



PHOTOFACT[®] with CIRCUITRACE[®]

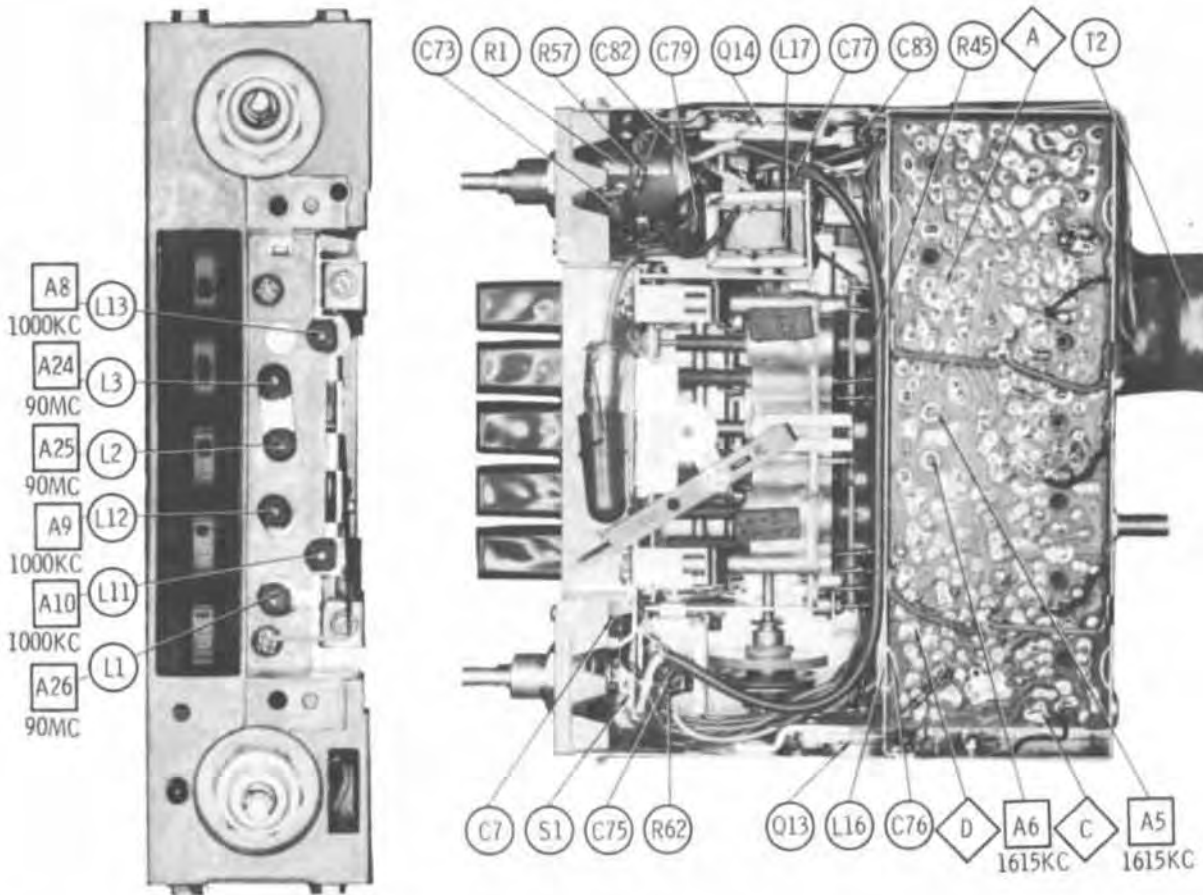
For Supplier Address See PHOTOFACT Index

NOTE: Manufacturer Part Numbers Shown Are MOTOROLA



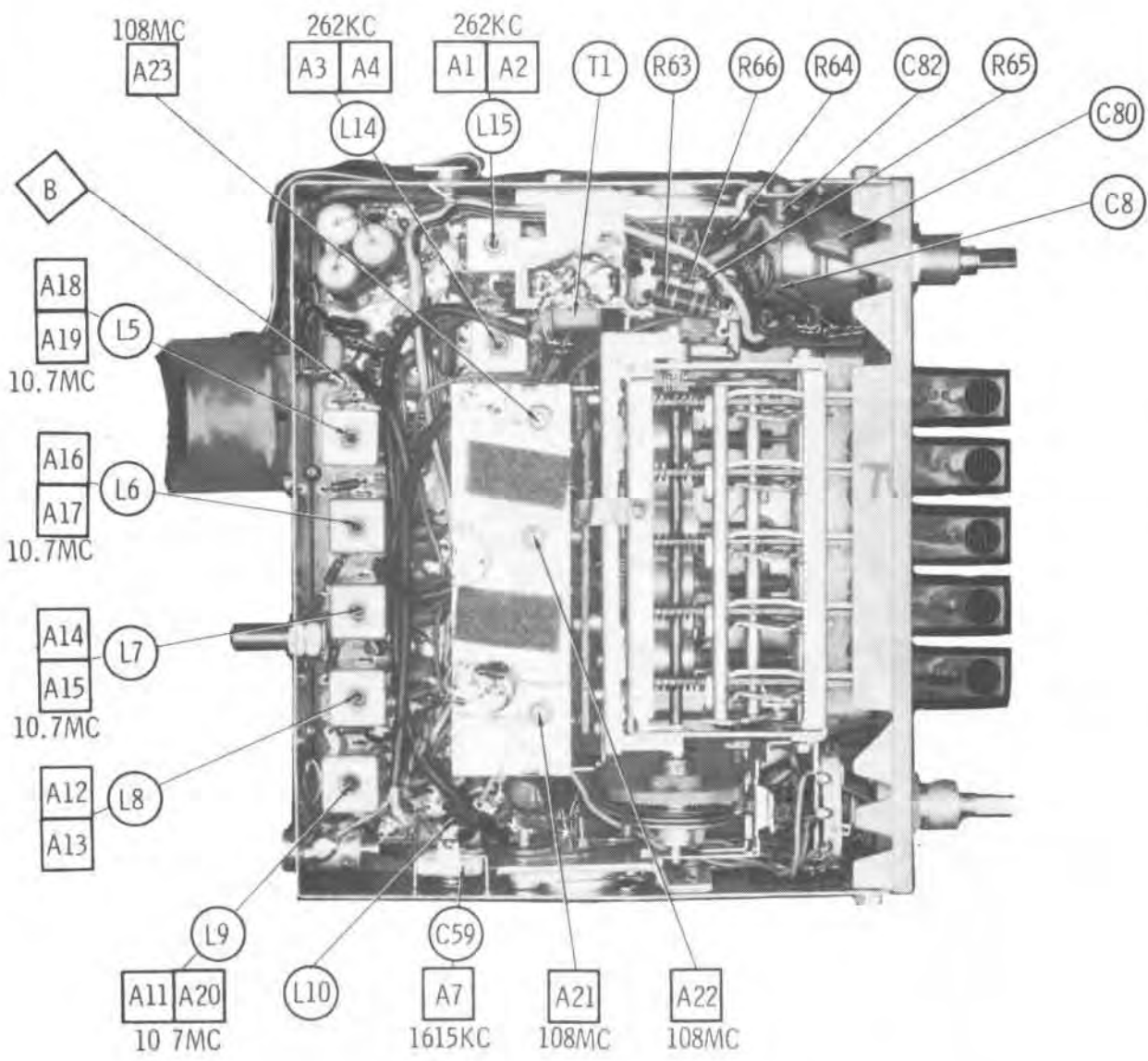
MODELS 1VV2032, 1VV2908 (279971) (70 140 Series)
2VV6016 (279959) (70 140 Series)

