
Subject

This manual covers the installation of Ernitec Video Distribution Amplifier type RVD-164 (A).

Introduction to Ernitec Video Distribution Amplifier

The Video Distribution Amplifier is a 16-channel 1x4 unit, mounted in a 19" x 3 HU rack frame, and is as standard available in two versions.

RVD-164	VDA without alarm module.
RVD-164 A	VDA with alarm module.

Description of Video Distribution Amplifier

The VDA is a compact unit with 16 equal circuits based on a high quality video op-amp to ensure good frequency- and signal to noise data.

Each channel has a max. 6 dB pre-emphasis option, to compensate for loss in coax cables, ref.to section "Settings of cable compensation".

To ensure low cross-talk between the 16 channels, each channel have their own voltage regulators.

The video inputs and outputs, as well as the power supply, are protected with respect to the Generic Standards **EN 50081-2** and **EN 50082-2**.

Description of alarm module

The alarm module is a sub-module added to the rear of the VDA PCB, covering all 16-channels independently. The alarm module gives an alarm for missing video and/or missing sync.

"Low" status (zero volt) as normal condition, and high status (+5 VDC) as alarm condition.

Missing power alarm is made by a floating relay contact (NO, CC). Activated contact as normal condition, and open contact as alarm condition, i.e. loss of mains power or defective power supply.

All alarm outputs (for pin-out information, please ref. page **5**) and a 5 VDC max. 80 mA out for driving possible optocoupler at external alarm input module, is located in a 25 pin. D-Sub Female connector at the rear panel.

General installation advice

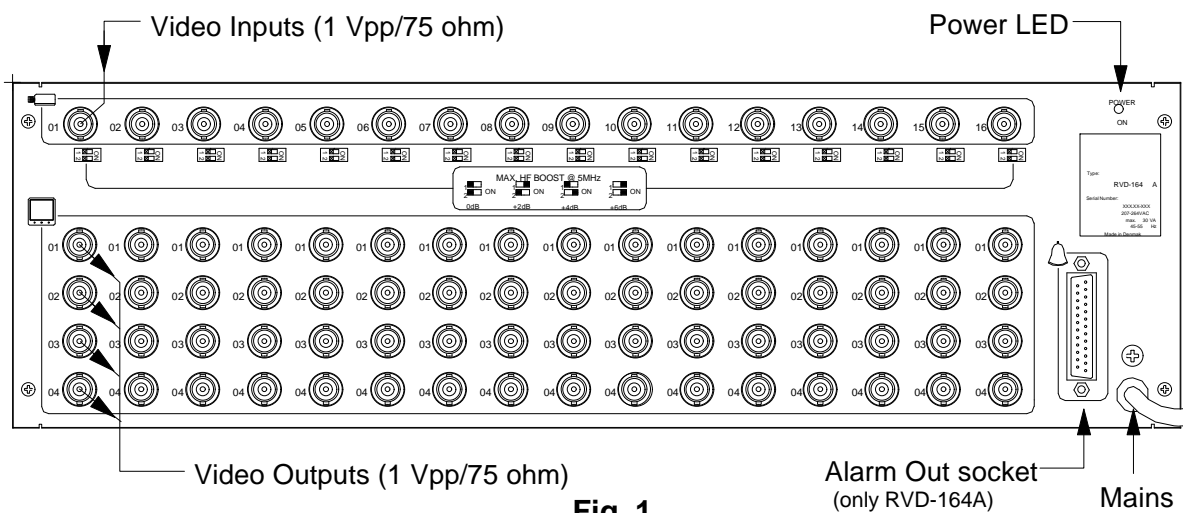
Fit the rack at the chosen location and secure the rack by means of the supplied screws. If more racks are piled, please provide for sufficient ventilation of the rack to avoid overheating.

Cable connections

Use coaxial cables of good quality (RG.59 or better). Make the cables as short as possible in order to reduce loss of signal in the cables.

