

IQBRT

Synchronous Digital Audio Router (8x8, 6x4)

IQBRT is a range of Synchronous Digital Audio Routers capable of routing up to 8x8 AES pairs. IQBRT can accept PCM digital audio at sampling rates of 16 kHz to 96 kHz and will automatically detect the recognised standards of 32, 44.1 and 48 kHz. IQBRT accepts both AES/EBU and SPDIF (-B versions only) inputs, and outputs professional AES/EBU digital audio. The Router also has an AES/EBU monitoring output for previewing input material. IQBRT sample rate converts all PCM audio inputs to 48 kHz with no loss of audio quality. The outputs are then synchronized to either 525 or 625 line video, or a 48 kHz AES Reference, and are frame aligned in accordance to the AES11 specification.

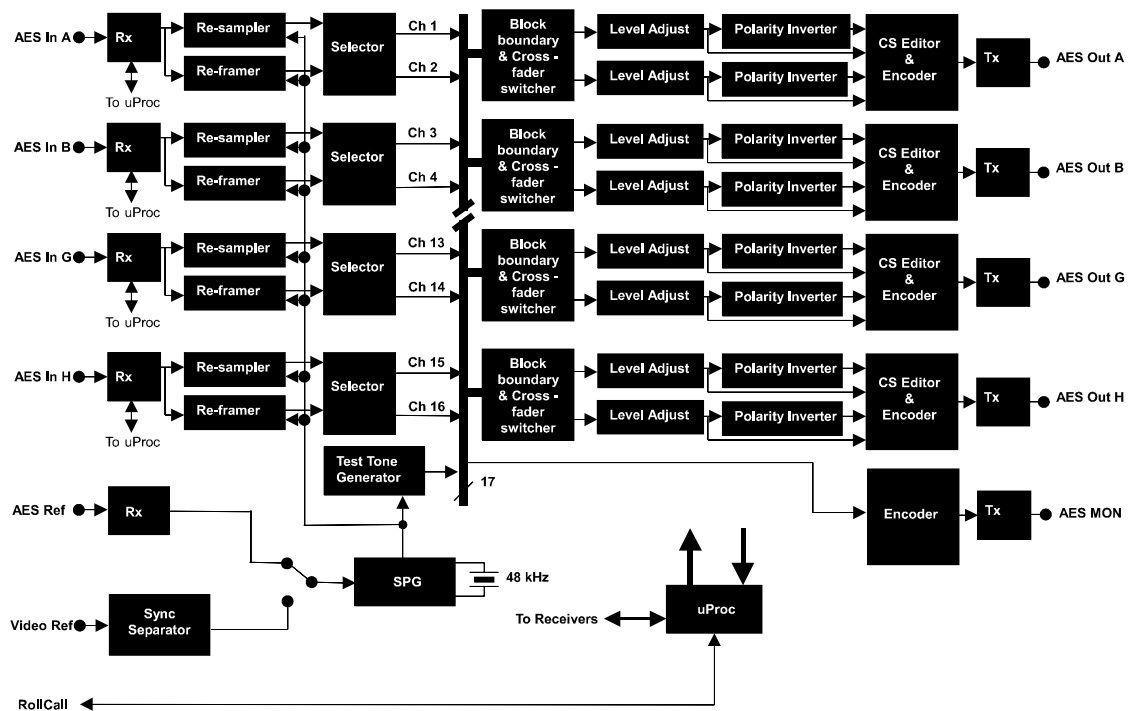
Does this module suit your application?

- Up to 8x8 AES/EBU Router for PCM audio , plus an AES Preview output
- 24-bit sampling rate converters on all inputs required to synchronize asynchronous digital audio to either 525 or 625 video, an AES Reference or freerun
- Automatic 32, 44.1 and 48 kHz detection
- Professional AES/EBU 48 kHz output
- Glitch-free switching of digital audio
- Input error detection indicator and reporting
- Independent phase reversal on any input subframe
- Framing error correction of up to one sample
- Programme level adjust on each input channel from + 6 dB to -18 dB in 0.1 dB steps

- Built-in Test tone generator to ensure ease of system set-up
- Channel status monitoring of AES receivers and transmitters
- Channel status editor
- Remote Peak Programme Meter with adjustable 0 dB reference
- Eight memory locations for storage and recall of selectable parameters
- RollCall remote control and reporting/logging

Why should you choose this module?

