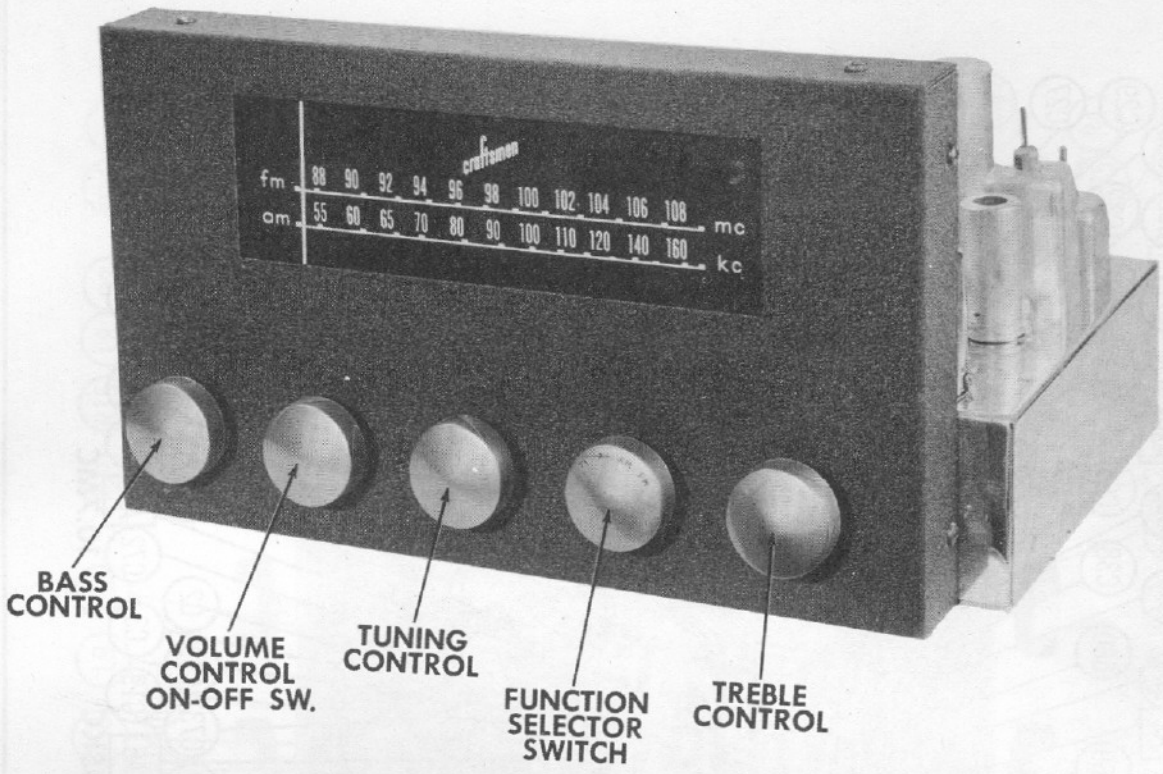
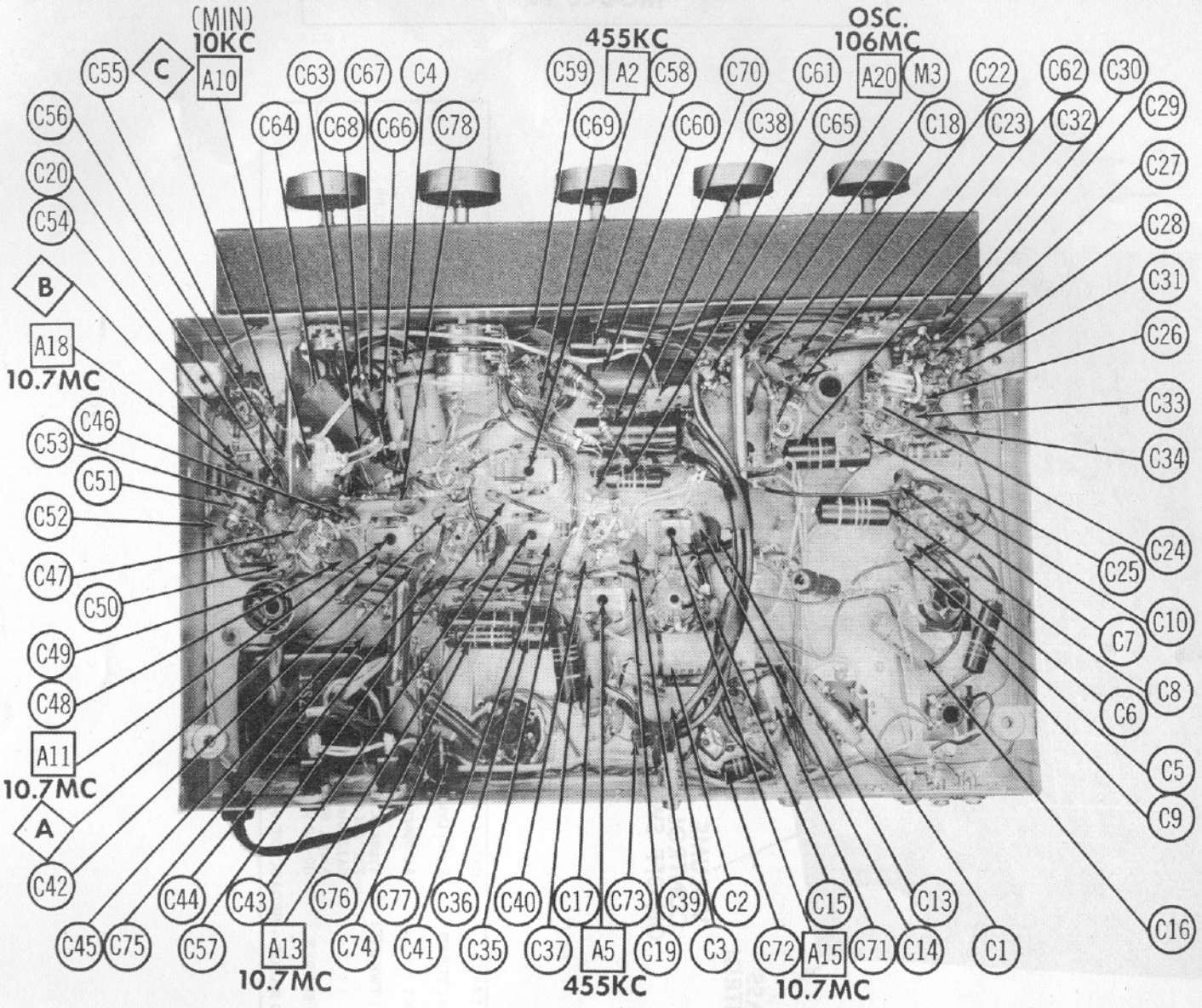
RADIO CRAFTSMEN
MODEL 10



