

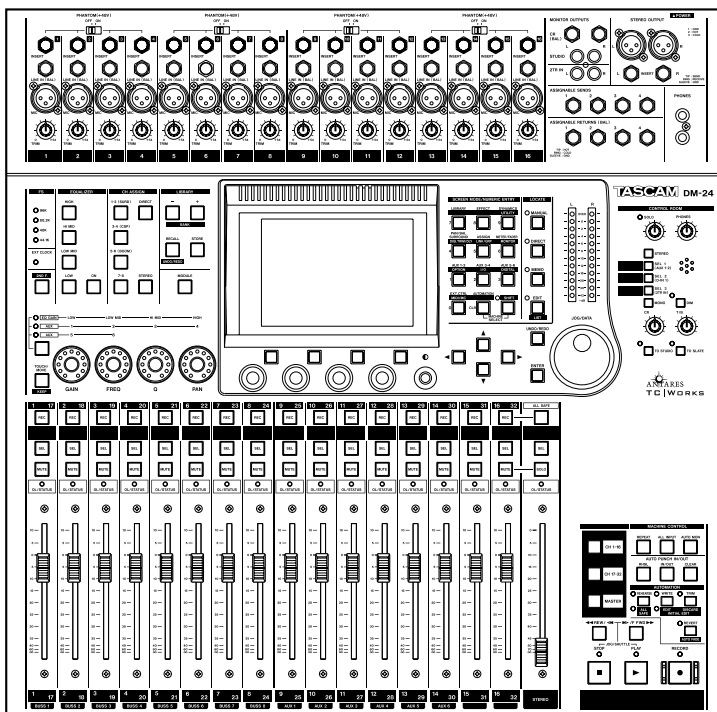
TASCAM

TEAC Professional Division

9101441500

DM-24

Digital Mixing Console



QUICK START GUIDE

DM-24 Quick Start Guide

This quick start guide is designed to help you with some of the common operations that you will need to perform with the DM-24.

Naturally, it cannot pretend to be a comprehensive guide to all the facilities provided on this console, but we hope that it will serve its purpose in getting you started with the DM-24 and give you some idea of the capabilities of the unit.

Before you get going

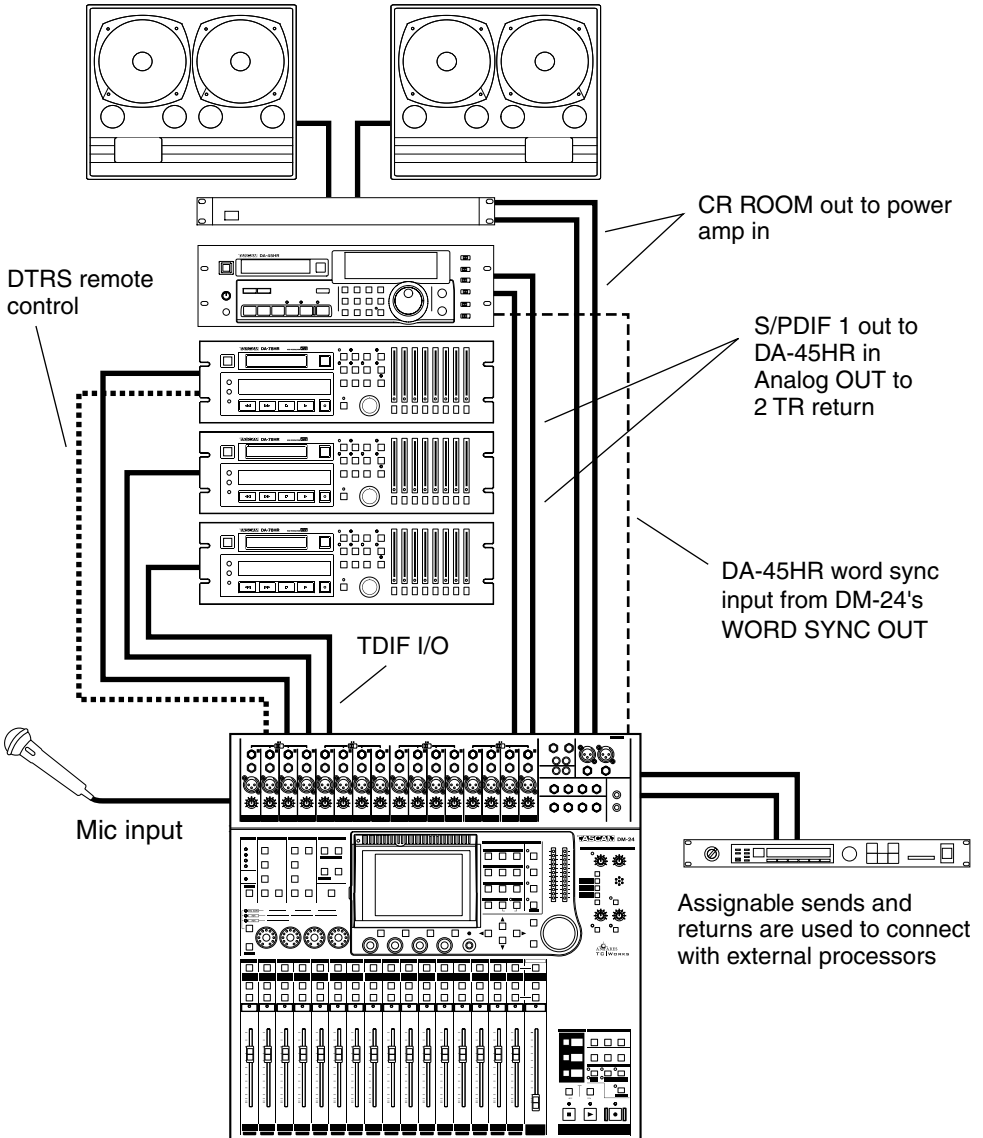
There are some common sense precautions which you should note before starting to work with the DM-24.

