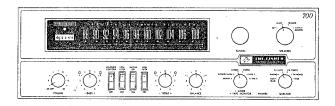
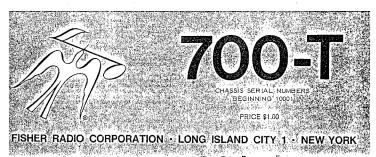
Service Manual Original

THE ESHER





Original

CAUTION: This is a FISHER precision high-fidelity instrument. It should be serviced only by qualified personnel — trained in the repair of transistor equipment and printed circuitry.

TEST EQUIPMENT REQUIRED

The following are needed to completely test and align modern high-fidelity instruments such as amplifiers, tuners and receivers.

Vacuum-Tube Voltohmmeter (100-mV DC scale)
Audio Vacuum-Tube Voltmeter (10-mV AC scale)
Oscilloscope (Flat to 100 kHz Minimum)
Audio (Sine-Wave) Generator
Intermodulation Distortion Analyzer
Harmonic Distortion Analyzer
AM/FM Signal Generator
Multiplex Generator (preferably with RF output - FISHER Model 300 or causal)

10.7-MHz Sweep Generator
455AHz Sweep Generator
Line Voltage Autotransformer
or Voltage Regulator
2 – Load Resistors, 4 or 8 Ohm, 50 Watt
2 – Full Range Speakers for Listening Tests
Stereo Source – Turntable or Tape Recorder
for Listening Tests
Soldering Iron with Small Tip
Fully Insulated from Power Line

Suction Desoldering Tool

PRECAUTIONS

Many of these items are included just as a reminder—they are normal procedures for experienced technicians. Shorfcuts can be taken but often they cause additional damage—to transistors, circuit components or the printed-circuit board.

Soldering—A well-timed, hot, clean soldering iron tip will make it easier to solder without damage to the printed-circuit board or the many circuit components mounted on it. It is not the wastings of the iron that counts—it is the heat available at the tip. Some 50-wat irons reach temperatures of 1,000° F—others will hardly must solder, not only the solder of the

- When removing defective resistors, capacitors, etc., the leads should be cut as close to the body of the circuit component as possible. (If the part is not being returned for in-warranty factory replacement it may be cut in half with diagonal-cutting places—to make removal easier.)
- Special de-soldering tips are made for unsoldering multiple-terminal units like IF transformers and electrolytic capacitors. By unsoldering all terminals at the same time the part can be removed with little chance of breaking the printed-circuit board.
- Always disconnect the chassis from the power line when soldering. Turning the power switch OFF is not enough. Power-line leakage paths, through the heating element, can destroy transistors.

Transistors—Never attempt to do any work on the transistor amplifiers without first disconnecting the AC linecord and waiting until the power supply filter-capacitors have discharged.

- Guard against shorts—it tokes only an instant for a
 base-to-collector short to distrey that transistor and possibly others direct-coupled to it. In the time it takes for a
 dropped machine screw, washer or even the acrewfure,
 to glonce off a pair of socket terminals (or between a
 terminal and the chassis) a transistor can be ruited.
- DO NOT bias the base of any transistor to, or near, the same voltage applied to its collector.
- DO NOT use an ohmmeter for testing transistors. The voltage applied through the test probes may be higher than the base-emitter breakdown voltage of the transistor.

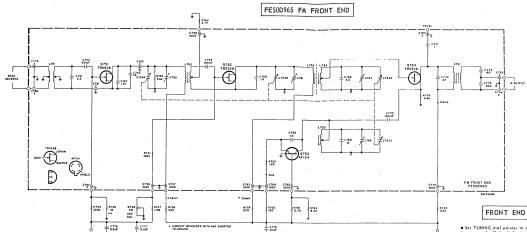
Output Stage and Driver - Replacements for output and

driver transistors, if necessary, must be made from the same beta group as the original type. The beta group is indicated by a colored dot on the mounting flange of the transistor. Be sure to include this information, when ordering replacement transistors.

- If one output transistor burns out (open or shorts), always remove ALL output transistors in that channel and check the bias adjustment, the control and other parts in the network with an ohmmeter before inserting a new transistor. All output transistors in one channel will be destroyed if the base-biasing circuit is open on the emitter end.
- When mounting a replacement power transistor be sure the bottom of the finage, the mica insulator and the surface of the heat sink are free of foreign matter. Dust and grit can prevent perfect contact reducing heat transfer to the heat sink. Metallic particles can puncture the insulator and cause shorts – ruining the transistor.
- Silicone grease must be used between the transistor and the mica insulator and between the mica and the heat sink for best heat conduction. (Use Dow-Corning DC-3 or C20194 or equivalent compounds made for power transistor beat conduction.)
- Use care when making connections to speakers and output terminals. Any frayed wire ends can cause shorts that
 may burn out the output transistors they are direct
 coupled to the speakers. To reduce the possibility of shorts
 at the speakers, lugs should be used on the exposed ends or
 at least the ends of the stranded wires should be tinned to
 prevent frayed wire ends. The current in the speakers and
 output circuity is quite high. Poor contacts or small size
 wire can cause power losses in the speaker system. Use 14
 or 16 AWG for long runs of speaker wiring.

Alignment: Procedures — Replacement of transistors and components in the front end, IF amplifier and multiplex decoder will normally not require realignment of these circuits. Realignment of these circuits, unless absolutely necessary, is not recommended. Do not attempt a realignment unless the required test equipment is available and the alignment procedure is thoroughly understood.

BECAUSE ITS PRODUCTS ARE SUBJECT TO CONTINUOUS IMPROVEMENT, FISHER RADIO CORPORATION RESERVES THE RIGHT TO MODIFY ANY DESIGN OR SPECIFICATION WITHOUT NOTICE AND WITHOUT INCURRING ANY OBLIGATION.



.. NOT USED ON ALL CHASSIS.

PARTS DESCRIPTION LIST

Description C776 Electrolytic, 0.5uF, 70V C777, 778 Ceramic, 0.1uF, 480-20%, 12V R754 Composition, 220K, 10%, 15W

R758 Mot., 2M, 30%, AGC Adjust R757 Dep. Carbon, 1.5M, 5%, 1/3W R758, 759 Dep. Carbon, 220, 5%, 1/8W R760 Dep. Carbon, 100, 5%, 1/8W R761 Dep. Carbon, 2.7K, 5%, 1/8W R762 Dep. Carbon, 2.7K, 5%, 1/8W

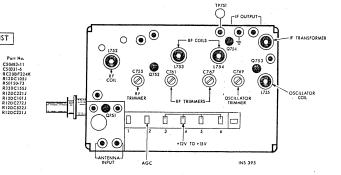
Not used on all chassis.

*Dep. Carbon, 1M, 5%, 1/8W Pot., 2M, 30%, AGC Adjust

Dep. Carbon, 220, 5%, 1/8W

R754 R755

R763



FRONT END ALIGNMENT

 Set TUNING dial pointer to zero (0) calibration mark on the logging scale. If the dial painter does not coincide with the 0 at the extreme end of the knob rotation, reposition the pointer assembly on the dial cord and cement the pointer in place to prevent slippage.

Connect DC YTYM to TP301 on the IF board.

Connect on RF generator to the NORM antenna terminals.

Use a 120-ohm composition resister in series with each lead from the generator—see Figure 1.

Set RF generator frequency and TUNING dial pointer to 90 MHz (Mc). DO NOT USE MODULATION (AM or FM) and keep the generator output as low as possible during the alignment procedure.

procedure.

• Align oscillator call (L755) care first—then align the RF calls (L754, L753, L752) for maximum reading on DC VTVM. • Set RF generator frequency and TUNING dial pointer to 106

MHz (Mc).

• Adjust oscillator trimmer (C769) first—then adjust the RF Minmers (C767, C761, C755) for maximum reading on DC VTVM.

• Repeat alignment several times until accurate dial calibrotton and maximum gain are observed. Keep the generator output as low as possible during all adjustments.

Adjust RF generator for input of 200 mV, with no modulation, at NORM antonna terminals. Use speakers or headphones

to monitor the output.

Turn up VOLUME control until noise is heard in the output.

Adjust RF generator for input of 1 mV; gradually increase generator output to 200 mV. There should be no audible increase in the noise level. If necessary, readjust slightly AGC Adjust Pot. R756 for no increase in noise us the gene-rator is varied from 1 mV to 200 mV.

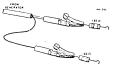
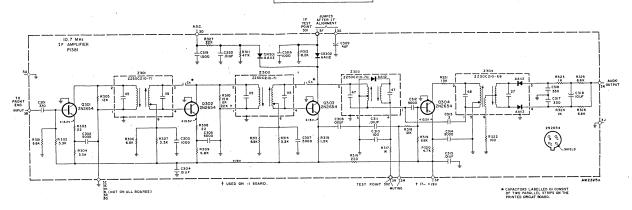


Figure 1. Generator connections to antenna terminals,



PARTS DESCRIPTION LIST

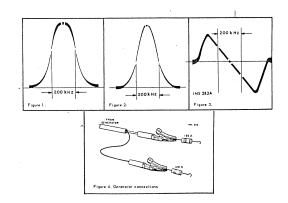
	CAPACITORS				
Symbol .	Description	Port No. R	306	6.8K	R12DC682J
	Ceremis, 330pF, 10%, 1000V	C508569-1 R	307	3.3K	R12DC332J
C301	Ceramic, 5000pF, 20%, 500V	C508567-2 R	308	22	R12DC220J
C302	Ceramic, 1000pF, 10%, 1000V		309	6.8K	R12DC682J
C303	Ceramic, 1000pF, 10%, 10007 Ceramic, .01uF, +80-20%, 500V		310	15K	R12DC153J
C304	Ceramic, 5000pF, 20%, 500V	C50B567-2		22 K	R12DC223J
C305	Ceramic, 1000pF, 20%, 1000V		311	47K	R12DC473J
C306	Ceramic, 5000pF, 20%, 500V			8.2K	R12DC822J
C307	Ceramic, .02uF, +80-20%, 100V		1312	6.8K	R12DC6823
C308	Ceramic, .U20F, +80-20%, 100*			3.3K	R12DCG32J
C309	Electrolytic, 4uF, 35V		1314	1.5K	R12DC152J
C310	Ceramic, 100pF, 10%, N1500,		1315		R12DC221J
	1000V		1316	220 1K	R12DC102J
C311	Ceramic, .01uF, +80-20%, 500V		1317	12K	R12DC123J
C312	Ceramic, 5000pF, 20%, 500V		318		R12DC682J
C313	Caromic, 3pF, 10%, NPO, 1000V		319	6.8K	R12DC472J
C314	Ceramic, 5000pF, 20%, 500V		320	4.7K	R12DC152J
C315	Ceramic, .01uF +80-20%, 500V		321	1.5K	R12DC1323
C316, 317	Ceremic, 330pF, 10%, 1000V	650(03.3	322	100	
C318	Electrolytic, 10uF, 35V		2323, 324	1K	R12DC102J
C319	Ceramic, 1000pF, 20%, 1000V	C50B569-4	2325. 326	6.8K	R12DC662J
C320	Ceromic, .01uF, +80-20%, 500V*	C50B570-1	327	*2K	R12DC223J
	RESISTORS				

Deposited carbon	in ohm	s, 5% tolera	nce, 1/8 wast,
unless otherwise	noted. I	K=Kilohms,	M≃Megohms.