RADIO CRAFTSMEN
MODEL 10

TRADE NAME	Radio Craftsmen Model 10	
MANUFACTURER	Radio Craftsmen , Inc., 4401 Ravenswood Ave., Chicago 40, Ill.	
TYPE SET	AC operated AM-FM Superheterodyne Tuner for Custom Installation	
TUBES (TWELVE)	Types 6CB6 FM AM RF Amp., 12AT7 FM AM Mixer, 12AT7 FM AM Osc.-FM AFC, 6CB6 FM AM IF Amp., 6CB6 2nd. FM IF Amp., 6AU6 1st. FM Limiter, 6AU6 2nd. FM Limiter, 6AL5 Discriminator, 6AV6 AM Det.-AVC AF Amp., 12AX7 Cath. Fol., 12AX7 Phono Pre-Amp., 6X5GT Rect.	
POWER SUPPLY	110-120 Volts AC	RATING .45 Amp. @ 117 Volts AC
TUNING RANGE - BROADCAST	535-1650 KC	FREQ. MOD. 88-108MC

HOWARD W. SAMS & CO., INC. • Indianapolis 5, Indiana


(MIN)
10KC
A10
C
455KC
A2
OSC.
106MC
A20
M3
A18
10.7MC
B
A11
10.7MC
A
A13
10.7MC
A5
455KC
A15
10.7MC
C55
C56
C20
C54
C63
C67
C4
C64
C68
C66
C78
C59
C69
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C3
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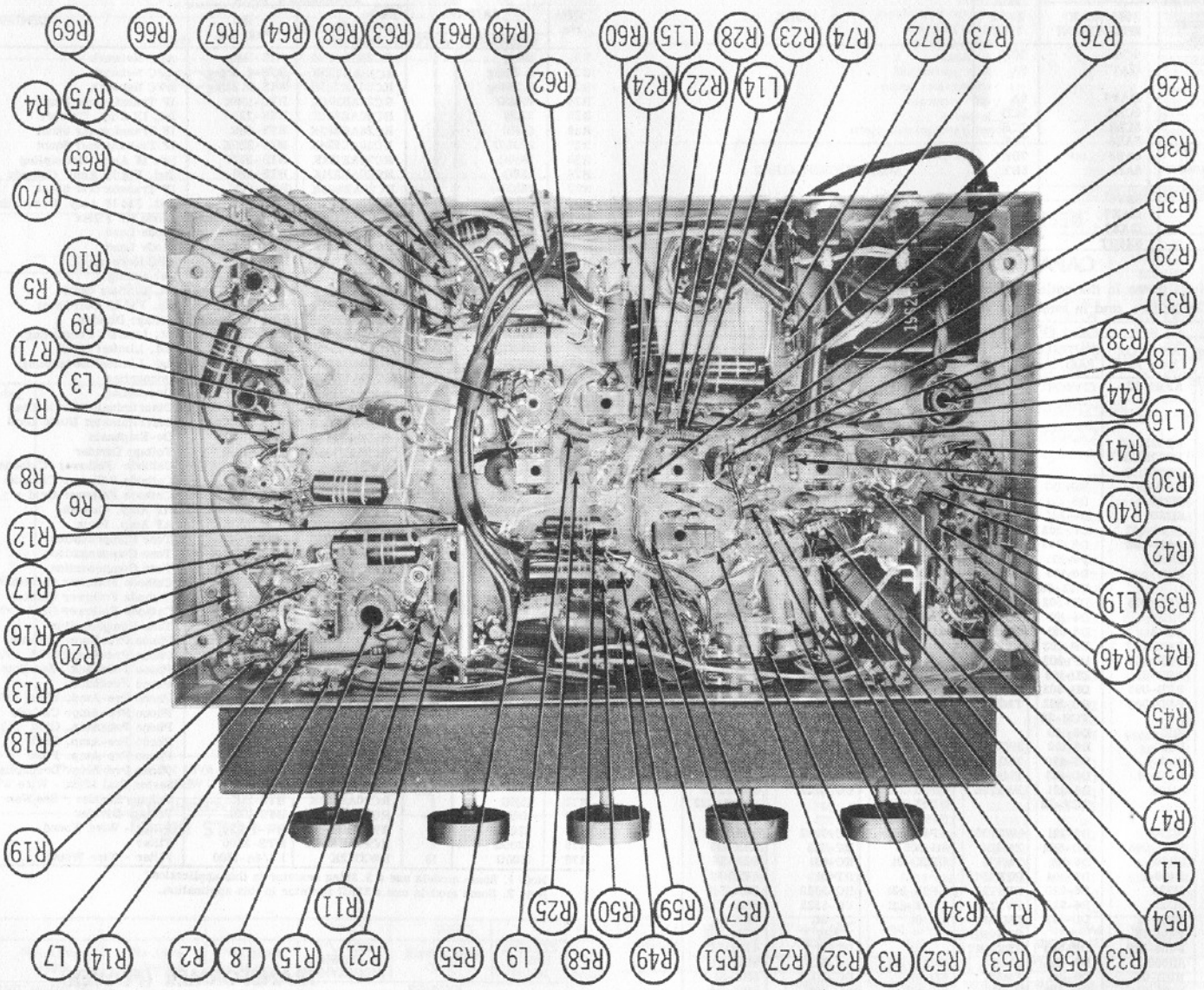
C71
C14
C1


R69
R66
R67
R64
R68
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R76
R62
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R71
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R52
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R32
R27
R51
R57
R59
R50
R25
R58
L9
R55
R21
R11
R15
L8
R2
R14
L7

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: Radio Craftsmen PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	NOTES
V1	FM AM RF Amp.	6CB6	6CB6	7CH	
V2	FM AM Mixer	12AT7	12AT7	9A	
V3	FM AM Oscillator-FM AFC	12AT7	12AT7	9A	
V4	1st. FM AM IF Amp.	6CB6	6CB6	7CH	
V5	2nd. FM IF Amp.	6CB6	6CB6	7CH	
V6	1st. FM Limiter	6AU6	6AU6	7BK	
V7	2nd. FM Limiter	6AU6	6AU6	7BK	
V8	Discriminator	6AL5	6AL5	6BT	
V9	AM Detector-AVC-AF Amp.	6AV6	6AV6	7BT	
V10	Cathode Follower	12AX7	12AX7	9A	
V11	Phono Pre-Amp.	12AX7	12AX7	9A	
V12	Rectifier	6X5GT	6X5GT	6S	

