

1 - TM-D1000 Operations Manual

Congratulations on your purchase of the TM-D1000. This high-quality digital mixing console allows you to produce crystal-clear multitrack recordings and to mix them to a digital stereo mastering machine.

We do not expect you to read the Reference Manual from cover to cover, but if you take the time to read through this Operations Manual, this will be repaid in terms of future familiarity with the unit.

Since the TM-D1000 is a complex unit, with many software features that are not immediately visible from the front panel, we suggest, however, that you make yourself familiar with at least the contents of the main reference manual, so that you can find the answers you need when you have questions.

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NOTE

When referring to named parts of the TM-D1000, we will use the following typeface: **CH SEL** (or **CH SEL** in notes, etc.). When referring to words, etc. shown on the display, we will use the following typeface: `Option`.

WARNING

The TM-D1000 uses an external AC adapter. Make sure that the voltage marked on the TASCAM PS-D1000 adapter is the same as your local power supply. Consult your dealer if it is not.

Never attempt to use the TM-D1000 with any AC adapter other than the TASCAM PS-D1000 adapter specifically provided for use with the TM-D1000.

As with all audio equipment, connections should always be made with the power turned off.

1.2 TM-D1000 features

Among other features, the TM-D1000 includes:

- Eight analog inputs, capable of accepting input from a variety of sources, from professional line level to standard dynamic microphones. Four of these inputs are fitted with TRS insert points for connecting external processors, etc.
- Eight digital inputs and outputs in TDIF-1 format, which use the same connector as the eight-channel I/O of a TDIF-1 recorder.
- One stereo digital input and two stereo digital outputs with both AES/EBU and SPDIF connectors, allowing digital mastering. The input and output word length can be selected as 16, 20 or 24 bits.
- Each channel, whether input or tape return, is equipped with 3-band equalization and effect sends as well as routing capabilities.
- Four group busses, which can also be used as auxiliary busses.
- Instant “repatching” of the console into various modes, depending on the needs of the project at the time.
- Internal digital effect units, which may be used as stereo effect processors mono dynamic processors.
- Full input and output facilities, often in both analog and digital formats, from busses, groups, as well as full monitoring facilities through either headphones or a amplifier/speaker combination and channel insert facilities.

These features mean that while the TM-D1000 is primarily intended for multitrack recording purposes, it can also be used effectively for sound reinforcement, as a digital sub-mixer, or in broadcast applications.

1.3 Setting up your TM-D1000

Before you start to set up your TM-D1000, make sure that you have a clear working area and sufficient space to set out and connect all your equipment.

CAUTION

The bottom panel of the TM-D1000 covers the heat sink for the electronic components. This panel can become significantly hotter than the surrounding environment. This is to be expected in everyday operation, and should not be a cause for concern.

After using the TM-D1000 for extended periods of time, take care when picking up or moving the TM-D1000, and do not touch the heat sink. We suggest that you leave the TM-D1000 to cool for a little while before moving it or putting it away.

Also for this reason, you should not remove the feet on the bottom panel of the TM-D1000, or, if you must remove the feet for whatever reason, never stand the TM-D1000 directly on a working surface. Always allow an air gap between the bottom panel of the TM-D1000 and the working surface by standing the TM-D1000 on books or similar supports placed under each side of the mixer.

1.3.1 Input channels 1–8

The XLR and π -inch microphone/line inputs for channels 1 through 4 are balanced. Refer to the printing on the TM-D1000 itself for details of how these connectors are wired. The XLR connectors can accept levels from -65 dBu to -15 dBu, and the TRS π -inch jacks on channels 1 through 4 accept signals from -40 dBu to $+10$ dBu. The unbalanced π -inch connectors for channels 5 through 8 accept levels from -50 dBu to 0 dBu.

WARNING

Although it is possible to connect equipment using the XLR and phone connectors at the same time to input channels 1 through 4, we do not recommend that you do this. There is a risk of damage to the microphone, due to signals received at the phone jack being re-transmitted to the XLR jack.

1.3.2 PHANTOM (+48V)

The **PHANTOM** power switch by the XLR jack of channel 4 provides phantom power at +48 V to the XLR jacks of channels 1 through 4 when switched on.

Remember to turn down the monitor output volume when turning this switch on or off.

1.3.3 INSERTs

Use standard ‘Y’ cables such as TASCAM PW-4Y or PW-2Y cables to connect unbalanced equipment at the insert point for channels 1 through 4 (see also “External insert points” on page 20).

1.3.4 EXT INPUTs

The balanced π -inch jacks accept signals at professional +4 dBu levels, and the RCA connectors accept signals at the lower –10 dBV levels.

1.3.5 STEREO OUTPUTS

The analog stereo outputs are at +4 dBu (balanced π -inch jacks) and –10 dBV (RCA connectors).

Please read and take careful note of the following, to avoid possible damage to the internal circuits of the TM-D1000.

WARNING

These jacks provide balanced output signals. Do not use mono jack plugs with these output jacks. If you do, a short will occur to the cold (–) terminal of the TM-D1000 internal amplifier, and damage may occur.

If you have no choice but to use unbalanced equipment, always use a TRS-type (stereo) jack plug, and wire the ground to the sleeve, and the signal to the tip, leaving the ring unconnected. This will prevent any short circuits to the internal amplifiers.

1.3.6 GROUP OUTPUTS/AUX SENDS

These connectors serve a dual function, depending on the console mode currently selected. The pseudo-balanced π -inch jacks output signals at –2 dBu, and the RCA connectors at a level of –10 dBV. Balanced or unbalanced jack plugs can be used here.

See “Buss functions” on page 10 for details of how these jacks serve as both aux and group outputs.

1.3.7 MONITOR OUTPUT

The balanced π -inch jacks output a signal to the monitoring amplifier at +4 dBu. Although these are balanced outputs, unbalanced jacks can be used to connect an amplifier with unbalanced inputs. See “Monitoring, etc.” on page 21 for details of monitoring operations.

NOTE

*If you connect a hi-fi amplifier to these jacks, turn down the monitor level control. The level of the TM-D1000's **MONITOR OUTPUT** jacks is higher than that expected by a hi-fi amplifier, and too high an output level may result in distorted sound.*

1.3.8 FOOT SW (REMOTE CONT)

A standard footswitch such as the TASCAM RC-30P may be connected and set up to serve a variety of functions.

1.3.9 WORD SYNC

These RCA connectors are used to take the word clock from and to other digital audio equipment. You should use these connectors if the TM-D1000 should receive a word clock signal from an external source, or if it should act as the word clock master in a digital audio setup.

WARNING

There should never be more than one word clock signal in a digital audio system. If there are not, at worst, damage may occur to speakers, amplifiers, etc. as a result of high-frequency noise generated by word clock incompatibilities. See “Word synchronization” on page 16 for a brief explanation of word clocks as they apply to the TM-D1000.

1.3.10 MIDI IN & OUT

These MIDI connectors are used for control by an external sequencer, etc., as well as for receiving MIDI timecode and transmitting MIDI Machine Control commands to external equipment.

See “MIDI Machine control” on page 29, “Locations” on page 30 and “MIDI control of the TM-D1000” on page 32 for further details of MIDI functions and the TM-D1000.

1.3.11 DIGITAL OUTPUTS

There are two pairs of digital outputs provided: **A** and **B**. Each pair outputs the digital audio through both an XLR and an RCA coaxial connector.

1.3.12 DIGITAL INPUTS

Digital audio may be received through either the XLR or RCA coaxial input of this digital audio input.

1.3.13 TDIF-1 A

This 25-pin D-sub connector is used to connect eight input and eight output digital audio channels from and to a DTRS recorder, or other suitably-equipped digital audio multitrack device.

NOTE

When making TDIF-1 connections between units, you must always use genuine TASCAM cables, or TASCAM-approved cables.

Although these cables appear similar to certain types of computer cables and use similar connectors, the cables themselves are very different, and the different electrical characteristics of the cables can cause damage to the equipment connected with the wrong cables.

If the use of cables other than TASCAM cables causes or results in damage, the warranty is voided.

2 - The TM-D1000 menu system

The operational “heart” of the TM-D1000 is the menu system. Using this system, you can set up common channel parameters, such as equalization, etc. and also the more general global settings, such as console configuration.

The menu system may be described in the following way:

- At the “top” level are the main menus, such as the Option menu, channel AUX and EQ menus.
- Below these menus there may be sub-menus, for instance, in the Option menu, there are Setup, Effect and MIDI sub-menus.
- Within a sub-menu, there may be further sub-menus, or parameters.
- If there is only one parameter shown on the screen whose value is to be edited, the **DATA ENTRY** knob is used to change the value, and the **ENTER** key is used to confirm this change.
- If there are two or more parameters shown on the screen whose values may be edited, the data editing knobs are used to change the values (see “Data editing knobs” on page 6).

The controls which are used to navigate and change the values within the menu system are described below:

2.1 PARAM SEL – OPTION

This key is used to select the channel parameter to be edited (**EQ**, **AUX** or the effect or dynamic processors). Available options (not all options are available in all modes) will light the indicators. Repeated presses of this key will cycle between these selections, and the appropriate indicator will light green. Selections that are available, but not selected, will light red. When the **SHIFT** key is pressed and held down together with this key, you can make settings to the options that affect the internal parameters of the TM-D1000. When we talk about the key used in this way, we refer to it as the **OPTION** key (its **SHIFT**ed function).

WARNING

*Changes to the Master Clock selection (6, “Word synchronization”) or to the MODE selection 4.3, “Choosing REC or MIX mode”) from the appropriate Option screen (**SHIFT + PARAM SEL**) may produce noise in the moni-*

toring system, which may damage your ears and/or monitoring equipment.

*We therefore recommend that when making these changes, you turn down the headphone volume and remove your headphones, if you are wearing them. You should also turn down the input levels of any amplification equipment connected to the **MONITOR OUTPUT** and **STEREO OUTPUT** jacks.*

2.2 DIRECT RECALL – ESCAPE/RECALL – STORE

This key is used for three separate purposes; it is used as a key to move up through the menu tree, as a recall key when recalling effect settings or parameter “snapshots”, and together with the **SHIFT** key is used to store snapshots, etc.

