

DUAL ANALOG STEREO to DIGITAL AUDIO AES / EBU CONVERTER 24-bit SAMPLING RESOLUTION - FREQUENCY RANGE 28.4 kHz to 108 kHz

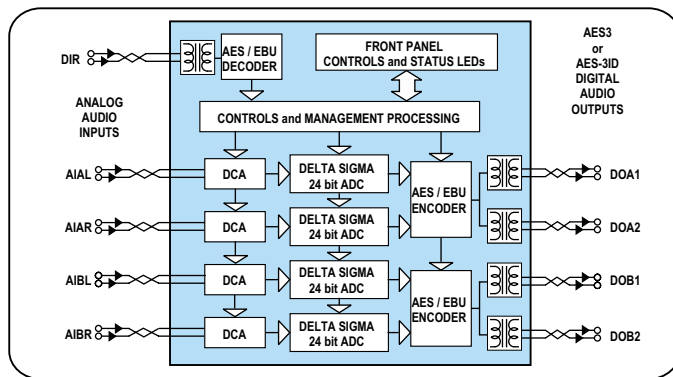
AAC 610

The **AAC 610** is a high-quality, 24-bit analog to digital audio converter which allows conversion of two stereophonic analog audio signals into two AES / EBU type digital signals.

The data rate is set by an internal clock, or may be synchronized with an external reference signal. Analog input levels may be adjusted from the front of the module.

The **AAC 610** is compatible with AES3 and AES-3ID.

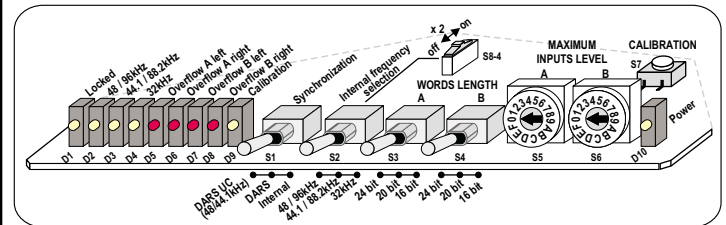
The **AAC 610** is designed on an "Europe" 3U electronic board.



Functional block diagram

Features

- 24-bit high-quality analog to digital audio conversion
- +9 to +24 dBu input level range for each channel
- 24-20-16-bit word length selections for each channel
- 48/96 - 44.1/88.2 - 32 kHz internal frequency selection
- 28.4 to 108 kHz external synchronized mode
- AES3 and AES-3ID supported
- All AES3 / AES-3ID input and outputs transformer isolated
- AES3 / AES-3ID external reference input with loop-through
- Overflow sign LED for each channel, Left and Right inputs
- Controls and signalling on front side of the board
- Configurations by internal switchers



Front edge of the board

User Controls

FRONT PANEL ADJUSTMENTS, SWITCHES and STATUS LEDs

CHANNEL A

- S3 : A right and left word's length format and "redithering" rate
D5 : A left input overflow
S5 : A right and left full scale input level
D6 : A right input overflow

CHANNEL B

- S4 : B right and left word's length format and "redithering" rate
D7 : B left input overflow
S6 : B right and left full scale input level
D8 : B right input overflow

COMMON CONTROLS

- S1 : Synchronization mode selection DARS_UC (48 / 44.1 kHz) - DARS (28.4 to 108 kHz) - Internal
S2 : Internal mode - sampling frequency selection
S8-4 : Internal mode - x 2 sampling frequency
S7 : Calibration mode internal push-button

COMMON STATUS LEDs

- D1 : AES outputs synchronised from DARS input
D2 : A and B - AES outputs sampled at 48 kHz or 96 kHz
D9 : Calibration sequence
D3 : A and B - AES outputs sampled at 44.1 or 88.2 kHz
D10 : Power supply presence
D4 : A and B - AES outputs sampled at 32 kHz

Technical Specifications

ANALOG INPUTS

- SIGNALS : 4 symmetrical mono inputs (2 per channel) or 2 symmetrical stereophonic inputs A and B channels
LEVEL : Maximum before overflow commutable 1 dBu step + 9 dBu to + 24 dBu
IMPEDANCE : 24 k Ω (differential)

REFERENCE INPUT (DARS)

- SIGNAL : AES3-1992, AES-3ID, CCIR REC647-1, Spec. IEC 958-1 Transformer isolated
AES3 (differential)
LEVEL : 200 mVpp to 7 Vpp
IMPEDANCE : 110 Ω commutable 10 k Ω
AES-3ID (asymmetrical)
LEVEL : 200 mVpp to 5 Vpp
IMPEDANCE : 75 Ω commutable 10 k Ω
SAMPLING : 28.4 kHz to 108 kHz

DIGITAL OUTPUTS

- SIGNALS : AES3-1992, AES-3ID, CCIR REC647-1, Spec. IEC 958-1 Transformer isolated 4 mono or 2 stereo channels
AES3
LEVEL : 3.8 Vpp (differential)
IMPEDANCE : 110 Ω
AES-3ID
LEVEL : 1 Vpp (asymmetrical)
IMPEDANCE : 75 Ω

PROCESSING PERFORMANCE

- QUANTIZATION : 24 Bit
20 or 16Bit (with dither)
SAMPLING
Internal : 32, 44.1, 48, 88.2, 96 kHz
External : 28.4 kHz to 108 kHz
POWER : 8 W