CAPACITORS

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

ITEM No.	RATING CAP.	RATING VOLT	Radio Craftsmen PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C1A	▲40	300	18S022	AFH4-93		UPT4445-3335		FP413X TC65	TVL-4720	
B	■40	300								
C	▲30	300								
D	20	300								
C2	10	250	CE8H2501P	PRS250/12		BR1225A		TC52	TVA-1504	
C3	25	25	CE8H0202P	PRS25/25		BR252A		TC26	TVA-1205	
C4	25	25	CE8H0202P	PRS25/25		BR252A		TC26	TVA-1205	
C5	10000		18X704	BPD-01	DD-103	TM5S1	821-01	DC-511	5HK-S1	
C6	220		CC20SL221M	SI220	D6-221	5W5T25	GP2K-221	UC-5322	5GA-T22	
C7	220		CC20SL221M	SI220	D6-221	5W5T25	GP2K-221	UC-5322	5GA-T22	
C8	.047	400	CP10M4473M	P488-047	DF-503	PTE4S47		PT415	4TM-S47	
C9	.022	400	CP10M4223M	P488-022	DF-203	PTE4S22		PT412	4TM-S22	
C10	220		CC20SL221M	SI220	D6-221	5W5T25	GP2K-221	UC-5322	5GA-T22	
C11	10		CC20SL100M	SI10	D6-100	5W5Q1	GP1K-100	UC-541	5GA-Q1	
C12	68				TCZ-68		NP0-333-680		5TCC-Q68	Note 1
C13	5000		18X701	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D5	
C14	100		CC20SL101M	SI100	D6-101	TM5T1	GP1K-101	UC-531	5GA-T1	
C15	220		CC20SL221M	SI220	D6-221	5W5T25	GP2K-221	UC-5322	5GA-T22	
C16	.022	400	CP10M4223M	P488-022	DF-203	PTE4S22		PT412	4TM-S22	
C17	.022	400	CP10M4223M	P488-022	DF-203	PTE4S22		PT412	4TM-S22	
C18	10000		18X704	BPD-01	DD-103	TM5S1	821-01	DC-511	5HK-S1	
C19	5000		18X701	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D5	
C20	5000		18X701	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D5	
C21	22		CC20CK220M		TCZ-22		NP0K-220		5TCC-Q22	
C22	15		CC20SL150M	SI15	D6-150		GP1K-150	UC-5415	5GA-Q15	
C23	10		CC20SL100M	SI10	D6-100	5W5Q1	GP1K-100	UC-541		
C24	47		CC20UK470M	SI47	D6-470	TM5Q5	GP1K-470	UC-5447	5GA-Q47	
C25	10000		18X704	BPD-01	DD-103	TM5S1	821-01	DC-511	5HK-S1	
C26	220		CC20SL221M	SI220	D6-221	5W5T25	GP2K-221	UC-5322	5GA-T22	
C27	22		CC20CK220M		TCZ-22		NP0K-220		5TCC-Q22	
C28	2		CC20CK2R0D				NP0K-020			
C29	220		CC20SL221M	SI220	D6-221	5W5T25	GP2K-221	UC-5322	5GA-T22	
C30	5000		18X701	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D5	
C31	100		CC20SL101M	SI100	D6-101	TM5T1	GP1K-101	UC-531	5GA-T1	
C32	.1	400	CP10M4104M	P488-1	DF-104	PTE4P1		PT401	4TM-P1	
C33	220		CC20SL221M	SI220	D6-220	5W5T25	GP2K-221	UC-5322	5GA-T22	
C34	220		CC20SL221M	SI220	D6-220	5W5T25	GP2K-221	UC-5322	5GA-T22	
C35	10000		18X704	BPD-01	DD-103	TM5S1	821-01	DC-511	5HK-S1	
C36	.15	400	CP10M4154M	P488-15		PTE4P15		TP417	4TM-P15	
C37	.047	400	CP10M4473M	P488-047	DF-503	PTE4S47		PT415	4TM-S47	
C38	1000		CC20ZZ102X	SI1000	D6-102	TM5D1	GP2L-102	UC-521	5HK-D1	
C39	10000		18X704	BPD-01	D6-103	TM5S1	821-01	DC-511	5HK-S1	
C40	5000		18X701	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D5	
C41	5000		18X701	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D5	
C42	1000		CC20ZZ102X	SI1000	D6-102	TM5D1	GP2L-102	UC-521	5HK-D1	
C43	5000		18X701	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D5	
C44	5000		18X701	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D5	
C45	5000		18X701	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D5	
C46	47		CC20UK470M	SI47	D6-470	TM5Q5	GP1K-470	UC-5447	5GA-Q47	
C47	1500		18X705	BPD-0015	DD-152	TM5D15	801-0015	DC-5215	5HK-D15	
C48	5000		18X701	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D5	

