

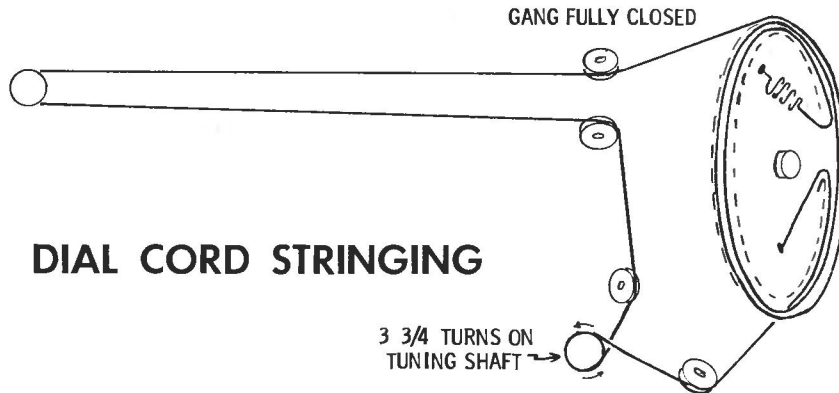


FISHER
MODEL 90-T



FISHER
MODEL 90-T

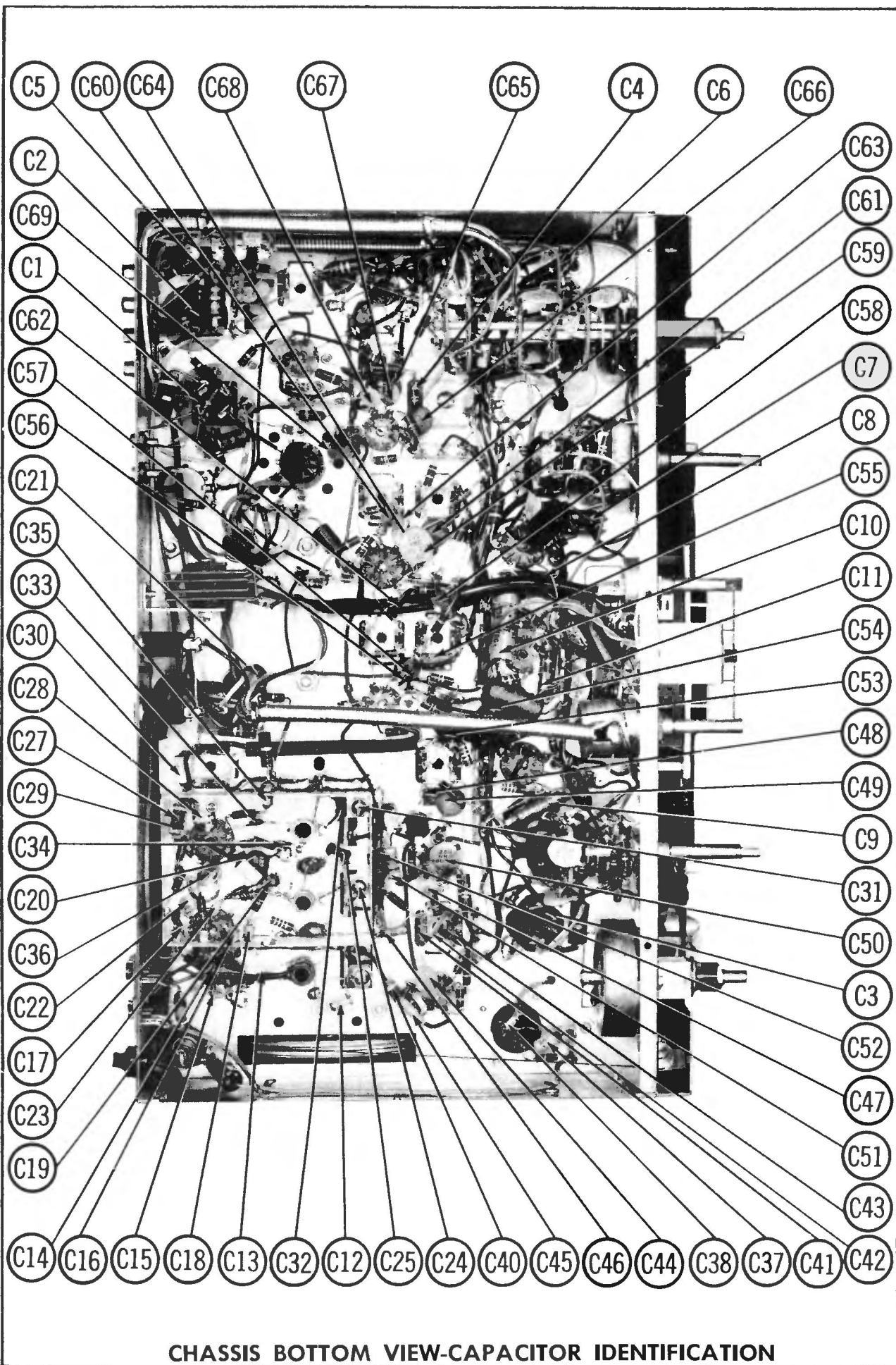
TRADE NAME	Fisher Model 90-T (Serial #19999 and Lower)	
MANUFACTURER	Fisher Radio Corp., 21-21 44th. Drive, Long Island City 1, N. Y.	
TYPE SET	AC Operated FM-AM Tuner	
TUBES	Fifteen	
POWER SUPPLY	105-125 Volts AC-60 Cycles	RATING .53 Amp. @ 117 Volts AC (54 Watts)
TUNING RANGE-BROADCAST	535-1650KC	FREQ. MOD. 88-108MC



