



TECHNICAL MANUAL  
for  
DUAL DIVERSITY RECEIVER  
MODEL DDR-7B

---

APPENDIX

THE TECHNICAL MATERIEL CORPORATION

MAMARONECK, N.Y.  
IN-331-A

OTTAWA, ONTARIO  
ISSUE DATE: 20 APRIL 1964

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TABLE A. PARTS LIST, DDR-7B DUAL DIVERSITY RECEIVER

QTY/ UNIT	TMC P/N	TITLE	DESCRIPTION
1	RAK-47B	Rack	Consists of rack structure* and components listed in RAK-47B Parts List (Table E).
2	GPR-92	Communications	Consists of parts as described in GPR-92 Manual. Includes special TMC #PL-218 plug on power cable.
2	** SBS-I-1	Sideband Selector	Consists of unit and parts as described in SBS-1 Manual. Includes special TMC #PL-218 plug on power cable. A TMC #FX-170 6-kc USB filter and a TMC #FX-171 6-kc LSB filter substituted in place of the 7.5-kc sideband filters shown in SBS-1 Manual.
1	-----	NRC Type 173, Model 2 Variable Master Oscillator	Consists of unit and parts as described in NRC Type 173 Oscillator manual.
1	-----	NRC Power Supply for Type 173 Oscillator	Consists of unit and parts as described in NRC Type 173 Oscillator manual. Includes special TMC #PL-218 plug on power cable.
1	-----	NRC Type 108, Model 2 Master Crystal Oscillator- Multiplier	Consists of unit and parts as described in NRC Type 108 Oscillator manual. Includes special TMC #PL-218 plug on power cable. BFO circuitry modified for 3.5-mc IFO.
2	** AFC-2A	Automatic Frequency Control	Consists of unit and parts as described in AFC-2A Manual.
1	HSP-3	Audio Switch Panel	Consists of unit as shown in figure D and parts as listed in table B.

\* Par-Metal Type PX-8424B, Base PB-2223 and Mounting Angles PA-77.

\*\* Part of SBC-I-1A Sid band Converter.

TABLE A. PARTS LIST, DDR-7B DUAL DIVERSITY RECEIVER (Con't)

QTY/ UNIT	TMC P/N	TITLE	DESCRIPTION
1	LSP-6	Speaker Panel	Consists of unit as shown in figure C and parts as listed in table D.
1	DCP-2	Power Control Panel	Consists of unit as shown in figure B and parts listed in table C.
1	-----	Blower	Bud Radio "Trans-Aire" Blower, Model B-25. Consists of unit as described in data sheet A and figure F.

TABLE B. PARTS LIST, HSP-3 AUDIO SWITCH PANEL

SYM	DESCRIPTION	FUNCTION	TMC P/N
C9201	CAPACITOR, fixed: 510 $\mu$ f, 500 WVDC, mica dielectric.	RF Bypass	CM15C511J
C9202 thru C9213	Same as C9201		
L9201	COIL, RF, fixed: 10 $\mu$ h $\pm$ 10%, molded	Choke	CL270-10
L9202 thru L9214	Same as L9201		
R9201	ATTENUATOR, variable: "T" pad, 4 $\Omega$ impedance, 4 watts max continuous, 15 watts peak audio, 36 db max attenuation.	RECEIVER 1 VOLUME	RV107T4
R9202	Same as R9201	RECEIVER 2 VOLUME	
R9203	RESISTOR, fixed: 4 $\Omega$ , 5W, WW	Dummy Load CHANNEL B, RECEIVER 1	RW107-5
R9204	Same as R9203	Dummy Load CHANNEL A, RECEIVER 1	
R9205	Same as R9203	Dummy Load CHANNEL B, RECEIVER 2	
R9206	Same as R9203	Dummy Load CHANNEL A, RECEIVER 2	
S9201	SWITCH, toggle: SPST, with lug-end terminals, 11/32-inch long lever	AGC	ST103-1-62
S9202	SWITCH, rotary: 3-position, single wafer, 3 sectors.	RECEIVER 1 CHANNEL selector	SW148
S9203	Same as S9202	RECEIVER 2 CHANNEL selector	

TABLE B. PARTS LIST, HSP-3 AUDIO SWITCH PANEL (Cont)

SYM	DESCRIPTION	FUNCTION	TMC P/N
T9201	TRANSFORMER, audio: impedance matching, primary 500 $\Omega$ , secondary, red-to-brown 6-8 $\Omega$ , brown-to-black 3.2 $\Omega$ .	Impedance Match, RECEIVER 1, CHANNEL B	TF261
T9202	Same as T9201	Impedance Match, RECEIVER 1, CHANNEL A	
T9203	Same as T9201	Impedance Match, RECEIVER 2, CHANNEL B	
T9204	Same as T9201	Impedance Match, RECEIVER 2, CHANNEL A	
TB9201	TERMINAL BLOCK: Barrier type, 16-terminal, #6-32 binder head screws, bakelite body	RECEIVER 1 input	TM100-16
TB9202	Same as TB9201	RECEIVER 2 input	
TB9203	Same as TB9201	Output	

TABLE C. PARTS LIST, LSP-6 SPEAKER PANEL

SYM	DESCRIPTION	FUNCTION	TMC P/N
LS1	LOUDSPEAKER, 4-ohms impedance; voice coil, 3.2 ohms, 4.5 watts	Sound Output, RECEIVER 1	LS101
LS2	Same as LS1	Sound Output RECEIVER 2	
TB1	TERMINAL BLOCK: Barrier type, 4-terminal, #6-32 binder head screws, bakelite body.	Input Connections	TM102-4



TABLE D. PARTS LIST, DCP-2 POWER CONTROL PANEL

SYM	DESCRIPTION	FUNCTION	TMC PART NO.
CB1	CIRCUIT BREAKER: dual, toggle switch type, 10 amps, 110/230 VAC	A-c input line protection	SW-251
DS1	LAMP, incandescent: 120 volts, 3 watts, S-6 clear bulb, bayonet base.	MAIN POWER indicator	BI-102-3
F1	FUSE, cartridge: 15-amp slo-blow	J1 receptacle output fuse	FU-102-15
F2	Same as F1	UTILITY OUTLET fuse	
F3	Same as F1	UTILITY OUTLET fuse	
J1	CONNECTOR, receptacle: A-c, female, 2-prong, polarized, 115/230V.	Output connector (for VOX-5)	JJ-130
J2	CONNECTOR, receptacle: A-c, female, grounding type.	UTILITY OUTLET	JJ-173
J3	Same as J2		
R1	RESISTOR, fixed: wire wound, 2.5k, 25 watts	115- to 230-v conversion	RW-111-25
TB1	TERMINAL BLOCK: Barrier type, 4-terminal, #10-32 binder head screws, bakelite body.	Input connections	TM-118-4
TB2	Same as TB1	Output connections	
XDS1	SOCKET, lamp: for bayonet contact bulb, w/screw terminals, red lens	MAIN POWER lamp holder	TS-124-1
XF1	HOLDER, fuse: for 1/4 in. dia. x 1-1/4 in. long cartridge fuse, flat-sided clear knob with neon bulb and 220 k resistor.	F1 fuse socket	FH-104-3
XF2	Same as XF1	F2 fuse socket	
XF3	Same as XF1	F3 fuse socket	