It is also used in the snapshot Direct Recall mode (see “DIRECT RECALL” on page 27).

Operating Tip

*When we describe making settings in the Option menu, we assume that the menu is at the top level, in other words, the top line of the display reads `Option`. If you press the **SHIFT** and **OPTION** keys together to enter the Option menu, and the top line of the display does not show `Option`, press the **ESCAPE/RECALL – STORE** key until it does.*

2.3 ENTER – FDR/PAN NULL

This key is used to enter sub-menus and to confirm menu settings, etc. When used together with the **SHIFT** key, it is used to adjust the physical position of the channel faders and panpots to match the stored positions from a snapshot.

2.4 MEMO – OPTION MONITOR

This key is used to enter and edit location memories from an MMC device which provides MIDI time-code information to the TM-D1000. When used together with the **SHIFT** key, it is used to provide a quick view of the settings made with the **OPTION** key controlling the TM-D1000 operation.

2.5 The display screen

The display screen is typically used in the following way:

The top line of the display screen is used to show the sub-menu or the parameter to be edited which is currently selected. The right side of the top line shows you if there are other sub-menus or parameters available (see “DATA ENTRY” on page 6 for details).

The bottom line of the display is used to show the sub-menu or value of the parameter or parameters which may be edited. If the sub-menu is one of a number of sub-menus to be selected, or if there is only one parameter whose value must be set, the bottom line of the display will blink.

If the value displayed on the screen is the currently-loaded value, the value alone will be shown. If the value is not currently loaded, the line will end with a question mark (?). When the value is selected with the **ENTER** key, the ? will disappear, to show that the displayed value is the current value.

To set the value, press the **ENTER** key. To escape from the menu without setting the value, press the **ESCAPE/RECALL** key.

Operating Tip

To change the contrast of the display screen:

- 1 Press and hold down the **SHIFT** key and press the **ENTER – FDR/PAN NULL** key (you will enter the fader/panpot adjustment screen).
- 2 Turn the **DATA ENTRY** knob to adjust the display screen contrast.

There is also an Option setting screen which allows you to adjust the contrast, described in “LCD contrast” on page 36.

2.6 Data editing knobs

These knobs, which are not labeled, are used to change the values of the parameters which are displayed on the LCD screen immediately above them.

There may be up to four parameters displayed on the screen at any one time. Turning the knob immediately **below** a parameter will change that parameter. Notice that there is no “beginning” or “end” when you turn the knobs—these are continuously variable

controls. However, when you come to the maximum or minimum value permissible for a parameter, turning the knob clockwise or counterclockwise respectively will have no further effect.

Operating Tip

When you are changing values using the data editing knobs or the **DATA ENTRY** knob (see below), you can speed up the rate at which the value is changed by pressing and holding down the **SHIFT** key while turning the knob.

2.7 DATA ENTRY

When you turn this knob, the different sub-menu options available from each main menu are displayed. The availability of different menus is shown in the top right of the display:

```
LOW-G MID-f MID-G HI-G
+12.0 10k + 0.5 + 1.0
```

The **➤** in the top right of the display indicates that if you turn the **DATA ENTRY** knob clockwise, another sub-menu is displayed:

```
LOW-f MID-f MID-G HI-f
100Hz 10k + 0.5 16k
```

Here, the **➤** in the top right shows that another menu is available if you turn the **DATA ENTRY** knob counterclockwise.

Occasionally, a menu will appear which has both the **➤** and **➤** symbols displayed in the top right corner. This means that additional menus are available by turning the **DATA ENTRY** knob either clockwise or counterclockwise.

Sometimes identical menus are available for similar parameters. In the example below, the format of the signals output from the **DIGITAL OUT** jacks (**A** and **B**) can be changed between SPDIF and AES/EBU.

```
Digital Out A/B Format
A: SPDIF
```

The **➤** symbol on the right of the display shows that an additional menu is available by pushing the **DATA ENTRY** knob. This will change the **Digital Out** parameter between **A** and **B**.

The **DATA ENTRY** knob is also used to enter and edit the names of snapshot, effect settings, etc.

2 - The TM-D1000 menu system

To move the cursor around when editing names, press and hold down the **DATA ENTRY** key while turning it. This allows you to change the position of the cursor (underlining the character position to be edited).

Simply turn the knob without pushing it to edit the character at the cursor position. The characters available are all upper and lowercase alphabetical characters, numerals and common punctuation symbols.

The **SHIFT** key is used to toggle between uppercase and lowercase when entering and editing names.

```
ABCDEFGHIJKLMNOPQRSTUVWXYZ
0123456789
abcdefghijklmnopqrstuvwxyz
* ; < = > ? @ ! # $ % & ( ) * + , - . /
[ ] _
```

2.8 Viewing parameters without changing them

The Option Monitor allows you to look quickly through the settings made in the TM-D1000 without the risk of changing them accidentally.

- 1** Press and hold down the **SHIFT** key and press the **MEMO** key.
- 2** Push the **DATA ENTRY** knob to cycle through the **Option** sub-menus (**MODE**, **Setup**, **Effect**, **MIDI**, and **System**).
- 3** Turn the **DATA ENTRY** knob to see the **parameter settings within these sub-menus** (the **⌘** and **⌘** symbols on the top line show you what further parameters are available for viewing).

The parameter at the extreme left (⌘ only is shown on the top line) is always the sub-menu which allows other sub-menus to be accessed by pushing the **DATA ENTRY** knob.

```
Option Monitor ⌘
Setup
```

3 - A quick guide to common functions

This section gives you a brief “road map” of the common functions that you will need to perform during the course of a recording and mixdown session.

☞ *Initializing TM-D1000 internal data*

Hold and press the **PARAM SEL** and **ENTER** keys while powering on the TMD-1000, and press **ENTER** after selecting **All**, **Snapshot** or **Effect** (see page 10).

☞ *Setting the word clock*

Option ► System ► Master Clock Select (See “Word synchronization” on page 16.).

☞ *Selecting record or mixdown mode*

Option ► MODE ► MODE select (See “Choosing REC or MIX mode” on page 11.).

☞ *Selecting Buss Function (group/aux allocations)*

Option ► MODE ► BUSS Function select (See “Buss configurations” on page 11.).

☞ *Assigning channels to busses*

Press the channels’s **CH SEL** key, and then the appropriate **CH ASSIGN** key(s) (See “Routing channels to busses” on page 18.).

☞ *Bypassing the group buss system*

Press the channel’s **CH SEL** key, and then the **DIRECT OUT** key, making sure the channel is not assigned to a group buss (See “Using the DIRECT OUTs” on page 19.).

☞ *Monitoring input channels and tape tracks*

Assign the input channels and tape tracks to the stereo L-R buss (See “Monitoring, etc.” on page 21.).

☞ *Panning channels between output busses*

Use the **PAN** controls above each channel fader.

☞ *Making EQ settings*

Press the **PARAM SEL** key until the **EQ** indicator lights green, and then the channel’s **CH SEL** key. Make sure the **EQ** key by the **CH ASSIGN** keys is lit, and make the appropriate settings using the data editing knobs (See “Equalization” on page 18.).

☞ *Making stereo linked pairs of channels*

Press and hold down the **CH SEL** key of an odd-numbered channel, and press the **CH SEL** key of the next even-numbered channel (you can also press and hold any even-numbered key and press odd-numbered key directly before it). See “Linking channels for simultaneous parameter adjustment” on page 20.

☞ *Selecting the way in which internal effect units are used*

Option ► Effect ► Effect Pattern — choose an effect pattern which to match your requirements (See “Selecting effect patterns” on page 24.).

☞ *Selecting and assigning the AUX and EFFECT RETURN controls*

Option ► Setup ► Aux Rtn Input/Assign—choose the source and the routing of the aux and effect returns.

☞ *Assigning the channels which use dynamic processors*

Option ► Effect ► Ch Dynamics Insert—push the **DATA ENTRY** knob to toggle the dynamics on and off, and turn it to move the cursor (See “Assigning channel dynamics” on page 19.).

☞ *Setting the dynamic processor parameters*

Press the **PARAM SEL** key until the **EFFECT/DYNAMICS** indicator lights green, press the **CH SEL** key of one of the channels using dynamic processors, and use the data editing knobs to set the processor parameters. See “Assigning channel dynamics” on page 19.

☞ *Setting AUX send levels*

Press the **PARAM SEL** key until the **AUX** indicator lights green, and use the data editing knobs to set the levels (See “Setting aux send levels” on page 24.).

☞ *Selecting the effect to use*

Press the **PARAM SEL** key until the **EFFECT/DYNAMICS** key lights green, and use the **DATA ENTRY** knob to select the effect type (See “Selecting the effect to use” on page 24.).

☞ *Editing the effect parameters*

After selecting the effect as described above, use the data editing knobs to set the parameters.

3 - A quick guide to common functions

☞ *Recalling a snapshot*

Press the **ESCAPE/RECALL** key until the display shows **RECALL?**. Choose the snapshot and press **ENTER** (See “Recalling snapshots” on page 26.).

☞ *Storing a snapshot*

Press and hold the **SHIFT** key and press the **STORE (ESCAPE/RECALL)** key. Choose a memory, and press **ENTER** (See “Storing a snapshot” on page 26.).

☞ *Setting the MMC ID of the TM-D1000*

Option ► MIDI ► MMC Device ID (See “Setting up the device IDs” on page 29.).

☞ *Controlling an external device through MMC*

Press and hold down the **SHIFT** key while pressing the MMC control keys (MMC blue labels below the keys)—See “MIDI Machine control” on page 29..

☞ *Selecting the MTC type for location operations*

Option ► MIDI ► MTC Type (See “Selecting the MTC type” on page 30.).

☞ *Storing and locating to location memories*

Use the **MEMO** key (See “Locations” on page 30.).

☞ *Setting MIDI channels to control the TM-D1000 (Program Change)*

Option ► MIDI ► MIDI Ch Select for the Mixer, Effects, Dynamics (See “Setting Program Change receive channels” on page 32.).

As we mentioned briefly earlier, the busses of the TM-D1000 can be switched internally into different configurations, depending on the current needs of the project.

