Broadcast Devices, Inc.

UTA-200 Utility Amplifier System

TECHNICAL REFERENCE MANUAL

Configuration: _____

Customer: _____

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UTA-200 SERIES AMPLFIER SYSTEM

INTRODUCTION

The Series 200 Modular Utility Amplifier System is a versatile and compact system that can be used for a variety of distribution and interface applications. The UTA-200 system is capable of performing balanced line amplification, balanced distribution, consumer to pro, and pro to consumer interfacing. Any frame can be configured for one, two, three, or all four different functions at the same time. All balanced connections are made via simple screw clamp connectors. All Unbalanced connections are made via standard RCA jacks. All modules are accessible from the removable front cover for easy servicing and adjustment.

UNPACKING AND INSPECTION

Open all cartons upon receipt and inspect for damage that may have been caused in shipment. If damage is noted, contact shipper as soon as possible. Verify that the contents of each carton match the quantity and description contained in the packing slip.

Remove the front cover and inspect the unit to make sure that all mechanical and electrical parts are tight and secure before applying power.

GENERAL DESCRIPTION

The Series 200 Modular Utility Amplifier System was designed to solve most audio interfacing problems in one convenient package. Using standard input and output modules, four basic configurations are possible: Distribution amplifiers, line amplifiers, consumer to pro interfacing, and pro to consumer interfacing. Several standard configurations are available from the factory. Custom configurations are also available upon request. Please inspect the front view diagram and compare it to the frame received to make sure that the configuration delivered is the one that was ordered. If there is any difference between the frame supplied and the original order, please contact the factory as soon as possible.

For all balanced distribution the standard input configuration of the SBA-200 active balanced amplifier module is to have the input jumper selected as desired, and jumpers J1 and J2 removed. The output sensitivity jumpers are placed in the -10 dB position which is the common bus level. As supplied from the factory the input sensitivity jumpers are placed in the 0 dB position. If a different input sensitivity is desired, remove the front panel and remove the input SBA-200 card and place its input sensitivity jumpers in the desired position. Refer to the front view diagram for input card location. Next, apply a nominal 400 hertz tone to the input and adjust the level controls of the input card so that both yellow L.E.D.'s are lit with equal brilliance. It may then be necessary to touch up the output levels. To do this, adjust each output level control for two yellow L.E.D.'s on with equal brilliance. All output SBA-200 cards are then configured as follows: input sensitivity jumpers placed in the -10 dB position, jumpers J1 and J2 are installed, and output sensitivity jumpers are placed in the desired output level position. As shipped from the factory all output jumpers are placed in the 0 dB position. To change the nominal output level, remove the front panel and remove each output card and place the output jumpers in the desired slot. Next, replace the cards and apply a nominal 400 hertz tone to the input of the DA and adjust each output channel for the nominal output level. This is done by adjusting the level until the two yellow L.E.D.'s are lit with equal brilliance. This completes the set up of your UTA-200 frame.

INSTALLATION

Choose a location for installation of the UTA-200 audio frame in a standard E.I.A. rack that will allow sufficient air flow. Make connections to the rear of the unit using the strain relief bars attached to the rear of the UTA frame.

Power connection to the unit should be made to a three prong 110 V.A.C. outlet. We recommend that you do not interrupt the ground connection at the power cord. This is often done to reduce ground loop problems but can in some instances lead to unsafe operation. An alternate method is to interrupt the ground connections from the audio leads as necessary.

When using any amplifier to drive a long line it is desirable to terminate the end of the line with the characteristic impedance of the line itself. In most instances this is 600 ohms. Proper termination reduces the effects of time delay error such as ringing and overshoot of the signal waveform. The UTA-200 frame is designed to drive load impedances of 600 ohms or greater. Lower impedance loads can be driven with a sacrifice in maximum output level. The unit is fully short circuit protected and will not be damaged if an output is accidently shorted out. Additional short circuit steering can be attained by installing a 5.6 Kohm 1/4 watt resistor in the following locations: R30, R37, R80, and R87. With these resistors installed, if one half of the balanced output were shorted, the other output level will rise by 6 dB to compensate for the loss of one half of the circuit. It should be noted however that when these resistors are installed, a loss of 6 dB of gain will be noted and +8 db nominal output cannot be achieved.

