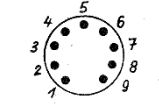


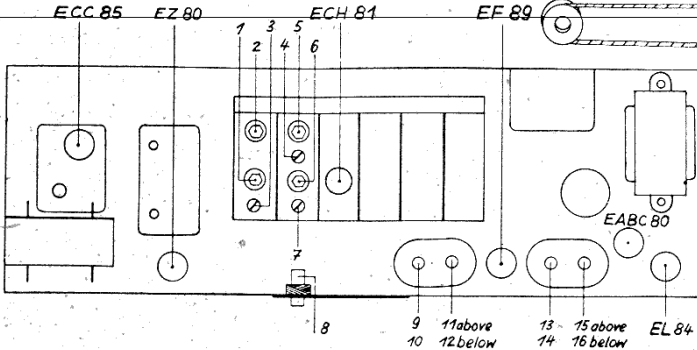
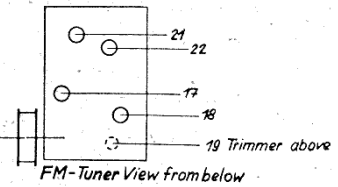
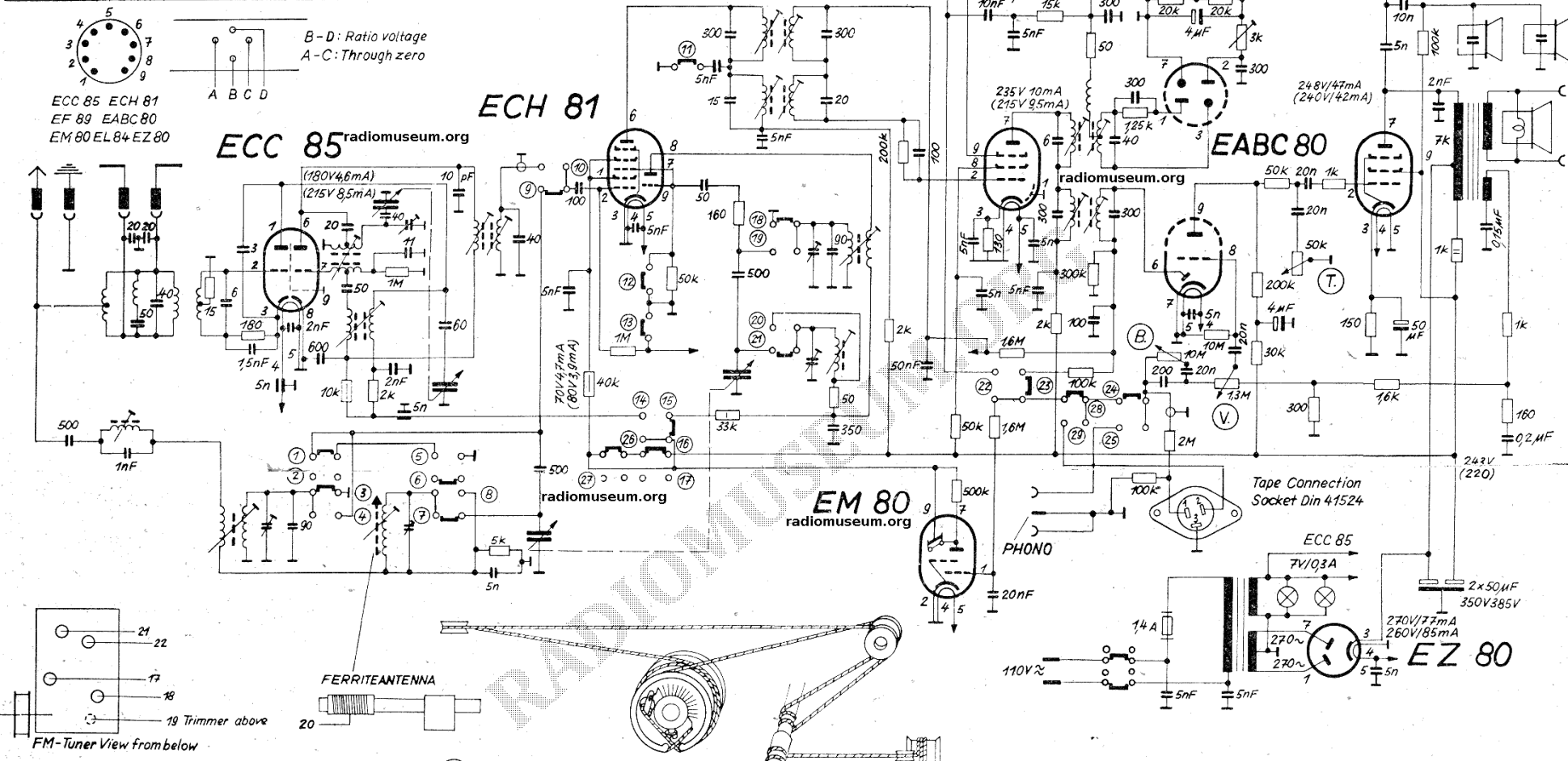
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29		
FM
SW
AM
PHONO
TAPE
OFF

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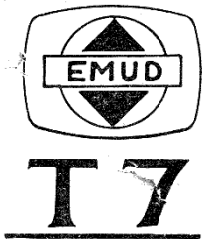
ECC 85 ECH 81
EF 89 EABC 80
EM 80 EL 84 EZ 80

B - D: Ratio voltage
A - C: Through zero



Frequencies:		Alignment:	
FM 88 106Mc	88	18; 108Mc: 19, 98Mc: 17.
SW 5.9 10Mc	5.9Mc:	7.4; 10Mc: 6.5.
AM 575 1620 Kc	575 Kc:	3; 1620 Kc: 1; 600Kc: 20; 1400Kc: 2
IF 107Mc:	Alignment sequence:	15, 11, 12, 21, 22	Max, Through zero: 1b
IF 468Kc:	Alignment sequence:	9, 10, 13, 14	Max; 8: Min.

The voltage and current values are measured with key AM (FM) switched.
Voltmeter resistance 833Ω/V.