Symbol	Description	Pari No.
R301	6.8K	R12DC682.
R302	3.3K	R12DC332.
R303	22	R12DC220
R304	3.3K	R12DC3321
R305	12K	R12DC123

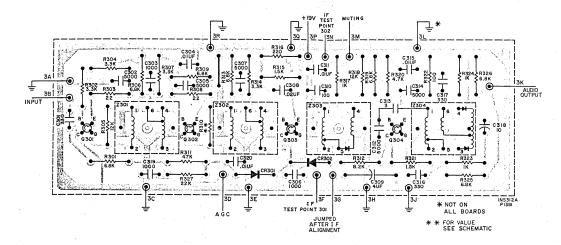
	MISCELLANEOUS	
Z301, 302 Z303 Z304 Q301, 302,	Description Diode, AA112 Transformer, I. F. Coil, Limiter Transformer, Ratio Detector Transformer, Ratio Detector	Port No. V50260-16 ZZ50C210-7 ZZ50C210-6 ZZ50C210-6 TR2N2654
303, 304	Transistor Mtg. Pads	A50618

^{*} Used on -1 board.



1381-1 10.7 MHz IF AMPLIFIER

BOARD VIEWED FROM COMPONENT SIDE



IF ALIGNMENT

- Connect 10.7-MHz (Mc) sweep generator to TP751 on front end. Disconnect jumper between terminals 3F and 3G on 1F board. Connect scope vertical input through 220K resistor to TP301.
- NOTE: Connect ground lead of generator to ground near TP751 and ground of scope closest to scope input.
- Adjust generator output voltage and frequency to observe IF response curve. Use as low a generator output as possible.
 Measure voltage at TP301 with DC VTVM during alignment
- and readjust generator output to keep meter reading from -1.4 to -2.0 YDC maximum.

 Detune top core of 2303 outwards.

 Align battom core of 2303, top and battom cores of 2302,
- Z301 and Z751 for maximum gain and symmetry-see Figure 1. Repeat alignment.
- Reconnect jumps between terminals 3F and 3G. Disconnect wire from TP302 (terminal 3N) and connect scape vertical input through 220K resistor to TP302.

- Align top core of Z303 for maximum gain and symmetry—see
- Ally to prove of 2303 for maximum gain and symmetry—see Figure 2.
 Figure 2.
- crease with increase in signal. Set generator voltage to 200mV. Adjust Meter Adjust Pat.
 R14 for tuning meter reading of 4.
- · Connect scope vertical input through 220K resistor to terminal 3K. Set generator for sweep and adjust generator output voltage
 to observe ratio detector response. Use as low a generator
- output as possible.

 Adjust top and bottom cores of Z304 for maximum pain: readjust top core for best linearity-see Figure 3.

FM TUNING METER CALIBRATION

- · Connect on FM generator to the NORM antenna terminals.
- Connection in Migenerator to the NURM antenna terminals.
 Use a 120-ohm composition resistor in series with each lead from the generator.
 Set FM generator frequency and TUNING dial pointer to 90
 MHz (Mc). Set igenerator footput to 20 mV, 522.5 kHz (kc)
 set igenerator footput to 20 mV, 522.5 kHz (kc)
 set igenerator footput to 20 mV, 522.5 kHz (kc)
- deviation with 400 Hz (cps).

 Adjust top core of Z303 for maximum reading on tuning
- Increase generator output to 200 mV. Adjust Meter Adjust Pot. R14 for meter reading of 4.5.

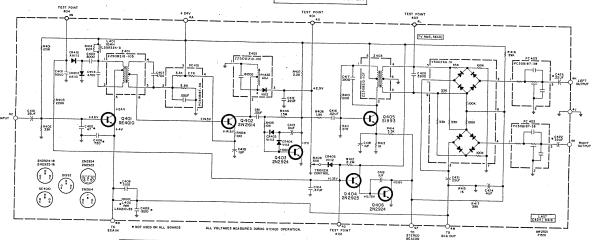
FM MUTING ADJUSTMENT

- Set MUTING switch to OFF. Connect on FM generator to the NORM antenna terminals.
- Use a 120-ohm composition resistor in series with each lead from the generator.

 Connect AC VTVM to LEFT or RIGHT CHANNEL RCDR
- Connect AC VIVM to LEFT or MIDHI CHAMPLE A NUM.
 HIGH jack.
 Set FM generator frequency and TUNING dial pointer to 90 MHz (Mc). Set generator output to 20 uV, 122.5 kHz (kc) deviation with 400 Hz (cps). Adjust TUNING knob for maximum reading on tuning meter.
- Note reading on AC VTVM.

 Set MUTING switch to ON, Adjust Muting Adjust Por. R16 for reading on AC VTVM 1 to 5 db fower than that previously
- noted.
- Reduce generator voltage to zero-no signal (400 Hz modu-lation) or noise should be indicated on AC VTVM at RCDR

1531 MULTIPLEX DECODER



PARTS DESCRIPTION LIST

CAPACITORS

Symbol	Description	Part No.	
C401	Electrolytic, 25uF, 15V	C50B637-6	
C402, 403	Ceramic, 5000pF, 20%, 500V	C50B567-2	
C404	Polystyrene, 4700pF, 5%, 33V	C50B636-22	
C405	Ceramic, 47pF, 10%, N330, 1000V	C50B568-20	
C406	Ceramic, 750pF, 10%, 1000V	C50B567-6	
C407	Polystyrene, 4700pF, 5%, 33V	C50B636-23	
C408	Polystyrene, 5100pF, 5%, 33V	C50B636-27	
C409	Ceramic, 1000pF, 10%, 1000V	C50B569-3	
C410	Electrolytic, 1uF, 70V	C50B637-2	
C411	Ceramic, .02uF, 180-20%, 100V	C50B570-2	
C412	Mylar, .22uF, 10%, 100V	C50B638-16	
C413	Electrolytic, 10uF, 35V	C508637-4	
C414	Mylar, .47uF, 10%, 100V	C50B638-17	
2415	-Deleted-		
2416	Ceramic, .02uF, +80-20%, 100V	Ç50B570-2	
2417	Silver Mica, 3900pF, 5%, 100V	C50B571-1	
C418	Electrolytic, 1uF, 70V	C50B637-2	
2419	Tant. Electrolytic, 1uF, 20%, 25V	C50C640-1	
420	Silver Mica, 3900pF, 5%, 100V	C50B571-1	
421	Electrolytic, 25uF, 15V	C50B637-6	
422, 423	Tent. Electrolytic, .22uF, 20%, 25V	C50C640-6	
424	Electrolytic, 4uF, 35Y	C50483-1	

RESISTORS

| Compaction in others, 10% injurence, (5-mg)1 unless other-size mode, 5-xx (104ms, M-Mog ather), 10% injurence, 10mg/1 unless other-size mode, 5-xx (104ms, M-Mog ather), 10mg/1 unless other size with 10mg/1 unless o

WICCILL WES

	MISCELLANEOUS	
Symbol	Description	Port No.
CR401,	402 Diode, AA113	V50260-22
CR403-4		V1112
L401	Coil, MPX Filter Choke, 10mH	L50B334-3
L402	Choke, SCA Filter	L50210-59
PC401	Printed Circuit	PC50B187-36
	103 Printed Circuit	PC50B187-38
Q401	Transistor, 4010	TR4010-2
Q 4 02	Transistor, 2N2614	TR2N2614
Q403	Transistor, 2N2924	TR2N2924-18
Q404	Transistor, 2N2925	TR2N2925-18
Q405	Transistor, \$1993	TR1993-2
Q406	Transistor, 2N2924	TR2N2924
Z401	Transformer, 19kHz	ZZ50B210-105
Z402	Coil, 10kHz	ZZ50B210-106
Z403	Transformer, 38kHz	ZZ 50B 21 0-107
	Dual Chopper	V50D260-31

Tw. a methods of aligning the multiplex decoder are given. The preferred procedure uses a multiplex generator with RF and 15 pkH; output and with 1 kH modulation, such as the Fisher Model 300 Multiplex Generator. This is the better method of alignment since the front and out IF stages are also checked through theuse of this procedure. An alternate procedure for use with multiplex generators not having an RF douptur is class.

PREFERRED ALIGNMENT PROCEDURE

Set MUTING switch to OFF and SELECTOR switch to FM AUTO.

AU 10.

© Connect MPX generator to the LOC antenna terminals. Use two 120-ohm composition resistors in series with the genera-

two 120-bm composition resistors in series with the genera-ter feeds.

• Fallow procedures given in Table 1 below.

• Fallow procedures given in Table 1 below.

• Fallow procedures given in Table 1 below in the process of the proc

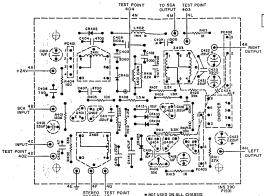
ALTERNATE ALIGNMENT PROCEDURE

Set MUTING switch to OFF and SELECTOR switch to FM AUTO.

AUTO.

Distance hire going to connection 4C on the multiplex
Distance to the property of the connection 4C on the multiplex
E allow procedures given in Table 2 below.

A first alignment is complete, disconnect MPX generator and
reconnection 4C on the multiplex bard.



BOARD VIEWED FROM COMPONENT SIDE



FIGURE 1. Lissajous pattern for MPX alignment.

