cursor key to cancel | Confirmation when copying fader levels. xxxx may be ALL, ALL MASTER, Aux 1-8, groups of 8 busses, or groups of 8 channels. |
| ● | Copy was completed. | Popup message on completion of copy operation. |
| ● | Copying project.<br>Do not remove the CF card. | Shown while a project is being copied on the CF card. |
| ✔ | Create project?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirming creation of a project. |
| ● | Creating project.<br>Do not remove the CF card. | Warning not to remove CF card during project completion. |
| ✖ | Current Data initialized.<br>Fs has changed.<br>Mixer will reboot.<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Notice to restart the DM-4800 following a change of reinitialization and sampling frequency. |
| ✔ | Current project is protected.<br>Can't STORE current project.<br>ENTER key : Shut down<br>CURSOR key : Cancel | An attempt has been made to shut down the DM-4800 while the current project's version on card is protected (meaning that it cannot be saved). |
| ● | Data change was applied. | Date and time have been changed. |
| ● | Data has not been changed. | Date and time have not been changed. |
| ● | Deleting project.<br>Do not remove the CF card. | Shown while a project is being deleted from the CF card. |
| ✖ | Device is not active. | A device selected for transport control is not active. |
| ✖ | Digital In1: Error<br>Not audio signal<br>Press ENTER to continue. | The DIGITAL IN audio source is not providing digital audio data. |
| ✖ | Digital In1: Error<br>Not audio signal<br>Source Fs unlocked<br>Press ENTER to continue. | The DIGITAL IN clock source is not providing digital audio data, and the sync clock is now unlocked. |
| ✖ | Digital In1: Error<br>Source Fs unlocked<br>Press ENTER to continue. | The DIGITAL IN clock source has experienced an error, and the sync clock is now unlocked. |

**Table 9.1: Popup messages (continued)**

# 9 – Specifications : Messages and troubleshooting

| Action | Message | Meaning |
|---|---|---|
| ✖ | Digital INPUT1 : Fs convert On<br>Can't select master clock.<br>Press ENTER to continue. | It is not possible to use a source as a word clock when sampling frequency conversion is turned on. |
| ✔ | DIGITAL TRIM<br>Update setup?<br>Press ENTER to confirm,<br>or a cursor key to cancel | Confirmation that the digital trim values are to be updated. |
| ✖ | DSP DMA didn't done yet!<br>or<br>DSP DMA didn't done yet x100 times! | An internal error has occurred. Contact your TASCAM service center. |
| ● | Effect 1 redo completed. | The redo operation is now complete. |
| ● | Effect 1 undo completed. | The undo operation is now complete. |
| ✔ | Effect BANK a-bbb<br>Name : TASCAM DATA<br>Effect Type: TASCAM Delay<br>Create data: DEC/15/2004<br>20:35:45<br>Project Name: PROJECT ORCA<br>Project FS: 44.1kHz<br>Press ENTER to continue. | Information about a library entry (compressor/expander). |
| ● | Effect Bank a-bbb recalled<br>To Effectx | A library entry has been recalled (effect). |
| ● | Effect Preset 1-bbb recalled<br>To Effectx | A library preset entry has been recalled (effect). |
| ✖ | Effect<br>Preset a-bbb is Read-only! | An attempt has been made to store to a protected library entry (effect). |
| ● | Effectx redo completed. | Shown when undoing or redoing effect library operations. |
| ● | Effectx undo completed. | Shown when undoing or redoing effect library operations. |
| ✖ | Not Available | An attempt has been made to recall an unsupported effect. |
| ✔ | EQ Library BANK a-bbb<br>Name : TASCAM DATA<br>Create data : DEC/15/2004<br>20: 35: 45<br>Project Name: PROJECT ORCA<br>Project FS: 44.1kHz<br>Press ENTER to continue. | Information about a library entry (EQ). |
| ✔ | EQ Library Preset a-bbb<br>Name : TASCAM DATA<br>Press ENTER to continue. | Information about a library preset entry (EQ). |
| ● | EQ Library<br>Bank a-bbb recalled. | A library entry has been recalled (EQ). |
| ✖ | EQ Library<br>Preset 1-bbb is Read-only! | An attempt has been made to store to a protected library entry (EQ). |
| ● | EQ Library<br>Preset 1-bbb recalled. | A library entry has been recalled (EQ). |
| ✖ | External Control List Full<br>Press ENTER to continue. | An attempt has been made to create more than eight devices in the external control list. |
| ✔ | Firewire connection is active, are you sure?<br>Press ENTER to confirm, or a cursor to cancel. | The DM-4800 is still connected via FireWire to a computer, and an attempt has been made to change the clock source. |
| ✔ | Format CF Card?<br>All data on the card will be deleted.<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation before formatting a CF card. |