- Keep the DM-24 on a firm, level surface. Make sure there is enough space at the rear for cable connections, and for ventilation.
- Avoid very hot, very cold or very humid locations for the DM-24.
- Avoid eating or drinking over the DM-24—in common with all precision electronic equipment, the DM-24 does not work well with spilled liquid or crumbs inside the case!
- If possible, make the area where you work with the DM-24 into a smoke-free zone. Smoke and dust are enemies of precision electronic devices.
- When you turn on the DM-24, the faders move several times to calibrate themselves before returning to the position when the DM-24 was last turned off. This is perfectly normal, but you should make sure that there is nothing on the top surface of the DM-24 which will stop the faders moving, otherwise the calibration process may be inaccurate.
- When the DM-24 is in operation, do not cover the top surface, and make sure that the heat sink at the rear of the unit is clear.
- Always use recommended cables and connectors with the DM-24, especially when making digital audio connections.
- Always make connections to and from the DM-24 with the power turned off to all units. This avoids possible damage to components, as well as avoiding “thumps”, etc. through the monitoring system.
- If anything appears to be wrong with the DM-24:
 - If an error message appears, make a note of it, as well as what you were doing immediately prior to the problem occurring.
 - Read the manual. It may well contain something which is relevant to the problem you have encountered.
 - If you have Internet access, visit the TASCAM Web site for the latest product news, etc.
 - Do not attempt to repair the DM-24 yourself. Arrange for it to be examined and repaired by TASCAM-authorized service personnel.

DM-24 Quick Start Guide

Connections to the DM-24

There are many recording devices that one might connect to the DM-24. In this scenario we are using three DA-78HRs. Use this as a general guideline. You may not have the same equipment, but this should help to serve as an example.



DM-24 Quick Start Guide

Setting up the system

This system provides a full 24 tracks of 24-bit digital recording using three TASCAM DA-78HRs, and mastering to 24-bit DAT using the TASCAM DA-45HR.

Points to note with this setup:

- The DA-78HR will act as the word clock master for the system. The word clock signal is transmitted along the TDIF-1 connection to the DM-24. The DM-24 then transmits the word clock to the DA-45HR DAT recorder, using a dedicated cable, with the DA-45HR being set to accept the word clock through this connection. The **WORD SYNC** switch on the DM-24 should be in the left position (**OFF/THRU**).
- One cable carries eight channels of input and eight of output digital audio between the DM-24 and the DA-78HR DTRS recorder.

Most common functions of the DTRS recorder are controlled from the DM-24 through the **DTRS REMOTE CONTROL** cable. The third DA-78HR must be fitted with a terminator on its **REMOTE OUT** connector.

- The DM-24 contains two high-quality effect processors, but in this example, we are showing how to connect an external effects processor.

The DM-24 contains its own dynamic processors. However, external dynamic processors may be used with channel inserts or the assignable sends and returns.