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 the defective parts at the factory, provided the unit has been returned prepaid by the user under a return authorization number formally obtained from the factory. The above warranty is void if the unit has been modified by the customer outside of recommendations from the factory. It is also void if it 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 in or out of the warranty period, a full report of the difficulty should be sent to **Broadcast Devices, Inc., 5 Crestview Avenue, Peekskill, NY 10566. Tele. (914) 737-5032. Fax. (914) 736-6916.** The office may then suggest further helpful field tests or authorize return for evaluation at the factory.

Units sent back for factory inspection should be well packed and shipped direct to Broadcast Devices, Inc. at the above mentioned address. The return authorization number must appear on the outside of the shipping container. Otherwise the unit will not be accepted. Note: Freight collect shipments will be refused. When the unit has been received, inspected and tested, you will receive a report on the findings along with a quotation on any recommended repairs falling outside our standard warranty. Units returned for in-warranty repairs which are found not defective will be subject to an inspection and handling charge. In-warranty units found to be defective will be repaired and returned prepaid free of charge. Also at that time, a credit will be issued for incoming freight charges.

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

When ordering replacement parts, always specify: A) Part number and/or description, and quantity needed; B) Date of purchase; C) Any special shipping instructions.

SPECIFICATIONS

Systems of all configurations exhibit similar specifications. When input and output cards are interconnected there is no measurable degradation of signal quality.

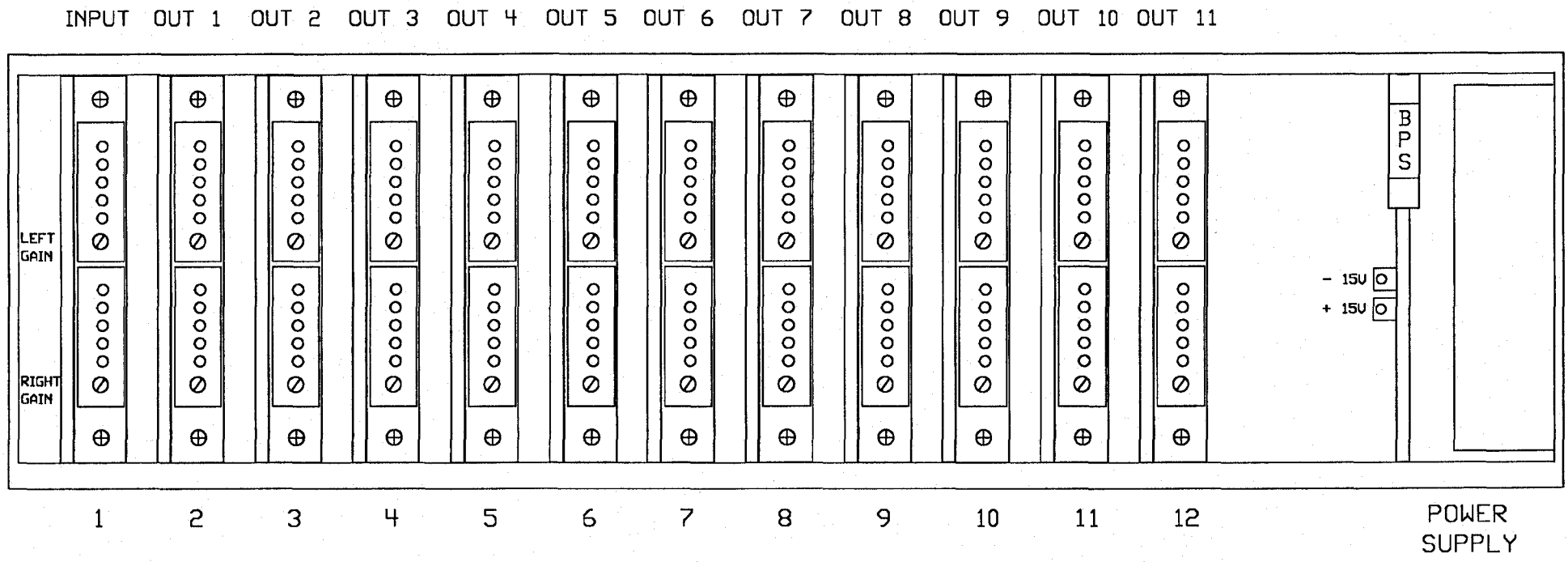
Frequency response:	+/- .2dB from 20hz to 20khz.
Total Harmonic Distortion:	Better than .015% at headroom.
I.M. Distortion:	Better than .05% at headroom.
System noise:	Better than 80dB below nominal level.
Crosstalk (Left/Right)	Below noise at 400 Hertz.
Isolation between outputs:	Better than 80dB.
Input sensitivity:	-10 dBm maximum.
Output level:	+26dBm Maximum into 600 ohms balanced. +20dBm 600 ohms unbalanced.
Input impedance:	20K ohm balanced.
Output impedance:	600 ohms balanced or unbalanced.
Power requirements:	110/220 VAC.
Power consumption:	Maximum 50 watts with fully loaded frame.
Overall dimensions:	19" W x 8.75" D x 3.5" H Standard E.I.A. 2 rack unit mounting.

