

# Contents

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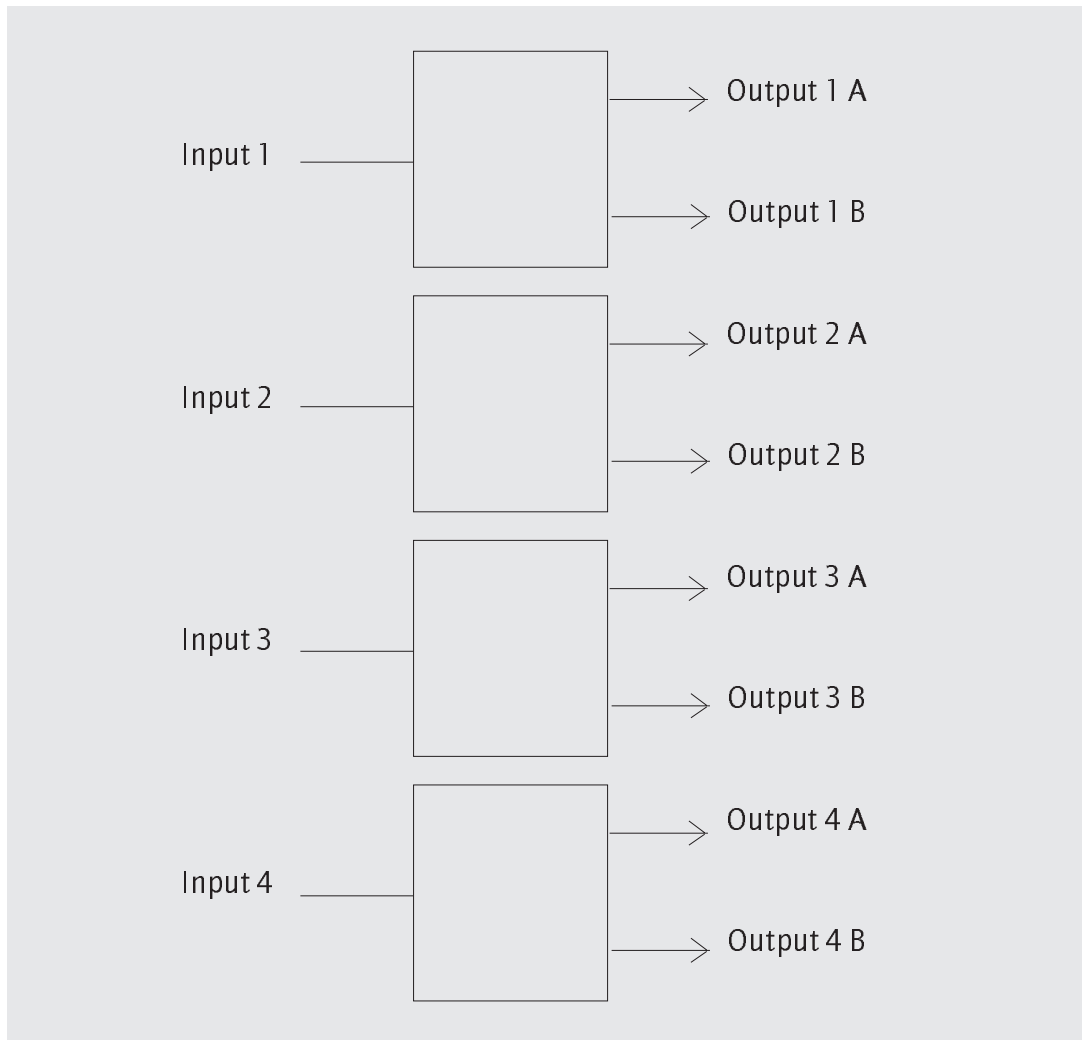
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# 1 Introduction

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The 6258 is a 4 channel dual output analogue video distribution amplifier. Each channel provides a back porch clamped input and 2 x 75 $\Omega$  outputs. Input cable equalisation is provided for up to 200m of Belden 1505A or similar cable. The unit consists of a single card and 1637 connector panel occupying one slot in the 6063 modular product frame.