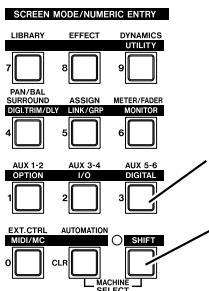
- The **CR** outputs are used for monitoring in the control room. We have not shown any separate studio monitoring here, but the **STUDIO** outputs are used to drive a studio monitoring system (a headphone splitter box, for example)..

Before switching on the DM-24, make sure that all connections have been made.

Follow the usual rule for switching on audio chains; from source to destination.

Word Sync

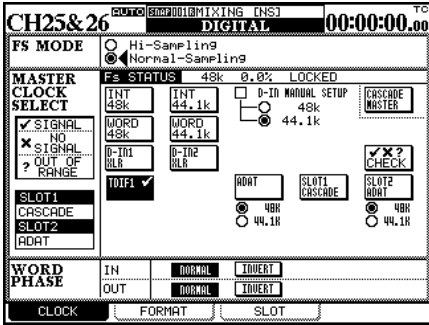
Then follow the steps below to set up the word sync clock on the system.



- ① Set the DA-78HR to use internal word sync.
- ② With the **SHIFT** indicator lit, press the **DIGITAL** key.

*The **SHIFT** key is a “smart” key. Press and release quickly it to latch it on or off, or press and hold it for longer to turn it on only for as long as it is held down.*

DM-24 Quick Start Guide



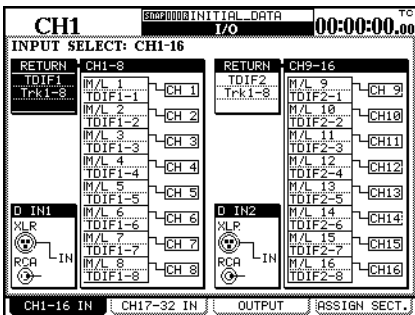
- 3 If the screen at left does not appear, press soft key 1 (the four soft keys are located immediately below the screen).

Move the cursor to the TDIF1 box and press **ENTER**.

- 4 Set up the DA-45HR to accept external word clock from the digital input.

Mic/line inputs

Select mic/line inputs as the signal sources for channels 1 through 16.



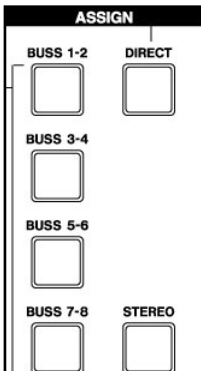
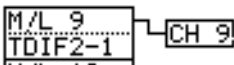
- 1 With the **SHIFT** indicator lit, press the **I/O** key and then soft key 1.

- 2 Ensure that the “patchcords” linking the signal sources to the channels, all connect the appropriate M/L (mic/line) boxes with the channels, as shown here.

If they do not (they are linking the lower alternative source (return) to the channel):

Use the cursor keys to highlight the on-screen patchcord.

Use the dial to “repatch” the channel input. Press **ENTER**.

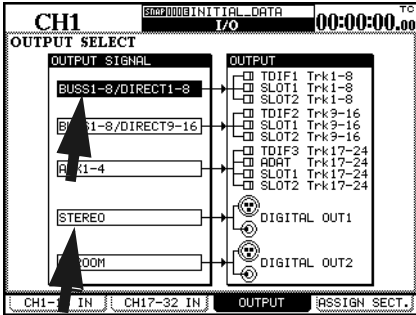


- 3 Press the CH 1-16 LAYER STATUS key followed by the SELECT key for CH 1. Using the assign keys to the left of the display assign CH 1 to DIRECT out. Make sure that none of the other assignment keys are lit. Make sure channels 2-16 are assigned the same way.

DM-24 Quick Start Guide

Outputs

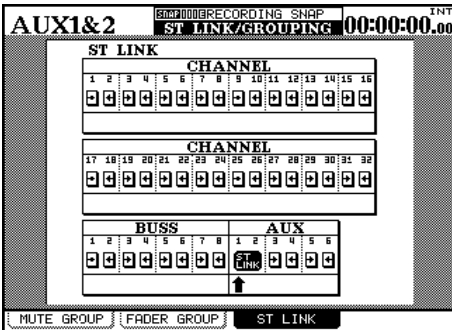
We also need to set up the outputs properly for our needs. We need to make sure Direct outs 1-8 are going to TDIF 1, Direct outs 9-16 are going to TDIF 2 and Buss 1-8 is going to TDIF 3. While we're here we'll also assign the Stereo buss to Digital Out 1.