These configurations may be stored in two convenient main user modes; the recording and mixdown modes (REC and MIX). These are shown by the **MODE** indicators to the left of the display screen.

When a change is made between the REC and MIX modes, the settings of the mode from which the change is being made (EQ settings, pan settings, fader and aux send settings, etc., as well as the Option settings for MODE, Effect and Setup) are stored in memory. When the TM-D1000 is next switched into this mode, these settings are then recalled automatically.

This allows a fast change between two different settings of the mixer for different purposes (e.g. if you are in the middle of a mix session but decide to re-record a track, changing from MIX to REC will restore the last settings when the mixer was in MIX mode).

Operating Tip

In these descriptions, we talk about the "default" settings. These are the settings made when the TM-D1000 leaves the factory. If you want to return the TM-D1000 to these default settings at any time, you should follow the procedure described below.

- 1** While turning on the power to the TM-D1000, press and hold down the **PARAM SEL** and **ENTER** keys.

The display will show:

```
Data Initialize
                                     A11?
```

- 2** Press the **ENTER** key:

```
Data Initialize
                                     OK?
```

- 3** Press the **ENTER** key once again, and all data (including the snapshot memories, effect set-

tings, etc.) will be restored to the factory settings.

```
Data Initialize[All]
Complete   Press EXIT...
```

This action cannot be undone. If you have second thoughts about re-initializing all the data, press the **ESCAPE** key instead of pressing the **ENTER** key for the second time.

4.1 Default REC mode

Used in recording, the default setting of the REC mode uses the stereo with four group buss configuration (see below).

The internal effect processors are set as mono dynamics processors for channel processing. Channels may be assigned to any combination of: the stereo buss, groups 1-2, and groups 3-4.

The L-R stereo buss is used as a monitor buss here—the left and right channels of the stereo buss cannot be routed to tape tracks. If an input channel is not assigned to the L-R stereo buss, it will not appear in the monitor mix when you have the **L-R MONITOR SELECT** key pressed.

Operating Tip

When you are overdubbing with some previously recorded tracks, these tracks are routed through input channels 9 through 16. If you do not assign these tracks to the L-R stereo buss, you will not be able to monitor them.

NOTE

*The **PARAM SEL AUX** selection does not light in this default mode (there are no aux send busses selected).*

4.2 Default MIX mode

The default MIX mode, as its name suggests, is used in mixdown. In the default setting of the MIX mode, all input channels (1 through 16) are assigned to the stereo buss. Channels may not be assigned to any group busses.

The default buss configuration (see below) is for the stereo send and two mono sends. The internal effec-

4 - Buss functions

tors are assigned with one effector being used as a stereo processor for the stereo output buss, and the other effector used as another stereo processor assigned to the effect return.

The **PARAM SEL AUX** selection allows the channel to be routed through either the AUX 1-2 or AUX 3 or 4 sends.

4.3 Choosing REC or MIX mode

To choose between the REC or MIX mode:

- 1** Press and hold down the **SHIFT** key and press the **OPTION** key.
- 2** Turn the **DATA ENTRY** knob until the bottom line of the display shows **MODE**.

```
Option          F
MODE            ?
```

- 3** Press the **ENTER** key, and if the bottom line of the display does not show **MODE Select?**, turn the **DATA ENTRY** knob until it does.

```
MODE          F
                MODE Select?
```

- 4** Press **ENTER**, and turn the **DATA ENTRY** knob until the bottom line of the display shows **REC** or **MIX** (whichever you will be using).

```
MODE Select
                MIX?
```

- 5** Press **ENTER** to confirm the setting.

4.4 Buss configurations

You can set the functions of the four busses controlled by the **GROUP/AUX** faders (immediately to the left of the stereo master fader). The way in which these are configured also affects the number as well as the assignment and function of the internal effect processors.

Depending on the configuration selected, these faders are used to control the output groups or the aux sends and the channel panpots also have different effects, depending on the selected configuration. The following configurations are available:

ST+4Grp	The four group/aux busses are paired into two two-channel group buss sets: 1-2 and 3-4. The channel panpots control the balance between the odd-numbered and even-numbered channels of the aux busses. The GROUP/AUX faders control the group master levels. This is the default REC mode.
ST+4 Aux [1-2 ST]	The four group/aux busses are divided into one stereo aux send (1-2) and two mono aux sends (3, 4). The channel panpots control the balance between aux 1 and aux 2 when channels are routed to the stereo aux bus, and have no effect on the mono aux 3 and 4 busses. The GROUP/AUX faders control the aux master levels. This is the default MIX mode.
ST+2 Grp+2Aux	Group/aux busses 1 and 2 are assigned as two mono aux sends, and 3 and 4 are assigned as a dual-channel group buss. The channel panpots have no effect on the aux sends here, but control the balance between groups 3 and 4 when channels are assigned to these groups. GROUP/AUX faders 1 and 2 control the aux master levels (1 and 2) and faders 3 and 4 control group master levels 3 and 4.
ST+4 Aux [Mono]	The four group/aux busses are assigned as four individual mono aux sends. The channel panpots have no effect on the aux send levels. The GROUP/AUX faders control the aux master levels.

In every case, channels may be routed to the stereo buss, and when they are routed in this way, the channel panpot controls the balance between the left and right channels of the stereo buss.

Aux sends may be assigned to be pre- or post-fader using the menu system (See “Setting aux send levels” on page 24.).

There are also two user settings, where you can add your own settings which control the aux pre- and post-fader settings (explained in the Reference Manual).

4.5 Where do the busses go?

As you can see from the above description, the L-R stereo buss is not used for recording in the REC modes. It goes straight out to the **STEREO** outputs (analog or digital) and to the **MONITOR** buss (paralleled to the headphone output). You should therefore use it as a monitor or cue buss when recording.

The behavior of the group outputs depends on the number of group outputs which are being used in the currently-selected buss function.

Groups are always routed through to the TDIF-1 output connector; the exact routing pattern is described here.

- If both sets of groups (1-2 and 3-4) are in use, these are assigned to the TDIF-1 output busses with the same numbers, and are also “doubled” to 5-6 and 7-8 respectively.
- If only one set of groups is in use, it is always group 3-4. This pair of groups is routed to all TDIF-1 output busses, with four “copies” of this pair going to 1-2, 3-4, 5-6, and 7-8.

These routing patterns are fixed, and cannot be changed.

5 - Using the digital inputs and outputs

One of the main features of the TM-D1000 is its ability to keep sound in the digital domain throughout the whole of a recording project, from digital source, through DTRS multitrack, etc., through to the final mix onto digital media. This results in no loss of quality from the start right to the end of the project. However, you must take care to keep the word clock consistent throughout the system (see “Word synchronization” on page 16 for full details).

5.1 Connecting a TDIF-1 multitrack recorder

The audio connections to a TASCAM DTRS recorder, or any recorder using a TDIF-1 digital audio connection, is made simply using a TDIF-1 digital audio cable such as a PW-88D (1m) or PW-88DL (5m). As mentioned earlier, only a genuine TASCAM TDIF-1 cable should be used. Although some kinds of computer cable may appear to be similar, the characteristics are completely different and use of these cables may damage the equipment.

For word clock synchronization using a DTRS recorder, we suggest using the TM-D1000 as the slave clock unit, and setting the DTRS recorder to be a word clock master (see “Word synchronization” on page 16) for further details concerning this. This is particularly important if you propose using varispeed on the multitrack recorder, so that the sampling frequency is not an exact 44.1 kHz or 48 kHz.

Remember that if you are using a DA-38 DTRS recorder, this is not fitted with a WORD SYNC output. All synchronization must therefore be carried out through the TDIF-1 connection. With other models of DTRS recorder, it is suggested that you make a word clock connection to the **WORD SYNC IN** of the TM-D1000.

NOTE

Remember to set the DTRS recorder's DIGITAL IN when recording using the TM-D1000.

Operating Tip

Choose your sampling frequency for the project carefully when connecting to other digital audio equipment. Both the TM-D1000 and any TASCAM DTRS recorder can connect equally well at 44.1 kHz or 48 kHz. However, CD players always work at 44. kHz, and

some models of DAT recorders can only record analog data at 48kHz, and if you are using either of these as signal sources, they will affect the sampling frequency of all other equipment.

However, if the optional IF-TD1000 Digital I/O Board is installed, DIGITAL IN C provides frequency conversion facilities. This allows you to, for example, transfer audio data from a CD at 44.1 kHz and produce a master tape incorporating this data at 48 kHz.

5.2 TDIF-1 word length

Since DTRS recorders are able to accept audio data in a variety of word lengths, the TM-D1000 is also able to transmit and receive data through the TDIF-1 interface using different word lengths.

- 1 Press and hold down the **SHIFT** key and press the **OPTION** key.
- 2 Turn the **DATA ENTRY** knob until the bottom line of the display shows **System**, and press **ENTER**.
- 3 Turn the **DATA ENTRY** knob until the bottom line of the display shows **TDIF-1 A/B Word Length**, and press **ENTER**.

```
TDIF-1 A/B Word Length
                        A:16bit
```

If the optional IF-TD1000 Digital I/O Board has been fitted, you will be able to push the data entry knob to choose between the TDIF-1 A and B connectors.

- 4 Turn the **DATA ENTRY** knob to choose between **16bit**, **20bit** and **24bit** word lengths. Confirm your selection with the **ENTER** key.

NOTE

You must ensure that the DTRS recorder is set to transmit and receive data using the same word length as the TM-D1000. Consult your DTRS recorder's documentation for details.

5.3 Connecting a 2-track recorder

The TM-D1000 provides both XLR and RCA connectors for output of the stereo busses. The format in which data can be output is either AES/EBU or SPDIF. Either format may be selected for output from either connector, but each output can only transmit one format at a time (i.e. it is possible to output AES/EBU from output **A** XLR and SPDIF from output **B** RCA, but not to output AES/EBU from output **A** XLR and SPDIF from output **A** RCA).

To choose the connector from which the L-R stereo output busses will be transmitted:

- 1 Press and hold down the **SHIFT** key, and press the **OPTION** key.
- 2 Turn the **DATA ENTRY** knob until the bottom line of the display shows **Setup**:

```
Option          ▸
Setup          ?
```

- 3 Press the **ENTER** key, and turn the **DATA ENTRY** knob until the display shows **Digital Out A:B**:

```
Setup          ▸
Digital Out A:B ?
```

- 4 Press the **ENTER** key, and turn the **DATA ENTRY** knob to choose the busses which will be output from the digital outputs.

