



DA-VAEQ-6

Analog Video Distribution Amplifier
with equalizer, gain, clamping and passive input loop

User manual

Rev. B

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Nevion
Nordre Kullerød 1
3241 Sandefjord
Norway
Tel: +47 33 48 99 99
neviON.com

Nezion Support

Nezion Europe

P.O. Box 1020
3204 Sandefjord, Norway
Support phone 1: +47 33 48 99 97
Support phone 2: +47 90 60 99 99

Nezion USA

1600 Emerson Avenue
Oxnard, CA 93033, USA
Toll free North America: (866) 515-0811
Outside North America: +1 (805) 247-8560

E-mail: support@nezion.com

See <http://www.nezion.com/support/> for service hours for customer support globally.

Revision history

Current revision of this document is the uppermost in the table below.

Rev.	Repl.	Date	Sign	Change description
B	A	2013-05-06	MR	Several corrections and adjustments
A	-	2012-12-10	MR	Initial revision

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1 Product overview

The Flashlink DA-VAEQ-6 is an analog video distribution amplifier module with input equalizer, gain, black level clamping and passive input loop providing high performance media distribution for analog standard definition video signals . The input signal can be equalized for up to 300m of cable and is distributed to 6 equivalent outputs. Both equalization and gain can be controlled on potentiometers accessed at the front of the card. The input is switchable to high impedance for multi drop purposes. Outputs have 75 ohms impedance. A signal detector will indicate if signal is present (LED and GPI).

The DA-VAEQ-6 is designed for all standard definition analog video distribution purposes in studio, duplication and broadcast applications.

The DA-VAEQ-6 is well suited for distribution of AES-3id signals (75 ohms unbalanced AES over coaxial cables).

