USER MANUAL

Vision SYSTEM

AADA-VF

## Analogue audio distribution amplifier

Crystal Vision

Contents

1 Introduction

The AADA-VF is an analogue audio distribution amplifier that can be configured as dual channel (stereo), one input to four outputs twice or as single channel (mono), one input to eight outputs. Both channels have individual gain adjustment of ±30dB.

The AADA-VF is a space-saving 96mm x 325mm module which fits in the standard Vision frames from Crystal Vision.

Inputs and outputs are accessed by using the VR21 rear module.

Status monitoring and control is by the Vision frame active front panel, remote VisionPanel control panel, SNMP or VisionWeb PC software.
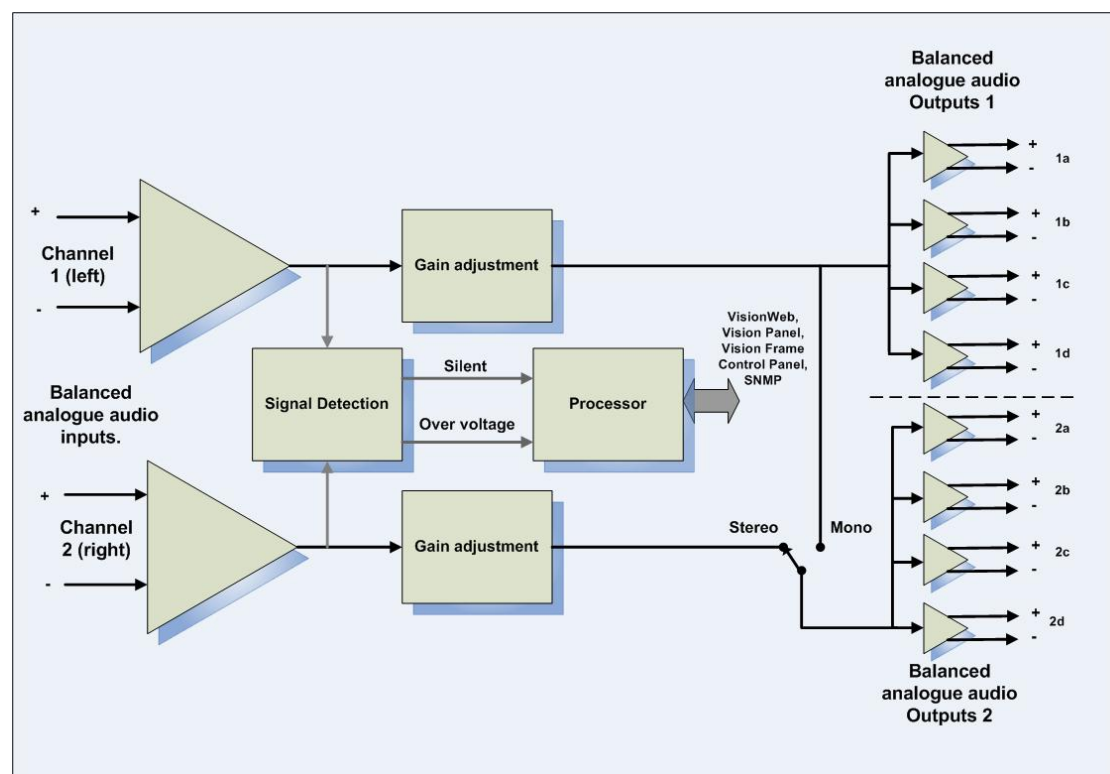
AADA-VF block diagram

The rear connector details may be found in the section *Rear modules and signal I/O*.

The main features are as follows:

- Stereo or mono operation
- Balanced inputs and outputs
- Maximum input and output level >+24dBu
- Independent fine channel gain adjustment in 0.5dB increments over ±30dB
- Up to 20 AADA-VF cards in a Vision 3 frame

- Silence and overvoltage detection

- Remote monitoring and control via VisionPanel, VisionWeb control system, SNMP and the frame active panel