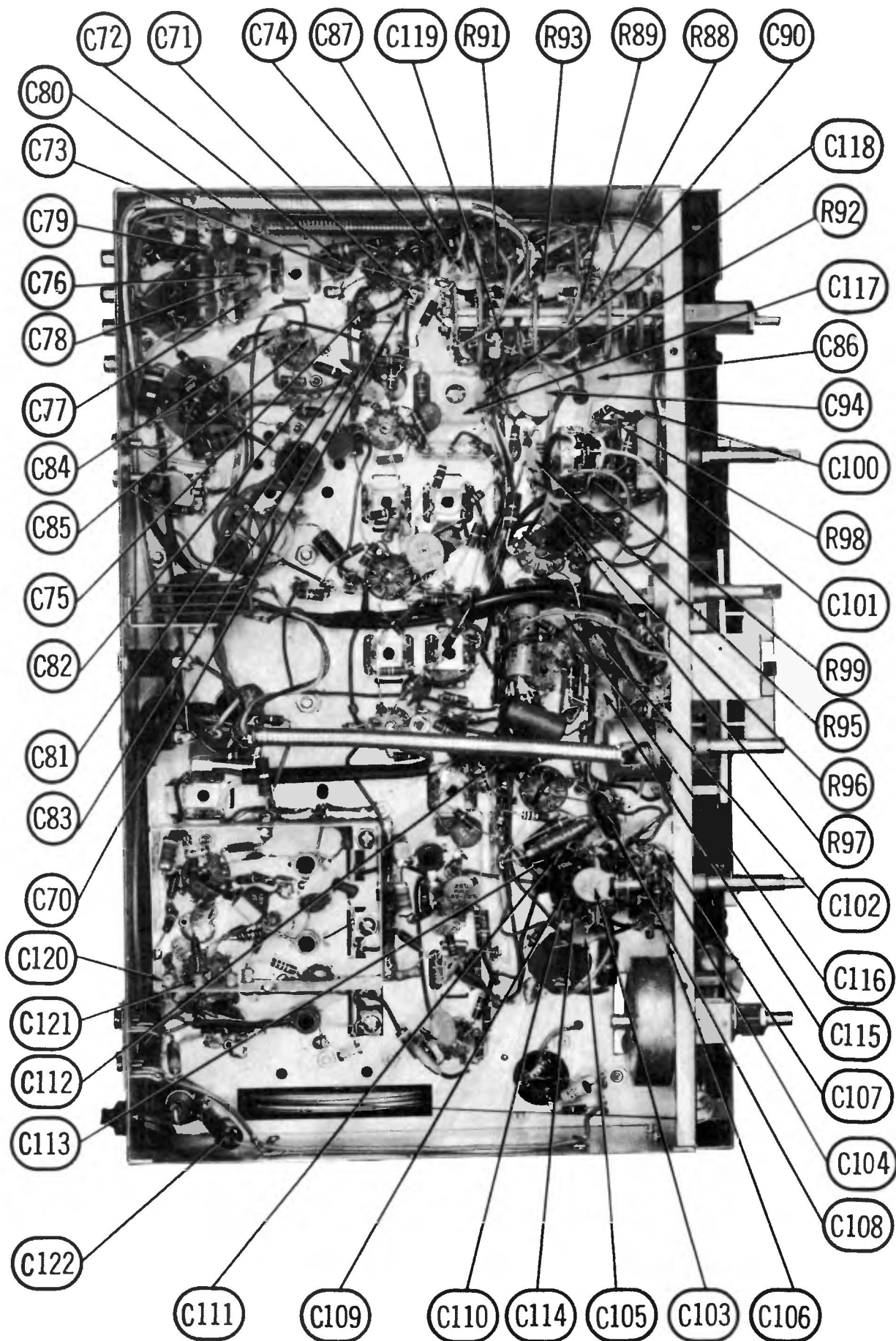
HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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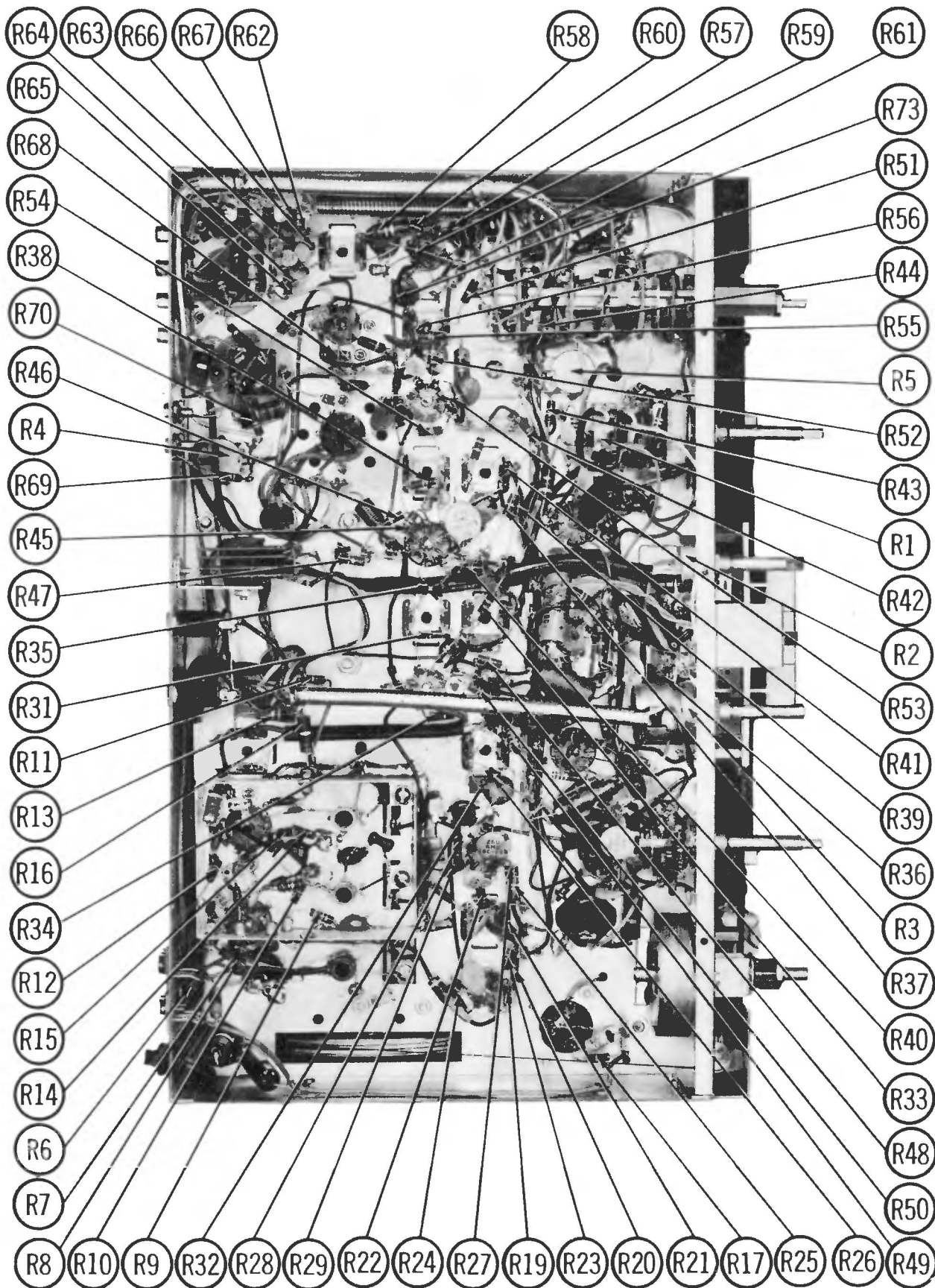
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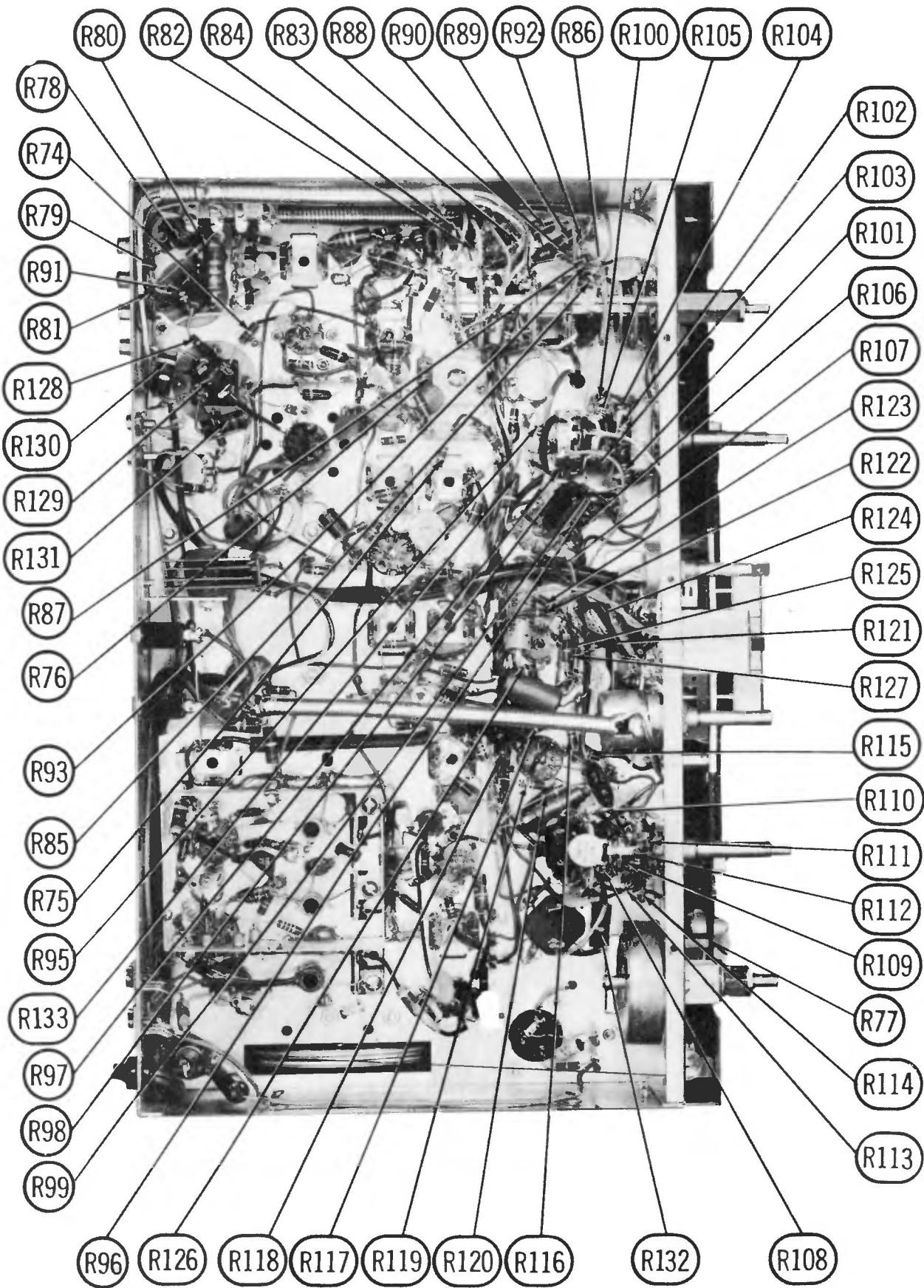
CHASSIS BOTTOM VIEW-CAPACITOR IDENTIFICATION