## 1.1 6258 block diagram



## 2 Installation

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Installation of the module into the frame is as follows:

- slide the 6258 base card along the guide rail of the required slot, gently pushing it fully home until it marries up with the connector on the motherboard
- attach the 1637 back panel ensuring that the pins and socket mate on a one-to-one basis and that there is no offset either vertically or horizontally
- secure the back panel to the metalwork using the M2.5 crosshead screws supplied. If the screw holes do not align then the panel is fitted wrongly

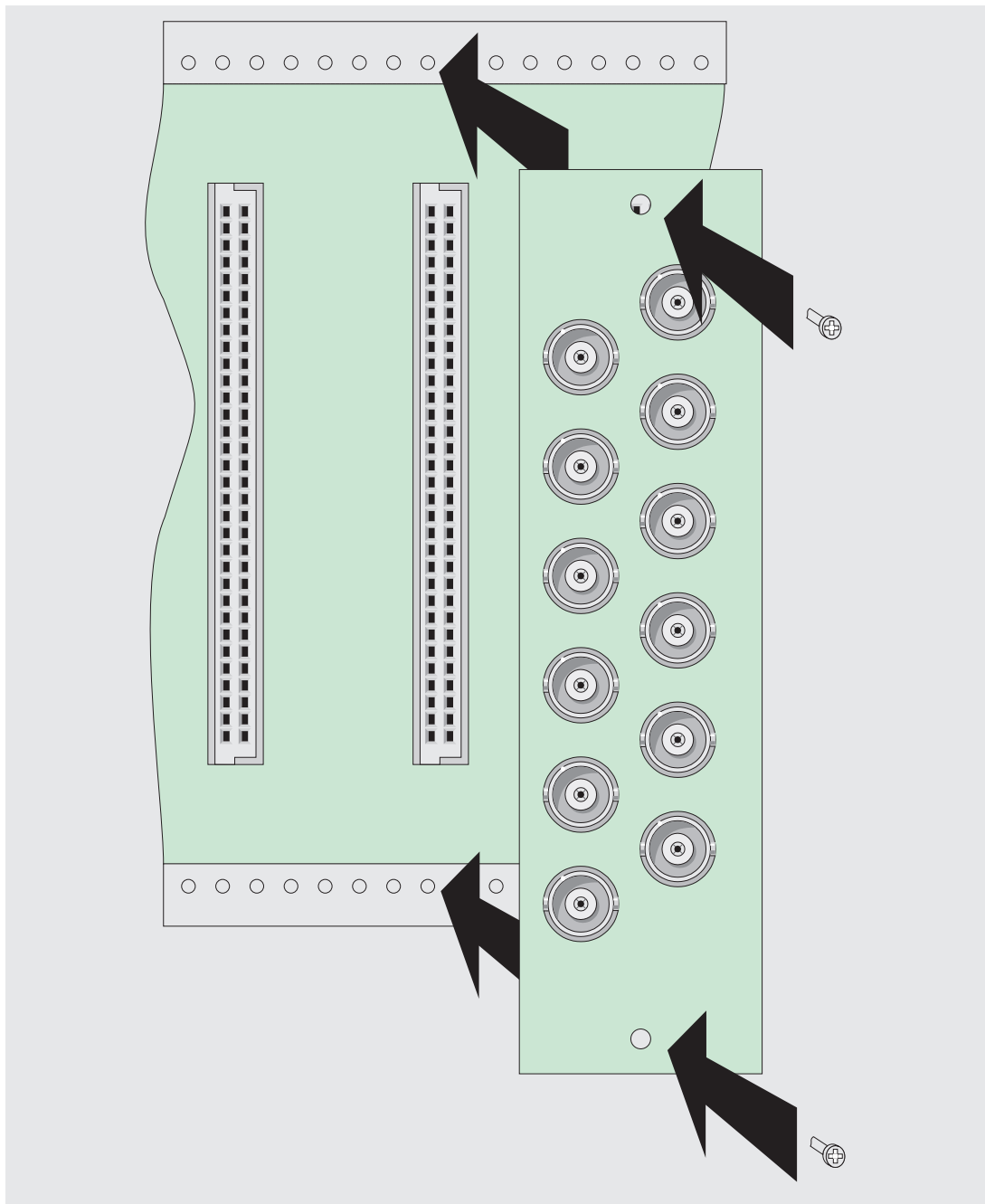


*WARNING:* The screws form an essential chassis connection for EMC compliance and must not be omitted