2 Hardware installation

2.1 Board configuration
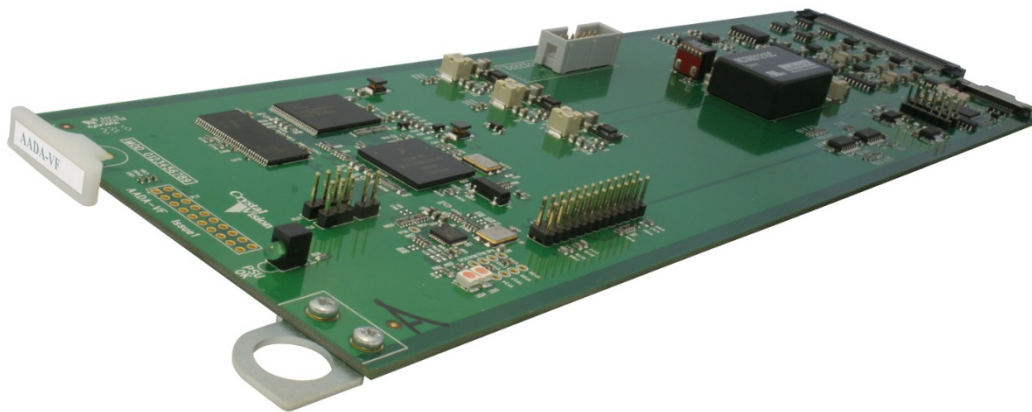
AADA-VF card

Link configuration

The AADA-VF has no user-selectable links. Any links or controls should remain in their factory set positions.

Inserting cards

Cards can be plugged in and out of powered Vision frames without damage.

See Vision frame User Manual for the correct procedure for installing cards and rear modules.

3 Rear modules and signal I/O

The AADA-VF audio distribution amplifier fits into all Vision rack frames from Crystal Vision and can be plugged in and removed while the frame is powered without damage.

Vision frames all have a hinged front panel that gives access to the PSUs and all cards. The universal frame wiring system allows any of the interface range of cards to be fitted in any position with the use of removable rear modules.

| VR21	Function	Pin No.
Audio Inputs 1 & 2	Audio In 1 + Audio In 1 − Input 1 GND Audio In 2 + Audio In 2 − Input 2 GND.	9 10 11 7 8 6 **15-way D socket**
Audio Outputs 1a to 2d	Out 1a + Out 1a − Out 1b + Out 1b − Out 1c + Out 1c − Out 1d + Out 1d − Out 1 GND. Out 2a + Out 2a − Out 2b + Out 2b − Out 2c + Out 2c − Out 2d + Out 2d − Out 2 GND.	2 15 3 16 4 17 5 18 1,6,14,19 9 21 10 22 11 23 12 24 8,13,20,25 **25-way D socket**

The VR21 single-slot rear module uses 'D-Type' sockets to provide two balanced Hi-Z inputs and eight balanced 50 ohm outputs which can be configured as either - Input 1 to four outputs and Input 2 to four outputs, or Input 1 to all eight outputs. Up to 20 VR21 rear modules can fit into a Vision 3 frame.

4 Status monitoring

AADA-VF status can be accessed most easily by VisionWeb remote control PC software but also by VisionPanel, the Vision frame's front panel and SNMP. The following screen grabs are from the VisionWeb GUI and are used to identify the various available status indications. The menu tree for VisionWeb, front panel and VisionPanel operation is identical although the appearance and labelling of some controls may vary according to the available space. See the Vision frame and VisionPanel's User Manuals for more details.