TABLE 1 MULTIPLEX ALIGNMENT USING RF MULTIPLEX SIGNAL

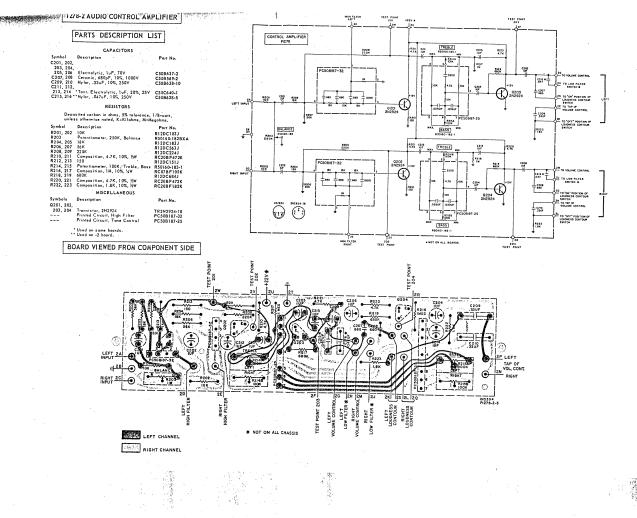
			INDICATOR TYPE AND	ALIGNMENT	
STEP	GENERATOR MODULATION	RF DEV.	CONNECTION	ADJUST	INDICATION
1	19kHz(kc) pilot only.	27.5kHz (kc)	DC VTVM to TP401	Z401 top & bottom, Z402	Maximum DC VTVM reading.
2	Short connection 4F to ground.		· -	-	Stereo Beacon should light.
3	Connect portion of 19kHz (kc) generator output to scope horizontal input.	no mod.	Scope vertical input through 1 megohm resistor to TP403; scope set for ex- ternal sweep.	Z403 top	Stable Lissajous pattern 2:1 (Figure 1) as slow moving as possible.
4	Same as Step 3.	no mod.	Same as Step 3	Z403 bottom	Maximum scope amplitude; adjust Z403 top as necessary for slowest moving Lissajous
5	Disconnect connection 4F from ground.	-	-	-	
6	Composite MPX signal 1kHz (kc) on left channel only.	±75kHz (kc)	Audio (AC) VTVM and scope input to left channel output on preamp board.	Z402	Maximum audio AC VTVM reading; clean 1kHz (kc) sine wave on scope.
7	Composite MPX signal 1kHz (kc) on right channel only.	175kHz (kc)	Same as Step 6	Separation Control*	Minimum audio AC VTVM reading—at least 30 db below reading in Step 6.
8	Same as Step 7.	:75kHz (kc)	Audio (AC) YTYM and scape input to right channel output on preamp board.	-	Same audio AC VTVM read- ing as obtained in Step 6 (12 db); clean 1kHz (kc) sine wave on scape.
9	Same as Step 6.	175kHz	Same as Step 8.	-	Minimum audio AC VTVM reading-at least 30 db below reading in Step 8.
10	19kHz (kc) pilot only.	±3.5kHz (kc)	DC VTVM to connection 4F.	Trigger Control	Stereo Beacon lights up with 0.8 V reading on DC VTVM.

*NOTE: Separation Control is located on preamplifier board.

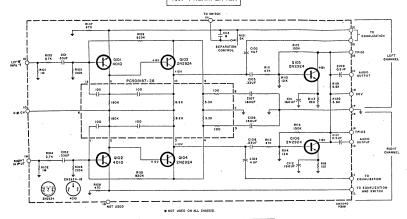
TABLE 2

STEP	GENERATOR MODULATION	LEVEL	INDICATOR TYPE AND	ALIGNMENT		
		(RMS)	CONNECTION	ADJUST	INDICATION	
1	19kHz (kc) pilot only.	Vary 0 to 50mV	DC VTVM to TP401	Z401 top & bottom, Z402	Maximum DC VTVM reading.	
2	Short connection 4F to ground.	-	-	-	Stereo Beacon should light.	
3	Connect portion of 19kHz (kc) generator output to scope horizontal input.	Vary 0 to 50mV	Scope vertical input through I megohm resistor to TP403; scope set for ex- ternal sweep.	Z403 top	Stable Lissajous pattern 2:1 (Figure 1) as slow moving as possible.	
4	Same us Step 3.	Vary 0 to 50mV	Same as Step 3.	Z403 buttom	Maximum scope amplitude; adjust Z403 top as neces- sary for slowest moving Lissajous.	
5	Disconnect connection 4F from ground.	-	- '	-	-	
6	Composite MPX signal 1kHz (kc) on left channel only.	100mV (560mV P.P).	Audio (AC) VTVM and scope input to left channel output on preamp board.	Z 402	Maximum audio AC VTVM reading; clean [kHz (kc) sine wave on scope.	
7	Composite MPX signal 1kHz (kc) on right channel only.	100mV (560mV P-P)	Same as Step 6.	Separation Control*	Minimum audio AC YTVM reading at least 30 db below reading in Step 6.	
8	Same as Step 7.	100mV (560mV P-P)	Audia (AC) V1VM and scape input to right channel output on preamp board.		Same audio AC VIVM read- ing as obtained in Step 6 (*2 db), clean IkHz (kc) sin wave on scape.	
9	Same as Step 6.	100mV (560mV P-P)	Same as Step 8.	-	Minimum audio AC VTVM reading—at least 30 db belon reading in Step 8.	
10	19kHz (kc) pilot only.	Vary 0 to 50mV	DC VTVM to connection 4F.	Trigger Control	Sterea Beacon lights up with 0.8 V reading on DC VTVM.	

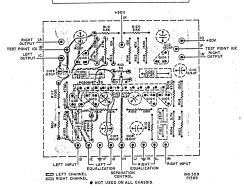
^{*}NOTE: Separation Control is located on preamplifier board.



1389 PREAMPLIFIER



BOARD VIEWED FROM COMPONENT SIDE



PARTS DESCRIPTION LIST

CAPACITORS

Symbol	Description	Part No.
C101, 102	Mylar, 0.33uF, 10%, 250V	C50B638-10
C103, 104	Electrolytic, 4uF, 35V	C50B637-1
C105, 106	Mylar, 0.33uF, 10%, 250V	C50B638-10
C107, 108	Electrolytic, 160uF, 6V	C50B637-3
C109, 110	Electrolytic, 0.5uF, 70V	C508637-5
C111, 112	Electrolytic, 160uF, 6V	C50B637-3

RESISTORS

Deposited carbon in ohms, 5% talerance, 1/8-watt,

Symbol	Description	Part No.
R101, 102	1M	R12DC105J
R103, 104	2.7K	R12DC272J
R105, 106	150K	R12DC154J
R107, 108	470	R12DC471J
R109, 110	82 OK	R12DC824J
R111, 112	47K	R12DC473J
R113, 114	12K	R12DC123J
R115, 116	150K	R12DC154J
R117, 118	150	R12DC151J
R119, 120	5.6K	R12DC562J
R121	Pot., 5K, 30%, Separation Control	R50150-62

MISCELLANEOUS

Symbol	Description		Part No.
Q101, 102	Transistor, SE4010		TR4010-2
Q103, 104,	Transistor, 2N2924		TR2N2924-18

1489-3 DRIVER

PARTS DESCRIPTION LIST

C. D. CITOO

	CALACITORS	
Symbol	Description	Part No.
C851, 852 C853	Electrolytic, 25uF, 15V Electrolytic, 200uF, 35V	C508637-6 C50483-7

RESISTORS

Deposited carbon in ohms, 5% talerance, 15 watt.

Symbol	Description	Port No.
R851	15K	R50DC153J
R852	8.2K	R50DC822J
R853	Composition, 3.9K	RC20BF392
R854	56 K	R50DC563J
R855 -	220	R50DC221J
R856	Composition, 82	RC20BF820
R857	Pot., 300, 20%, Center Voltage	
	Adjust	R50B499-1
R858	Pot., 300, 20%, Output Bios Adjust	R50B499-1
R859	2.2K	R50DC2223
R860	3.3K	R50D C332 J
R861	Composition, 82	RC208F820
R862	56 K	R50DC563J
R863	Composition, 120	RC20BF121.
R864	Composition, 82	RC20BF820

	MISCELLANEOUS	
Symbol	Description	Part N
CR851	Diode, Silicon	\$105089
	Diode, Zener, 6.8V, 5%, 1W	ZR50921
	Diode, Silicon	SID5089
	Transistor, TR1005	TR1005
Q853	Transistor, TR1004	TR1004

POWER AMPLIFIER CENTER VOLTAGE ADJUSTMENT

Connect two 10K, ±1% resistors in series across capacitor C19 (2500uF). Connect the common lead of a DC VTVM to the

C19 (2300F). Connect the common lead of a DC YTYM to the common lead of a DC YTYM to the control of the two versistars.

• Connect DC VITYM to the part of the control of resistars R37 and R3

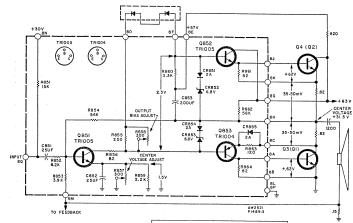
POWER AMPLIFIER IDLING CURRENT ADJUSTMENT

NOTE: This adjustment is to be performed only after com-

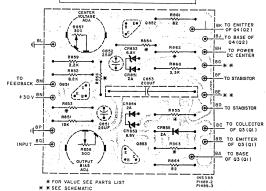
pletting Center Voltage Adjustment.

Connect DC YTVM across resistor R37. Adjust Output Bias Adjust Pot. R858 on left channel driver board for meter reading of 40 ±10mV DC.

© Connect DC YTVM across resistor R38. Adjust Output Bias Adjust Pot. R858 on right channel driver board for meter read-ing of 40 ±10mV DC.