### 2.1 Removing the module

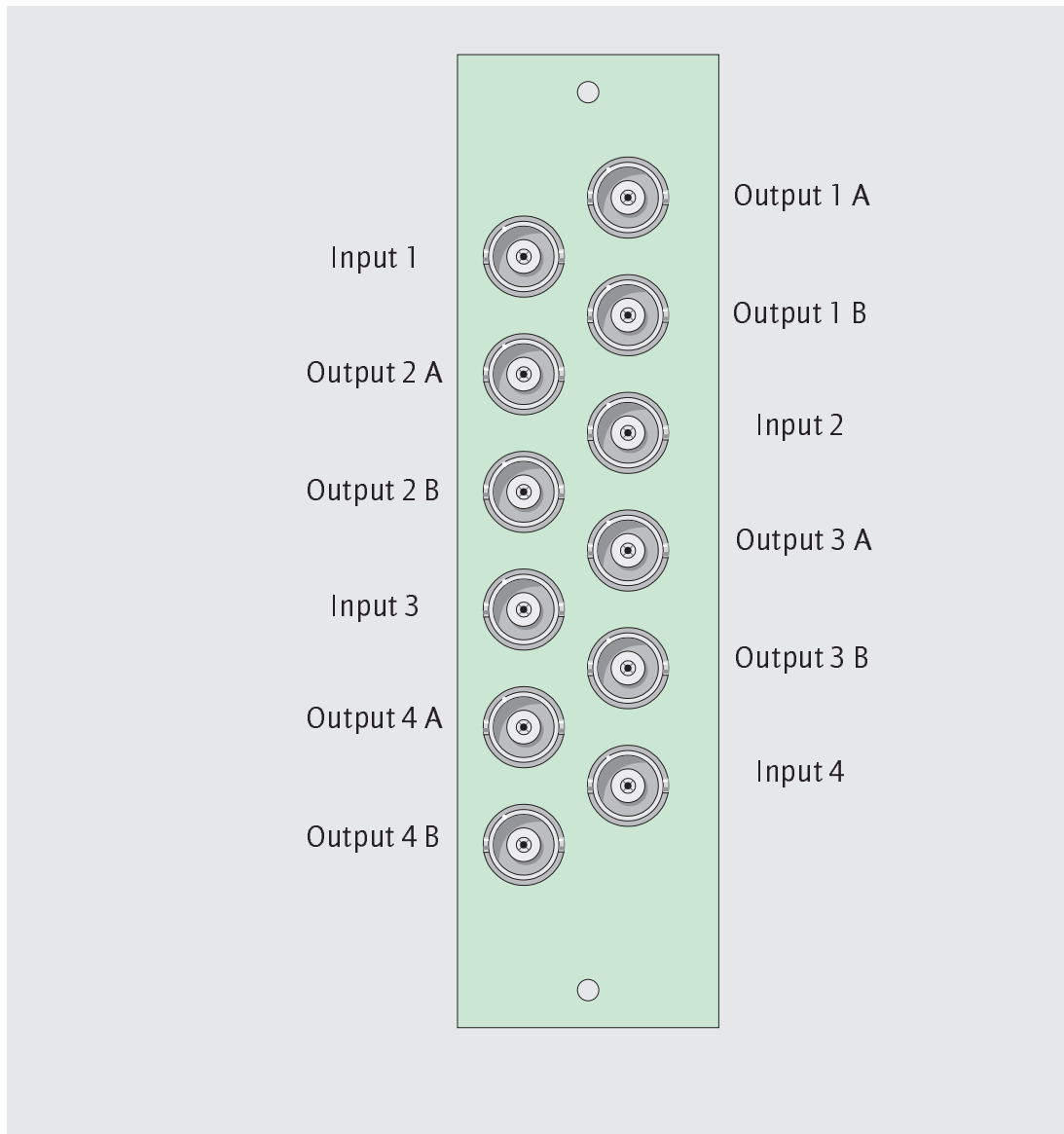
To remove the card proceed as follows:

- lift up the card ejector on the 6258 card and gently pull the card out



## 2.2 Connection

The rear panel consists of four sets of three BNC connectors. An input and two outputs on the facing side as shown in the diagram below.





