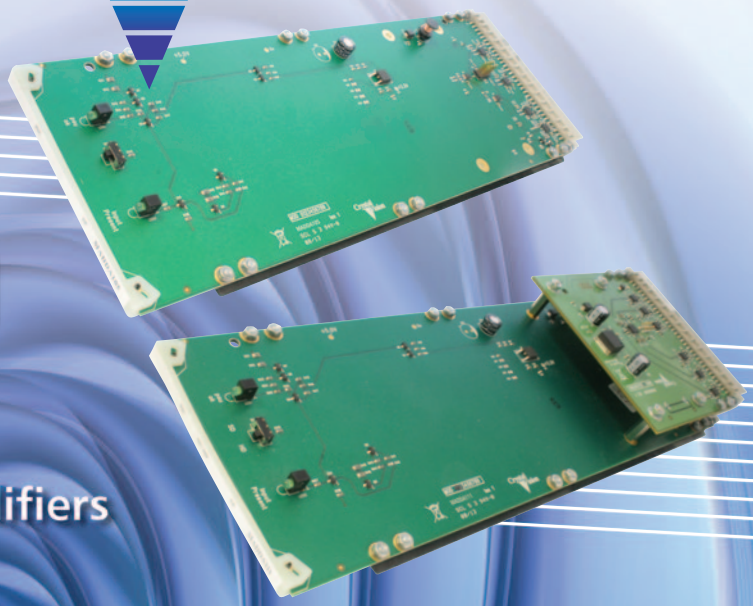
Crystal Vision

MADDA105 and MADDA111

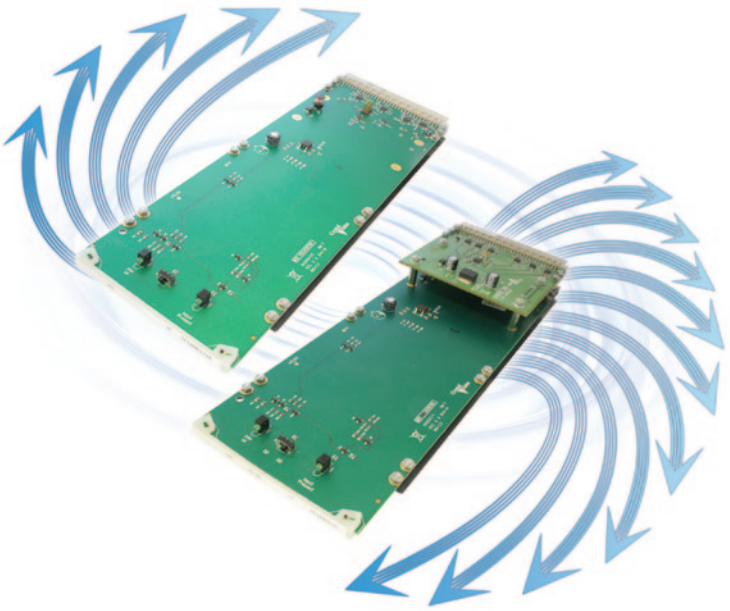
MADI (AES10) distribution amplifiers



Ideal for broadcasters who require access to all their audio everywhere, the MADDA105 and MADDA111 audio distribution amplifiers take in a MADI (AES10) data stream usually containing up to 64 mono audio channels and create multiple copies of this data stream which can then be sent to different places.

The low-cost MADDA105 and MADDA111 are perfect for any applications where you need to transport a large amount of audio as a block – especially if you are already using other Crystal Vision products. You'll get up to eleven copies of your MADI data stream, they support different sampling rates, and they even fit in the same Indigo frames as the interface and keying products.