- 1 With the SHIFT key indicator lit, press the I/O key followed by soft key #3. Use the cursor keys to highlight the first Output Signal field. Use the data dial to scroll to BUSS 1-8/DIRECT 1-8 and press ENTER. Use the same technic to change the next field to BUSS 1-8/DIRECT 9-16. The next field should be BUSS 1-8/DIRECT 1-8. Set the fourth field to STEREO.

Tape returns

When recording on tracks 1-16 AUX 1-2 are used as the tape return path. That being the case there are a few settings you will need to be aware of. This section will cover those settings. Tape returns for tracks 17-24 are different and will be discussed on another page.

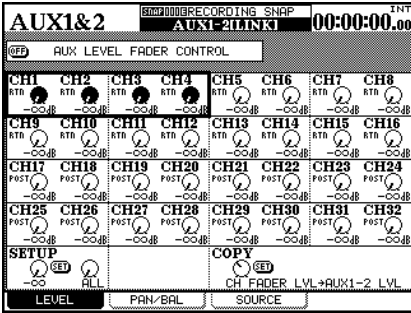


- 1 With the SHIFT indicator lit, press the LINK/GRP key. Press the soft key under ST LINK. Use the cursor keys to navigate the arrow under AUX 1 and press ENTER. AUX 1-2 will now show ST LINK.
- 2 Press the SHIFT key again so the indicator goes out. Press the AUX 1-2 key. Press the soft key below SOURCE. Use the cursor keys to highlight the SETUP section of the display. Turn the first POD knob to change setting to RETURN. Turn the second POD knob to change the setting to ALL. Press ENTER. A pop up screen will ask you to confirm by pressing ENTER again. Do it. You'll notice that the first 16 channels are now labeled RETURN.

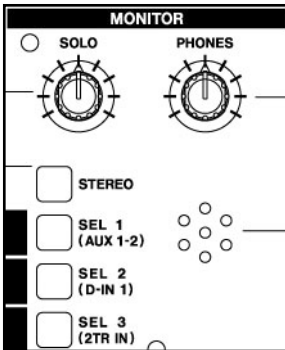


DM-24 Quick Start Guide

Tape returns continued



- ③ Press the LAYER STATUS key for CH 1-16 and press the CH 1 SELECT key. Turn SHIFT off and press the AUX 1-2 key. Use the cursor keys to select "Aux level fader control" at the top left of the screen. Press ENTER to select ON. Your Aux send levels will now be controlled by the faders. Notice that your LAYER STATUS key for CH 1-16 will blink. This lets you know that you are looking at AUX levels not CHANNEL levels. Press the MODULE key at the left of the display to view CHANNEL levels again. Notice the LAYER STATUS key for CH 1-16 has stopped blinking. Now everytime you press the AUX 1-2 key the faders will jump to display the aux send levels.

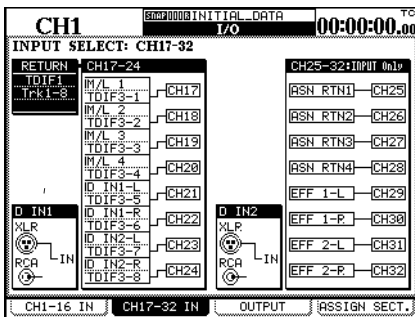


- ④ Press the MASTER LAYER STATUS key. The faders will jump to show master buss and aux send levels. Locate the AUX 1 master fader and bring it to a unity gain setting. In other words, push the fader to the "0" level on the console.
- ⑤ In the control room section you'll need to choose AUX 1-2 as your monitoring source. Now set your control room volume to a respectable level. Press the CH 1-16 LAYER STATUS key. Now Press the AUX 1-2 key. Your faders now represent your tape return levels for tracks 1-16. Use them to set the levels as you wish.

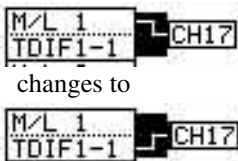
DM-24 Quick Start Guide

Tape returns continued

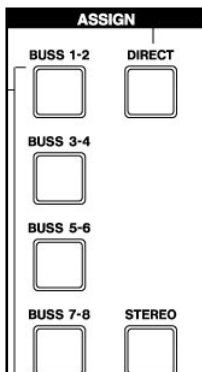
Recording and monitoring tracks 17-24 requires different settings than tracks 1-16. Remember that AUX 1-2 is still our tape return path for tracks 1-16. This leaves the first 16 channels available for us to use for our input sources. For this example, use channels 1-8 as your input channels. Use busses 1-8 to buss those signals to tracks 17-24. Channels 17-24 will be the tape return path for tracks 17-24 however, since we are still using AUX 1-2 as our monitoring source we need to set up pre fader aux 1-2 send levels for channels 17-24. This will allow us to monitor all 24 tracks simultaneously. We will not assign channels 17-24 to the stereo buss until we are ready to mix.