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA: Radio Craftsmen PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
R21	1Meg	½	RC20AE105K	BTS-1Meg	AFC Network
R22	2.2Meg	½	RC20AE225K	BTS-2.2Meg	AVC Network
R23	2.2Meg	½	RC20AE225K	BTS-2.2Meg	AVC Network
R24	100KΩ	½	RC20AE104K	BTS-100K	IF Transformer Shunt
R25	220Ω	½	RC20AE221K	BTS-220	1st. IF Amp. Cathode
R26	68KΩ	½	RC20AE683K	BTS-68K	IF Transformer Shunt
R27	220KΩ	½	RC20AE224K	BTS-220K	IF Transformer Shunt
R28	1000Ω	½	RC20AE102K	BTS-1000	1st. IF Amp. Decoupling
R29	220Ω	½	RC20AE221K	BTS-220	2nd. FM IF Amp. Cathode
R30	68KΩ	½	RC20AE683K	BTS-68K	IF Transformer Shunt
R31	1000Ω	½	RC20AE102K	BTS-1000	2nd. FM IF Amp. Decoupling
R32	220KΩ	½	RC20AE224K	BTS-220K	Diode RF Filter
R33	470KΩ	½	RC20AE474K	BTS-470K	Diode Load
R34	2.2Meg	½	RC20AE225K	BTS-2.2Meg	Diode Load
R35	1Meg	½	RC20AE105K	BTS-1Meg	AVC Network
R36	150Ω	½	RC20AE151K	BTS-150	Decoupling
R37	100KΩ	½	RC20AE104K	BTS-100K	1st. Limiter Grid
R38	4700Ω	½	RC20AE472K	BTS-4700	4th. FM IF Coil Shunt
R39	15KΩ	½	RC20AE153K	BTS-15K	Voltage Divider
R40	22KΩ	1	RC30AE223K	BTA-22K	1st. Limiter Decoupling
R41	150KΩ	½	RC20AE154K	BTS-150K	2nd. Limiter Grid
R42	47KΩ	1	RC30AE473K	BTA-47K	2nd. Limiter Decoupling
R43	150Ω	½	RC20AE151K	BTS-150	Decoupling
R44	150Ω	½	RC20AE151K	BTS-150	Decoupling
R45	100KΩ	½	RC20AE104K	BTS-100K	Discriminator Diode Load
R46	100KΩ	½	RC20AE104K	BTS-100K	Discriminator Diode Load
R47	150KΩ	½	RC20AE154K	BTS-150K	De-Emphasis
R48	1Meg	½	RC20AE105K	BTS-1Meg	Voltage Divider
R49	470Ω	½	RW0471K	BTS-470	Cathode Follower Cathode - Wire Wound
R50	22KΩ	½	RC20AE223K	BTS-22K	Cathode Follower Cathode - Wire Wound
R51	470KΩ	½	RC20AE474K	BTS-470K	Cathode Follower Grid
R52	1500Ω	½	RC20AE152K	BTS-1500	AF Amp. Cathode
R53	220KΩ	½	RC20AE224K	BTS-220K	AF Amp. Plate
R54	47KΩ	½	RC20AE473K	BTS-47K	Tone Compensation
R55	47KΩ	½	RC20AE473K	BTS-47K	Tone Compensation
R56	4700Ω	½	RC20AE472K	BTS-4700	Tone Compensation
R57	470Ω	½	RW0471K	BTS-470	Cathode Follower Cathode - Wire Wound
R58	22KΩ	½	RC20AE223K	BTS-22K	Cathode Follower Cathode
R59	470KΩ	½	RC20AE474K	BTS-470K	Cathode Follower Grid
R60	10Meg	½	RC20AE106K	BTS-10Meg	Tone Compensation
R61	1000Ω	½	RC20AE102K	BTS-1000	Phono Pre-Amp. Cathode
R62	1Meg	½	RC20AE105K	BTS-1Meg	Phono Pre-Amp. Grid
R63	4.7Meg	½	RC20AE475K	BTS-4.7Meg	Phono Feedback See Note 1
R64	82KΩ	½	RC20AE823K	BTS-82K	Phono Feedback
R65	100KΩ	½	RC20AE104K	BTS-100K	Phono Pre-Amp. Plate
R66	2200Ω	½	RC20AE222K	BTS-2200	Phono Pre-Amp. Cathode
R67	27KΩ	½	RC20AE273K	BTS-27K	Phono Pre-Amp. Grid
R68	27KΩ	½	RC20AE273K	BTS-27K	Phono Pre-Amp. Grid
R69	220KΩ	½	RC20AE224K	BTS-220K	Phono Pre-Amp. Plate
R70	10KΩ	½	RC20AE103K	BTS-10K	Phono Pre-Amp. Decoupling
R71	.47Ω	5	RW5R47K		Series Dial Light - Wire Wound
R72	15KΩ	½	RC20AE153K	BTS-15K	Voltage Divider – See Note 2
R73	100KΩ	½	RC20AE104K	BTS-100K	Voltage Divider
R74	220Ω	2	RW2221K	BW-2-220	Filter - Wire Wound
R75	2200Ω	2	RC40AE222K	BTB-2200	Filter
R76	1500Ω	10	RWX152K	1 3/4A-1500	Filter - Wire Wound

Note 1. Some models use a 3.3Meg resistor in this application.
Note 2. Some models use a 33KΩ resistor in this application.

TRANSFORMER (POWER)

ITEM No.	RATING PRI.	RATING SEC. 1	RATING SEC. 2	RATING SEC. 3	REPLACEMENT DATA: Radio Craftsmen PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	TRIAD PART No.
T1	117VAC @ .45A	410VCT .055ADC	6.3VAC @ 1.45A	6.3VAC @ 2.8A	19S208A				

PARTS LIST AND DESCRIPTIONS (Continued)

CAPACITORS

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

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA Radio Craftsmen PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C49	22		CC20CK220M		TCZ-22		NP0K-220		5TCC-Q22	
C50	22		CC20SL220M	SI22	D6-220	5W5Q25	GP1K-220	UC-5422	5GA-Q22	
C51	1500		18X705	BPD-0015	DD-152	TM5D15	801-0015	DC-5215	5HK-D15	
C52	5000		18X701	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D5	
C53	5000		18X701	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D5	
C54	5000		18X701	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D5	
C55	100		CC20SL101M	SI100	D6-101	TM5T1	GP1K-101	UC-531	5GA-T1	
C56	470		CC25SL471K	SI470	D6-471	5W5T5	GP2K-471	UC-5347	5GA-T47	
C57	100		CC20SL101M	SI100	D6-101	TM5T1	GP1K-101	UC-531	5GA-T1	
C58	.1	400	CP10M4104M	P488-1	DF-104	PTE4P1		PT401	4TM-P1	
C59	10000		18X704	BPD-01	DD-103	TM5S1	821-01	DC-511	5HK-S1	
C60	.22	400	CP10M2224M	P488-22		PTE4P22		TP429	4TM-P22	
C61	330	500	CM20A331K	1468-00035	D6-331		GP2K-331	UC-5333	1FM-335	
C62	15		CC20SL150M	SI15	D6-150		GP1K-150	UC-5415	5GA-Q15	
C63	.0056	400	CP10M4562K		D6-562		GP2-333-562			
C64	.056	400	CP10M4563K							
C65	.0033	400	CP10M4332K	P688-0033	D6-332	PTE6D33	GP2-333-332	PT623	6TM-D3	
C66	.1	400	CP10M4104M	P488-1	DF-104	PTE4P1		PT401	4TM-P1	
C67	15		CC20SL150M	SI15	D6-150		GP1K-150	UC-5415	5GA-Q15	
C68	5000		18X701	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D5	Note 2
C69	10000		18X704	BPD-01	DD-103	TM5S1	821-01	DC-511	5HK-S1	
C70	.22	400	CP10M2224M	P488-22		PTE4P22		TP429	4TM-P22	
C71	4700	500		1467-005	D6-472	1D5D5	GP2-333-472	MC465	1FM-25	
C72	.0033	400	CP10M4332K	P688-0033	D6-332	PTE6D33	GP2-333-332	PT623	6TM-D3	
C73	.01	400	CP10M4103M	P488-01	D6-103	PTE4S1	GP2-333-103	PT411	4TM-S1	
C74	1000		CC20ZZ102X	SI1000	D6-102	TM5D1	GP2L-102	UC-521	5HK-D1	
C75	5000		18X701	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D5	
C76	.01	400	CP10M4103M	P488-01	D6-103	PTE4S1	GP2-333-103	PT411	4TM-S1	
C77	.01	600	CP10M6103M	689ZGXY-01		PJ6S1		PT611	6TM-S1	
C78	5000		18X701	BPD-005	DD-502	TM5D5	811-005	DC-525	5HK-D5	Note 1

Note 1. Not used in all models.
Note 2. Some models use 1000MMF in this application.