**Table 9.1: Popup messages (continued)**

| Action | Message | Meaning |
|---|---|---|
| ✔ | Format CF Card?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation before formatting a CF card. |
| ✔ | Format failed.<br>Retry?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | A CF card format operation has failed. |
| ● | Formatting now.<br>Please do not turn off power<br>while formatting. | Warning not to remove power while card is being formatted. |
| ✖ | Fs has changed.<br>Mixer will reboot.<br>Press ENTER to confirm<br>or a cursor key to cancel. | Notice to restart the DM-4800 following a change of sampling frequency. |
| ✔ | FS mode after loading and<br>FS mode before loading is different.<br>Fs is switched and Reboot.<br>Press ALT+STOP+PLAY to reboot. | A project has been loaded which has changed the sampling frequency. |
| ✖ | FS modes do not match.<br>Cascade connection not established.<br>Press ENTER to continue. | Cascade master and slave must use the same sampling frequency. |
| ✔ | GATE Library BANK a-bbb<br>Name : TASCAM DATA<br>Create data: DEC/15/2004<br>20: 35: 45<br>Project Name: PROJECT ORCA<br>Project FS: 44.1kHz<br>Press ENTER to continue. | Information about a library entry (gate). |
| ✔ | GATE Library Preset a-bbb<br>Name : TASCAM DATA<br>Press ENTER to continue. | Information about a library preset entry (gate). |
| ● | GATE Library<br>Bank a-bbb recalled. | A library entry has been recalled (gate). |
| ✖ | GATE Library<br>Preset 1-bbb is Read-only! | An attempt has been made to store to a protected library entry (EQ). |
| ● | GATE Library<br>Preset a-bbb recalled. | A library preset entry has been recalled (gate). |
| ● | Group x is not grouped. | A group does not exist to be used as a grouping layer. |
| ✔ | Grouping Link (Fader ->Mute)<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation that fader groups should be linked to mute groups. |
| ✔ | Grouping Link (Mute ->Fader)<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation that mute groups should be linked to fader groups. |
| ● | HUI<br>DAW Control Emulator<br>optimized for ProTools<br>Press ENTER to continue. | Information on external control. |
| ✔ | Invert source ?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation when changing between Input and Return sources. |
| ✔ | Invert source CHxx-CHxx?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation when making a batch change between Input and Return sources. |
| ● | Loading project.<br>Do not remove the CF card. | Warning not to remove the card while a project is loading. |
| ✖ | Machine Control List Full<br>Press ENTER to c ntinue | The Machine Control List is full and an item must be deleted. |