VOLVO MODEL 1VV-2032/-2908, 2VV2016



HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

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ALIGNMENT INSTRUCTIONS

Check for specified source voltage.
Use only enough generator output to provide a usable indication.
Suggested Alignment Tools:

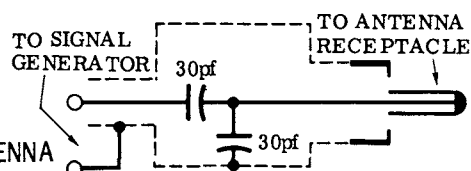
A1 thru A4, A11 thru A20 GC ELECTRONICS #9296,9297,9300
A5,A6,A7,A21,
A22,A23 GC ELECTRONICS #8290,8868,9087

PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.

GENERATOR COUPLING	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. High side thru .1mfd to point \diamond A, low side to ground.	262KC 400 cycle modulation	High freq. end stop.	Output meter across voice coil.	A1,A2, A3,A4	Adjust for maximum.
2. Thru dummy antenna to antenna input.	1615KC	"	"	A5,A6, A7	"
Step 3 is not necessary unless tuner or associated components have been disturbed. If necessary, back tuning cores (A8,A9,A10) out of coils but not out of forms. Repeat Step 2.					
3. Thru dummy antenna to antenna input.	1000KC	Tune to signal	Output meter across voice coil	A8,A9, A10	Adjust for maximum. Repeat Steps 2 and 3 until no further improvement is noted

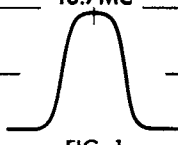
With radio installed in car and antenna extended 33", tune in a weak station near 1400KC and adjust A7 for maximum output. Antenna adjustment (A7) is located on right rear corner in front of antenna input.



DUMMY ANTENNA

FM IF ALIGNMENT USING AM SIGNAL GENERATOR—SELECTOR IN FM POSITION

High side of generator thru .001mfd to point \diamond B, low side to ground.

GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
4. 10.7MC Unmodulated	Point of non-interference	DC probe of VTVM to point \diamond C, common to ground.	All thru A19	Adjust for maximum. 
5. "	"	DC probe of VTVM to point \diamond D, common to ground.	A20	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.

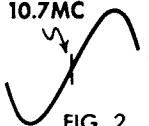
FM IF ALIGNMENT USING FM SIGNAL GENERATOR—SELECTOR IN FM POSITION

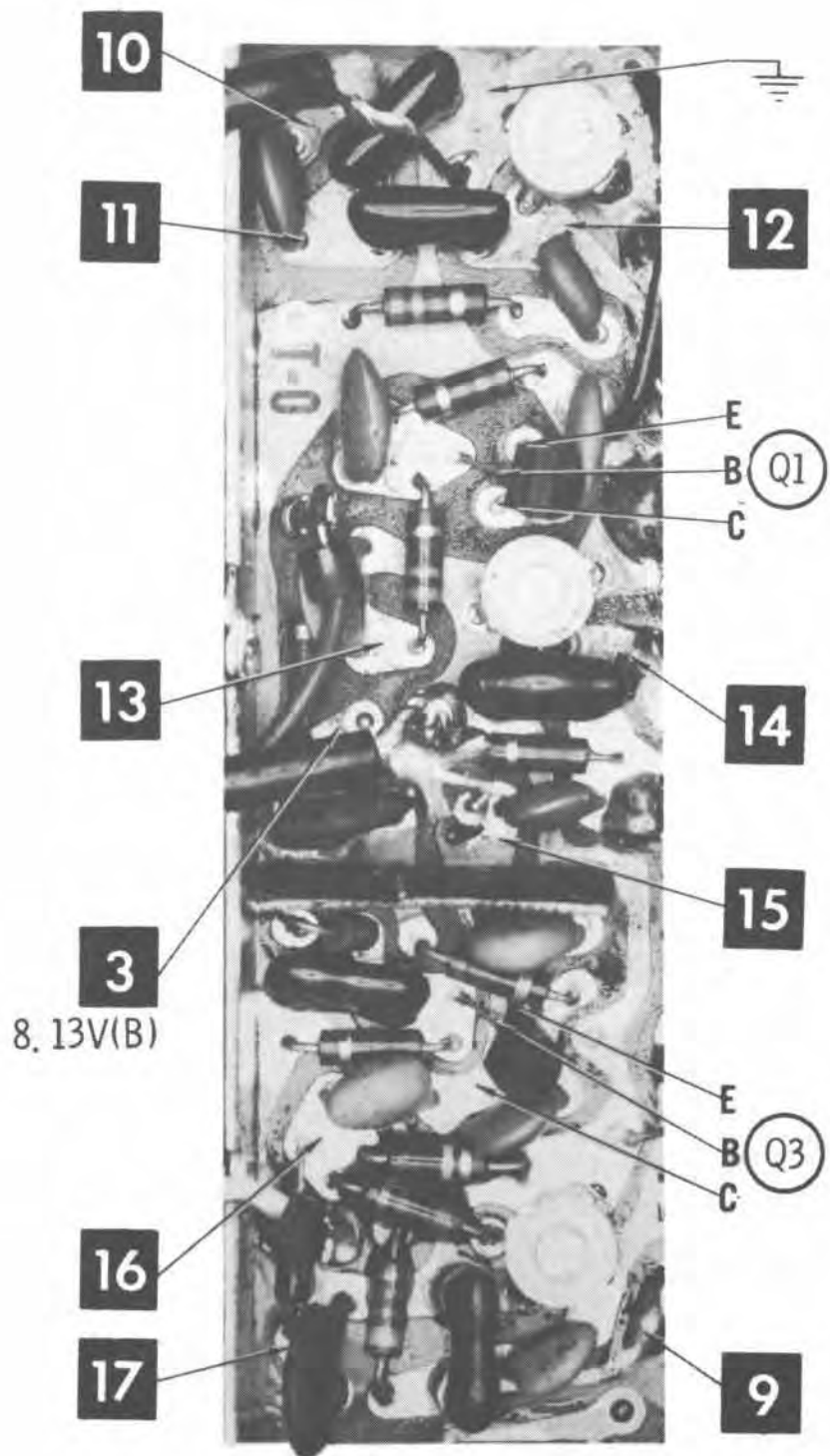
High side of generator thru .001mfd to point \diamond B, low side to ground. Use only enough marker signal for indication. Use 60 cycle frequency modulated signal with 450KC sweep. Use 60 cycle sawtooth voltage in scope for horizontal deflection.