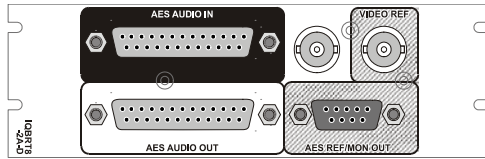
- Digital Audio routers that enable source selection for all applications
- Automatic 32, 44.1 and 48 kHz detection
- Easy integration with the new RollCall operational control panels or with third party control panels



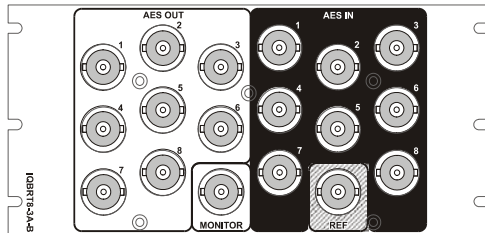
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Synchronous Digital Audio Router (8x8, 6x4)

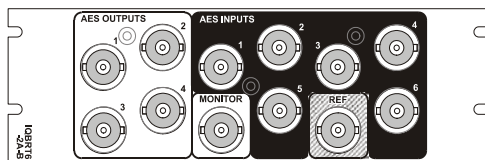
Order codes for IQH3A/1A enclosures



IQBRT8-2A-D Digital Audio Router 8 inputs, 8 outputs, balanced

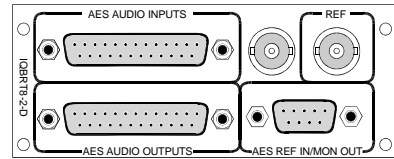


IQBRT8-3A-B Digital Audio Router 8 inputs, 8 outputs, unbalanced

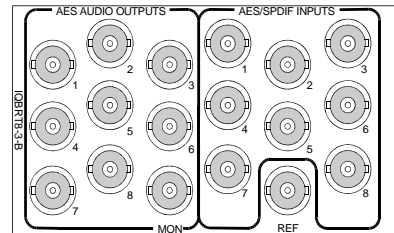


IQBRT6-2A-B Digital Audio Router 6 inputs, 4 outputs, unbalanced

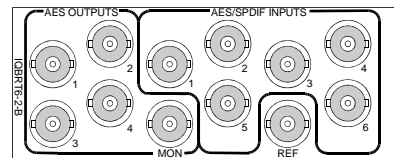
Order codes for other enclosures



IQBRT8-2-D Digital Audio Router 8 inputs, 8 outputs, balanced



IQBRT8-3-B Digital Audio Router 8 inputs, 8 outputs, unbalanced



IQBRT6-2-B Digital Audio Router 6 inputs, 4 outputs, unbalanced

For more details on enclosure types please refer to the Frames/Enclosures section

Inputs & Outputs

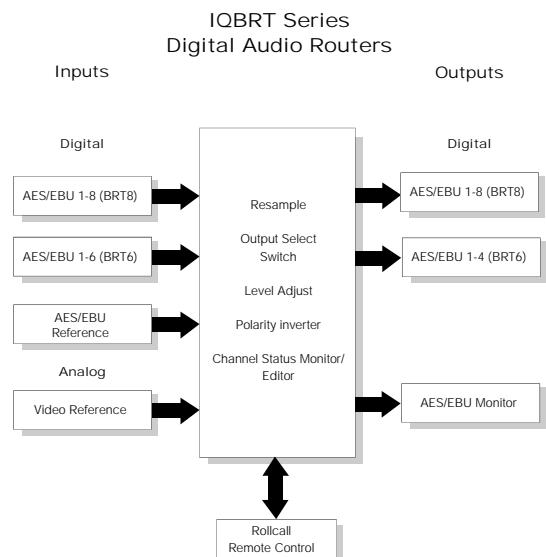
Signal Inputs

- Digital Audio Input (Balanced –D versions)
 - 8 Channel Pairs AES/EBU via 25 way D Connector
- Digital Audio Input (Unbalanced –B versions)
 - 8/6 Channel Pairs AES/EBU via BNC Connectors
- AES Reference Input (Balanced –D versions)
 - Sample Frequency 48 kHz via 9 way D Connector or via BNC connector
- Reference Input (Balanced –D versions)
 - 525/625 line Black Burst via BNC connector
- Reference Input (Unbalanced –B versions)
 - 525/625 line Black Burst, or unbalanced AES/EBU sample frequency 48 kHz via BNC connector