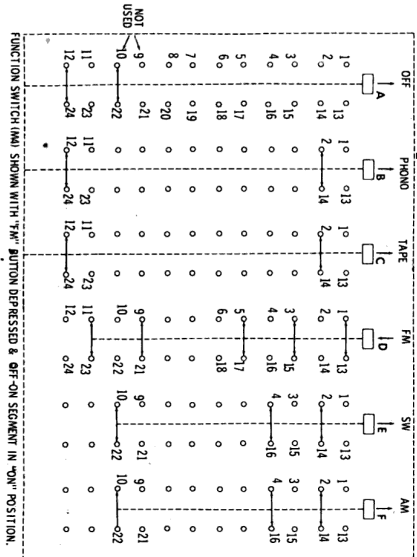
ERNST MÄSTLING ULM, D. 16.9.1957

Z.Nr.: 70653

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A PHOTOFACT STANDARD NOTATION SCHEMATIC
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SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION
DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM
ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION
CONTROL VIEWED FROM SHAFT END



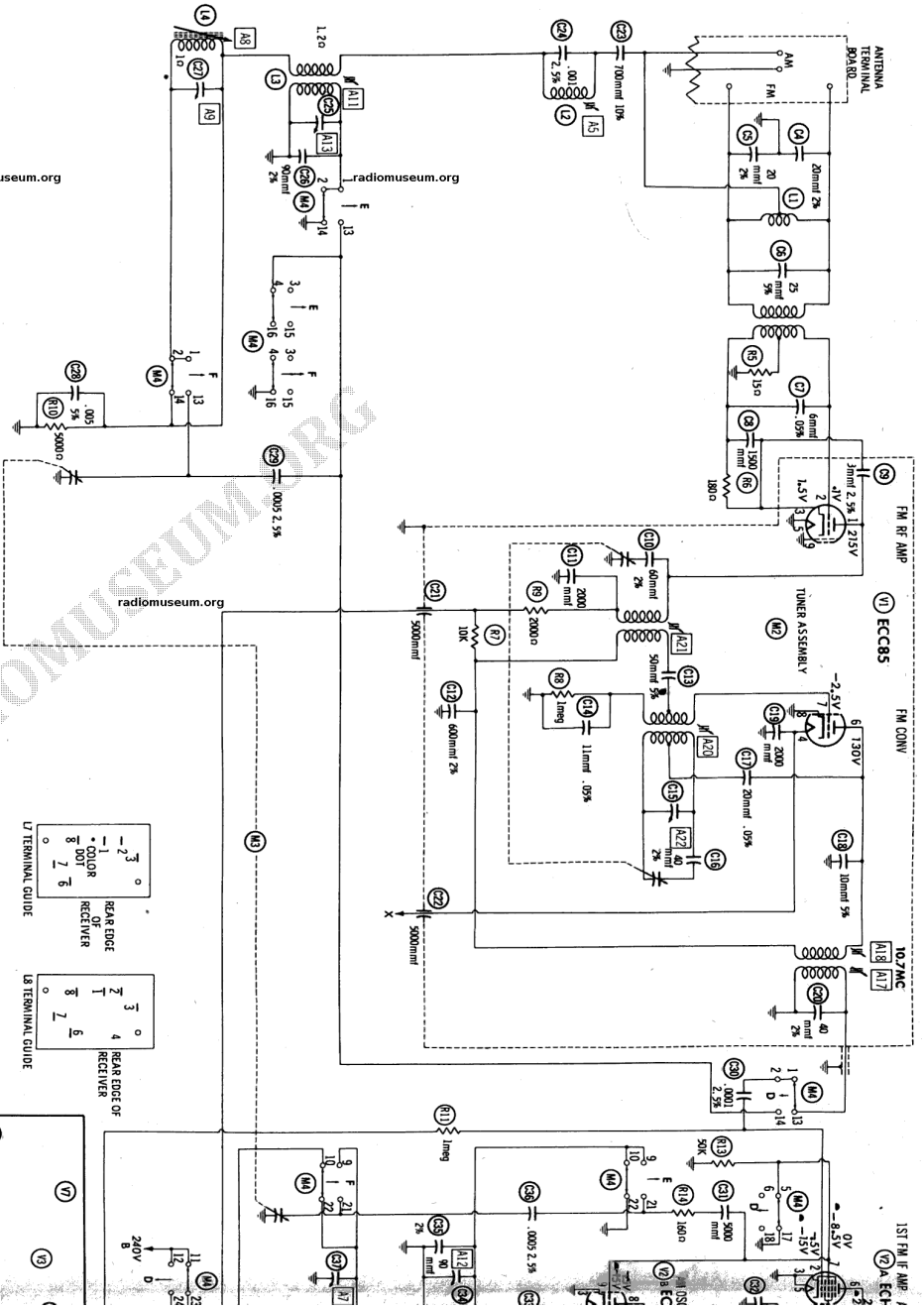
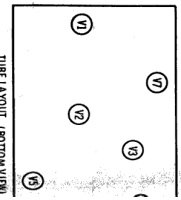
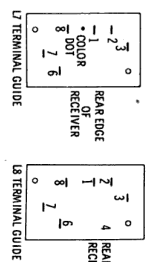
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	ECC85	150	1950	10	00	111K	00	00	00	00
V2	ECH81	141K	1mg	00	10	00	13000	00	1-34K	00
V3	6X8	00	200K	1300	10	00	1-3000	150K	40K	00
V4	6AB20	1NF	40K	1NF	00	10	300K	00	10mg	1250K
V5	6X8	2.7mg	00	NC	00	10	NC	1.1.6mg	NC	1.0000
V6	6X8	1mg	1500	00	10	00	150K	NC	NC	1.0000
V7	6X8	200	NC	00	10	00	NC	260	NC	NC