The options available are as follows:

```
L-R:1-2, L-R:3-4, 1-2:3-4, and L-R: L-R.
```

To use a digital 2-track mastering recorder, select one of the options which outputs L-R to the digital connector to which your 2-track mastering recorder is connected.

- 5 Press the **EXIT** key, and turn the **DATA ENTRY** knob clockwise until the bottom line of the display shows **Digital Out A/B Format**.

```
Setup          ▸
Digital Out A/B Format
```

- 6 Press the **ENTER** key:

```
Digital Out A/B Format
                    A:  SPDIF
```

- 7 Push the **DATA ENTRY** knob to change between the **A** and **B** digital outputs, and turn it to select between **SPDIF** and **AES/EBU** output formats for that output.

When AES/EBU output is selected, the appropriate indicator immediately above the stereo master fader (**A** or **B**) will light.

5.4 Connecting a digital audio source

Because the TM-D1000 is a digital mixer, it is possible to use a digital audio source (e.g. a CD player, MD player, DAT recorder or effect unit, synthesizer or sampler with digital capabilities).

If you are using a DAT recorder as your 2-track mastering recorder, this facility allows you to use the digital output of the DAT recorder for monitoring your mix through the TM-D1000.

This audio source may be connected through digital input **A**, which provides both XLR and RCA connectors, and automatically recognizes the data format (either AES/EBU or SPDIF). It is then routed through to any of the input channels:

- 1 Press and hold down the **SHIFT** key, and press the **OPTION** key.
- 2 Turn the **DATA ENTRY** knob until the bottom line of the display shows **Setup**:

```
Option          ▸
Setup          ?
```

- 3 Press the **ENTER** key, and turn the **DATA ENTRY** knob until the display shows **Ch1-8 Input**:

```
Setup          ▸
Ch1-8 Input    ?
```

- 4 Press the **ENTER** key:

```
Ch1-8 Input
                Ch1:  Analog In
```

5 - Using the digital inputs and outputs

- 5 Push the **DATA ENTRY** knob to select the channel whose input you will be editing and turn the knob to select between the analog input and the digital input¹.

NOTE

Because the digital input is a stereo input, you will probably need to select two channels to accept the digital audio signal.

- 6 Press the **ENTER** key to confirm your selection.

5.5 Using digital effect returns

An increasing number of digital effect units allow you to send signals to them, and to input their returns in digital format. To select the **EFFECT** or **AUX** return as a digital input:

- 1 Press and hold down the **SHIFT** key and press the **OPTION** key.
- 2 Turn the **DATA ENTRY** knob until the bottom line of the display shows **Setup**, and press **ENTER**.

1. If the optional IF-TD1000 Digital I/O Board has been installed, you will also have the options of selecting the input from the second TDIF-1 port and from the second **(B)** digital input. If channels 7 and 8 are selected, the third **(C)** digital input will also be available.

- 3 Turn the **DATA ENTRY** knob until the bottom line of the display shows either **Eff Rtn Input/Assign** or **Aux Rtn Input/Assign** (depending on whether you are setting up the **AUX** or effect return buss), and press **ENTER**.

```
Aux Rtn Input/Assign
      Input:Digital In A
```

The default setting for the **AUX** return is **Digital Input A**. If this is already shown on the bottom line of the display, there is no need to press **ENTER**.

- 4 Turn the **DATA ENTRY** knob until the bottom line of the display shows **Digital In A**².

NOTE

It is possible for you to assign the digital input to more than one input channel (including the Effect and Aux return busses). All controls assigned to the digital input will be enabled.

- 5 Remember to assign the input to the appropriate busses. Push the **DATA ENTRY** knob to enter the assignment screen, and assign the return to the **L-R**, **1-2** or **3-4** busses.

2. If the optional IF-TD1000 Digital I/O Board has been installed, you will also have the option of selecting the input from the second **(B)** digital input. Again, if channels 7 and 8 are being used, Digital input **(C)** can also be used.

When you have a digital audio setup, it is most important that all equipment in the setup shares the same word clock. This is not at all related to time-code synchronization, but refers to a digital signal at the sampling frequency which marks the beginning and the end of digital data “words”. If this clock is not present, or is distorted, the resulting signals passed between different pieces of equipment will not be synchronized, with audible noise which may even be high-frequency noise which will damage amplifiers, speakers, etc.

The proper setup of a word clock in a digital audio system is therefore essential.

We refer to devices as word clock masters or slaves, depending on whether the word clock is originated by them, or received from another device.

NOTE

There must be one, and only one, word clock master in a system.

Furthermore, each device in a digital audio setup must be set up to work at the same sampling frequency. You cannot have a system in which a CD player (with a fixed sampling frequency of 44.1 kHz) can be used to provide digital audio signals to a recorder or mixer whose sampling frequency has been set to 48 kHz.

The standard stereo digital signals (AES/EBU and SPDIF) that are marked as “DIGITAL” from DAT recorders, CD players, etc. carry their own clocks as part of the signal. Most “domestic” CD players and DAT recorders will expect to be the word clock master when playing back, and (in the case of a DAT recorder) when recording, will become a word clock slave.

Professional equipment (DAT recorders, CD players, digital multitrack and hard disk recorders, and digital mixers such as the TM-D1000) can usually be configured to act as either a word clock master or slave.

6.1 Setting up the TM-D1000 as a word clock master

The TM-D1000 can be configured as a word clock master at either 44.1 kHz or 48 kHz.

NOTE

If the TM-D1000 is configured as a word clock master, you cannot use any varispeed facilities on any digitally connected devices (multi-track systems, CD players or DAT recorders).

- 1** Press and hold down the **SHIFT** key and press the **OPTION** key.
- 2** Turn the **DATA ENTRY** knob until the bottom line of the display shows **System** and press **ENTER**.
- 3** Turn the **DATA ENTRY** knob until the bottom line of the display shows **Master Clock Select**, and press **ENTER**:

```
Master Clock Select
                    Internal[44.1k]
```

- 4** Use the data entry knob to choose either **48 kHz** or **44.1 kHz** as the internal clock.
 - 5** Make sure that any other devices which can accept external word clocks are set to do so.
-

NOTE

*The TDIF-1 standard allows any DTRS or other TDIF-1-equipped device to take its clock through the TDIF-1 connector. However, we recommend that if you are using the TMD-1000 as a word clock master, that you connect the TM-D1000's **WORD SYNC OUT** to the **WORD SYNC IN** of the DTRS recorder (not DA-38 models), and use the **CLOCK** key of the DTRS recorder to select **WORD** as the clock source.*

6.2 Setting up the TM-D1000 as a word clock slave

The TM-D1000 can accept a word clock from any of the digital audio inputs (including the TDIF-1 input, or inputs, if the optional expansion board is fitted) or the **WORD SYNC IN** connector.

- 1** Press and hold down the **SHIFT** key and press the **OPTION** key.
- 2** Turn the **DATA ENTRY** knob until the bottom line of the display shows **System** and press **ENTER**.

6 - Word synchronization

- 3 Turn the DATA ENTRY knob until the bottom line of the display shows Master Clock Select, and press ENTER:

```
Master Clock Select
                    Word Sync In
```

- 4 Use the DATA ENTRY knob to choose the word clock source for the TM-D1000.

The external word clock source may be the TDIF-1 A source, the Digital In A, or the Word Sync In connection. If the optional expansion board is fitted, the additional digital inputs, except for digital input C, which contains a sampling frequency convertor, may also be selected as word clock sources.

Remember that all other digital audio devices in the system must also be set as slaves (except for the word clock master) and must be connected so that the word clock is transmitted to them.

NOTE

When using the TM-D1000 with a DTRS or other recorder in varispeed mode, the TM-D1000 must be configured as a word clock slave. We suggest that you use the Word Sync In as the clock source when using the TM-D1000 as a word clock slave with DTRS recorders, except with DA-38 recorders.

When using a DA-38 recorder in varispeed mode, the only available word clock source for the TM-D1000 is the TDIF-1 A source. This is because the DA-38 must act as a word clock master in varispeed mode, and has no word clock output jack.

A complete discussion of digital audio is outside the scope of this guide. You should consult one of the many excellent books on the subject if you are in any doubt.

This covers most common channel operations (equalization, routing, etc.), as well as the channel dynamic processors. It does not cover aux sends and effects, which are described in “Effects” on page 23.

Fader operations are similar to those on any analog console. The “nominal” level is marked by a 0 on the fader scale.

The panpot controls are also similar to those of an analog console.

7.1 Equalization

One of the most common tasks in recording is to adjust the equalization. To do this on the TM-D1000:

- 1 Press the **PARAM SEL** key until the **EQ** indicator lights green:

```
LOW-G MID-F MID-G HI-G  ▸
      CH SEL !
```

If you see the **CH SEL !** message, the TM-D1000 is reminding you to select a channel to which you will apply the equalization settings.

- 2 Press the **CH SEL** key of the channel to which you want to apply equalization.
- 3 Press the **EQ** key beside the **CH ASSIGN** keys (above channel 6) so that it is lit, to enable equalization on the selected channel.

Operating Tip

*It is very important to remember this step. If the **EQ** indicator is not lit when you are editing the **EQ** settings, there will be no audible effect. You can also use this key as an “A-B” selector to examine the effects of your equalization settings.*

- 4 Adjust the equalization gain and frequency in the three bands using the data editing knobs.

Use the **DATA ENTRY** knob to view and set the second set of parameters (notice that the **MID** gain and frequency are always visible and controlled by the center two data editing knobs).

Each frequency band has the same frequency range (from 41 Hz to 16.0 kHz) and the same cut and boost (± 15 dB in 0.5dB steps).

However, the **LOW** and **HI** bands are shelving filters, which work in a slightly different way to the peak/dip filter of the **MID** band.