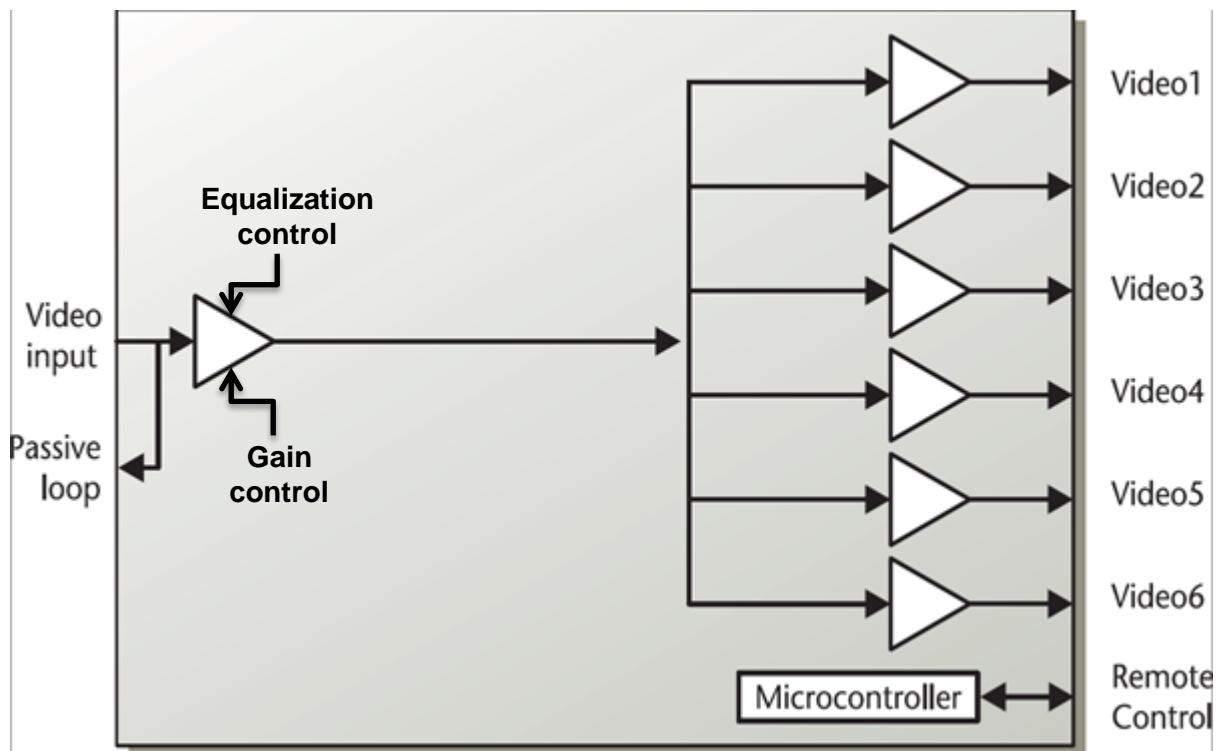


Figure 1: DA-VAEQ-6 Analog Video Distribution Amplifier

2 Specifications

2.1 Electrical Input

Maximum input	1 V p-p
Equalization	Tunable up to 300m of Belden 8281 or equal.
Coupling	DC
Impedance	75 ohm (switchable to high impedance)
Connector	2x BNC connected in parallel (1 input + 1 loop)

2.2 Electrical Output

Number of outputs	6
Connector	BNC
Impedance	75 ohm
Signal polarity	6 non inverting

2.3 Analog video

Noise bandwidth, -3dB	0 to 10 MHz (useful for AES-3id)
Formats	Standard definition video
Return loss	> 35dB 0-10MHz
Video S/N ratio	> 70 dB
Differential gain	< 0.3%
Differential phase	< 0.3°
Gain adjustment	+/-3dB
Freq. response	0 dB \pm 0.3 dB 0- 6 MHz

2.4 Electrical

Power	+5V DC / 3 W, \pm 15V DC / 3 W
Control	Control system for access to setup and module status with BITE (Built-In Test Equipment) for use with GYDA Control System

3 Connections

The DA-VAEQ-6 has a dedicated connector module: DA-VA-C2. This module is mounted at the rear of the sub-rack. The module is shown in figure 2.

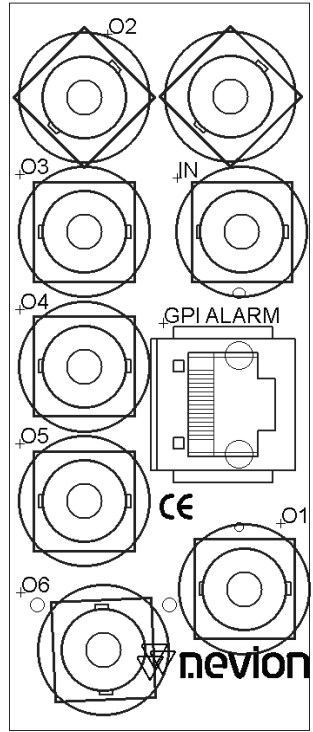


Figure 2: Overview of the DA-VA-C2 connector module (default backplane).

The electrical input signal is connected to the two IN BNCs, and the electrical outputs are connected to the O1 to O6 BNC's. Please note that all 6 outputs are non-inverted. On the back side of this board, there is a DIP switch (see figure 5 in chapter 4.4) to set the termination. If switch 1 is on, there is a 75 ohms termination. DIP switch 2 is not used.

3.1 Mounting the connector module

The details of how the connector module is mounted, is found in the user manual for the sub-rack frame FR-2RU-10-2.

This manual is also available from our web site: <http://www.nevion.com/>

4 Operation

The equalization and gain can be controlled from two potentiometers.

The status of the module can be monitored in three ways.

1. GYDA System Controller (optional)
2. GPI at the connector module
3. LED's at the front edge of the module

Of these three, the GPI and the LED's are mounted on the module itself, whereas the GYDA System Controller is a separate module giving detailed information on the card status. The functions of the GPI and the LED are described in sections 5.1 and 5.2. The GYDA controller is described in a separate user manual.