CHASSIS BOTTOM VIEW-CAPACITOR IDENTIFICATION



CHASSIS BOTTOM VIEW-RESISTOR IDENTIFICATION



CHASSIS BOTTOM VIEW-RESISTOR IDENTIFICATION

FISHER
MODEL 90-T

FOLDER 7

PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	FM RF Amplifier	6CC8/V50087 ①	V8	4th FM IF Amplifier	6BH6
V2	FM Mixer-FM Osc.	6AQ8/ECC85 ①	V9	Squelch-AVC Clamper	6AV6
V3	AM RF Amplifier	6BJ6	V10	Tuning Indicator	12AX7/ECC83 ①
V4	AM Converter	6BE6	V11	Pre-amplifier	12AX7/ECC83 ①
V5	1st FM-AM IF Amplifier	6BJ6	V12	1st AF Amplifier	82B7/E888 ①
V6	2nd FM-AM IF Amplifier	6BE6	V13	2nd AF Amplifier	8C4
V7	AM Det.-AM AVC	6BE6	V14	3rd AF Amplifier	6Y4/EZ80 ①
	3rd FM IF Amplifier	6BE6	V15	Rectifier	6Y4/EZ80 ①

① Domestic type listed may not be directly interchangeable in some instances.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING			REPLACEMENT DATA					SPRAGUE PART No.	NOTES
	CAP.	VOLT.	TYPE	FISHER PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALORY PART No.	PYRAMID PART No.		
C1A	40	300		C-829-126	D0084				R2446 *	
C1B	40	300								
C1C	40	250								
C1D	40	250								
C2A	40	250		C-829-143	B0280		FP319.8	TMD-26	TVL-2519	
C3A	40	250					WP20.15		R2819 *	
C4	4	50								
C5	8	50		C-829-175	PR850V4		TP50X5	TD-4-60	MT-0504	
C6	25	6		C-829-138	PR850V8		BRH4-50	TD-8-150	MT-1608	
C7	25	6		C-829-114	SRE6V25		BRH8-150	TD-25-35	TVA-1405	
C8	25	6		C-829-114	SRE6V25		BRH8-150	TD-25-35	TVA-1205	
C9	25	6		C-829-114	SRE6V25		BRH8-150	TD-25-35	TVA-1205	
C10	1.0	250		C-829-126	PR850V1		TP50X1	TD-25-25	TVA-1205	
C11	25	6		C-829-114	SRE6V25		TP50X1	TD-25-25	R2702 *	

* Not normally in distributor's stock. Available through distributor on order to manufacturer.