- With the **SHIFT** indicator lit, press the **I/O** key and then press the soft key below CH 17-32 IN. Use the cursor keys to highlight the "patchcord" of channel 17 as in the example to the left. Turn the data dial so that channel 17 is linked to TDIF rather than the Mic/Line input then press ENTER. Repeat this process for CH 18-24. Channels 17-24 are now tape returns.



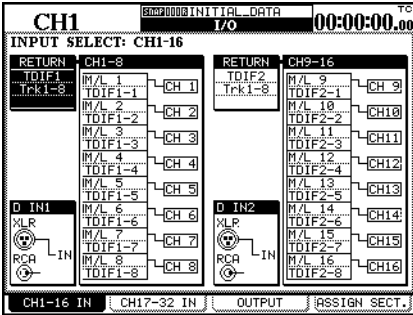
- Press the CH 17-32 LAYER STATUS key. Press the SELECT key for CH 17. Left of the display locate the ASSIGN buttons. Make sure CH 17 is NOT assigned to ST, BUSS 1-8 or DIRECT OUT. Make sure the same is true of CH 18-24. Bring faders 17-24 down. Press the SHIFT key so the indicator goes out. Now press the AUX 1-2 key. The faders will jump to show the AUX 1-2 send levels of channels 17-32. Press the soft key under SOURCE. Use the cursor keys to highlight the SETUP area of the display. Turn the first POD knob to change the value to PRE. Use the second POD knob to change the value to 17-24 and press ENTER. You will see a pop up screen asking you to confirm your choice. Press ENTER again. Aux 1-2 for CH 17-24 are now all PRE fader. Press the soft key under LEVEL. Now use your faders to set the AUX 1-2 levels for channels 17-24.



DM-24 Quick Start Guide

Mix Down Mode

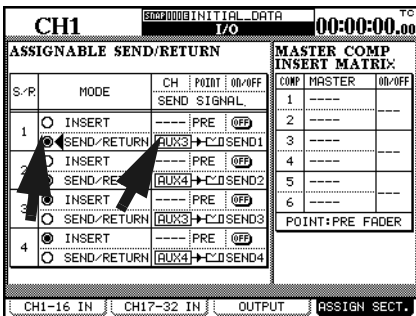
We are now ready to make the proper settings for mix down. First we must make channels 1-16 Tape Return channels.



- 1 With the SHIFT indicator lit, press the I/O key followed by soft key #1. Use the cursor keys to highlight the virtual patch cable on CH 1. Use the data dial to change it from Mic/Line to TDIF. Use this same technic to change channels 2-16 to TDIF as well.

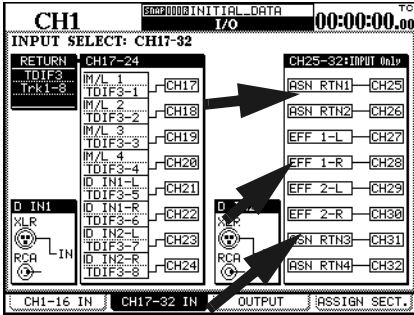
Assignable sends and returns

The external effect unit that we included in the setup diagram is connected using the assignable sends and returns. In this section we will discuss how to set up the assignable sends and returns for this function.



- 1 With the SHIFT key indicator lit, press the I/O key. Then press the soft key under ASSIGN SECT. The 4 assignable I/Os can be used as inserts or sends and returns. Using the cursor keys assign 1 and 2 as SEND/RETURN. This is under the MODE column. Under the CH SEND column make 1 AUX3 and 2 AUX4.
- 2 Press the MASTER LAYER STATUS key. The faders will jump to show master buss and aux send levels. Locate the AUX 3 and 4 master faders and bring them to a unity gain setting. In other words, push the faders to the "0" level on the console. Now with SHIFT off press the AUX 3-4 key and set your send levels as needed.

