



roadcast Devices, Inc.

CDS-200A Composite Distribution Amplifier

TECHNICAL REFERENCE MANUAL

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REV: C 09/01

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Introduction

The CDS-200A Composite Distribution System is intended to be used in conjunction with suitable FM or TV stereo generators and/or composite STLS, SCA and SAP generators for the purpose of distributing these signals to up to three locations. This is done with a high degree of isolation so that equipment can be interfaced easily. The typical configuration for the CDS-200A is to distribute a composite stereo signal to a main and back up exciter. The same can be done with virtually any signal applied to a modern broadcast exciter. A test B.N.C. jack is provided at the front panel for use with an oscilloscope or voltmeter for monitor and test purposes.

A. Unpacking and Inspection

Carefully unpack the unit after receipt and inspect for damage that may have occurred during shipping. If damage is noted, contact the shipper immediately and file a damage claim. The contents of the package have been insured to cover total replacement cost. Make certain that the package contents are the same as noted on the packing slip. If not, contact Broadcast Devices, Inc. Check to make sure all mechanical parts are secure. Units are delivered from the factory configured for 120 volts A.C. 60 Hz. Operation. Check to make sure that the power source is correct for proper operation. Units are field configurable for 220 Volt operation. See initial configuration section of part III, installation section for different power configuration.

B. General Description

A suitable composite stereo, S.C.A., R.B.D.S., or S.A.P. signal can be applied to the input jack of the CDS-200A. As supplied from the factory, the unit is configured to accept a balanced 10Kohm bridging input. If it is desired to unbalance or terminate the input see initial configuration under part III, installation instructions. All three rear panel outputs of the DA are configured to drive a 50-ohm cable. The front panel test jack is bridged to the third output via a 1Kohm resistor.

Adjustments for overall gain and individual output level can be accomplished from the front panel. Power indication is also provided on the front panel.

II. Specifications

Input Impedance:	10K or 50 ohm balanced/unbalanced selectable
Output Impedance:	50 ohms unbalanced
Maximum Output level:	4 Volts Peak to Peak into 50 ohms
Gain:	6 dB (variable)
Frequency Response:	Better than +/- 0.05 dB from 20 Hz to 100 kHz
Total Harmonic Distortion:	Better than 0.05% into 50 ohms
Inter - Modulation Distortion:	Better than 0.05% S.M.P.T.E. 4:1
System Noise:	Better than 80 dB below 4 Volts Peak to Peak
Input Connector:	Isolated B.N.C.
Output Connector:	B.N.C. (3 rear, 1 front panel)
Power Requirements:	120/240 Volts A.C. 50 - 60 Hertz
Operating Temperature Range:	0 - 60° Celsius
Physical Dimensions:	1.75 H X 19 W X 10 D (inches)

III. Installation

A. Initial Configuration

Before installing the unit it is a good idea to decide whether or not the unit will operate balanced or unbalanced and/or bridging or terminated at its input. Generally, to avoid ground loops between equipment it is advisable to operate the unit in the balanced configuration. If for some reason it is desired to operate the unit unbalanced or to terminate the input to 50 ohms, remove the top cover and locate the SDA board at the front of the unit. At the rear right hand side of the board are J1 and J2. By placing the jumper in place on J1, the unit will terminate connections to 50 ohms. By applying jumper J2 the unit will become unbalanced. This places the

ring of the input B.N.C. connector at ground potential. Remember that the unit is already set up to present a balanced, 10K bridging input. If this is the mode of operation desired, nothing further need be done.

The unit as configured from the factory is set to accept 120 Volts A.C. 60 Hertz electrical power. To change the power setting first remove the power cord from the power entry connector. Slide the plastic cover to the left and with a pair of long nosed pliers carefully remove the power select p.c. board from the power entry module. Select the desired power configuration by placing the power entry p.c. board back into the module so that the desired power setting can be read from left to right.

B. Location and Hookup Considerations

Locate the CDS-200A in a 19-inch E.I.A. standard rack enclosure in close proximity to the equipment that it is going to interface between. Allow sufficient airflow space between equipment to allow for proper cooling. It is important that the cables being fed from composite sources such as stereo generators and STL receivers be kept as short as is practical. The CDS-200A can drive lines as long as 25 feet with no degradation of signals. It is advisable to keep all cable lengths as short as possible to prevent stray R.F. pick up.

