

# Marshall Electronics

## BC-0909-DA Universal Digital Converter Users Guide

### 1 Product Overview

The BC-0909-DA is a Universal Digital converter for digital HDSDI to Analog HD (SMPTE-274M) YprPb, or RGB or SDI to Analog Composite, Y/C, YUV, or RGB with support of 480i, 480P, 720P, 1080 24P, 1080i formats. The Digital to Analog conversion in this module employs 10bit sampling and data path with 4x over sampling of chroma and an adaptive filter process.

### 2 Features

- Active loop through for HDSDI signal with re-clocking and re-shaping
- Automatic detection range of 142Mb/s to 1.485Gb/s
- Automatic Compensation of HDSDI input for cable length up to 300'
- Converts HDSDI to Analog High Definition RGB (SOG) or Y-Pr-Pb
- Converts SDI to Analog Composite (PAL/NTSC)
- Converts SDI to Y/C (S-Video)
- Converts SDI to Analog Component YUV (Y/R-y/B-y), or RGB (SOG)
- Automatic color space conversion
- Rotary switch for output signal type
- 10-bit processing with 4x over sampling

### 3 Electrical Specifications

<b>Signal Input</b>	BNC for HDSDI/SDI signals that conform to SMPTE-259M/292M
<b>Screen Formats</b>	640 x 480 - 50i, 59.97i, 60i 1280 x 720 - 23.97P, 24P, 25P, 29.97P, 30P, 59.96P, 60P 1920 x 1080 - 23.97P, 24P, 25P, 29.94P, 30P, 50i, 59.94i, 60i
<b>Signal Output</b>	HD-15 (Analog component RGB, YPrPb, Composite, Y/C) via included RGB-5HD15-6 Break out cable
<b>Output Standards</b>	SMPTE-170M for SDI inputs SMPTE-274M/296 for HDSDI inputs
<b>System Sample Frequency</b>	54Mhz
<b>Dynamic gain/phase</b>	<0.4% / 0.4°
<b>Y/C delay</b>	<2%/2°
<b>Frequency Response</b>	-0.9db
<b>Signal to Noise</b>	<57db
<b>Differential gain/phase</b>	<0.5% / <0.7°
<b>Input Cable length</b>	1000ft (300m)

### 4 Mechanical Specifications

<b>Dimensions</b>	4.75"W x 3.75"D x 1.0"H (120.65mm x 95.25mm x 25.4mm)
<b>Approx. Weight</b>	0.55 lbs
<b>Power required</b>	6V D.C. supplied from external supply

### 5 Included Accessories

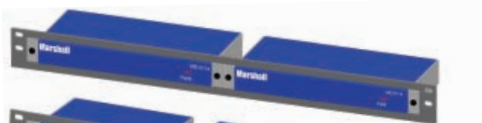
- Power Supply (Class 2, (Model V-PS6-12A))
- RGB-5HD15-6 Break out cable
- Users Guide
- Wall Mount Brackets
- Foot Pads for desktop or stacking

### 6 Optional Accessories

A. 2 Module Rack Mount Kit (Model V-CRM2)

B. 3 Module Rack Mount Kit (Model V-CRM3)

A.



B.



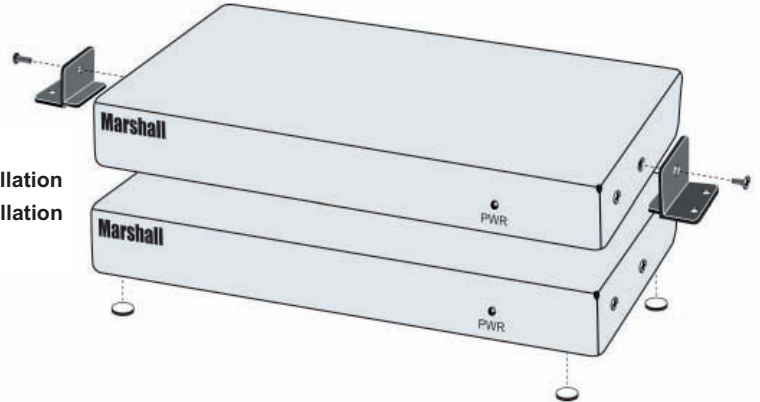
Desktop Stand (Model V-CB1)