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA					SPRAGUE PART No.	NOTES
	CAP.	VOLT.	FISHER PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALORY PART No.	PYRAMID PART No.		
C12	5	1000							
C13	100	1000							
C14	100	1000							
C15	1000	1000							
C16	1000	1000							
C17	1000	1000							
C18	1000	1000							
C19	1000	1000							
C20	5000	5000							
C21	5000	1000							
C22	10000	1000							
C23	1000	1000							
C24	3	250							
C25	66	250							
C26	120	250							
C27	120	250							
C28	5	250							
C29	24	250							
C30	1000	1000							
C31	15	250							
C32	100	1000							
C33	100	1000							
C34	1000	1000							
C35	1000	1000							
C36	1000	1000							

CAPACITORS (cont)

ITEM No.	RATING CAP.	VOLT.	FISHER PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C37	24	1000	CC20CH050P5	NPO-SI 24	TCZ-4R7	CTA8Q24C	ZT-555	5TCCB-V47	10% NPO ④
C38	5	4-40	CC20CH050P5	NPO-SI 5	TCZ-4R7	CTA8Q24C	ZT-555	5TCCB-V47	10%
C39	4-40	1000	C-829-18-2	NPO-SI 120	DD-121	CTA8T12C		5TCC-T12	10%
C40	120	1000	CC20CH050P5	NPO-SI .66	TCZ-R66	CTA8T12C		5TCC-Q47	10%
C41	.66	1000	C-50077-8N	N750-DI 47	DTN-47	CTA8T12C		5HK-D6	N750 10%
C42	47	1000	C-50077-4	BPD-005	DD-502	CTA8T12C		5HK-S2	10%
C43	5000	1000	C-50077-10	BPD-02	DD-203	CTA8T12C		5HK-S2	10%
C44	20000	1000	C-50077-3	BPD-02	DD-203	CTA8T12C		5TCC-Q	10%
C45	20000	1000	CC20CH050G5	NPO-SI 10	TCZ-10	CTA8Q1C		MS-347	NPO N1500
C46	100	1000	C-50070-2	1469-00047	MD-471	5R8T47		5HK-D6	5%
C47	100	1000	C-3334	BPD-005	DD-502	BYA10D5		5TCC-T12	10%
C48	5000	5000	C-829-170	BPD-005	DD-502	BYA10D5		MS-347	5%
C49	5000	5000	C-829-170	BPD-005	DD-502	BYA10D5		5HK-D6	5%
C50	20000	20000	CC20CH050G5	NPO-SI 120	DD-121	CTA8T12C		5TCC-T12	10%
C51	120	250	CC20V1K100G5	1469-00047	MD-471	5R8T47		MS-347	5%
C52	470	250	C-50074-27	1469-00047	MD-471	5R8T47		MS-347	5%
C53	470	250	C-3334	BPD-005	DD-502	BYA10D5		5HK-D6	5%
C54	470	250	C-829-170	BPD-005	DD-502	BYA10D5		5HK-D6	5%
C55	5000	5000	C-829-170	BPD-005	DD-502	BYA10D5		5HK-D6	5%
C56	5000	5000	C-829-170	BPD-005	DD-502	BYA10D5		5HK-D6	5%
C57	5000	5000	C-829-170	BPD-005	DD-502	BYA10D5		5HK-D6	5%
C58	470	250	C-3334	BPD-005	DD-502	BYA10D5		5HK-D6	5%
C59	20000	20000	C-50077-3	BPD-02	DD-203	BYB8S2		5TCC-Q	NPO
C60	5000	5000	CC20CH050G5	NPO-SI 10	TCZ-10	CTA8Q1C		5HK-D6	10%
C61	5000	5000	C-829-170	BPD-005	DD-502	BYA10D5		5HK-D6	10%
C62	5000	5000	C-829-170	BPD-005	DD-502	BYA10D5		5HK-D6	10%
C63	1.0	1000	C-50070-1	NPO-SI 220	DD-221	L10T22		5TCC-T22	10%
C64	220	1000	CC20CH050F5	BPD-005	DD-502	BYA10D5		5HK-D6	10%
C65	5000	5000	C-829-170	BPD-005	DD-502	BYA10D5		5HK-D6	10%
C66	5000	5000	C-829-170	BPD-005	DD-502	BYA10D5		5HK-D6	10%
C67	100	1000	C-50070-5	BPD-005	DD-502	BYA10D5		5HK-D6	10%
C68	100	1000	C-50070-5	BPD-005	DD-502	BYA10D5		5HK-D6	10%
C69	5000	5000	CC20CH050F5	NPO-SI 5	TCZ-4R7	CTA8Q47C		5HK-D6	10%
C70	5	5000	CC20CH050F5	NPO-SI 5	TCZ-4R7	CTA8Q47C		5HK-D6	10%
C71	5	5000	C-829-170	BPD-005	DD-502	BYA10D5		5HK-D6	10%
C72	5000	5000	C-829-170	BPD-005	DD-502	BYA10D5		5HK-D6	10%
C73	5000	5000	C-829-170	BPD-005	DD-502	BYA10D5		5HK-D6	10%
C74	5000	5000	C-829-170	BPD-005	DD-502	BYA10D5		5HK-D6	10%
C75	5000	5000	C-829-170	BPD-005	DD-502	BYA10D5		5HK-D6	10%
C76	330	1000	C-50072-1	BPD-005	DD-502	BYA10D5		5HK-D6	10%
C77	330	1000	C-50072-1	BPD-005	DD-502	BYA10D5		5HK-D6	10%
C78	330	1000	C-50072-1	BPD-005	DD-502	BYA10D5		5HK-D6	10%
C79	1000	1000	C-50072-2	BPD-005	DD-502	BYA10D5		5HK-D6	10%
C80	1000	1000	C-50072-2	BPD-005	DD-502	BYA10D5		5HK-D6	10%
C81	1000	1000	C-50072-2	BPD-005	DD-502	BYA10D5		5HK-D6	10%
C82	1000	1000	C-50072-2	BPD-005	DD-502	BYA10D5		5HK-D6	10%
C83	5000	5000	C-829-170	BPD-005	DD-502	BYA10D5		5HK-D6	10%
C84	1000	1000	C-50077-2	BPD-02	DD-203	BYB8S2		5HK-D6	10%
C85	1000	1000	C-50077-2	BPD-02	DD-203	BYB8S2		5HK-D6	10%
C86	20000	20000	C-50072-3	BPD-05	DF-503	BYA10S5		5HK-S5	10%
C87	30000	1000	C-50072-6	BPD-05	DF-503	BYA10S5		5HK-S5	10%
C88	390	1000	C-50072-8	BPD-05	DF-503	BYA10S5		5HK-S5	10%
C89	820	1000	C-50072-8	BPD-05	DF-503	BYA10S5		5HK-S5	10%
C90	1800	1000	C-50072-8	BPD-05	DF-503	BYA10S5		5HK-S5	10%
C91	5000	250	C-50074-26	BPD-05	DF-503	BYA10S5		5HK-S5	10%
C92	.022	250	C-50073-2	BPD-05	DF-503	BYA10S5		5HK-S5	10%
C93	50000	50000	C-50073-2	BPD-05	DF-503	BYA10S5		5HK-S5	10%
C94	50000	50000	C-50073-2	BPD-05	DF-503	BYA10S5		5HK-S5	10%
C95	30	1000	C-50070-3	BPD-02	DD-203	BYB8S2		5HK-S2	N150 10%
C96	20000	250	C-50073-1	BPD-02	DD-203	BYB8S2		5HK-S2	5%
C97	1	250	C-50074-28	NPO-SI 220	D6-221	L10T22		5TCC-T22	10%
C98	120	200	CC20CH050F5	NPO-SI 120	D6-121	L10T12		5TCC-T12	10%
C99	120	200	CC20CH050F5	NPO-SI 120	D6-121	L10T12		5TCC-T12	10%
C100	.0047	200	C-50074-24	BPD-05	DF-503	BYA10S5		5HK-S5	10%
C101	.0047	200	C-50074-24	BPD-05	DF-503	BYA10S5		5HK-S5	10%
C102	1	250	C-50074-26	BPD-05	DF-503	BYA10S5		5HK-S5	10%
C103	1200	1000	C-50072-4	BPD-05	DF-503	BYA10S5		5HK-S5	10%
C104	680	1000	C-50072-4	BPD-05	DF-503	BYA10S5		5HK-S5	10%
C105	1200	1000	C-50072-4	BPD-05	DF-503	BYA10S5		5HK-S5	10%
C106	680	1000	C-50072-4	BPD-05	DF-503	BYA10S5		5HK-S5	10%
C107	1200	1000	C-50072-4	BPD-05	DF-503	BYA10S5		5HK-S5	10%
C108	.027	125	C-50074-16	BPD-05	DF-503	BYA10S5		5HK-S5	NPO 10%