4.1 GPI ALARM – Module Status Outputs

Only available when using the standard –C1 backplane

These outputs can be used for wiring up alarms for third party control systems. The GPI outputs are open collector output, sinking to ground when an alarm is triggered. The GPI connector is shown in figure 4.

Electrical Maximums for GPI outputs

Max current: 100mA

Max voltage: 30V

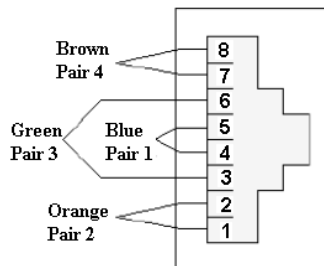


Figure 3: GPI pin out

DA-VAEQ-6 module GPI pinning:

Signal	Name	Pin #	Mode
Status	General error status for the module.	Pin 1	Open Collector
Signal	Signal detected	Pin 2	Open collector
Ground	0 volt pin	Pin 8	0V.

4.2 Front Panel - Status Monitoring and Signal Detection

The status of the module can be monitored visually at the front of the front of the module.

The DA-VAEQ-6 has one LED showing the status. The hardware revision 2 of the DA-VAEQ-6 has also a built in detector for signal monitoring. When signal is present, LED is green, otherwise it will be red. The LEDs are described in the following table:

Diode \ state	Red LED	Yellow LED	Green LED	No light
Status	Module is faulty		Module is OK Module power is OK	Module has no power
Signal	No signal detected		Signal present	Module has no power

4.3 Gain and EQ adjustment

For location of potentiometers see figure 4 below.

Gain pot: 11 turns. Clockwise operation increases the gain

EQ pot: 11 turns. Clockwise operation increases equalization rate

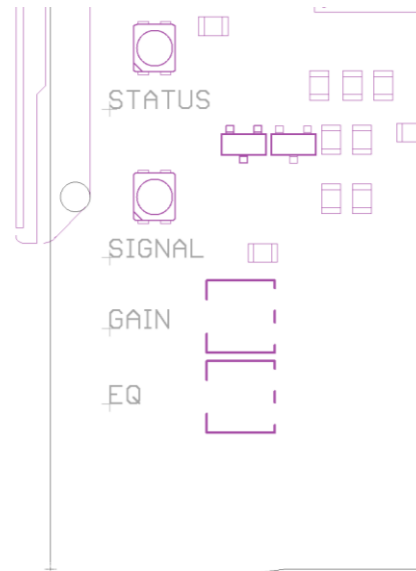


Figure 4

4.4 Choosing termination at input ports

For location of switch see figure 5 below.

75-ohm termination to be chosen when looping function is not used.

See also chapter 3. Connections.

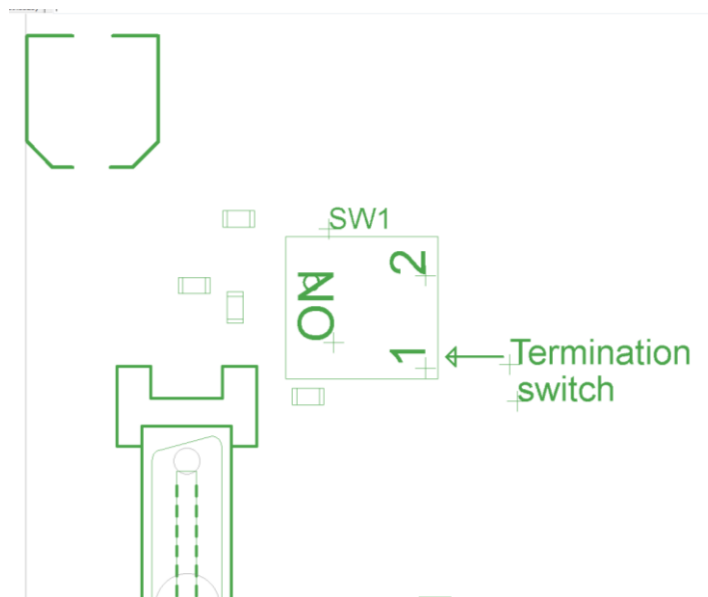


Figure 5

4.5 DIP settings

DIP settings to be in accordance with figure 6.