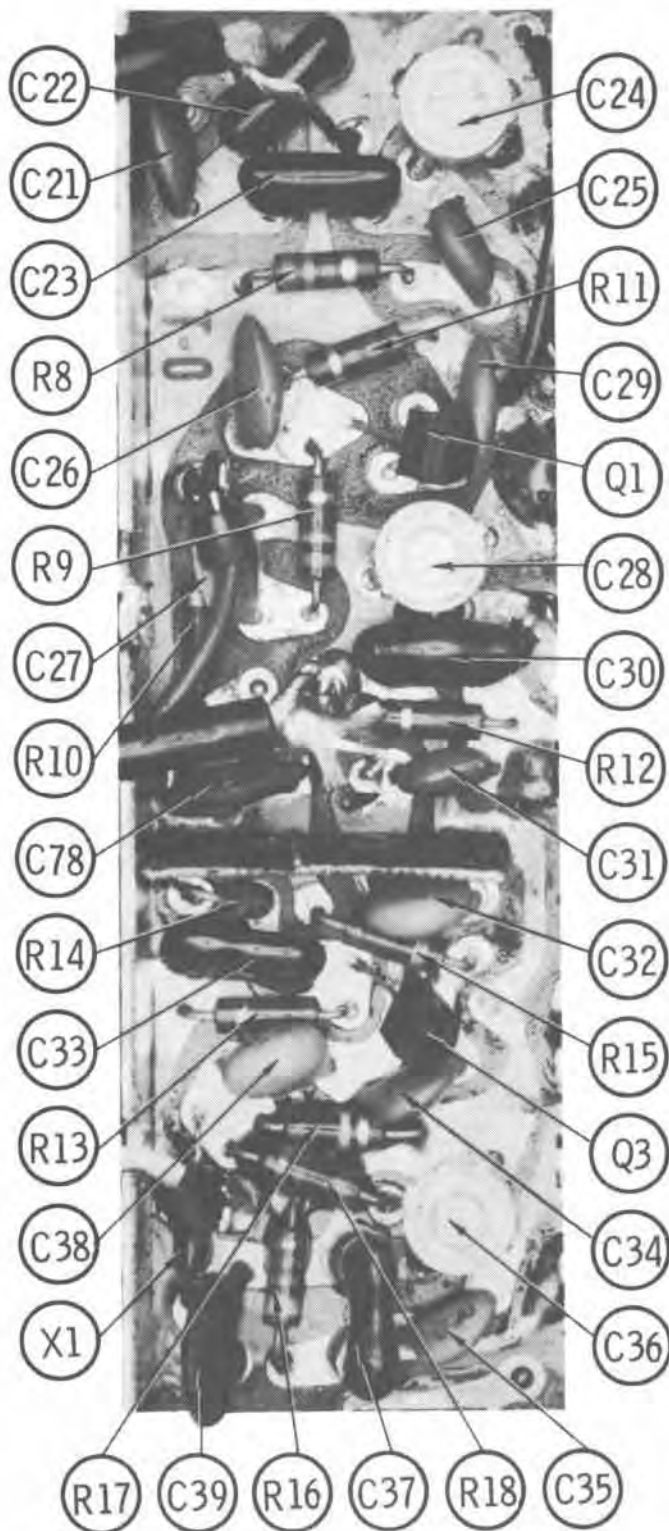
4. 10.7MC 450KC Sweep	Point of non-interference	Vert. amp of scope to point \diamond C, low side to ground.	All thru A19	Disconnect stabilizing capacitor C2. Adjust for maximum gain and symmetry of response similar to Fig. 1 with marker as shown. Reconnect C2.
5. "	"	Vert. amp of scope to point \diamond D, low side to ground.	A20	Adjust A20 (secondary) to place marker at center of "S" curve similar to Fig. 2. Readjust A11 (primary) for maximum amplitude and straightness of line.

