

Crystal Vision

DACA214 Dual Digital to Analogue Audio Converter



The DACA214 is a dual AES/EBU to analogue audio converter. 24 bit conversion, excellent noise and distortion figures and Crystal Vision's sophisticated audio error masking together create a truly high quality output. The competitively priced DACA214 offers two independent channels on a 100mm x 266mm module, therefore allowing 24 channels in 2U and making it the perfect audio converter for applications where available rack space is limited.

AES inputs can be 110Ohm balanced, high impedance balanced or 75Ohm unbalanced. The DACA214 can accept signals with sampling rates anywhere between 30kHz and 50kHz, although a clock rate of 48kHz tends to be the case for most applications. Each input has a clock regenerator for 48kHz signals to ensure low distortion conversion and the highest quality output.

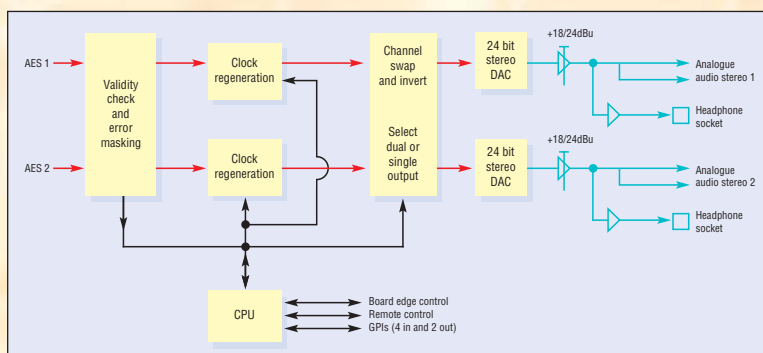
Analogue audio output levels are conveniently preset to give either +18dBu or +24dBu for 0dBFS digital (the most common audio levels within television stations), or can be continuously adjusted from +12dBu to +28dBu.

Other useful features include the option to swap stereo channels 1 and 2 and the ability to invert the phase of the right hand channel to correct phasing errors. The DACA214 can even be converted to single channel operation if additional outputs from a single stereo input are required. A stereo headphone jack at the front of the board allows you to easily monitor the contents of each stereo pair.

The DACA214 can be used with three different frame rear modules (the RM03, RM11 and RM12), with each giving two analogue stereo outputs per channel.

There is a choice of control and status monitoring options to suit all tastes, including board edge, an active front panel on the frame, a remote control panel or the Statesman PC Control System. GPI outputs can be set to raise an alarm on loss of AES input or sustained silence. The duration of silence before a warning is given can be programmed from 1.5 seconds to 120 seconds in eight second steps.

- ☞ Dual digital to analogue audio converter
- ☞ Two 24 bit AES/EBU stereo inputs
- ☞ Excellent noise and distortion figures
- ☞ Works with 30KHz to 50kHz sampling rates
- ☞ Clock regeneration for 48kHz
- ☞ +12dBu to +28dBu output level for 0dBFS digital input
- ☞ Audio error masking
- ☞ Space saving: 100mm x 266mm dual module allows 24 channels in 2U (48 in 4U, 12 in 1U, four in desk top box)
- ☞ Flexible control and status monitoring



SPECIFICATION

MECHANICAL

Standard Crystal Vision module 266mm x 100mm

Weight: 200g

Power consumption: 8.75 Watts

AUDIO INPUTS

Two 24 bit stereo pairs

AES3 110Ohm (balanced) D-Type or AES3-id (unbalanced)

75Ohm BNC. Set by on-board jumper links to 75Ohm, 110Ohm

or high impedance for multiple units on a single feed

Works with any sampling rates between 30kHz and 50kHz,

usually 32, 44.1 and 48kHz. Clock regeneration for 48kHz

AUDIO OUTPUTS

Maximum of two analogue audio stereo outputs per channel, using RM03, RM11 and RM12 frame rear modules

Low impedance balanced (66Ohm) output

Can convert to single channel operation if extra outputs from single input required

Level Range: 0dBFS = +28dBu Max

0dBFS = +12dBu Min

Factory set default: 0dBFS = +18dBu or +24dBu by on-board link

Signal to noise: Weighted better than -98dB

Total Harmonic Distortion (THD): <.0025% at

+18dBu/+24dBu (48kHz crystal mode)