TABLE E. PARTS LIST, BAK-47B RACK

SYM	DESCRIPTION	FUNCTION	TMC P/N
J701	CONNECTOR, receptacle: a-c, male, 3-prong	Line Voltage Input	PL-133-NG
J702	CONNECTOR, receptacle: a-c, power, 3 contact, grounding type	Rack a-c strip outlet	JJ-294
J703 THRU J708	Same as J702 " "		
P701	CONNECTOR, plug: a-c, 3-prong, female	Mates with J701	PL-134-NG
* T701	TRANSFORMER: 115 VAC to 230 VAC, auto- transformer	230 VAC Line Conversion	TF-275
T702	TRANSFORMER: Imped- ance matching, 1000- ohms to 50-ohms	Impedance Match from NRC IF OUT to GPR	TZ-107
W701	CABLE ASSEMBLY: Consists of wiring as shown in figure A.	LSP-6, HSP-3, GPR-92 and SBS-I-1 inter- connections	
W702	CABLE ASSEMBLY: Consists of wiring as shown in figure A.	GPR-92, AFC-2A SBS-I-1 and NRC intercon- nections	
W703	CABLE ASSEMBLY: Consists of wiring as shown in figure E.	SBS-I-1 and AFC-2A interconnection	CA-661-2
W704	Same as W703		
W705	CABLE ASSEMBLY: Consists of wiring as shown in NRC manual on Type 173 Oscillator	NRC Type 173 Oscillator and Power supply interconnection	