PARTS LIST AND DESCRIPTIONS (Continued)

CAPACITORS (cont)

ITEM No.	RATING		REPLACEMENT DATA				NOTES	
	CAP.	VOLT	FISHER PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.		MALLORY PART No.
C109	.1	250	C-60074-28					
C110	.01	250	C-60074-25				GEM-1611	5%
C111	.0047	200	C-60074-24				GEM-16247	10%
C112	.047	260	C-60047-27				GEM-401	10%
C113	.1	250	C-60074-26	P488N-1	DF-104	CUB4PI		4TM-FI
C114	12	1000	C-60072-5					NPO 10%
C115	220000	1000	C-60073-1					10%
C116	12-100	1000	C-60073-2					
C117	30	1000	C-60073-3					
C118	47	1000	C-60073-4					
C119	1000	1000	C-60073-5					
C120	1000	1000	C-60073-6					
C121	1000	1000	C-60073-7					
C122	.01	600	C-3747					

① Some versions may use Part #C-520-159 in this application.

② Some versions may use 16mmf in this application (Part #CC20CH000F5).

③ Some versions may use 16mmf N30 5% in this application (Part #CC20S1800F5).

④ Not used in some versions.

⑤ Some versions may use two units in parallel. Other versions use .0047mfd (Part #C-60074-24), or .022mfd (Part #C-60074-26).

CONTROLS

ITEM No.	RATING	REPLACEMENT DATA				INSTALLATION NOTES
		RESIST. ANISE	WATTS	CENTRALAB PART No.	FISHER PART No.	
R1A	Switch					
R1B	500K					
R2A	1meg					
R3A	500K					
R4A	50K					
R5A	200K					

* Use KR with CR1 "red label" control; KR with "blue label" controls and KR-5 switch cover.

†† Enlarge mounting hole to 3/8" diameter.

RESISTORS (cont)

ITEM No.	RATING		FISHER PART No.	NOTES
	OHMS	WATT		
R52	68K		RC20BF683K	Note 3
R53	22meg		RC20BF226K	
R54	100K		RC20BF101K	
R55	22K		RC20BF223K	
R56	470K		RC20BF474K	
R57	470K		RC20BF474K	
R58	16K		RC30BF163K	
R59	1500K		RC20BF152K	
R60	16K		RC20BF163K	
R61	2700K		RC20BF272K	
R62	1500K		RC20BF152K	
R63	6800K		RC20BF683K	Note 4
R64	1000K		RC20BF102K	Note 4
R65	6800K		RC20BF683K	
R66	270K		RC20BF271K	
R67	68K		RC20BF683K	
R68	470K		RC20BF474K	
R69	10K		RC20BF103K	
R70	220K		RC20BF223K	
R71	12K		RC20BF123K	
R72	16K		RC20BF163K	
R73	100K		RC20BF104K	
R74	10meg		RC20BF106K	Note 5
R75	3.3meg		RC20BF335K	
R76	220K		RC20BF224K	
R77	470K		RC20BF474K	
R78	1000K		RC20BF102K	
R79	47K		RC20BF473K	
R80	1000K		RC20BF102K	
R81	100K		RC20BF104K	
R82	330K		RC20BF334K	
R83	220K		RC20BF224K	
R84	2700K		RC30BF272K	
R85	1meg		RC20BF106K	
R86	1.2meg		RC20BF123K	
R87	39K		RC20BF393K	
R88	2700K		RC20BF272K	
R89	2.2meg		RC20BF225K	
R90	220K		RC20BF224K	
R91	270K		RC20BF271K	
R92	2700K		RC20BF272K	

Note 1. Not used in some versions.

Note 2. Some versions may use 100K in this application (Part #RC20BF101K).

Note 3. Some versions may use 56K in this application (Part #RC20BF563K).

Note 4. Some versions may use 68K in this application (Part #RC20BF683K).

Note 5. Some versions may use 10meg in this application (Part #RC20BF106K).

Note 6. Some versions may use 100K in this application (Part #RC20BF104K).

