V6153
HD 1:8 SDI Distribution Amplifier
V6154
HD 1:16 SDI Distribution Amplifier

User Guide

Issue: 2.0

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Contents

1 Description

The V6153 and V6154 are a pair of distribution amplifiers for SDI Video. Both can process both Standard Definition (SD) and High Definition (HD) video, but the V6153 has eight outputs while the V6154 has sixteen outputs.

The V6153 is a single width module, while the V6154 is a double width module, requiring a pair of rear modules. Unlike some double width modules the pair of rears does not need to be bound together, although the rear overlay covers both actual rears.

Both units are part of the V1600 range of interface modules and are built on a 3U high Eurocard which can be fitted into a V1606 3U chassis along with any other cards from the range. Unlike many modules in the range the V6153 and V6154 cannot be used in the V1601 1U Chassis. This is due to the technical requirements for HD signal bandwidths.

The video data rate is automatically selected from the incoming SDI video and identified as SD from data rates of 143, 177, 270, 360, 540 Mbits/s or HD from 1.485Gbits/s. A pair of LEDs on the front panel indicates whether the input signal is present and whether it is SD or HD.

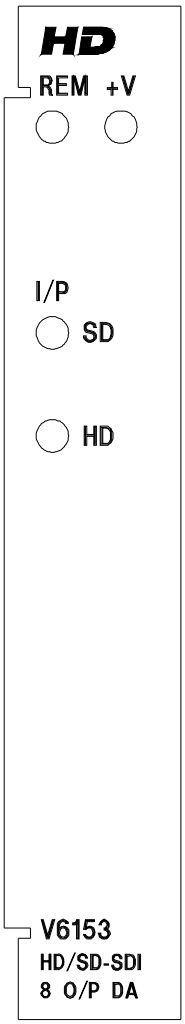
Both DAs include a re-clocker to regenerate the SDI signal, but this can be disabled using an on-board link. In some installations the use of a non-reclocking DA is preferred to avoid locking jitter errors into a signal.

Both modules receive all their power and IO signals from the rack through the passive rear modules.

Both modules are compatible with the DART remote control and monitoring system. They have no controls but will indicate Signal Present, SDI Standard, SD or HD and whether Re-clocking is enable or disabled.

2 Installation

2.1 V6153 Front Panel



The REM LED indicates that the module/control system communications link is active.

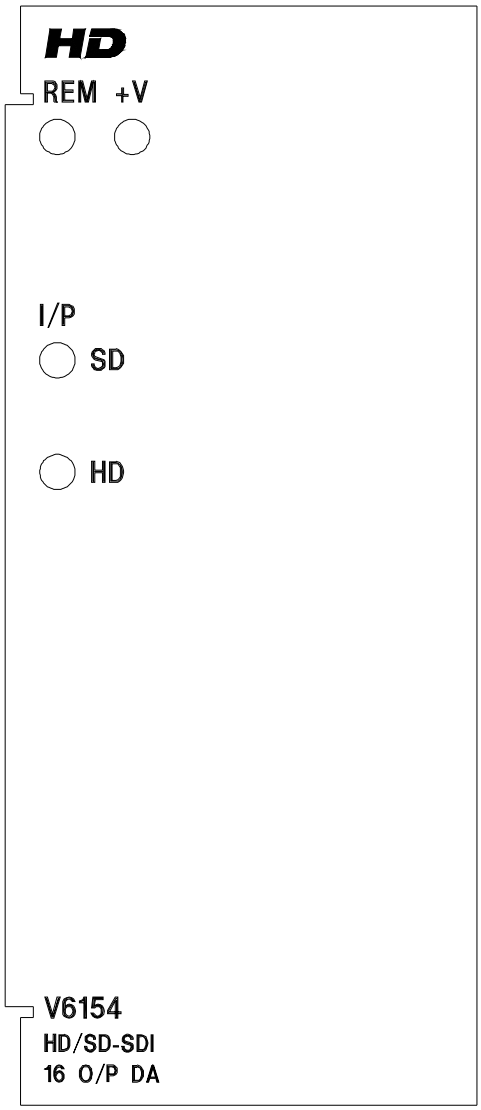
The +V LED indicated that power is applied to the module.

The SD LED indicates that the serial digital video input has been detected as a Standard Definition signal.

The HD LED indicates that the serial digital video input has been detected as a High Definition signal

When both the SD and HD LEDs are off, no valid video input has been detected.

