

VAC 1X1 SD/HD SDI DA Manual (Rev A)

VAC #83-111-101-A (One Output Re-clocking DA)

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Two Year Limited Warranty

All Video Accessory Corporation (VAC) products have a full two year limited warranty. Exclusions to the warranty include but are not limited to damage to external components, power LED failure where the product continues to function, and electrical damage due to lightning. The warranty shall be void if any alteration or repair of a VAC product is attempted by anyone not authorized by VAC. This warranty is expressly in lieu of all other warranties express or implied, including warranties of merchantability and fitness for use, and of all other obligations or liabilities on the part of VAC, and it neither assumes nor authorizes any other person to assume for it any liability in connection with the sale of this product. This warranty shall not apply to the product or any part thereof subjected to accident, negligence, alteration, abuse, or misuse. No warranty whatsoever is made with respect to accessories or parts supplied by anyone other than VAC, and this warranty shall extend only to the original purchaser of this product. The warranty provided in this article is exclusive and in lieu of, and buyer hereby waives, all other remedies, express or implied, arising by law or otherwise, including consequential damages, whether or not occasioned by negligence of VAC. This warranty shall not be extended, altered or varied except by written instrument signed by VAC and buyer, and shall only apply within the boundaries of the continental United States. Liability of VAC is limited to repair or replacement at the option of VAC. Warranty work is to be sent to VAC. Freight charges will be the responsibility of the purchaser.

Document History

REV	Date	Action
A	July 15, 2012	Original document.
B	Oct. 5, 2012	Added actual power current values. Added mounting insert dimensions.

1.0 Basic Operation

The 83-111-101-A is a 1X1 re-clocking SD/HD SDI DA. The unit is intended to be used at the far end of a transmission coax cable to equalize and re-clock the SDI signal.

2.0 Basic Functions

The following SDI formats are supported:

SMPTE 292M	(1.48Gbit/s)
SMPTE 259M	(270/360Mbit/s)
SMPTE 424M	(2.97Gbit/s)

BNC connectors are used for the signal connectors.

The units have a single bi-color power-on/signal LED.

The SDI receiver IC is designed to equalize the following lengths of cable:

400 meters of Belden 1694A at 270 Mbps
200 meters of Belden 1694A at 1.485 Gbps
120 meters of Belden 1694A at 2.97 Gbps

3.0 Power Requirements

Power Requirements

This unit has an internal switching supply that isolates supply power from the internal power and I/O. Units will operate correctly when powered by 10-34 VDC. The unit is equipped with full wave rectification, so power may be applied between Pins 1 & 2 using either polarity.



Pin 1	PWR+ (10-34V Supply Connection +V)
Pin 2	PWR- (10-34V Return Connection -V/GND)
Pin 3	AGND/Circuit Ground (Same as BNC Shields)
Pin 4	CGND/Chassis Ground (ESD Protection Ground)

Internal Circuit ground (AGND/Pin-3) is the ground reference for the internal circuits and BNC shields. It is NOT the input voltage return path of pins 1 and 2. The user has the option of floating internal circuits, with respect to any system ground, by not connecting to this pin. The user also has the option to connect the circuit ground to the chassis ground or the input power ground (or both). This power connector pin-out permits the user to define the grounding environment the unit is used in.

Chassis ground (CGND/Pin-4) is connected to internal ESD protection devices. The chassis ground does not need to be connected for proper operation. Secondary ESD protection connections exist between the input and output video signals and internal circuit ground.

The power connector (J3) is a 4 pin 3.5mm center header (Phoenix Contact #1897267) and mating power plug (Phoenix Contact #1847071) with screw flanges for vibration and shock resistance.

