



## *Installation and Operation Manual*



### **ADC-1** *Analog to Digital Converter*

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## INTRODUCTION

Thank you for your purchase of the Broadcast Tools® Analog to Digital Converter, which we will refer to throughout the manual as the ADC-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.

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## WHO TO CONTACT FOR HELP

If you have any questions regarding your product or you need assistance, please contact your distributor from whom you purchased this equipment.

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](http://www.broadcasttools.com)  
E-mail: [support@broadcasttools.com](mailto:support@broadcasttools.com)

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**CAUTION!**

**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.



**NOTE:**

This manual should be read thoroughly before installation and operation.

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## PRODUCT DESCRIPTION

The ADC-1 provides professional quality 24-bit A/D conversion. The A/D converter may be configured for sample rates of 44.1 or 48kHz (32kHz may be special ordered) or an external word clock from 32 to 96kHz. Additional features include; balanced stereo analog input and AES output via plug-in euroblock connectors. The front panel is equipped with a sample rate switch and led indicators, left and right analog input trimmers, dual 10-LED input meters and power LED indicator. The ADC-1 is powered by a surge protected internal bi-polar 15-vdc power supply affording superior headroom and high definition audio. The ADC-1 may be set on a desktop, mounted on a wall or up to three units may be mounted on the optional RA-1, Rack-Able mounting shelf.

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### DESCRIPTION

## INSTALLATION

Please examine your ADC-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 ADC-1, 16 VAC @ 600 ma wall power transformer and this manual.

Installation of the ADC-1 in high RF environments should be performed with care. Shielded cable is suggested for all audio connections. All shields should be tied to the “G” Ground terminals. The station ground should be connected to the chassis ground screw located on the far right side of the ADC-1 as viewed from the rear. It is recommended that all cables connected to the ADC-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.

To gain access to the ADC-1 components, remove power and the top cover allen screw. When the configuration is completed, reinstall the cover, screw and power.

**L/R Analog Inputs**                      Hi Z, active balanced. Connect your source equipment to the left/right input - and + terminals on the plug-in euroblock connector. For monaural sources, tie the left and right inputs together, be sure to observe correct phasing. NOTE: If the source feeding the ADC-1 is unbalanced, install a jumper between Lt- or Rt- terminal and GND.

**AES Output**                              Connect this plug-in euroblock connector to the AES input on your equipment.

**Word clock input**                      Balanced word clock input. Accepts all standard digital audio sample rates from 32 to 96kHz. Must be configured to activate this input.

**Front panel switch**                      IN: 44.1 kHz sample rate.  
OUT: 48 kHz sample rate. May be special ordered for 32 kHz.

**“Setup” jumper settings**

JP-1	ON:	Internal (factory default).
	OFF:	External Clock
JP-2	ON:	External clock, 59 to 96kHz (factory default).
	OFF:	External clock, 30 to 59kHz.

## OPERATION

- Power** Insert the power plug into the power jack on the ADC-1 and the wall transformer into the proper AC outlet. Verify that the power LED is lit.
- LT Lvl / RT Lvl** Adjust these controls to the desired AES output level.
- Left VU calibrate trimmer - R29.**                      **Right VU calibrate trimmer - R31.**

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## SPECIFICATIONS

<b>Analog Input Level</b>	0dBu to +24dBu. +4dBu analog input provides -20dBfs AES output when adjusted with the front panel trimmers.
<b>Analog Input Impedance:</b>	10K $\Omega$ balanced.
<b>Frequency Response:</b>	10 to 20kHz +/- 0.5dB.
<b>Distortion:</b>	<.001%HD / IMD
<b>Noise:</b>	<108dB Ref
<b>AES Output Impedance:</b>	110 $\Omega$ , balanced.
<b>Word clock input impedance:</b>	75 $\Omega$ , balanced
<b>Word clock input level:</b>	5 volts
<b>Word clock PLL input range:</b>	32 to 96kHz
<b>Connectors:</b>	AES, analog Inputs/Outputs connections: Plug-in euroblock screw terminals, Word Clock; BNC
<b>Power Requirement:</b>	16 Vac, 600 ma, wall transformer, Supplied. Surge protected power supply.
<b>Size:</b>	1/3" rack space, Painted chassis w/ 4 - 6-32 mounting holes.
<b>Weight:</b>	2.0 lb.
<b>Options:</b>	RA-1, Rack Shelf. 1 RU. / 220 Vac 50-60 Hz CE wall transformer.

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## SPECIFICATIONS

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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**

### Functional Diagram