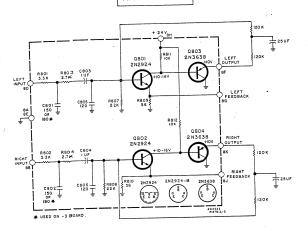


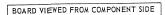
BOARD VIEWED FROM COMPONENT SIDE

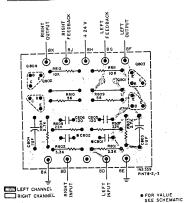




1478-3 PREDRIVER

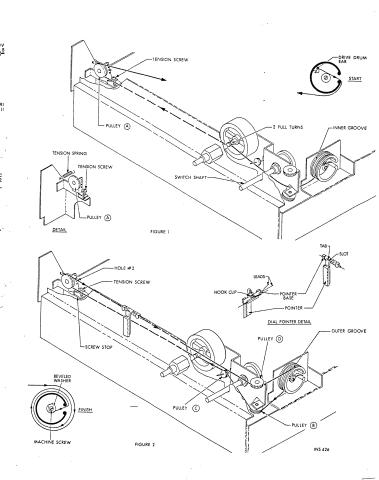


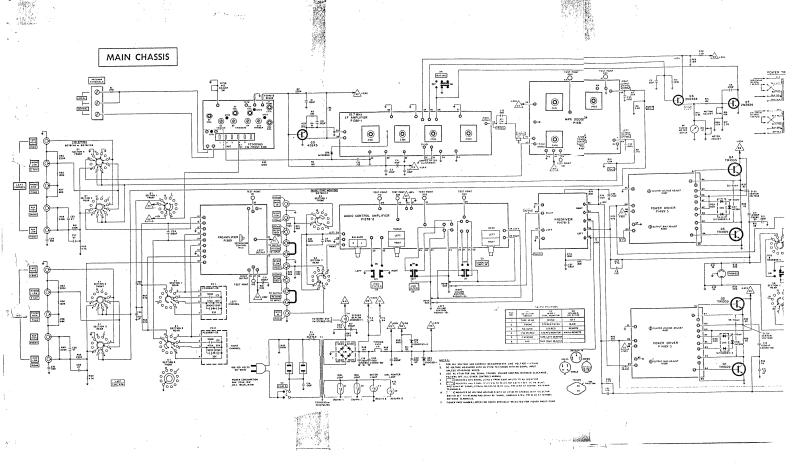


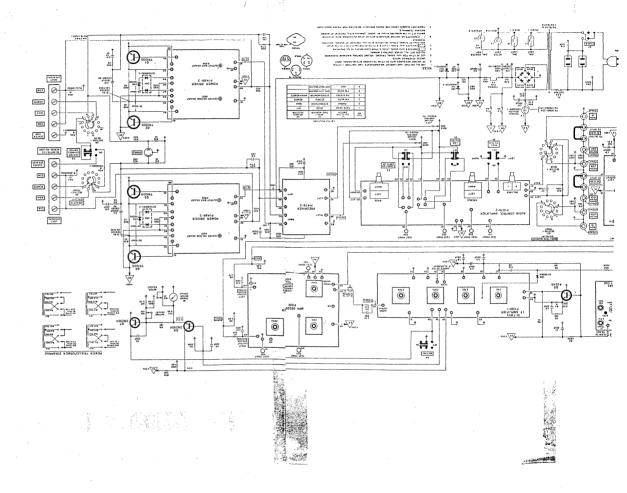


PARTS DESCRIPTION LIST

Symbol	Description	Part No.	
C801. 802	*Ceramic, 150pF, 10%, 1000V **Ceramic, 180pF, 10%, 1000V	C50B569-9 C50B569-14	
C803, 804	Tant. Electrolytic, 1uF, 20%, 25V Ceramic, 120pF, 10%, 1000V	C50B640-1 C50B569-16	
	RESISTORS		
De po un le	osited carbon in ohms, 5% tolerance ss otherwise noted. K=Kilohms, M=1	, 1 /8-watt, degohms.	
Symbol	Description	Part No.	
R801, 802		R12DC332J	
R803, 804	2.7K	R12DC272J	
R805, 806		R12DC224J	
R8 07, 808		R12DC223J	
R809, 810		R12DC560J	
R811, 812	10K	R12DC103J	
	MISCELLANEOUS		
Symbol	Description	Part No.	
Q801, 802		TR2N2924	
Q803, 804		TR2N3638A-3	
	*Used on -1, -2 boards. **Used on -3 board. †Used on -1 board.		

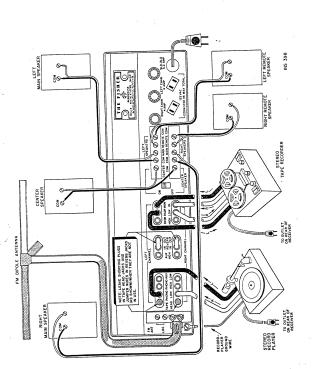




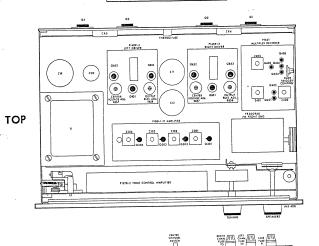


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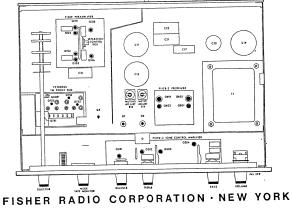
COMPONENT CONNECTIONS



CHASSIS LAYOUT



BOTTOM





SERVICE PROCEDURES

TESTING THE POWER AMPLIFIER

CAUTION

DO NOT use uninsulated clips on any connection except to the chassis. Always use miniature, insulated clips when connecting to component leads, socket lugs and terminal strips-it takes only a fraction of a second to destroy a transistor with on accidental short circuit. Make sure metal-cased instruments are not touching the chassis directly or through other instruments and common-ground leads.

WARNING: Disconnect AC power cord while removing or in-

serting transistors.
• Remove transistors Q1 to Q4, Q801 to Q804 and Q851, Q852 and Q853 (both channels) from their sockets. Label each transister with its location in the unit.

 Set VOLUME control to its minimum position (extreme counterclockwise).

e Set line voltage through an adjustable transformer to 117 VAC, Plug in AC power cord.

• Connect common lead of DC VTVM to the chassis. Measure valtage across filter capacitor C19 or at the B+ terminal of the bridge rectifier; reading should be between 60

and 66 VDC. Measure voltage at junction of resistor R50 and zener diode CR2; reading should be between 11.5 and 12.5 VDC. Measure voltage at junction of resistor R51 and zener diode CR 3; reading should be between 23 and 25 VDC.

• Insert left channel predriver transistors Q801 and Q803 (Q802, Q804-right channel) in their sockets on the predriver Measure voltage at connection BF on predriver board (BK=

right channel); adjust Output Adjust Pot. R805 (R806-right channel) for reading of 10 VDC. • Insert voltage driver transistor Q851 in left channel driver ■ insert voltage driver transistor Q851 in left channel driver board and measure voltage at the collector. Adjust left channel Center Voltage Adjust Pot. R857 for a collector voltage of 31 VDC.

 Measure voltage from base-to-base socket terminals of power measure vottage from pose-to-pase socket terminats of power driver transistors Q852, Q853 on left channel driver board. Ad-

just left channel Output Bias Adjust Pot. R858 for reading of 2.3 VDC. • Insert left channel power driver transistors Q852, Q853 in

their sackets. Measure voltage at connection 8H on left channel driver board; reading should be between 28 and 34 VDC. e Insert left channel power tronsistors Q3, Q4 (Q1, Q2-right

• Measure voltage across resistors R37 and R39 (R38 and R40right channel); reading should be between 35 and 50 mV across

each resistor. NOTE: VTYM must have a .25-volt or lower full-scale range to make this reading properly. • Repeat preceding steps for the right channel.

INTERMODULATION DISTORTION TEST

· Set BALANCE, BASS and TREBLE controls to their center positions. Set MODE/TAPE MONITOR switch to left-hand STEREO position, SELECTOR switch to AUX and SPEAKERS switch to MAIN. Set LOUDNESS CONTOUR, LOW FILTER and HIGH FILTER switches to OFF. Unplug AC power cord. Connect a 4-ohm, 50-watt resistor across the LEFT SPEAKERS MAIN terminals. In parallel with the load resistor, connect the input leads of an IM (Inter-Modulation) distortion analyzer and the leads of an AC VTVM capable of reading 0.1 volts with accuracy.

Connect IM-analyzer generator output to the LEFT AUX LOW

NOTE: Speaker common terminals are not at ground potential. 1M distortion analyzer ground should be connected to AUX input ground only.

 Connect AC power cord and rotate VOLUME control to its maximum clockwise (full volume) position.

• Increase IM-analyzer generator input to amplifier for 30 watts output (9.0 VAC across 4-ohm load resistor). AFTER ONE FULL MINUTE OF WARM-UP TIME, PROCEED TO

NOTE: Warm-up time is very important in obtaining proper readings. The characteristics of transistors change slightly as their internal temperature rises. Once the transistors are warm, the tests should be completed without delay-before they can cool off.

• IM meter reading should be 0.8% or less.

 Repeat preceding steps for the right channel. NOTE: If any of the preceding instructions are different from from those supplied with the IM-analyzer instruction-manual, it is best to follow those in the manual. If a load resistor of 50-watt rating is built into the IM analyzer, a separate load resistor is not required. For best results, the IM range switch should be set to give a reading in the center to full-scale portion of the meter scale for greater accuracy.

HARMONIC DISTORTION TEST

Set BALANCE, BASS and TREBLE controls to their center positions. Set MODE/TAPE MONITOR switch to left-hand STEREO position, SELECTOR switch to AUX and SPEAK-ERS switch to MAIN. Set LOUDNESS CONTOUR, LOW FILTER and HIGH FILTER switches to OFF. Unplug AC power cord. Connect a 4-ohm, 50-watt resistor across LEFT S PEAKERS MAIN terminals. In parallel with the load resistor, connect the input leads of a harmonic distortion analyzer and the leads of on AC VTVM capable of reading 0.1 volts with accuracy. • Connect a low-distortion audio sine wave generator, set for 1000 Hz, to the LEFT CHANNEL AUX LOW jack.

· Connect AC power cord and rotate YOLUME control to its maximum clockwise (full valume) position. e Increase generator input to set for 45 watts output (13.4

VAC across 4-ohm load resistor). Harmonic distortion meter should read less than 0.8%. Repeat preceding steps for right channel.

POWER OUTPUT MEASUREMENT

The power output of this unit is designed to deliver its fullrated power with program material (voice or music) into 4-to 16-ohm loads for indefinite periods.

When a constant 1 kHz (kc) audio tone is used as a signal to measure the continuous RMS power output, the following precautions must be taken:

• Measure the power output of one channel at a time.

• Limit the measurement period to 10 minutes with a load resistance between 4 and 16 ohms. If the power output of both channels must ever be measured simultaneously, use a load of 4 to 8 ohms per channel and limit measurement to a period not longer than I minute for a 4-ohm load and not longer than 5 minutes for an 8-ohm load.

BECAUSE ITS PRODUCTS ARE SUBJECT TO CONTINUOUS IMPROVEMENT, FISHER RADIO CORPORATION RESERVES THE RIGHT TO MODIFY ANY DESIGN OR SPECIFI-CATION WITHOUT NOTICE AND WITHOUT INCURRING ANY OBLIGATION.

SERVICE PROCEDURES

DIAL STRINGING

• Turn the tension screw to its mid-position (Figure 1) and remove the end of the tension spring from pulley A mounting bracket (detail view).

 Rotate the tuning capacitor drive drum to its maximum clock wise position. Tie the end of the dial cord to the ear inside the top of the drive drum.

• Run the dial cord through the slot in the drive drum and through the hole in the chassis front and under the switch

 Wrap two full turns of the dial cord around the tuning shaft. Run the dial cord around pulley A (Figure 2). Attach the tension spring to hole 2 in the pulley mounting bracket. Turn the tension screw to its maximum clockwise in position. Place the dial cord on pulleys B and C and over pulley D.

Position the dial cord in the inner groove of the drive drum. · Pull the dial cord taut and wrap 21/2 turns around the outer groove of the drive drum. Run the dial cord through the slot in the drive drum and under the beveled washer. Tighten the machine screw to hold the dial cord, making certain that the

tension screw is in contact with the screw stop. Turn the tension screw counterclockwise to hold the dial cord under tension so that the flywheel rotates freely but the dial cord does not slip, on the tuning shaft. Place the dial cord over and under the tabs on the rear of

the dial pointer. Place the dial pointer on the top of the chassis front panel.