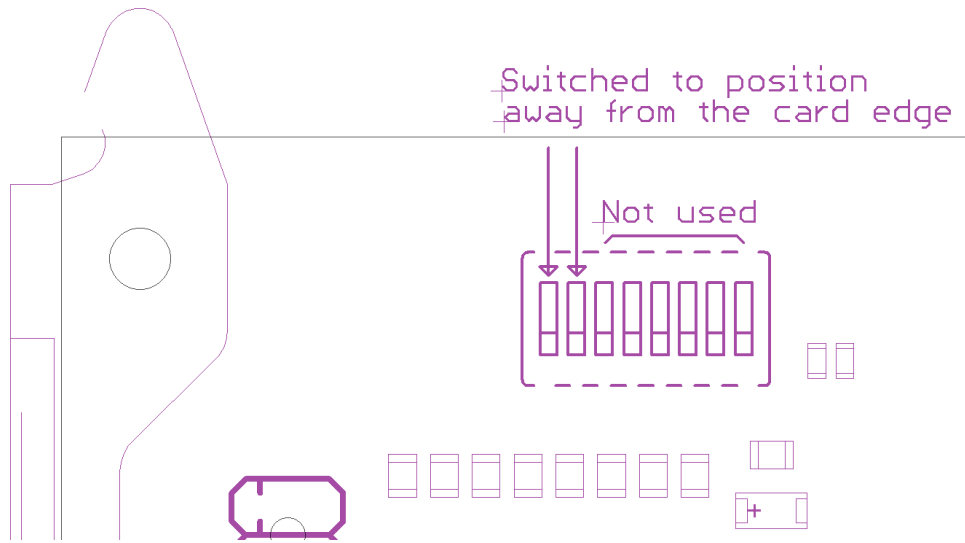


Figure 6

General environmental requirements for Nevion equipment

1. The equipment will meet the guaranteed performance specification under the following environmental conditions:
 - Operating room temperature range: 0°C to 45°C
 - Operating relative humidity range: <90% (non-condensing)

2. The equipment will operate without damage under the following environmental conditions:
 - Temperature range: -10°C to 50°C
 - Relative humidity range: <95% (non-condensing)

Product Warranty

The warranty terms and conditions for the product(s) covered by this manual follow the General Sales Conditions by Nevion, which are available on the company web site:

www.nevion.com

Appendix A Materials declaration and recycling information

A.1 Materials declaration

For product sold into China after 1st March 2007, we comply with the “Administrative Measure on the Control of Pollution by Electronic Information Products”. In the first stage of this legislation, content of six hazardous materials has to be declared. The table below shows the required information.

組成名稱 Part Name	Toxic or hazardous substances and elements					
	鉛 Lead (Pb)	汞 Mercury (Hg)	鎘 Cadmium (Cd)	六价铬 Hexavalent Chromium (Cr(VI))	多溴联苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
DA-VA-EQ-6	○	○	○	○	○	○
<p>O: Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006.</p> <p>X: Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006.</p>						

This is indicated by the product marking:



A.2 Recycling information

Nevion provides assistance to customers and recyclers through our web site <http://www.nevion.com/>. Please contact Nevion’s Customer Support for assistance with recycling if this site does not show the information you require.

Where it is not possible to return the product to Nevion or its agents for recycling, the following general information may be of assistance:

- Before attempting disassembly, ensure the product is completely disconnected from power and signal connections.
- All major parts are marked or labeled to show their material content.
- Depending on the date of manufacture, this product may contain lead in solder.
- Some circuit boards may contain battery-backed memory devices.