C. Composite Connections and Adjustments

Make all desired input and output connections to your external equipment. Make sure that the CDS-200A is plugged in to a properly grounded A.C. receptacle. If possible, interrupt the audio feeding the CDS-200A and measure the signal to noise ratio with a suitable voltmeter. If the noise measurement obtained is acceptable you can proceed to the final adjustment of the unit. If the noise is high there may be stray R.F. pick up or a ground loop. It is a good idea to listen to the system with a suitable audio monitor to determine the source of the noise. Hum is a common noise present. If hum is present, start by removing one cable at a time to determine the source of the ground loop. If the hum disappears or changes level when a cable is disconnected, a loop exists between the CDS-200A and the equipment at the other end of the cable removed. This will generally not happen with an input unless the unit has been configured for unbalanced operation. If this is the case, try the balanced input mode of operation. If a ground loop is present between the CDS-200A and an exciter or STL, feed the CDS-200A to a balanced input. Most modern exciters accommodate balanced cables.

As shipped from the factory, the CDS-200A is adjusted to produce unity gain from input to output. It may be necessary to adjust levels as some exciters can require slightly different levels to produce 100% modulation. In the common main/alternate main configuration, check the level presented to both exciters with a suitable modulation/stereo monitor or voltmeter. If the level to both exciters is too high or too low when the CDS-200A has been connected, it is recommended that you adjust the INPUT ADJUST control of the DA to obtain a coarse adjustment. Final adjustment to each exciter can then be made using the respective output control. A good way to adjust levels is to observe the 19 KHz pilot injection level so that the pilot level matches on both exciters. If the level is too high or low on just one of the exciters, adjust the appropriate output control on the CDS-200A front panel.

IV. Warranty

Broadcast Devices, Inc. products are warranted against failure due to faulty materials or workmanship for a period of one year from the date of shipment to the ultimate user. The warranty covers repair or replacement of defective parts at the factory, provided the unit has been returned prepaid by the user. All shipments to the factory shall have affixed to the outside of the container an R. A. number obtained from the factory. The above warranty is void if the unit has been modified by the user outside of any recommendations from the factory or if the unit has been abused or operated outside of its electrical or environmental specifications. If customer conducted field tests suggest that the unit may be faulty, whether or not the unit is in warranty, a full report of the difficulty should be sent to Broadcast Devices, Inc. factory at Cortlandt Manor, New York. The office may suggest further tests or authorize return for factory evaluation.

Units sent to the factory should be well packed and shipped to Broadcast Devices, Inc. 5 Crestview Avenue, Cortlandt Manor, NY 10567. Remember to affix the R.A. number to the outside of the carton. Any packages received without such R.A. number will be refused. Note: freight collect shipments will also be refused. When the unit has been received, inspected and tested, the customer will receive a report of the findings along with a quotation for recommended repairs, which are found falling outside of the standard warranty. Units returned for in-warranty repairs which are found not to be defective will be subject to an evaluation and handling charge. In-warranty units will be repaired at no charge and returned via prepaid freight.