REPLACING METER LAMP

• Disconnect AC power cord.

(4

• Remove the screws which hold the top cover to the chassis and lift off the top cover.

• Gently push in on the lamp and turn it counterclockwise to remove. Remove the metal lamp shade and place it on the new lamp in the same position. Place the new lamp in the socket, push in gently and turn it clockwise to lock it in place. Replace the top cover on the chassis and secure with the

REPLACING STEREO BEACON LAMP

· Disconnect AC power cord.

screws removed previously.

• Remove the screws which hold the top cover to the chassis and lift off the top cover. • Pry nylon lomp holder from the lamp mount. Unsolder the

leads from the lamp halder. Solder leads to rear terminals on the new lamp holder. Place new lamp holder in the mount. • Replace the top cover on the chassis and secure with the screws removed previously.

REPLACING DIAL LAMPS

· Disconnect AC power cord. • Gently pull all knobs off the front panel control shafts. Remove hex nuts from the control shafts and lift off the front

• Snap out the defective lamp from the spring clip. Place the new lamp in the socket making certain that the unpainted side of the lamp faces the edge of the dial glass.

• Replace the front panel and secure with the hex nuts removed previously. Replace the knobs on the control shafts.

REPLACING DIAL POINTER LAMP

· Disconnect AC power cord.

• Gently pull all knobs off the front panel control shafts. Remove the hex nuts from the control shafts and lift off the front

Remove the two foam-cushion strips located at the ends of the dial glass.

 Loosen the screws that hold the retaining clips to the dial glass. Swing the clips aside and lift off the dial glass.

e Remove the lamp wires from the holding clip on the rear of the pointer base and from the two clips on the top of the

• Slide the dial pointer assembly directly downward to release it from the pointer base. Slide the new dial pointer assembly upward, while pressing downward on the pointer base, until the tab on the pointer mates with the slot in pointer base.

• Twist the lamp wires together and place them under the holding clip on the rear of the pointer base. Do not leave any slack in the wire above the pointer.

e Connect the ends of the two wires to the clips on the top of

 Replace the dial glass and position it down and towards the left of the chassis front. Swing the retaining clips back into place and tighten the retaining-clip screws. Replace the foam-

 Replace the front panel and secure with the hex nuts removed previously. Replace the knobs on the control shafts.

CLEANING DIAL GLASS

 Disconnect AC power cord. · Gently pull all knobs off the front panel control shofts. Remove the hex nuts from the control shafts and lift off the front panel.

 Remove the two foam-cushion strips located at the ends of the dial glass. e Loosen the screws that hold the retaining clips to the dial

glass. Swing the clips aside and lift off the dial glass. Remove dust with a dry cloth. If you wish to clean more thoroughly, use a soop-and-water solution only, any stronger agent may damage the markings on the glass.

Replace the dial glass and position it down and towards the left of the chassis front. Swing the retaining clips back into place and tighten the retaining-clip screws. Replace the foomcushion strips.

Replace the front ponel and secure with the hex nuts removed previously. Replace the knobs on the control shafts.

CLEANING FRONT PANEL

WARNING: Use only plain lukewarm water and a freshly laundered, soft lint-free cloth to clean the front control panel.