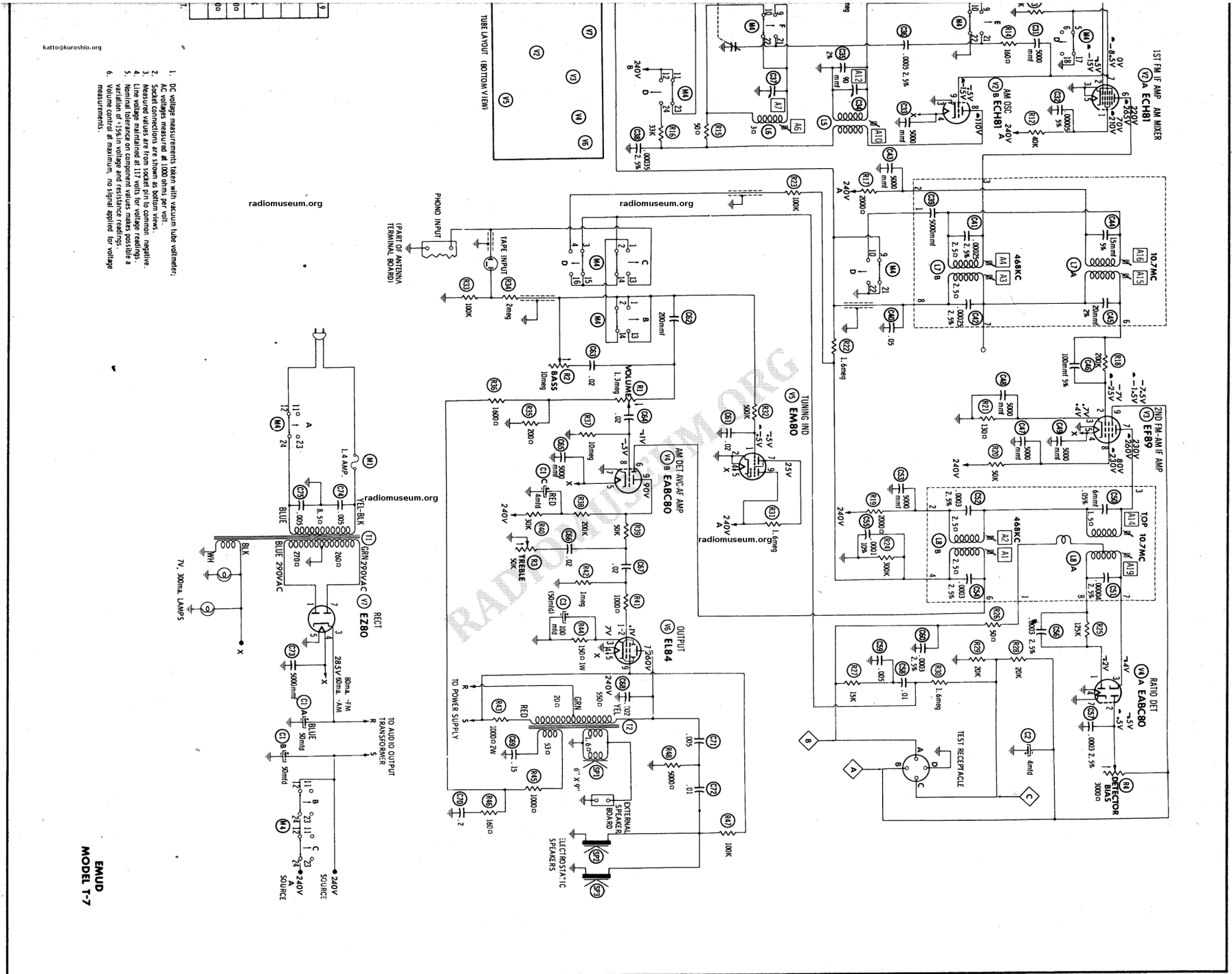
RESISTANCE READINGS

THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
MEASURED FROM PIN 1 OF V1
MEASURED FROM PIN 3 OF V1
NC NO CONNECTION.