- Find the perfect MADI distribution amplifier for your application: available in two versions
- Get multiple copies of your MADI signal to send to all your audio areas: choice of five outputs with MADDA105 or eleven outputs with MADDA111
- Different sample rates supported: from the industry standard payload of 64 channels at a sampling rate of 48 kHz to sampling rates up to 96 kHz
- Easy to tell if you have a signal: LED and GPI output indication of signal presence
- Protect your output: optional relay bypass protection of the input on power failure or board removal means you won't lose all your audio
- Easy to use them with any other Crystal Vision products: housed in standard Indigo frames
- Saves rack space: 100mm x 266mm module allows 12 MADDA105 in 2U (six in 1U and two in desk top box), while 'double decker' 100mm x 266mm module allows six MADDA111 in 2U (three in 1U and one in desk top box)



GET ACCESS TO ALL YOUR AUDIO EVERYWHERE

The MADDA105 and MADDA111 MADI distribution amplifiers provide a convenient and inexpensive way to get access to all your audio everywhere, without you having to worry about the details in advance.

Designed for transporting a large amount of audio as a block, MADI (AES10) is an audio signal format used for getting many channels of audio down a single coax cable, with these multiple AES streams packed together and sent with a higher data rate. MADDA105 and MADDA111 can distribute any MADI audio: they take in a MADI data stream and create multiple copies of this data stream which can then be sent to different places.

MADI makes it easy to have a very flexible audio system by providing all your areas with 'raw' audio channels, not just a selected mix or subset. With the five outputs provided by MADDA105 or by using the impressive 11 outputs provided by MADDA111, you can easily send all your audio channels to all your audio areas.

By including just the essential features for a MADI DA – with their cost-effective non-reclocked outputs and simple LED and GPI signal monitoring – Crystal Vision ensures MADDA105 and MADDA111 stay a truly low-cost solution to MADI distribution.

CHOOSE YOUR SAMPLING RATE

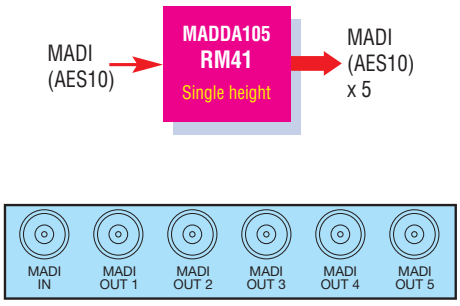
MADDA105 and MADDA111 give you flexibility. They support the industry standard payload of 64 channels at a sampling rate of 48 kHz, with sampling rates up to 96 kHz also supported for those requiring fewer channels in return for the cleanest possible sound.

The AES10-2008 specification allows 56 channels at sample rates from 32 to 48 kHz with a tolerance of ±12.5%, a nominal 64 channels at sample rates from 32 to 48 kHz and 28 channels at sample rates from 64 to 96 kHz with a tolerance of ±12.5%.

REAR MODULE CONNECTIONS

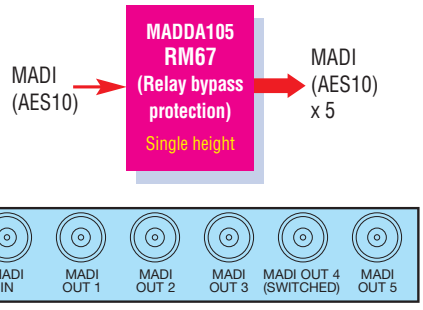
MADDA105

For standard applications



RM41

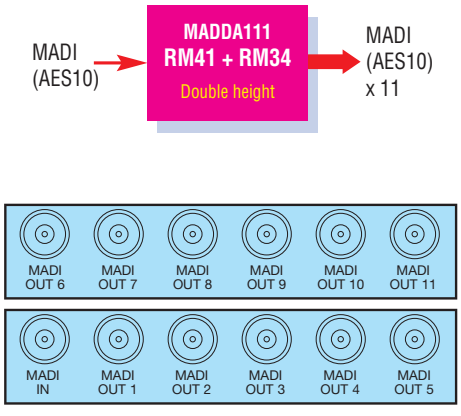
For relay bypass protection applications



