
DAC6e

USER MANUAL



DAC6e 6-channel D/A Converter

The EMM Labs 6-channel D/A converter is a 4th generation design to meet the highest standards in consumer audio applications. It offers conversion from digital audio of various different formats to analog. For best audio performance the DAC6e should be operated in Master Clock mode.

Features

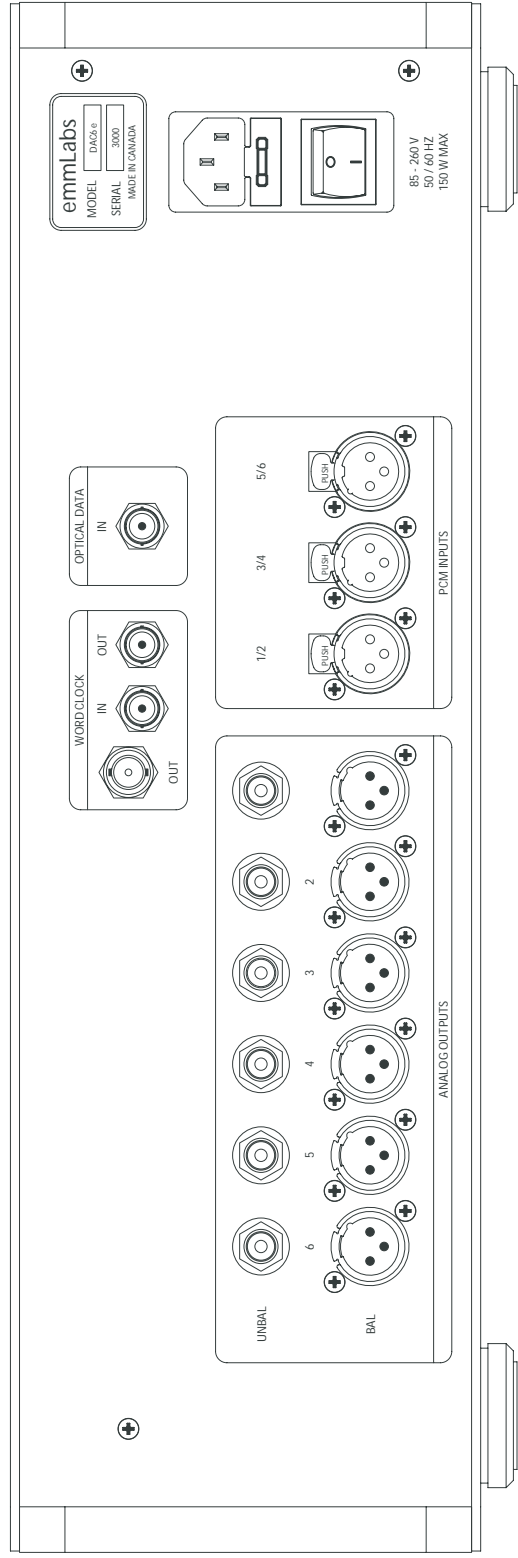
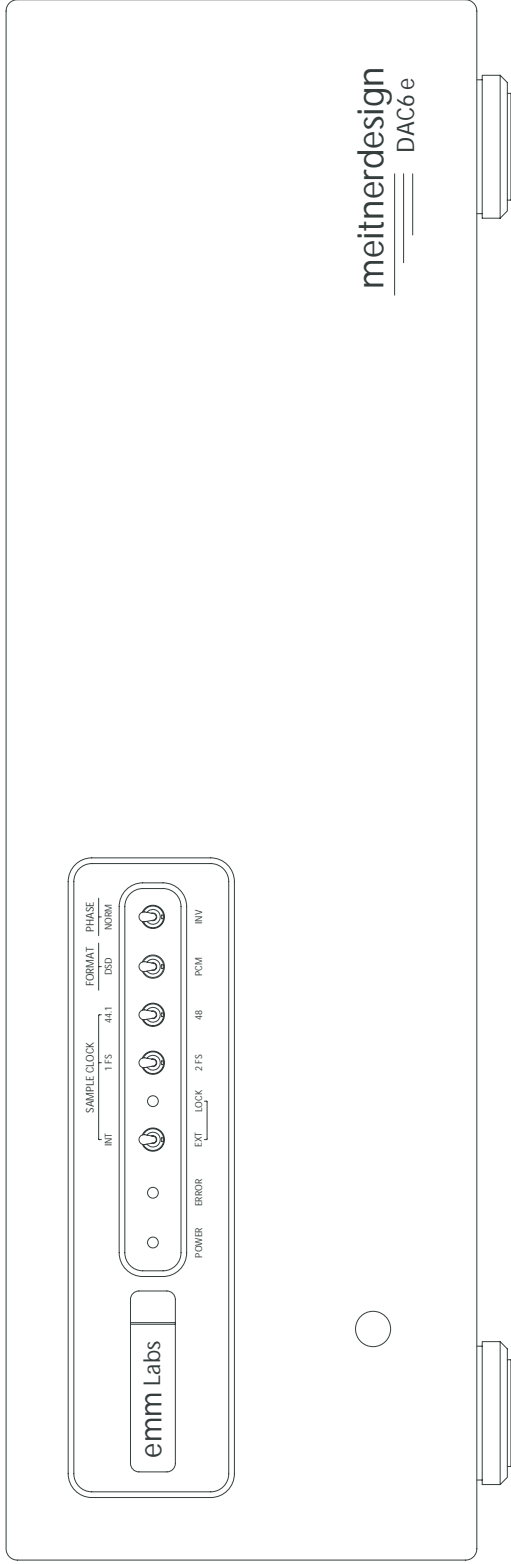
- 6-channel conversions:
 - from PCM (44.1kHz, 48kHz, 88.2kHz, 96kHz) to analog
 - from DSD to analog
- Supported input formats:
 - AES/EBU (3 connectors) for PCM
 - ST Fiber optic for DSD
- Master and Slave Clock Operation
- Power supply
 - power factor corrected
 - auto ranging 85V - 240V, 50/60Hz
 - power consumption: 60W
- Analog outputs
 - balanced on XLR
 - unbalanced on RCA
- Analog output impedances
 - 100Ω balanced, 50Ω unbalanced

Note: XLR analog outputs are balanced with pin 2 hot, pin 3 cold and pin 1 GND.