REPLACEMENT PARTS

UTA-200 CHASSIS

BDI P/N	CKT DESIGNATION	VALUE/DESCRIPTION
PEF1		Power Ent. Module
ZMDL5A	F2	Fuse 1A. Slo-Blo
TT3401	T1	Power Transformer
PC1608		Power Cord
FPUTA-2		Plexi Front Cover
RPUTA-1		Rear Panel
M200		Mother Board
XPC12	RP1,2,3,4,5,6	Rear Connector
XEC15D	EC1-13	15 Pin Edge Connector .156"
SR-200		Rear Panel Strain Relief
KS-200		Front Panel Knurled Screw

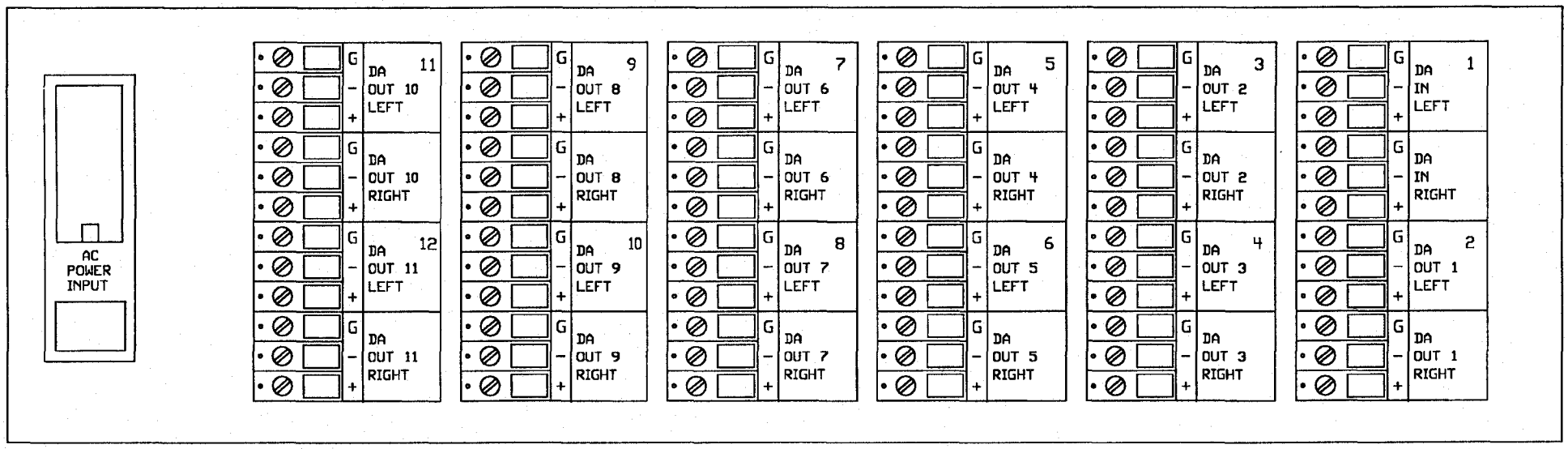
Note: All other parts should be ordered by circuit description number.



FRONT VIEW OF UTA-200 CHASSIS
(FRONT COVER REMOVED)

ALL CARDS ARE MODEL SBA-200 STEREO AMPLIFIER CARDS WITH LED DISPLAYS. JUMPER PROVISIONS ON CARDS FOR INPUT AND DISPLAY SENSITIVITIES NEED TO BE SET APPROPRIATE TO THE USER APPLICATION.

