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Installation and Operation Manual



CSD-1 *Composite Stereo Decoder*

Manual update 11/12/2005

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INTRODUCTION

Thank you for your purchase of the **tiny TOOLS™ Composite Stereo Decoder**, which we will refer to throughout the manual as the **CSD-1**. We're confident this product will give you many years of dependable service. This manual is intended to give you all the information needed to install and operate the product.

SAFETY INFORMATION

Only qualified personnel should install Broadcast Tools® products. Incorrect or inappropriate use and/or installation could result in a hazardous condition.

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If you would like more information about Broadcast Tools® products, you may reach us at:

Broadcast Tools, Inc.

131 State Street
Sedro-Woolley, WA 98284-1540 USA
Voice: 360 . 854 . 9559
Fax: 866 . 783 . 1742

Internet Home Page: www.broadcasttools.com
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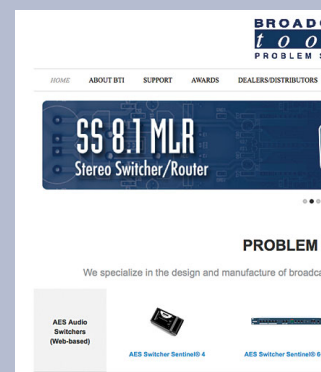
Broadcast Tools® Products, as with any electronic device, can fail without warning. Do not use this product in applications where a life threatening condition could result due to failure.



This manual should be read thoroughly before installation and operation.

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PRODUCT DESCRIPTION

The CSD-1 converts a composite stereo signal into discrete left and right balanced audio outputs. Features include; twin BNC input connectors; multi-turn input level control; twin power connectors allowing up to four units to be driven off of one external power transformer; front panel output trimmers; front panel stereo and power LED's and plug-in euroblock output connectors. The CSD-1 is powered by a surge protected internal bi-polar 12vdc power supply affording superior headroom and high definition audio. The CSD-1 may be set on a desktop, mounted on a wall or four units may be mounted on the optional RA-1, Rack-Able mounting shelf.

INSTALLATION

Please examine your CSD-1 carefully for any damage that may have been sustained during shipping. If any is noted, please notify the shipper immediately and retain the packaging for inspection by the shipper. The package contains the CSD-1, 12 VAC @ 1 amp wall power transformer, power supply expansion adapter cable and this manual.

Installation of the CSD-1 in **high RF environments** should be performed with care. Coaxial and shielded cable is suggested for all audio connections. All shields should be tied to the "G" Ground terminal. The station ground should be connected to the chassis ground screw located on the far right side of the CSD-1 as viewed from the rear. It is recommended that all cables connected to the CSD-1 be looped through ferrite cores to suppress RF. Surge protection with RF filtering such as the Tripp-Lite "ISOBAR 4 or 6" is also suggested for the wall transformer.

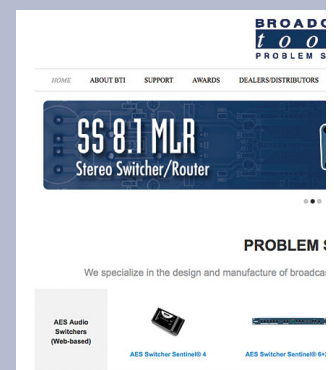
Composite Input BNC connectors: The two BNC connectors are paralleled internally. Either may be used to attach to your source equipment. The input accepts composite stereo signals of 1 V p-p or greater. The rear panel "Input Level" control R19 may be used to set the desired input level. Adjust for a solid "Stereo" indicator.

Discrete Left/Right Outputs: Connect the stereo load equipment to the CSD-1's output plug-in euroblock connector labeled "LT-/LT+" and "RT-/RT+".

Note: For unbalanced loads, use the "LT+, RT+" and G (ground) terminals only. The front panel LT and RT "OP LVL" controls may be adjusted from zero to +12dBm.

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OPERATION

POWER

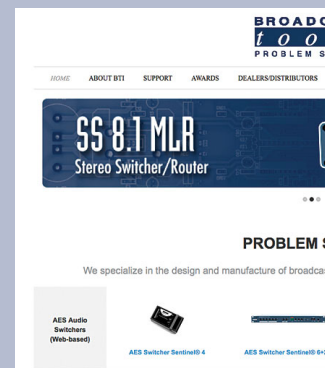
Insert the power plug into either of the two power jacks on the CSD-1 and the wall transformer into the proper AC outlet. A power supply expansion adapter cable is provided to power an additional CSD-1. Verify that the power LED is lit.

Monaural Operation

Remove power and the cover. Locate JP1 and place a jumper on JP1. Reinstall the cover and power.

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SPECIFICATIONS

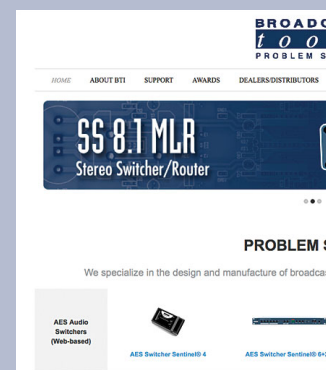
Composite Input	Unbalanced/bridging BNC, accepts composite stereo signal, 1 V p-p or greater. Adjustable with rear panel multi-turn trimmer.
Discrete Left/Right Line Output	Electronically-balanced, 100 Ω source impedance; outputs deliver nominal line levels to 600-ohm terminated or bridging inputs. Adjustable with front panel trimmers from zero to +12dBm.
Frequency Response	Conforms to 75us de-emphasis characteristic; +/- 0.2dB, 20 Hz - 10 kHz, down less than 1dB at 15kHz.
Distortion	Audible-range THD <0.1%; 19kHz stereo pilot rejection better than 50dB.
Noise	Better than 75dB below 100% carrier modulation
Stereo Separation	Note: This is factory adjusted for best separation. If an adjustment is needed, remove the cover and locate R13. Adjust R13 for best overall stereo separation. Reinstall the cover.

Frequency	L – R(dB)	R – L (dB)
20	59	59
50	60	59
100	58	60
200	59	64
500	68	80
1k	62	68
2k	55	60
5k	48	50
8k	43	46
10k	41	44
12.5k	38	38
15k	28	27

Connectors	Composite - Dual BNC Audio outputs - Plug-in euroblock screw terminals
Power Requirement	12 Vac, 1 amp, wall transformer, Supplied. Surge protected power supply.
Size	1/4" rack space, Painted chassis w/ 4 – 6-32 mounting holes.
Weight	2.0 lb.
Options	RA-1, Rack Shelf. 1 RU. / 220 Vac 50-60 Hz CE wall transformer.

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The term “Buyer” as used in this document refers to and includes both (but only) (a) any person or entity who acquires such an item for the purpose of resale to others (i.e., a dealer or distributor of an item), and (b) the first person or entity who acquires such an item for such person’s or entity’s own use.

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Broadcast Tools, Inc.

131 State Street
Sedro-Woolley, WA 98284 • USA

360.854.9559 **voice** • 866.783.1742 **fax**
support@broadcasttools.com **e-mail**
www.broadcasttools.com **website**

APPENDIX

Functional Diagram