COILS (RF-IF)

ITEM No.	RATING		FISHER PART No.	USE	REPLACEMENT DATA			NOTES
	OHMS	WATT			FISHER PART No.	Meissner PART No.	Miller PART No.	
L1			L-50068-8	FM Ant. Coil				3.3 Microhenries
L2			L-629-177	FM Ant. Trans.				1.2 Microhenries
L3			L-60068-3	RF Choke	19-1000	BC-561	4602	.56 Microhenry
L4			L-50068-19	F.I. Choke				.56 Microhenry
L5			L-50068-19	RF Choke				.56 Microhenry
L6			L-50068-19	RF Choke				.56 Microhenry
L7			L-629-180	RF Choke				Wound on 100K resistor
L8			L-629-178	FM RF Coil				
L9			L-50068-3	RF Choke	19-1000	BC-561	4602	1.2 Microhenries
L10			L-50068-19	F.I. Choke				.56 Microhenry
L11			L-629-179	FM Osc. Coil				
L12			L-50068-3	RF Choke	19-1000	BC-561	4602	1.2 Microhenries
L13			L-629-171	AM Ant. Trans.				
L14			L-629-176	Loop Shckt				
L15			L-50068-3	RF Choke	19-1000	BC-561	4602	1.2 Microhenries

FISHER MODEL 90-J

FOLDER 7

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (cont)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		FISHER PART No.	Meissner PART No.	Merit PART No.	Miller PART No.	Ram PART No.	
L16	RF Choke	L-50068-3	19-1000	BC-561	4602		1. 2 Microhenries
L17	AM RF Trans.	L-556-125					
L18	RF Choke	L-50068-3	19-1000	BC-561	4602		1. 2 Microhenries
L19	AM Osc. Coil	C-550-122					
L20	RF Choke	L-50068-3	19-1000	BC-561	4602		1. 2 Microhenries
L21	1st FM IF	ZZ-530-114					
L22	1st AM IF	ZZ-529-135					
L23	2nd FM IF	ZZ-529-142	16-3487	FM-254	1463		
L24	2nd AM IF	ZZ-529-135					
L25	FIL Choke	L-520-196	19-1000	BC-561	4602		1. 2 Microhenries
L26	3rd FM IF	ZZ-529-142	16-3487	FM-254	1463		
L27	3rd AM IF	ZZ-2994	16-5758	BC-353	12-C2		
L28	FM Limiter	L-551-121					
L29	Ratio Det.	ZZ-592-170					
L30	Tone Choke	L-829-183					

IOKC CHOKE

ITEM No.	CURRENT (Measured)	RATINGS	REPLACEMENT DATA					Tried PART No.
			FISHER PART No.	Halderson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	
L31	360Ω	2.3 Hz.	L-829-152					

TRANSFORMER (POWER)

ITEM No.	RATING	REPLACEMENT DATA					Tried PART No.
		FISHER PART No.	Halderson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	
T1	117V 420VCT ③ .53A ④ .040A Tap ⑤ 6.3V ③ 3.5A ④ .4A	T-629-118					

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	FISHER PART No.	REPLACEMENT DATA
K1	Tone Compensation		P-C-552-105	

SELENIUM RECTIFIER

ITEM No.	RATING CURRENT (Measured)	REPLACEMENT DATA			NOTES
		FISHER PART No.	FEDERAL PART No.	INTERNATIONAL PART No.	
M1	355A	SR-629-157	1017	C1B	604B

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA				
			FISHER PART No.	LITTELFUSE PART No.	BUSS PART No.	FUSE HOLDER	FUSE HOLDER
M2	3AG	1A 250V	F-3329	31200L (1A 250V)	342001	AGC1	HKP

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		FISHER PART No.	CBS PART No.	SYLVANIA PART No.	
M3	1N295	V-1N295	1N638	1N295	FM Limiter (Pigtail)
M4	1N295	V-1N295	1N638	1N295	FM Limiter (Pigtail)
M5	1N541 *	V-1N541	1N638	1N295	FM Muting (Pigtail)
M6	1N541 *	V-1N541	1N638	1N295	FM Muting (Pigtail)
M7	1N542	V-1N542	1N638	1N295	FM Detector (Pigtail)
M8	1N542	V-1N542	1N638	1N295	FM Detector (Pigtail)

* Some versions may use 1N66 in this application.

MISCELLANEOUS

ITEM No.	PART NAME	FISHER PART No.	NOTES
M9	Lamp	1-565-145	
M10	Lamp	1-565-145	6V 2W
M11	Lamp	1-565-120	6.3 Volts .15A Special
M12	Lamp	1-565-120	6.3 Volts .15A Special
M13	Lamp	1-565-120	6.3 Volts .15A Special
M14	Lamp	1-565-120	6.3 Volts .15A Special
M15	Lamp	1-565-120	6.3 Volts .15A Special
M16	Lamp	1-565-120	6.3 Volts .15A Special
M17	Tuning Cap.	C-628-118	6 Gang (.AM Section: Ant. 19-495mmf, RF 20-499mmf, Osc. 18-165mmf)
M18	Switch	S-629-134	Channel Selector, Rotary, Water Type
M19	Switch	S-629-140	Noise, Rumble Filter, Rotary Water Type
M20	Switch	S-629-117	Muting, Bandwidth, Pushbutton, Slide Type (Early units)
M21	Switch	S-629-155	Muting, Bandwidth, Pushbutton, Slide Type (Early units)
M22	Switch	S-629-156	Interchangeable with Switch #S-629-129