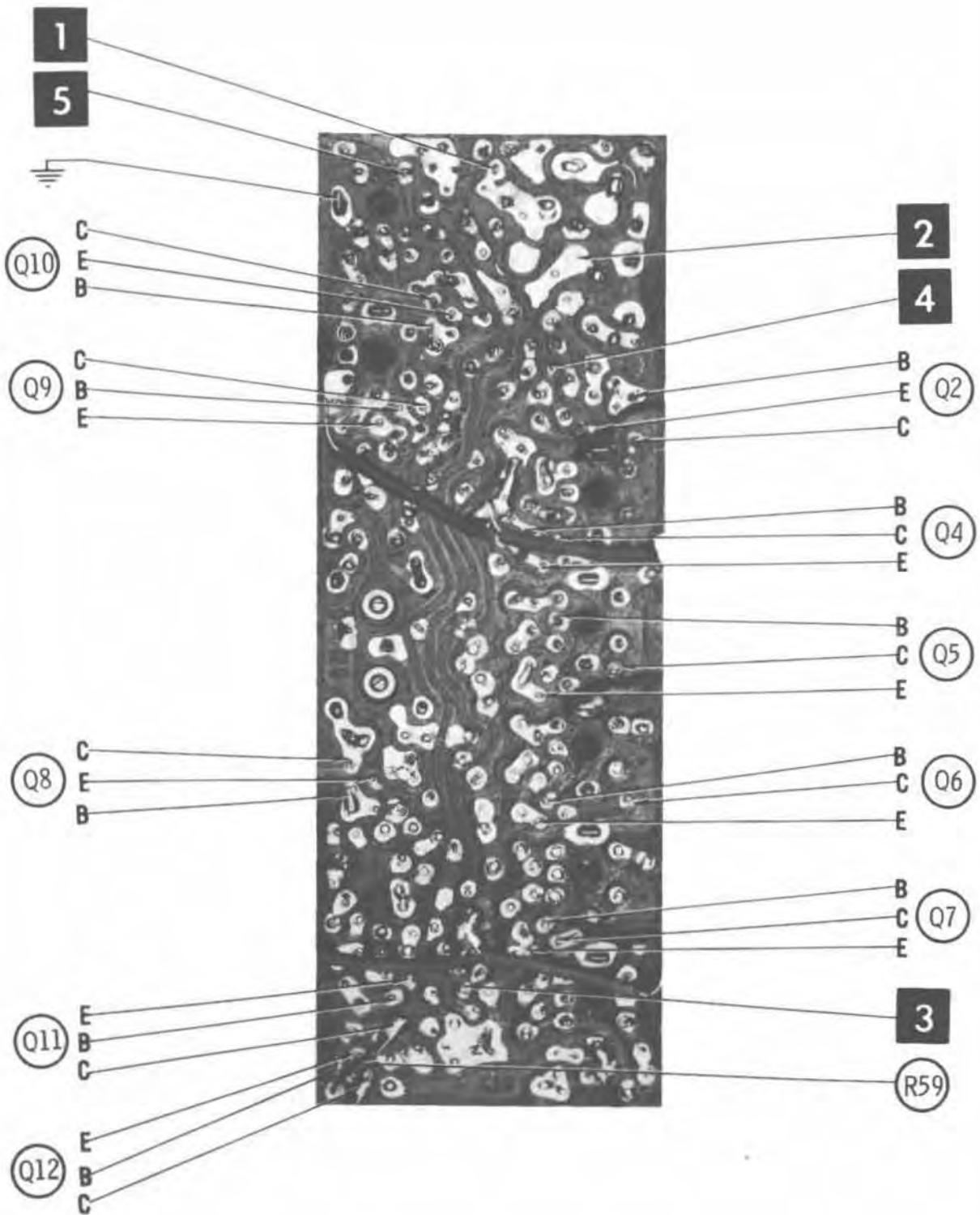
FM RF ALIGNMENT—SELECTOR IN FM POSITION

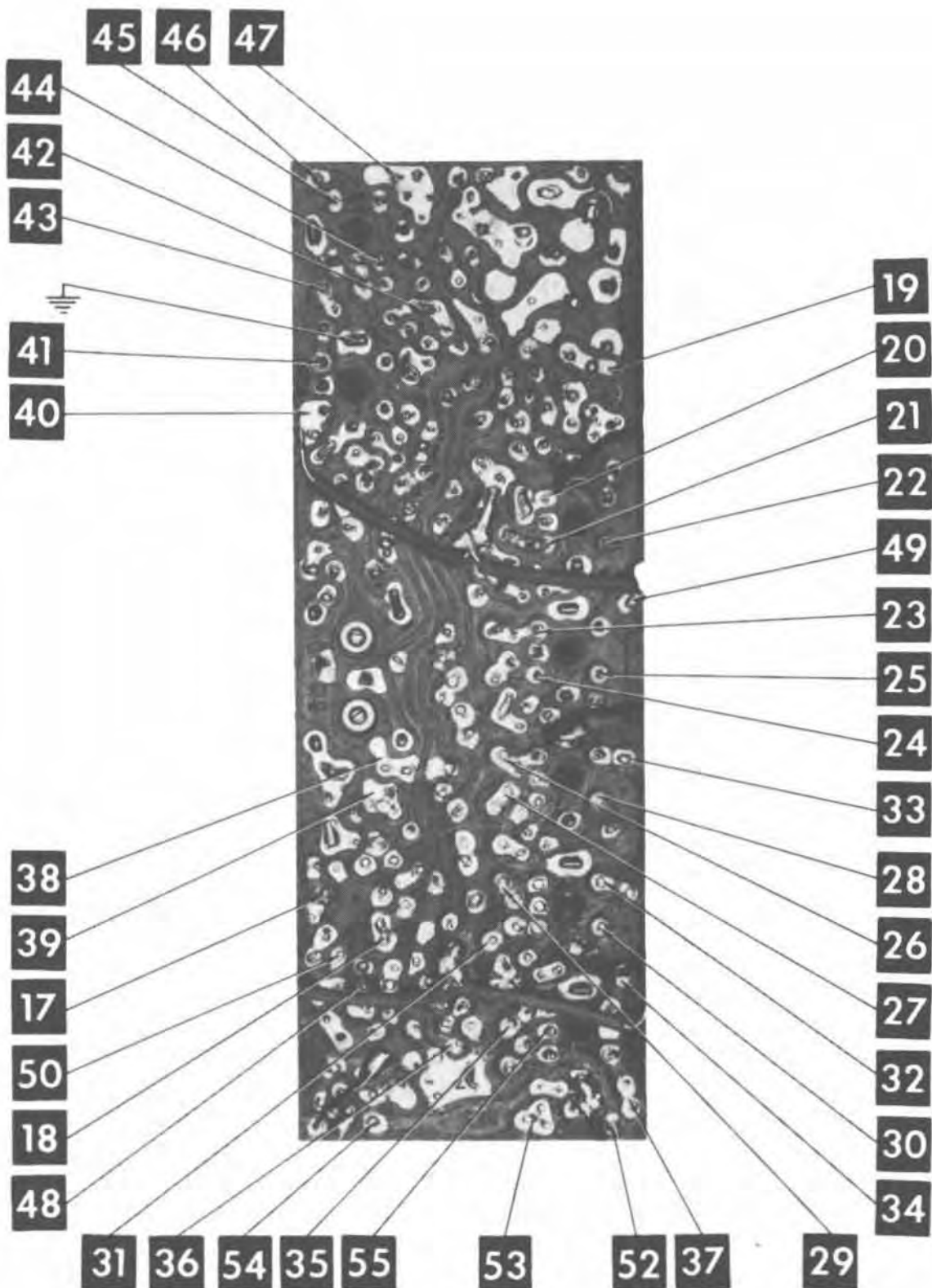
Connect generator across antenna terminals with 120-ohm carbon resistor in series with each lead.

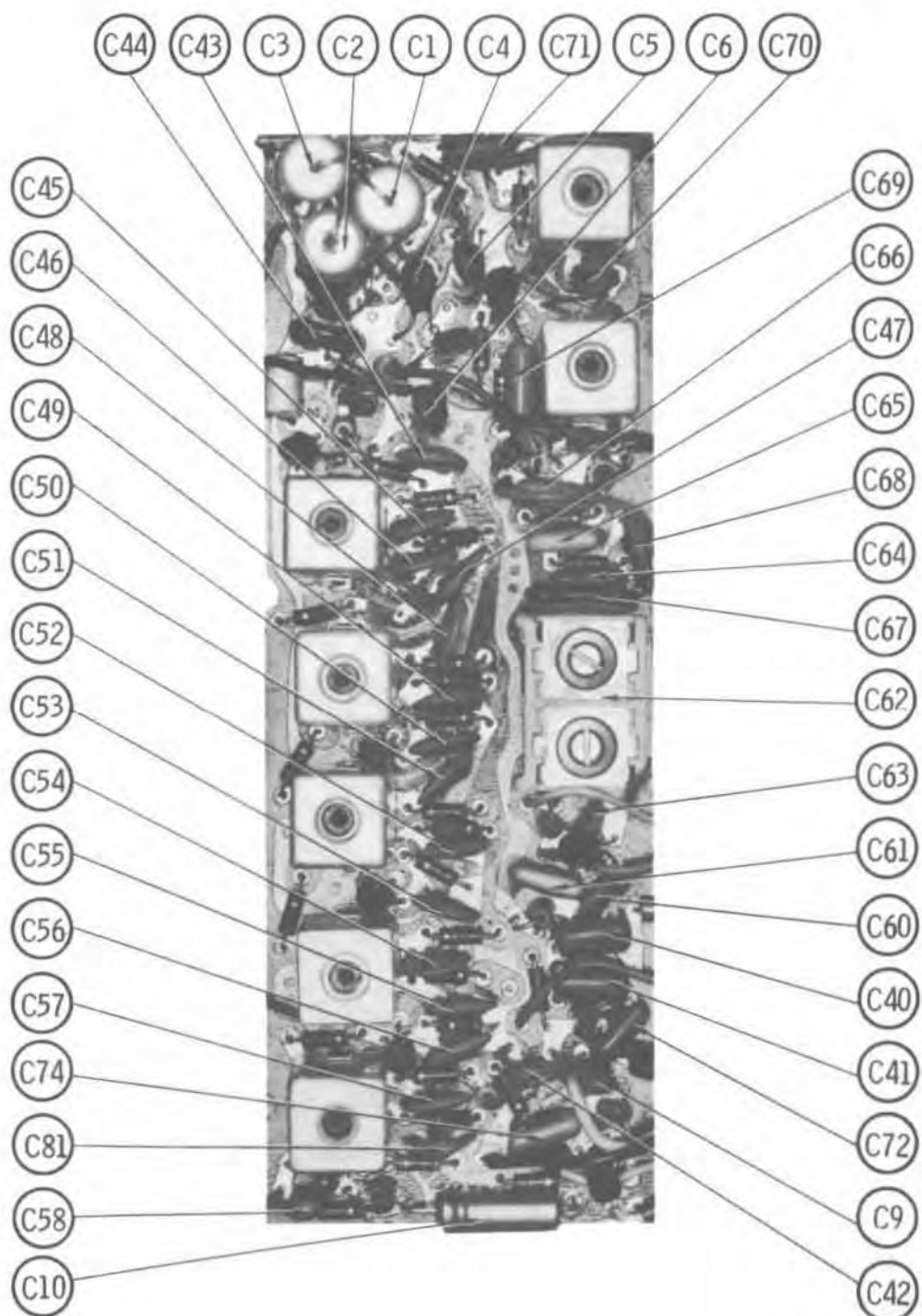
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
6. 108.5MC	High freq. end	DC probe of VTVM to point \diamond C, common to ground.	A21, A22, A23	Adjust for maximum. 
7. 90MC Unmodulated	Tune to signal.	"	A24, A25, A26	Rock tuning and adjust for maximum. Repeat steps 6 and 7 until no further improvement can be made.