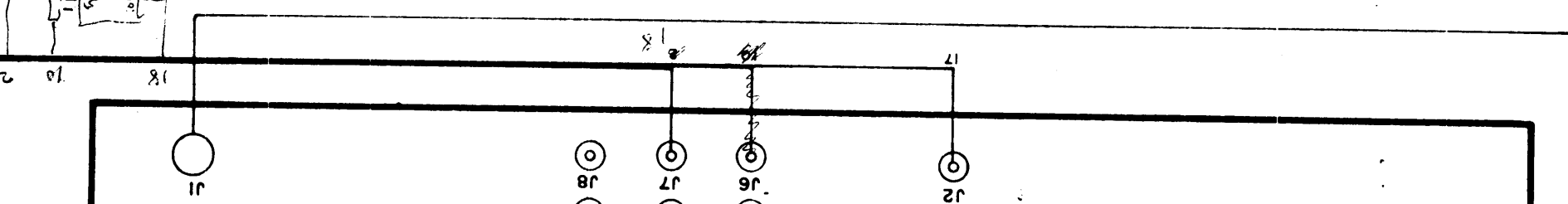
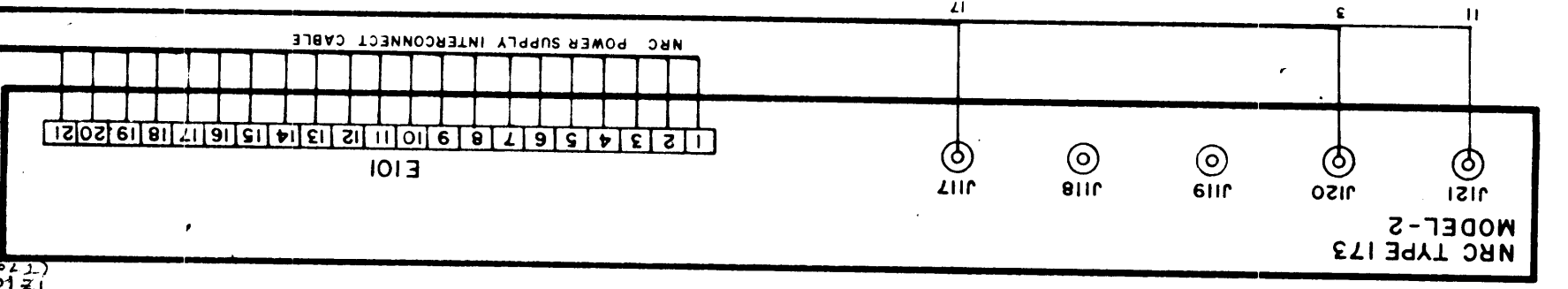
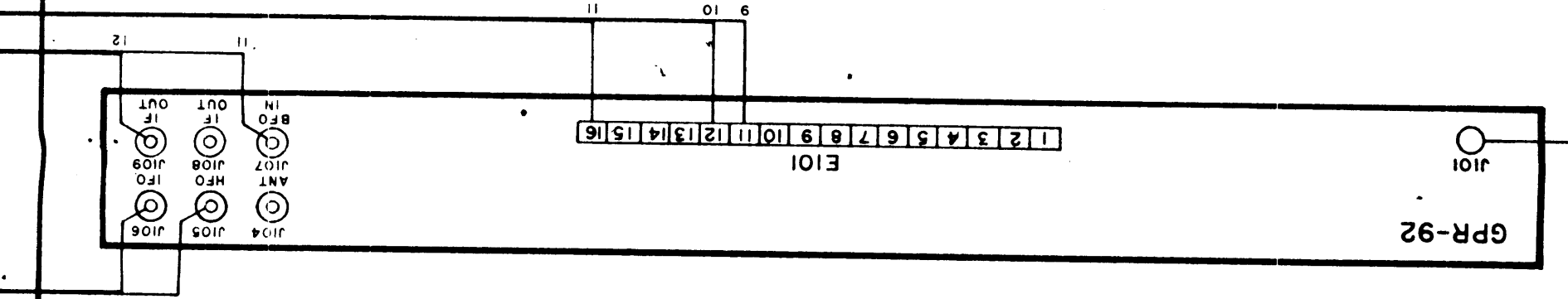
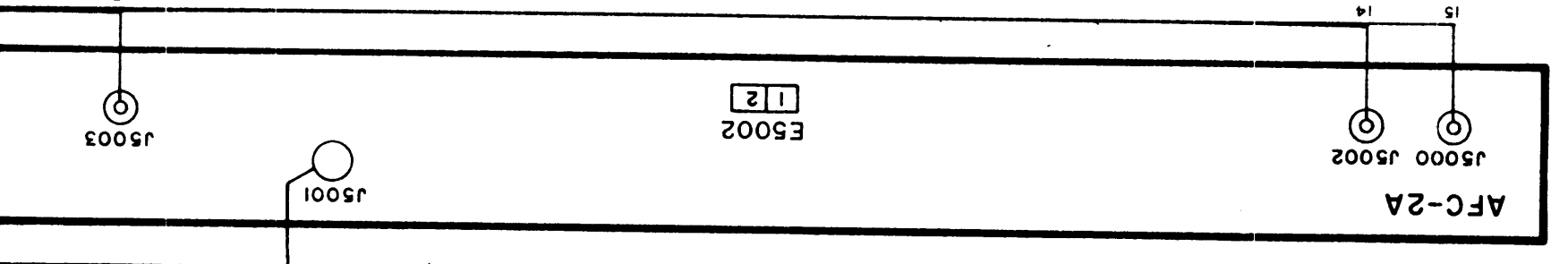
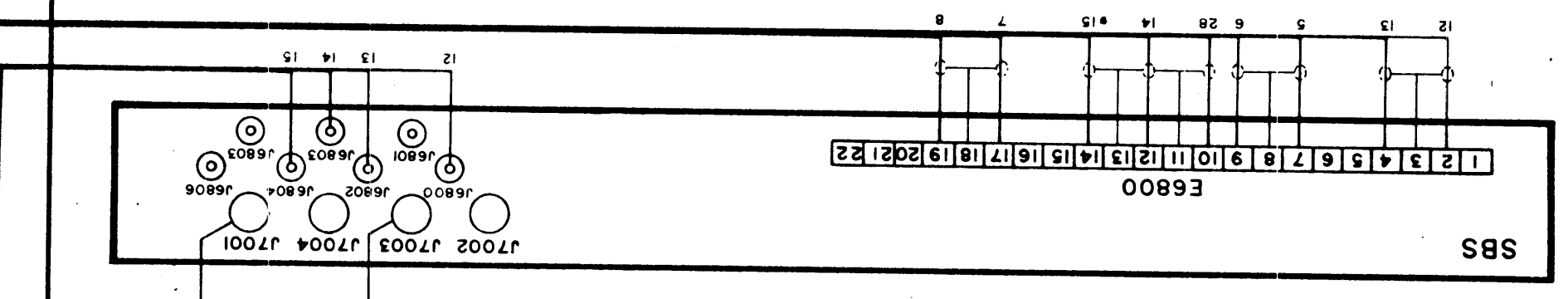
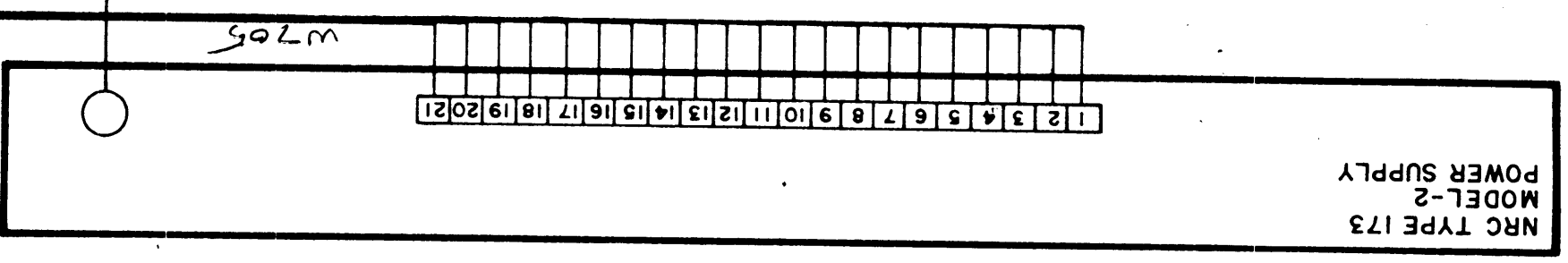
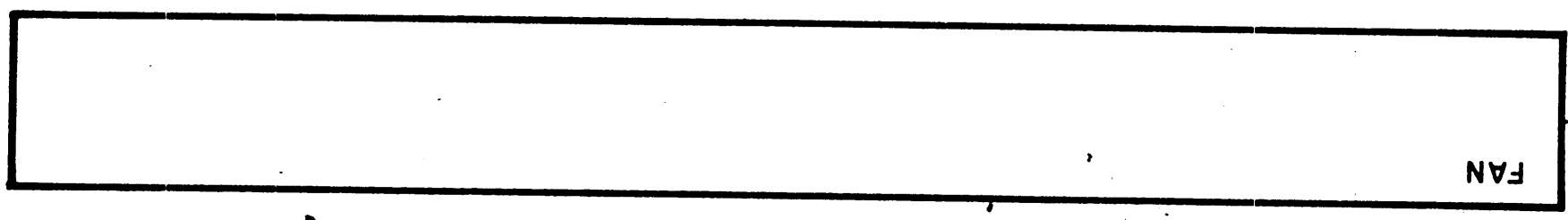
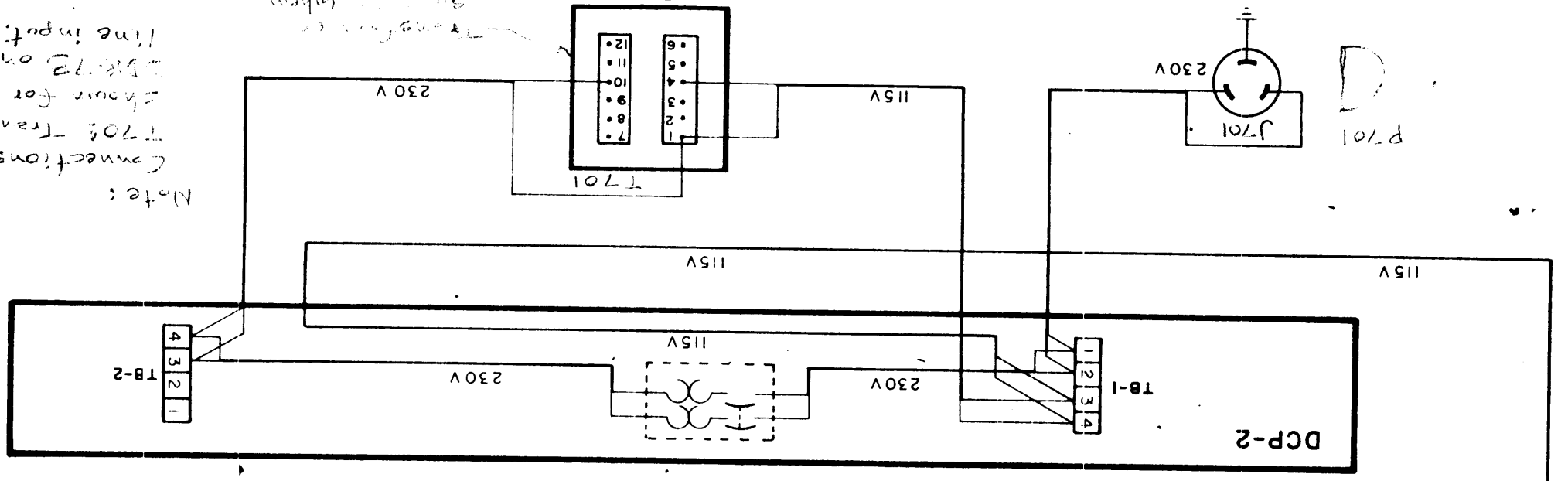
\* Included when specified on order.