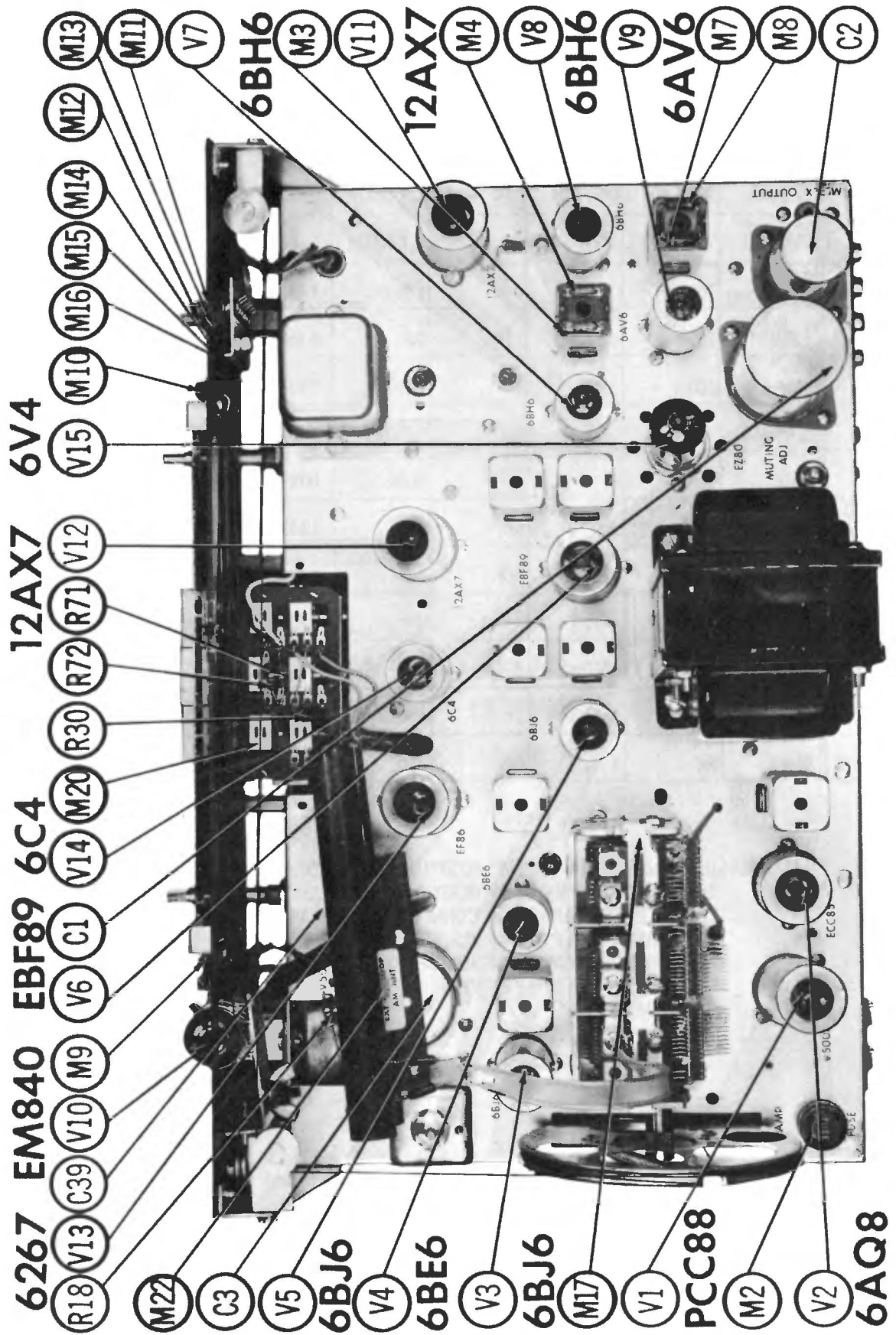
CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Knob	E-50049-1	Tuning
Knob	E-50048-2	Volume
Knob	E-50049-12	Channel Selector, Bass, Treble
Knob	E-50049-4	Loudness, Noise Filter
Knob	E-50049-13	Rumble Filter
Panel	AS-629-162	Assembled, Includes Escutcheon
Panel	AS-629-115	Without Escutcheon
Plunger	A-629-154	
Dial Glass	A-629-133	

WIRING DATA

General-use Unshielded Hook-up Wire Use BELDEN No. 6550 (Solid) Available in Ten Colors
 8524 (Stranded) Available in Ten Colors
 Power Cord Use BELDEN No. 1765-B (6 Ft. Length)
 1725-K (7½ Ft. Length)



FISHER
MODEL 90-T
CHASSIS TOP VIEW

RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	PCC88 V50067	INF	950K	100 Ω	.3 Ω	0 Ω	† 1600 Ω	† 160K	INF	0 Ω
V2	6AQ8 ECC85	† 7400 Ω	1500 Ω	0 Ω	0 Ω	.2 Ω	† 10K	820K	0 Ω	0 Ω
V3	6BJ6	• 800K	100 Ω	0 Ω	.1 Ω	• † 2800 Ω	• † 50K	0 Ω		
V4	6BE6	22K	.5 Ω	.1 Ω	0 Ω	• † 1600 Ω	• † 23K	• 2.3meg		
V5	6BJ6	6.8 Ω • 1.4meg	100 Ω	.1 Ω	0 Ω	† 1600 Ω	† 83K	0 Ω		
V6	EBF89	† 83K	2.2meg	0 Ω	.1 Ω	0 Ω	† 1600 Ω	630K	75K	0 Ω
V7	6BH6	.6 Ω	100 Ω	.1 Ω	0 Ω	† 1600 Ω	† 69K	0 Ω		
V8	6BH6	• 470K	2700 Ω	.1 Ω	0 Ω	† 2100 Ω	† 16K	2700 Ω		
V9	6AV6	500K	0 Ω	.1 Ω	0 Ω	480K	80K	570K		
V10	EM840 V50078	220K	TP	0 Ω	0 Ω	.1 Ω	† 3400 Ω	† 470K	TP	† 470K
V11	12AX7 ECC83	† 490K	330K	2700 Ω	0 Ω	7 Ω	† 490K	2.2meg	2700 Ω	3.5 Ω
V12	12AX7 ECC83	† 100K	320K	1500 Ω	7 Ω	0 Ω	† 100K	1meg	1000 Ω	4 Ω
V13	6267 EF86	† 390K	0 Ω	1000 Ω	8.5 Ω	7 Ω	† 100K	0 Ω	1000 Ω	820K
V14	6C4	† 50K	NC	8.5 Ω	7 Ω	† 50K	1meg	1200 Ω		
V15	6V4 EZ80	90 Ω	NC	¶	0 Ω	.1 Ω	NC	85 Ω	NC	NC

ALL MEASUREMENTS TAKEN IN "FM" POSITION UNLESS OTHERWISE DESIGNATED.