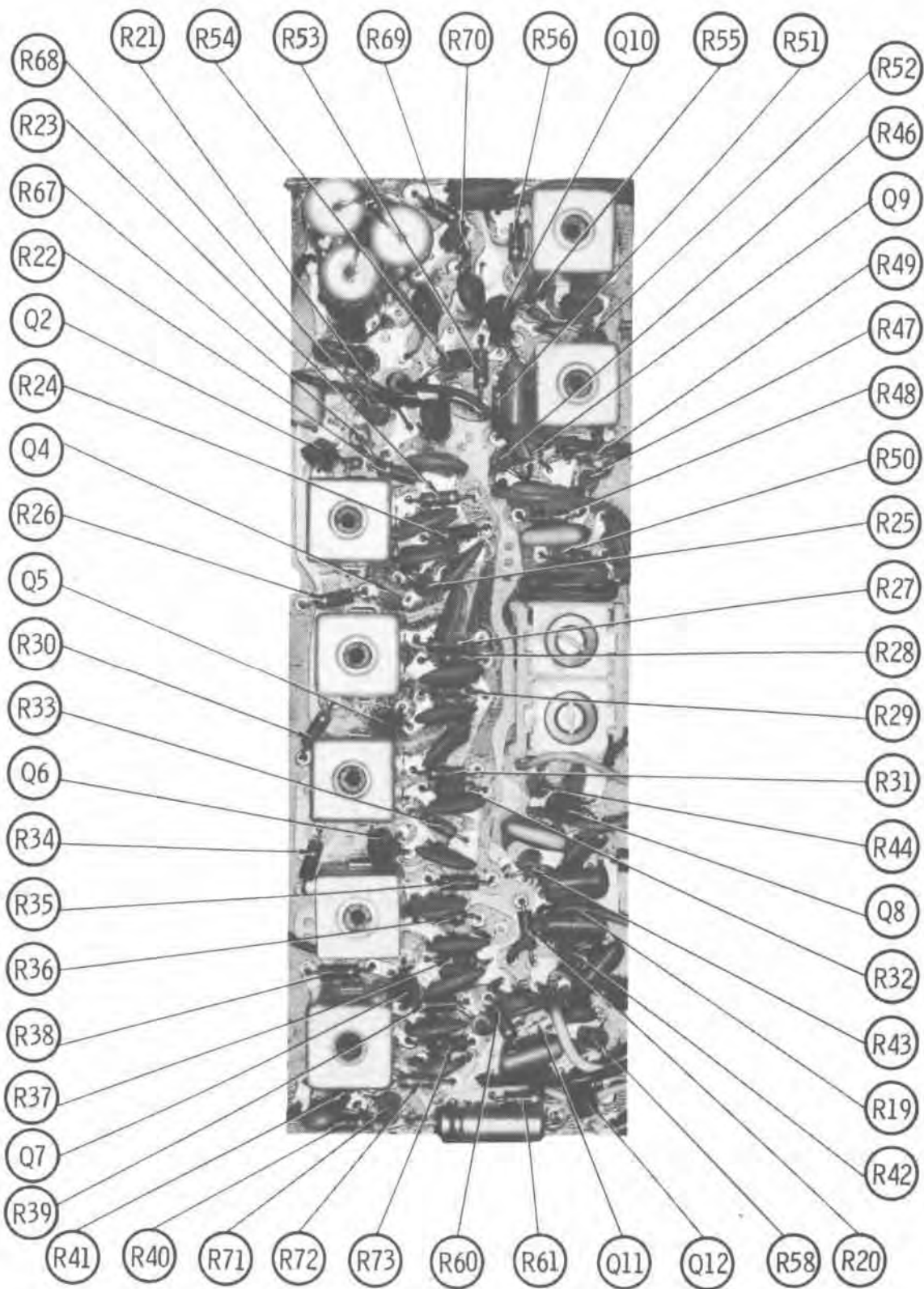




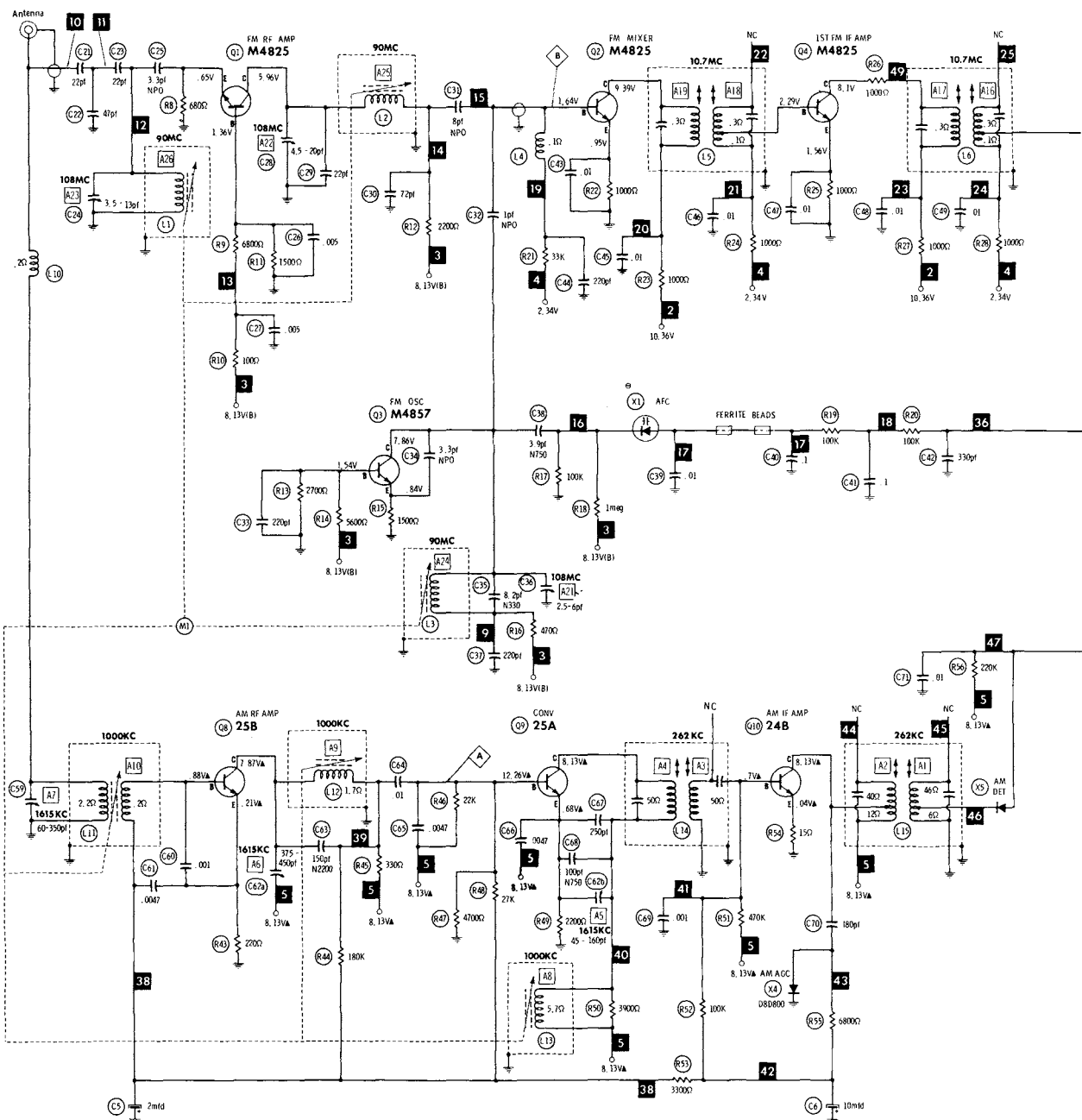








VOLVO MODEL 1VV-2032/-2908, 2VW/2016

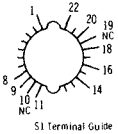


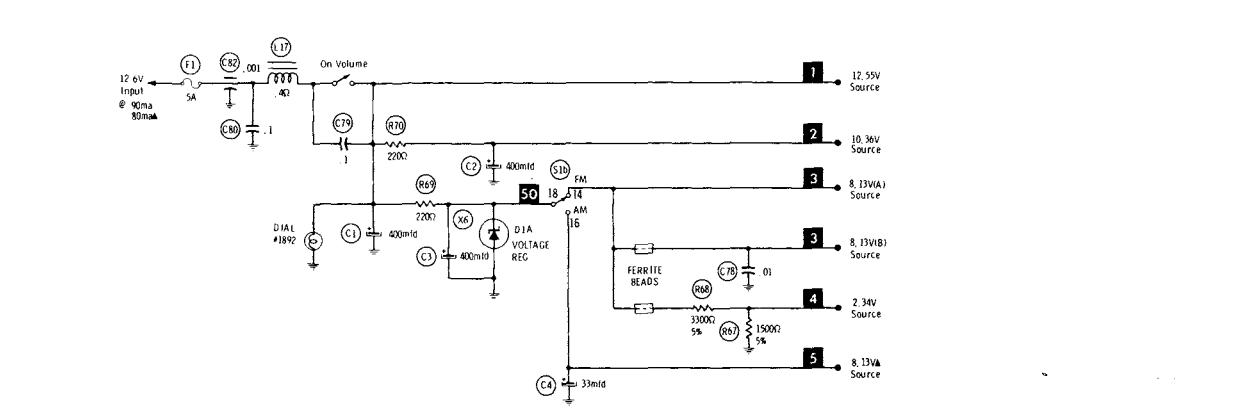
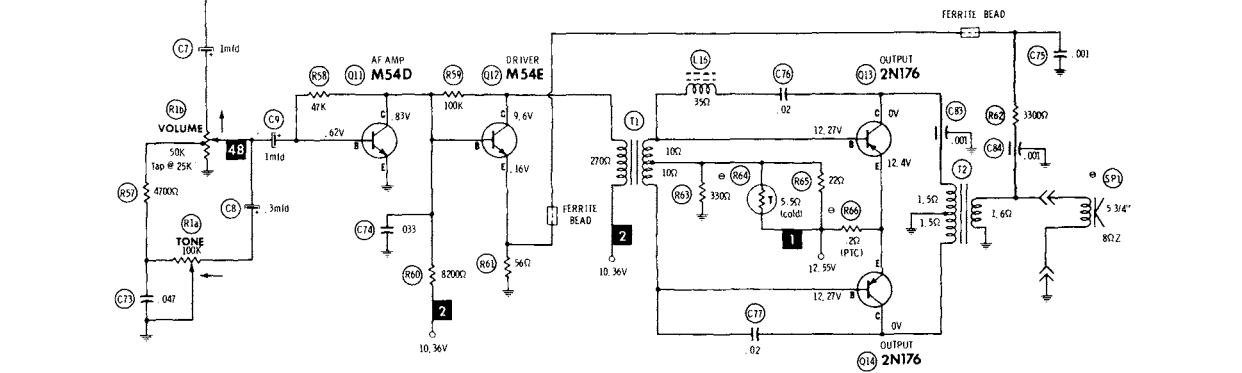
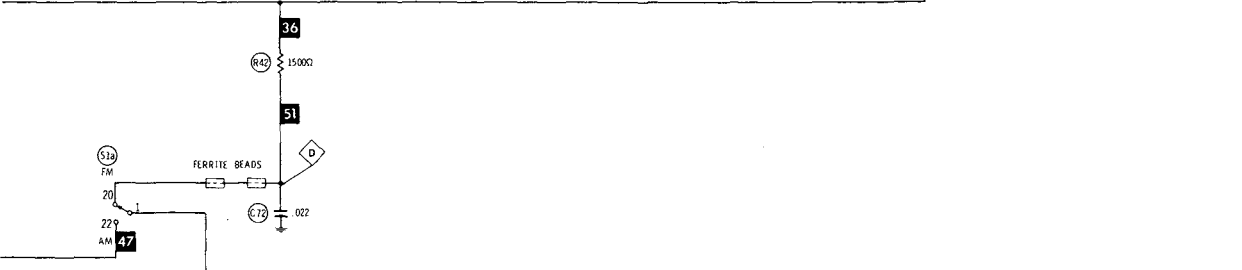
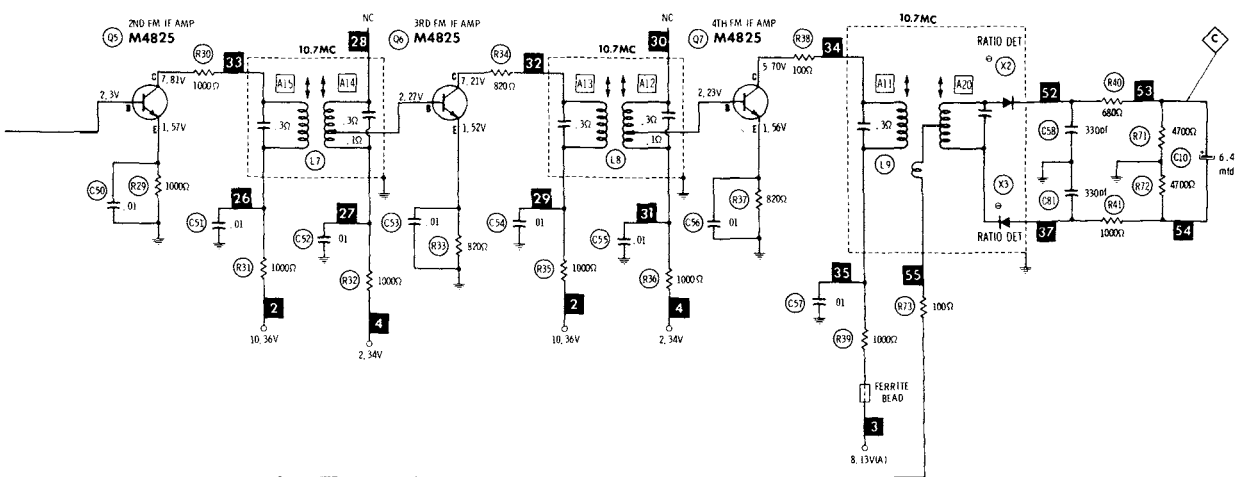
See parts list.
 Measured with switching in "AM" position.
 Resistors are 1/2W or less, 10% or 20%, unless otherwise indicated.
 Supply voltage maintained at rated value for measurements.
 Voltage and resistance measured with VETVM or equivalent meter,
 no signal applied and controls adjusted for normal operation.
 Controls viewed from actuator end. Arrow indicates clockwise rotation.
 Numbers assigned to terminals may not be found on the unit.
 Transistor resistances vary widely. No resistance measurements taken.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
 with **CircuitTracs**