AAC 610

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Overall Performances

Digital audio performances

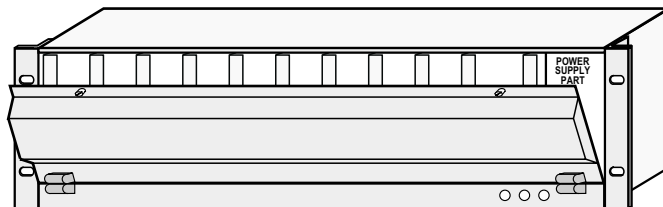
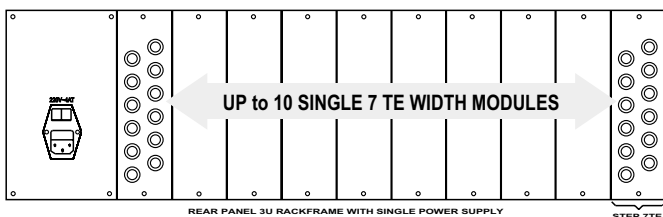
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|--|--|--|--------------------------------------|
| Dynamic (AES17-1991) : | > 107 dB (unweighted) | Pass band ripple : | < ± 0.05 dB 20 Hz to 20 kHz |
| Cross talk : | < -105 dB at 1kHz < -90 dB (@ 20 to 20 kHz - 3 channels active) | Audio delay : | 730 µs at 48 kHz 1.1 ms at 32 kHz |
| Typical bandwidth at - 0.5 dB sampling frequency 48 kHz : | 20 Hz to 22 kHz | Coincidence between outputs and AES frames reference : | < 100 ns |
| sampling frequency 44.1 kHz : | 20 Hz to 20 kHz | | |
| sampling frequency 32 kHz : | 20 Hz to 14.5 kHz | | |
| sampling frequency 88.2 kHz : | 20 Hz to 40 kHz | | |
| sampling frequency 96 kHz : | 20 Hz to 40 kHz | | |

Mounting Frames

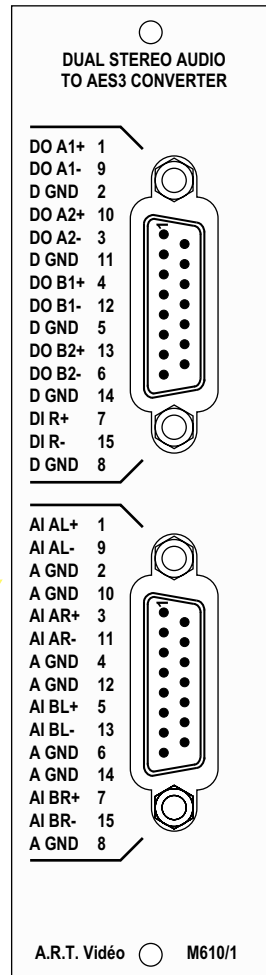
19" 3RU RACKFRAME

The 19" 3U rackframe holds up to 10 modules with single power supply unit and 9 modules with redundant power supply unit.
Access is given to electronic modules by rocking down the front panel. Ventilation of the rack is performed by forced convection.
Each module includes : electronic plug-in board, rear interconnection board, and rear mechanical support with the connectors.

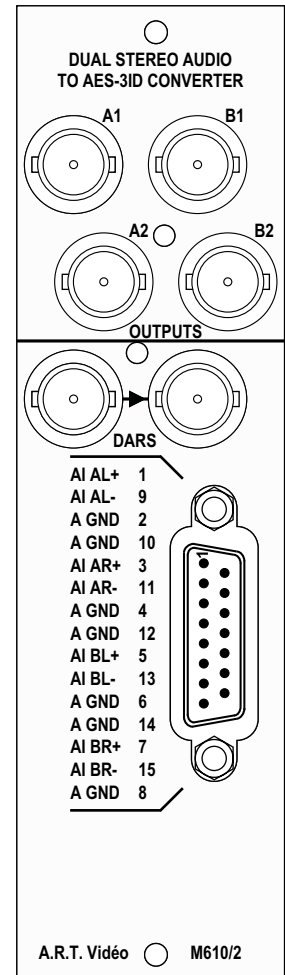
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|----------------------|--|
| DIMENSION : | 3RU x 410 mm deep |
| WEIGHT : | < 15 Kg |
| TEMPERATURE RANGE : | 0 - 40°C |
| ELECTRONIC MODULES : | 10 with single power supply 9 with redundant power supply |
| POWER INPUT : | 88 - 135 V or 185 - 264 V (commutable) 50 / 60 Hz |
| POWER : | 150 W max |



3U MODULE REAR PANEL IN / OUT AES3 STANDARD



3U MODULE REAR PANEL IN / OUT AES-3ID STANDARD



Ordering informations

19" 3RU rackframe

| | | | |
|--------------|---|------------|---|
| M-AAC610/1 : | dual analog to digital audio AES / EBU converter AES3 standard 3U module for 19" 3RU rackframe (Electronic plug-in board and rear panel) | B-AAC610 : | dual analog to digital audio AES / EBU converter AES3 and AES-3ID electronic plug-in board |
| M-AAC610/2 : | dual analog to digital audio AES / EBU converter AES-3ID standard 3U module for 19" 3RU rackframe (Electronic plug-in board and rear panel) | MOD 3U : | rear panel for 19" 3U rackframe |
| | | RACK3U-1 : | 19" 3RU rackframe with single power supply |
| | | RACK3U-2 : | 19" 3RU rackframe with redundant power supply |
| | | BPM-1 : | blank rear panel unit |

Specifications and designs are subject to change without notice