**Table 9.1: Popup messages (continued)**

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| Action | Message | Meaning |
|---|---|---|
| ● | Mackie Control<br>Emulator optimized for<br>Apple Logic<br>Press ENTER to continue. | Information on external control. |
| ● | Mackie Control<br>Emulator optimized for<br>Cakewalk Sonar<br>Press ENTER to continue. | Information on external control. |
| ● | Mackie Control<br>Emulator optimized for<br>MOTU Digital Performer<br>Press ENTER to continue. | Information on external control. |
| ● | Mackie Control<br>Emulator optimized for<br>Steinberg Cubase 2.2 + Nuendo 2.2<br>and later versions<br>Press ENTER to continue. | Information on external control. |
| ● | Maps a MIDI Controller onto the<br>first 16 faders | Information on external control. |
| ✔ | Master DELAY Time<br>Update setup?<br>Press ENTER to confirm,<br>or a cursor key to cancel | Confirmation that the delay values are to be updated. |
| ✔ | MC Transport Maps<br>0 : MMC open ID=120<br>1 : MTC Generate<br>2 : None<br>3 : None<br>4 : None<br>5 : None<br>6 : None<br>7 : None<br>8 : None<br>9 : None<br>Press ENTER. | Current MMC transport maps. |
| ✖ | MIDI Ch1 is already assigned.<br>Press ENTER to continue. | Warning that a MIDI channel has already been used for Program Change recall of library entries. |
| ✖ | MIDICh1{Control No.1} is<br>already assigned.<br>Press ENTER to continue. | Warning that a MIDI control number and/or channel has already been used when setting up Control Change messages. |
| ✖ | Mixer Device Boot Failed<br>(device-name) | A major component of the DM-4800has failed. Make a note of the device name, which will be one of the following, and contact your TASCAM service center:<br>DSP-A/B, DSP-A, DSP-B, DSP-A/B SRAM, DSP-A SRAM, DSP-B SRAM, FPGA, PLL, DDMP, RTC, Slot (slot card). |
| ✔ | Mixer will mute while checking.<br>OK to continue?<br>Press ENTER to confirm<br>or a cursor key to cancel. | Confirmation that a named digital input source check may change the clock rate, and therefore the audio output is muted during the check. |
| ✔ | Name/Memo is 17 or more characters.<br>If name is changed on mixer,<br>it will be shortened to 16 or<br>fewer characters.<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Reminder that stored names and memos must be 16 characters or less in length. |
| ● | No Automation Undo data.<br>(No Automation Redo data.) | There is no automation data in the undo buffer. |
| ✖ | No copy parameter is selected.<br>Press ENTER to continue. | An attempt has been made to copy data, without a parameter's checkbox being selected. |

**Table 9.1: Popup messages (continued)**

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| Action | Message | Meaning |
|---|---|---|
| ● | Now copying...<br>Do not disconnect CF card. | A copy is being carried out. |
| ✔ | OK to Copy?<br>From<br>Project: TASCAM Project 2<br>xxxxxxxx BANK 1<br>To<br>Project: TASCAM Project<br>xxxxxxxxx BANK1<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Conformation that a library bank (EQ, snapshot, etc.) can be copied from one project to another. |
| ✔ | OK to Copy?<br>From<br>Project: TASCAM Project 2<br>Snapshot Bank a-bbb<br>To<br>Project: TASCAM Project<br>Snapshot Bank c-ddd<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Conformation that a library entry (EQ, snapshot, etc. can be copied from one project to another. |
| ✔ | OK to Copy?<br>From<br>Project: TASCAM Project 2<br>Snapshot Preset 1<br>To<br>Project: TASCAM Project<br>Snapshot Bank c<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Conformation that a library bank can be copied from the preset bank to a project bank. |
| ✔ | OK to delete automation file<br>[File Name]<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation about the deletion of an automation file. |
| ✔ | OK to delete project<br><projectname><br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation when deleting a project. |
| ✔ | OK to Delete xxxxxx<br>Bank a-bbb<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation before deleting data. |
| ✔ | OK to Overwrite Automation data<br>Overwrite file<br>Keep file<br>Press ENTER to confirm,<br>or a cursor key to cancel. | An attempt is being made to overwrite existing automation data. |
| ✔ | OK to Overwrite Automation data<br>[PROJECT DM4800#0]<br>Press ENTER to confirm,<br>or a cursor key to cancel | Confirmation before overwriting automation data (keep confirmation). |
| ✔ | OK to Overwrite Automation File<br>[File name]<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation before overwriting automation data. |
| ✔ | OK to Overwrite Effect<br>Bank a-bbb from Effectx<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation before overwriting effect library item from x (either effect 1 or effect 2). |

