

Densité Video Distribution — Analog

The Densité series offers reliable analog distribution amplifiers for video and synchronization needs, these solutions provide robust performance for legacy systems and synchronization workflows, ensuring consistent signal quality and stability.

VDA-1002

Analog Video/Tri-level Sync Distribution Amplifier

VEA-1002

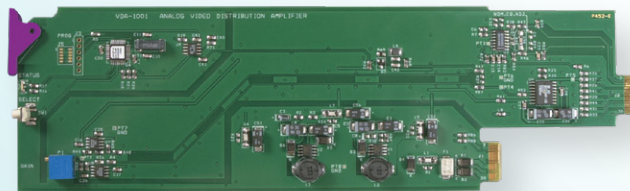
Analog Video Distribution Amplifier with EQ

WDA-1001

Word Clock Distribution Amplifier

VDA-1002

Analog Video/ Tri-level Sync Distribution Amplifier



Space-saving, modular platform for advanced signal processing.

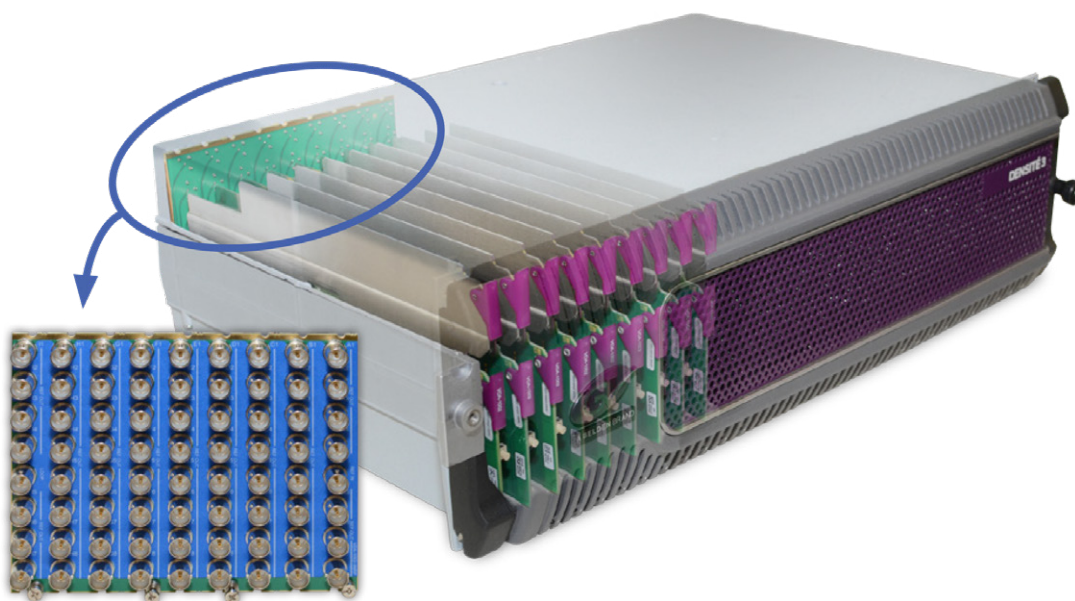
The VDA-1002 from Grass Valley® is an analog video distribution amplifier with a differential looping input and eight outputs.

Signal status is controlled from the card edge. Signal status is provided to indicate the input signal presence.

The differential input provides rejection of hum and other artifacts on incoming signals.

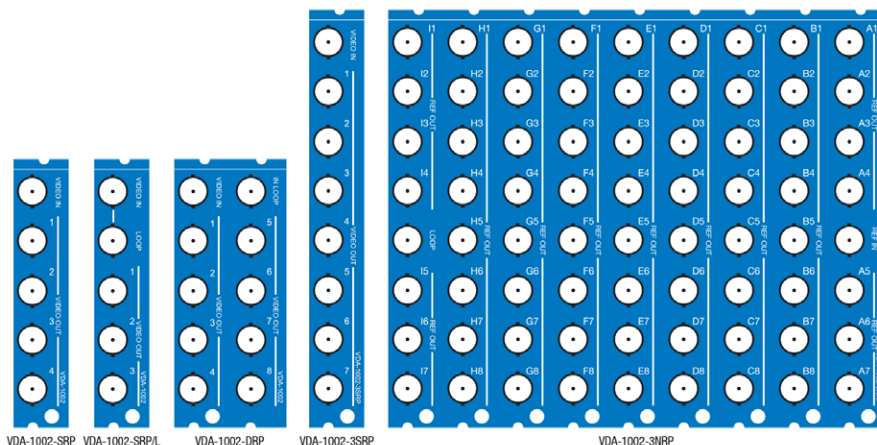
The new nine slot-wide VDA-1002-3NRP combined with nine VDA-1002 cards maximize analog video distribution to 70 BNC outputs with internal looping of input signal.