TABLE F. SHIPPING LIST, DDR-7B

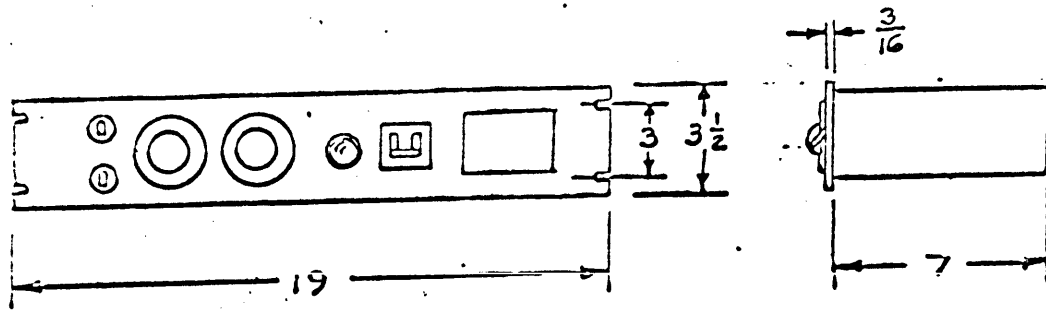
<u>CRATE NO.</u>	<u>CONTENTS</u>	
	<u>QTY</u>	<u>ITEM</u>
1	1	RAK-47B Rack and Cables
	1	LSP-6 Speaker Panel
	1	DCP-2 Power Control Panel
	2	DDR-7B Technical Manual
	1	Test Data
2	1	AFC-2A Automatic Frequency Control
	1	SBS-I-1 Sideband Selector
3	1	AFC-2A Automatic Frequency Control
	1	SBS-I-1 Sideband Selector
4	2	GPR-92 Communications Receiver
	1	HSP-3 Audio Switch Panel
5	1	NRC Type 173, Model 2 Variable Master Oscillator
6	1	NRC Type 108, Model 2 Master Crystal Oscillator-Multiplier
	1	NRC Power Supply for Type 173 Variable Master Oscillator
	1	Bud Model B-25 Trans-Aire Blower

Note:  
 Connections at  
 T702 transformer  
 should be operating  
 230V on a 250-VAC  
 line input.