**Table 9.1: Popup messages (continued)**

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| Action | Message | Meaning |
|---|---|---|
| ✔ | OK to Overwrite Snapshot<br>Bank a-bbb<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation before overwriting a snapshot library entry. |
| ✔ | OK to Overwrite Transport Map?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation shown when replacing the current transport control map. |
| ✔ | OK to Overwrite xxx Library<br>BANK a-bbb from Cgy?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation before overwriting a gate or compressor/expander or EQ library item (xxx) from the selected channel (y). |
| ✖ | Operation failure.<br>Press ENTER to continue. | Something has gone wrong with an operation involving the CF card. Try again with another card. |
| ✔ | Paste Buffer data to Chx?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation shown before pasting copied configuration data to a channel. |
| ✔ | Paste Ch2 Automation configuration. | Confirmation shown before pasting copied automation configuration data to a channel. |
| ✔ | Performing delete… | Automation File Delete. |
| ● | Performing Keep... | An automation keep operation is in progress. |
| ✖ | Please set cascade on/off from<br>the cascade master machine.<br>Press ENTER to continue. | An attempt has been made to break the cascade connection from the slave. |
| ✔ | Program Change Table<br>OK to perform Batch Setup?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation shown before making a batch change to the Program Change table. |
| ✔ | Project data and<br>resume data are different.<br>The project data is loaded<br>ENTER key : from internal memory.<br>CURSOR key : from CF card. | Shown on power-up. Data has been changed since the project was saved; should this changed data be loaded? |
| ● | Project is not on CF card. | Shown if a referenced project is not actually on the CF card. |
| ● | Real time control of<br>common MIDI Control Change<br>parameters<br>Press ENTER to continue | Information on external control. |
| ✔ | Re-assign fader (mute) group?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation when changing a setting. |
| ✔ | Re-assign fader grouping layer?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation when re-assigning a grouping layer master. |
| ✔ | Re-assign fader grouping?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation when re-assigning a fader group master. |
| ● | Re-building current Automation Data<br>+----------+<br>≠####  20% ≠<br>+----------+ | Popup message shown when timecode is stopped, and timecode data is being written. |
| ✖ | Recall Automation data?<br>Current data will be erased.<br>Press ENTER to confirm,<br>or a cursor key to cancel. | The recall of stored automation data will overwrite the data currently in memory. |

**Table 9.1: Popup messages (continued)**

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| Action | Message | Meaning |
|---|---|---|
| ● | Renaming project.<br>Do not remove the CF card. | Shown while a project is being renamed on the CF card. |
| ✖ | Scanning for cascade slave...<br>Press a cursor key to cancel. | The master machine of a cascade is looking for a slave unit. |
| ✔ | SELECT xxxx MODE<br>Press ENTER to confirm,<br>or a cursor key to cancel | Confirmation that the surround mode will change (to STEREO, 5.1, 6.1 or LRCS). |
| ✔ | Shut down?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation of shutdown (after pressing SHIFT+CTRL+ALT). |
| ✔ | Shutdown was not performed<br>correctly last time.<br>The project data is loaded:<br>ENTER key : from internal memory<br>Cursor key : from CF card. | On power-up — a shutdown was not performed properly. Should data changed after the project was last stored be loaded? |
| ✔ | Signal info : TDIF1<br>Input<br>Rx mode : Double-line<br>Fs : 192kHz<br>Word Length : 24bit<br>Emphasis : None<br>Output<br>Tx mode : Normal<br>FS : 44.1kHz<br>Word Length : 24bit<br>Emphasis : No<br>Press ENTER to continue. | Detail information popup for digital audio I/O (TDIF). |
| ✔ | Signal info : Digital out1<br>Format : AES/EBU<br>Contents : Audio<br>Emphasis : On<br>Channel Mode : Stereo<br>FS : 44.1kHz<br>Word Length : 24bit<br>Press ENTER to continue. | Detail information popup for digital audio output. |
| ✔ | Signal info : Slot1 AES3 Card<br>INPUT LINE1<br>Format : AES/EBU<br>Contents : Audio<br>Emphasis : None<br>Channel Mode : Stereo<br>FS : 44.1kHz<br>Word Length : 24bit<br>Press ENTER to continue. | Detail information popup for digital audio I/O (AES card). |
| ✖ | Signal info : Digital In1<br>No signal<br>Press ENTER to continue. | No signal received at a digital input when detail is requested. |
| ✖ | Slot AES3 Card INPUT LINE1<br>Error<br>Not audio signal<br>Press ENTER to continue. | Digital audio data error from AES card (non-audio data). |
| ✖ | Slot AES3 Card INPUT LINE1<br>Error<br>Source Fs unlocked<br>Not audio signal<br>Press ENTER to continue. | Digital audio data error from AES card (non-audio data has caused loss of word sync). |
| ✖ | Slot AES3 Card INPUT LINE1<br>Error<br>Source Fs unlocked<br>Press ENTER to continue. | Digital audio data error from AES card (loss of word sync). |

