DDA108

SDI distribution amplifier

USER MANUAL

Crystal Vision

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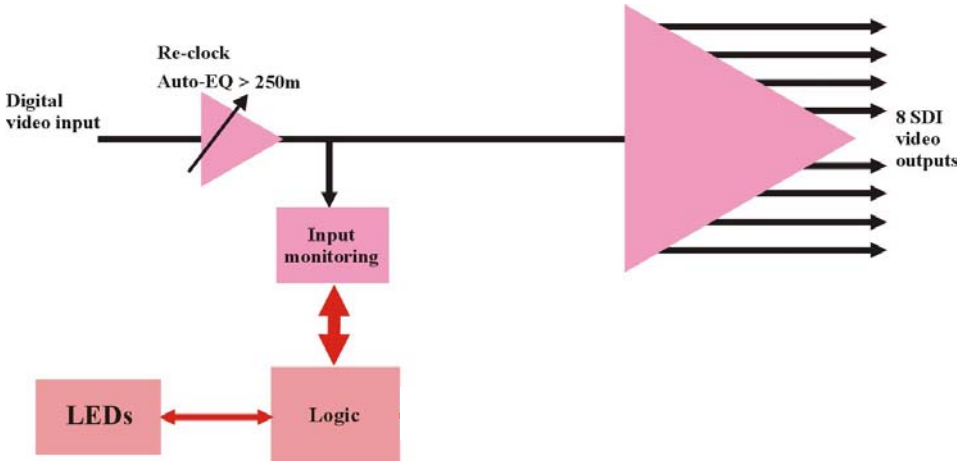
Revision 2	Title and format corrected.	
Revision 3	Specifications updated.	30/06/2010

1 Introduction

The DDA108 is a reclocking serial digital distribution amplifier with up to eight outputs. It has auto-equalisation for up to 250 metres of coaxial cable.

The universal connection system allows a mixture of Crystal Vision modules in the frame. The modules plug in the front and the rear connectors plug in the rear. Depending on frame design, a hinged or removable front panel reveals LED indication of input and PSU status when opened.



DDA108 reclocking Serial Digital distribution amplifier

The DDA108 may be used with the RM01 single slot rear connector, the RM02 quadruple slot rear connector and the RM18 double slot rear connector. A single slot rear connector provides five equalised outputs and three extra outputs are available with the double and quadruple slot connectors.

The DDA108 is very compact with 12 modules fitting in a 2U frame when a single slot rear connector is used.

Further rear connector details may be found in the Installation chapter.

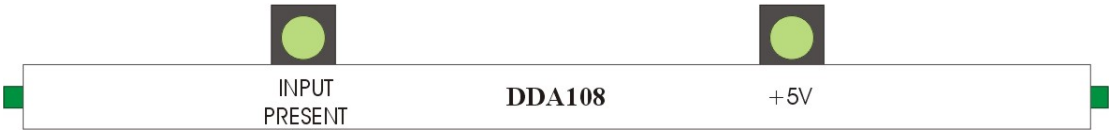
The main features are as follows:

- 1 in 8 out SDI video distribution amplifier
- Automatic equalisation for up to 250 metres of coaxial cable
- LED input presence indication
- Card edge control

Note: This manual covers the DDA108. The DDA108A with 8 non-inverting SDI/ASI outputs is also available.

2 Card edge operation

The front edge of the DDA108 card provides power rail monitoring and signal status.



DDA108 front edge view

LED	Location/colour	Meaning when lit
INPUT	Green	Valid SDI input detected.
PSU	Green	Power supply voltage present.

Cable equalisation

Cable equalisation is automatically adjusted for up to 250 meters of Belden 8281 or similar cable. There are no user adjustments.

3 Hardware installation

The DDA108 digital video distribution amplifier fits into all Crystal Vision rack frames. All modules can be plugged in and removed while the frame is powered without damage.

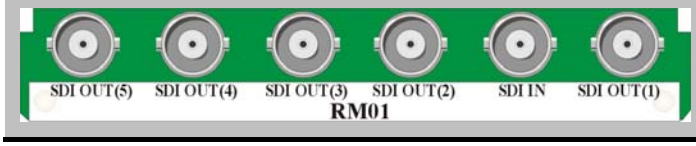
3.1 Universal rear connectors

When used with a single height rear connector, the 2U Indigo or FR2AV frame will house up to 12 modules and dual power supplies, the 1U Indigo or FR1AV frame will house 6 modules and a single power supply. The 1U Desk Top Box has a built-in power supply and will house up to 2 modules with a single height rear connector.

The 2U and 1U frames have a hinged front panel which gives access to the PSU and all modules. The Desk Top Box has a removable front. The universal frame wiring system allows any of the interface range of modules to be fitted in any position with the use of removable rear modules.