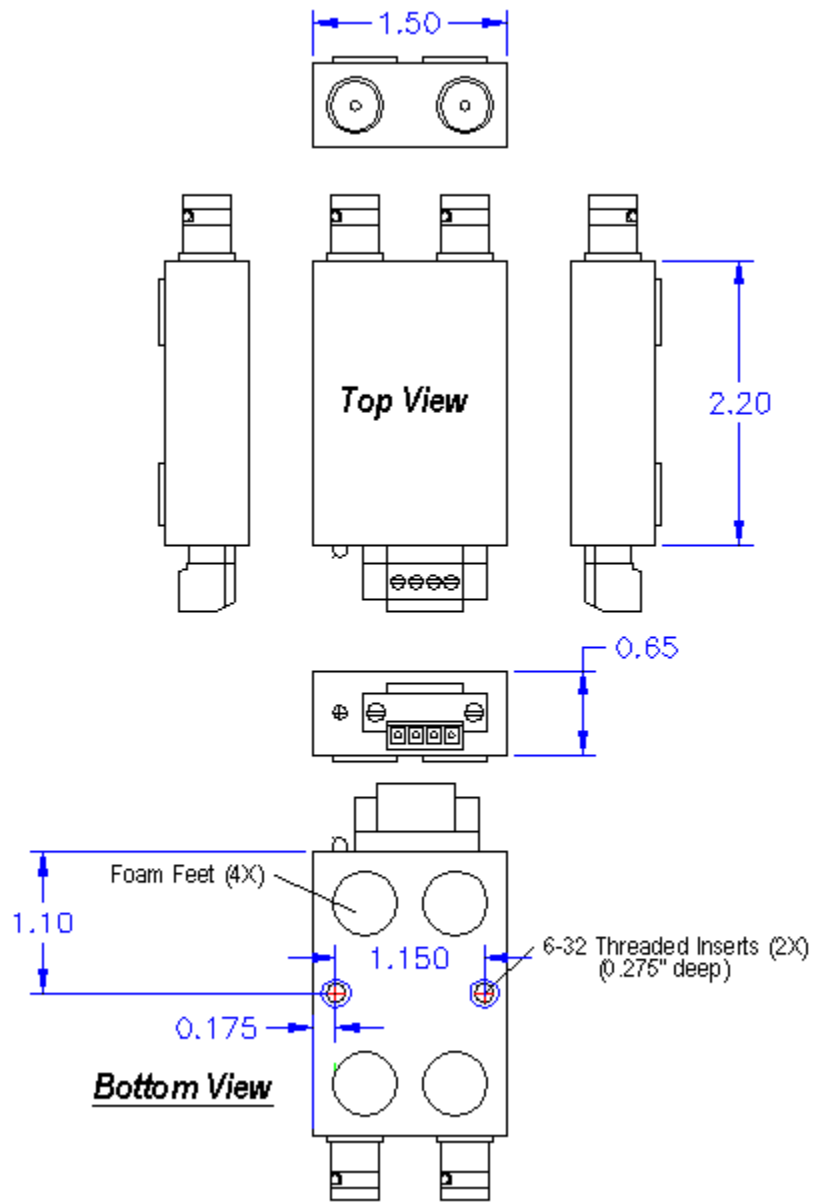
The unit has a multi-color LED (green/orange/yellow) to indicate power is connected and the internal uP is running.

4.0 Overall Specifications

Video Formats:	SMPTE 292M	(1.48Gbit/s)
	SMPTE 259M	(270/360Mbit/s)
	SMPTE 424M	(2.97Gbit/s)
Input Connector:	BNC	
Input Termination:	75 Ohms, AC coupled	
Output Connector:	BNC	
Output Coupling:	AC coupled	
Power LED:	Green (Indicates uP is running, active input) Yellow (Indicates uP is running, no active video on input)	
Operating Temperature Range:	-40C to +70C	
Power:	10-34V DC (either polarity on PWR connector, pins 1 & 2)	
Supply Current:	At 12 VDC > 105ma typical, 120ma max. At 28 VDC > 41ma typical, 55ma max.	
Power Connector:	3.5mm 4 pin terminal block	(Phoenix Contact #1843813)
	Mating plug	(Phoenix Contact #1847071)
Package:	1.5" X 2.2" X 0.65"	
Mounting:	Two 6-32 threaded inserts	
Weight:	4 oz.	

5.0

Package



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