## 6 Operational Setup

1. Unpack the BC-0909-DA and accompanying V-PS6-1.2A power supply. Physically inspect for any damage that may have occurred during shipping. Also verify there is a small package with mounting accessories. Should there be any damage, immediately contact Marshall Electronics at 800-800-6608. If you are not located within the continental United States call +1 310-333-0606.
2. Install in your desired location. If wall mounting is required, attach the mounting brackets by removing the Phillips head screws on the sides, closest to the rear of the unit. (See Below) Only one screw per side should be removed. Use the same screw to attach the bracket with the flange facing away from the side and parallel to the front of the BC-0909-DA metal case. The flange has two holes. For desktop use, apply the supplied rubber pads.
3. Connect required cables for signal input and output. Please note that power must be applied to the BC-0909-DA for the Analog Output and HDS/SDI Loop out to be activated. All BNC connectors should be rated for 75Ω.
3. Plug the V-PS6-1.2A power supply into the A.C. source
4. Attach twist lock power connection from V-PS6-1.2A power supply to the back of the unit.
5. Turn on the BC-0909-DA by depressing the power switch located on the front of the unit. Refer to Page 4 picture for location of switch settings.

Bracket Installation  
Feet Installation

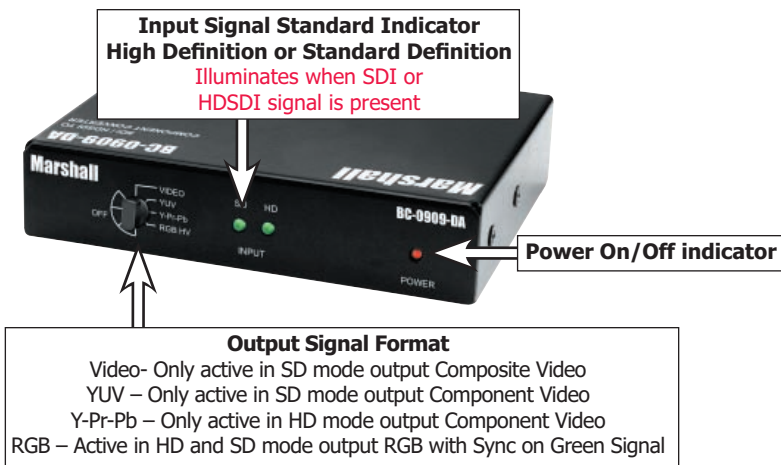


## 7 Input Connectors



Signal Type	HD Analog color difference YPbPr	SD Analog color difference Y, R-Y, B-Y	S-Video Y/C	HD or SD Analog RGB (Sync on Green)
Pin1	Pr	R-Y	C	Red
Pin2	Y	Y	Y	Green
Pin3	Pb	B-Y		Blue
Pin4				
Pin5				
Pin6	Ground	Ground	Ground	Ground
Pin7	Ground	Ground	Ground	Ground
Pin8	Ground	Ground		Ground
Pin9				

## 6 Switch Settings & Indicators



HD-15 BNC Breakout
Red
Green
Blue
Ground
Ground
Ground

## 8 Warranty

Marshall Electronics warrants to the first consumer, that this BC-0909-DA Digital to Analog Converter will, under normal use be free from defects in workmanship and materials, when received in its original container, for a period of one year from the purchase date. This warranty is extended to the purchasing end user only and proof of purchase is necessary to honor the warranty. If there is no proof of purchase provided with a warranty claim, Marshall Electronics reserves the right not to honor the warranty set forth above. Therefore, labor and parts may be charged to you. This warranty does not apply to product exterior and cosmetics. Misuse, abnormal service or handling, improper alterations or modifications in design or construction, voids this warranty. No sales personnel of the seller, nor any other person is authorized to make any warranties other than those described above, or to extend the duration of any warranties on behalf of Marshall Electronics, beyond the time period described above. Due to constant effort to improve products and product features, specifications may change without notice.

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