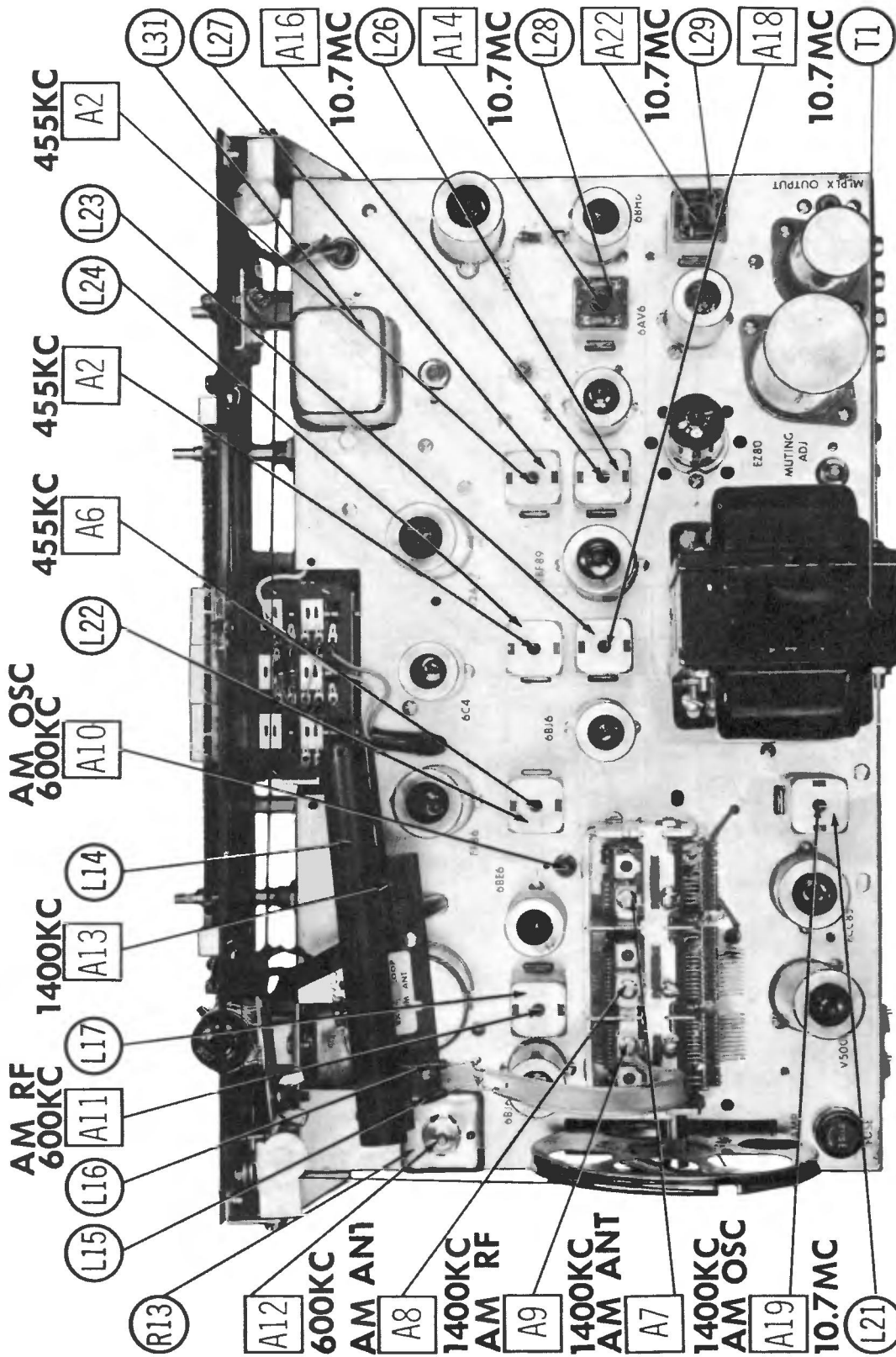
¶ THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC CAPACITOR CONNECTED IN THE ASSOCIATED CIRCUIT.

† MEASURED FROM PIN 3 OF V15.

• MEASURED IN "AM" POSITION.

▪ MEASURED FROM PIN 2 OF V8.

NC NO CONNECTION.



CHASSIS-TOP VIEW - INDUCTOR AND ALIGNMENT IDENTIFICATION

FISHER
MODEL 90-1T

FOLDER 7

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting. With tuning gang fully closed, adjust dial pointer to coincide with zero mark on logging scale.

AM ALIGNMENT

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
1. .01mfd	High side to pin 7 (grid) of 6BE6 (V4). Low side to chassis.	455KC (400v Mod)	AM (Distant)	Tuning gang fully open	DC probe to point ⊕ . Common to chassis.	A1, A2, A3, A4, A5, A6	Ant. switch in "Ext". Adjust for maximum output.
2. 220mfd	High side to AM antenna terminal. Low side to chassis.	1400KC	"	1400KC	"	A7, A6, A9	"
3. "	"	600KC	"	600KC	"	A10, A11, A12	Ant. switch in "Ext.". Adjust for maximum output. Repeat steps 2 and 3.
4.	Loop	1400KC	AM (Sharp)	1400KC	"	A13	Ant. switch in "Loop". Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
5. .01mfd	High side to pin 7 (grid) of 6BE6 (V4). Low side to chassis.	455KC (30KC Swp)	AM (Local) Loop Sw on ext.	Tuning gang fully open	(USE SCOPE) Vert. Amp. to main output jack. Low side to chassis.	A2	Adjust SLIGHTLY for symmetrical curve.
6. .1mfd	High side to pin 6 of V6. Low side to chassis.	10KC	AM		(USE VTVM) AC probe to main output jack. Common to chassis.	R5, C17	"Rock in" for MINIMUM deflection.

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
7.	High side to ungrounded tube shield of ECC65 (V2). Low side to chassis.	10.7MC (Unmod)	FM (Distant)	Point of non-interference	DC probe to point ⊕ . Common to chassis.	A14, A15, A16, A17, A18, A19, A20	Adjust for maximum deflection.
8.	"	"	"	"	DC probe to point ⊕ . Common to chassis.	A21	"
9.	"	"	"	"	DC probe to point ⊕ . Common to chassis.	A22	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Use frequency modulated signal with 60% modulation and 450KC sweep. Use 120v sawtooth voltage in scope for horizontal deflection.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
7.	High side to ungrounded tube shield of ECC65 (V2). Low side to chassis.	10.7MC (450KC Swp)	FM (Distant)	Point of non-interference	Vert. Amp. to point ⊕ . Low side to chassis.	A14, A15, A16, A17, A18, A19, A20	Adjust for curve of maximum amplitude and symmetry similar to Fig. 1.
8.	"	"	"	"	Vert. Amp. to point ⊕ . Low side to chassis.	A21	Disconnect stabilizing capacitor (C5). Adjust for curve of maximum amplitude and symmetry similar to Fig. 1.
9.	"	"	"	"	Vert. Amp. to point ⊕ . Low side to chassis.	A22	Reconnect stabilizing capacitor (C5). Adjust so that 10.7MC occurs at center of crossover lines similar to Fig. 2. SLIGHTLY retouch A21 for maximum amplitude and straightness of crossover lines.

FM RF ALIGNMENT

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
10. Two 120Ω Carbon Resistors	Across FM antenna terminals with 120Ω in each lead.	106MC (Unmod)	FM (Distant)	106MC	DC probe to point ⊕ . Common to chassis.	A23, A24, A25	Adjust for maximum deflection.
11. "	"	90MC	"	90MC	"	A26, A27, A28	Adjust for maximum deflection. Repeat steps 10 and 11.
12. "	"	96MC (45KC Swp)	"	96MC	(USE SCOPE) Vert. Amp. to main output jack. Low side to chassis.		Adjust generator output for no overload and no clipping.
13. "	"	"	"	"	(USE VTVM) AC probe to main output jack. Common to chassis.	R4	Observe meter reading with "Distant" pushbutton depressed. Depress "Local" pushbutton and adjust R4 for a reading of 2 decibels below first meter reading.

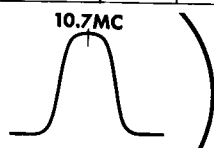


FIG. 1

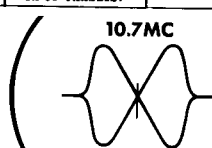


FIG. 2