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

- DC voltage
- AC voltage
- Measured
- Line value
- Nominal
- Variable resistor

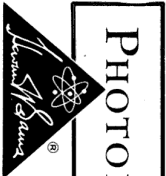




EMUD MODEL T-7

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SET 473

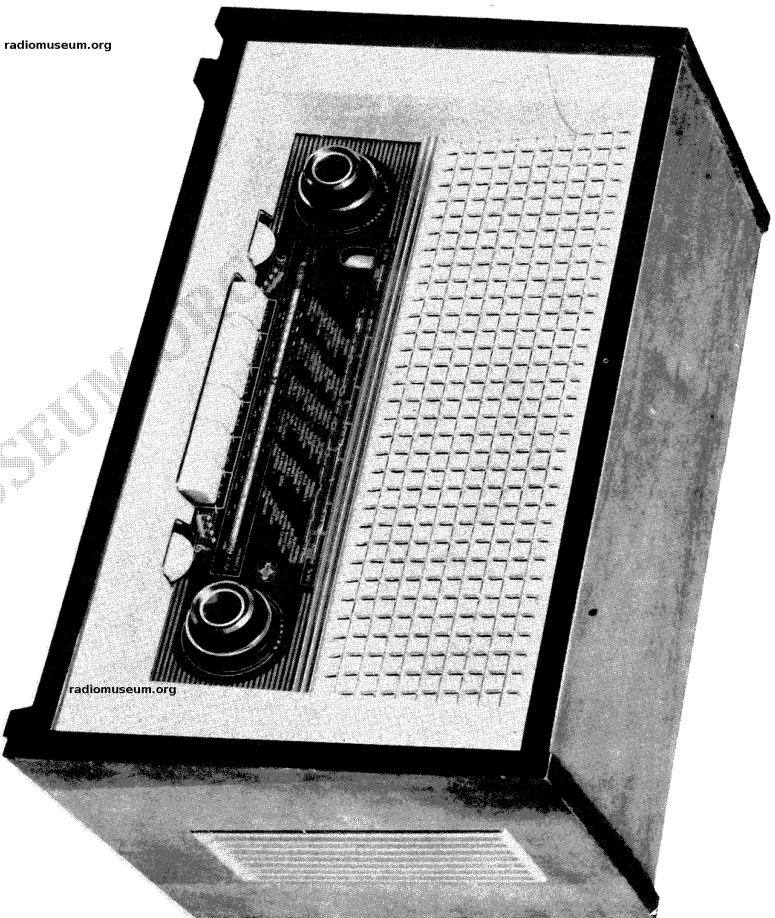


PHOTOFACT® Folder



EMUD
MODEL T-7

EMUD
MODEL T-7

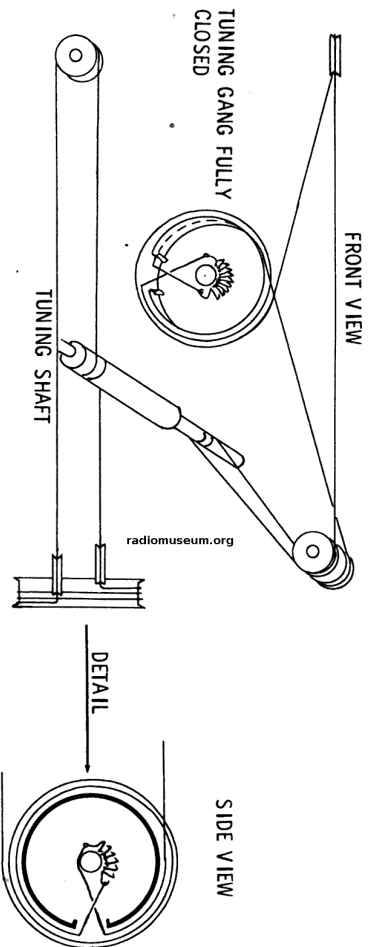


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TRADE NAME	Emud Model T-7		
IMPORTER	Delmonico International Corp., 42-24 Orchard Street, Long Island City 1, N. Y.		
TYPE SET	AC Operated 7 Tube FM-BC-SW Receiver		
POWER SUPPLY	110-120 Volts AC, 60 Cycles	RATING	68 Watts, .65 Amp @ 117 Volts AC (FM)
TUNING RANGES	BROADCAST FREQ. MOD. 88-108MC	SHORT WAVE	5.9-10MC

DIAL CORD STRINGING



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

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of JK408

the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. © 1960 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U. S. of America

DATE 2-60

SET 473

FOLDER 8

EMUD
MODEL T-7

SET 473 FOLDER 8

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. Suggested Alignment Tools: A5, A6, A10, A11,

WAJSCO #2520, 2522, 2523, 2524, 2537
 GENERAL CEMENT #8607, 9291
 GENERAL CEMENT #8721, 8722
 WAJSCO #2519

AM ALIGNMENT

1.	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
	High side thru .01mfd to pin 2 (grid) of AM Mixer. Low side to chassis.	468KC (400v. Mod.)	AM	Tuning gang fully open	Across voice coil	A1, A2, A3, A4	Adjust for maximum output.
2.	High side to AM antenna plug. Low side to chassis.	"	"	"	"	A5	Adjust for MINIMUM output.
3.	Loop	515KC	"	Tuning gang fully closed	"	A6	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
4.	"	1620 KC	"	Tuning gang fully open	"	A7	"
5.	"	600KC	"	Tune to 600KC signal	"	A8	Adjust for maximum while rocking tuning gang.
6.	"	1400 KC	"	Tune to 1400KC signal	"	A9	"
7.	High side thru .001mfd to AM antenna. Low side to chassis.	5.9MC	SW	5.9MC	"	A10, A11	Adjust for maximum output.
8.	"	10MC	"	10MC	"	A12, A13	"

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

Connect two matched 100K (±1%) resistors in series from point \diamond to chassis. The junction of these two resistors is alignment point \diamond as shown on the schematic.

9.	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
	High side thru .001mfd to pin 7 (grid) of FM Converter. Low side to chassis.	10.7MC (Unmod.)	FM	Point of non-interference	DC probe thru \diamond , 100K to point \diamond , Common to chassis	A14, A15, A16, A17, A18	Adjust for maximum deflection.
10.	"	"	"	"	DC probe to point \diamond , Common to point \diamond	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 60v modulation and 450KC sweep. Use 120v sawtooth voltage in scope for horizontal deflection.

9.	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
	High side thru .001mfd to pin 7 (grid) of FM Converter. Low side to chassis.	10.7MC (450KC Swp)	FM	Point of non-interference	Vert. Amp. thru \diamond , 100K to point \diamond , Low side to chassis.	A14, A15, A16, A17, A18	Disconnect stabilizing capacitor C2. Adjust for maximum gain and symmetry of response similar to Fig. 1. Reconnect C2.
10.	"	"	"	"	Vert. Amp. thru \diamond , 100K to point \diamond , Low side to chassis.	A19	Adjust to place marker at the center of crossover lines similar to Fig. 2. SLIGHTLY retouch A14 for maximum amplitude and straightness of crossover lines.

FM RF ALIGNMENT

11.	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
	Across FM antenna terminals.	108MC (Unmod.)	FM	108MC	DC probe thru \diamond , 100K to point \diamond , Common to chassis.	A20	Adjust for maximum deflection.
12.	"	88MC	"	88MC	"	A21	"
13.	"	98MC	"	98MC	"	A22	Adjust for maximum deflection while rocking tuning gang.



FIG. 1

FIG. 2

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PARTS LIST AND DESCRIPTIONS TUBES

CBS			GENERAL ELECTRIC			RAYTHEON			SYLVANIA		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	FM RF Amp. - FM Conv. 1st FM IF Amp. - AM Mixer - AM Osc. 2nd FM IF Amp. - AM IF Amplifier	ECC85	V4	Ratio Detector - AM Det. - AVC - AF Amplifier Tuning Indicator Output Rectifier		V5	EABC80 EM80 EL84 EZ80				
V2		ECH81	V6								
V3		EF89	V7								

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	EMUD PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	NOTES
C1A	50	350			BBRT0235	WT460			
B	50	350							
C	4	350							
C2	4	100		SRE150V5	NLW5-100	TT150X4	TD-4-150	TE-1404	
C3	100	12		SRE12V100	BBI100-15	TT15X100	TD-100-15	TE-1160	Note 1

Note 1. Some versions may use 50mfd in this application.