2.2 V6154 Front Panel



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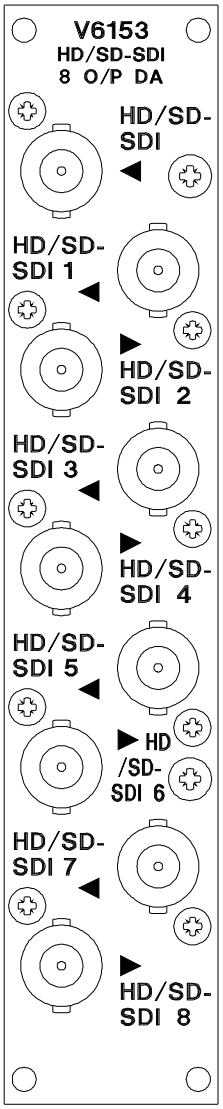
2.3 V6153 Rear Panel

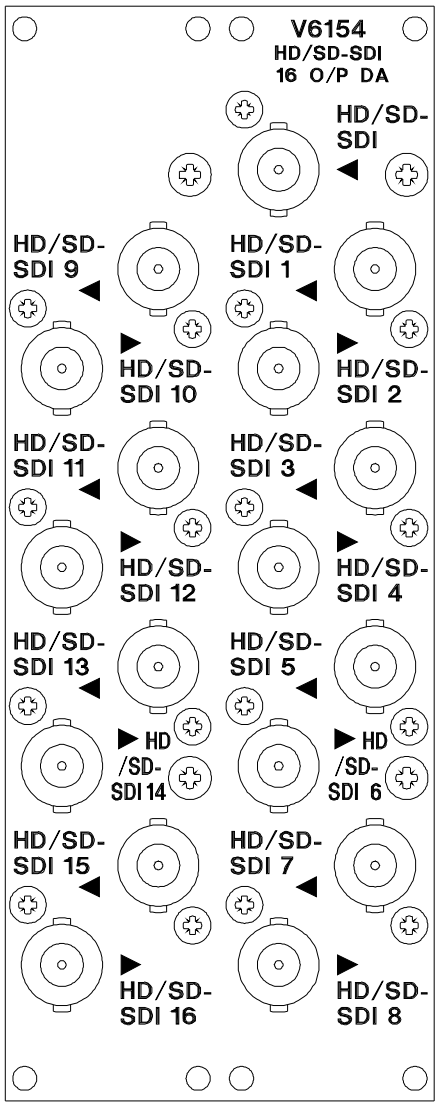
V16HR3F



SIGNAL	SOURCE	COMMENTS
HD/SD-SDI	SDI Video I/P	Sourcing cable length up to 200m @ 270Mbit/s
HD/SD-SDI 1 to 8	8 SDI Video Outputs	SDI Outputs

2.4 V6154 Rear Panel

2 x V16HR3F



SIGNAL	SOURCE	COMMENTS
HD/SD-SDI	SDI Video I/P	Sourcing cable length up to 200m @ 270Mbit/s
HD/SD-SDI 1 to 16	16 SDI Video Outputs	SDI Outputs

2.5 Power Consumption

Module	Power
V6153	<5W
V6154	<5W

2.6 Insertion Delay

SIGNAL	DELAY
HD	<5ns
SD	<20ns

3 Operation

3.1 General

The V6153 is a combination of two PCBs; a main baseboard and an IO sub-module.

The V6154 is a combination of three PCBs; a main baseboard, and two identical IO sub-modules.

The main baseboard provides all the power distribution and DART remote control logic, while the sub-modules take the SDI input and provide all the outputs.

3.2 Link Setting

A link is used to enable or disable the re-clocker on the main module. The link setting is defined here:

		Pos 2-3	Pos 1-2
Re-clocker	**JP 1**	Off	ON

3.3 ASI Signals

Although the V6153 and V6154 are essentially SDI DAs, they can be used for ASI signals on some outputs. The main difference between an ASI signal and a pure SDI signal is that SDI is polarity independent while ASI signals are not. (There are other technical differences, but this is the critical one which directly affects the signal integrity.)

Half of the outputs do have the correct polarity, and can safely be used for ASI signals as shown here:

	V6153	V6154
ASI Compatible O/Ps	1,3,5,7	1,3,5,7,9, 11,13,15

3.4 DART Controls

This unit has no remote controls, but does have remote status indication as follows:

- **Input Locked**
- **SD or HD**
- **Re-locker – ON or OFF**
- **SDI Standard – 143, 177, 270, 360, 540 or 1485 Mb/s**
- **16 O/P IO module fitted**