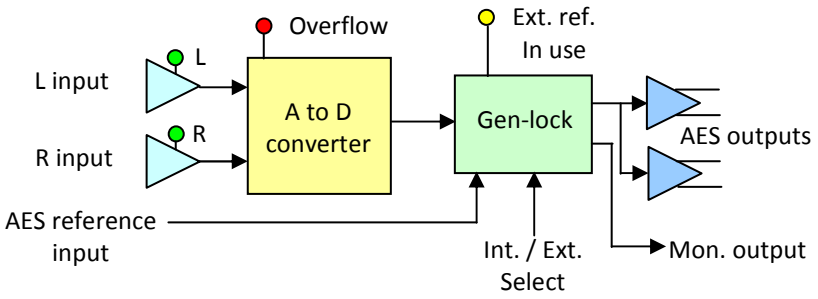
AAC-3390

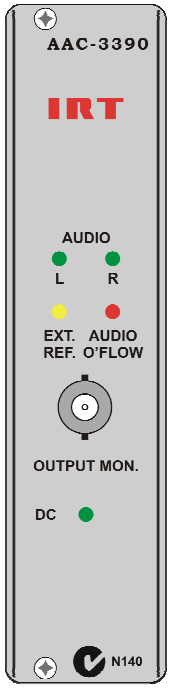
Analogue Stereo to AES Audio Converter

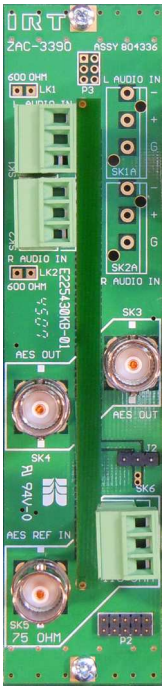
FEATURES

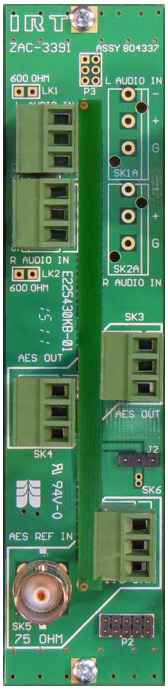
- **Balanced stereo inputs.**
- **High impedance or 600 Ohm input termination.**
- **AES external reference input.**
- **Balanced 110 Ω or unbalanced 75 Ω AES output rear assembly options.**
- **Front panel AES monitoring point.**

BLOCK DIAGRAM AAC-3390 SIGNAL PATH









GENERAL

The IRT AAC-3390 is an analogue audio to AES/EBU digital audio signal converter, and converts standard stereo analogue audio signals to the AES3-1992 and SMPTE-276 AES digital audio standard.

The input signals are a stereo pair of balanced audio at the standard +4 dBu line up level.

The outputs are three serial digital audio signals; one unbalanced BNC connection on the front panel for monitoring and two from the rear panel assembly. The latter can be 110 Ohms balanced using the ZAC-3391 rear panel assembly or 75 Ohms unbalanced BNC connections using the ZAC-3390 rear panel assembly.

A further input is provided for a reference AES input signal to lock the signal from the AAC-3390 to a station reference.

The reference input can be either 110 Ohms terminating balanced line or 75 Ohms terminating unbalanced line. Both connections are provided on the rear panel assembly. Selection of the input type is by links on the AAC-3390 main circuit board.

Front panel LED indicators are provided for DC voltage, presence of input audio levels above -30 dBu, lock to external AES reference and overflow at 0 dBFS corresponding to the +24 dBu full scale input audio level.

The AAC-3390 is designed to fit the IRT range of Eurocard mounting frames, including the 12 or 10 slot 3 RU and 2 slot 1 RU rack mounting frames.

TECHNICAL SPECIFICATIONS

Inputs:

Analogue inputs:

Number	2 channels – one stereo pair.
Type	> 30 kΩ balanced analogue audio.
Input coupling	AC
Input level setting	+24 dBu for 0 dBFS digital signal.
Input connector	Removable screw terminal block and Krone LSE IDC in parallel.

Reference input:

Type	1 x 110 Ω balanced terminating; and 1 x 75 Ω unbalanced terminating. Selected by links on module PCB.
Format	AES3-1992 standard.
Input level	200 mVp-p minimum.
Input cable length	> 500 m Belden (8281). > 200 m 110 Ω (AES digital high quality shielded pair).

Outputs:

AES/EBU:

Rear panel type ZAC-3390	2 x 75 Ω unbalanced >1 Vp-p.
or	
Rear panel type ZAC-3391	2 x 110 Ω balanced >3 Vp-p.
Front panel monitoring	1 x 75 Ω unbalanced >1 Vp-p.
Format	AES3-1992 standard.

Performance:

Sample rate	48 kHz internal rate, or as set by external reference.
Output signal rise and fall times	< 20 ns.
Frequency response	+/-0.05 dB 20 Hz to 20 kHz.
THD + N	-95 dB, 20 Hz – 20 kHz @ -4 dBFS.
Inter-channel crosstalk	-100 dB (20 Hz – 20 kHz).
Linearity	+/-0.5 dB at –90 dBFS.

Power Requirements:

Voltage	28 Vac CT (14-0-14) or ±16 Vdc
Power consumption	3.5 VA.

Connectors:

Unbalanced	BNC.
Balanced	Removable screw terminal blocks.

Other:

Temperature range		0 - 50° C ambient.
Mechanical		Suitable for mounting in IRT 19" rack chassis with input, output and power connections on the rear panel.
Finish:	**Front panel**	Grey background, black lettering & red IRT logo.
	Rear assembly	Detachable silk-screened PCB with direct mount connectors to Eurocard and external signals.
Dimensions		6 HP x 3 U x 220 mm IRT Eurocard.