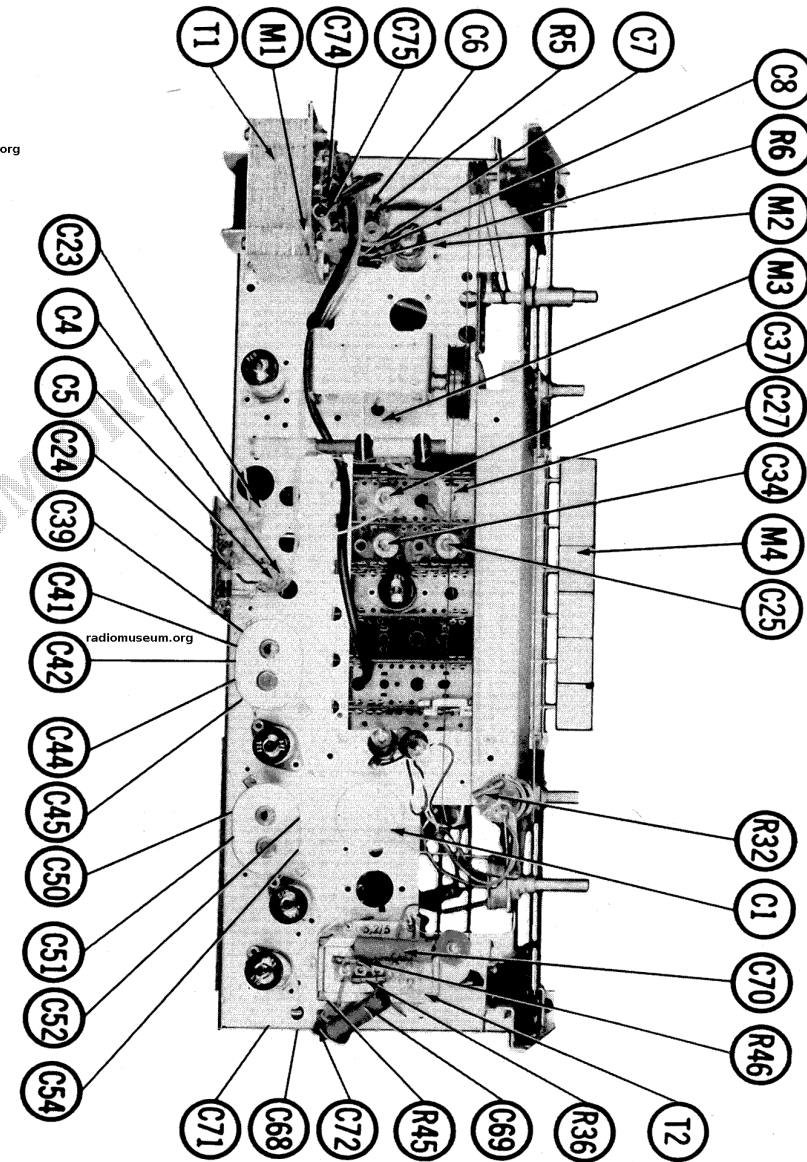
FIXED CAPACITORS

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

ITEM No.	RATING		REMARKS	REPLACEMENT DATA					
	CAP.	VOLT.		AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C4	20	2%							
C5	20	2%							
C6	25	5%						CNO-425	10TCC-Q25
C7	6	.05%							
C8	1500								
C9	3	2.5%							
C10	60	2%							
C11	2000								
C12	600	2%							
C13	50	5%							
C14	11	.05%							
C15									
C16	40	2%							
C17	20	.05%							
C18	10	5%							
C19	2000								
C20	40	2%							
C21	5000								
C22	5000								
C23	700	10%							
C24	.001 125V	2.5%							
C25									
C26	90	2%							
C27									
C28	.005 125V	5%							
C29	.0005 500V	2.5%							
C30	.0001 125V	2.5%							
C31	5000								
C32	.00005 500V	5%							
C33	5000								
C34									
C35	90	2%							
C36	.0005 500V	2.5%							
C37									
C38	.00035 500V	2.5%							
C39	5000								
C40	.05 500V								
C41	.00025 125V	2.5%							
C42	.00025 125V	2.5%							
C43	5000								
C44	15	5%							
C45	20	2%							

FOLDER 8

CHASSIS—TOP VIEW



MODEL T-7
EMUD

PARTS LIST AND DESCRIPTIONS (Continued)

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FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELEMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C46	100 5%			TC2-100	C10T1C	CM-20B-101J	CNO-310	10TCC-T10
C47	5000		SI 5000	D6-502	BYA10D5	CCD-502	B-250	5HK-D50
C48	5000		SI 5000	D6-502	BYA10D5	CCD-502	B-250	5HK-D50
C49	5000		SI 5000	D6-502	BYA10D5	CCD-502	B-250	5HK-D50
C50	6	.05%						
C51	.00004 125V	2.5%				CM-15-E-390G	MCE223	
C52	.0003 125V	2.5%				CM-15-E-301G	MCE241	
C53	5000		SI 5000	D6-502	BYA10D5	CCD-502	B-250	5HK-D50
C54	.0003 125V	2.5%				CM-15-E-301G	MCE241	radiomuseum.org
C55	.0001 500V	10%		DD-101	LI0T1	CM-20B-101K	GP310	10TS-T1
C56	.0003 125V	2.5%				CM-15-E-301G	MCE241	
C57	.0003 125V	2.5%				CM-15-E-301G	MCE241	
C58	.01 500V		P688N-01	D6-103	CUB6S1	6DP-2-103	GEM-611	6TM-S1
C59	.005 250V		P488N-005	D6-502	CUB4D5	6DP-1-502	GEM-625	6TM-D5
C60	.0003 125V	2.5%				CM-15-E-301G	MCE241	
C61	.02 500V		P688N-02	DD-203	CUB6S2	6DP-2-203	GEM-612	6TM-S2
C62	200		SI 200	D6-201	LI0T2	CCD-201	10TS-T20	
C63	.02 500V		P688N-02	DD-203	CUB6S2	6DP-2-203	GEM-612	6TM-S2
C64	.02 500V		P688N-02	DD-203	CUB6S2	6DP-2-203	GEM-612	6TM-S2
C65	5000		BPD-005	D6-502	BYA10D5	CCD-502	B-250	5HK-D5
C66	.02 500V		P688N-02	DD-203	CUB6S2	6DP-2-203	GEM-612	6TM-S2
C67	.02 500V		P688N-02	DD-203	CUB6S2	6DP-2-203	GEM-612	6TM-S2
C68	.002 500V		P688N-002	D6-202	CUB6D2	6DP-1-202	GEM-622	6TM-D2
C69	.15 250V		P488N-15		CUB4P15	4DP-4-154	GEM-4015	4TM-P15
C70	.2 250V		P488N-2		CUB4P22	4DP-4-204	GEM-402	4TM-P2
C71	.005 500V		P688N-005	D6-502	CUB6D5	6DP-1-502	GEM-625	6TM-D5
C72	.01 500V		P688N-01	D6-103	CUB6S1	6DP-2-103	GEM-611	6TM-S1
C73	500		SI 5000	D6-502	BYA10D5	CCD-502	B-250	5HK-D50
C74	.005 500V		P688N-005	D6-502	CUB6D5	6DP-1-502	GEM-625	6TM-D5
C75	.005 500V		P688N-005	D6-502	CUB6D5	6DP-1-502	GEM-625	6TM-D5

