



Model M•DA-824

Digital-to-Analog Converter

Preliminary Fast-Install Notes

GET UP AND RUNNING NOW! Take the unit out of its box and plug in the power cable. It's easier to use these instructions while working with the unit in front of you.

Installation of the M•DA-824

The M•DA-824 module is a two-channel digital to analog converter that accepts up to 24 bit word lengths and sample rates of 44.1 – 96kHz.

The modular flexibility of the dB•4496 power chassis allows modules to be in different slots within the frame. If the unit has an M•AD-824 A-to-D module, an M•SYNC-1 module is required and must be in the leftmost slot. It replaces the logo position on the front panel. The M•AD-824 (1 or more) must be in the adjacent slot(s) to the immediate right of the M•SYNC-1 module.

Install the module in the dB•4496 power chassis. Your dealer can provide assistance.

1. PLUG IN THE ANALOG OUTPUT CABLES.

You have three choices of operation: Balanced, and Unbalanced Pin 2 or Pin 3 Active.

You will need to set the analog output mode by positioning the user-selectable jumpers J2, J3, J4 and J5, which are located next to each analog XLR output connector. Jumper positions (left or right) are viewed from the front panel side of the board. There are 3 pins on each jumper block.

Choose the mode for each channel by selecting which position these jumpers will be in; if "Left" - jumper the two leftmost pins, if "Right" - jumper the two rightmost pins.

Analog Output Mode -	J2	J3	J4	J5
1. Balanced output	Left	Left	Left	Left
2. Unbalanced Output – Pin 2 active, Pin 3 to ground	Left	Right	Left	Right
3. Unbalanced Output – Pin 3 active, Pin 2 to ground	Right	Left	Right	Left

See Page 6 of the manual for jumper location assistance.

•NOTE: Pin 1 of each XLR is always grounded, to provide driver-side shield ground. It is highly recommended to **have the cable shield connected to Pin 1 for proper cable shield connection.** Pin 1 should not be used as signal return for unbalanced configuration, thus **all the jumpers J2-J5 should be on the board in their proper selected position.**

2. SET THE POLARITY SWITCH.

This switch on the front panel, with positions marked as **Pin 2 Hot and Pin 3 Hot**, provides the ability to invert the signal polarity. When set to Pin 2 Hot, an increase of digital input causes the voltage on Pin 2 of the analog output (at the XLR connectors) to increase, and the voltage on Pin 3 to decrease. The converse is true under "Pin 3 Hot" setting.

Don't confuse the function of the polarity switch with the Balanced-Unbalanced configuration of the Output Mode. Polarity can change from tape to tape; Balanced/Unbalanced is set for your studio.

3. CHOOSE THE TYPE OF CLOCK YOU WILL NEED.

Use the front panel control switch to choose which type of clock is best suited for the sampling rates you want to convert.

Choose **Narrow Lock** to reduce the sampling frequency input range to lock to signals within +/-100ppm (parts per million) around a fixed rate (44.1, 48, 88 or 96kHz). Narrow lock operation provides improved jitter rejection when operating with a known fixed frequency. This can sound better.

Choose **Wide Lock** for applications including most normal vari-speed operations. It allows the sampling rate to run automatically between 40-50kHz or 80-100kHz double speed operation.

Choose **CrystalLock™** to activate specialized hardware, including a temporary buffer memory and a DSP controlled instrumentation type digital-to-analog converter, to provide almost total jitter elimination from the incoming digital signal. **This can sound great for stereo applications, even if the source is especially "jittery."**

• NOTE: DO NOT USE **CrystalLock™** when operating more than one module (2 channels).

4. SET THE OUTPUT GAIN.

Individual analog output front-panel **volume controls** (20 turn potentiometers for each channel) provide 0 to +24dBu range for balanced outputs, and -6dBu to +18dBu for unbalanced operation. **This means you set the M•DA-824 reference levels so all the levels used during recording and playback are matched correctly.** Typically, use the same reference level that was used to set up the A-to-D converter.

•FOR EXAMPLE: if you used a "O Vu " tone to align the A-to-D, then use that same tone level (-20dBFs to -14dBFs are typical) to align the D-to-A. Play that same tone from a digital source and set the output level on the M•DA-824 to equal that same "0Vu" meter level on an external meter (like the 2-track return on the mixer).

For 27dBu balanced output (24 dBu unbalanced) – (NOT for everyone, more is not always better) – the user can set the module by removing 2 resistors from the board. The resistors are clearly marked, surrounded by a white line with the word "GAIN" printed in copper next to each resistor. Remove the resistors with a pair of cutters. Such a change is only advisable when higher output levels are needed (the change is reversible but will require that you clean the solder pads and solder new resistors).

YOU NEED TO KNOW . . .

ABOUT SAMPLING RATE AND LOCK INDICATORS -

The converter **automatically detects** the incoming sample rate and **displays it via one of the 4 LED indicators** marked as 44.1, 48, 88.2 or 96kHz. When **both** the 44.1kHz and 48kHz displays are lit, it indicates special cases under **wide-lock** (such as vari-speed, 47.95kHz sampling or similar "less standard rates").

The Lock LED indicates that the module is locked to a digital input. When the Lock indicator is **flashing**, the module indicates that a **signal is not present or an unlocked condition exists** (such as out-of-range frequency, or a missing signal or cable at the digital input).