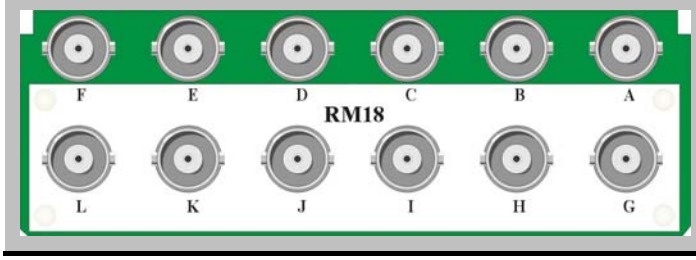
The DDA108 may be used with the RM01 single slot rear connector, the RM02 quadruple slot rear connector and the RM18 double slot rear connector.

Rear module connections with RM01

RM01 fits in all frames	Description
	**RM01** • 12 modules in 2U, 6 in 1U & 2 in a DTB • All frame slots can be used

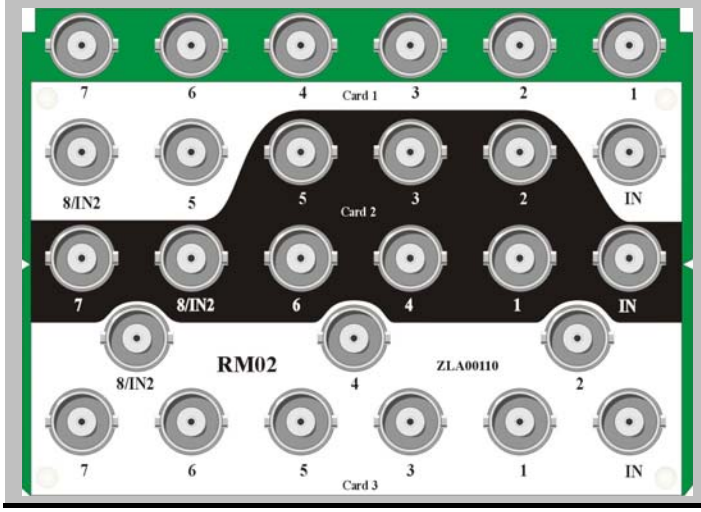
BNC	I/O assignment
SDI OUT(1)	Reclocked SDI output
SDI IN	SDI input
SDI OUT(2)	Reclocked SDI output
SDI OUT(3)	Reclocked SDI output
SDI OUT(4)	Reclocked SDI output
SDI OUT(5)	Reclocked SDI output

Rear module connections with RM18

RM18 fits in all frames	Description
	**RM18** • 6 modules in 2U , 3 in 1U, 1 in a DTB • 1 module per rear connector • 6 connections available • Card fits in upper slot • No card fits in lower slot

BNC	I/O assignment
A	N/C
B	SDI input
C	Re-clocked SDI output
D	Re-clocked SDI output
E	Re-clocked SDI output
F	Re-clocked SDI output
G	N/C
H	Re-clocked SDI output
I	Re-clocked SDI output
J	Re-clocked SDI output
K	N/C
L	Re-clocked SDI output

Rear module connections with RM02

RM02 fits in a 2U Indigo or FR2AV frame	Description
	**RM02** • 9 modules per 2U frame • 3 modules per rear connector • 9 connections available • Card 1 fits in slots 1, 5 and 9 • Card 2 fits in slots 2, 6 and 10 • Card 3 fits in slots 4, 8 and 12 • No card fits in 3, 7 or 11

BNC	I/O assignment
SDI IN	SDI input
1	Reclocked SDI output
2	Reclocked SDI output
3	Reclocked SDI output
4	Reclocked SDI output
5	Reclocked SDI output
6	Reclocked SDI output
7	Reclocked SDI output
8/IN2	Reclocked SDI output

4 Problem solving

Basic fault finding guide

The Power OK LEDs are not illuminated

Check that the frame PSU is functioning – refer to the appropriate frame manual for detailed information

Check that the card is seated correctly in the frame

There is no video output

Check that a valid video input is present and that any cabling is intact

The video output is low quality

Check that the maximum length has not been exceeded

The card no longer responds to card edge control

Check that the card is seated correctly and that the +5V LED is lit

If necessary re-set the card

Re-setting the card

If required, the card may be reset by simply removing the rack power and re-applying power after a few seconds or by removing the card from the rack and then re-inserting the card

It is safe to re-insert the card whilst the rack is powered

5 Specification

General

Dimensions	100mm x 266 mm module with DIN 41612 connector
Weight	96g
Power consumption	2.5 W

Inputs

Video	270Mb/s serial digital to EBU Tech 3267-E and SMPTE-259M
	Cable equalisation >250m Belden 8281 or equivalent
	Input return loss >15db at 270Mbs

Outputs

Number and type:	8 SDI re-clocked
	Each will drive >250m Belden 8281 or equivalent
	Output return loss >15db at 270Mbs

Status monitoring

LED display	Front of card edge visual monitoring with LED indicators to indicate:
	PSU rail present, Input present