VISTEK V1617 ANALOGUE VIDEO DISTRIBUTION AMPLIFIER USER GUIDE

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Contents

VISTEK V1617 analogue video distribution amplifier

1 DESCRIPTION

The **V1617** is a broadcast quality analogue video distribution amplifier, which forms part of the Vistek V1600 range of interface products. It is a 3U high card that fits into either a V1601 or V1606 rack, from which it receives its power. A passive rear module, **V16VR3F** (for V1606) or **V16VR1F** (for V1601) is required for all signal interconnections.

There are two versions of the unit. One version is the standard **V1617**, which includes a video clamp option, multiple equalisers and remote control capability. The other is a standard equalising distribution amplifier, product code **V1617/AC**. Both units have a looped input (external 75Ω termination) with seven outputs and both provide adjustment of Video gain and cable equalisation from the module front panel. Earth-free differential inputs are fitted to both units for suppression of hum and other common-mode signal which may be present on the input connection.

The standard **V1617** features AC coupling or DC clamped modes of operation. In clamp mode the clamp time constant can be selected to be standard or short. A cable equaliser is fitted which is optimised for standard video cables; provision is made for fitting custom equalisers for special requirements. Chrominance equalisers for either PAL or NTSC systems can also be selected for applications where cable equalisation is inappropriate. Selection of clamp and equalisation mode can be made from the front panel or via a remote control system.

The V1617 can be controlled through the **DART Remote Control System**. The rack containing the V1617 must also include a Rack Controller which is the interface between the DARTBUS inside the rack frame and the DARTNET outside. DART is a full remote control system which can be driven from either Vistek controllers or third part Network Management Systems (NMS) with suitable protocol drivers. Vistek manufacture two controllers: Viewfind, which is a Windows based PC control system, and the V1605, which is a universal 1U control panel. Both these controllers can control all the Vistek V1600 range, including the V1617 DA, as well as other manufacturer's products which have been designed for DART.

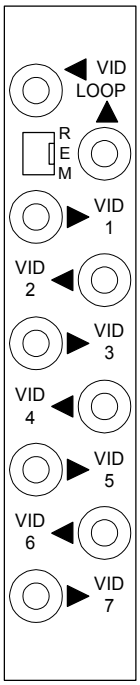
Options are summarised in this table:

VERSION	V1617	V1617/AC
Front panel control of gain and equalisation.	YES	YES
Cable equaliser	YES	YES
Chrominance equaliser	YES	NO
Custom equaliser option	YES	NO
Dual time-constant clamp	YES	NO
Remote control capability	YES	NO