MAIN CHASSIS PARTS DESCRIPTION LIST

		CAPACITORS		R50	1.2K	R 50D C 122 J
4		CAPACITORS		R51	Composition 120, 10%	RC20BF121K
	Symbol	Description	Part No.	R52	100K, 1/8W	R12DC104J
	C1, 2, 3	Ceramic, .02uF, +80-20%, 100V	C50095-1	R53, 54		R50DC224J
	C4	Electrolytic, 10uF, 35V	C50483-2	R55, 56		R50DC124J R50DC683J
	C5, 6	Mylar, .22uF, 10%, 250V	C50B575-2	R 57, 58	68K	K300C0033
	C7	Ceramic, 2700pF, 10%, 1000V	C50072-17	R59, 60, 61, 62	220K	R 50D C224J
	C8	Ceramic, .02uF, +80-20%, 100V Ceramic, 120pF, 10%, 1000V	C50095-1 C50072-40	R63, 64		R50DC472J
	C9, 10 C11, 12	Electrolytic, 1200uF, 80V	C50180-90	R65	1 0K	R50DC103J
	C13, 14	Mylar, .33uF, 10%, 250V	C50B575-4	R66		RC20BF222K
	C15	Ceramic, .02uF, +80-20%, 100V	C50095-1	R67, 68		R50DC472J
	C16	Malded, .01uF, 20%, 600V	C2747	R69		R50DC182J R50DC331J
	C17	Electrolytic, 200uF, 35V	C50483-7	R70	330 27K, 1/8W	R12DC273J
	C18	Ceramic, 330pF, 10%, 1000V	C50072-1	R71 R72	Composition, 56, 10%	RC20BF560K
	C19	Electrolytic, 2500uF, 80V	C50180-91	R73. 74.		
	C20	Electrolytic, 1000uF, 50V Electrolytic, 500uF, 35V	C50180-80 C50483-17	75, 76	120K, 1/8W	R12DC124J
	C21, 22 C23	-Deleted-	C30403-17			
	C24	Mylar, .015uF, 10%, 100V	C50B574-2		MISCELLANEOUS	
	C25, 26,	,,,,		Symbol	Description	Part No.
	27, 28	Ceramic, 47pF, 5%, N750, 1000V	C50070-29	CRIA, B,	•	
	C29	Ceramic, 330pF, 10%, 1000V	C50072-1	C, D	Rectifier, Silicon, 3A120	SR50517
	C30	Electrolytic, 200uF, 15V	C50483-13	CR2	Diode, Zener Regulator, 12V	ZR50B793-1
	C31	Electrolytic, 500uF, 35V	C50483-17 C50072-2	CR3	Diode, Zener Regulator, 24V	ZR50921-1
	C32 C33, 34	Ceramic, 680pF, 10%, 1000V Ceramic, 1000pF, 10%, 1000V	C50072-2	CR4, 5	Stabistor Module, Dual Silicon	SIT 50B843-3 SID 50B851
	C35, 34	Electrolytic, 4uF, 35V	C50483-1	CR6	Diode, Silicon	GE T50825-1
	C36	Electrolytic, 100uF, 25V	C50483-6	CR7, 8	Diode, Germanium, IN2326 Fuse, Line, 3.2A Slo-Blo, 125V	F3319
	C37, 38	Electrolytic, 25uF, 35V	C50483-12	Fl	* Fuse, Line, 1.5A Slo-Blo, 250V	F3319-12
	,			F2. 3	Fuse, Speakers, 4A, 250V	F3319-4
		RESISTORS		11, 2	Lamp, Dial	150441-1
	Depo	sited carbon in ohms, 5% tolerance,	½-watt,	13	Lamp, Meter	150000-8
	unles	s otherwise noted. K=Kilohms, M=M-	e gohms .	14		AS50B814-1 AS50451-2
	Symbol	Description	Port No.	15		
				M1	Meter, Tuning, 200vA	M990-124 PC50B187-29
	R1	Composition, 270, 10%	RC20BF271K R12DC823J	PC1, 2	Meter, Tuning, 200uA Printed Circuit, Equalization	PC50B187-29
		Composition, 270, 10% 82, 1/8W 100, 1/8W	RC20BF271K R12DC823J R12DC101J	PC1, 2 Q1, 2,		PC50B187-29 TR1009
	R1 R2 R3 R4	Composition, 270, 10% 82, 1/8W 100, 1/8W 1K, 1/8W	RC20BF271K R12DC823J R12DC101J R12DC102J	PC1, 2 Q1, 2, 3, 4 Q5	Printed Circuit, Equalization Transistor, TR1009 Transistor, 40245	PC50B187-29 TR1009 TR40245-1
	R1 R2 R3 R4 R5	Composition, 270, 10% 82, 1/8W 100, 1/8W 1K, 1/8W 15K, 1/8W	RC20BF271K R12DC823J R12DC101J R12DC102J R12DC153J	PC1, 2 Q1, 2, 3, 4 Q5 Q6, 7	Printed Circuit, Equalization Transistor, TR1009 Transistor, 40245 Transistor, 2N2924	PC50B187-29 TR1009 TR40245-1 TR2N2924
:	R1 R2 R3 R4 R5 R6	Composition, 270, 10% 82, 1/8W 100, 1/6W 1K, 1/8W 15K, 1/8W 1K, 1/8W	RC20BF271K R12DC823J R12DC101J R12DC102J R12DC153J R12DC102J	PC1, 2 Q1, 2, 3, 4 Q5	Printed Circuit, Equalization Transistor, TR1009 Transistor, 40245	PC50B187-29 TR1009 TR40245-1 TR2N2924 S1276C116 or
	R1 R2 R3 R4 R5 R6 R7, 8	Composition, 270, 10% 82, 1/8w 100, 1/8w 1K, 1/8w 15K, 1/8w 1K, 1/8w 27K, 1/8w	RC20BF271K R12DC823J R12DC101J R12DC102J R12DC153J R12DC102J R12DC273J	PC1, 2 Q1, 2, 3, 4 Q5 Q6, 7 S1	Printed Circuit, Equalization Transistor, TR1009 Transistor, 40245 Transistor, 2N2924 Switch, Ratary, Selector	PC50B187-29 TR1009 TR40245-1 TR2N2924 \$1276C116 or \$1276C146
	R1 R2 R3 R4 R5 R6 R7, 8 R9, 10	Composition, 270, 10% 82, 1/8W 100, 1/8W 1K, 1/8W 1K, 1/8W 1K, 1/8W 27K, 1/8W 27K, 1/8W	RC20BF271K R12DC823J R12DC101J R12DC102J R12DC153J R12DC102J	PC1, 2 Q1, 2, 3, 4 Q5 Q6, 7 S1	Printed Circuit, Equalization Transistor, TR1009 Transistor, 40245 Transistor, 2N2924 Switch, Rotary, Selector Switch, Rotary, Mode/Tape Manitor Switch, Rocker, Laudness Contour,	PC50B187-29 TR1009 TR40245-1 TR2N2924 \$1276C116 or \$1276C146 \$1276C147
	R1 R2 R3 R4 R5 R6 R7, 8	Composition, 270, 10% 82, 1/8w 100, 1/8w 1K, 1/8w 15K, 1/8w 1K, 1/8w 27K, 1/8w	RC20BF271K R12DC823J R12DC101J R12DC102J R12DC153J R12DC153J R12DC102J R12DC273J R50DC272J RC20BF224K	PC1, 2 Q1, 2, 3, 4 Q5 Q6, 7 S1	Printed Circuit, Equalization Transistor, ATRIO09 Transistor, AU245 Transistor, 2N2924 Switch, Ratary, Selector Switch, Rotary, Mode/Tape Monitor Switch, Rocker, Loudness Cantour, Mutina, Low Filter, High Filter	PC50B187-29 TR1009 TR40245-1 TR2N2924 S1276C116 or S1276C146 S1276C147 S50C200-15-1
	R1 R2 R3 R4 R5 R6 R7, 8 R9, 10	Composition, 270, 10% 82, 1/8W 100, 1/8W 1K, 1/8W 1K, 1/8W 1K, 1/8W 2.7K, 1/8W 2.7K Composition, 220K, 10%	RC20BF271K R12DC823J R12DC101J R12DC102J R12DC102J R12DC102J R12DC273J R50DC272J RC20BF224K	PC1, 2 Q1, 2, 3, 4 Q5 Q6, 7 S1 S2 S3, 4, 5, 6	Printed Circuit, Equalisation Transistor, TR1009 Transistor, 40245 Transistor, 2N2924 Switch, Ratary, Selector Switch, Rotary, Selector Switch, Rotery, Selector Switch, Roter, Loudiess Contour, Muting, Low Filter, High Filter Switch, Packer, Loudiess part of	PC50B187-29 TR1009 TR40245-1 TR2N2924 \$1276C116 or \$1276C146 \$1276C147 \$50C200-15-1 f R50160-151
	R1 R2 R3 R4 R5 R6 R7, 8 R9, 10 R11 R12	Composition, 270, 10% 82, 1/8W 100, 1/8W 15K, 1/8W 15K, 1/8W 15K, 1/8W 27K, 1/8W 27K, 1/8W Composition, 220K, 10% Deleted— Composition, 6.8K, 10% Del., 1K, 30%, Meter Adjust	RC20BF271K R12DC823J R12DC101J R12DC101J R12DC102J R12DC153J R12DC102J R12DC273J R50DC272J RC20BF224K 	PC1, 2 Q1, 2, 3, 4 Q5 Q6, 7 S1 S2 S3, 4, 5, 6 S7 S8	Printed Circuit, Equalization Transistor, TR1009 Transistor, 40245 Transistor, 2N2924 Switch, Ratory, Selector Switch, Rotary, Mode/Tape Monitor Switch, Rocker, Loudness Cantour, Muting, Low Filter, High Filter Switch, Power Switch, Power Switch, Rotary, Speckers	PC50B187-29 TR1009 TR40245-1 TR2N2924 \$1276C116 or \$1276C146 \$1276C147 \$50C200-15-1 fR50160-151 \$13276C117
	R1 R2 R3 R4 R5 R6 R7, 8 R9, 10 R11 R12 R13	Composition, 270, 10% 82, 1/8W 100, 1/8W 11X, 1/8W 11X, 1/8W 12X, 1/8W 27X, 1/8W Composition, 220K, 10% -Deleted— Composition, 6.8K, 10% Pot., 1K, 30%, Meter Adjust Composition, 18K, 10%	RC20BF271K R12DC823J R12DC101J R12DC102J R12DC102J R12DC102J R12DC273J R50DC272J RC20BF224K 	PC1, 2 Q1, 2, 3, 4 Q5 Q6, 7 S1 S2 S3, 4, 5, 6 S7 S8 S9	Printed Circuit, Equalisation Transistor, TR1009 Transistor, 40245 Transistor, 24224 Transistor, 24224 Switch, Rarey, Selector Switch, Rocker, Loudness Contour, Switch, Rocker, Loudness Contour, Switch, Rocker, High Filter Switch, Page, Center Channel	PC50B187-29 TR1009 TR40245-1 TR2N2924 \$1276C116 or \$1276C147 \$50C200-15-1 f R50160-151 \$1276C117 \$50200-2
	R1 R2 R3 R4 R5 R6 R7, 8 R9, 10 R11 R12 R13 R14 R15	Composition, 270, 10% 82, 1/8w 100, 1/8w 1K, 1/28w 1K, 1/28w 27K, 1/8w 2.7K Composition, 220K, 10% -Deleted— Composition, 8.8K, 10% Fath, 10K, 100 K, 10K Fath, 10K, 10K, 10K Fath, 10K, 10K, 10K Fath, 10K, 10K, 10K Fath, 10K, 10K, 10K	RC20BF271K R12DC823J R12DC101J R12DC101J R12DC102J R12DC103J R12DC273J R50DC272J RC20BF224K 	PC1, 2 Q1, 2, 3, 4 Q5 Q6, 7 S1 S2 S3, 4, 5, 6 S7 S8	Printed Circuit, Equalisation Transister, TR1009 Transister, 40245 Transister, 20245 Surich, Ratury, Selector Switch, Rotary, Mode/Tope Monitor Switch, Rocker, Loudness Contour, Multing, Low Filter, High Filter Switch, Property, Sprakers Switch, Side, Canter Channel Transformer, Power	PC50B187-29 TR1009 TR40245-1 TR2N2924 \$1276C116 or \$1276C146 \$1276C147 \$50C200-15-1 fR50160-151 \$13276C117
	R1 R2 R3 R4 R5 R6 R7, 8 R9, 10 R11 R12 R13 R14 R15 R14	Composition, 270, 10% 82, 1/8W 100, 1/8W 101, 1/8W 104, 1/8W 105, 1/8W 27K,	RC20BF271K R12DC823J R12DC101J R12DC102J R12DC102J R12DC102J R12DC273J R50DC272J RC20BF2224K 	PC1, 2 Q1, 2, 3, 4 Q5 Q6, 7 S1 S2 S3, 4, 5, 6 57 S8 S9 T1	Printed Circuit, Equalisation Transistor, TR1009 Transistor, 40245 Transistor, 24224 Transistor, 24224 Switch, Rarey, Selector Switch, Rocker, Loudness Contour, Switch, Rocker, Loudness Contour, Switch, Rocker, High Filter Switch, Page, Center Channel	PC50B187-29 TR1009 TR40245-1 TR2N2924 \$1276C116 or \$1276C146 \$1276C147 \$50C200-15-1 f R50160-151 \$1276C117 \$50200-2 T1276C115
	R1 R2 R3 R4 R5 R6 R7, 8 R9, 10 R11 R12 R13 R14 R15 R16 R17	Composition, 270, 10% 82, 1/8w 100, 1/8w 1K, 1/28w 1K, 1/28w 27K, 1/8w 2.7K Composition, 220K, 10% -Deleted— Composition, 8.8K, 10% Fath, 10K, 100 K, 10K Fath, 10K, 10K, 10K Fath, 10K, 10K, 10K Fath, 10K, 10K, 10K Fath, 10K, 10K, 10K	RC20BF271K R12DC823J R12DC101J R12DC101J R12DC102J R12DC103J R12DC273J R50DC272J RC20BF224K 	PC1, 2 Q1, 2, 3, 4 Q5 Q6, 7 S1 S2 S3, 4, 5, 6 S7 S8 S9	Printed Circuit, Equalization Transister, TR1000 Transister, 16215 Transister, 16215 Switch, Rotary, Saleta Switch, Side, Center Channel Transiormer, Power Transiormer, Power Transiormer, Power	PC50B187-29 TR1009 TR40245-1 TR202924 51276C116 or 51276C146 51276C147 \$500200-15-1 \$500200-2 T1276C115 TZ1276C153 FE50D965 1P1278-2