UTA-200 MODULAR UTILITY AMPLIFIER SYSTEM FRONT PANEL CARD POSITION DESIGNATIONS FOR A 1X11 STEREO DISTRIBUTION AMPLIFIER	DWG NO	REV	APPROVALS		DATE	Broadcast Devices, Inc. PEEKSKILL, NY
	UTADA11F	A	Drawn	FPB	10/05/92	
			Checked	RCT	10/05/92	
			Approved			

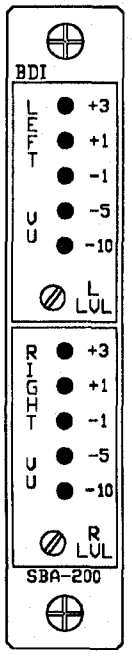


REAR VIEW UTA-200 CHASSIS

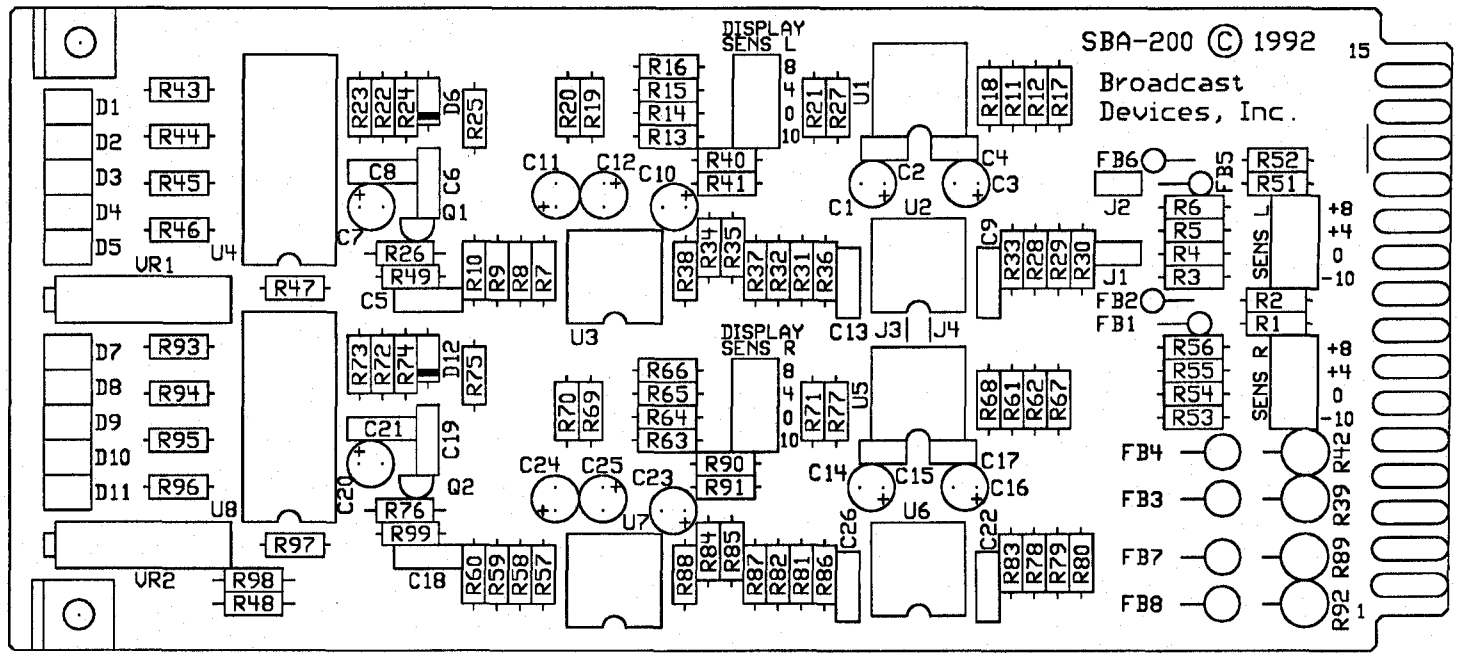
UTA-200 MODULAR UTILITY AMPLIFIER SYSTEM
REAR PANEL AUDIO CONNECTION DESIGNATIONS
FOR A 1X11 STEREO DISTRIBUTION AMPLIFIER

DWG NO	REV	APPROVALS		DATE
UTADA11R	A	Drawn	FPB	10/05/92
		Checked	RCT	10/05/92
		Approved		