2 INSTALLATION

2.1 Rear Panel Connections

3U REAR
V16VR3F



1U REAR
V16VR1F

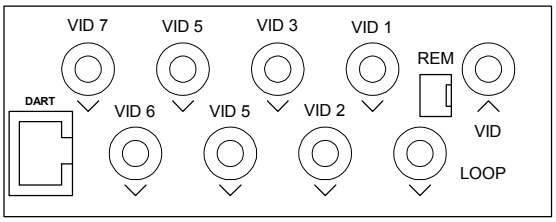


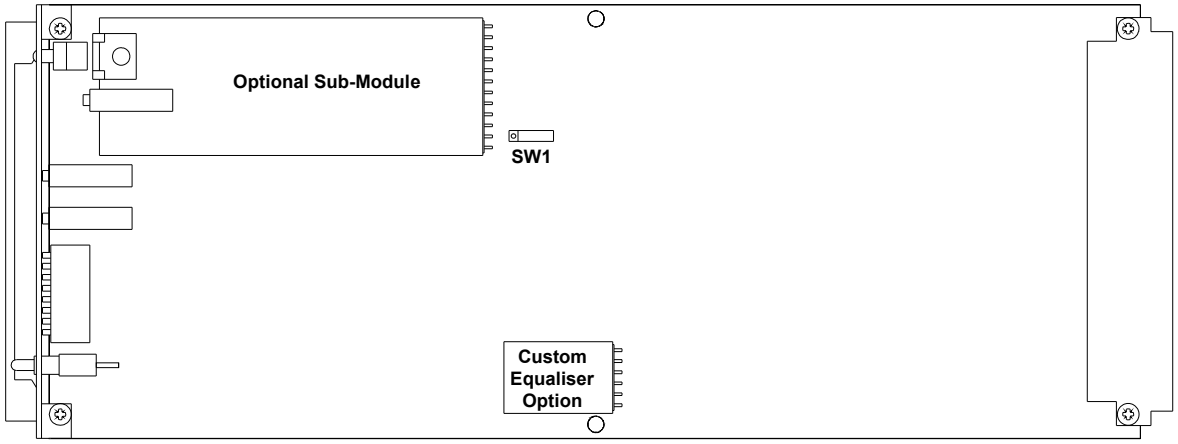
Figure 1

SIGNAL	SOURCE	COMMENTS
Power	**The Rack**	V1617/AC 1.0W V1617 1.6W
Video Input	**I/P**	Differential Input
Video Loop	**LOOP**	Looped Input or External 75Ω termination.
Analogue Outputs	**VID 1** **VID 2** **VID 3** **VID 4** **VID 5** **VID 6** **VID 7**	Video outputs
DART	**DARTNET**	V16VR1F 1U Rear module only, for connection to DARTNET. Only to be used in the far RH slot (as viewed from the rear). Contact Vistek for more details. The DART connection to the 3U frames is made directly to the rack frame.

2.2 Internal Controls

An internal slide switch SW1 is fitted to the V1617 and V1617/AC, this is used to select plug-in options which can be fitted to these modules. Its operation is as follows:

SW1 SWITCH POSITION	ACTION
Toward rear of module	Normal, option not selected
Toward front of module	Selects plug-in option



3. OPERATION

3.1 V1617/AC Controls and Indicators

3.1.1 Indicators

+V	Colour: Green	Indicates that power is present on the module

3.1.2 Controls

EQ	Cable equaliser	Multi-turn control frequency compensation for cable losses
GAIN	Gain control	Multi-turn control compensates for signal level errors

3.2 V1617 Controls and Indicators

3.2.1 Indicators

REM	Colour: Amber	Periodic flash indicates communication with rack controller
+V	Colour: Green	Indicates that power is present on the module

3.2.2 Variable Controls

EQ	Cable equaliser Multi-turn control frequency compensation for cable losses	
GAIN	Gain control	Multi-turn control compensates for signal level errors

3.2.3 Switches

EQUALISER	
OFF - ON	Enables equaliser
CAB - CHR	Selects either cable, or chrominance, equaliser
EQ1 – EQ2	Selects 1; standard cable or 2; custom equaliser (if fitted)
PAL - NTSC	Selects chrominance equaliser (4.43MHz or 3.58MHz)

CLAMP	
OFF – ON	Enables video clamp
Slow - Fast	Selects clamp time constant: normal or fast

Equaliser

The top bank of front-panel switches enable the operation of the equaliser in the V1617 to be adjusted for different applications. The Equaliser **OFF – ON** switch is provided to disable the equaliser if not required or for system test purposes. The equalisation characteristic can be set to either a cable (**CAB**) to compensate for losses in the input cable connection or to chrominance (**CHR**) for adjustment or colour saturation of a composite video signal when the error is in the source rather than due to cable losses.

Provision is made in the unit for fitting a custom equaliser for special equalisation requirements. If a custom equaliser is fitted this is selected by the switching the **EQ1 – EQ2** switch to EQ2.

The chrominance equaliser modifies the response of the amplifier to introduce either loss or boost at frequencies around the subcarrier frequency. The centre frequency of the equaliser is selected by the **PAL – NTSC** switch, this optimises the equaliser for use with subcarrier frequencies either 4.43MHz or 3.58MHz respectively

Clamp

The lower two control switches control the operation of the video clamp: The **OFF – ON** switch enables the clamp to stabilise the DC level at the output of the amplifier and attenuate superimposed low frequency signals such as power frequency interference. The time constant of the clamp can be selected using the **Slow – Fast** switch.

In the Slow position the time constant of the clamp corresponds to approximately 12 television lines. This time constant is optimised for normal operation and gives good reduction low frequency interference without being significantly effected by noise or impulsive interference. In the Fast position the clamp time constant is reduced to approximately six lines. This setting may be used to increase the attenuation of interfering low frequency signals; this does however increase the susceptibility of the clamp to errors introduced by noise or impulsive interference.