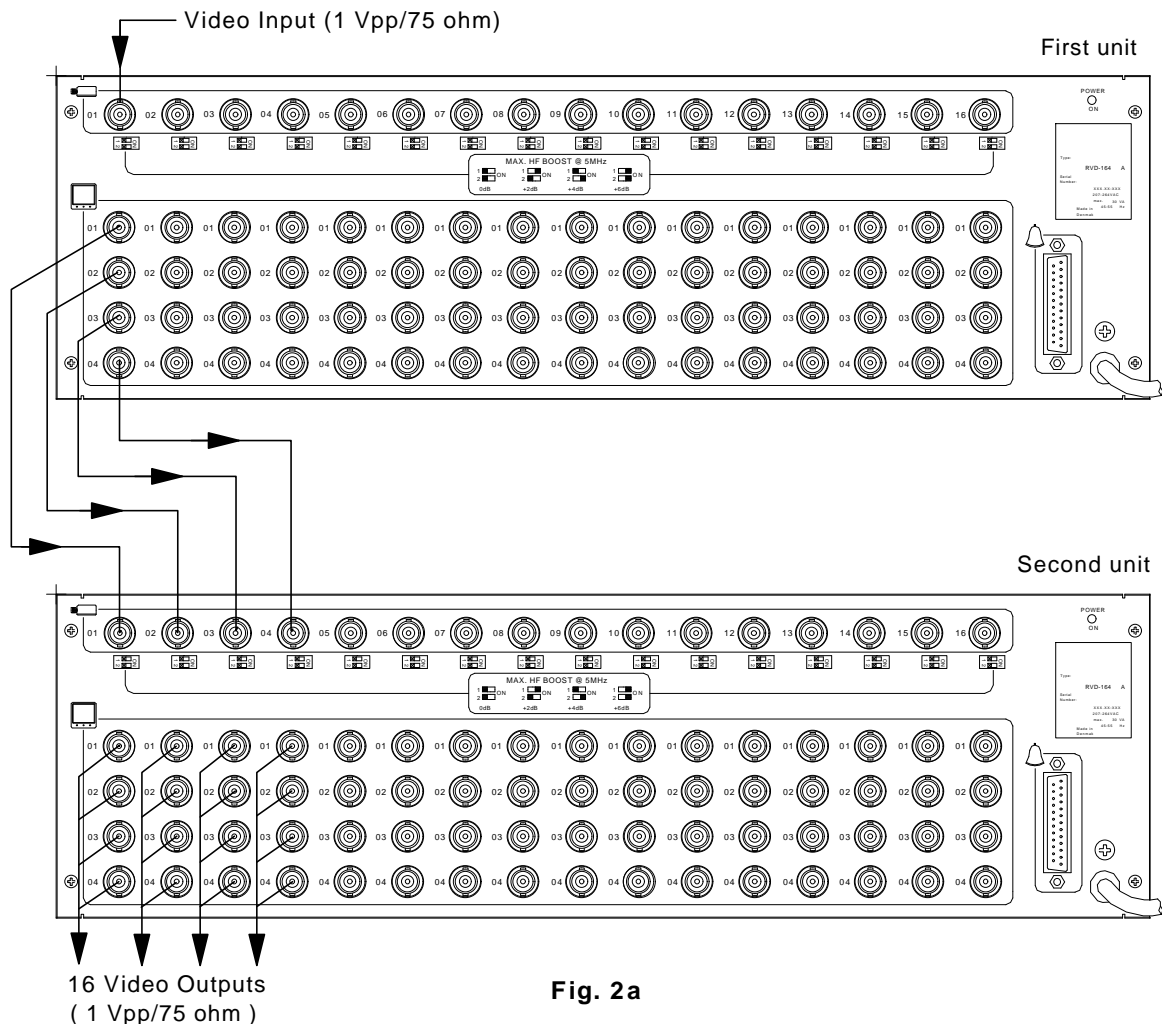
Connection of "1 in / 4 out" (Refer to Fig. 1)

For up to 4 video output per channel, connect as follows.



Cascade connection of channels or racks (Refer to Fig. 2a / 2b)

If more than 4 outputs per channel are needed, 2 or more VDA racks should be connected.



PLEASE NOTE !

If the cascade connection is used, be aware that cable compensation may be used as follows:

- If the long cable run is before the **first** unit (i.e. video input cables) or between the two units, compensation may be activated at the first unit.
- If the long cable run is after the **second** unit (i.e. video output cables) compensation may be activated at the second unit.