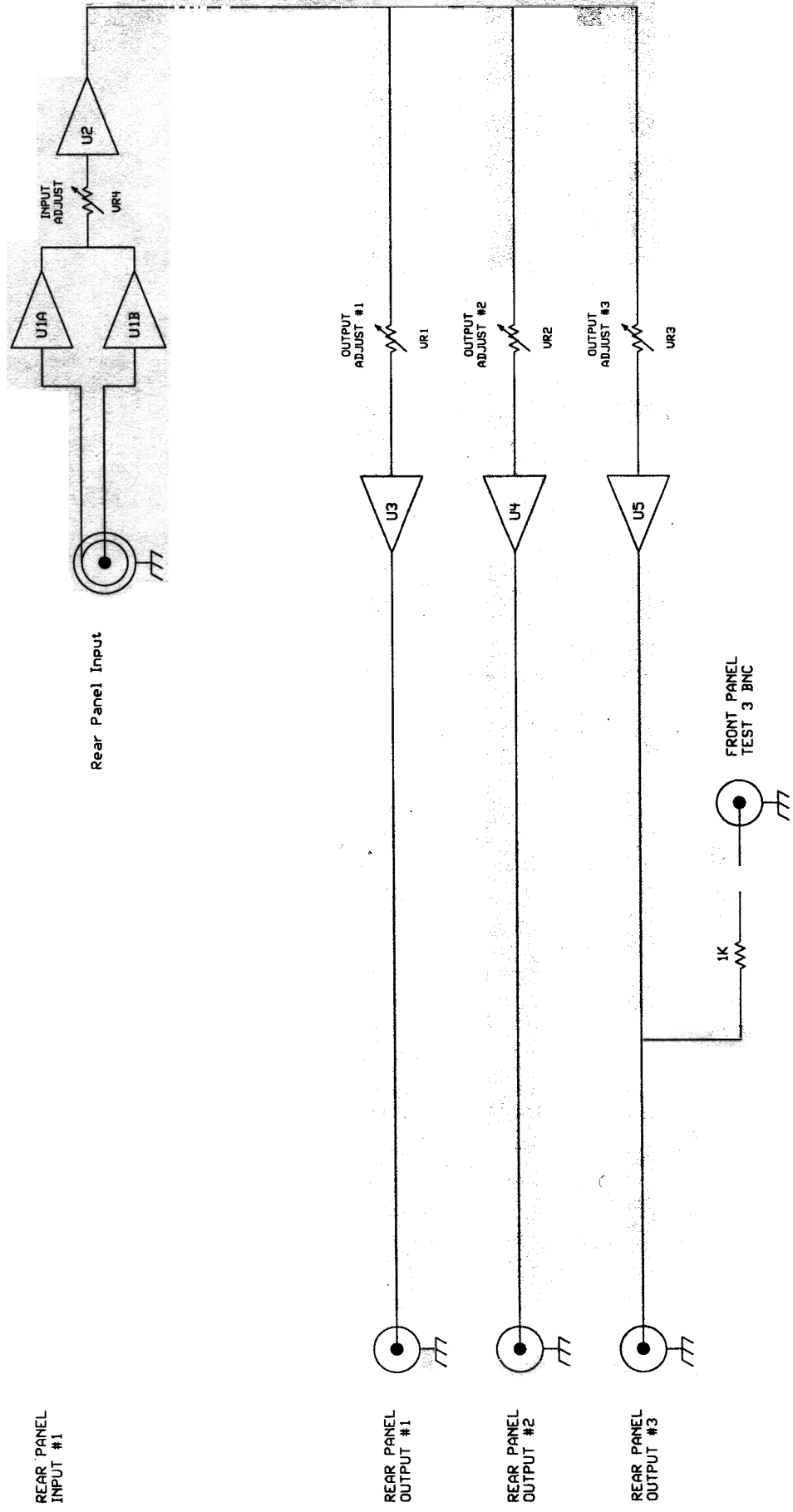
Out-of-warranty units needing repair require a purchase order and will be invoiced for parts, labor, and shipping charges.

When ordering replacement part, always specify A) Part number or Description, and Quantity; B) Date of Purchase, Where Purchased; C) Any Special Shipping Instructions. Always specify a street address, as shipping companies cannot deliver to a postal box.

Broadcast Devices, Inc. is not responsible for any other manufacturer's warranty on original equipment. Nor are we responsible for any failure, damage, or loss of property that may occur due to the installation or operation of our equipment outside of recommended specifications.