RM67

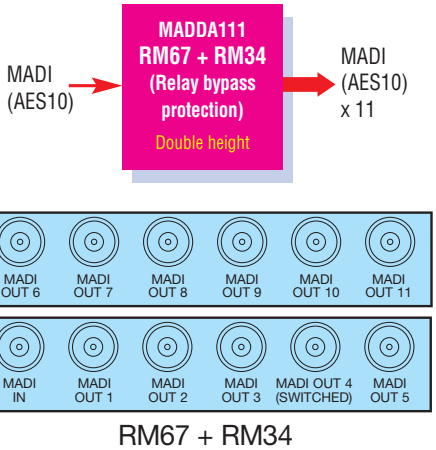
MADDA111

For standard applications



RM41 + RM34

For relay bypass protection applications



RM67 + RM34

SIGNAL MONITORING

It's always good to know you've got an input.

MADDA105 and MADDA111 include useful signal monitoring, providing both LED and GPI output indication of signal presence, as well as on-board power supplies fault.

SAVE RACK SPACE

The MADI distribution amplifiers fit in Crystal Vision's Indigo frames (available in 2U, 1U and desk top box sizes) alongside the other products and offer a choice of rear modules to suit your budget and application.

MADDA105 is a space-saving 100mm x 266mm module which sits in one frame slot allowing up to 12 MADI DAs in 2U. It uses the RM41 or RM67 frame rear modules to access the one MADI input and five MADI outputs.

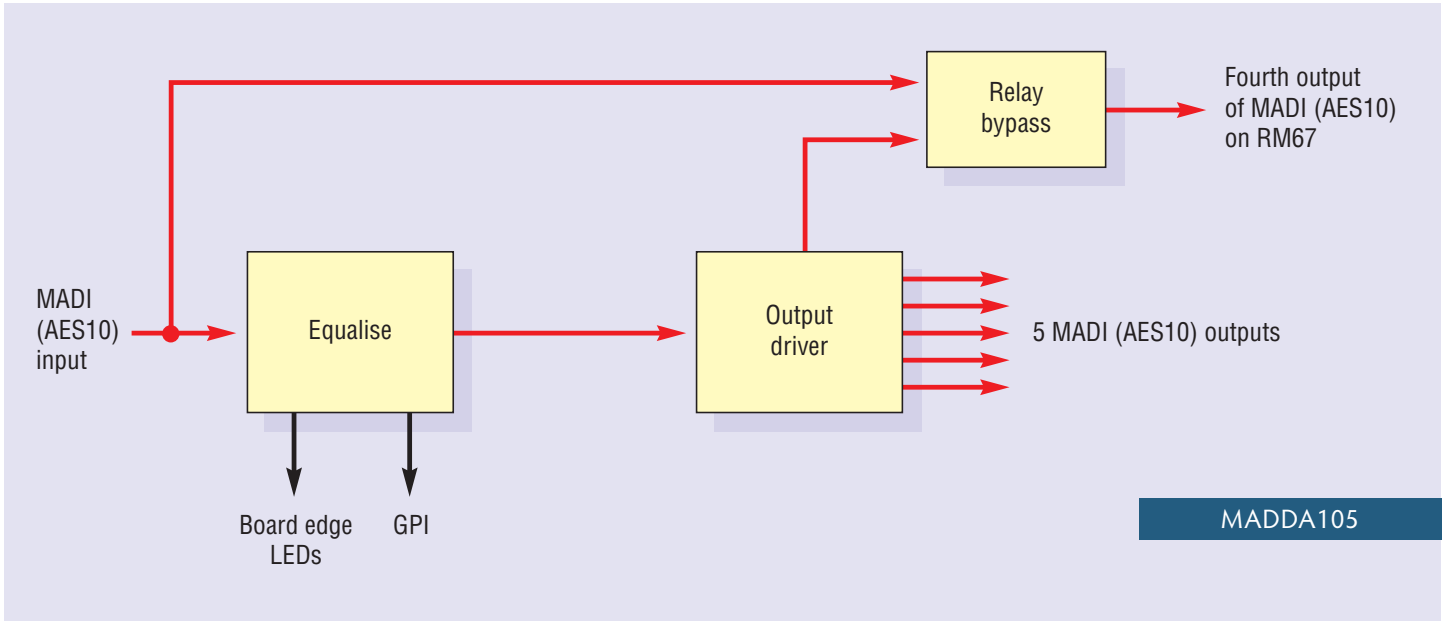
Designed for those applications requiring even more outputs, MADDA111 is a 'double decker' 100mm x 266mm module which sits in two frame slots allowing up to six MADI DAs in 2U. It uses either the RM41 and RM34 frame rear modules together or the RM67 and RM34 rear modules together to access the one MADI input and eleven MADI outputs.