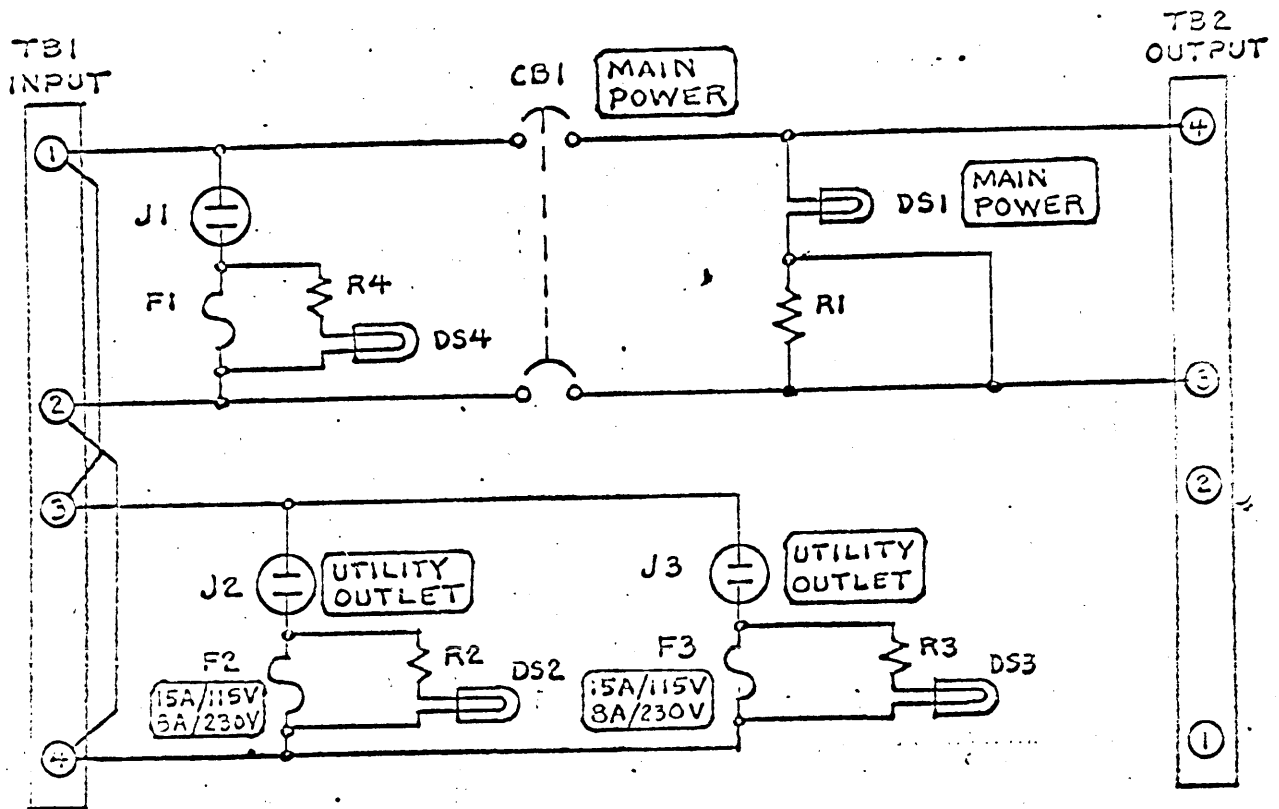
TMC # TF-275





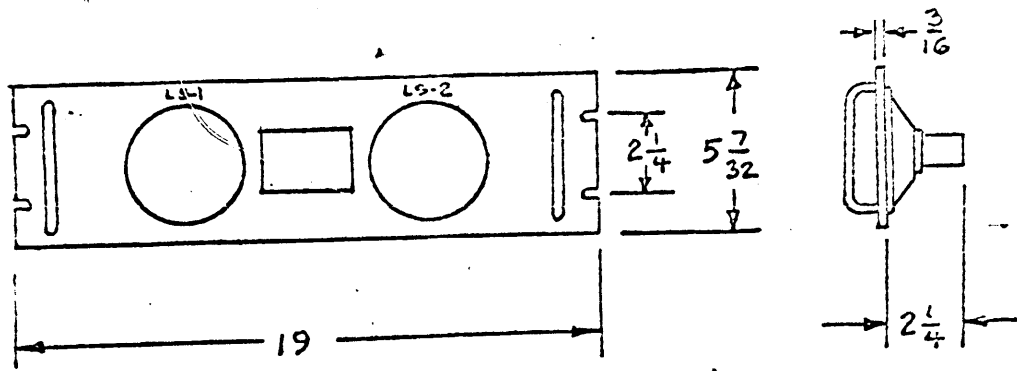


DIMENSIONAL OUTLINE

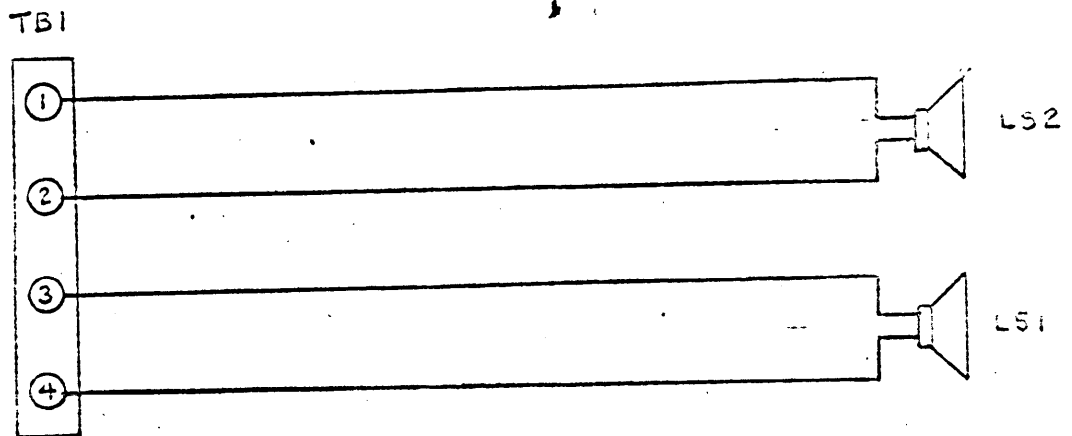


SCHEMATIC WIRING DIAGRAM

FIGURE B. MODEL DCP-2 POWER CONTROL PANEL



DIMENSIONAL OUTLINE



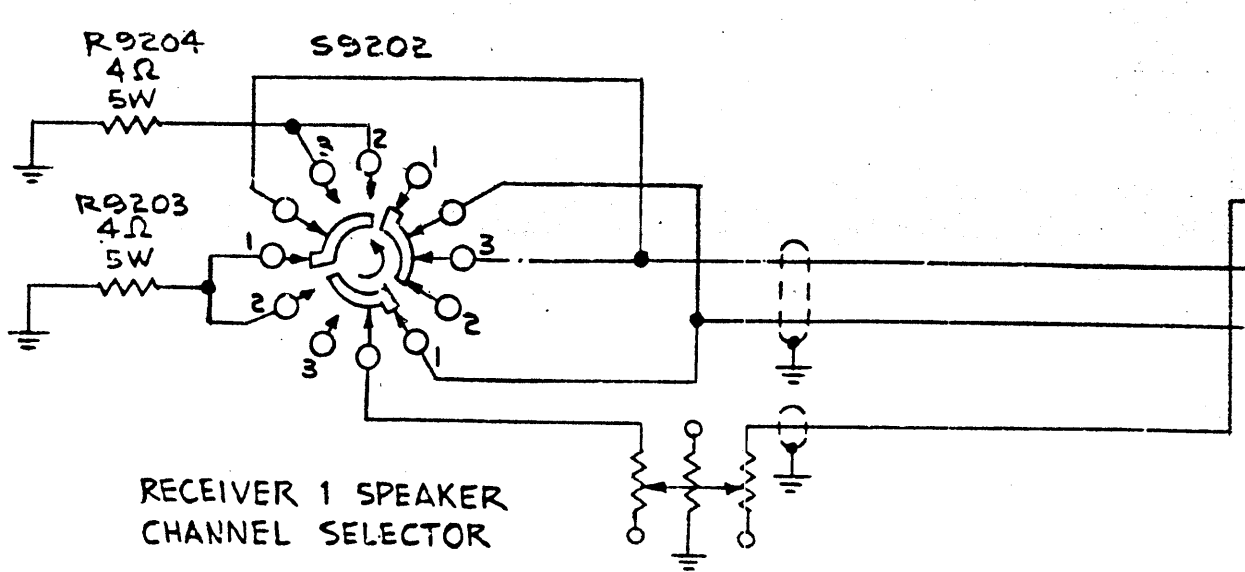
SCHEMATIC WIRING DIAGRAM

FIGURE C. MODEL LSP-6 SPEAKER PANEL

H

G

OUTPUTS

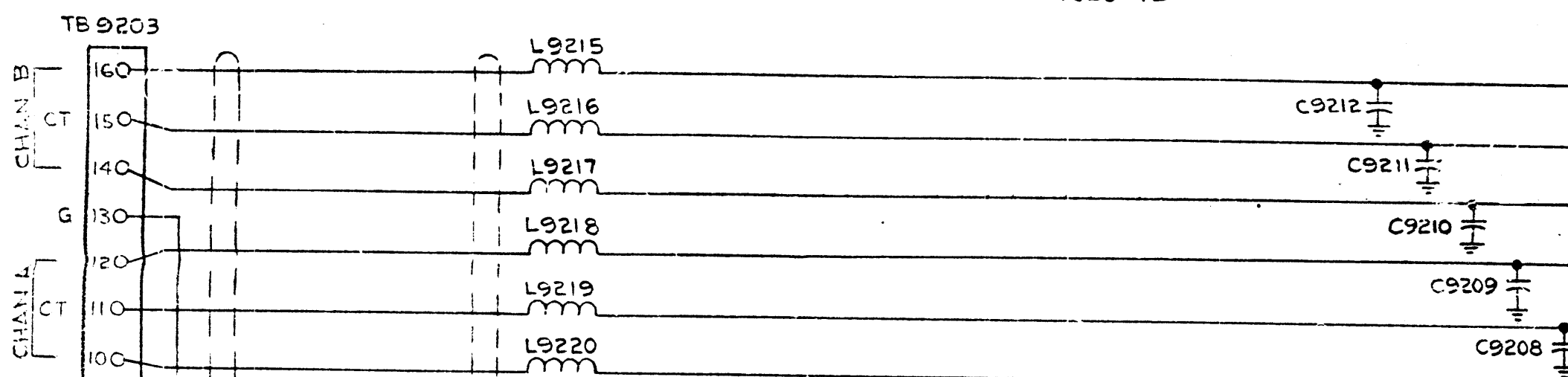


RECEIVER 1 SPEAKER CHANNEL SELECTOR