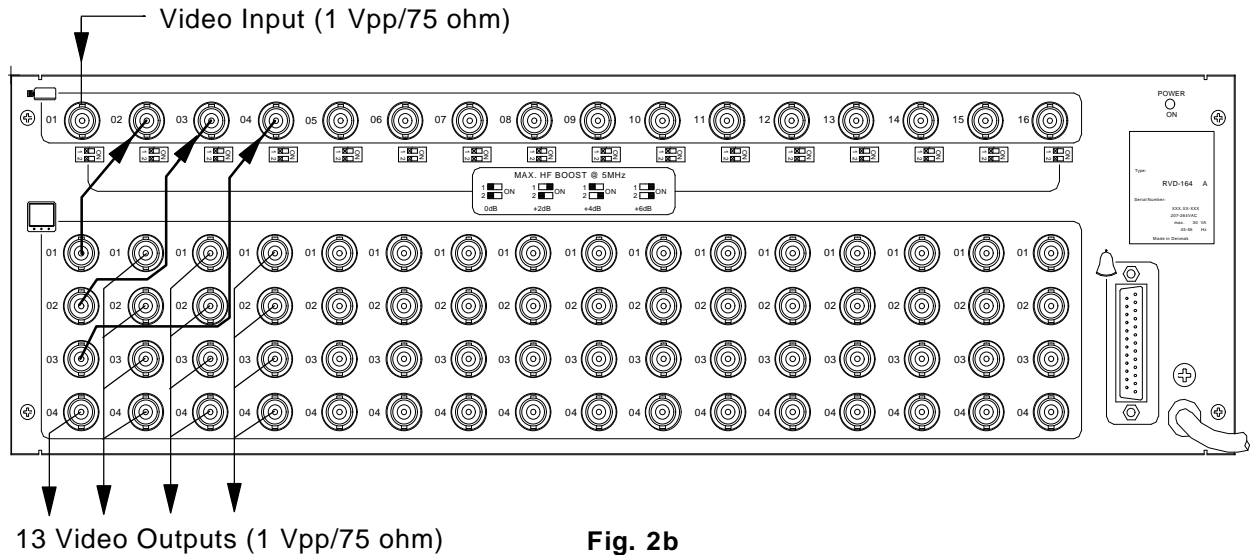
If compensation is activated at both units, uncontrollable oscillation

or noise in the picture may occur !

(continued)

If only few video inputs (4-8) are connected to the VDA, distribution up to 13 video outputs may be achieved by cascade connection of the channels.

For example: 4x1 inputs into 4x13 outputs, or 5x1 inputs into 5x9 outputs, or 8x1 inputs into 8x5 outputs (ref. to **Fig. 2b**).

**Fig. 2b**

Connection of mains supply

Please check that your mains voltage is within the limits on the type label at the rear panel of the rack (207-264 VAC).

If required, due to local safety regulations, the RVD-164A should be protected by an external mains fuse of 150mA (slow type).

a) Connect the mains lead to the mains supply:

Blue lead:	NEUTRAL
Brown lead:	LIVE
Yellow/Green lead:	EARTH

NOTE: Be sure that you have a good and stable connection to the earth !

b) Switch ON the mains power

Settings of cable compensation (Refer to Fig. 3)

Switch ON power to all cameras, monitors etc. in the system.

Check the quality of the picture displayed on each monitor. If necessary, compensate for loss in the cables by using the dip-switches for each channel.

The dip-switches are accessible through the holes at the rear panel of the rack.