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA Radio Craftsmen PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	500KΩ	½	23S715	Q13-133	AG-60-Z	AB-60	U-48	Bass
B	Shaft		Not Req.	Not Req.	KSS-3	AK-4	Not Req.	Attach to R1A
R2A	500KΩ	½	23S715	Q13-133	AG-60-Z	AB-60	U-48	ATreble
B	Shaft		Not Req.	Not Req.	KSS-3	AK-4	Not Req.	Attach to R2A
R3A	500KΩ	½-½	23S727	M13-133			UF55A	Volume - Panel
B	500KΩ	½-½		M11-133			UR55L	Volume - Rear
C	Shaft		Not Req.	Not Req.			DS-36	Attach to R3A
D	Switch		Not Req.	76-1			US-26	Attach to R3B

RESISTORS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA Radio Craftsmen PART No.	IRC PART No.	IDENTIFICATION CODES
R4	100KΩ	½	RC20AE104K	BTS-100K	Antenna Transformer Shunt
R5	220KΩ	½	RC20AE224K	BTS-220K	AVC Network
R6	330Ω	½	RC20AE331K	BTS-330	RF Amp. Cathode
R7	100KΩ	½	RC20AE104K	BTS-100K	RF Transformer Shunt
R8	1000Ω	½	RC20AE102K	BTS-1000	RF Amp. Decoupling
R9	220KΩ	½	RC20AE224K	BTS-220K	AVC Network
R10	2200Ω	½	RC20AE222K	BTS-2200	FM Mixer Cathode
R11	2200Ω	½	RC20AE222K	BTS-2200	AM Mixer Cathode
R12	1000Ω	½	RC20AE102K	BTS-1000	Mixer Plate Decoupling
R13	1000Ω	½	RC20AE102K	BTS-1000	Osc. Plate
R14	33KΩ	½	RC20AE333K	BTS-33K	Osc. Grid
R15	6.8Ω	½	RC20AE6R8K		Parasitic Suppressor
R16	47KΩ	1	RC30AE473K	BTA-47K	Bias Network
R17	330Ω	½	RC20AE331K	BTS-330	AFC Cathode
R18	220Ω	½	RC20AE221K		Parasitic Suppressor
R19	10KΩ	1	RC30AE103K	BTA-10K	AFC Plate
R20	100KΩ	½	RC20AE104K	BTS-100K	AFC Grid

PARTS LIST AND DESCRIPTIONS (Continued)

TONE CHOKE

ITEM No.	RATINGS TOTAL DIRECT CURRENT	RATINGS D.C. RESISTANCE	RATINGS INDUCTANCE (0 CURRENT 1000 ~)	REPLACEMENT DATA Radio Craftsmen PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	TRIAD PART No.
L1		1.5KΩ	2.5 Hy.					

COILS (RF-IF)

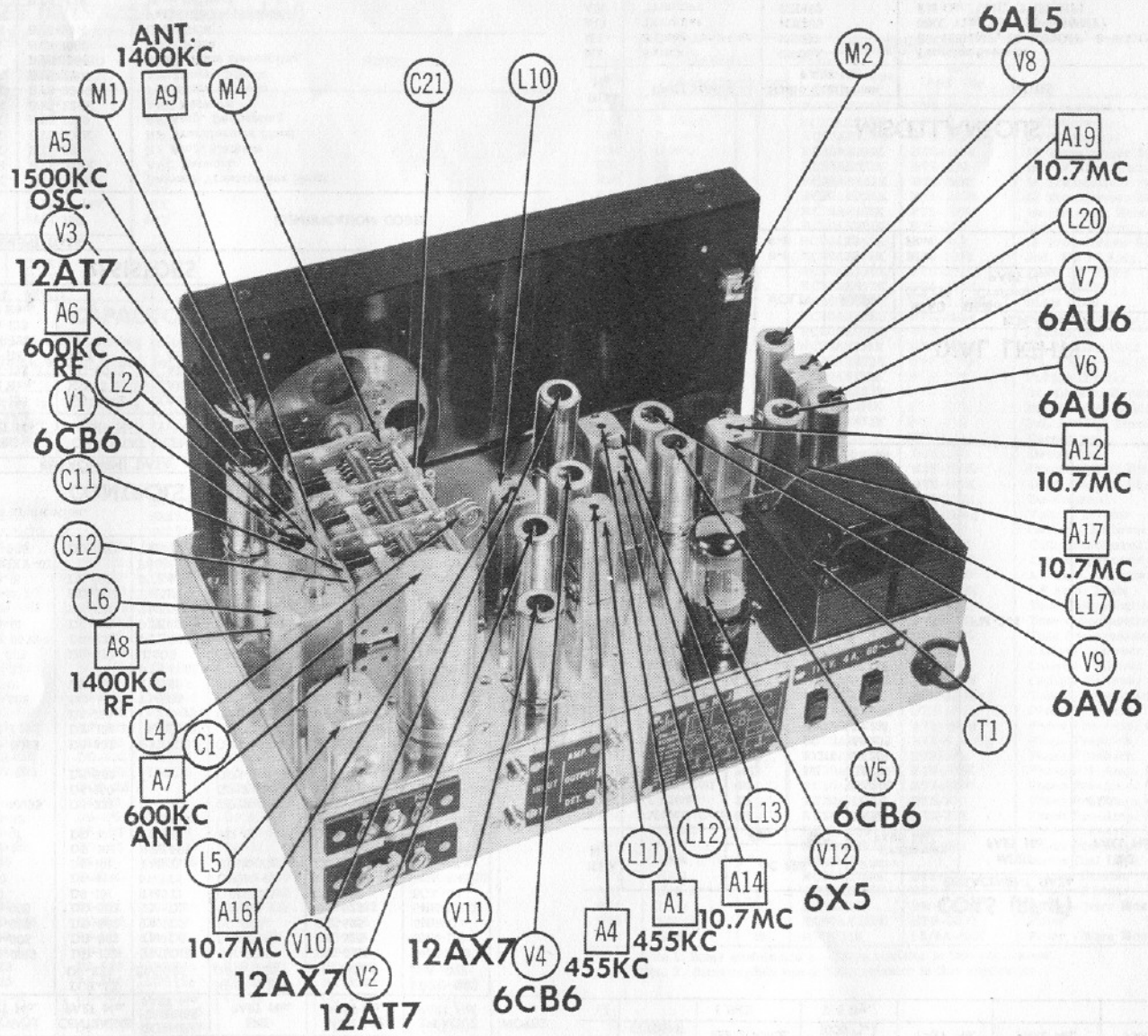
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA Radio Craftsmen PART No.	MERIT PART No.	IRC PART No.	NOTES
L2	FM Ant. Coil	0Ω		5A210			
L3	RF Choke	3Ω		5S402		CLA	3.3 Microhenries
L4	FM RF Coil	0Ω		5A209			
L5	AM Ant. Coil	26Ω	4Ω	5A220A			Tap @ .5Ω
L6	AM RF Coil	145Ω	4.3Ω	5A219			
L7	FM Osc. Coil	0Ω	0Ω	5A208			
L8	AM Osc. Coil	1.5Ω	6.5Ω	5A218			Tap @ .7Ω
L9	Fil. Choke	0Ω		5X406			
L10	FM 1st. IF Trans.	.5Ω	.6Ω	5X013			Tap @ .5Ω
L11	AM 1st. IF Trans.	20Ω	19.5Ω	5X015			Tap @ 9Ω
L12	FM 2nd. IF Trans.	1.2Ω	1.2Ω	5X014	FM-254		
L13	AM 2nd. IF Trans.	19Ω	19Ω	5X016			
L14	Fil. Choke	0Ω		5X406			
L15	RF Choke	3Ω		5X402		CLA	3.3 Microhenries
L16	Fil. Choke	0Ω		5X406			
L17	FM 3rd. IF Trans.	1Ω	1Ω	5X014			
L18	FM 4th. IF Trans.	.5Ω		5X017			
L19	Fil. Choke	0Ω		5X406			
L20	Disc. Trans.	.8Ω	.8Ω	5X005			Tap @ .4Ω