**Table 9.1: Popup messages (continued)**

# 9 – Specifications : Messages and troubleshooting

| Action | Message | Meaning |
|---|---|---|
| ✔ | Snapshot BANK a-bbb<br>Name : TASCAM DATA<br>Xtion Time : 9.9ms<br>Create data : DEC/15/2004<br>20: 35: 45<br>Project Name : PROJECT ORCA<br>Project FS : 44.1kHz<br>Press ENTER to continue. | Information on a snapshot. |
| ✔ | Snapshot Preset 1-bbb<br>NAME : TASCAM DATA<br>Press ENTER to continue. | Information on a preset snapshot. |
| ● | Snapshot redo completed. | A snapshot redo operation is complete. |
| ● | Snapshot undo completed. | A snapshot undo operation is complete. |
| ● | Snapshot<br>BANK a-bbb Recalled. | Successful recall of snapshot data. |
| ● | Snapshot<br>Bank a-bbb recalled. | A snapshot has been recalled. |
| ✖ | Snapshot<br>Preset 1-bbb is Read-only! | An attempt has been made to overwrite or delete a preset snapshot. |
| ● | Snapshot<br>Preset 1-bbb recalled | A snapshot preset has been recalled. |
| ✔ | Source Invert Ch1-Ch8<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation of bulk change of input from input to return (or vice versa). |
| ✖ | STEREO to AUX1-2 is assigned<br>Press ENTER to continue. | Stereo buss is assigned to Aux 1-2. |
| ● | Stored to EFFECT Library<br>BANK a-bbb | Stored an effect library entry. |
| ● | Stored to Snapshot<br>Bank a-bbb | Stored a snapshot. |
| ● | Stored to xxxx Library<br>BANK a-bbb from CHx. | Stored a library entry where xxxx is EQ, gate or compressor/expander from the selected channel. |
| ● | Storing project. Do not remove the CF card. | Shown while a project is being written to the CF card. |
| ✖ | Target machine has same ID.<br>Cascade connection not established.<br>Press ENTER to continue. | In a cascade, there can be only one each of the master and slave. |
| ✖ | Target machine is not supported.<br>Cascade connection not established.<br>Press ENTER to continue. | The target machine of the cascade pair is not suitable for the cascade (wrong type, firmware revision, etc.). |
| ● | TC Running! | Some automation operations cannot be carried out with timecode running. |
| ✔ | Template project<br>is not selected.<br>Press ENTER to continue. | An attempt has been made to create a new project from an unselected template. |
| ✖ | The audio device<br>is not operating normally.<br>All sound stopped<br>Please contact TASCAM service.<br>Press ENTER to continue. | A serious hardware error has occurred within the audio portion of the DM-4800. Contact your TASCAM service agent or dealer for repair. |
| ● | The automation data has been built<br>+----------+<br>\| #### 100-% \|<br>+----------+<br>Done! | Shown when the automation data has been successfully built, following the stopping of the timecode. |

**Table 9.1: Popup messages (continued)**

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| Action | Message | Meaning |
|---|---|---|
| ✖ | The current project is protected.<br>Press ENTER to continue. | Trying to overwrite a protected project. |
| ✔ | The current project is changed.<br>Store current project?<br>ENTER key : Store and Create<br>CURSOR key : Create | Changes have been made to the current project before a project creation. |
| ✔ | The current project is not on the CF card.<br>Store the current project?\<br>Cannot copy<br>automation data and library data.<br>ENTER key : Store and Shut down<br>CURSOR key : Shut down | An attempts has been made to shut down the DM-4800 with no project stored on the card. |
| ✔ | The current project<br>is not on the CF card.<br>Store the current project?<br>Cannot copy<br>automation data and library data<br>ENTER key : Store and Create<br>CURSOR key : Create | Confirmation that the current project should be stored on the card (it is not already there). Automation and library data will not be stored. |
| ✔ | The format of this CF card<br>is unsupported.<br>Format CF card ?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | An unrecognized CF card has been inserted – this message suggests reformatting the card in DM-4800 format. |
| ✔ | The last stored project<br>cannot be found.<br>Create project?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | At power-on, the last stored project cannot be found (maybe the card has been changed). |
| ✖ | The project name is not inputted.<br>Press ENTER to continue. | An attempt has been made to create a project without giving it a name. |
| ● | The project reload was completed. | A project has been successfully reloaded. |
| ✖ | There is no project loaded. | When storing, no project is currently loaded, so the data can't be stored. |
| ✖ | This name is already assigned. | The name of the newly-created project already exists on the card as a project name. |
| ✖ | This project is protected. | The project to be renamed is protected. |
| ✖ | This project is the current project<br>Can't change. | The current project cannot be renamed. |
| ✖ | Timecode running! | An attempt has been made to create a project, etc. while timecode is still running. Stop the timecode and try again. |
| ✖ | Turn cascade off ?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation that the cascade is to be turned off. |
| ✖ | Turn cascade on ?<br>Press ENTER to confirm,<br>or a cursor key to cancel. | Confirmation that the cascade is to be turned on. |
| ● | Turn off power now.<br>Press ALT + STOP + PLAY to reboot. | The shutdown process is now complete, and the power can be turned off, or the DM-4800 can be rebooted. |