7.2 Routing channels to busses

As explained earlier, there are four busses on the TM-D1000 whose function may be either aux or group busses, as explained in “Buss configurations” on page 11. To assign input channels to these busses when their function is set as group busses:

- 1 Press the **CH SEL** key of the channel you wish to assign to a buss.
- 2 Press any combination of the **1-2**, **3-4** or **L-R** **CH ASSIGN** keys (above input channels 3 through 5). When a **CH ASSIGN** key is lit, the channel whose **CH SEL** key is lit will be routed through that pair of busses.

WARNING

Do not route a tape return to the buss which feeds that track’s input. For instance, if you have selected the buss function with four output groups, tape tracks 1 and 2 will be fed by busses 1 and 2 and be returned to channels 9 and 10. If channels 9 and 10 are routed to busses 1 and 2, an undesirable loop will occur, resulting in feedback, and possible damage to your equipment.

If none of the four busses is set as a group bus, or if only one pair of group busses is set, either or both of the **1-2** and **3-4** keys will be disabled. The **L-R** key is always enabled.

To check the routing of input channels, simply press the **CH SEL** key of the channel you wish to check, and observe the **CH ASSIGN** keys.

Operating Tip

*Remember that there is no dedicated monitor or cue buss on the TM-D1000. If you want to monitor an input channel or a tape track in recording mode, you should assign it to the **L-R** buss, as explained earlier.*

7 - Channel operations

7.3 Using the DIRECT OUTs

The input channels can be sent to the TDIF-1 outputs on a one-to-one basis instead of being routed through the group busses. Use the **DIRECT OUT** key instead of the **CH ASSIGN** keys.

NOTE

The direct out facility is obviously useful only in the REC mode; in the MIX mode, there is little point in sending input channels to the TDIF-1 outputs.

Although you can assign an input channel to the group busses and to the direct outputs at the same time, this is not useful in many cases. We therefore suggest that you use either the direct out or the group busses, but not both.

The **DIRECT OUT** pick-off point can be set to be either pre-or post-fader.

- 1 Press and hold down the **SHIFT** key, and press the **OPTION** key.
- 2 Turn the **DATA ENTRY** knob until the bottom line of the display shows `Setup`, and press **ENTER**.
- 3 Turn the **DATA ENTRY** knob until the bottom line of the display shows `Direct out mode`, and press **ENTER**:

```
Direct out mode
                Post Input Fader?
```

- 4 Use the **DATA ENTRY** knob to choose between `Post Input Fader` (post-fader output) and `Pre EQ` (pre-fader and pre-EQ), and use **ENTER** to confirm your selection.

7.4 Assigning channel dynamics

The default effect pattern when recording is to assign four mono dynamic processors to input channels. To use these processors:

- 1 Press and hold down the **SHIFT** key, and press the **OPTION** key.

- 2 Turn the **DATA ENTRY** knob until the bottom line of the display shows `Effect`.

- 3 Press **ENTER**, and turn the **DATA ENTRY** knob until the bottom line shows `Ch Dynamics Insert`.

- 4 Press **ENTER**:

```
Ch Dynamics Insert
1234
```

Each number on the display represents one of the dynamic processors assigned to a channel. The channel number corresponds to the numbers printed under the display. In the above example, dynamic processors 1 through 4 are assigned to channels 1 through 4.

- 5 Turn the **DATA ENTRY** knob to move the cursor, and push it to toggle the dynamic processor assignment on or off for the channel whose number is under the cursor.

- 6 Turn the **DATA ENTRY** knob to select an available dynamic processor.

This does not toggle the processor on or off—just the assignment of the processor to the channel.

- 7 To set the dynamic processor parameters, press the **CH SEL** key for the channel whose processor you want to edit.

- 8 Press the **PARAM SEL** key until the **EFFECT/DYNAMICS** indicator lights green.

```
3-05 Light Gate
In: 95 Eff: On [Out: 0]
```

- 9 Use the **DATA ENTRY** knob to switch the display of the dynamic processor parameters, and use the data editing knobs to adjust the following parameters:

In	Input level
Eff	On or off. When on, the overall output level can be cut by 40 dB or boosted by 22 dB.
Thshd	The threshold level at which the processor will start to operate.
Att-T	The attack time of the processor
Rel-T	The release time of the processor
Ratio	Adjustable from 1:64 (full compression) to 64:1 (gating)

7.5 External insert points

The TM-D1000 is capable of using external inserts on channels 1 through 4, as well as using its internal dynamic processors. Use standard ‘Y’ cables such as TASCAM PW-4Y or PW-2Y cables to connect an external processor.

The tip of the π -inch TRS jack plug is the “send” of the TM-D1000 to the external processor, and the ring is the “return”. The sleeve is used as a common ground.

7.6 Linking channels for simultaneous parameter adjustment

You may find it useful to link adjacent channels so that changes made to the parameters on one channel also affect the adjacent channel.

Odd-numbered channels may be linked in this way with the even-numbered channel immediately following (e.g. channel 3 may be linked with channel 4, but not with channel 2 or with channel 5).

Channels may be linked if either of them is assigned to use an in-line dynamic effects processor (see “Assigning channel dynamics” on page 19). In this instance, they will share a linked two-channel dynamic effect processor (changes made to one channel’s processor will affect the other channels’s processor).

- 1 Press and hold down the CH SEL key of one of the channels to be linked.**
- 2 Press the CH SEL key of the other channel.**

To un-link the channels, repeat the process.

When you link channels, the following parameters will be applied to both channels simultaneously:

- Fader levels (moving one fader will have the effect of moving both faders simultaneously, even though the second fader does not physically move).
- Channel assignment (see “Routing channels to buses” on page 18).
- Equalization parameters and the EQ switch (see “Channel operations” on page 18)
- Channel muting
- Aux send levels (see “Setting aux send levels” on page 24)

8 - Monitoring, etc.

The TM-D1000 allows you to connect an amplifier/speaker monitoring system to the **MONITOR OUT** connectors. The level of the signal transmitted from there is controlled by the **LEVEL** control.

There is also a **PHONES** jack, into which you can plug standard headphones. The level here is independently controllable with the **PHONES LEVEL** control.

WARNING

*Do not connect a pair of monaural headphones to the stereo **PHONES** jack with a monaural jack plug. This can damage the TM-D1000 headphone amplifier.*

8.1 Choosing the monitoring source

Use the **MONITOR SELECT** switches to select the monitor source (the bottom **MONO** switch is not a source selection switch, but switches the stereo monitored busses to a mono mix).

As explained earlier, when recording, you will probably want to listen to the L-R mix, as this is the mix to which all tracks can be assigned safely. However, you can also use the **1-2** and **3-4 SELECT** switches to check the group and aux outputs, as well as the **EXT** switch to check the input at the **EXT IN** jacks (see 8.1.1, "EXT IN" below).

NOTE

Signals corresponding to the analog nominal level will be shown on the meters as -16 dB.

You can select more than one monitor source at a time (more than one of these switches can be pressed simultaneously).

NOTE

*When the **EXT IN** switch is pressed, even if digital signal **SELECT** switches are also pressed, the meters will be in "analog" mode, i.e. any peak hold or release time settings (see 14.2, "Meter settings") will not be effective.*

The **MONO** switch allows you to check the mono mix of any of these stereo pairs. However, you should note that the meters will still continue to meter the two stereo signals individually, rather than the summed stereo pair.

WARNING

As mentioned earlier, you should not assign the return from any recorded tracks to a pair of groups feeding those tracks, otherwise you will create a feedback loop.

8.1.1 EXT IN

The **EXT IN** switch is a little different from the other switches provided to select the monitor source.

The **L-R**, **1-2**, and **3-4** show the digital signal levels on the meter, the **EXT IN** switch shows the analog levels received at the **EXT INPUT** jacks.

The options which affect the meter ballistics (see 14.2, "Meter settings") only apply to the digital monitor selections, not to the analog **EXT IN** metering.

8.2 Soloing

The TM-D1000 provides you with three solo modes: a pre-fade listen mode (PFL), an after (post)-fade listen (AFL) and an in-place solo mode (IPS).

The last two modes are mono modes (i.e. the pan or balance controls will have no effect on the final solo mix).

The solo mode is activated by pressing the **SOLO** key (above group **3** and **4** faders). Depending on the solo mode, this key will either light (IPS) or flash (AFL or PFL) red. The current solo mode is also shown in the display for about a second after the solo mode is enabled.

The channel **MUTE** keys change function and become solo keys when the solo mode is activated.

In addition to the "primary" solo mode, there is also a "secondary" solo mode, which is activated when the **SHIFT** key is pressed and held down and the **SOLO** key is pressed. The assignment of primary and secondary solo modes is explained below.

NOTE

One big difference between the AFL and the IPS modes is that when IPS is activated, unsoloed channels will be cut from the L-R

mix as well as the monitor mix. If you are working in a sound reinforcement or mixdown application, you should take care not to use the in-place solo mode, as this will destroy the final mix.

To select the solo mode:

- 1** Press and hold down the **SHIFT** key and press the **OPTION** key.
- 2** Turn the **DATA ENTRY** knob until the bottom line of the display shows **Setup**.
- 3** Press **ENTER** and turn the **DATA ENTRY** knob until the bottom line of the display shows **SOLO Mode**.
- 4** Press **ENTER**, and turn the **DATA ENTRY** knob to choose between the following primary solo modes (the secondary solo mode is shown in parentheses):
 - In-Place SOLO (PFL)
 - In-Place SOLO (AFL)
 - PFL (In-Place Solo)
 - AFL (In-Place SOLO)

9 - Effects

The TM-D1000 includes high-quality digital effects. There are three types of processor, and these can be patterned together in various ways, depending on the current mode and buss function selected.

The processor types are:

- 1 **Stereo effector**—provides dynamic processor, delay, chorus, pitch shifter, flanger, phaser, de-esser and exciter facilities
- 2 **Stereo effector**—provides the facilities of type 1, as well as reverberation and gated reverb
- 3 **Mono dynamic processor**—may be used for channel compansion/gating, etc.