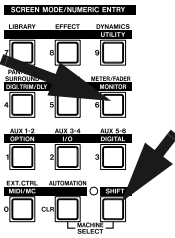
DM-24 Quick Start Guide



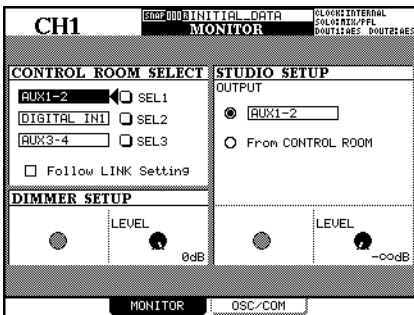
- Return to the CH 17-32 IN screen by pressing the 2nd soft key. Move the cursor to the CH 25-32 column, then use the data dial and the ENTER key to assign the assignable returns 1-4(ASN RTN) to channels 25& 26 and 31& 32. You can now pan those channels left and right, bring their faders to unity gain and assign these channels to the stereo buss.

Monitoring

Until now we've been using AUX 1-2 as our monitoring source. But at mix down you will use the 2 TR IN. This is so you can monitor the signal being recorded on the DA-45HR.



- There are three programable selection keys in the control room section. SEL 3 defaults to 2 TR IN. To change these assignments press the SHIFT key so the indicator is lit and press the MONITOR key. Use the cursor keys to highlight AUX 1-2 by the SEL 1 key. Use the data dial to scroll through your choices. Press the ENTER key to make a change.

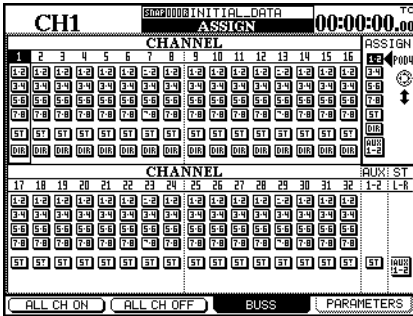


- STEREO
- SEL 1 (AUX 1-2)
- SEL 2 (D-IN 1)
- SEL 3 (2TR IN)
- MONO

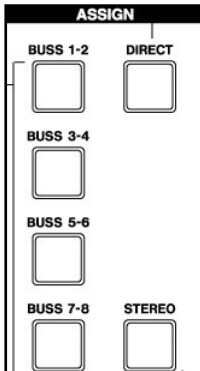
DM-24 Quick Start Guide

Channel-to-buss assignments

Making buss assignments to multiple channels is easier to do with the ASSIGN page. Whereas individual buss assignments are easier to do with the ASSIGN KEYS on the front panel.



- 1 With the **SHIFT** indicator unlit, press the **ASSIGN** key.
- 2 Use the fourth POD control knob to browse your selection choices. Choose ST(stereo buss). Press the soft key below ALL CH ON. Notice that this assigns ALL channels to the stereo buss. This is a quick way to see where all of your channels are assigned and to make global assignments.



- 3 Using your LAYER STATUS keys and the SELECT keys select CH 1. To the left of your display screen are the ASSIGN keys. You can make the same buss assignments on a per channel basis from here.

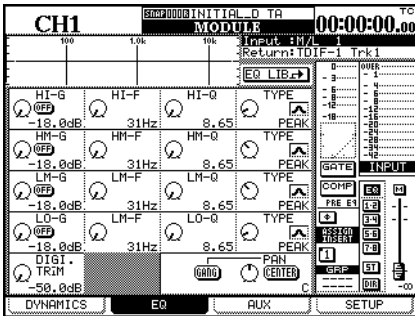
DM-24 Quick Start Guide

Setting EQ in the modules

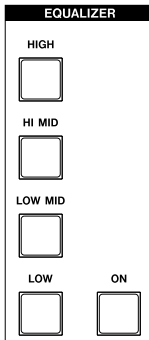
The EQ settings on the DM-24 are made using the PODs (immediately below the screen) or the four rotary encoders to their left.



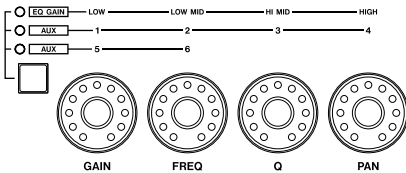
- 1 Press the **SEL** key of the channel to be edited.



- 2 Press the **MODULE** key and then soft key 2 to jump straight to the EQ screen.



- 3 Choose one of the four EQUALIZER band selection keys to begin manipulating the frequency content of the program material on this channel.

