

Specification

Input	
Impedance	High impedance bridging 75Ω termination
Connector	75Ω BNC
Common mode signal level	>5V peak to peak
CMRR	>60dB to 15kHz >40dB @ 5.5MHz
Signal level	1V peak to peak
Return loss	>36dB to 5.5MHz
Cable equalisation	0-450m (Belden 8281)
Output	
Number	Looping input and 3 outputs
Connector	75Ω BNC
Signal level	1V peak to peak
DC offset	<±20mV
Return loss	>46dB to 5.5MHz
Isolation	>70dB to 5.5MHz
Electrical length	11nS EQ set to 0m 7nS EQ set to 150m
Consistency	Typically <0.5nS
Performance	
Gain range	±3dB
Frequency response	±0.1dB to 20MHz, ±0.25dB to 30MHz, -1dB @ 50MHz
Pulse to bar ratio	<0.2%K
Bar slope	<0.2%K
Pulse slope	<0.2%K
Y/C gain inequality	<0.5%
Y/C delay inequality	<±1nS
Isolation	>70dB to 5.5MHz
Differential gain	<0.1% (12.5-87.5% APL)
Differential phase	<0.1° (12.5-87.5% APL)
Power	
Voltage	6-12V DC
Current	150mA
Power connector	Locking 2.5mm jack connector (centre +ve)
Other	
LED	Power only red, signal present, green
Temperature range	0°C to 40°C
Dimensions	63.5mm x 84mm x 30mm (excluding connectors)
Weight	160g
<i>We reserve the right to change technical specifications without prior notice. E&OE.</i>	



User Guide



4500 Analogue VDA

Analogue video distribution amplifier with looped input and three outputs

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EU declaration of conformity

We certify that this apparatus conforms to the requirements of the EMC and Low Voltage Directives. Emissions EN55103-1, susceptibility EN55103-2 and safety EN60950-1 2002.

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Warranty

DTL Broadcast Ltd warrants this unit against defects in materials and workmanship for a period of one year from the date of shipment. At its option, the company will repair or replace products that prove to be defective during the warranty period, provided they are returned to the company with advance notification and with freight prepaid. Repairs may only be conducted by an authorised representative of the company. As a result any unauthorised repair or attempted repair will automatically void the warranty.

When a distributor supplies the company's products, that distributor should be approached initially if there are any warranty problems.

The company makes no other warranties, express or implied, as to the merchantability, fitness for a particular purpose, or otherwise. The company's liability for any cause, including breach of contract, breach of warranty, or negligence, with respect to products sold by it, is limited to repair or replacement by the company, at its sole discretion. This remedy is exclusive. In no event shall the company be liable for any incidental or consequential damages, including loss of profits.

General description

The 4500 is a broadcast quality analogue video distribution amplifier. It has a looped input and three outputs. There are controls to adjust the gain and equalisation as well as a button to reset the gain and equalisation to standard for minimum cable length. The unit will equalise up to 450m of cable.

It is housed in an extremely compact and rugged aluminium case ideally suited to both studio and portable applications.

Main features

- Differential looping input and 3 outputs
- Inherently good CMRR for hum reduction
- Signal presence LED
- Gain & equalisation adjustment for up to 450m of cable
- Control reset button for simple operation
- Compact and rugged design
- Locking connector for PSU

Installation and operation

The unit is simple to use and install.

- Connect composite analogue input
- The looping input should be terminated to 75Ω if not used.
- Apply power to the 4500 unit either via the locking power connector from the 4000 external power supply or 1U rack frame, or by sliding into the 2U rack mounting frame with central power supplies. An alternative power source can be used to power the unit as long as the input power is within the range stated in the specifications.
- The LED will be red for power and green when there is power and a valid analogue signal present.
- The mounting bracket supplied can be used to install a MiniBlox unit. The bracket should first be fixed vertically to any surface. The MiniBlox can then be lowered onto the dovetail part of the bracket with the front endplate uppermost to retain it.

Control settings

Enable controls button

The unit has a feature to restore the Gain to $\approx 0\text{dB}$ and EQ to $\approx 0\text{m}$. This allows the user to use the VDA in situations when a 'scope is unavailable. This makes the unit ideal for portable use. To enable the controls of the 4500, ensure the button is in the 'in' position. To restore the Gain and EQ to factory settings, ensure the button is in the 'out' position.

Gain and EQ alignment

Alignment of Gain and EQ is best achieved by observing one of the VDA outputs on an oscilloscope with a cable terminated with 75Ω at the 'scope input. Gain and EQ can be aligned with the following procedure:

- To adjust the Gain and EQ, ensure the 'Enable controls' button is in the 'in' position.
- As source signals use 1Vp-p Pulse & Bar with 2T, 20T chroma filled & Bar.
- Set the Gain at the VDA output for 1V between sync tip and the top of the bar.
- Observe the peak of the pulses with the 'scope set for 50mV/div and adjust the equalisation control so that they are the same level as the bar.
- Observe the base of the 20T pulse envelope and trim the equalisation control to optimise the base line so that it is as flat as possible.
- Recheck the gain setting.

