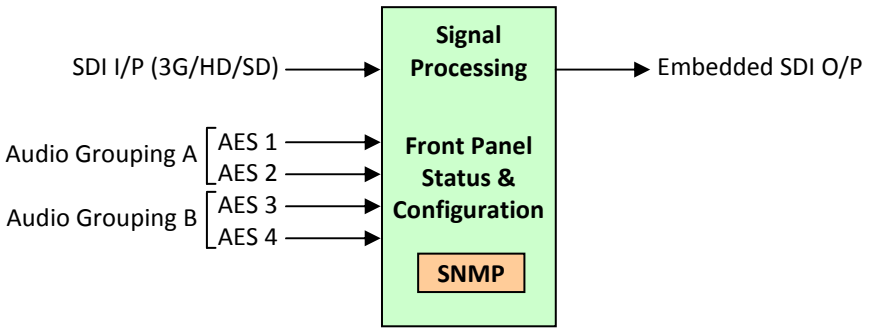
DAI-4200

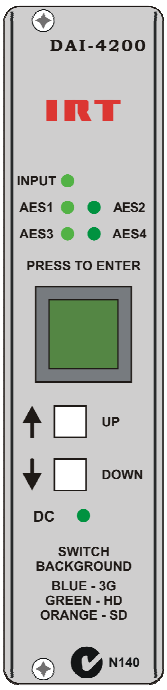
3G/HD/SD-SDI Digital Audio Inserter

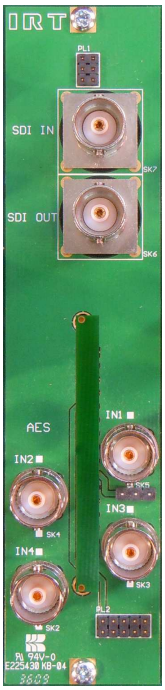
FEATURES

- **Inserts up to 4 AES signals into 2 groups.**
- **75 Ω unbalanced AES inputs.**
- **AES resampling (or selectable non resampling mode on HD & 3G only).**
- **Supports SMPTE 272M-A synchronous and SMPTE 299M synchronous / asynchronous 48 kHz insertion.**
- **24 bit audio supported.**
- **Z, C, U data preserved.**
- **Ability to replace existing embedded audio.**
- **Cascadable - SDI output for connection to additional units.**
- **Front panel Status and Configuration controls.**
- **SNMP capable.**

BLOCK DIAGRAM DAI-4200 SIGNAL PATH







GENERAL

The DAI-4200 is a high performance audio embedder for either 270 Mb/s SD-SDI, 1.485 Gb/s HD-SDI or 2.97 Gb/s 3G-SDI video signals.

Each DAI-4200 is capable of inserting up to two audio groups into an existing SDI video stream. An audio group consists of two AES signals, thus four AES signals are capable of being inserted over two audio groups. AES 1&2 constitute one audio group; AES 3&4 constitute the second audio group.

Group position selection is made by the front panel local controls, or remotely via SNMP. Existing embedded data packets may be either all removed or selectively replaced.

The DAI-4200 supports AES synchronous or asynchronous* 48 kHz 24-bit audio data packets.

An audio presence indicator is provided for each input.

DIP switch settings allow optional colour bars or colour black to SDI output on loss of SDI input.

Two DAI-4200's can be cascaded for insertion of audio into all four groups if required.

Simple Network Management Protocol (SNMP) monitoring and control is possible when mounted in an IRT frame fitted with SNMP capability.

The DAI-4200 is fabricated in IRT's standard Eurocard format and may be housed in a variety of IRT Eurocard frames alongside other standard modules.

* Asynchronous mode possible for HD-SDI & 3G-SDI only.

DAI-4200

TECHNICAL SPECIFICATIONS

SDI input:

Number	1 (BNC).
Impedance	75Ω terminated.
Equalisation	Automatic, >100 metres at 1.485 Gb/s & 2.97 Gb/s, > 250 metres at 270 Mb/s for Belden 8281 or equivalent cable.
Format	270 Mb/s (SD-SDI) video with or without embedded audio serial data to SMPTE 259M; or 1.485 Gb/s (HD-SDI) video with or without embedded audio serial data to SMPTE 292M; or 2.97 Gb/s (3G-SDI) video with or without embedded audio serial data to SMPTE 424M.

SDI output:

Number	1 (BNC).
Type	75Ω sourced.
Format	Regenerated and re-clocked, as per input type.

AES/EBU inputs:

Number	4 x 48 kHz synchronous / asynchronous, 24-bit audio data packets.
Impedance	75 Ω unbalanced.
1st Audio group	AES 1 & AES 2.
2nd Audio group	AES 3 & AES 4.

Front Panel Indicators:

INPUT	SDI input present (Green).
AES (1 – 4)	AES audio present (Green).
Control Switch Indicator Blue	SDI input type – 3G.
Control Switch Indicator Green	SDI input type – HD.
Control Switch Indicator Orange	SDI input type – SD.

Front Panel Controls:

Sample Rate Converter (SRC)	ON/OFF (AES should always be resampled (ON) with SD-SDI, unless it has already been externally synced).
Normal/Replace/R1 Group/No Embed	Delete all audio groups / replace both selected audio groups / Replace 1 Group (AES 1&2) only / Pass SDI signal as is (no embedding).
SYNC / ASYNC_HD	Synchronous / Asynchronous (HD & 3G) audio insertion.
Group select	AES 1&2, AES 3&4.

Power requirements:

Voltage	28 Vac CT (14-0-14) or ± 16 Vdc.
Power consumption	< 6 VA.

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.
Related Modules		DAX-4200 digital audio extractor.