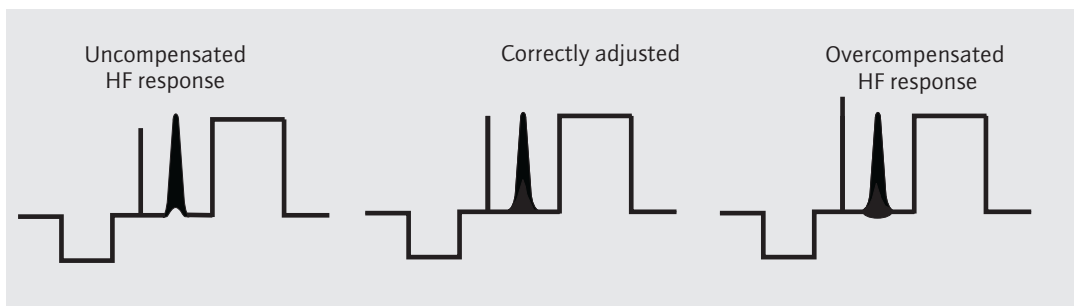
## 3 Adjustment

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### Cable equalisation

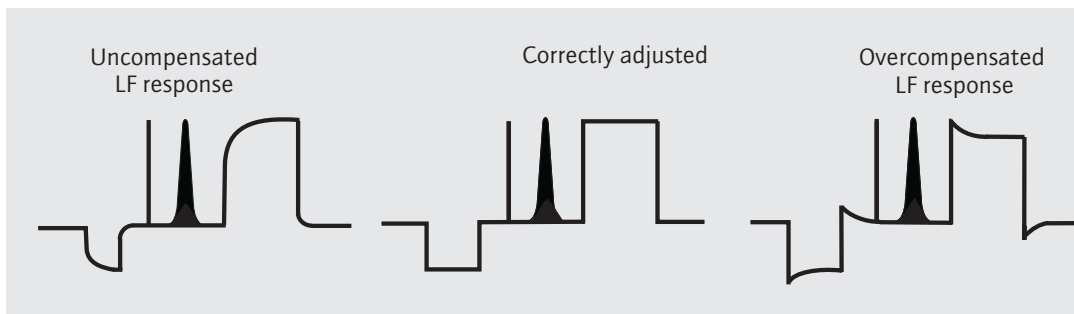
Each of the four channels can be adjusted to compensate for input cable lengths, up to a maximum of 200m. To perform this operation, a composite 2T pulse and 10T chroma pulse and bar signal should be connected to the end of the input cable of the channel being adjusted. The A or B output of the channel should be monitored using a waveform monitor set to line rate triggering. The adjustment is performed for each channel (in other words for each output pair).

### HF adjustment



This sets the high frequency gain of the amplifier compensating for any high frequency losses in the cable. Monitor the appropriate amplifier output and adjust the HF EQ potentiometer RV1 so that the height of the 2T pulse matches the bar and the base of the 10T pulse is flat as shown above