Two VDA-1002-3NRP rears (with 18 VDA-1002) can be installed in a Densité® 3 frame, giving a total of 140 BNC output per 3 RU for reference distribution.



Key Features

- Analog video differential input with passive loop-through
- 8x 75Ω outputs
- Supports NTSC and PAL video standards
- 90 MHz analog video bandwidth
- Control of gain from the card edge
- Status LED and remote reporting



Specifications

Input

Signal: Any 1 Vp-p nominal signal

Return loss:

>35 dB up to 10 MHz on all VDA single and double rear panels

>31 dB up to 5 MHz, with VDA-1002-3NRP rear panel

Coupling:

Level: 0.3 to 1.5 Vp-p

Impedance: 75Ω bridging

Max. common mode signal: 28 Vp-p

Common mode rejection: >65 dB to 10 kHz

Output

Signal (3-8): 1 Vp-p nominal signal adjustable

Return loss: >35 dB up to 5.75 MHz

Impedance: 75Ω

Phase match between outputs: <0.1° at 4.43 MHz

Output isolation signal: >40 dB at 10 MHz

Response variation: <0.1 dB, 1 to 8 loads, to 20 MHz

Processing Performance

Gain range: ±3 dB

Freq. response:

±0.05 dB up to 5 MHz

±0.15 dB up to 10 MHz

Differential gain: <0.15%

Diff. phase:

<0.15° at 8 loads

<0.1° at 2 loads

H/V tilt: <0.1 %, DC coupling

SNR: >70 dB up to 15 MHz (rms noise/0.714 V, unweighted)

Chrominance/luminance delay error: <±1 ns

Chrominance/luminance gain error: <±0.02 dB

Hum: <1 mV

Latency: 15 ns

Electrical

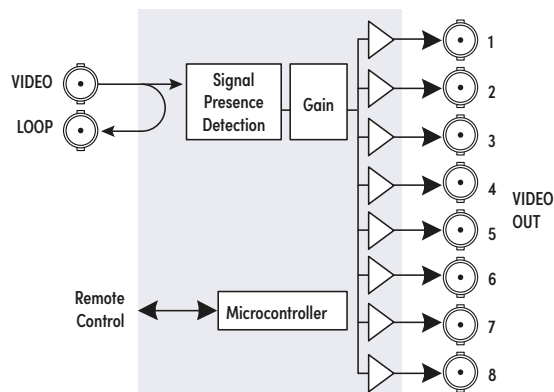
Power:

1.5W (SRP and SRP/L rears)

2W (DRP, 3SRP and 3NRP rears)

Ordering

Densité 2 Frame	Densité 3 Frame	Description
VDA-1002	VDA-1002-3RU	Analog video DA
VDA-1002-SRP		Single rear connector panel with 4 outs
VDA-1002-SRP/L	VDA-1002-SRP/L-3RU	Single rear connector panel
VDA-1002-DRP	VDA-1002-DRP-3RU	Double rear connector panel
	VDA-1002-3SRP	Single rear connector panel with 7 outs
	VDA-1002-3NRP	Nonuple Rear Connector Panel (supports up to 9 VDA-1002-3RU)
Remote Control	GV Orbit®, iControl™, iControl Solo	



VDA-1002 Functional Block Diagram

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DS-PUB-3-0421A-EN

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VEA-1002

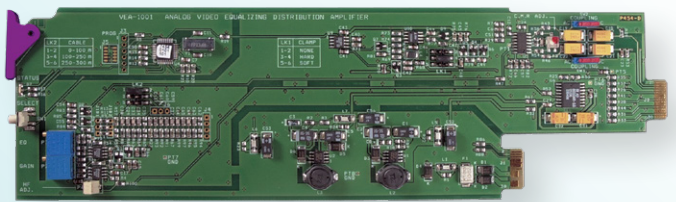
Analog Video Distribution Amplifier with EQ

Space-saving, modular platform for advanced signal processing.

The VEA-1002 from Grass Valley® is an analog video distribution amplifier with eight outputs, providing equalization and differential input.