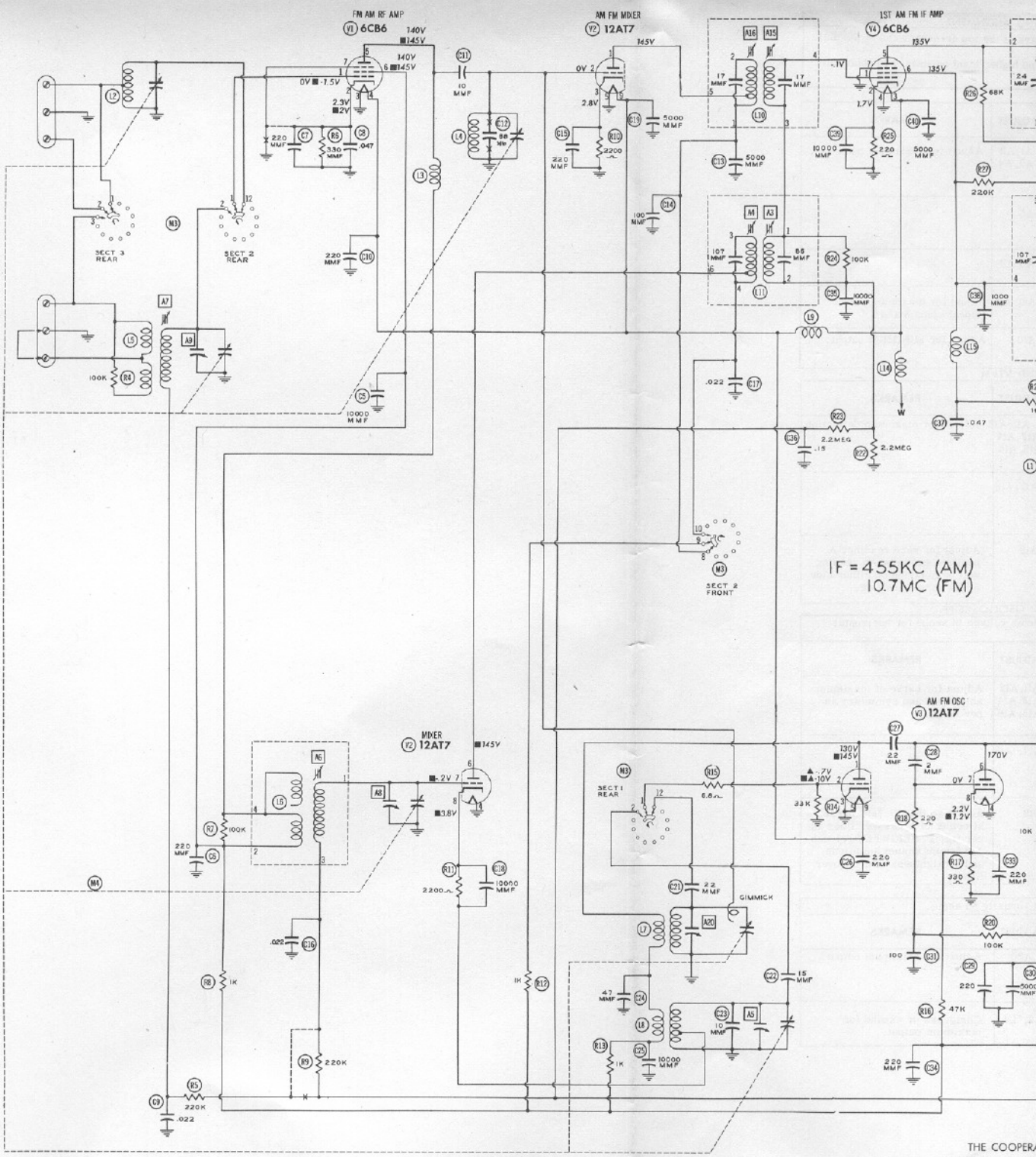
DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA Radio Craftsmen PART No.		NOTES
M1	Bayonet	6-8	.25	Blue			Type #44
M2	Bayonet	6-8	.25	Blue			Type #44

MISCELLANEOUS

ITEM No.	PART NAME	Radio Craftsmen PART No.	NOTES
M3	Switch	4S006A	Function Selector
M4	3 Gang Var. Cap.	17S007	(10-408MMF, 10-408MMF, 8-180MMF)
A10	Trimmer	17X205	10KC Trap Adj. (10-160MMF)
A20	Trimmer	17X402	FM Osc. Adj. (3-13MMF)