	R1 R2 R3 R4 R5 R6 R7, 8 R9, 10 R11 R12 R13 R14 R15 R16 R17 R16	Composition, 270, 10% 82, 1/8w 100, 1/8w 100, 1/8w 100, 1/8w 100, 1/8w 100, 1/8w 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K	RC20BF271K R12DC823J R12DC101J R12DC102J R12DC102J R12DC102J R12DC273J R50DC272J RC20BF2224K 	PC1, 2 Q1, 2, 3, 4 Q5 Q6, 7 S1 S2 S3, 4, 5, 6 S7 S8 S9 T1	Frinted Circuit, Equalization Transister, TRI 1009 Transister, 140245 Transister, 240245 Switch, Ratary, Salector Switch, Ratary, Made/Tape Monitor Switch, Rocker, Loudness Contour, Mating, Low Filter, High Filter Switch, Power Switch, Bower Switch, Surface, Canter Channel Transiformer, Power Transiformer, Power Front End, FM Barrat, Tane Control Friend Circuit Bond, If ane Control Printed Circuit Bond, If Amplifier	PC50B187-29 TR1009 TR400245-1 TR202924 51276C116 51276C146 51276C147 550200-15-1 6 R50160-151 51276C117 550200-2 T1276C115 TZ1276C153 FE5009965 11 P1278-2 P1381-1
	R1 R2 R3 R4 R5 R6 R7, 8 R9, 10 R11 R12 R13 R14 R15 R16 R17	Composition, 270, 10% 82, 1/8W 100, 1/8W 101, 1/8W 104, 1/8W 105, 1/8W 27K,	RC20BF271K 120C823J R12DC101J R12DC101J R12DC102J R12DC153J R12DC102J R12DC273J R50DC272J RC20BF224K R50150-51 RC20BF183K R50150-53 RC20BF332K RC30BF332K	PC1, 2 Q1, 2, 3, 4 Q5 Q6, 7 S1 S2 S3, 4, 5, 6 S7 S8 S9 T1	Printed Circuit, Equalization Transister, TR1009 Transister, 40245 Transister, 40245 Transister, 40245 Switch, Rotery, 5elector Switch, Rotery, Selector Switch, Rotery, Selector Switch, Rotery, Selector Switch, Rotery, Selector Switch, Side, Center Channel Transformer, Power "Transformer, Power	PC50B187-29 TR1009 TR40245-1 TR 2M2924 51276C116 or 51276C146 51276C147 550C200-15-1 FR50160-151 51276C115 5502002 T1276C115 TE500965 1P1278-2 P1381-1 P1389
The second secon	R1 R2 R3 R4 R5 R6 R7, 8 R7, 8 R1, 10 R11 R12 R13 R14 R15 R16 R17 R17 R18 R17, 20, 21, 22 R24 R24, B	Composition, 270, 10% 82, 1/8W 100, 1/8W 101, 1/8W 11K, 1/8W 27K,	RC20BF271K R120C823J R120C101J R120C102J R120C102J R120C103J R120C102J R120C273J RC20BF224K	PCI, 2 Q1, 2, 3, 4 Q5, 7 S1 S2 S3, 4, 5, 6 S7 T1	Frinted Circuit, Equalization Transister, 1781.000 Transister, 1781.000 Transister, 2782924 Switch, Rotary, Salestor Switch, Rotary, Salestor Switch, Rotary, Mada/Tapa Monitor Switch, Rotary, Mada/Tapa Monitor Switch, Rotary, Mada/Tapa Monitor Switch, Power Switch, Power Switch, Side, Canter Channel Transistormer, Power Front End, FM Printed Circuit Board, Tone Contre Printed Circuit Board, Tane Contre Printed Circuit Board, 15 Amplifier Printed Circuit Board, 16 Amplifier Printed Circuit Board, 19 Amplifier The Circuit Board, 19 Amplifier Thinted Circuit Board, 1	PC50B187-29 TR1009 TR40245-1 TR20425-1 TR20425-1 TR2042924 51276C116 or 51276C146 51276C147 550200-15-1 FR50160-151 51276C117 550200-2 T1271276C153 FE50D965 51 P1278-2 P1381-1 P1389 P1478-3
	R1 R2 R3 R4 R5 R6 R7, 8 R9, 10 R11 R12 R13 R14 R15 R16 R17 R18 R19, 20, 21, 22 R23A, B R25, 26	Composition, 270, 10% 82, 1/8W 100, 1/8W 11, 12W 118, 12W 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K	RC20BF271K 12DC823J R12DC101J R12DC101J R12DC102J R12DC153J R12DC102J R12DC273J R50DC272J RC20BF224K R50150-51 RC20BF332K R50150-53 RC20BF332K R12DC563J R12DC563J R12DC563J R12DC563J R12DC563J R50160-151 R50DC471J	PCI, 2 Q1, 2, 3, 4 Q5, Q6, 7 S1 S2 S3, 4, 5, 6 S7 S8 S9 T1	Printed Circuit, Equalization Transister, TR1009 Transister, 40243 Transister, 40243 Transister, 40243 Switch, Rolary, Mode/Tope Monitor Switch, Rolary, Mode/Tope Monitor Switch, Roker, Loudness Contour, Muting, Low Filter, High Filter Switch, Fower Switch, Side, Canter Channel Transformer, Power "Transformer,	PC50B187-29 TR1009 TR40245-1 TR 20425-1 TR 20425-1 TR 20425-1 TR 20426-1 S1276C146 S1276C146 S1276C147 S502200-15-1 S750200-15-1 S750200-2 T1276C115 TE500965 JP1278-2 P1381-1 P1389 P1478-3
A STATE OF THE STA	R1 R2 R3 R4 R4 R5 R6, 8 R7, 8 R9, 10 R11 R12 R13 R14 R15 R16 R17 R17 R17 R17 R17 R17 R17 R18 R19, 20, 21, 22 R23 R23, 26 R25, 28	Composition, 270, 10% 82, 1/8w 100, 1/8w 110, 1/8w 1100, 1/8w 1	RC20BF271K R120C823J R120C101J R120C102J R120C102J R120C103J R120C102J R120C102J R120C273J RC20BF224K	PC1, 2 Q1, 2, 3, 4 Q5, 7 S1 S2, 4, 5, 6 S7 S8 S9 T1	Printed Circuit, Equalization Transistor, 1781.009 Transistor, 1781.009 Transistor, 1782.009 Transistor, 2782.024 Switch, Rotary, Salector Switch, Rotary, Moda/Tapa Monitor Switch, Rotary, Salector Switch, Rotary, Salector Switch, Rotary, Speckers Switch, Rotary, Speckers Switch, Rotary, Speckers Switch, Silde, Center Channel Transiformer, Power Front End, FM Printed Circuit Board, Tane Contre Printed Circuit Board, Tanephiller Printed Circuit Board, Power Diver	PC50B187-29 TR1009 TR40245-1 TR40245-1 TR2N2924 51276C116 or 51276C146 S1276C147 S50C200-15-1 FR50160-151 TZ17276C153 TE1776C157 TZ1776C153 FE500965 IP1278-2 P1381-1 P1389 P1478-3 P1489-3 P1531
A STATE OF THE STA	R1 R2 R3 R4 R5 R6 R7, 8 R9, 10 R11 R12 R13 R14 R15 R16 R17 R18 R19, 20, 21, 22 R23 R24, B R25, 26 R27, 28 R27, 28 R27, 28	Composition, 270, 10% 82, 1/8w 100, 1/8w 118, 1/8 w 13K, 1/8 w 12K, 1/8 w 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K	RC20BF271K R120C23J R12DC101J R12DC102J R12DC102J R12DC102J R12DC102J R12DC273J RC20BF224K RC20BF224K RC20BF332K RC20BF332K R12DC543J R12DC104J R50160-151 R500C272J R500C272J R12DC543J R12DC164J R50160-151 R500C272J R500C272J	PCI, 2 Q1, 2, 3, 4 Q5, Q6, 7 S1 S2 S3, 4, 5, 6 S7 S8 S9 T1	Printed Circuit, Equalization Transister, TR1009 Transister, 40243 Transister, 40243 Transister, 40243 Switch, Rolary, Mode/Tope Monitor Switch, Rolary, Mode/Tope Monitor Switch, Roker, Loudness Contour, Muting, Low Filter, High Filter Switch, Fower Switch, Side, Canter Channel Transformer, Power "Transformer,	PC50B187-29 TR1009 TR40245-1 TR 20425-1 TR 20425-1 TR 20425-1 TR 20426-1 S1276C146 S1276C146 S1276C147 S502200-15-1 S750200-15-1 S750200-2 T1276C115 TE500965 JP1278-2 P1381-1 P1389 P1478-3
The second secon	R1 R2 R3 R4 R5 R6 R7, 8 R9, 10 R11 R12 R13 R14 R15 R16 R17 R18 R17 R18 R23, 26 R23, 26 R25, 26 R27, 30 R21, 30 R21, 31 R21, 31 R21, 31 R21, 31 R21, 32 R21, 32 R22, 32 R23, 32 R23, 32 R24, 33 R25, 33 R25, 34 R25, 35 R25, 36 R25, 36	Composition, 270, 10% 82, 1/8W 100, 1/8W 1, 1/8W 10, 1/8W 1K, 1/8W 2.7K 2.7K 2.7K, 1/8W 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K	RC20BF271K R120C823J R120C101J R120C102J R120C102J R120C103J R120C102J R120C102J R120C273J RC20BF224K	PCI, 2 Q1, 2, 3, 4 Q5, 7 S1 S2 S3, 4, 5, 57 S8 S9 T1	Printed Circuit, Equalization Transister, 1781 100 Transister, 247242 Switch, Rotary, Salector Switch, Rotary, Salector Switch, Rotary, Made/Tape Monitor Switch, Rotary, Made/Tape Monitor Switch, Rotary, Made/Tape Monitor Switch, Rotary, Fleet, High Switch, Power Switch, Slide, Center Channel Transiformer, Power Front End, FM Printed Circuit Bond, Tene Contre Printed Circuit Bond, Peanspiller Printed Circuit Bond, Peanspiller Printed Circuit Bond, Power Driver Printed Circuit, MPX Decode Drass Ponel Assembly Knob, Volume, Bolance, Selector	PC50B187-29 TR1009 TR1009 TR40245-1 TR20245-1 TR202924 51276C116 or 51276C147 550C200-15-1 FR50160-151 TX1276C147 550C200-2 TX1276C153 FE500965 JP1278-2 P1381-1 P1389 P1478-3 P1489-3 P1531 A51276C141 A550227-1
The second secon	R1 R2 R3 R4 R5 R6 R7, 8 R9, 10 R11 R12 R13 R14 R15 R16 R17 R18 R19, 20, 21, 22 R24 R27, 28 R27, 28 R27	Composition, 270, 10% 82, 1/8w 100, 1/8w 118, 1/8 w 13K, 1/8 w 12K, 1/8 w 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K	RC20BF271K 12DC223J R12DC101J R12DC102J R12DC102J R12DC103J R12DC103J R12DC103J R12DC273J RC20BF224K R50150-51 RC20BF824K R50150-53 RC20BF322K RC30BF333C RC30BF332K RC30BF33C RC30	PCI, 2 Q1, 2, Q5, Q6, 7 S1 S2, 4, 5, 6 57 S8 S9 T1	Printed Circuit, Equalization Transister, TRI 0.09 Transister, AG24 Transister, AG24 Switch, Ratery, Selector Switch, Ratery, Selector Switch, Ratery, Selector Switch, Rotery, Loudness Contour, Mutung, Low Filter, High Filter Switch, Rotery, Seekers Switch, Rotery, Seekers Switch, Rotery, Seekers Switch, Silde, Center Channel Transformer, Power Transistermer, Powe	PC50B187-29 TR1009 TR40245-1 TR2N2924 51276C116 or 51276C147 550C200-15-1 51276C117 550C200-2 T1276C115 51276C117 550200-2 T1276C115 TE1276C153 FE500965 1P1278-2 P1381-1 P1389-3 P1489-3 P1489-3 P1489-3 P1531 A51276C141 A5502227-1 E50B562-1