The VEA-1002 will equalize up to 300m (984 ft.) of Belden 8281 cable. Gain and equalization are controlled from the card edge.

Signal status is provided to indicate the input signal presence. The differential input provides rejection of hum and other artifacts on incoming signals.



Key Features

- Analog video differential input with passive loop-through
- 8x 75Ω outputs
- Supports NTSC and PAL video standards
- 50 MHz analog video bandwidth
- Equalization up to 300m (984 ft.)
- Control of equalization and gain from the card edge
- Status LED and remote reporting

Specifications

Input

Signal: Any 1 Vp-p nominal signal
Return loss: >35 dB up to 5.75 MHz
Coupling: DC or AC with clamping
Level: 0.3 to 1.5 Vp-p
Impedance: 75Ω bridging
Max. common mode signal: 28 Vp-p
Common mode rejection: >65 dB to 10 kHz

Output

Signal (3-8): 1 Vp-p nominal signal, adjustable
Return loss: >35 dB up to 5.75 MHz
Impedance: 75Ω
Phase match between outputs: <0.1° at 4.43 MHz
Output isolation signal: >40 dB at 10 MHz
Response variation: <0.1 dB, 1 to 8 loads, to 20 MHz

Processing Performance

Gain range: ±3 dB
Freq. response:
 ±0.05 dB up to 5 MHz
 ±0.15 dB up to 10 MHz
EQ range: 0-300m (0-984 ft.) using Belden 8281
EQ response:
 <±0.05 dB up to 5 MHz
 ±0.1 dB up to 10 MHz,
 -3 dB at 30 MHz typically
Differential gain: <0.15%
Diff. phase:
 <0.15° at 8 loads
 <0.1° at 2 loads
H/V tilt: <0.1%, DC coupling

SNR: >70 dB up to 15 MHz (rms noise/0.714V, unweighted)

Chrominance/luminance delay error: <±1 ns

Chrominance/luminance gain error: <±0.02 dB

Hum: <1 mV

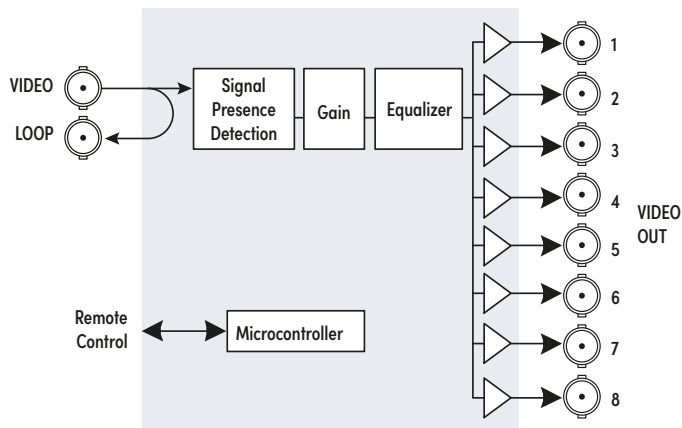
Latency: 5 ns

Electrical

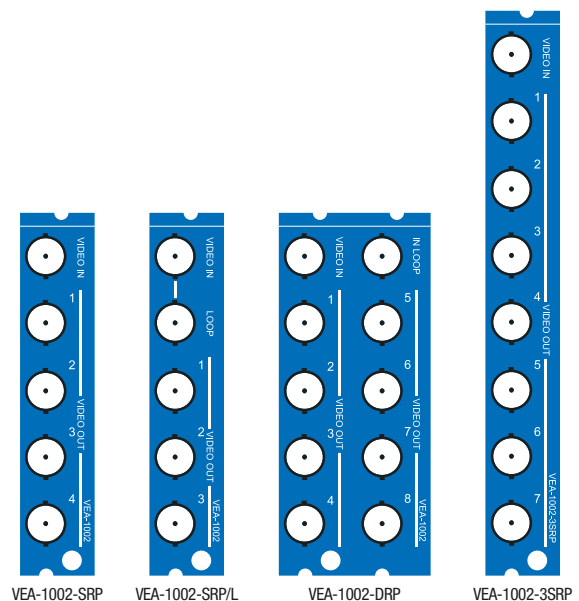
Power:

2W (SRP)

2.5W (DRP, 3SRP)



VEA-1002 Functional Block Diagram



Ordering

Densité 2 Frame

VEA-1002
 VEA-1002-SRP
 VEA-1002-SRP/L
 VEA-1002-DRP

Densité 3 Frame

VEA-1002-3RU
 VEA-1002-SRP/L-3RU
 VEA-1002-DRP-3RU
 VEA-1002-3SRP

Description

Analog video equalizing DA
 Single rear connector panel with 4 outs
 Single rear connector panel
 Double rear connector panel
 Single rear connector panel with 7 outs

