



RJM & Associates, LLC
Broadcast Solutions

Data Sheet

DATS Converters



Key Features:

Using DATS Converters

- DATS converters can be used in pairs (source and destination) to interconnect digital audio equipment with AES3 balanced I/O. They can also be used to integrate professional audio equipment with AES3id unbalanced I/O into balanced AES3 systems.
- Because BNC connectors require less panel space than XLRs, routing switchers and other I/O intensive equipment are often equipped with AES3id I/O. DATS converters facilitate the integration of balanced AES3 equipment into these systems.
- The DATS-21 converter can also be used to connect CD players and other consumer devices with S/PDIF digital outputs to balanced AES3 equipment and systems.

For error-free AES transmission over coaxial cable, upgrade your digital audio system with DATS converters. These passive devices allow equipment with balanced AES I/O to be interconnected using 75 Ω coaxial cable. The result is error-free transmission over greater distances than is possible with twisted pair – up to 1000 feet or more with high quality coax.

Also, DATS converters facilitate the integration of professional equipment with AES3id I/O and consumer equipment with S/PDIF I/O into existing balanced AES systems. The DATS-10 source converter includes an attenuator pad to ensure correct 4V AES3 to 1V AES3id levels are maintained.

DATS Converters		
Type	Source	Destination
Product #	DATS-10	DATS-21

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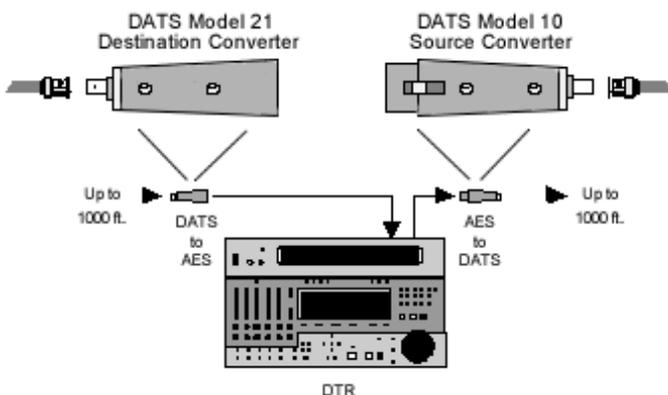
DATS Converters

Technical Data	
DATS-10	
Input connector	Female XLR
Input impedance	110Ω
Output connector	BNC
Output impedance	75Ω
DATS-21	
Input connector	BNC
Input impedance	75Ω
Output connector	Male XLR
Output impedance	110Ω
Models	
DATS-10	AES to DATS (source) converter
DATS-21	DATS to AES (destination) converter
Cable Length and Connections	
<p>Our tests and experience have demonstrated that 100 meters of commonly used twisted pair cable is too long for error-free transmission of AES signals. Use of a pair of DATS converters results in an error-free transmission distance of at least 1000 feet using Belden 8279 cable. Low-cost RG-59U cables are acceptable, and for short transmission paths, smaller, higher loss cables are sufficient.</p>	

DATS Solve Radiation and Crosstalk Problems

Technical concerns arise when digital audio is distributed around a facility that has been designed to work with baseband audio in the 20Hz to 20KHz region. The AES digital audio standard, while more than adequate in its codes and formats, is characterized by inferior electrical parameters. The AES standard calls for a balanced signal using the same wiring and distribution methods as baseband audio. A problem occurs when an approximately 5MHz signal is passed through twisted pair cabling and unshielded jacks. Crosstalk and radiation at significant levels result. Hence, the length of cable runs is limited.

Some analog output drivers and input stages have marginal external high frequency signal rejection. They are also prone to generating intermodulation products caused by a digital signal crosstalking into the analog audio band. Passive normalization of the digital audio signal into a common format so it can be treated like a video signal using standard equipment alleviates this problem. RJM & Associates DATS converters effect such a passive normalization by converting the AES signal to an unbalanced, 1 Vpp, 75Ω signal. This signal can be passed through ordinary video distribution amplifiers, jackfields and cabling. Both channels of the signal can be routed with a single level path of a video routing switcher. The signal is unaffected by dc restorers or sync tip clamps, however, hard back porch clamps may distort the signal.



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