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Transistor Terminal Guides





VOLVO MODEL 1VV-2032/-2908, 2VW2016

PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

Replacement parts shown may be superseded by the availability of newly introduced replacements.
Have your local distributor check Sams COUNTER FACTS* for the most up-to-date replacement.

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFG. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1	4825	FM RF Amp	48-134825	GE-17	TR-22	HEP732	SK3018	ECG 108
Q2	4825	FM Mixer	48-134825	GE-17	TR-22	HEP732	SK3018	ECG 108
Q3	4857	FM Osc.	48-134857	GE-17	TR-22	HEP718	SK3018	ECG 108
Q4	4825	1st FM IF Amp	48-134825	GE-17	TR-22	HEP732	SK3018	ECG 108
Q5	4825	2nd FM IF Amp	48-134825	GE-17	TR-22	HEP732	SK3018	ECG 108
Q6	4825	3rd FM IF Amp	48-134825	GE-17	TR-22	HEP732	SK3018	ECG 108
Q7	4825	4th FM IF Amp	48-134825	GE-17	TR-22	HEP732	SK3018	ECG 108
Q8	25B	AM RF Amp	48-134805	GE-17	TR-21	HEP723	SK3018	ECG 108
Q9	25A	AM Converter	48-134804	GE-17	TR-21	HEP722	SK3018	ECG 108
Q10	24B	AM IF Amp	48-134807	GE-17	TR-21	HEP725	SK3018	ECG 108
Q11	54D	AF Amp	48-134811	GE-20	TR-21	HEP726	SK3020	ECG 123A
Q12	54E	Driver	48-134846	GE-20	TR-21	HEP724	SK3020	ECG 123A
Q13	2N176	Output (1)	48-134747	GE13MP*	TR-01	HEP623	SK3013*	ECG 104MP*
Q14	2N176	Output (1)	48-134747	GE13MP*	TR-01	HEP623	SK3013*	ECG 104MP*

(1) When replacing, apply silicone grease to both sides of insulator. Tighten mounting screws securely.
* Matched Pair.

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFG. PART OR TYPE No.	REPLACEMENT DATA				NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	SYLVANIA PART No.	
X1	48-42383A01					Varactor (1) Part of L9
X2	(1)					
X3	(1)					
X4	DHD800	GE-300	D200	SK3100	ECG 177	Zener (2) Alt. Type used in Model 1V2908 only.
X5	DHD800	GE-300	D200	SK3100	ECG 177	
X6	DIA	GE-X11	Z1108		ECG 5072	
	48-40458A06 (2)	GE-X11	Z1108		ECG 5072	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA							
		MFG. PART No.	AEROVOX PART No.	ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	400 16V	23C42674B03	PRS1220	ME-6500	EA15-500	WBR500-16	QT1-30A	TC1505B	TL-1166
C2	400 16V	23C42674B03	PRS1220	ME-6500	EA15-500	WBR500-16	QT1-30A	TC1505B	TL-1166
C3	400 16V	23C42674B03	PRS1220	ME-6500	EA15-500	WBR500-16	QT1-30A	TC1505B	TL-1166
C4	33 10V	23C42582B01	MCD-110	ME-3-D-035	EP15-25	WBR35-50	MT1-13.5	MTV30CB25	TE-1132.1
C5	2 10V	23C43280A02	MCD-30	ME-1-D-002	EP15-2	WBR2-50	MT1-1	MTV2CB50	TE-1121
C6	10 6V	23C43280A03	MCD-70	ME-1-B-010	EP6-10	WBR10-25	MT1-5	MTV10CB50	TE-1087
C7	1 10V	23C43280A01	MCD-10	ME-1-D-001	EP15-2	WBR1-50	MT1-1	MTV1CB50	TE-1120
C8	.3 10V	23C43280A07			UK16-304			TDC334M050EL	196D334X0035DB
C9	1 10V	23C43280A22	MCD-10	ME-1-D-001	EP15-2	WBR1-50	MT1-1	MTV1CB50	TE-1120
C10	6.4 40V	23C41928A07	MCD-60	ME-2-J-006	EP50-5	WBR10-50	MT1-6	MTV6CB50	TE-1303.1