R9201 RECEIVER 1 SPEAKER VOLUME

F

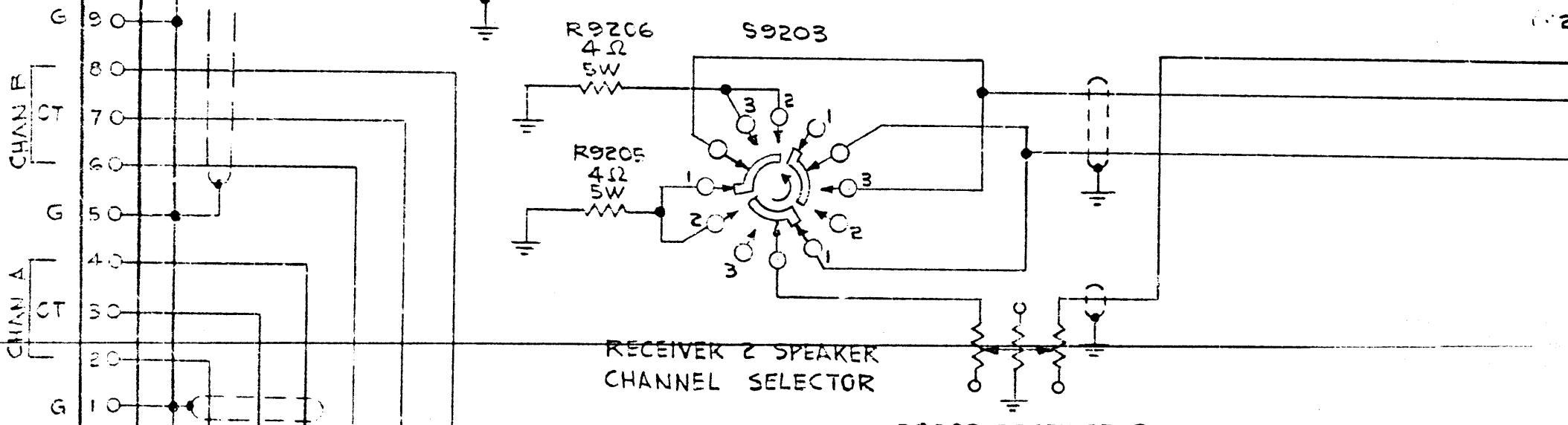
RECEIVER 1



E

D

RECEIVER 2

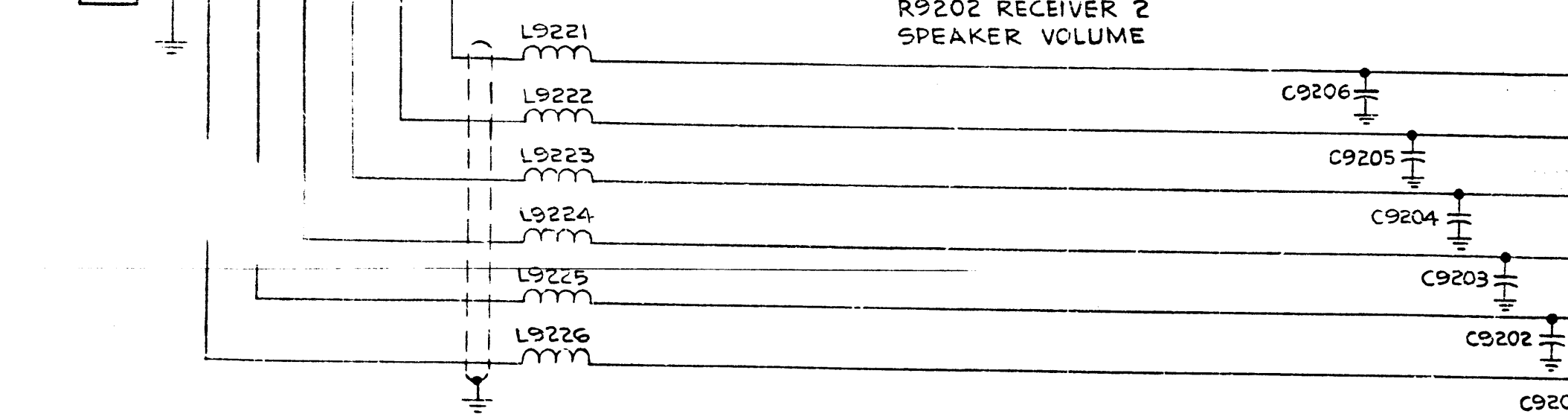


RECEIVER 2 SPEAKER CHANNEL SELECTOR

R9202 RECEIVER 2 SPEAKER VOLUME

C

B



A

S9202  
S9203

SWITCH POSITION	SPEAKER CHANNEL
1	A
2	OFF
3	B

LAST SYMBOLS

C9213
L9226
R9206
S9203
T9204
TB9203

1. ALL SWITCHES SHOWN IN POSITION 1 CHANNEL A.
2. ALL SWITCHES SHOWN FROM WIRED SIDE.
3. ALL CHOKES ARE 10μH.
4. ALL CAPACITORS ARE 510μF.