Broadcast Devices, Inc.
PEEKSKILL, NY

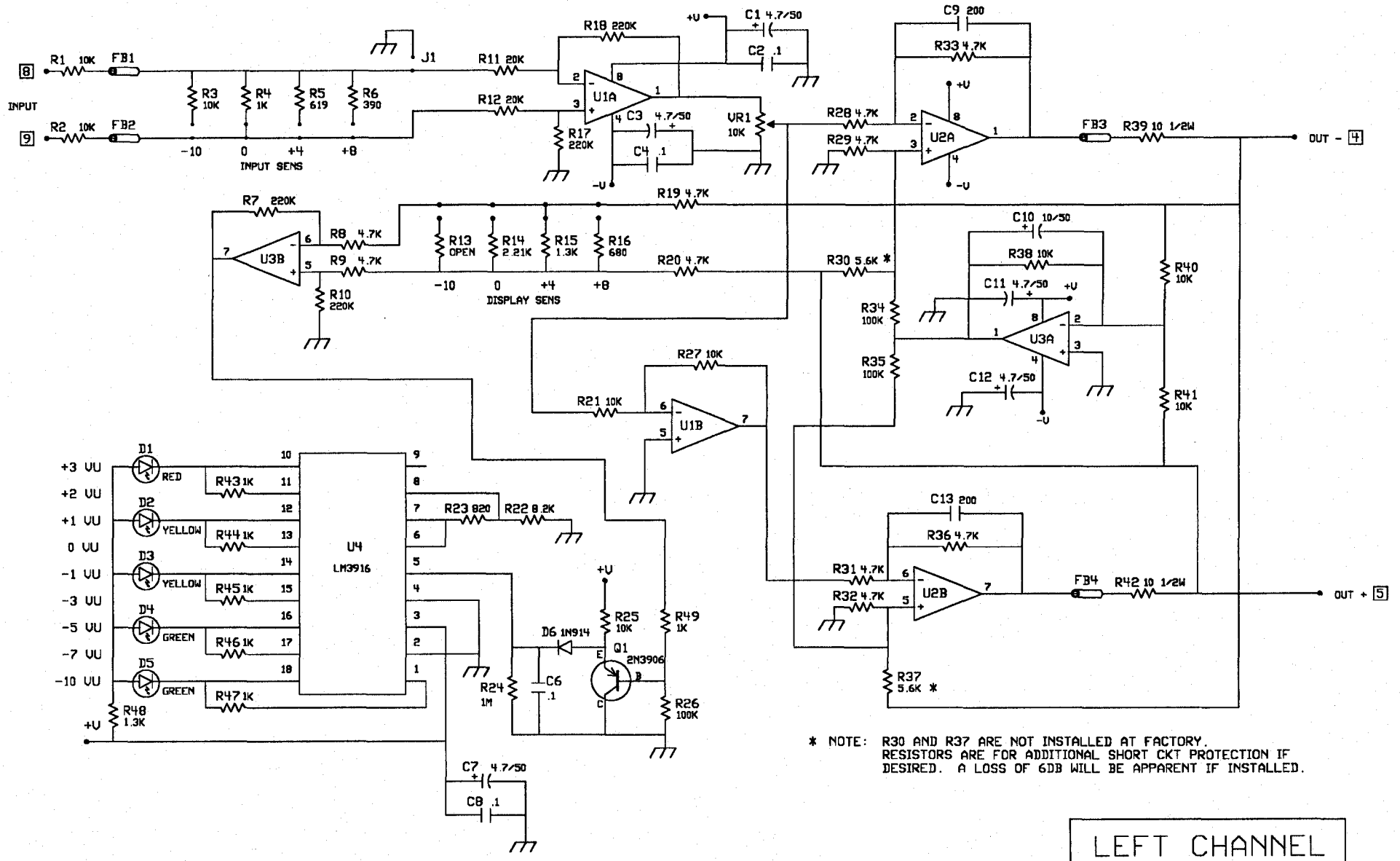


FRONT VIEW

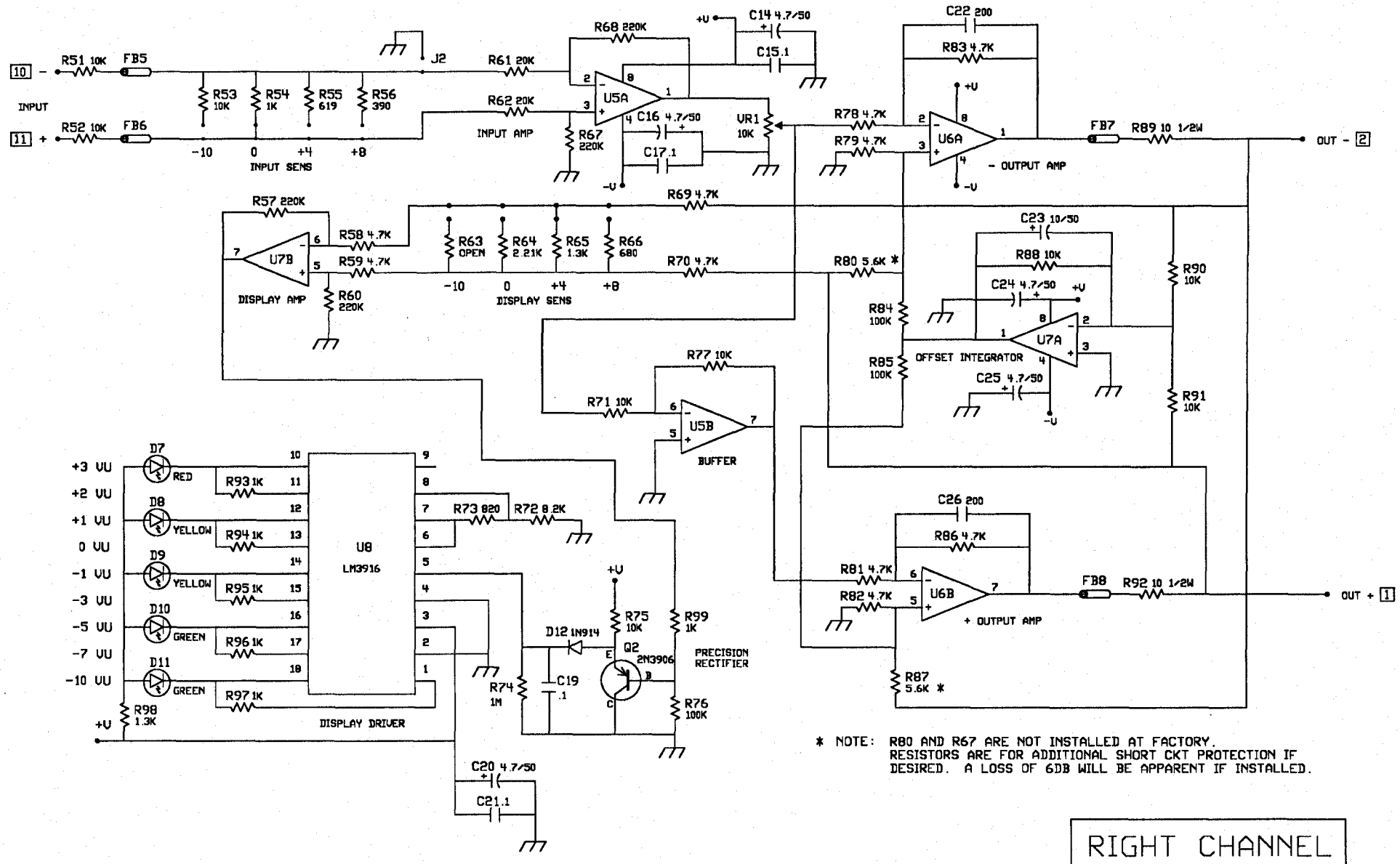


COMPONENT SIDE VIEW

SBA-200 STEREO BALANCED AMPLIFIER CARD
COMPONENT LOCATOR PICTORAL