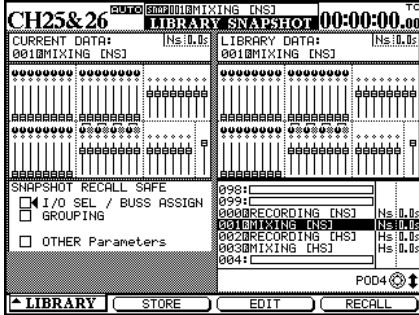


- 4 Use the graphical display at the top of the screen to see the EQ response curve. The **EQUALIZATION ON** key (to the right of the band selection keys) turns the EQ on and off for instant A/B comparisons.

DM-24 Quick Start Guide

Snapshot recall

The DM-24 allows almost all mixer settings to be stored as part of a snapshot which can be stored and recalled. There are also libraries available for EQ settings, for effects settings and for dynamic processor settings.



SNAP 000 INITIAL_DATA

The top of the display will show you what snapshot you're using at any given time. To the left of the display are the LIBRARY keys. Pressing the + or - keys allows you to browse snapshots. Pressing RECALL will load the snapshot in the display. There is also an option that allows you to recall a snapshot by pressing ONLY the + or - key.

With the SHIFT key unlatched press the LIBRARY key. Press the soft key under LIBRARY. A small pop up screen will let you choose which type of snapshot you want to recall. Choose SNAPSHOT by using the first POD knob and the ENTER key. Your snapshot library will now appear. Use the data dial to choose MIXING and press the soft key under RECALL. All of the DM-24's parameters have now been changed to the appropriate settings for mix down. Use the data dial to choose RECORDING and press the soft key under RECALL. All of the DM-24's parameters have now been changed to the appropriate settings for tracking. A full list of the settings in these snapshots is included in this quick guide (Refer to page 16). Consider these two snapshots as a good starting place. You may need to make changes and store your own snapshots to fit your personal needs.

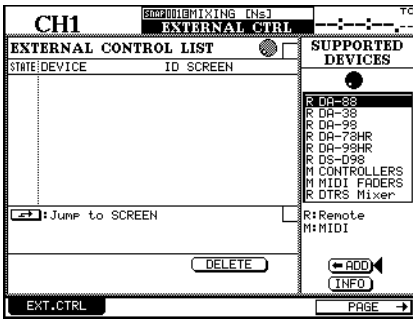
DM-24 Quick Start Guide

Controlling the DA-78HR

The DM-24 allows control over the DA-78HR DTRS recorder, using the built-in transport controls, etc.

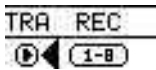
As well as this, the **REC** keys above the channels can also be used to arm the tracks of the DA-78HR, and other special features of the DA-78HR are also directly controllable from the DM-24.

To set up the DM-24 to control the DA-78HR:

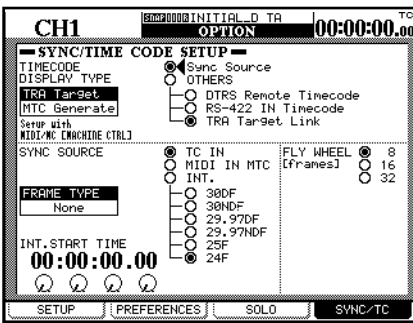


- 1 With the **SHIFT** indicator lit, press the **MIDI/MC** key and then soft key 2.

Turn the dial until the DA-78HR is highlighted in the list at the right of the screen, move the cursor to the <-ADD button at the bottom of the list, and press **ENTER**.



- 2 Move the cursor to the left side of the screen where the DA-78HR is listed. Move the cursor to the TRA button and press **ENTER**. This allows the transport controls of the DM-24 to control the DA-78HR.



- 3 With the **SHIFT** indicator lit, press the **OPTION** key.

Press soft key 4 to bring up the SYNC/TIMECODE screen.

Select OTHERS/ TRA Target Link (the DA-78HR which has been selected as the transport target) as the TIMECODE DISPLAY TYPE.

The timecode is received through the **DTRS REMOTE CONTROL** connector.

Consult the DA-78HR documentation for details of how to select the timecode used for output.