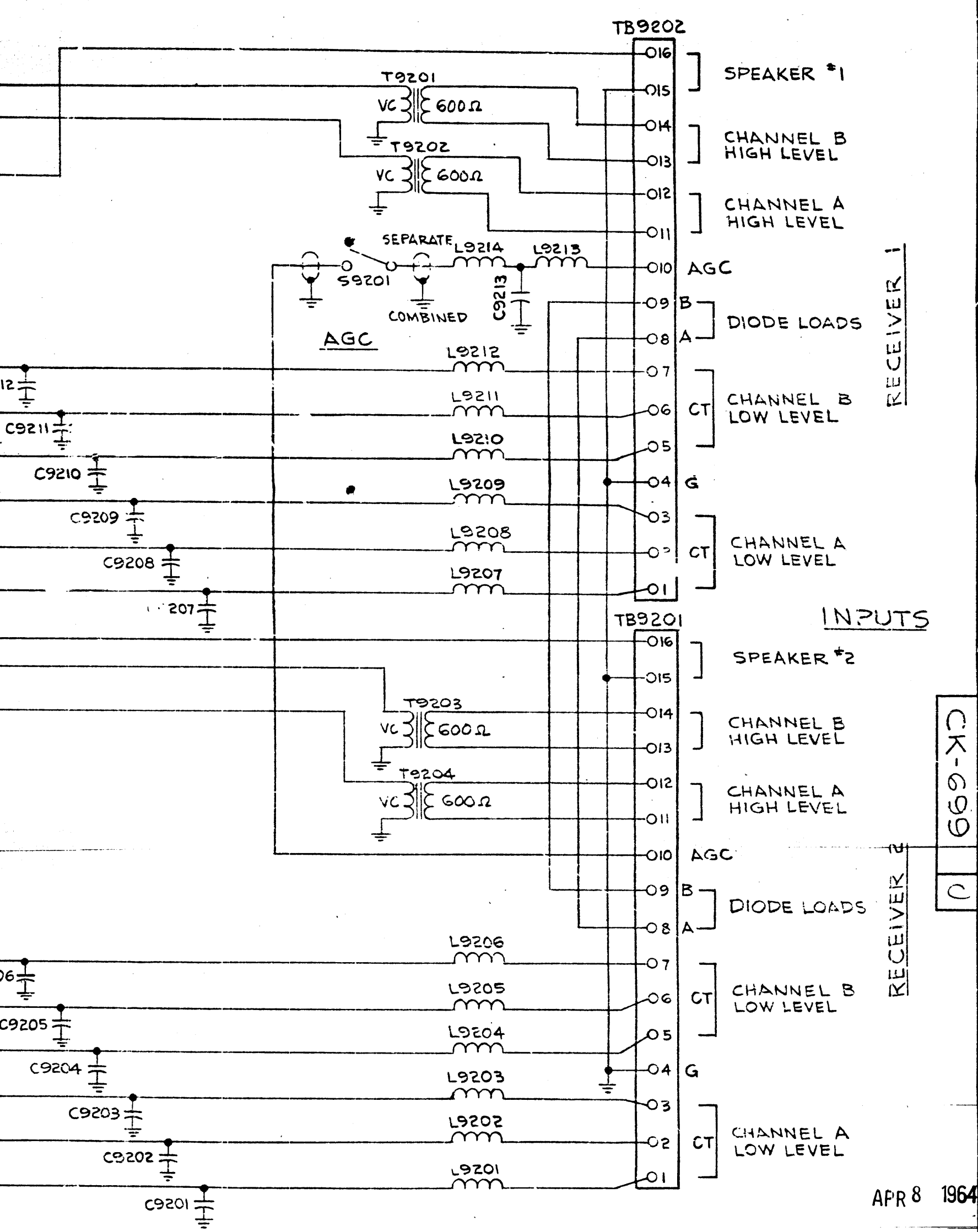
NOTES

1	HSP-3
QTY/UNIT	MODEL USED ON
SCALE	CODE
	A

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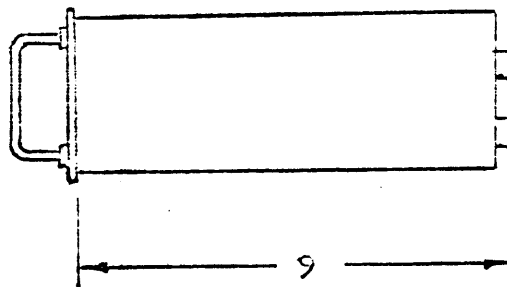
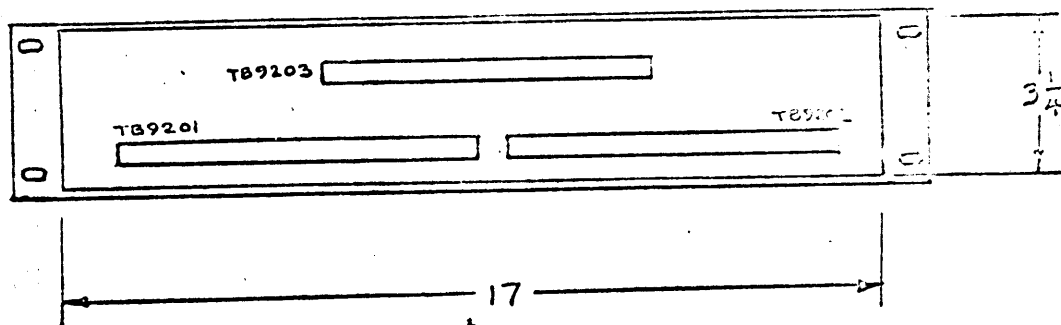
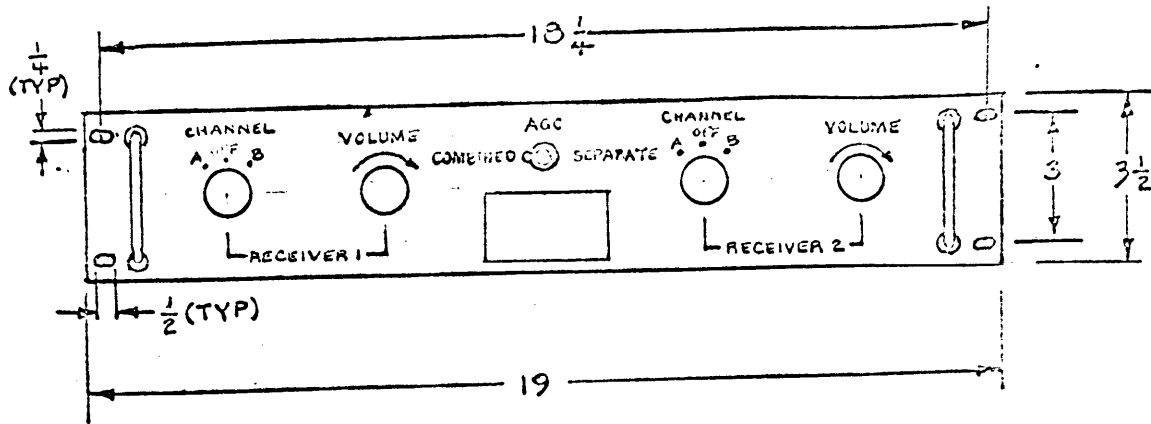
REVISIONS							
ZONE	SYM	DESCRIPTION	DATE	E.M.N. NO.	DRAFT	CHKD	APPD
	0	ORIGINAL RELEASE FOR PRODUCTION	3/19/64				



REQ'D.	ITEM	PART NUMBER	DESCRIPTION	SYMBOL
1. JOHNSON LIST OF MATERIAL				
MATERIAL		THE TECHNICAL MATERIEL CORP. MAMARONECK, NEW YORK		
FINISH		TITLE DIAGRAM, SCHEMATIC, ELECTRICAL HSP-3		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES		DRAWN DATE 10-28-63	FINAL APPROVAL DATE 3/17/64	A
DECIMALS X ± .05 XX ± .01 XXX ± .005		CHECKED DATE 3/17/64	DATE 2-17-64	CK-699
TOLERANCE		FRACTIONS ± 1/64 ANGLES ± 0° 30'	MECH. DES. DATE 2/17-64	SHEET 1

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STOCK NO. 44077



DIMENSIONAL OUTLINE DRAWING

FIGURE D. MODEL HSP-3 AUDIO SWITCH PANEL (SHEET 2 OF 2)