Interchannel crosstalk: <-110dB

Frequency response: +/- 0.1dB 20Hz to 20kHz

DELAY THROUGH BOARD

100ns

GPI INPUT LEVELS

Connect to ground active

Inactive high impedance or 3 to 48 volts

Input current <50uA

GPI OUTPUT LEVELS

CMOS levels

Max current 20mA

GPI INPUTS

Select 48kHz crystal or auto frequency on AES input 1

Select 48kHz crystal or auto frequency on AES input 2

Swap channels 1 and 2

Single stereo (all outputs from AES input 1)

GPI OUTPUTS

AES errors (one per channel)

Error can be set to include sustained silence. Set period of silence before indication from 1.5 to 120 seconds in eight second increments

LED INDICATION OF:

Power supplies on board

AES input present

AES silent

Sample rate

Remote control

LOCAL CONTROL

Options and silence indication delay set by switches at board edge

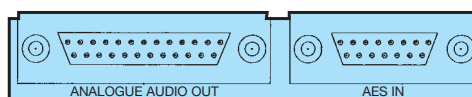
REMOTE CONTROL

RS422/485

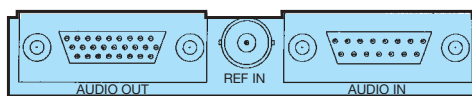
19200 baud, 8 bits, 1 stop no parity

Control from frame active panel and remote panel

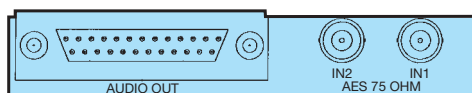
Statesman allows control from any PC on a network



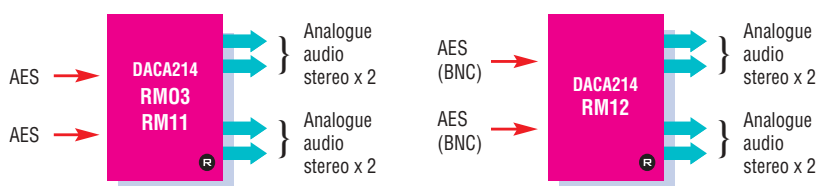
RM03



RM11



RM12



ORDERING INFORMATION

DACA214	24 bit dual AES/EBU to analogue audio converter
Indigo 4	4U frame with passive front panel for up to 24 Crystal Vision modules
Indigo 4S	4U frame with passive front panel fitted with Statesman CPU for up to 24 Crystal Vision modules
Indigo 2	2U frame with passive front panel for up to 12 Crystal Vision modules
Indigo 2A	2U frame with active front panel for up to 12 Crystal Vision modules
Indigo 2S	2U frame with passive front panel fitted with Statesman CPU for up to 12 Crystal Vision modules
Indigo 1	1U frame with passive front panel for up to six Crystal Vision modules
Indigo 1A	1U frame with active front panel for up to six Crystal Vision modules
Indigo 1S	1U frame with passive front panel fitted with Statesman CPU for up to six Crystal Vision modules
Indigo DT	Desk top box with passive front panel for up to two Crystal Vision modules
Indigo DTA	Desk top box with active front panel for up to two Crystal Vision modules
Indigo DTS	Desk top box with passive front panel fitted with Statesman CPU for up to two Crystal Vision modules
RM03	Single slot frame rear module. Allows maximum number of DACA214s in frame (24 in 4U, 12 in 2U, six in 1U, two in desk top box). Gives access to two 110Ohm AES inputs and two analogue audio outputs per channel
RM11	Single slot frame rear module. Allows maximum number of DACA214s in frame (24 in 4U, 12 in 2U, six in 1U, two in desk top box). Gives access to two 110Ohm AES inputs and two analogue audio outputs per channel
RM12	Single slot frame rear module. Allows maximum number of DACA214s in frame (24 in 4U, 12 in 2U, six in 1U, two in desk top box). Gives access to two 75Ohm AES inputs and two analogue audio outputs per channel
REMIND	19" remote control panel
Statesman	PC Control System

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