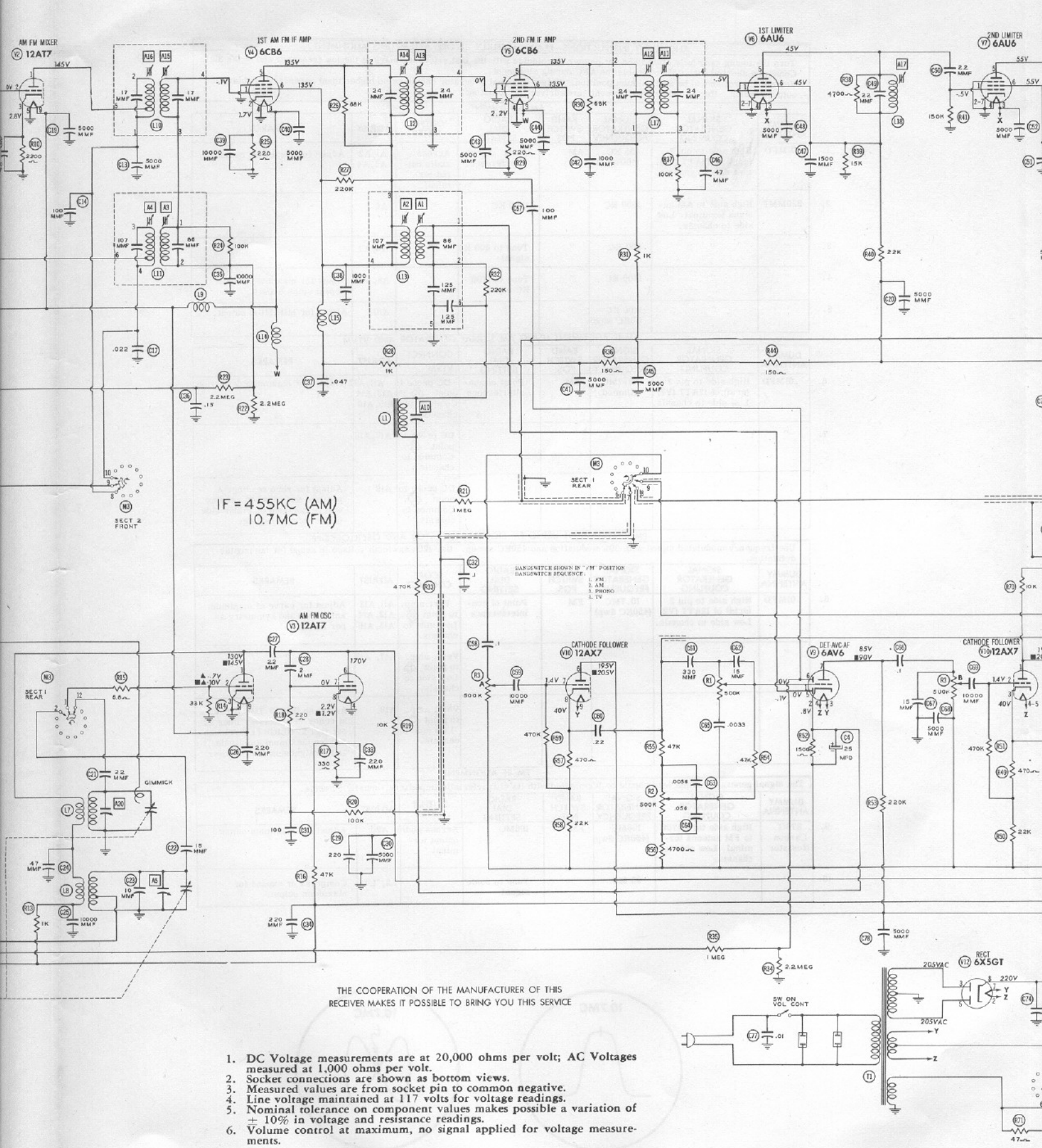

ANT.
1400KC
M1
A9
M4
C21
L10
M2
6AL5
V8
A5
1500KC
OSC.
V3
12AT7
A19
10.7MC
L20
V7
6AU6
A6
600KC
RF
L2
V1
6CB6
V6
6AU6
A12
10.7MC
C11
A17
10.7MC
C12
L17
L6
A8
1400KC
RF
V9
6AV6
T1
L4
C1
A7
600KC
ANT
V5
6CB6
L5
L11
L12
L13
V12
6X5
A16
10.7MC
V10
12AX7
V2
12AT7
V11
12AX7
V4
6CB6
A4
455KC
A1
455KC
A14
10.7MC



THE COOPERA
RECEIVER MAKES

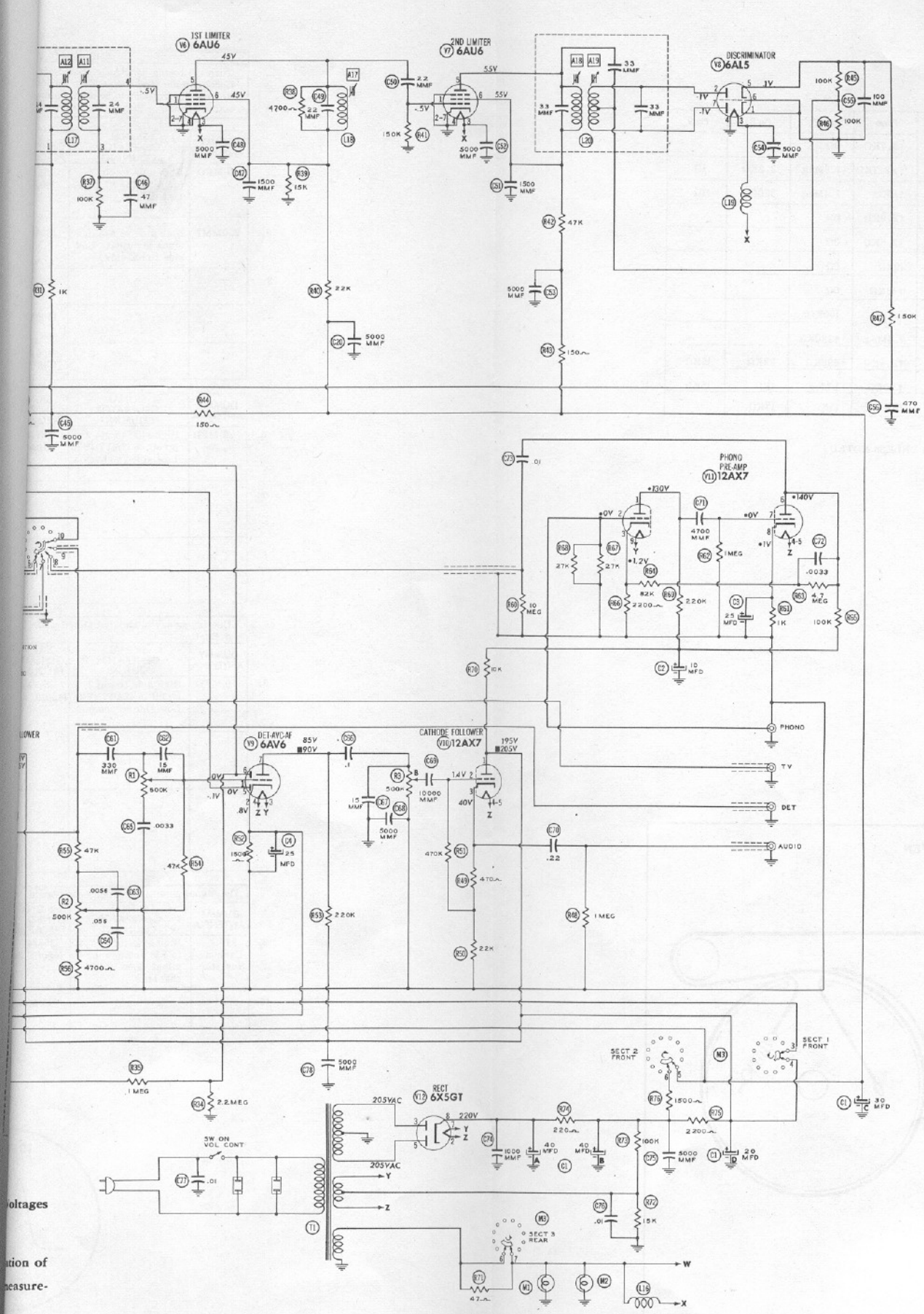
1. DC Voltage measurements
measured at 1,000 ohms p
2. Socket connections are sho
3. Measured values are from
4. Line voltage maintained at
5. Nominal tolerance on com
± 10% in voltage and res
6. Volume control at maximu
ments.