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	ARCO/ELMENCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
C21	22 N150			*					10TCC-Q22
C22	47		ADM-15-470	DM-15-470	CPR-47J	CD15E470J500	SX447		MS-447
C23	22		ADM-15-220	DM-15-220	CPR-22J	CD15E220J500	SX422		MS-422
C24	3.5-14	#20-40429B01							
C25	3.3 NPO		GPD COJ3R3K		DTZ-3R3	NPO3P3	CN0533		10TCC-V33
C26	.005		TTP-005	CCD-502	CK-502	MGP005	TA250		TG-D50
C27	.005		TTP-005	CCD-502	CK-502	MGP005	TA250		TG-D50
C28	4.5-20	#20-40429B03							
C29	22 NPO			CCO-200	DTZ-20	NPO20	CN0420		10TCC-Q20
C30	72		ADM-15-750	DM-15-750	CPR-75	CD15E750J500	SX475		MS-475
C31	8 NPO		GPD COH8R2K			NPO8P2			10TCC-V82
C32	1 NPO		GPD COJ1R0D		TCZ-1		CN0510		10TCC-V10
C33	220		ADM-15-221	DM-15-221	CPR-220J	CD15F221J500	SX322		MS-322
C34	3.3 NPO		GPD COJ3R3K		DTZ-3R3	NPO3P3	CN0533		10TCC-V33
C35	8.2 N330			*	TCA-10		*		10TCS-V82
C36	2.5-6	#20-40429B02							
C37	220		ADM-15-221	DM-15-221	CPR-220J	CD15F221J500	SX322		MS-322
C38	3.9 N750			*			CN7533		
C39	.01		TTP-01	CCD-103	CK-103	MGP01	TA110		TG-S10
C40	.1 100V		DBE2P1	1DP-2-104		DPMS2P1	PVC101		225P10491WD3
C41	.1 100V		DBE2P1	1DP-2-104		DPMS2P1	PVC101		225P10491WD3
C42	330		GPD X5F331K	CCD-331	DD-331	GP330	GP333		10TS-T33
C43	.01		TTP-01	CCD-103	CK-103	MGP01	TA110		TG-S10
C44	220		ADM-15-221	DM-15-221	CPR-220J	CD15F221J500	SX322		MS-322
C45	.01		TTP-01	CCD-103	CK-103	MGP01	TA110		TG-S10
C46	.01		TTP-01	CCD-103	CK-103	MGP01	TA110		TG-S10

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

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Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

CAPACITORS(cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	ARCO/ELMENC0 PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C47	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C48	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C49	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C50	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C51	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C52	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C53	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C54	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C55	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C56	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C57	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C58	330		GPD X5F331K	CCD-331	DD-331	GP330	GP333	10TS-T33
C59	60-350	#20-40746A15						
C60	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C61	.0047 100V		DBE6D47	6DP-1-472		DMS6D47	PVC6247	6PS-D47
C62a	375-450	#20-42280B01						
b	45-160							
C63	150 N2200			*			*	10TCY-Y15
C64	.01 100V		V1612S1	1DP-1-103	CPR-10000J	DPMS6S1	PVC211	225P10391WD3
C65	.0047 100V		DBE6D47	6DP-1-472		DMS6D47	PVC6247	6PS-D47
C66	.0047 100V		DBE6D47	6DP-1-472		DMS6D47	PVC6247	6PS-D47
C67	250		ADM-15-251	DM-15-251				MS-325
C68	100 N750		N750-DI 100	CCTN-101	DTN-100	N100	CN7310	10TCU-T10
C69	.001 100V		DBE6D1	6DP-1-102	CPR-1000J	DPMS6D1	PVC621	225P10291WD3
C70	180		GPD X5F181K	CCD-181	DD-181	GP180	GP318	10TS-T18
C71	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C72	.022 100V		DBE6S22	1DP-1-223		DPMS6S22	PVC1122	225P22391WD3
C73	.047		TTP-05	CCD-503	CK-503	MGP05	TA150	TGL-S50
C74	.033 100V		DBE6S33	4DP-2-333		DPMS6S33	PVC6133	4PS-S33
C75	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C76	.02		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C77	.02		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C78	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C79	.1		TTP-1	CK-104	CK-104	MGP01	TA010	TG-P10
C80	.1		TTP-1	CK-104	CK-104	MGP01	TA010	TG-P10
C81	330		GPD X5F331K	CCD-331	DD-331	GP330	GP333	10TS-T33
C82	.001	#21-560232						
C83	.001	#21-560232						
C84	.001	#21-560232						

* Not normally in distributor's stock. Available thru distributor on order to manufacturer. # Motorola Part Number.

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1a	Tone	100K	18C42302B05U	F1-100K,		QJ-2753A *	P15L, 3038,
b	Volume/Switch	50K Tap @ 25K		R14-50K,			RU54DT353 (2),
	Fader		18-40079B02 (3)	FFS100,			OX1000A, 1S1375
				RFS106,KR-4			

* "SNAPTROL" Equivalent: BU5, CF13, CR70TT(1), SF6, SR5, GC.
(1) Disregard 12K Tap. (2) Disregard 20K Tap. (3) May be used in some versions.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.			WORKMAN PART No.	MFGR. PART No.
R64	5.5 (Cold)		6-565324	R66	.2 WW (PTC)		17-41995A01

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	FM Antenna	(1)			
L2	FM RF	(1)			
L3	FM Osc.	(1)			
L4	10.7MC Trap (1.5mh)	24C40788A08	19-1001	4604	T856
L5	FM Input IF	24D42311B01			
L6	FM Interstage IF	24D42311B01			
L7	FM Interstage IF	24D42311B01			
L8	FM Interstage IF	24D42311B01			
L9	Ratio Detector	24D42310B01 (2)			
L10	RF Choke (1.5uh)	24C43032B01	19-1001	4604	T856
L11	AM Antenna	(1)			
L12	AM RF	(1)			
L13	AM Osc.	(1)			
L14	AM Input IF	24D40310B13			
L15	AM Output IF	24D40310B14			
L16	RF Choke (5mh)	24-41605B01	19-1051	6304	T881

(1) Part of M1 (2) Includes X2 & X3.

VOLVO MODEL 1VY-2032/-2908, 2VW2016

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

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Have your local distributor check Sams COUNTER FACTS® for the most up-to-date replacement.

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L17	90ma	.4	5mh	25D40755B08				

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA				NOTES
	PRI.	SEC. 1	SEC. 2	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD Part No.	
T1	8	1		25D42917A18				

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA				NOTES
	PRI.		MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	16 Tap @	8	25D41586811				

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP1	5" PM 8 ohms	50-43452B01		

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA							
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.	
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	
F1	.1AG 5 Amp	65-122345	9-42401B22	AGA 5	HAF	301005	150145		

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M1	Tuner	77-42901B20	FS-112
	Coil Assembly	1-42500B76	
S1	Switch, Selector	40-42331B02	

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	ITEM	PART No.
Escutcheon	13-43491B02	Dial Pointer	52-42479B06
Knob, Tuning or Volume	36-43401B01	Push Button	38-42185B01
Knob, Tone	36-43219B02	Dial Glass	61-42179B09
Knob, Selector	36-43219B04		

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors
	8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)