V. Schematic Diagrams

- A. Simplified Block Diagram
- B. Composite Amplifier Board (SDA-200 P.C. Board)
- C. Power Supply (RPS-300 P.C. Board)

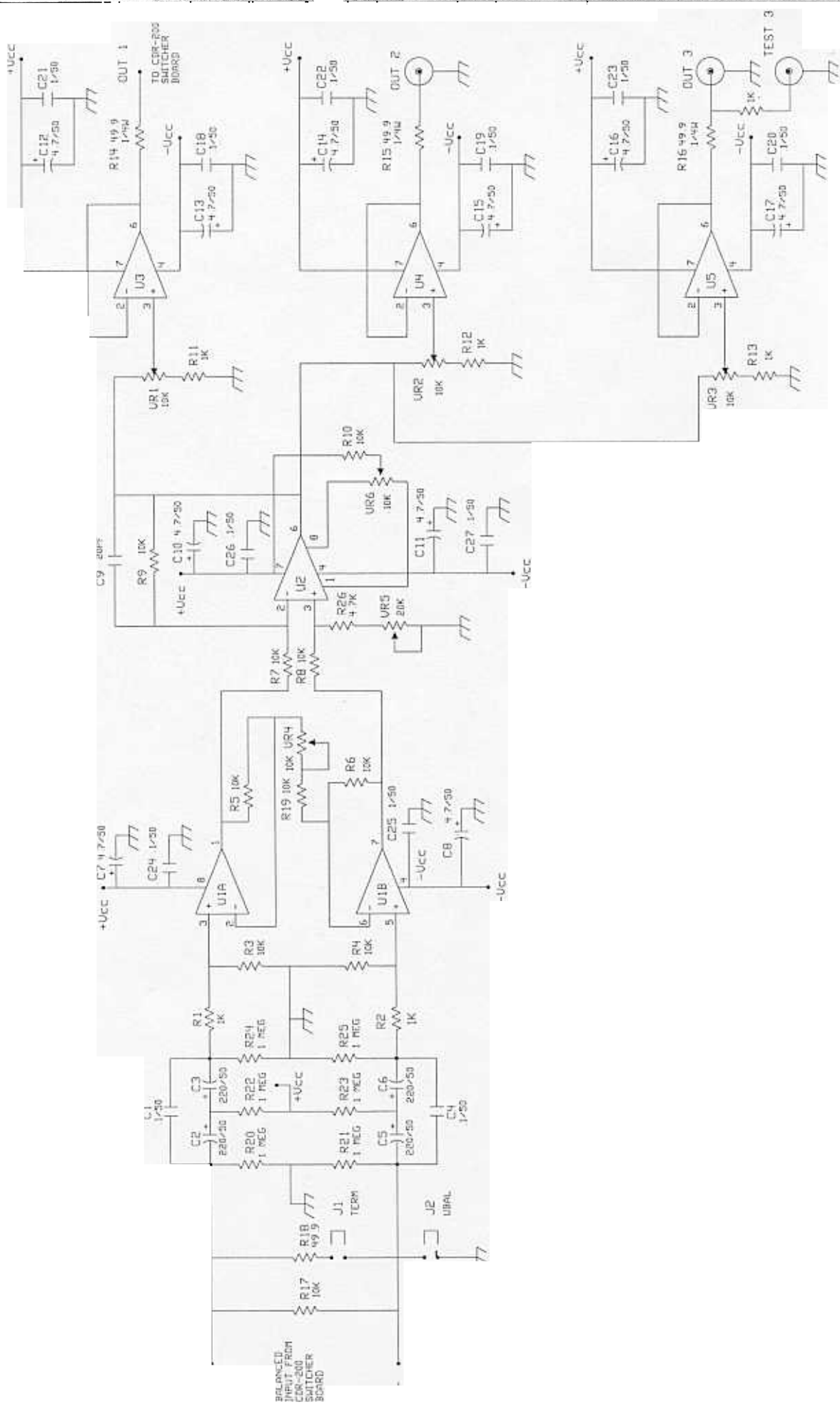


BROADCAST DEVICES, INC
Cortlandt Manor, NY

DATE	APPROVALS
8/24/92	Drawn
8/24/92	Checked
12/07/98	Revised

DWG NO	REV
CDSBLKDW	C

SIMPLIFIED BLOCK DIAGRAM - CDS-200A
COMPOSITE AUDIO Distribution Amp



COMPOSITE DISTRIBUTION AMPLIFIER BOARD	DWG NO	REV	APPROVALS	DATE	BROADCAST DEVICES, INC Cortlandt Manor, NY
	SDA-200-C1	D	Drawn	7/13/92	
			Checked	8/24/92	
			Approved		