**Table 9.1: Popup messages (continued)**

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## Block diagram

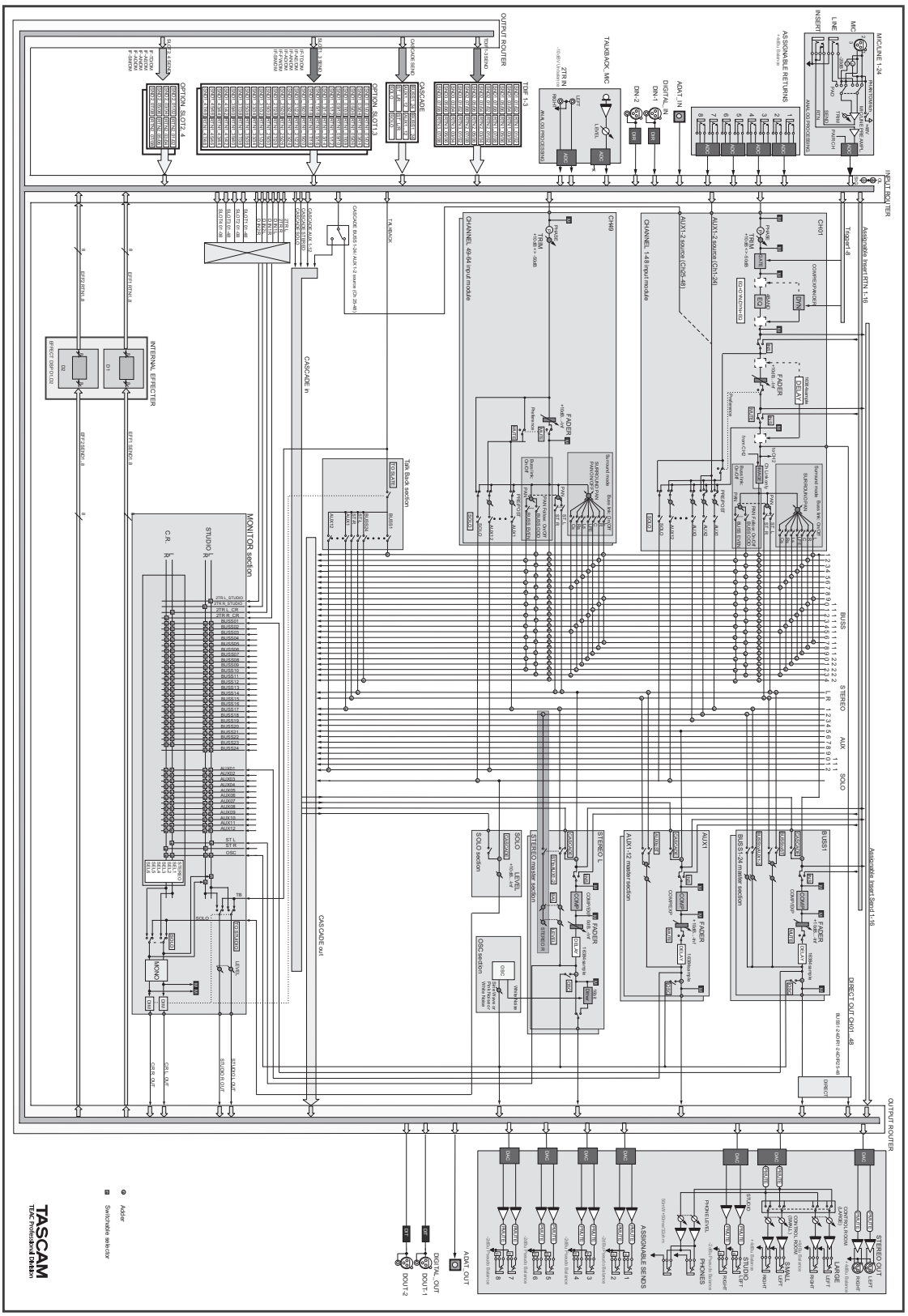