### Baseline or LF adjustment

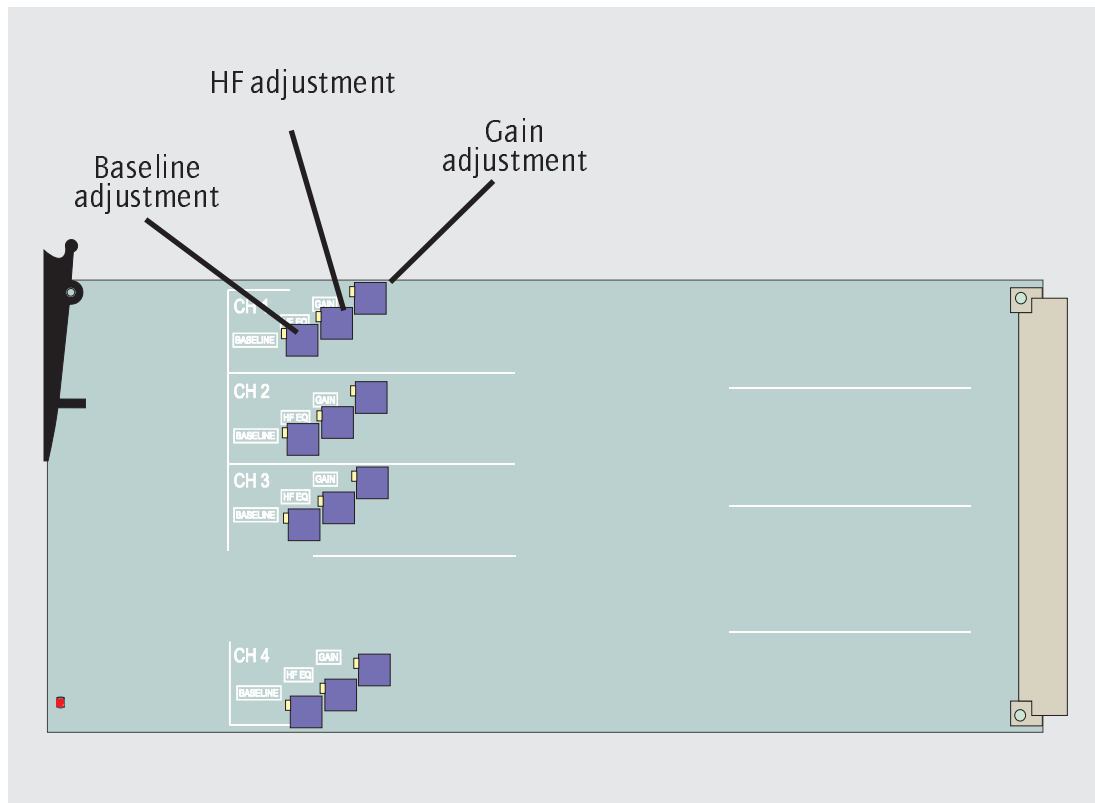


This sets the low frequency response of the amplifier. Monitor the appropriate amplifier output and adjust the baseline potentiometer RV3 so that the 20T pulse has a flat top as shown above



## Gain adjustment

Adjust the gain potentiometer RV2 so that the desired amplitude of signal is produced.



## 4 Problem solving

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### No operation



Ensure that the power LED is lit. If it is not, check that the board has been correctly inserted and that the power supplies are operating correctly.



## 5 Specification

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### Inputs

Impedance  $75\Omega$   
Return Loss  $> 40\text{dB}$  to  $4.43\text{MHz}$   
 $> 34\text{dB}$  to  $8\text{MHz}$   
Superimposed DC  $6\text{V}$  maximum

### Outputs

Impedance  $75\Omega$   
Return Loss  $> 42\text{dB}$  to  $4.43\text{MHz}$   
 $> 36\text{dB}$  to  $8\text{MHz}$   
Superimposed DC  $< \pm 30\text{mV}$   
Isolation  $> 43\text{dB}$   $50\text{Hz}$  to  $5.5\text{MHz}$

### Signal Levels

Input  $1\text{V}$  p-p nominal video  
Headroom  $+3\text{dB}$   
Gain  $0\text{dB} \pm 0.05\text{dB}$   
Gain Stability  $< \pm 0.05\text{dB}$

### Linear Distortion

Frequency Response  $< \pm 0.1\text{dB}$  to  $8\text{MHz}$   
2T Pulse / Bar Response  $< 0.2\% \text{K}$   
Bar Response  $< 0.2\% \text{K}$   
2T Pulse Response  $< 0.2\% \text{K}$   
 $50\text{Hz}$  Squarewave Tilt  $< 0.2\% \text{K}$   
Chrominance / Luminance Gain Inequality  $< \pm 0.5\%$   
Chrominance / Luminance Delay Inequality  $< \pm 2\text{ns}$   
Group Delay Variation  $< 5\text{ns}$   $50\text{Hz}$  to  $5.8\text{MHz}$

**Non-Linear Distortion**

Line Time Non-Linearity < 0.2%  
Differential Phase < 0.15 degrees @ 4.43MHz  
Differential Gain < 0.2% @ 4.43MHz  
Intermod Distortion < 0.5% @ 4.43MHz

**Noise (ITU-R Rec. 567-2)**

Luminance Weighted < -80dB RMS  
Chrominance Weighted < -80dB RMS  
LF and Random < -60dB p-p

**Crosstalk between Channels**

Crosstalk < -60dB @ 4.43MHz (worst case)  
< -63dB @ 4.43MHz (single adjacent hostile)

## 6 Warranty statement

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### Hardware Products

Hardware Products are warranted for a period of two years from the date of shipment. During this period Pro-Bel, at its discretion, will repair or exchange products proved to be defective providing that the products are returned to Pro-Bel, carriage pre-paid. The Company will use its best efforts to ensure that returned items are repaired and despatched within ten working days of receipt. Third party items, including PC hardware or any outsourced equipment is limited to the original manufacturers warranty, typically one year.

### Software Products

Software Products are warranted for a period of ninety days from the date of shipment. During this period Pro-Bel undertakes to rectify products proved not to conform to the published specification provided with the product, when used in accordance with PC hardware and operating systems approved by Pro-Bel.

### Loans

Within the warranty period, the Company will, at its discretion and subject to availability, provide loan units pending the repair of returned items. Loans are offered on a no charge basis providing that the loan units are returned to Pro-Bel within a period of twenty one days following the date of despatch of the repaired items. In the event that the loan units are not returned within this period, the loan units will be subject to a monthly overdue charge, details of which are available on request. Carriage charges apply to all loans.

### NON WARRANTY PERIOD

Outside the stated warranty period, the Company will use it's best endeavours to rectify equipment failures through the provision of spare parts or in house repair services. Loan units may also be provided subject to availability. All services and carriage costs are subject to a scale of charges, details of which are available on request.