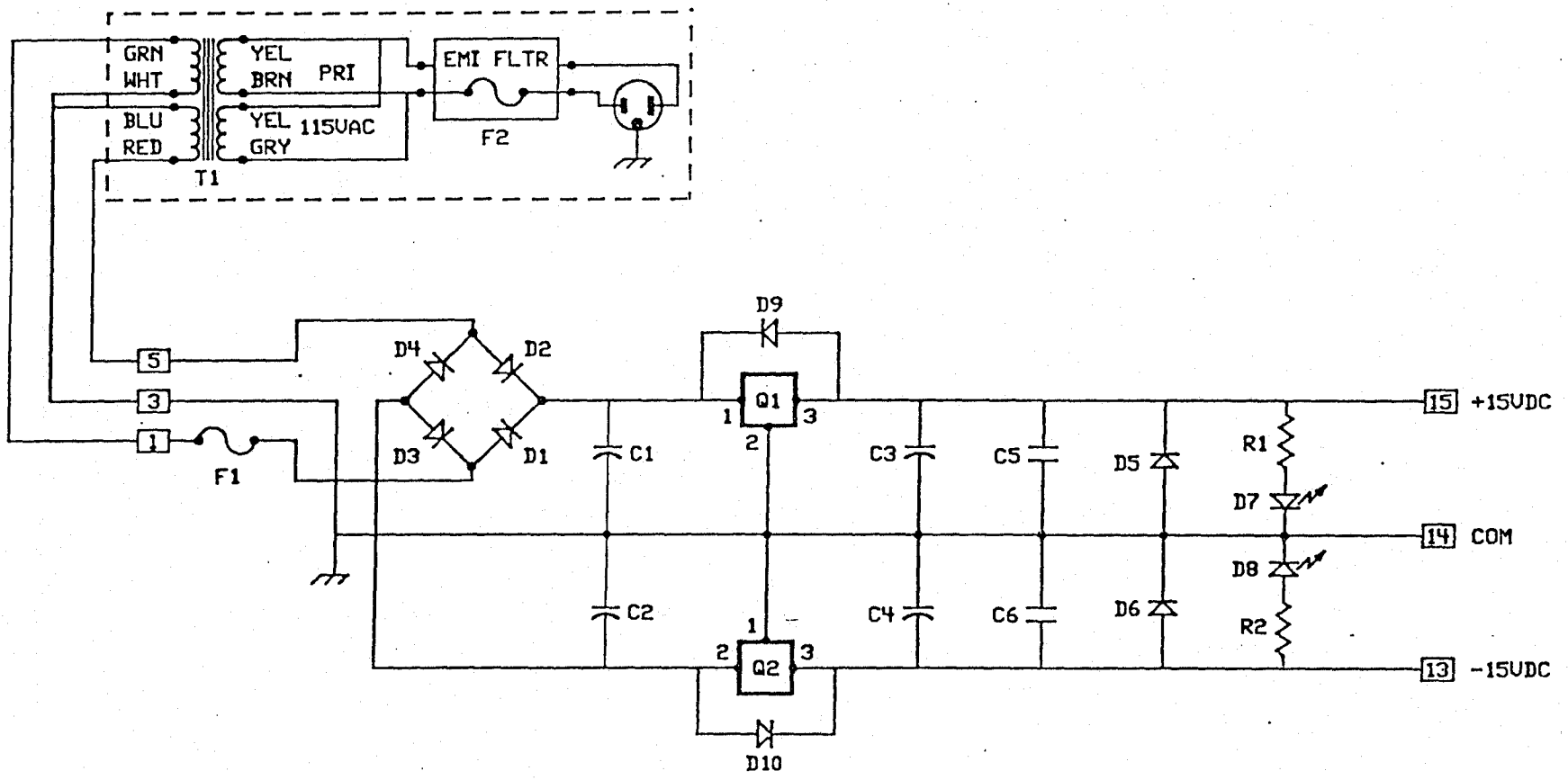


SBA-200 STEREO BALANCED AMPLIFIER WITH DISPLAY FOR USE IN THE UTA-200 UTILITY AMPLIFIER FRAME LEFT CHANNEL	DWG NO	REV	APPROVALS	DATE
	SBA200LSB	B	Drawn RCT/FPB Checked Approved	10/05/92
				Broadcast Devices, Inc. PEEKSKILL, NY



SBA-200 STEREO BALANCED AMPLIFIER WITH DISPLAY FOR USE IN THE UTA-200 UTILITY AMPLIFIER FRAME RIGHT CHANNEL	DWG NO	REV	APPROVALS	DATE
	SBA200RSB	B	Drawn RCT/FPB Checked Approved	10/05/92