**Figure 9.2: Block diagram**

## Level diagram

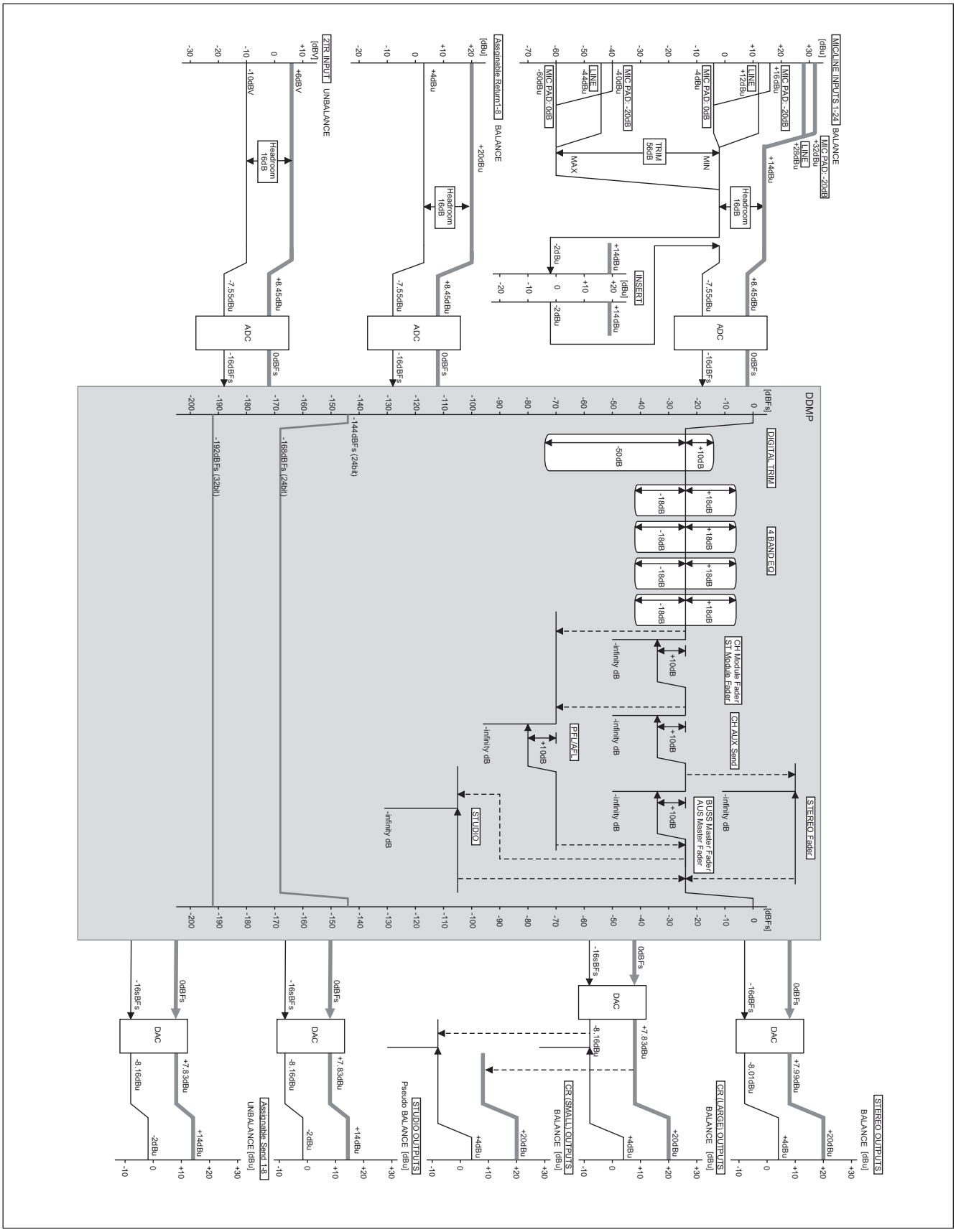


**Figure 9.3: Level diagram**

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