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CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	EMUD PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	1.3meg	1/4	14	AB-70				Volume
B	Shaft			AK-29				
R2	10meg	1/4	2					Bass
R3	50K	1/4	3					Treble
R4	3000Ω	1/4						Detector Bias

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS
R5	15Ω		R20	50K		R35	200Ω	
R6	180Ω		R21	130Ω		R36	1600Ω	
R7	10K		R22	1.6meg		R37	10meg	
R8	1meg		R23	100K		R38	200K	
R9	2000Ω		R24	300K		R39	50K	
R10	5000Ω		R25	125K		R40	30K	
R11	1meg		R26	50Ω		R41	1000Ω	
R12	40K		R27	15K		R42	1meg	
R13	50K		R28	20K		R43	1000Ω 2W	
R14	160Ω		R29	20K		R44	150Ω 1W	
R15	50Ω		R30	1.6meg		R45	1000Ω	
R16	33K		R31	1.6meg		R46	160Ω	
R17	2000Ω		R32	500K		R47	100K	
R18	200K		R33	100K		R48	5000Ω	
R19	2000Ω		R34	2meg				

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA						NOTES
		EMUD PART No.	Gramer PART No.	Meissner PART No.	Merit PART No.	Miller PART No.	Ram PART No.	
L1	FM Antenna Coil							
L2	IF Trap Coil							
L3	SW Antenna Trans.							
L4	Loopstick							
L5	SW Osc. Coil							
L6	AM Osc. Coil							
L7A	2nd FM IF Trans.							
B	1st AM IF Trans.							
L8A	Ratio Detector							
B	2nd AM IF Trans.							

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA						
	PRI.	SEC. 1	SEC. 2	EMUD PART No.	Haldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	117V @ .65A	580VCT @ .080A	6.3V @ 3.6A							

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA							NOTES
	PRI.	SEC.1	EMUD PART No.	Haldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	6000Ω	100Ω								
	Tap @ 3%	5Ω								

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	EMUD PART No.	QUAM PART No.	
SP1	6" x 9"	PM	4-5Ω			
SP2		Electrostatic				
SP3		Electrostatic				

FUSES

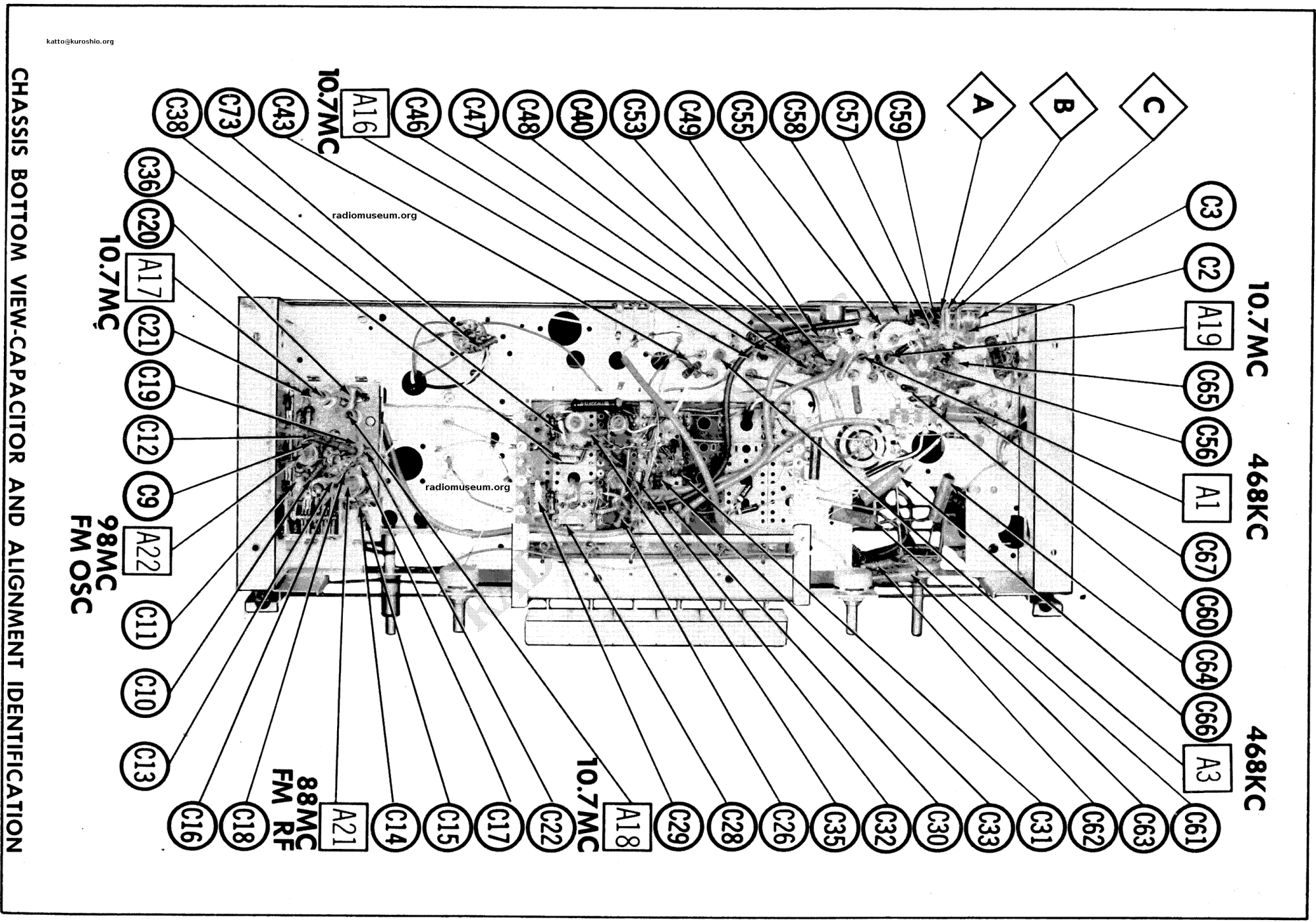
ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			EMUD PART No.		LITTELFUSE PART No.		BUSS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1		1.4A 250V	713-20						