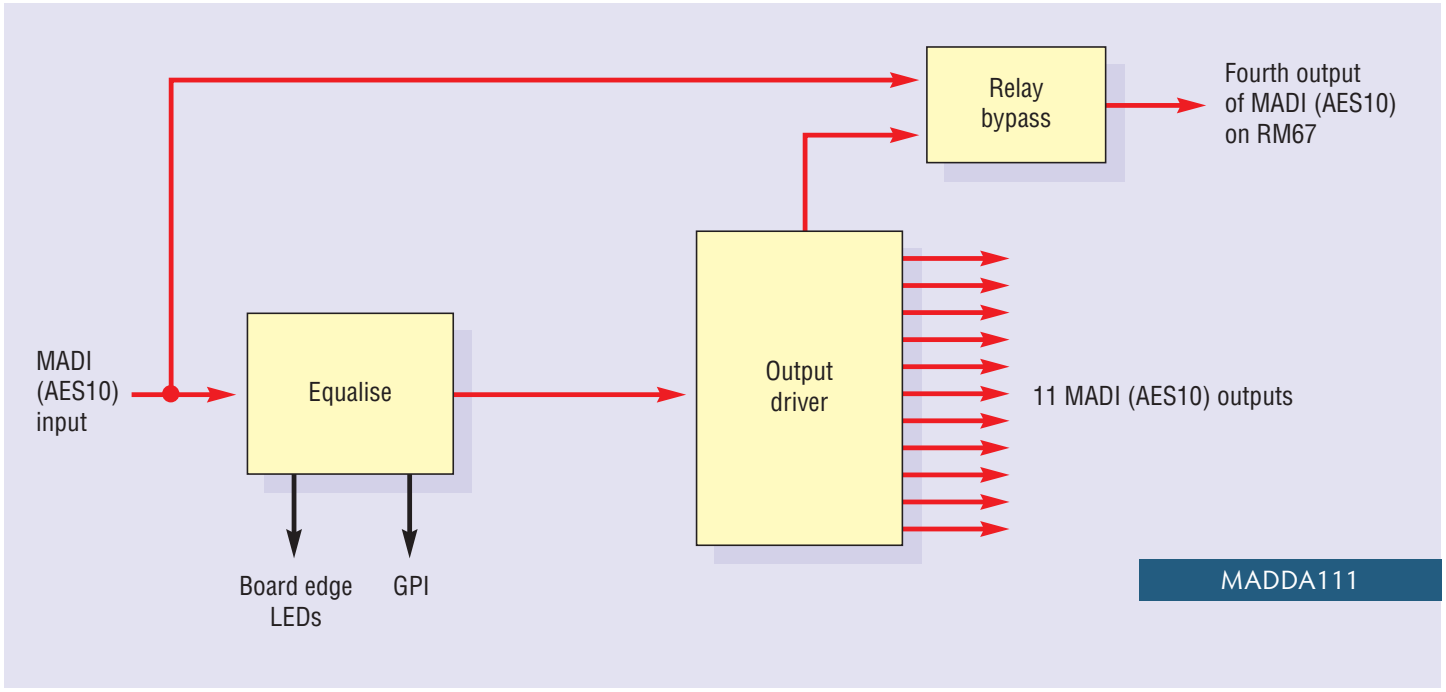
PROTECT YOUR AUDIO OUTPUT

Using MADI allows you to have all your audio available everywhere – so if you lose your MADI you potentially lose all your audio.