A PHOTOFACT STANDARD NOTATION SCHEMATIC



THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



oltages

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easure-

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Turn the tuning gang fully closed and set pointer to coincide with the last reference mark at the low frequency end of the dial. Connect a short across C32 to disable the AFC during alignment.
Volume control should be at maximum position. Output of signal generator should be no higher thant necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

AM ALIGNMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.01MFD	High side to pin 7 (grid) of 12AT7 (V2). Low side to chassis.	455 KC (400% Mod.)	AM	Point of non-interference.	Across audio output terminal.	A1, A2 A3, A4	Adjust for maximum output.
2.	220MMF	High side to AM antenna terminal. Low side to chassis.	1500 KC	"	1500 KC	"	A5	"
3.	"	"	600 KC	"	Tune to 600 KC signal	"	A6, A7	"
4.	"	"	1400 KC	"	Tune to 1400 KC signal	"	A8, A9	Adjust for maximum output. Repeat steps 3 and 4.
5.	"	"	1400 KC (10KC Mod)	"	"	"	A10	Adjust for MINIMUM output.

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
6.	.01MFD	High side to pin 2 (grid) of 12AT7 (V2) Low side to chassis.	10.7MC (Unmod.)	FM	Point of non-interference	DC probe to point (A). Common to chassis.	A11, A12 A13, A14 A15, A16	Adjust for maximum deflection.
7.	"	"	"	"	"	DC probe to point (B). Common to chassis.	A17, A18	"
8.	"	"	"	"	"	DC probe to point (C). Common to chassis.	A19	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 120% sawtooth voltage in scope for horizontal deflection.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	SCOPE CONNECT	ADJUST	REMARKS
6.	.01MFD	High side to pin 2 (grid) of 12AT7 (V2). Low side to chassis.	10.7MC (450KC Swp)	FM	Point of non-interference	Vert. amp. to point (A). Low side to chassis.	A11, A12 A13, A14 A15, A16	Adjust for curve of maximum amplitude and symmetry as per fig. 1.
7.	"	"	"	"	"	Vert. amp. to point (B) Low side to chassis.	A17, A18	"
8.	"	"	"	"	"	Vert. amp. to point (C). Low side to chassis.	A19	Adjust so that 10.7MC occurs at center of crossover lines as per fig. 2. SLIGHTLY retouch A18 for maximum amplitude and straightness of crossover lines.

FM RF ALIGNMENT

The signal generator output lead should be terminated with its characteristic impedance, usually 50 ohms.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
9.	270Ω Carbon Resistor	High side thru 270Ω to FM antenna terminal. Low side to chassis.	106MC (450KC Swp)	FM	106MC	Across audio output terminal	A20	Adjust for maximum output.
10.	"	"	90 MC	"	Tune to 90MC signal	"	L2, L4	Compress or expand for maximum output.

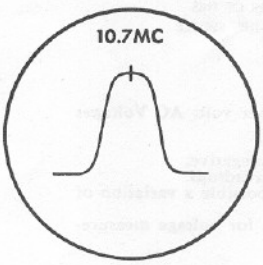

FIG. 1

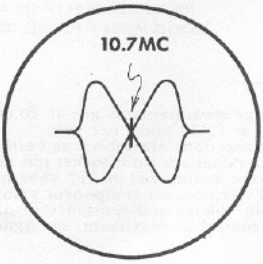

FIG. 2

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6CB6	0Ω ■1.9Meg	330Ω	0Ω	.1Ω	†2.7KΩ	†2.7KΩ	0Ω		
V 2	12AT7	†2.7KΩ	0Ω	2.2KΩ	0Ω	0Ω	†■2.7KΩ	1.9Meg	2.2KΩ	.1Ω
V 3	12AT7	†2.7KΩ	33KΩ	0Ω	0Ω	0Ω	†11KΩ	1.4Meg	330Ω	.1Ω
V 4	6CB6	1.5Meg	220Ω	.1Ω	0Ω	†2.8KΩ	†2.8KΩ	0Ω		
V 5	6CB6	1.2Ω	220Ω	.1Ω	0Ω	†2.6KΩ	†2.6KΩ	0Ω		
V 6	6AU6	100KΩ	0Ω	.1Ω	0Ω	10KΩ	10KΩ	0Ω		
V 7	6AU6	150KΩ	0Ω	.1Ω	0Ω	†48KΩ	†48KΩ	0Ω		
V 8	6AL5	0Ω	100KΩ	.1Ω	0Ω	200KΩ	0Ω	100KΩ		
V 9	6AV6	51KΩ	1.5KΩ	15KΩ	15KΩ	690KΩ	1.4Meg	†220KΩ		
V 10	12AX7	†2.4KΩ	490KΩ	22KΩ	15KΩ	15KΩ	†2.4KΩ	490KΩ	22KΩ	15KΩ
V 11	12AX7	†230KΩ	14KΩ	2.2KΩ	15KΩ	15KΩ	†110KΩ	1 Meg	1KΩ	15KΩ
V 12	6AX5GT	INF	15KΩ	86Ω	INF	94Ω	INF	15KΩ	13KΩ	

ALL MEASUREMENTS TAKEN IN "FM" POSITION UNLESS NOTED.
† MEASURED FROM PIN 8 OF V12
■ MEASURED IN "AM" POSITION.