MISCELLANEOUS

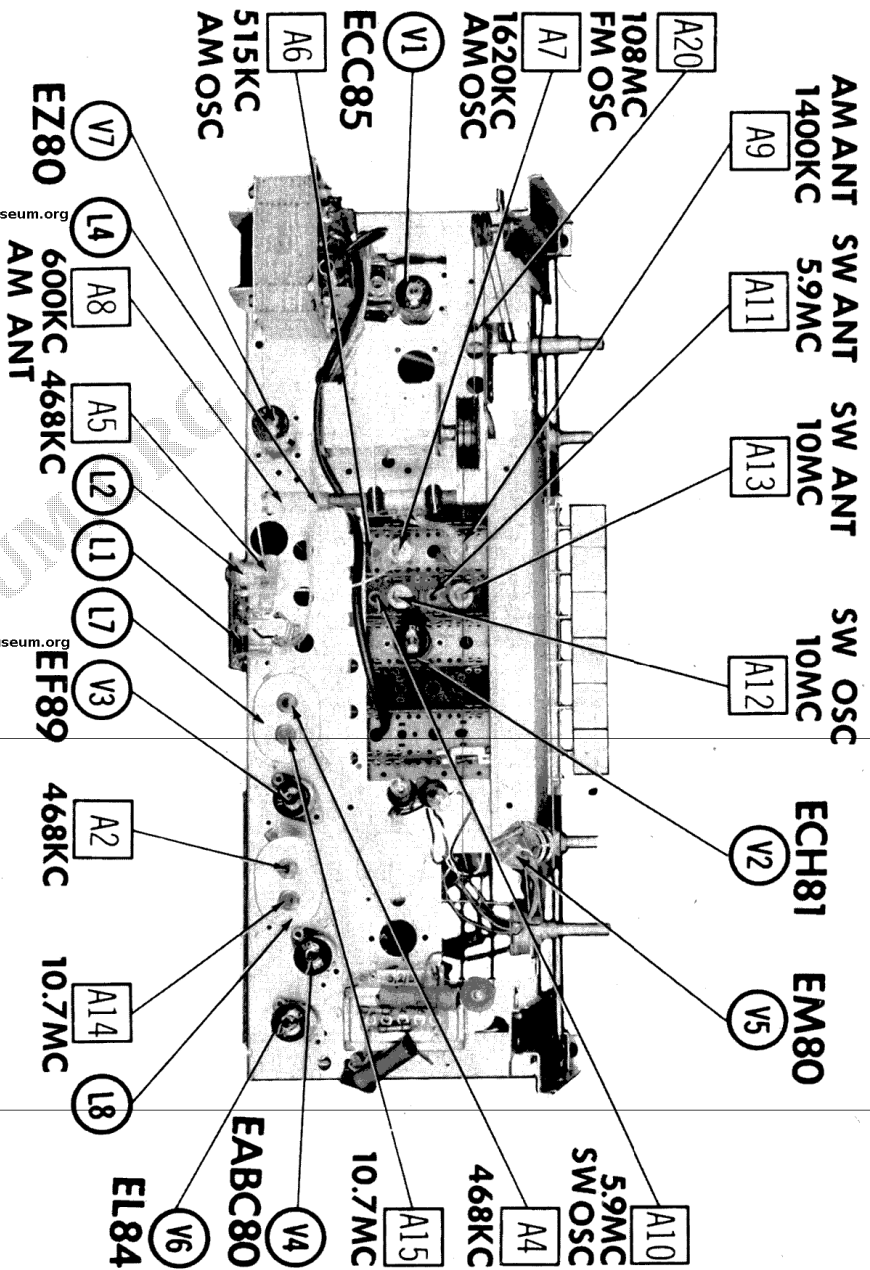
ITEM No.	PART NAME	EMUD PART No.	NOTES
M2	RF Tuner		FM
M3	Tuning Cap.		AM, 2 Gang (Ant. 9-522mmf, Osc. 11-482mmf)
M4	Switch		Pushbutton Type, Includes Off-On, Phono, Tape, FM, SW, AM

WIRING DATA

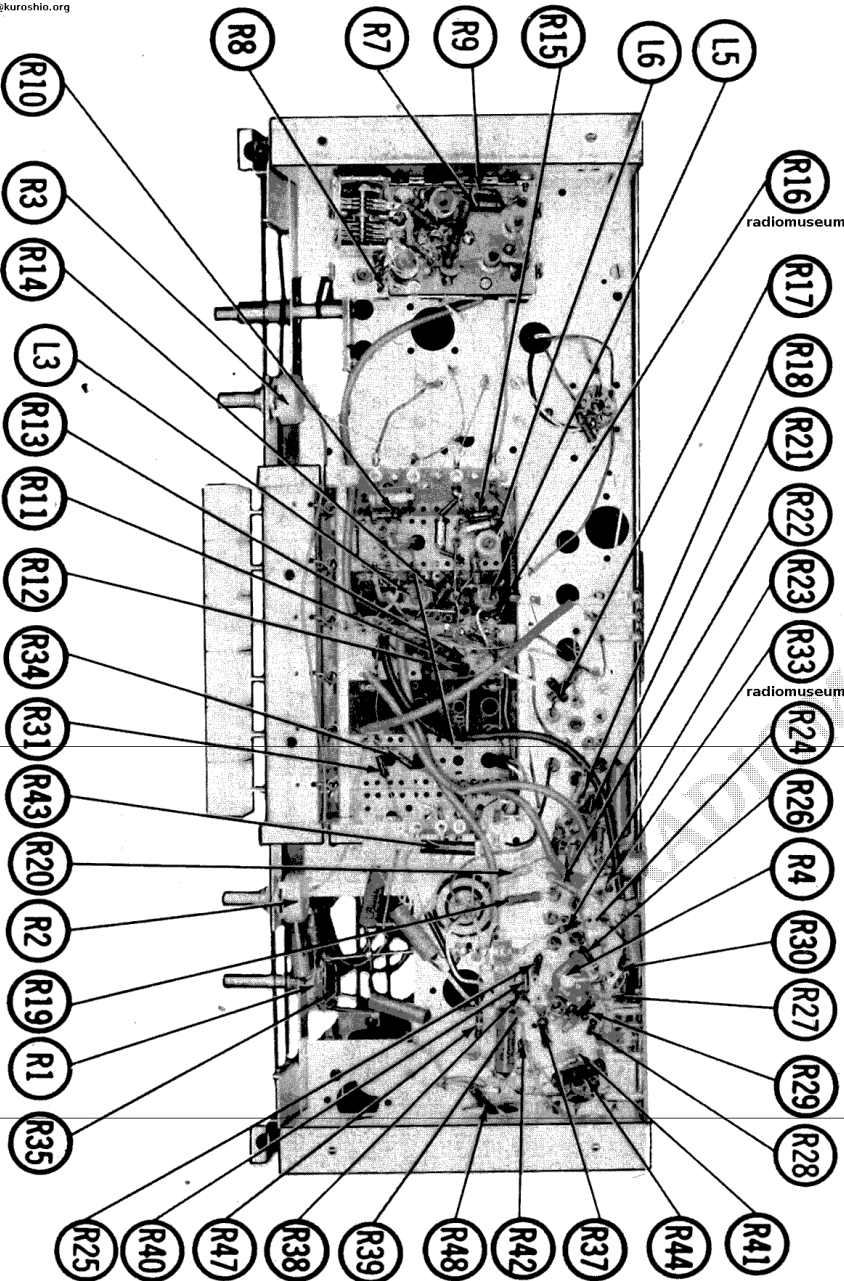
General-use Unshielded Hook-up Wire Use BELDEN No. 8530 (Solid) Available in Ten Colors
 8524 (Stranded) Available in Ten Colors
 Power Cord Use BELDEN No. 1765-B (6 Ft. Length)
 1725-K (7½ Ft. Length)