With this in mind, the RM67 frame rear module includes relay bypass protection on power failure or board removal, giving that extra layer of security and preventing signal loss.

THE INPUTS AND OUTPUTS





SPECIFICATION

Specification applies to both versions unless otherwise stated

MECHANICAL

MADDA105: Standard Crystal Vision module 266mm x 100mm

MADDA111: 'Double decker' Crystal Vision module 266mm x 100mm (uses two frame slots)

Weight: 140g (MADDA105); 200g (MADDA111)

Power consumption: 2.8 Watts (MADDA105); 5.2 Watts (MADDA111)

AUDIO INPUT

One MADI (AES10) input

Sampling rates supported (as specified in AES10-2008): 32 kHz to 48 kHz +/- 12.5%, 56 channels; 32 kHz to 48 kHz nominal, 64 channels; 64 kHz to 96 kHz +/- 12.5%, 28 channels

MADI (AES10) cable equalisation up to 250m using Belden 1694A or equivalent

AUDIO OUTPUTS

MADDA105: Five non-reclocked MADI (AES10) outputs using RM41 or RM67 frame rear modules

MADDA111: 11 non-reclocked MADI (AES10) outputs using RM41 + RM34 or RM67 + RM34 frame rear modules

The RM67 frame rear module provides relay bypass protection. An electromechanical relay switch needs power to hold the switch in one state and will revert to the other state (board bypass) on loss of power. It prevents signal loss by mechanically connecting the input of MADDA105 or MADDA111 to its fourth output on complete frame power failure or board removal

Output Amplitude: 600mV +- 10%

Output Rise/Fall Time: 1-3ns

Additive Jitter: 1ns p-p typ.

DELAY THROUGH BOARD

50ns max

LED INDICATION OF:

Input present

Power supplies okay

GPI OUTPUT LEVELS

Electrically: Open collector transistors 30V, 270 ohm current limit resistors. Pulled up to +5V through 6800 ohm

GPI OUTPUTS

Two GPI outputs

Input present

Power supplies okay

ORDERING INFORMATION

MADDA105	MADI distribution amplifier with up to five outputs
MADDA111	MADI distribution amplifier with up to eleven outputs
Indigo 2SE	2U frame with active front panel featuring smart CPU for up to 12 Crystal Vision modules
Indigo 1AE-DP	1U frame with active front panel featuring smart CPU and integrated control panel for up to six Crystal Vision modules, with included power supply redundancy
Indigo 1SE-DP	1U frame with active front panel featuring smart CPU for up to six Crystal Vision modules, with included power supply redundancy
Indigo DT	Desk top box with passive front panel for up to two Crystal Vision modules
Indigo DTSE	Desk top box with active front panel featuring smart CPU for up to two Crystal Vision modules
RM41	Single slot frame rear module used for MADDA105. Allows maximum number of boards in frame (12 in 2U, six in 1U, two in desk top box). Gives access to one MADI input and five MADI outputs
RM41 + RM34	Two single slot frame rear modules used together for MADDA111. Allows six boards in 2U, three in 1U and one in desk top box. Gives access to one MADI input and eleven MADI outputs
RM67	Single slot frame rear module used for MADDA105. Allows maximum number of boards in frame (12 in 2U, six in 1U, two in desk top box). Provides relay bypass protection of the input. Gives access to one MADI input and five MADI outputs
RM67 + RM34	Two single slot frame rear modules used together for MADDA111. Allows six boards in 2U, three in 1U and one in desk top box. Provides relay bypass protection of the input. Gives access to one MADI input and eleven MADI outputs

Crystal Vision

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