Remote Control

GV Orbit[®], iControl[™], iControl Solo

This product may be protected by one or more patents. For further information, please visit: www.grassvalley.com/patents

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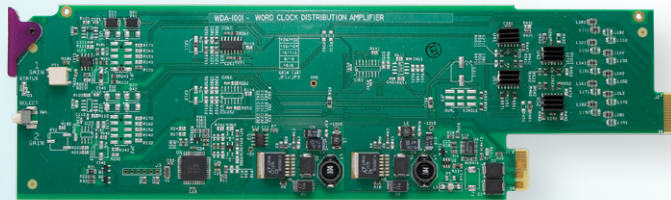
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WDA-1001

Word Clock Distribution Amplifier

Space-saving, modular platform for advanced signal processing.



The WDA-1001 from Grass Valley® is a Word Clock distribution amplifier that provides eight outputs and supports a wide range of clock frequencies and amplitudes.

It can fan out AC coupled as well as TTL/CMOS types of signals because the amplifier maintains an end-to-end DC transparency.

A passive loop-through input is provided to ease distribution of more than eight Word Clock signals by daisy chaining other WDA-1001 cards.

Alarms can be enabled to monitor input signal presence and/or overload conditions with user programmable thresholds.

Key Features

- Fans out up to 8 Word Clock signals
- DC Coupled all the way through
- Wide range of amplitudes and frequencies
- Works with both AC-coupled and TTL/CMOS type of signals
- SDIF-2 Word Clock compliant
- Built-in basic input signal probing with programmable thresholds
- Adjustable output levels

Specifications

Input

Signal: Word Clock, TTL/CMOS, AC-Coupled or SDIF-2

Connectors (2): BNC

Maximum input level: ± 8 Vp-p

Impedance: > 6 k Ω

Outputs (8)

Signal: Word Clock, DC coupled with input

Connectors: BNC

Impedance: 75 Ω

Output load: $\geq 75\Omega$

Maximum Output Levels

TTL input signal:

+7 Vp-p with 1 k Ω load

+3.5 Vp-p with 75 Ω load

AC-coupled

Input signal:

13 Vp-p with 1 k Ω load

6 Vp-p with 75 Ω load

Processing

DC Coupled, non-reclocking and non-resaping distribution amplifier

Bandwidth: 32 to 96 kHz

Gain with:

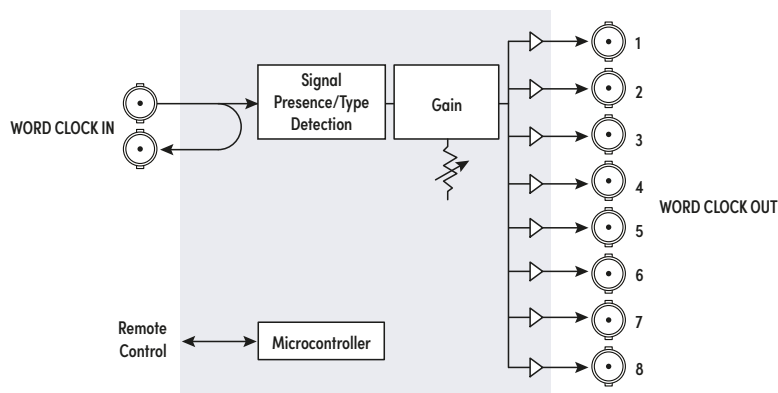
> 1 k Ω load: -3 to +12 dB

75 Ω load: -9 to +3 dB

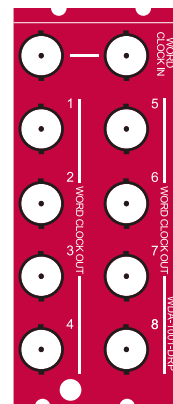
Propagation delay: < 50 ns

Electrical

Power: 8W



WDA-1001 Functional Block Diagram



WDA-1001-DRP

Ordering

Densité® 2 Frame	Densité 3 Frame	Description
WDA-1001	WDA-1001-3RU	Word Clock distribution amplifier
WDA-1001-DRP	WDA-1001-DRP-3RU	Double rear connector panel
Remote Control	GV Orbit®, iControl™, iControl Solo, RCP-200	

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