The patterns are:

<p>Ch Dynamics 1</p>		<p>Up to four mono dynamic processors may be inserted into the channel signal path.</p>
<p>L-R: Dynamics Aux1-2: Effect 2</p>		<p>A stereo processor is inserted into the L-R signal path, and a stereo effector is available for other purposes, with Aux busses 1 and 2 acting as the sends.</p>
<p>Aux1-2: Eff [Cascade1-2] 3</p>		<p>The Aux 1 and 2 busses are used as effect sends to a cascaded pair of stereo effectors.</p>
<p>Aux1-2: Eff [Cascade2-1] 4</p>		<p>The Aux 1 and 2 busses are used as effect sends to a cascaded pair of stereo effectors, but the order of the effectors is reversed relative to the above setting.</p>
<p>Aux1-2: Eff [Para] 5</p>		<p>The Aux 1 and 2 busses are used as effect sends to a pair of stereo effectors which are in parallel with each other.</p>
<p>Aux1-2/3-4: Effect 6</p>		<p>The Aux 1 and 2 busses are used as effect sends to one stereo effector, and Aux 3 and 4 are used as effect sends to the second effector.</p>

Naturally, if the buss function that you have selected does not include any aux busses, but the aux/group busses are assigned as group busses, you cannot use

the aux functions. See the table below for details of how the buss functions and effect patterns work together (Y means that the effect pattern can be used

with the buss function, and N means that the effect pattern cannot be used with the buss function):

Buss function	Effect pattern (numbers from above table)					
	1	2	3	4	5	6
ST+4GrF	Y	N	N	N	N	N
ST+4Aux[1-2ST]	Y	Y	Y	Y	Y	Y
ST+2GrF+2Aux	Y	Y	Y	Y	Y	N
ST+4Aux[Mono]	Y	Y	Y	Y	Y	Y

9.1 Selecting effect patterns

- 1 Press and hold down the **SHIFT** key and press the **OPTION** key to enter the `Option` screen.
- 2 Turn the **DATA ENTRY** knob until the bottom line shows `Effect`, and then press **ENTER**.
- 3 Turn the **DATA ENTRY** knob until the bottom line shows `Effect Pattern`, and press **ENTER**:

```
Effect Pattern
L-R: Dynmcs Aux1-2: Effct
```

- 4 Select the appropriate effect pattern by turning the **DATA ENTRY** knob, and press **ENTER**.

Remember that not all options may be available, depending on the buss function that is currently selected.

9.2 External effects

As well as being routed to the internal effects, the aux busses can also be routed to external devices.

For analog devices, the **GROUP OUTPUTS/AUX SENDS** should be used. If the external effect's returns are routed through input channels 1–8, equalization, etc. may be used on these signals.

For digital devices, follow the procedure described in “Connecting a 2-track recorder” on page 14 to assign the aux busses to the digital outputs. The digital returns are assigned as described in “Using digital effect returns” on page 15.

9.3 Setting aux send levels

Follow the procedure below to send channel signals to the AUX busses:

- 1 Press the **PARAM SEL** key until the **AUX** indicator above it lights in green.

```
1      2      3      4
CH SEL !
```

- 2 Select the channel to be edited by pressing the **CH SEL** key (in the example below, the effect pattern with four separate aux sends has been chosen).

```
1      2      3      4
10     0      0      0
```

- 3 Use the four data editing knobs under the display to change the value of the aux sends for the selected channel.
- 4 View and change the assignments of the aux sends as pre- and post-fader sends by turning the **DATA ENTRY** knob clockwise:

```
1      2      3      4
Pre   Pre   Post  Post
```

- 5 Use the data editing knobs under the display to change these values.
- 6 Continue selecting channels with the **CH SEL** keys until you have set all the aux levels.

Operating Tip

To change all the aux sends from pre-fader to post-fader, go into the `Option Setup` sub-menu and select the `All Ch Aux Pre/Post` sub-menu, and then select pre-fader or post-fader for the aux sends of all channels.

9.4 Selecting the effect to use

When you have set up the routing for the effects, you can select the effect units to use.

NOTE

9 - Effects

In some effect patterns, the effect type is fixed as a dynamic processor and cannot be changed.

- 1 Press the **PARAM SEL** key until the **EFFECT/DYNAMICS** indicator lights green.
- 2 Push the **DATA ENTRY** knob so that you select the correct effect screen (1 or 2). The effect screen number is shown at the top left of the display:

```
2-01 Concert Hall  ▸  
-REVERB-
```

- 3 Press the **ESCAPE/RECALL** key.
The display will start to flash.
- 4 Turn the **DATA ENTRY** knob to select the effect to be used in this position.
- 5 Press **ENTER** to recall the effect.
- 6 Push the **DATA ENTRY** knob to view the second effect position into which to select an effect.

9.5 Editing the parameters of the effect

- 1 Use the data editing knobs under the screen to change the parameters above those knobs.
Note that as the knobs are turned, the abbreviated parameter names are expanded to full names (for instance, **FB-LV** will be expanded to **Feedback Level**).
- 2 Turn the **DATA ENTRY** knob to view and set more parameters.

- 3 To select the second effect, press the **DATA ENTRY** knob when the top right of the screen shows (the down arrow symbol).

Pressing the **DATA ENTRY** knob once more will take you back to the first effect unit.

9.6 Storing an effect with your own parameters

- 1 Press and hold down the **SHIFT** key and press the **ESCAPE (STORE)** key.

```
Parameters STORE ?  
U2-01 Concert Hall
```

- 2 Turn the **DATA ENTRY** knob while pushing it and holding it down to move the cursor around the bottom line of the display.
- 3 Turn the **DATA ENTRY** knob (unpushed) to edit the title character at the cursor position.

```
Parameters STORE ?  
U2-01 Albert Hall
```

Operating Tip

Use the **SHIFT** key to change between uppercase and lowercase letters when entering the title of the effect.

- 4 Move the cursor to the left of the screen (push and turn the **DATA ENTRY** knob) to highlight the effect memory into which you will store the new effect settings.
- 5 Press **ENTER** when you have finished entering the name. The parameters will be stored into the memory that you have selected.

The settings of most of the parameters can be stored as a snapshot, which may be recalled manually, or under MIDI Program Change control. Snapshots 001 through 128 are available for storing settings.

Snapshot 000 is a special case, where all “invisible” controls (i.e. EQ, aux sends, etc. not faders or pan-pots) are reset to “flat” positions.

When a snapshot is recalled, the TM-D1000 will fade from its prior values into the new snapshot values over a preset time, set when the snapshot is stored.

NOTE

Snapshots include the current mode (REC or MIX) setting. If the TM-D1000 is currently in one mode, and a snapshot is recalled (either manually or under MIDI control) which was stored in another mode, the mixer will change modes. This will take some time, and will also produce some noise at the output jacks. It is therefore strongly recommended that you do not recall snapshots which have been stored in a mode other than the current one.

10.1 Storing a snapshot

- 1 Make sure that the EFFECT/DYNAMICS indicator is not lit green.
- 2 Press the SHIFT and ESCAPE/RECALL [STORE] keys until the screen is similar to the following:

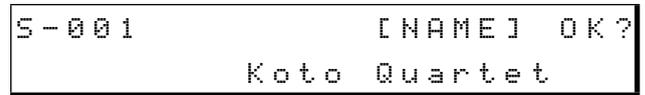


- 3 Turn the DATA ENTRY knob to select an area to store the snapshot (the TM-D1000 will always try to find an unused area for you if possible), and press ENTER:



Note that although the TM-D1000 always tries to use the first available unused area, you can use the DATA ENTRY knob to change the memory area to one which has previously used (overwriting the data already there), or to another area following the first unused area.

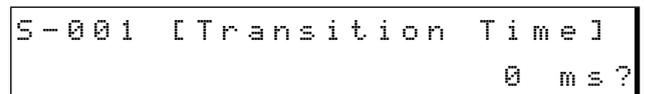
- 4 Turn the DATA ENTRY knob to change the character above the underline cursor, and push and turn the knob to move the cursor. Repeat until you have entered the name:



Operating Tip

You can use the **SHIFT** key to toggle between uppercase and lowercase letters when entering the characters for the name.

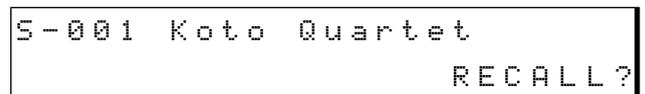
- 5 Press ENTER to store the name:



- 6 Adjust the time over which the TM-D1000 will fade into this snapshot when it is recalled, and press ENTER to store the snapshot.

10.2 Recalling snapshots

- 1 Make sure the EFFECT/DYNAMICS indicator is not lit green.
- 2 Press the ESCAPE/RECALL key until the current snapshot name and number is shown on the top of the display, and the word RECALL is shown on the bottom:



- 3 Turn the DATA ENTRY knob until the snapshot you want to recall is shown, and press ENTER.

Operating Tip

You can also use the CH SEL keys as number keys. The CH SEL keys of channels 1 through 9 enter their respective numerals, and the CH SEL key of channel 10 acts as a 0 key.

The TM-D1000 fader levels will change to the new settings stored in the recalled snapshot, over the period of time as set in “Snapshots” on page 26.

10 - Snapshots

10.3 Renaming snapshots

- 1 Press the **ESCAPE/RECALL** key until the current snapshot name and number is shown on the top of the display, and the word **RECALL?** is shown on the bottom.
 - 2 Push the **DATA ENTRY** knob so that the bottom line reads **RENAME** :
- ```
S-001 Koto Quartet
RENAME?
```
- 3 Turn the **DATA ENTRY** knob until the snapshot that you want to rename is shown on the top line of the display.
  - 4 Confirm this with the **ENTER** key.
  - 5 Rename the snapshot, following the procedures described above, and press **ENTER** when you are finished.

## 10.4 “Nulling” the faders and panpots

The term “nulling” the faders and panpots refers to the way in which the faders and panpots are adjusted so that their physical positions correspond to the positions which have been saved in a snapshot memory or adjusted through external MIDI control.

When a snapshot memory is recalled, it is almost certain that the physical control settings will differ, and to make adjustments using the snapshot as a starting point, it may be necessary to adjust the faders and panpots accordingly.

### Operating Tip

*When the physical controls are used to change the settings from those memorized in the recalled snapshot, an asterisk appears by the number of the snapshot on the display:*

```
SNAPSHOT*012
Brandenburg 5
```

To return the controls to the snapshot values:

- 1 Press and hold down the **SHIFT** key, and press the **ENTER** key:

The numbers printed around the display (white on black) show which controls and channels correspond to the on-screen symbols.