CHASSIS BOTTOM VIEW-CAPACITOR AND ALIGNMENT IDENTIFICATION



CHASSIS TOP VIEW - ALIGNMENT, INDUCTOR & TUBE IDENT.

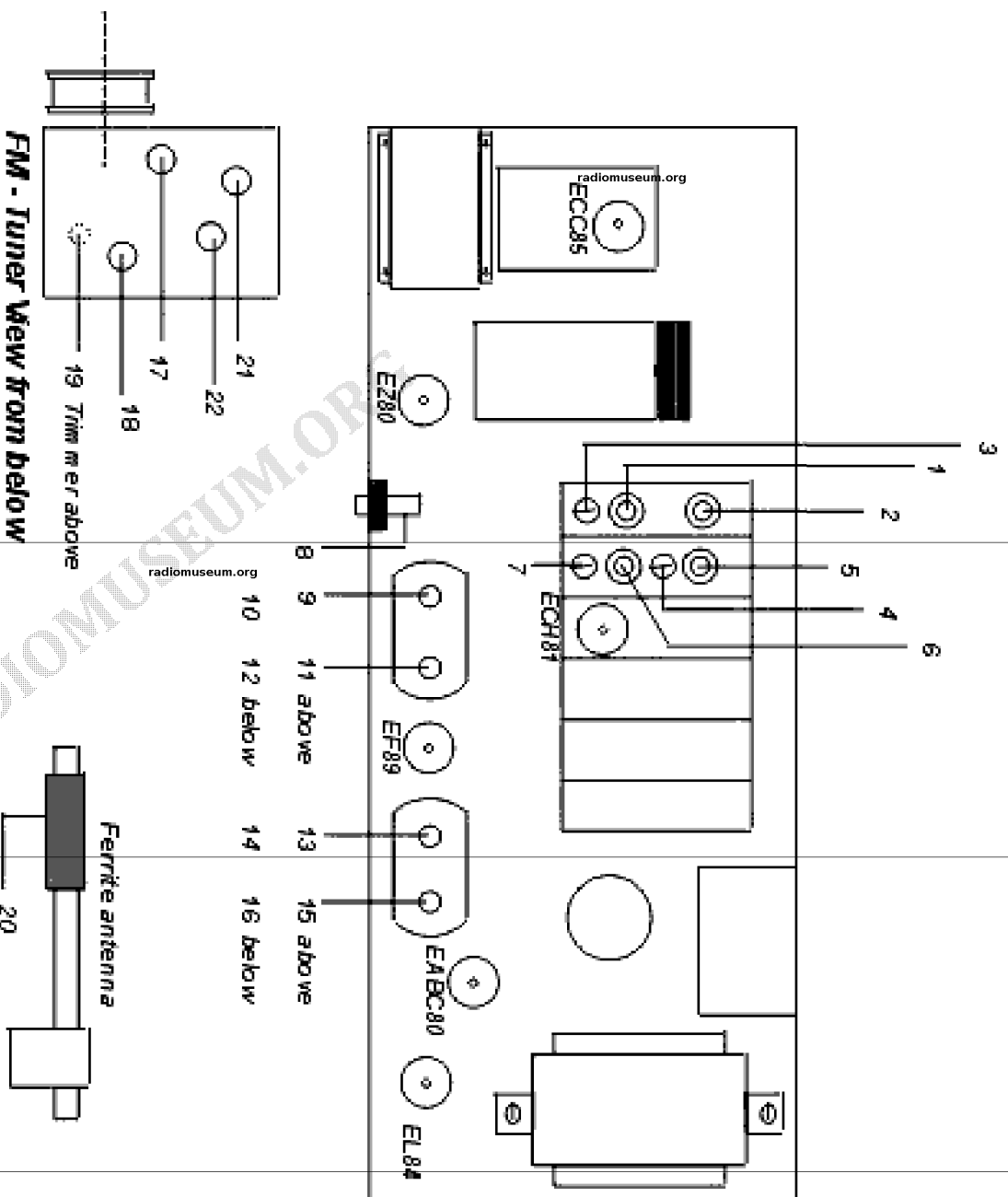


CHASSIS BOTTOM VIEW - RESISTOR & INDUCTOR IDENT.

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EMUD T7 (1957) ALIGNMENT

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Frequencies

Alignment

FM	88.....108Mc	88Mc: 18; 108Mc: 19; 98Mc: 17
SW	5.9.....10Mc	5.9Mc: 7, 4; 10Mc: 6, 5
AM	515.....1620Kc	515Kc: 3; 1620Kc: 1; 600Kc: 20; 1400Kc: 2
IF 10.7Mc: Alignment seq.: 15, 11, 12, 21, 22 Max; Through zero: 16		
IF 459 Kc: Alignment seq.: 9, 10, 13, 14 Max; 8: Min		