Broadcast Devices, Inc.
PEEKSKILL, NY



BPS-215 POWER SUPPLY BOARD	DWG NO	REV	APPROVALS		DATE
	BDI-2109S	C	Drawn	FPB	8/12/87
			Checked	RCT	9/22/87

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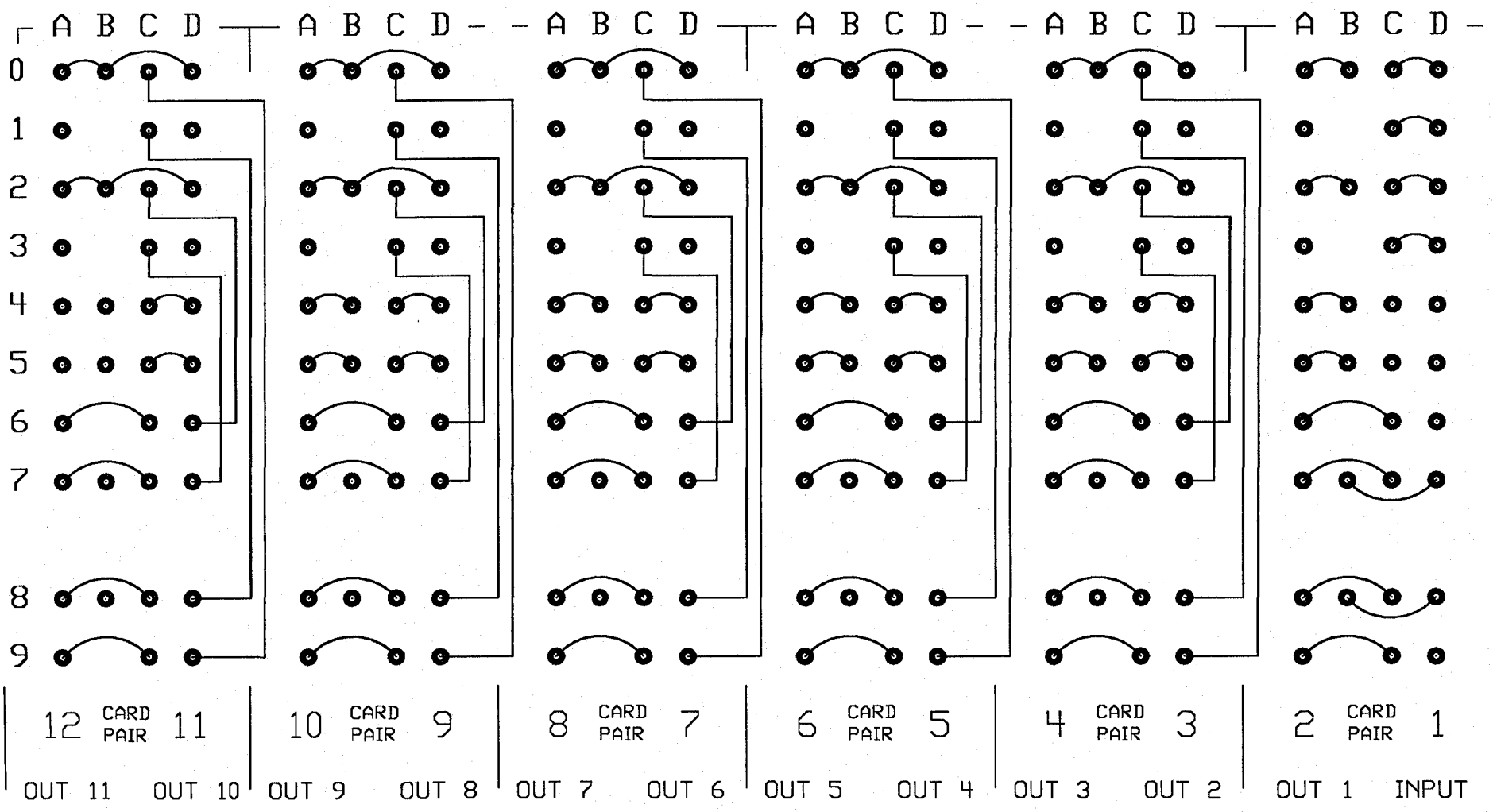
5 CRESTVIEW AVENUE PEEKSKILL, NY 10566



All cards used in slots are model SBA-200 configured for UNBALANCED input and BALANCED output operation with the exception of card 1. This card is used as the input amplifier to the DA and is configured for a BALANCED input and UNBALANCED output. The user may set the input sensativity of this card for either -10, 0, +4 or +8dBm using the correct jumpers as designated as INPUT SENS on the card. Output levels of the remaining cards (2-12) may be set to the same levels by selecting the desired jumpers marked DISP SENS to the desired position.

CUSTOMER: _____

UTA-200 MODULAR UTILITY AMPLIFIER SYSTEM JUMPER CONFIGURATION FOR A 1X11 STEREO DISTRIBUTION AMPLIFIER AS VIEWED ON BACKPLANE BOARD FROM REAR OF UNIT	DWG NO	REV	APPROVALS		DATE	Broadcast Devices, Inc. PEEKSKILL, NY
	UTADA11J	A	Drawn	FPB	10/05/92	
			Checked			
			Approved			