4.1 Controlling cards via VisionWeb

Crystal Vision cards use an XML file to create a control database that is used by the Vision frame front panel controller, VisionPanel and VisionWeb software. Accessing the Vision frame homepage with a PC browser via the Ethernet connector of a frame will display a list of the cards fitted. (See Vision frame User Manual for more details.)
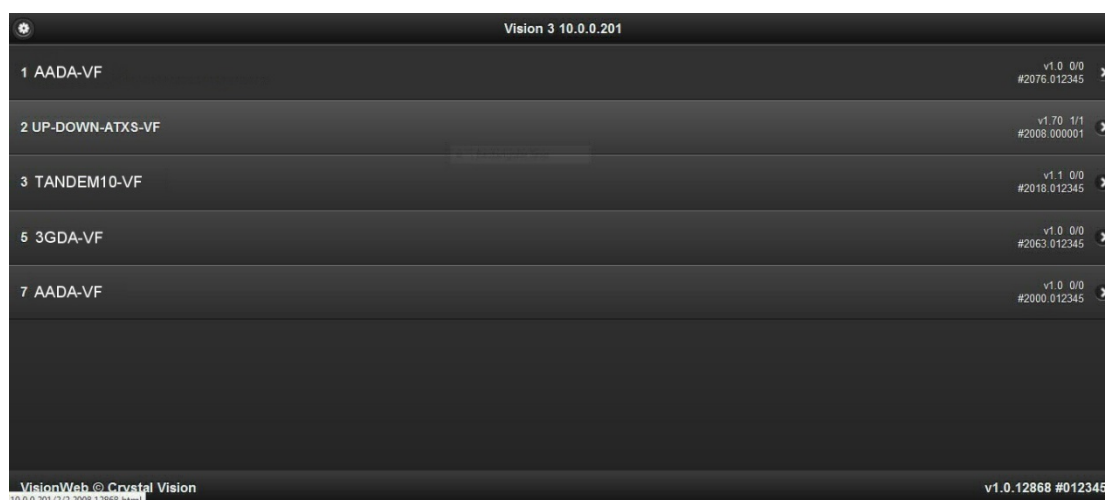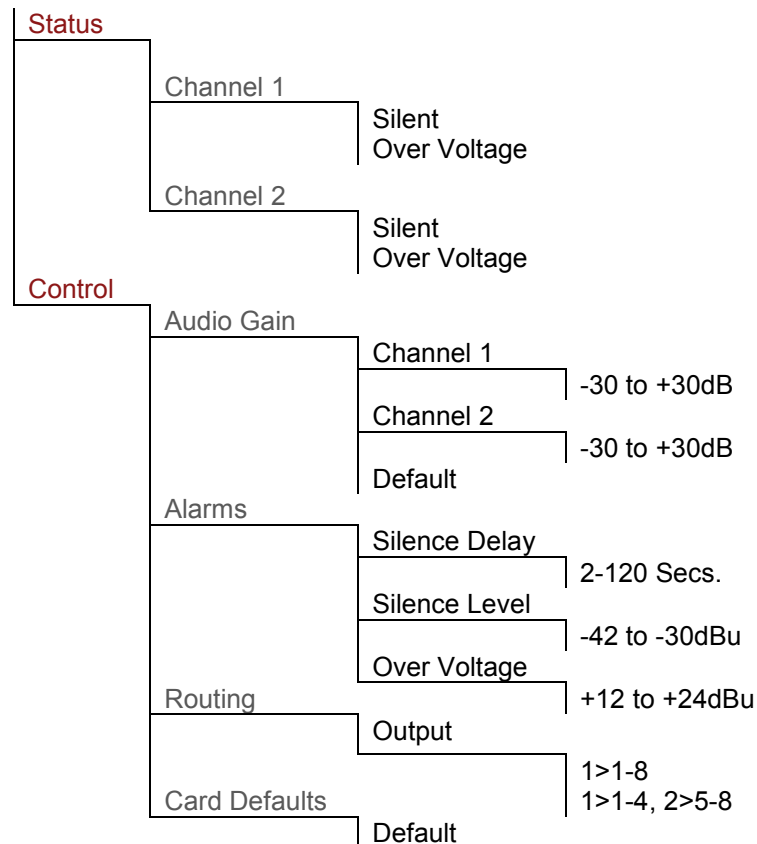

Typical Vision 3 frame homepage

The example above shows an AADA-VF card fitted in slots 1 and 7. Other Vision cards are in slots 2, 3, and 5. Clicking on either AADA-VF card will bring up the card's Status page, for example:
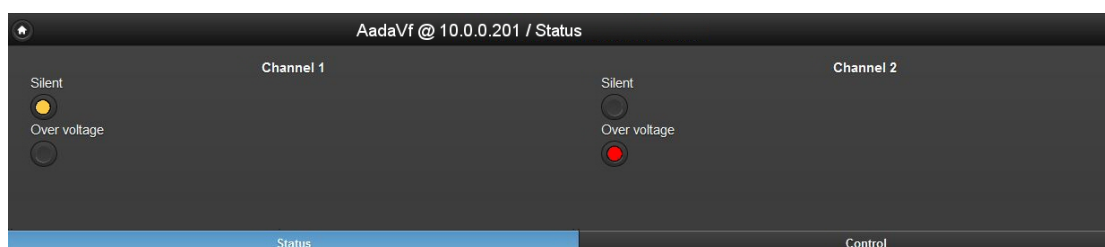
AADA-VF Status Page

4.2 Menu Structure

Operators of a Vision frame active front panel or VisionPanel should use the following tree to access the AADA-VF status:

Status
- Channel 1
  - Silent
  - Over Voltage
- Channel 2
  - Silent
  - Over Voltage

Control
- Audio Gain
  - Channel 1 — -30 to +30dB
  - Channel 2 — -30 to +30dB
  - Default
- Alarms
  - Silence Delay — 2-120 Secs.
  - Silence Level — -42 to -30dBu
  - Over Voltage — +12 to +24dBu
- Routing
  - Output — 1>1-8 / 1>1-4, 2>5-8
- Card Defaults
  - Default

Users of VisionWeb need only select the tabs shown above in red to access the page containing the set of controls. Menu items shown in grey are only labels in VisionWeb.
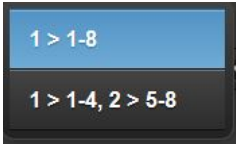
4.3 Control Descriptions

The description of controls used in this manual is based on VisionWeb GUI screen grabs. VisionWeb monitoring and control pages are accessed by tabs at the bottom of the page which, when selected, offer controls such as LEDs, check boxes, buttons, sliders and labels.