DM-24 Quick Start Guide

Mixing Snap Shot

1. All channel EQ set to ON. Hi =10.1kHz, H. SHELF, Gain =0dB, Hi Mid=5.04kHz, Q=1.20, Gain =0dB, Low Mid=1.26kHz, Q=1.20, Gain=0dB, Low=125Hz, L. SHELF, Gain=0dB.
2. All channel dynamics set to OFF.
3. Compressor settings:Threshold=-10dB, Ration=4.00:1, Attack=53ms, Release=180ms.
4. Channels 1- 24 set to zero, 25-32 set to unity, buss masters, aux masters and stereo buss set to unity gain.
5. All pans set to center.
6. All channels assigned to the stereo buss.
7. Channels 1-8 should reference TDIF-1, 9-16 TDIF-2, 17-24 TDIF-3.
8. Channels 1-24 should be set to TDIF returns.
9. Channels 25-28 should be set to Effect 1 L&R and Effect 2 L&R.
10. Channels 29-32 should be set to assignable returns 1-4.
11. Channels 25-32 should be linked stereo pairs.
12. TDIF-1=Direct out1-8/Buss 1-8, TDIF-2=Direct out 9-16/Bus 1-8, TDIF-3=Direct out 1-8/Buss 1-8.
13. Aux 1-6 source set to Post.
14. Aux 1-6 levels set to zero.
15. Digital stereo outputs set to 16 bit noise shaped.
16. Digital out 1 set to AES/EBU, Digital out 2 set to S/PDIF.
17. Digital out 1and 2 reference the stereo buss .
18. Format of digital input 1-2 can be recognized automatically.
19. All TDIF I/O set to 24 bit.
20. Assignable sends and returns all set to sends and returns(not inserts.)
21. Insert matrix compressors should be set to stereo buss only.
22. Effect 1 set to MONO input-Left input source AUX 1
23. Effect 2 set to MONO input-Left input source AUX 2

Recording Snap Shot

1. All channel EQ set to ON. Hi =10.1kHz, H. SHELF, Gain =0dB, Hi Mid=5.04kHz, Q=1.20, Gain =0dB, Low Mid=1.26kHz, Q=1.20, Gain=0dB, Low=125Hz, L. SHELF, Gain=0dB.
2. All channel dynamics set to OFF.
3. Compressor settings:Threshold=-10dB, Ration=4.00:1, Attack=53ms, Release=180ms.
4. Channels 1- 24, buss masters, aux masters set to unity gain.
5. Channels 25-32 set to zero.
6. All pans set to center.
7. NO channel assignments (stereo, buss 1-8, direct out.)
8. Channels 1-8 should reference TDIF-1, 9-16 TDIF-2, 17-24 TDIF-3.
9. Channels 1-16 should be set to Mic/line inputs.
10. Channels 17-24 should be set to TDIF returns.
11. Channels 25-28 should be set to Effect 1 L&R and Effect 2 L&R.
12. Channels 29-32 should be set to assignable returns 1-4.
13. Channels 25-32 should be linked stereo pairs
14. TDIF-1=Direct out1-8/Buss 1-8, TDIF-2=Direct out 9-16/Bus 1-8, TDIF-3=Direct out 1-8/Buss 1-8.
15. Aux sends should be set to fader control.
16. Aux 1-2 should be linked.
17. Aux 1-2 source should be set to Return for channels 1-16.
18. Aux 1-2 source should be set to Pre for channels 17-32
19. Aux 1-2 levels should be set to unity gain for channels 1-24.
20. Aux 3-6 source should be set to Pre.
21. Aux 3-6 levels should be set to zero.
22. Digital stereo outputs set to 16 bit noise shaped.
23. Digital out 1 set to AES/EBU, Digital out 2 set to S/PDIF.
24. Digital out 1and 2 reference the stereo buss.
25. Format of digital input 1-2 can be recognized automatically.
26. All TDIF I/O set to 24 bit.
27. Assignable sends and returns all set to sends and returns(not inserts.)
28. Insert matrix compressors should be set to busses 1-6.

DM-24 Quick Start Guide

System Default Settings

- * Clock set to TDIF 1
- * SETUP-Time Code, LCD screen popup, Coarse, Snapshot, OL -3dB
- * PREFERENCES-Select Module Return, ST Link by Select Key, Balance Level Center 0dB, Select Key Follows Fader Level, Fader Meter Follow, Cursor Follows EQ Band Key.
- * Solo Mode Select=Mix Solo, Solo Link=OFF, Solo Type=AFL, NO Inplace solo defeat.
- * SYNC/TC SETUP-Sync Source, TC IN, Fly Wheel 8 Frames.
- * Word Phase=Normal IN, Normal OUT.