The top line of the display shows the positions of the panpots of the sixteen input channels, as well as the positions of the level controls of the **EFFECT RETURN** and **AUX RETURN** controls.

The bottom line of the display shows the position of the sixteen input channel faders, as well as the four **GROUP/AUX** faders and the **L-R** stereo faders.

- 2 The symbols indicate the direction in which the fader should be moved ( up or down) or the rotary control should be turned ( clockwise or counterclockwise). When the physical control matches the electronic “virtual” control, the symbol will change to a symbol.
- 3 If you want to see numerical values for the channel whose controls you are adjusting, press the **CH SEL** key for that channel:

```
Ch: 3 Pan L40 [L50]
Fader 28 [31]
```

The physical control values are given in square brackets. The pan controls can be set from **L50** to **R50**. The center position is indicated by **CTR**. Fader values may be set from **0** to **100**.

To exit the “nulling” mode, enter any of the snapshot or effect recall or store screens, the location memory screens, or any of the option menus.

## 10.5 DIRECT RECALL

Direct recall allows you to recall the first 16 user snapshots, using the **ESCAPE/RECALL** key with the **CH SEL** keys. The **CH SEL** key of channel 1 with the **ESCAPE/RECALL** key recalls snapshot 001, etc. The first (initial setting) snapshot 000 cannot be recalled in this way.

- 1 Press and hold down the **ESCAPE/RECALL** key and press the **CH SEL** key whose channel number corresponds to the snapshot number that you want to recall.

Only the first 16 user snapshots can be recalled in this way.

-----  
**NOTE**  
 -----

*If the Direct Recall Defeat feature is set to On (see below), this feature is not available.*

-----

### 10.5.1 Direct recall defeat

To avoid accidental recall of snapshots, the TM-D1000 provides a “safety” (defeat) mode.

- 1 Press and hold down the **SHIFT** key and press the **OPTION** key to enter the **Option** screen.
- 2 Turn the **DATA ENTRY** knob until the bottom line shows **System**, and then press **ENTER**.
- 3 Turn the **DATA ENTRY** knob until the bottom line shows **Direct Recall Defeat**, and press **ENTER**:

|                                                                |
|----------------------------------------------------------------|
| Direct Recall Defeat<br><span style="float: right;">Yes</span> |
|----------------------------------------------------------------|

- 4 Select **Yes** (direct recall is enabled) or **No** (direct recall is disabled) by turning the **DATA ENTRY** knob, and press **ENTER**.

# 11 - MIDI Machine control

The TM-D1000 can be used together with any recorder or other device that supports MIDI Machine Control commands, such as the TASCAM DA-88 with the optional SY-88 synchronizer board, the TASCAM DA-38 with the optional MMC-38, or the TASCAM DA-98, as well as the TASCAM MMR-8 and MMR-16 disk recorders.

-----  
**NOTE**

*MIDI Machine Control must be implemented on your external device in order for the TMD-1000 to control it. Not all MMC functions may be available with all units.*

-----

---

## 11.1 Connections

---

To use the TM-D1000 with MIDI Machine Control, you have the choice of a closed-loop (where the controlled device is constantly informing the TM-D1000 of its status) or an open-loop system, which may be regarded as a “command and forget” system.

You should consult the documentation of your device to discover which method is more appropriate for your system.

The connections for these are made in the following way:

A closed-loop system should be connected with the TM-D1000's **MIDI OUT** connected to the **MIDI IN** of the remote device, and the remote device's **MIDI OUT** connected to the TM-D1000's **MIDI IN**.

An open-loop system needs the TM-D1000's **MIDI OUT** connected to the remote device's **MIDI IN**.

To choose the software setting appropriate to your configuration:

- 1 Press and hold down the SHIFT key and press the OPTION key.**
- 2 Turn the DATA ENTRY knob until the bottom line of the display shows MIDI, and then press ENTER:**
- 3 Turn the DATA ENTRY knob until the bottom line shows MMC Communication, and press ENTER:**

```
MMC Communication
 Closed-loop
```

- 4 Turn the DATA ENTRY knob to choose between Closed-loop and Open-loop, and press ENTER to confirm your choice.**

If you select the closed-loop option, and the MIDI setup is not correctly connected, a message will appear on the display to warn you of this.

### 11.1.1 Setting up the device IDs

Consult the documentation of the other unit for details of how to set it up for use with MIDI Machine Control, including the setting up of the MMC Device ID.

To set up the TM-D1000:

- 1 Press and hold down the SHIFT key, and press the OPTION key.**
- 2 Turn the DATA ENTRY knob until the bottom line of the display shows MIDI, and then press the ENTER key.**
- 3 Turn the DATA ENTRY knob until the bottom line of the display shows MMC Device ID, and press ENTER:**

```
MMC Device ID
 1
```

- 4 Use the DATA ENTRY knob to set the MMC Device ID to a value between 1 and 127, and use ENTER to confirm your selection.**

### 11.1.2 Transport control

Once the TMD-1000 and the other unit are set up, pressing and holding the **SHIFT** key will enable the shifted (blue) functions of the keys immediately below the **TRIM** controls (**CH ASSIGN**, **EQ** and **DIRECT OUT**).

These keys work in much the same way as the standard transport control keys on TASCAM equipment. If you are in any doubt as to how these work, consult the TM-D1000 Reference manual.

-----  
**Operating Tip**

*You can “lock” the SHIFT key into transport control mode (similar to a SHIFT LOCK or CAPS LOCK key on a keyboard) by pressing it twice in quick succession (similar to a mouse double-click). The LOCK indicator by the SHIFT key lights to remind you of the current status.*

When the indicator is lit, the transport keys (the **CH ASSIGN 1-2**, **3-4** and **L-R** keys, the **EQ** key and the **DIRECT OUT** key) take on the assignments printed in blue below these keys, and there is no need to press the **SHIFT** key to use them as transport keys.

However, the **CH SEL (MMC LOC)** and **MUTE (REC FUNCTION)** keys do not use the shift lock mode. Regardless of the status of the **MMC LOCK** indicator, you must always hold down the **SHIFT** key when you need to use these keys in their shifted MMC function.

“Double-click” the **SHIFT** key once more to turn off the “shift lock” made earlier.

## 11.2 Arming tracks

The **MUTE** keys serve another “shifted” function—as track arming keys for the remote devices connected via MIDI. This function works with the **SHIFT** key—the “double-click” mode is not effective here.

When the appropriate tracks are armed, and the **SHIFT** key is held down, these indicators will flash. When the appropriate tracks are actually recording and the **SHIFT** key is held down, these keys will light steadily.

## 11.3 Locations

Up to 16 location memories can be stored in the TM-D1000. The values for these location memories are obtained from the MIDI Timecode (MTC) received at the **MIDI IN** connector.

These locations may then be used for location of a device controlled by the TM-D1000 using MMC (as described in the previous section).

## 11.4 Selecting the MTC type

MTC can be received in a variety of types. Select the type used by the TM-D1000 in the following way:

- 1** Press and hold down the **SHIFT** key, and press the **OPTION** key.
- 2** Turn the **DATA ENTRY** knob until the bottom line of the display shows **MIDI**, and press **ENTER**.

- 3** Turn the **DATA ENTRY** knob until the bottom line of the display shows **MTC Type**, and press **ENTER**:

```
MTC Type
29.97F
```

- 4** Use the **DATA ENTRY** knob to select a time-code type: **30DF** (equivalent to SMPTE, non drop-frame), **30NDF** (equivalent to 30fps drop-frame, used with color NTSC video), **25F** (used with EBU video) and **24F** (film). Confirm your choice with the **ENTER** key.

## 11.5 Capturing a location on the fly

The TM-D1000 can store up to 16 memory locations for recall. These 16 locations are controlled by the **CH SEL** keys of the 16 input channels.

- 1** While the unit is playing or recording, press the **MEMO** key. The timecode received from the device will be shown on the bottom line of the display. If the timecode is being received, the display will act as a timecode monitor, showing the incoming timecode.

### Operating Tip

Remember that some units are capable of transmitting MTC while fast winding, or even in stop or pause mode.

- 2** Press the **CH SEL** key of the channel (location memory) in which you want to store the timecode value:

```
MEMO Entry 30DF
00h21m12s21f
```

- 3** The timecode value will “freeze” and the display will blink for about a second to show that the memory is being stored.

### NOTE

If you require location to sample accuracy, you will have to rely on the devices's own location facilities, if it provides them.

# 11 - MIDI Machine control

## 11.6 Locating to a memory position

Locating to a memory position is done by holding down the **SHIFT** key and pressing the **CH SEL** key of the channel (location memory) to which you will be locating.

## 11.7 Editing a memory location

- 1 Press the **MEMO** key so that the display shows **MEMO Edit** on the top line.

-----  
**NOTE**

*If MIDI Timecode is currently being received at the **MIDI IN** jack, you must press the **MEMO** key twice to obtain the **MEMO Edit** message. If MIDI Timecode is not being received, you only need to press the **MEMO** key once.*

-----

- 2 Press the **CH SEL** key of the memory location you want to edit.

A memory location which has not been used (no value has been captured for it) will show `00h00m00s00f` as the location value.

- 3 Push and turn the **DATA ENTRY** knob to move the cursor.
- 4 Turn the **DATA ENTRY** knob to set the values of the field highlighted by the cursor.

-----  
**Operating Tip**

*You can also use the **CH SEL** keys here as number keys. The **CH SEL** keys of channels 1 through 9 enter their respective numerals, and the **CH SEL** key of channel 10 acts as a 0 key.*

-----

- 5 After checking that the new values are correct, press the **ENTER** key to confirm your setting.

Snapshot changes may be carried out from a MIDI controller as Program Change messages.

In addition, the two effect units and the four channel dynamic processor components of the TM-D1000 may also be set up to respond to Program Change messages, each on their own channel, if desired.