The second secon	R1 R2 R3 R4 R5 R6 R7, R8 R9, 10 R11 R12 R13 R14 R15 R16 R17 R18 R17 R18 R19, 20, 21, 22 R23 R24L, B R27, 28 R27, 28 R27, 28 R27, 28 R27, 28 R27, 28 R27, 28 R27, 28 R31, 32 R31, 32 R3	Composition, 270, 10% 82, 1/8w 100,	RC20BF271K R120C223J R12DC101J R12DC102J R12DC102J R12DC103J R12DC173J R12DC173J R50DC272J R50DC	PCI, 2 Q1, 2, Q5, Q6, 7 S1 S2, 4, 5, 6 57 S8 S9 T1	Frinted Circuit, Equalization Transister, 1781.000 Transister, 1781.000 Transister, 1781.000 Transister, 2782924 Switch, Ratary, Salector Switch, Ratary, Salector Switch, Ratary, Mady Tapa Manitor Switch, Robert, Loudiness Cantour, Maring, Low Filter, High Filter Switch, Power Switch, Power Switch, Power Switch, Stage, Canter Channel Transformer, Front End, F.M Printed Circuit Board, Tone Contre Front End, F.M Printed Circuit Board, Tone Contre Printed Circuit Board, Tone Contre Printed Circuit Board, Power Driver Printed Circuit, MPX Descor Dress Panel Assembly Usple A	PC508187-29 TR1009 TR40245-1 TR2N2974 ST204274 S1276C146 S1276C146 S1276C145 S50200-15-1 FR50160-151 S1276C117 S50200-2 TT217276C153 FE500956 IP1278-2 P1381-1 P1389 P1478-3 P1489-3 P1489-3 P1489-3 E508562-1 E508562-1 E508562-1
The second secon	R1 R2 R3 R4 R5 R6 R7, 8 R9, 10 R11 R12 R13 R14 R15 R16 R17, 20 R23, 26 R25, 26 R25, 26 R27, 28 R27, 28 R27, 28 R27, 30 R33, 34 R35, 36 R37, 38, 37, 38,	Composition, 270, 10% 82, 1/8W 100, 1/8W 100, 1/8W 101, 1/8W 105, 1/8W 27K, 1/8W 27K, 1/8W 27K, 1/8W 200, 10% Composition, 20K, 10% Composition, 6.8K, 10% Composition, 10K, 10K, 10K Composition, 27K, 10% Composition, 27K, 10% Composition, 37K, 10%, 10W 100K, 1/8W 100K, 1/8W 100K, 1/8W 202 33 Wirewound, 330, 2W Power, 8, 10W Wirewound, 0.82, 5W	RC20BF271K R120C23J R12DC101J R12DC101J R12DC102J R12DC102J R12DC102J R12DC102J R12DC102J R12DC102J R12DC102J R12DC102J R50DC272J R50DC272J R50DC372J R50DC3	PCI, 2 Q1, 2, 3, 4 Q5 Q6, 7 S1 S2 S3, 4, 5, 6 S7 S8 S9 T1	Printed Circuit, Equalization Transister, 1781,009 Transister, 1781,009 Transister, 240245 Switch, Rotary, Selector Switch, Rotary, Mode/Tape Monitor Switch, Rotery, Mode/Tape Monitor Switch, Rotery, Mode/Tape Monitor Switch, Rotery, Loudenss Contor, Mating, Low Piller, High Fill Switch, Power Switch, Single Canter Channel Transiformer, Power Transiformer, Power Front End, FM Board, Tone Control Transiformer, Power Front End, FM Board, Tone Control Transiformer, Power Front Circuit Board, Peagnifiler Printed Circuit Board, Peagnifiler	PCS08187-29 TR1009 TR1009 TR1009 TR1009 TR1009 TR1009 TR1009 TR10245-1 TR20425-1 TR20425-1 TR20425-1 TR20426-1 TR204
A SECTION OF THE PARTY OF THE P	R1 R2 R3 R4 R5 R6 R7, 8 R7, 10 R11 R11 R15 R17 R16 R17 R17 R18 R17 R18 R17 R18 R19 R21 R21 R21 R21 R21 R21 R3 R3 R3 R3 R3 R3 R3 R3 R3 R3 R3 R3 R3	Composition, 270, 10% 82, 1/8W 100, 1/8W 11, 1/8W 11, 1/8W 12, 1/8W 2.7K 2.7K 2.7K, 1/8W 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K	RC20BF271K R12DC823J R12DC101J R12DC101J R12DC102J R12DC102J R12DC102J R12DC102J R12DC272J R50DC272J R50DC272J RC20BF224K RC20BF324K RC20BF332K RC30BF332K R12DC563J R12DC164J R50160-151 R50DC272J R50DC0271J R5	PCI, 2 Q1, 2, 3, 4 Q5 Q6, 7 S1 S2 S3, 4, 5, S8 S9 T1	Frinted Circuit, Equalization Transistor, 1781.009 Transistor, 1781.009 Transistor, 1781.009 Transistor, 1782.009 Switch, Rotary, Salector Switch, Silde, Center Channel Transiformer, Power Front End, FM Printed Circuit Board, Tane Contre Printed Circuit Board, Tanephiliter Printed Circuit Board, Tanephiliter Printed Circuit Board, Power Driver Printed Circuit Board, Power Driver Printed Circuit, MPX Decoder Drass Panel Assembly Topia Assembly Topi	PCS08187-29 TRA0245-1 TRA0245-1 TRA0245-1 TRA0245-1 TRA0245-1 TRA0245-1 S10726-1147 S10726-1147 S10726-1147 S10726-1147 S10726-117 S
A SECTION OF THE PARTY OF THE P	R1 R2 R3 R4 R5 R7, 8 R7, 10 R12 R13 R14 R15 R16 R17 R18 R17 R18 R17 R19, 20, 21, 22 R27, 26 R27, 26 R27, 23 R27, 26 R27, 33 R33, 34 R37, 38, 33, 34 R37, 38, 33, 34 R37, 38, 33, 44 R31, 44 R43, 44	Composition, 270, 10% 82, 1/8W 100, 1/8W 1100, 1/8W 1101, 1/8W 11K, 1/8W 2.7K, 1/8W 2.7K 2.7K 2.7K 2.7K 2.7W 2.7W 2.7W 2.7W 2.7W 2.7W 2.7W 2.7W	RC208F23E R120C223J R120C10JJ R120C10JJ R120C10J R120C103J R120C123J R120C273J R200C272J R200C272J R200C272J R200C272J R200C273J R200C273J R200C273J R200C10	PCI, 2 Q1, 2, 3, 4 Q5 Q6, 7 S1 S2 S3, 4, 5, 6 S7 S8 S9 T1	Printed Circuit, Equalization Transister, 1781 100 Transister, 1781 100 Transister, 1782 107 Switch, Rotary, Salector Switch, Rotary, Salector Switch, Rotary, Made/Tape Monitor Switch, Rotary, Made/Tape Monitor Switch, Rotary, Made/Tape Monitor Switch, Rotary, Speakers Switch, Power Switch, Slide, Center Channel Transiformer, Power Front End, FM Printed Gircuit Bord, Tene Contre Printed Circuit Bord, Peamplifier Printed Circuit Bord, Peamplifer Printed Circuit Bord, Peamplifer Printed Circuit Bord, Power Driver Printed Circuit, MPX Decode Drass Panel Assayling, MPX Decode Drass Panel Assayling, MPX Decode Tops Nonel Scholmer, MPX Decode Knob, Duel, Top, Bass, Treble Knob, Duel, Gottom, Boss, Treble	PCS08187-29 TR1009 TR1009 TR1009 TR1009 TR1009 TR1009 TR1009 TR10245-1 TR20425-1 TR20425-1 TR20425-1 TR20426-1 TR204
The second secon	R1 R2 R3 R4 R5 R6 R7, 8 R7, 8 R11 R11 R15 R17 R17 R17 R17 R17 R17 R17 R17 R17 R17	Composition, 270, 10% 82, 1/8W 100, 1/8W 11, 1/8W 11, 1/8W 2.7K 11, 1/8W 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K	RC2086721 R12DC22731 R12DC101JJ R12DC101JJ R12DC101J R12DC101J R12DC1073 R12DC27731 R2	PCI, 2 Q1, 2, 3, 4 Q5 Q6, 7 S1 S2 S3, 4, 5, S8 S9 T1	Frinted Circuit Bourlisation Transistor, TRILOD Transistor, TRILOD Transistor, 240245 Switch, Rotary, Selector Switch, Rotary, Mode/Tope Monitor Switch, Side, Center Channel Transiformer, Power Printed Circuit Board, Peagmblifor Printed Circuit Board, Tomboard Printed Circuit Board, Tomboard Printed Circuit Board, Tomboard Printed Circuit Board, Peagmblifor Printed Circuit Board, Peag	PCS08187-29 TR.1007 TR
The second secon	R1 R2 R3 R4 R5 R6 R7, 8 R7, 10 R112 R12 R13 R14 R15 R17 R18 R17 R18 R17 R19, 20, 21, 22 R23 R24, B6 R27, 38 R31, 32 R31, 32 R3	Composition, 270, 10% 82, 1/8W 100, 1/8W 100, 1/8W 101, 1/8W 108, 1/8W 2.7K 108, 1/8W 2.7K 2.7K 2.7K, 1/8W 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K	RC208F23E R120C223J R120C10JJ R120C10JJ R120C10J R120C103J R120C123J R120C273J R200C272J R200C272J R200C272J R200C272J R200C273J R200C273J R200C273J R200C10	PCI, 2 Q1, 2, 3, 4 Q5 Q6, 7 S1 S2 S3, 4, 5, 6 57 S8 S9 T1	Printed Circuit, Equalization Transister, 1781 100 Transister, 1781 100 Transister, 1782 107 Switch, Rotary, Salector Switch, Rotary, Salector Switch, Rotary, Made/Tape Monitor Switch, Rotary, Made/Tape Monitor Switch, Rotary, Made/Tape Monitor Switch, Rotary, Speakers Switch, Power Switch, Slide, Center Channel Transiformer, Power Front End, FM Printed Gircuit Bord, Tene Contre Printed Circuit Bord, Peamplifier Printed Circuit Bord, Peamplifer Printed Circuit Bord, Peamplifer Printed Circuit Bord, Power Driver Printed Circuit, MPX Decode Drass Panel Assayling, MPX Decode Drass Panel Assayling, MPX Decode Tops Nonel Scholmer, MPX Decode Knob, Duel, Top, Bass, Treble Knob, Duel, Gottom, Boss, Treble	PCS08187-29 TR4025-17 TR4025-17 TR4025-17 TR4025-17 TR4025-16 S1276C116 S1276C116 S1276C116 S1276C117 S50200-1 T1276C117 T1276C13 T1276C13 T1276C13 T1276C13 T1276C13 T1276C13 T1276C13 T1276C14 T1276C13 T1276C14 T1276C15 T1276C14 T1276C15 T1276C15 T1276C16
A STATE OF THE CONTRACT OF THE	R1 R2 R3 R4 R5 R6 R7, 8 R7, 8 R11 R11 R15 R17 R17 R17 R17 R17 R17 R17 R17 R17 R17	Composition, 270, 10% 82, 1/8W 100, 1/8W 11, 1/8W 11, 1/8W 2.7K 11, 1/8W 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K 2.7K	RC208F271 R12DC2131 R12DC2	PCI, 2 Q1, 2, 3, 4 Q5, Q6, 7 S1 S2 S3, 4, 5, 6 7 S8 S9 T1	Frinted Circuit, Equalization Transister, 1781.007 Transister, 1781.007 Transister, 2782924 Switch, Rotary, Salector Switch, Rotary, Salector Switch, Rotary, Medy/Tapa Monitor Switch, Rotary, Medy/Tapa Monitor Switch, Rotary, Medy/Tapa Monitor Switch, Rotary, Spackers Switch, Power Switch, Slide, Canter Channel Transisterme, Power Frint End, FM Printed Circuit Board, Tone Contre Printed Circuit Board, Tone Contre Printed Circuit Board, Famplifier Printed Circuit Board, Power Driver Printed Circuit Board, Power Driver Printed Circuit Board, Power Driver Printed Circuit, MPX Daced Dress Panel Assembly Dipple Assembly Dipple Assembly Dipple Assembly Toping Capacitor Mode/Tapa Monitor Mode/Tapa Monitor Mode/Tapa Monitor Mode/Tapa Monitor Mode/Tapa Monitor Toping Capacitor Drive Drum Jack, Phones Toping Capacitor Drive Drum Jack, Phones	PCS08187-29 TR.1007 TR

If replacement parts are out of stock, locally, they may be obtained directly from the Parts Department of FISHER Radio Corporation. They will be shipped "best way", either prepaid or C.O.D. unless otherwise specified.

For instrument-operation information and technical assistance write Richard Hamilton, Customer Service Department, FISHER Radio Corporation, Long Island City, New York 11101.