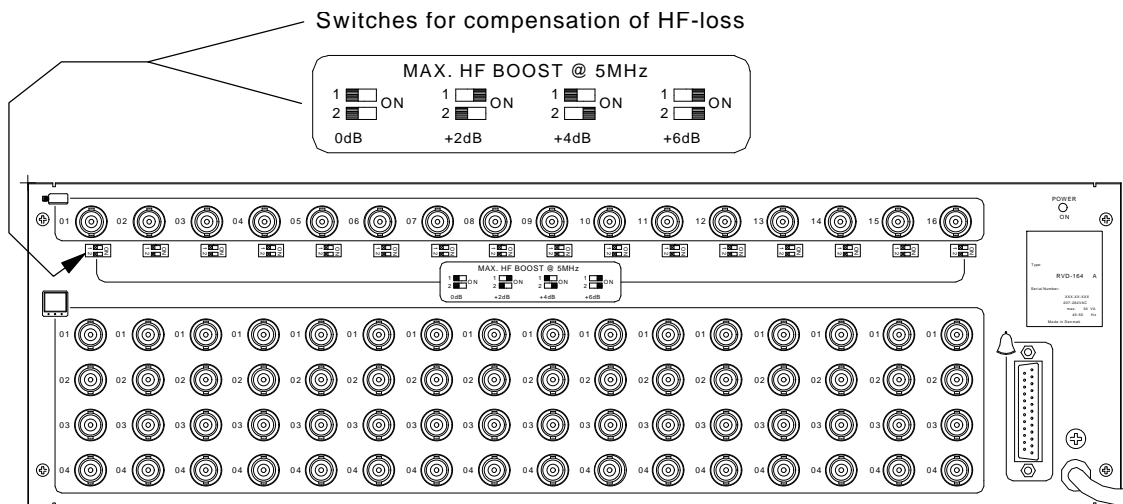


Fig. 3

Alarm Out connector (Only on RVD-164A)

Function	Pin no.	Function	Pin no.
Video alarm channel 01	01	Video alarm channel 02	14
= = = 03	02	= = = 04	15
= = = 05	03	= = = 06	16
= = = 07	04	= = = 08	17
= = = 09	05	= = = 10	18
= = = 11	06	= = = 12	19
= = = 13	07	= = = 14	20
= = = 15	08	= = = 16	21
PSU alarm Relay cont. NO	10	PSU alarm relay cont.	23
GND (0 VDC)	9, 11, 12 13, 22, 24	+5 VDC / max. 80 mA	25

Specification

Video input (CCIR or NTSC)	1 Vpp (max. 2 Vpp) / 75 ohm, BNC connectors
Video output	1 Vpp @ 1 Vpp in / 75 ohm, BNC connector
HF pre-emphasing @ 5 MHz	Max. 6 dB by 2-pole dip-switches
Bandwidth 10 Hz - 10 MHz	Less than -1.5 dB (- 0.5 dB without alarm module)
= = 10 Hz - 20 MHz	Less than - 4.0 dB (- 3.0 dB = =)
Signal / noise ratio @ 5 MHz	Better than 80 dB un-weighed
Crosstalk @ 5 MHz	Better than 56 dB
K-Factor	Less than 0.4 % KF
Pulse / Bar Ratio (2T)	93.5 % KF
50 Hz zag	4.5 %
Diff. gain @ 4.43 MHz	1.5 %
Diff. phase @ 4.43 MHz	0.5 Degr.
Luminance non-linearity / pp.	1.5 %
Output isolation	Better than 32 dB to 10 MHz
Input return loss /terminated	Better than 32 dB to 10 MHz
Output return loss / =	Better than 32 dB to 10 MHz

Alarm output module (only at RVD-164A)

* Connector	25 Pin D-Sub / Female
* Missing video alarm @ 180 mV +/- 30 mV	Alarm in < 1.5 sec., typ. 1 sec.
* Missing sync alarm @ 200 mV +/- 25 mV	Alarm in < 0.5 sec., typ. 0.2 sec.
* Alarm output current:	Max 20mA per. output
* Loss of power (floating relay cont.)	Alarm in less than 1 sec.
* DC-Output	+ 5 VDC / max. 80 mA.

EMI / EMC (Generic Standards):	EN 50081-2, EN 50082-2
Safety:	EN 60065
Ambient temperature range:	0 - 55 Degr. Celcius
Relative humidity:	max. 95 % @ 1 Bar, non-condensing.
Power supply (L+N+PE):	230 VAC + 15 % / - 10 %, 45 - 55 Hz.
Power consumption:	max. 25 VA
Internal fuse:	Trafo with termofuse (PTZ)
External fuse rating:	150mA (slow)
Dimensions:	19" x 3 HU, D = 165 mm.
Weight:	4 Kg

NOTE