## 12.1 Setting Program Change receive channels

- 1 Press and hold down the **SHIFT** key and press the **OPTION** key.
- 2 Turn the **DATA ENTRY** knob until the bottom line of the display shows **MIDI Ch Select**, and press **ENTER**:

```
MIDI Ch Select
Mixer Ch: 1?
```

- 3 Set the value to defeat, or a MIDI channel from 1 through 16.
- 4 Push the **DATA ENTRY** knob to cycle through: **Mixer**, **Effect1**, **Effect2**, **Ch Dynamics1**, **Ch Dynamics2**, **Ch Dynamics3** and **Ch Dynamics4**.

For components other than the **Mixer**, the MIDI channel is used for Control Change and Program Change messages. The channels set for the **Mixer** component refer only to Program Change messages, not to Control Change messages.

Note that there is no **Omni** setting—a component may respond to messages on one channel only or none at all.

## 12.2 Enabling and disabling parameter changes

Parameter changes of the TM-D1000 can be transmitted over MIDI from a sequencer or sequencing program, and used to control the settings. These parameter changes may be disabled when either the **REC** and/or the **MIX** user mode is selected:

- 1 Press and hold down the **ENTER** key, and press the **OPTION** key.

- 2 Turn the **DATA ENTRY** knob until the bottom line of the display shows **MIDI**, and press **ENTER**.
- 3 Turn the **DATA ENTRY** knob until the bottom line of the display shows **Control Change Defeat**, and press **ENTER**:

```
Control Change Defeat
REC Mode: Yes?
```

- 4 Use the **DATA ENTRY** knob to change between **Yes** and **No**. Press **ENTER** to confirm your selection.

Remember that a setting of **Yes** means that the Control Change is disabled for this mode.

## 12.3 Recording parameter changes

Parameter changes may be recorded in real time from mix moves on the TM-D1000, or produced from any other MIDI controller, and edited before being replayed by a sequencer.

The MIDI channels used for Control Change messages are different from those used for Program Change messages. Input channels 1 through 16 use MIDI channels 1 through 16 respectively. In addition, channels 9 through 16 “double up” in the following way:

| MIDI channel | TM-D1000 component |
|--------------|--------------------|
| 9            | SOLO mode control  |
| 10           | Effect return      |
| 11           | Aux return         |
| 12           | GRP/AUX1 fader     |
| 13           | GRP/AUX2 fader     |
| 14           | GRP/AUX3 fader     |
| 15           | GRP/AUX4 fader     |
| 16           | L-R fader          |

A brief summary of the controller numbers assigned to each channel is given here (more details are available in the Reference Manual):

| MIDI controller number | TM-D1000 parameter                   | Type       |
|------------------------|--------------------------------------|------------|
| 7                      | Input channel fader                  | Continuous |
| 9                      | L-R/Grp-AUX fader <sup>a</sup>       | Continuous |
| 10                     | Pan                                  | Continuous |
| 11                     | Input channel mute                   | On/off     |
| 12                     | Effect/Aux return level <sup>b</sup> | Continuous |

## 12 - MIDI control of the TM-D1000

| MIDI controller number | TM-D1000 parameter                  | Type                    |
|------------------------|-------------------------------------|-------------------------|
| 13                     | Hi gain (EQ)                        | Continuous <sup>c</sup> |
| 14                     | Hi frequency (EQ)                   | Continuous <sup>d</sup> |
| 15                     | Mid gain (EQ)                       | Continuous <sup>c</sup> |
| 16                     | Mid frequency (EQ)                  | Continuous <sup>d</sup> |
| 17                     | Low gain (EQ)                       | Continuous <sup>c</sup> |
| 18                     | Low frequency (EQ)                  | Continuous <sup>d</sup> |
| 19                     | Channel Dynamics, Parameter 1       | Continuous <sup>e</sup> |
| 20                     | Channel Dynamics, Parameter 2       | Continuous <sup>e</sup> |
| 21                     | Channel Dynamics, Parameter 3       | Continuous <sup>e</sup> |
| 22                     | Channel Dynamics, Parameter 4       | Continuous <sup>e</sup> |
| 23                     | Effector 1/2, Parameter 1           | Continuous <sup>e</sup> |
| 24                     | Effector 1/2, Parameter 2           | Continuous <sup>e</sup> |
| 25                     | Effector 1/2, Parameter 3           | Continuous <sup>e</sup> |
| 26                     | Effector 1/2, Parameter 4           | Continuous <sup>e</sup> |
| 70                     | EQ switch                           | On/off                  |
| 71                     | Channel assign 1-2                  | On/off                  |
| 72                     | Channel assign 3-4                  | On/off                  |
| 73                     | Channel assign L-R                  | On/off                  |
| 74                     | DIRECT OUT                          | On/off                  |
| 75                     | Aux Pre/Post                        | On/off                  |
| 76                     | Eff/Aux return muting <sup>b</sup>  | On/off                  |
| 77                     | Solo mode (PFL) <sup>f</sup>        | On/off                  |
| 78                     | Solo mode (in-place) <sup>f</sup>   | On/off                  |
| 79                     | Solo mode (AFL) <sup>f</sup>        | On/off                  |
| 80                     | Channel Dynamics input level        | Continuous              |
| 81                     | Channel Dynamics on/off             | On/off                  |
| 82                     | Channel Dynamics output level       | Continuous              |
| 83                     | Effector 1/2 input level            | Continuous              |
| 84                     | Effector 1 on/off/Effector 2 Direct | On/off                  |
| 85                     | Effector 1/2 output level           | Continuous              |

| MIDI controller number | TM-D1000 parameter | Type       |
|------------------------|--------------------|------------|
| 87                     | Aux 1 pre/post     | On/off     |
| 88                     | Aux 2 pre/post     | On/off     |
| 89                     | Aux 3 pre/post     | On/off     |
| 90                     | Aux 4pre/post      | On/off     |
| 91                     | Aux 1 send         | Continuous |
| 92                     | Aux 2 send         | Continuous |
| 93                     | Aux 3 send         | Continuous |
| 94                     | Aux 4 send         | Continuous |

- a. MIDI channels 12 through 16 only
- b. MIDI channels 10 and 11 only
- c. 49 steps
- d. 69 steps
- e. 128 steps, uses LSB of controller message
- f. MIDI channel 9 only

Unless otherwise stated, the 127 values available to a MIDI controller are interpreted and converted into the 100 parameter value steps used by the TM-D1000.

---

### 12.4 System Exclusive parameters and data dumps

---

The TM-D1000 also provides you with data dump and loading facilities, so that snapshots, effect settings, etc. may be stored in a MIDI data file and uploaded to the mixer in a future session. Please consult the Reference Manual for details of how to perform these operations, and the options available to you.

A number of options are available for the TM-D1000, as described here.

### 13.1 RM-D1000 rack mounting kit

The RM-D1000 rack mounting kit allows the TM-D1000 to be mounted in 6U of rack space (in addition to space needed at the top for the connectors).

You should also ensure that the rack is well-ventilated, allowing air to circulate for cooling the heat sink of the TM-D1000.

- 1** The wristpad below the faders should be unscrewed before mounting the TM-D1000 in a rack.
- 2** Attach the two rack mounts to the TM-D1000 using the five screws (provided) on each mount.
- 3** Fit the TM-D1000 into the rack, allowing enough space at the top for cables to be fitted to the connectors.

### 13.2 IF-TD1000 Digital Input Kit

This kit provides two more sets of digital inputs (XLR and RCA), capable of receiving AES/EBU or SPDIF format, as well as another TDIF-1 connector, for another eight channels of DTRS-compatible audio.

#### WARNING

*This kit requires internal connections to the TM-D1000. For this reason, you should not install the kit yourself, but should refer installation to a qualified TASCAM distributor.*

The digital inputs are labeled **B** and **C**. Digital input B is available as an extra option in the following menus where input **A** is available:

- Setup ► Digital Input
- Setup ► Aux Rtn Input/  
Assign
- Setup ► Eff Return  
Input/Assign

Digital input C is treated differently, on account of the frequency conversion facility built into digital input **C**. An additional menu is available when the IF-TD1000 Digital I/O Board is fitted, which allows input channels 7 and 8 to be assigned to digital input **C** or to the analog inputs, for all menus using these inputs.

This sub-menu is available from the Setup options, and appears as follows:

```
Ch7-8 Route1 Target
 Digital In C?
```

Use the data entry knob to choose between Digital In C and Analog.

As well as the additional stereo digital inputs, the IF-TD1000 Digital I/O Board also provides another TDIF-1 connector (TDIF-1 B). This set of 8 channels is available for use by the input channels, as set in the following menus:

- Setup ► Ch1-8 Input
- Setup ► Ch9-16 Input
- System ► TDIF-1 A/B  
Word Length

The routing of group busses to the second TDIF-1 channel follows the pattern of the routing to the first channel (i.e. if groups 1 & 2 are routed to TDIF-1 A

## 13 - Options

channels 1 + 2 and 5 + 6, they will also be routed to the TDIF-1 B channels with the same numbers.

If input channels are routed using the DIRECT OUT function, and the IF-TD1000 Digital I/O board is fitted, the input channels will be output to the TDIF-1 B connector. It may also be selected to be output in parallel to both TDIF-1 connectors (A and B) by selecting input channels 1–8 as the source for TDIF-1 A.

---

### 13.3 FX-D1000 Effect Board

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The FX-D1000 Effect Board provides an additional set of effect processors, doubling the capacity of the TM-D1000's internal processor capability.

Effect patterns are still subject to the same restrictions as regards groups and aux busses (i.e. if there are no aux busses, no aux sends are possible).

However, the FX-D1000 Effect Board provides you with much more power and flexibility in the way that you use the internal effect system of the TM-D1000.

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#### **WARNING**

*This board requires internal connections to the TM-D1000. For this reason, you should not install the board yourself, but should refer installation to a qualified TASCAM distributor.*

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## 14 - Miscellaneous functions

*Have the battery replaced by your TASCAM distributor. Do not attempt to replace the battery by yourself.*

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You can also check the current battery level using the following procedure:

```
Option Monitor ► System ►
Battery Check
```

If the displayed value falls below 2.7 volts, it is time to consider replacing the battery.

We also, as noted above, suggest that you have the battery replaced every three years or so, in order to avoid possible damage caused to the TM-D1000 by battery leakage.