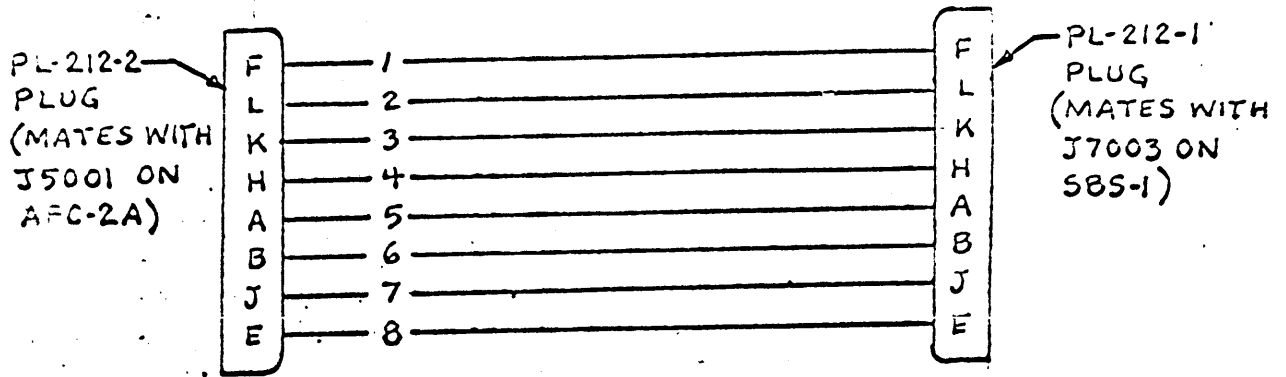


FIGURE E. CA-661 CABLE WIRING DIAGRAM, SBS-I-1  
TO AFC-2A

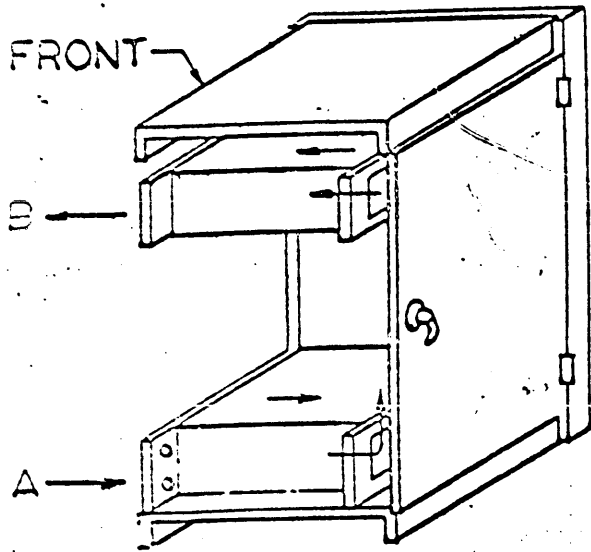


FIG. 1

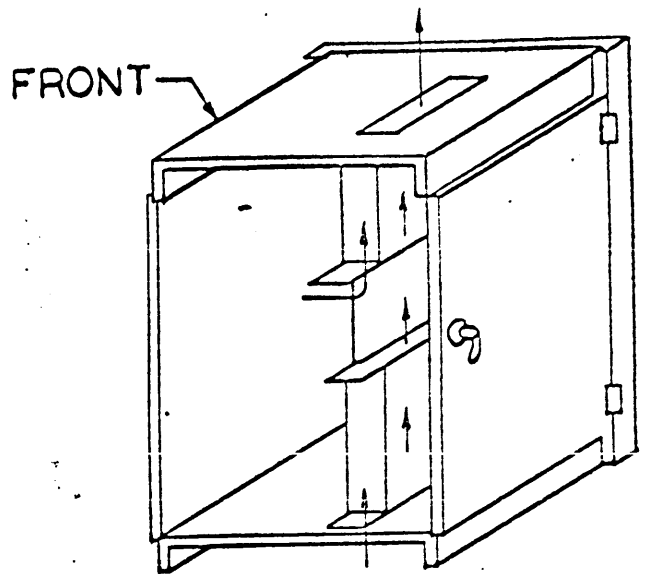


FIG. 2

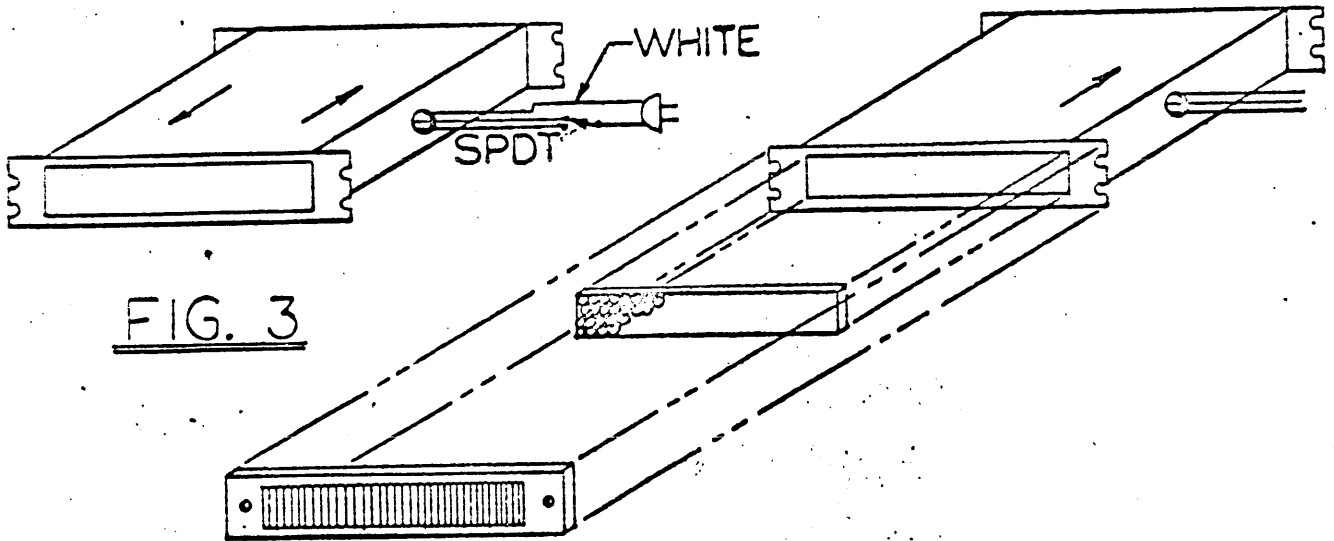


FIG. 3

FIG. 4

BUD RADIO INC.  
CLEVELAND, OHIO

FIGURE F. INSTALLATION DIAGRAMS, BUD RADIO MODEL  
B-25 BLOWER

## DATA SHEET A. — BUD "TRANS-AIRE" BLOWER

Instructions for Installation, Operation, and Maintenance of Model B-25 Blower.

The model B-25 Trans-Aire Blower is engineered and designed to reduce the temperature in electronic equipment housings by circulating filtered air. Requiring only 5 1/4" of panel space, this unit will deliver 500 or 250 CFM at 0" static pressure, and will pressurize or exhaust the air in a cabinet.

A 10" dynamically balanced squirrel cage type wheel is directly coupled to a 1/6 H.P. shaded pole two speed motor. The motor and wheel assembly is rubber mounted on heavy duty mounting brackets to minimize vibration and noise.

A removable oil impregnated fibreglass filter is mounted in the blower and is easily replaceable. (Fig.F4) When replacement is required, for best results use Bud BF-26 replacement filter.

The heavy chrome plated grille is mounted over the front of the unit, completely concealing the mounting screws.

1. Installation: To pressurize cabinet, mount unit as shown in "A" of figureF1, with arrow on top of unit pointing to rear of cabinet. Use panel mounting screws included in bag of hardware.
2. To exhaust air from cabinet, mount unit as shown in "B" of figureF1, with arrow on top of unit pointing toward front of cabinet.
3. Vertical Mounting: If it is desirable to mount the unit to the top or bottom of a cabinet, as shown in figureF2, a hole 16 x 4 1/2" is cut in the top or bottom, and the unit is then bolted in place.
4. Electrical Connections: This unit is equipped with a 115 V. 50/60 cycle, 1/6 H.P. shaded pole motor with built-in thermal overload protection. The leads are as follows: white is common, red is low, and black is high. If it is necessary to control the speed of the motor, it can be connected as shown in figureF3.
5. Oil Instructions: Unscrew top plate on blower (Fig.F4) and place a few drops of SAE 20 oil into the oil tube extending up front of motor. This should be done yearly. If this unit is used in continuous operation, oiling should be done bi-yearly.

CAUTION: DO NOT OVER OIL!

6. Specification: Motor, 50/60 cycle, 115 V. - 360 W.  
Filter: Disposable fibreglass Part #BF-26  
OA Dim: 19" W x 3 1/4" H. x 14 1/2" D.  
Mounting Notches: WE standard.