Function Switches

Power

The main power switch is on the back of the unit. The chrome power button on the front is a momentary switch that toggles the operation between power on and power save modes every time the user pushes it.



Clock Section

INT / EXT: Selects internal or external clock source. LOCK LED is lit when D/A converter is locked to external clock. When in INT, the DAC6e generates the master clock signal (master clock mode) for the audio source. Connect either the BNC or optical clock output from the DAC6 to your audio source.

When in EXT (slave clock mode) no additional connection from the DAC6e to the audio source is required.

Sample Rate Section

1FS / 2FS: Selects the sample rate for PCM data. FS is the base frequency (see selector switch for base).

44.1 / 48: Selects the base frequency (only 44.1kHz is allowed for DSD inputs)

Format Section

DSD / PCM: Selects digital audio input format.

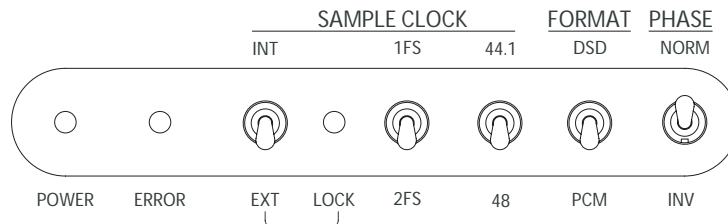
Phase Section

NORM / INV: Selects normal or inverted phase.

Error Indicator Is lit for illegal switch positions

Basic Operation

Conversion from PCM on AES/EBU to Analog



Additional selections for 44.1 / 48 / 88.2 / 96kHz sample rate can be made with the sample rate switches.

Up to 3 AES/EBU cables can be connected to the DAC6e. The 4 possible audio frequencies can be selected according to Table 1:

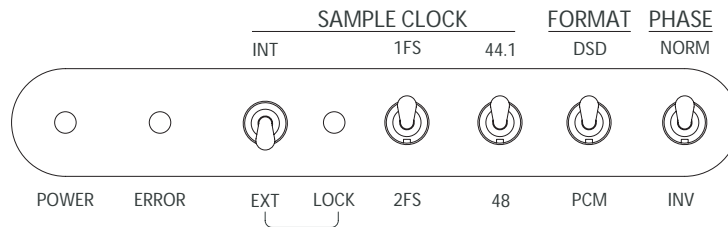
In the case of 2FS operation (88.2kHz or 96kHz) the clock rate of the trans-

Table 1: Selection of Audio Sample Rates

Sample Rate	Switch	Switch
44.1kHz	1FS	44.1kHz
48kHz	1FS	48kHz
88.2kHz	2FS	44.1kHz
96kHz	2FS	48kHz

mission on the cable is double. Master / Slave clock operations can be selected with the INT / EXT switch (see below for more detail). In Slave operation there has to be at least an AES/EBU cable connected to channels 1/2 as this connection provides the clock for the DAC6e.

Conversion from DSD on Optical to Analog



The optical interface format requires 2 cables: 1 for clock and 1 for audio data. They both need to be connected regardless of what clock mode is selected (master or slave). This mode requires the selection of 44.1kHz base frequency. Master / Slave clock operations can be selected with the INT / EXT switch (see below for more detail) and the 1FS / 2FS switch is ignored.

Master and Slave Clock Operation

In Master mode (switch set to INT) the DAC6e provides the clock to the audio source. A cable needs to be connected from either the BNC Clock output or Optical Clock output from the DAC6e to the clock input of your audio source. This mode provides the best audio performance as the clock jitter is minimized.

In Slave mode (switch set to EXT) the DAC6e locks to the clock as provided by the selected audio source (DSD or PCM).

Channel assignment when using EMM OptiLink to connect a CDS to the DAC6e

The CDS can play back up to 6 channels from SA-CD when combined with the DAC6e converter. In this case the analog output channels of the DAC6e have the following channel assignment:

Channel 1: Left front

Channel 2: Right front

Channel 3: Center front

Channel 4: Low Frequency Subwoofer

Channel 5: Left rear surround

Channel 6: Right rear surround

Specifications

Output Line Levels (with 0dBfs signal on AES/EBU input)

XLR balanced: +17.35dBu / +15.13dBv / 5.71V

RCA unbalanced: +12.89dBu / +10.67dBv / 3.42V

Warranty

EMM Labs warrants the DAC6e product against defects in material and workmanship under normal use and service for a period of time specified by the product's serial number from the date of first delivery to the owner. The warranty time period is 5 years limited to the original owner.

EMM Labs will pay for return shipping charges back to the owner when the product is sent to EMM Labs within first 90 days after purchase. Otherwise, owner will be responsible for all shipping charges to and from EMM Labs.

For all warranty claims, a copy of the original invoice must accompany the product.

Opening the product or modifying it in any way by the owner, including but not limited to cryogenic treatment, will void any warranty.

Please contact EMM Labs (support@emmlabs.com) for RMA number and shipping instructions before shipping any product to EMM Labs.

EMM Labs products are sold worldwide through authorized dealers with restricted territories. If any EMM Labs product is purchased from non-authorized dealers or from a dealer selling outside his / her territory all warranties will be void.