Signal Outputs

- Digital Audio (Balanced –D versions)
 - 8 channel pairs AES/EBU via 25 way D Connector
- Digital Audio (Unbalanced –B versions)
 - 8/4 channel pairs AES/EBU via BNC Connectors

- Digital Audio Monitor (Balanced –D versions)
 - 1 channel pair AES/EBU via 9 way D Connector
- Digital Audio Monitor (Unbalanced –B versions)
 - 1 channel pair AES/EBU via BNC Connector



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Card Edge & RollCall Controls

Card Edge Controls (also available via RollCall)

Router Mode only, Configure output channels

Independently configure the 8 outputs to any of the 8 inputs

Take Button..... Initiates routing

Indicators

AES Input error..... Illuminates when there is an error on the AES inputs

Sync Loss Illuminates when locking source is lost

Take LED Flashes when routing assignment has changed and requires initiating via take button

Power OK..... +5 V, -5 V

Functions Available via RollCall™ Only

Input Sample rate detection. Automatic 32, 44.1, 48 kHz detection

Input program level adjust

Adjusts input programme level for each input channel from + 6 dB to -18 dB in 0.1 dB steps

Test tone insertion Insert test tone or silence into any output sub-frame

Test tone frequency Select test tone frequency from 250 Hz to 16 kHz in 250 Hz steps

Lock select Selects synchronizing source, from either:- Video, AES Reference, Input 1 or freerun

AES Input status monitor Displays AES format and status

Channel Status Monitor Displays input or output channel status for any subframe

Channel Status Editor Enables user to edit Channel status information

Peak Program Meter for any input
Scale of 0 - 7, 4 dB steps, adjustable 0 dBu reference ('4') - 10 dBFS to -24 dBFS

Phase reversal Independent phase reversal for any input subframe

Eight memory stores..... Storage and recall of selected parameters

Specifications

Input Impedance Balanced 110 ohm
Unbalanced 75 ohm

Cable Length..... Balanced, > 150 m of AES3 Cable
Unbalanced, up to 500 m of RG59 or Equivalent

Input Sample Frequency..... 16 – 96 kHz, Input '1' 48 kHz
±2 Hz if selected as the locking reference

Output Impedance Balanced 110 ohm
Unbalanced 75 ohm

Output Signal level..... Balanced 3 V pk to pk typical
Unbalanced 1 V pk to pk typical

Output Return Loss (-B)..... 33 dB at 6 MHz

Output Sampling 48 kHz frame locked to 48 kHz
AES/EBU reference, 48 kHz frame locked to PAL video reference, 48 kHz frame locked to every 5th frame of an NTSC video reference (Conforms to AES11 – 1997 spec)

Free run stability Grade 2..... ±10 ppm

Digital Reference Input Pull-In Range
±2 Hz

Distortion (THD + Noise) 24 bits
-117 dB, 1 kHz@ -1 dBFS, SRC
I/O ratio < 0.33 to 1.7 -104 dB,
1 kHz@
-1 dBFS, SRC I/O ratio < 0.33 to 3

Dynamic Range 120 dB

Channel Status delay..... 4 ms @ 48 KHz FSI/FSO

User data delay 4 ms @ 48 KHz FSI/FSO

Fader time 12.8 ms

Fader cut-off level..... - 60 dBFS

Jitter < 0.005 UI p-p

Audio processing delay (48 kHz I/O sample frequency)
1.9 ms max. with sampling rate
conversion TBD µs without
sampling rate conversion

Power Consumption

Module Power Consumption IQBRT8 5.7 W max (balanced versions)
IQBRT8 7 W max (unbalanced versions)
IQBRT6 5.4 W max (unbalanced versions)