The description of the monitoring and control pages is in the order shown in the menu tree i.e.

STATUS, CONTROL:

Status

Display presence and status of audio input signals.

Silent	On if input audio is below the threshold set by the 'Silence Level' control and for the time period set by the 'Silence Delay' control.
Over voltage	On if the input level is greater than the level set by the 'Over voltage level dBu' control.

Control

Set the audio gain, silence threshold and delay time, overvoltage settings, output routing options and card defaults.

Audio gain	Set the gain of the audio channels by ±30 dB in steps of 0.5dB.
Default	Return the gain of both channels to 0dB.
Silence delay (seconds)	Set the period between 2 and 120 seconds that an input signal must be consistently below the threshold set by the 'Silence Level dBu' control before the 'Silent' alarm status is set.
Silence (dBu level)	Set the threshold from -42 to -30dBu that the input audio must be consistently below to be considered 'silent'.
Over voltage (dBu level)	Set the input level threshold from +12 to +24dBu that, above which, the 'over voltage' status indicator will be illuminated.

Output Routing	1 > 1-8 1 > 1-4, 2 > 5-8	**Set the output routing to single (mono) or dual (stereo) channel routing. Setting '1>1-8' routes input 1 to all eight outputs. Setting the lower option routes Input 1 to four of the outputs and Input 2 to the other four.**
Card defaults	**Set the AADA-VF to its default settings: Gain 0dB, Silence level -30dBu, Overvoltage level +24dBu.**	

5 Troubleshooting

5.1 Card edge monitoring

The green LED on the front edge of the card provides power rail monitoring. The red LED, if fitted, currently has no function.

AADA-VF front edge

5.2 Basic fault finding guide

- **Power OK LED not illuminated:** Check that the frame PSU is functioning – refer to the Vision frame manual for detailed information.

- **The card no longer responds to front panel control:** Check that the card is seated correctly and that the Power OK LED is lit. Check if the control panel can control another card in the same rack. If necessary reset the card.

- **Input 2 does not work:** Check that the output routing is set to '1>1-4, 2>5-8'.

- **Audio output missing from some or all outputs:** Check that the output routing is set correctly. If set as '1>1-8' then input 2 is disabled. If set as '1>1-4, 2>5-8' then input 1 will only be routed to the first four outputs. Check the number of outputs available for rear module used. Check that an input signal is present and that the cabling is intact.

- **Resetting the card:** If required, the card may be reset by removing the card from the frame and then re-inserting it. It is safe to re-insert the card whilst the frame is powered. Any previous configuration will be retained.

6 Specification

General

Dimensions	96mm x 325mm module with connector.
Weight	200g.
Power consumption	AADA-VF 5 Watts.
Signal to noise ratio:	108dB, 0dB gain, 0dBFS = +24dBu (20Hz to 20kHz).
Frequency response:	± 0.05dB 20Hz to 20kHz.
Total Harmonic Distortion (THD):	<0.003% at 1kHz, +18dBu/+24dBu.
Common Mode Rejection:	> 80 dB (20Hz to 20kHz).
Channel to Channel cross talk:	< -100dB, 10kHz.

Inputs

Number and type**:**	Two analogue hi-z (>20 kohm) electronically balanced audio inputs.
Max input level:	+24dBu.
Connector:	With VR21: 15-way 'D-Type' socket.

Outputs

Number and type:	8 analogue low-Z (typically 50 ohm) electronically balanced audio.
Connector:	With VR21: 25-way D-Type socket.
Gain:	± 30dB in 0.5dB steps.

Rear Module I/O

VR21	Two high impedance (>20 kohm) balanced inputs and eight outputs via D-Type connectors. Configured as either: Input 1 to four outputs plus Input 2 to four outputs, or Input 1 to eight outputs.

Monitoring and Control

Remote:	Monitor and control from Vision frame front panel, VisionPanel remote panel and VisionWeb Control which is available via the web server on the frame and allows operation using a standard web browser on a computer, tablet or phone.
	Complimentary SNMP control and monitoring via frame CPU and Ethernet connection.
Silence warning:	Silence threshold -42 dBu to -30dBu. Delay time 2-120 secs.
Over-voltage indication:	User set to between +12 to +24dBu.