

J C F A U D I O

*DA8-T*

**DA8-T** MANUAL 1.0



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# DA8-T

## Safety Information

Do not repair, modify, service this device except in the manner in which it is described in this manual. Doing so can endanger the user and others as well as void the warranty.

Fuses should be replaced with the exact values and sizes stated in the manual.

JCF Audio, LLC accepts no responsibility for legal actions or for direct, incidental, or consequential damages that may result from improper installation, configuration, or use of the DA8-T.

## Overview

The DA8-T is an High-Resolution 8 channel Digital to Analog converter that can, as an option, use PEP.

The unit receives the industry standard AES/EBU protocol on four XLR connectors. The AES/EBU inputs operate in single-wire mode exclusively at all sampling frequencies. The DA8-T can derive its sync source from an incoming bi-phase stream on **XLR**, a **Word** clock, or an incoming **Optical** input.

The DA8-T has eight analog outputs that are floating and <50 ohms. Pin 1 of all of the XLR's on the unit are internally tied to circuit common. This should be kept in mind wiring systems together. The transformer coupled outputs can easily be interfaced with virtually any studio interconnection scheme while providing isolation and superb common-mode rejection figures essential for studio environments. The device is pin 2 positive for the analog outputs. The XLR inputs are 110 ohm floating inputs and do not have preferred polarity.

*0 dBu is referenced to 0.775 vrms for this manual*

## Front Panel Controls

**Power** - This LED indicates that the unit is on.

**Level** - These level adjustments control the analog output level. The adjustment range is approximately 10db. Calibration level details are listed in the **Specifications** section.

**Clock** - This switch selects the clock source of the unit. The choices are **XLR**, **Word**, and **Opt**. **XLR** derives a sync stream from the recovered bi-phase input. If **Word** is selected, the unit will expect a word clock input on the lower bnc jack on the rear of the unit. This word input must be synchronous with the relevant data inputs. If **Opt** is selected the unit will sync to the recovered clock from either the optical input jack or an bi-phase input stream from the top bnc jack depending on the internal jumper settings.

**Data** - This switch controls whether or not PEP is engaged. If PEP is not installed (as is standard) then this switch will make a good mute control.

**1/2 Input** - This switch selects the either the **XLR** or **Opt** data inputs to analog output channels 1 and 2.

**Sync error** - This LED indicates that the sync source selected is invalid or not present.

## Rear Panel

**AC Power Inlet** - This 3 pin IEC jack accepts 120VAC @ 50 or 60HZ. The unit is internally reconfigurable for 240VAC operation.

**Word Clock Input** - This BNC jack accepts a standard TTL level word clock input. The input is 75 ohm terminated and ground referenced. The input signal is well conditioned and doesn't really have a preference of shape or duty cycle.

**Word Clock Output / Biphase input** - This BNC jack is configured before shipping as a word clock output. This output will be a square wave at the sampling frequency selected. The output impedance is 75 ohms and will have a valid TTL level signal with a terminated line. This jack can alternatively be configured as a 75ohm S/Pdif input for use as a sync source in place of the optical input. Email us for details on how to do that.

**AES/EBU Inputs** - These XLR inputs are 110 ohm, transformer-coupled standard sources. They are single-wire outputs under all conditions.

**Opt I/O and Analog Outputs** - These jacks are standard TOS connectors. The optical input jack will accept a 2 channel S/Pdif optical stream for use as a sync and data source up to 96k.

The optical output jack will output a 2 channel S/Pdif optical stream that is same as the Analog output 1/2.

Analog outputs 1-8 are floating <50 ohm outputs.

# Specifications

## D/A Calibration Range

MIN	MAX
Level fully counterclockwise	Level fully clockwise
0dBFS = +13dBu	0dBFS = +23dBu
-9dBFS = +4dBu	-19dBFS = +4dBu
-18dBFS = -5dBu	-18dBFS = +5dBu

Unit ships with level control yielding -18dBFS = +4dBu

**De-emphasis is not supported anywhere in the DA8-T.**

## Power Consumption:

< 24 Watts

## THD+N

(80k BW lim)

1kHz -18dBFS yielding +4dBu :  $\leq -60$  dB (.07%) all sampling frequencies

1kHz -8dBFS yielding +14dBu:  $\leq -68$  dB (.03%) all sampling frequencies

## Frequency Response (relative to 0 @ 1k)

44.1kHz :	20Hz -0.1dB
	20kHz -0.1dB
88.2kHz:	20Hz -0.1dB
	20kHz -0.1dB
	30kHz -0.7dB
	40kHz -1.2dB
176.4kHz	20Hz -0.1dB
	20kHz -0.1dB
	50kHz -2.3dB
	70kHz -3.8dB

## Shipping weight

15 lbs. 30" X 24" X 10"

## Max Dimensions

**L: 10.31"**

**W: 19"**

**H: 1.74"**

**Fuses:** 3x 500ma 5x20mm, inside unit

1x 2A 5x20mm, inside unit

1x 3A, 3AG Fuse holder external

## Notes:

Information regarding PEP and it's usage can be found in the AD8 manual.

Group delay is 57 samples (without PEP) at all sampling frequencies. (~ 1.2ms @1x, 0.6ms @2x, 0.3ms @4x)

## Feature list

- Low group delay
- ~10dB front panel calibration range control
- Cinemag analog output transformers
- JCF Audio standard high isolation power supply arrangements
- Low power consumption
- PEP option
- 2 Year Limited Warranty

## FCC Compliance:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

## Warranty

### JCF Audio 2-Year Limited Warranty

JCF Audio LLC. "JCF Audio" warrants this product to be free of defects in material and assembly for a period of two years for parts and labor from the date of original purchase. This warranty is enforceable only by the original retail purchaser and cannot be transferred or assigned without express permission of JCF Audio.

During the warranty period JCF Audio shall, at its exclusive option, either repair or replace free of charge any product that proves to be defective on inspection by JCF Audio or its authorized service representative. In all cases disputes concerning this warranty shall be resolved as prescribed by law. To obtain warranty service, the purchaser must contact JCF Audio to obtain instructions where to send the unit for service. All authorized returns must be sent to JCF Audio or an authorized JCF Audio repair facility postage prepaid, insured and properly packaged. This warranty does not cover claims for damage due to abuse, neglect, modification or attempted repair by unauthorized personnel, and is limited to failures arising during normal use that are due to defects in material or workmanship in the product.

Proof of purchase must be verified in the form of a bill of sale or some other positive proof that the product is within the warranty period upon JCF Audio's request.

JCF Audio reserves the right to update any unit returned for repair. JCF Audio reserves the right to change or improve design of the product at any time without prior notice.

Any implied warranties including implied warranties of merchantability and fitness for a particular purpose are limited in duration to the length of this limited warranty. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

JCF Audio will not be liable for incidental, consequential, indirect or other damages resulting from the breach of any express or implied warranty, including damage to property, damage based on inconvenience, downtime, loss of personal property, and to the extent permitted by law, damages for personal injury or death.

Some states do allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

This warranty only applies to products sold in the United States of America. The terms of this warranty shall only apply within the country of sale. Without limiting the foregoing, repairs under this warranty shall be made only by a duly authorized JCF Audio service representative or by JCF Audio itself. For warranty information in other countries, please refer to the dealer or distributor.