

# PHOTOFACT<sup>®</sup> with

# CIRCUITRACE<sup>®</sup>

For Supplier Address See PHOTOFACT Index

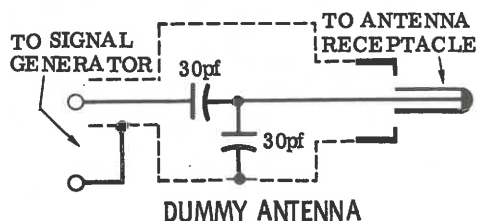
NOTE: Manufacturer Part Numbers Shown Are MOTOROLA



**MODELS** 1VW1419, 5VW1419 (Sapphire XVIII)  
(74 Audi Fox, 100LS)  
(74 Porsche 914)  
(74 Volkswagen Custom Beetle, Dasher,  
Karmann Ghia, Super Beetle, Transporter,  
412 Sedan, 181 Thing)

## ALIGNMENT INSTRUCTIONS

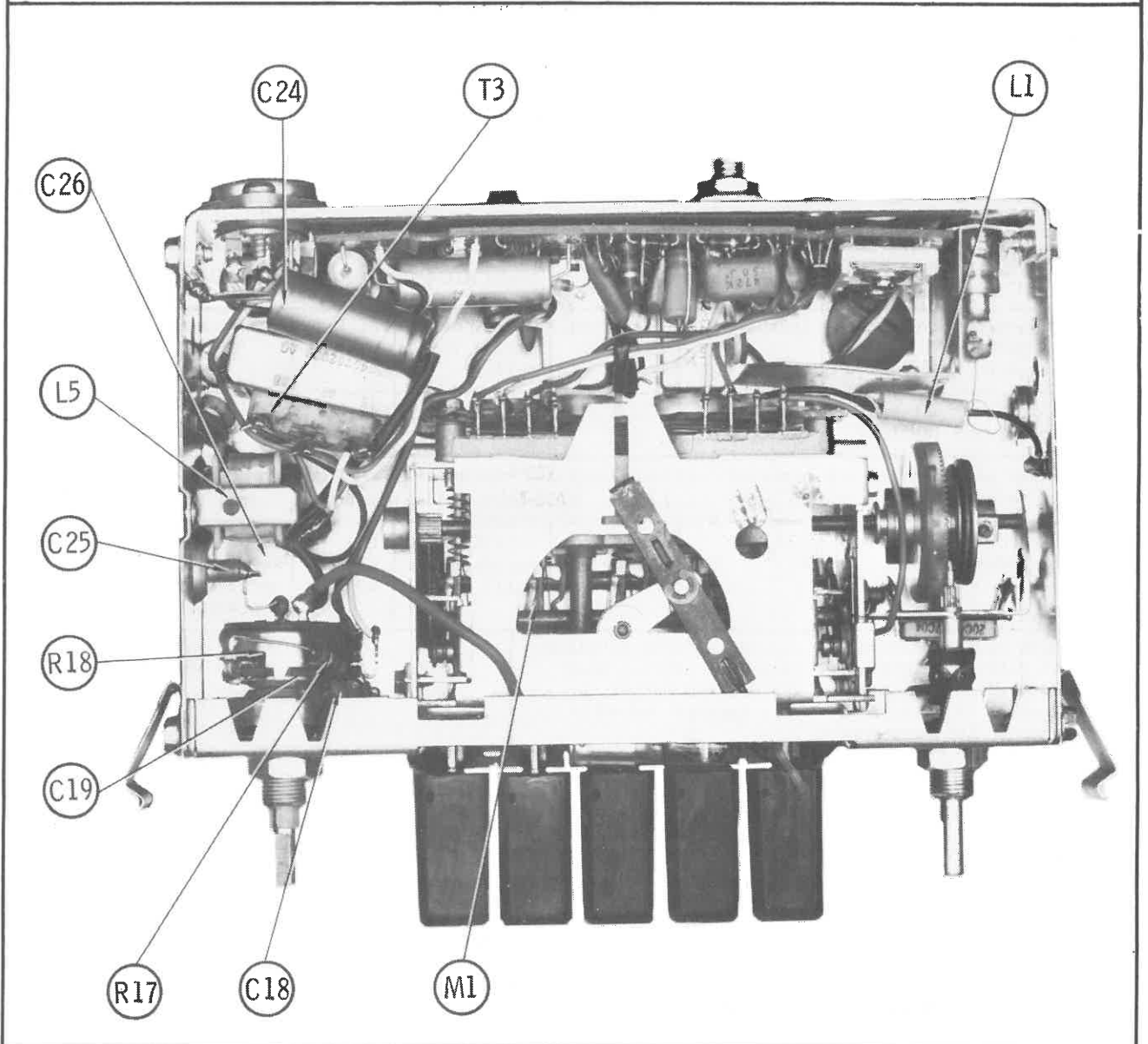
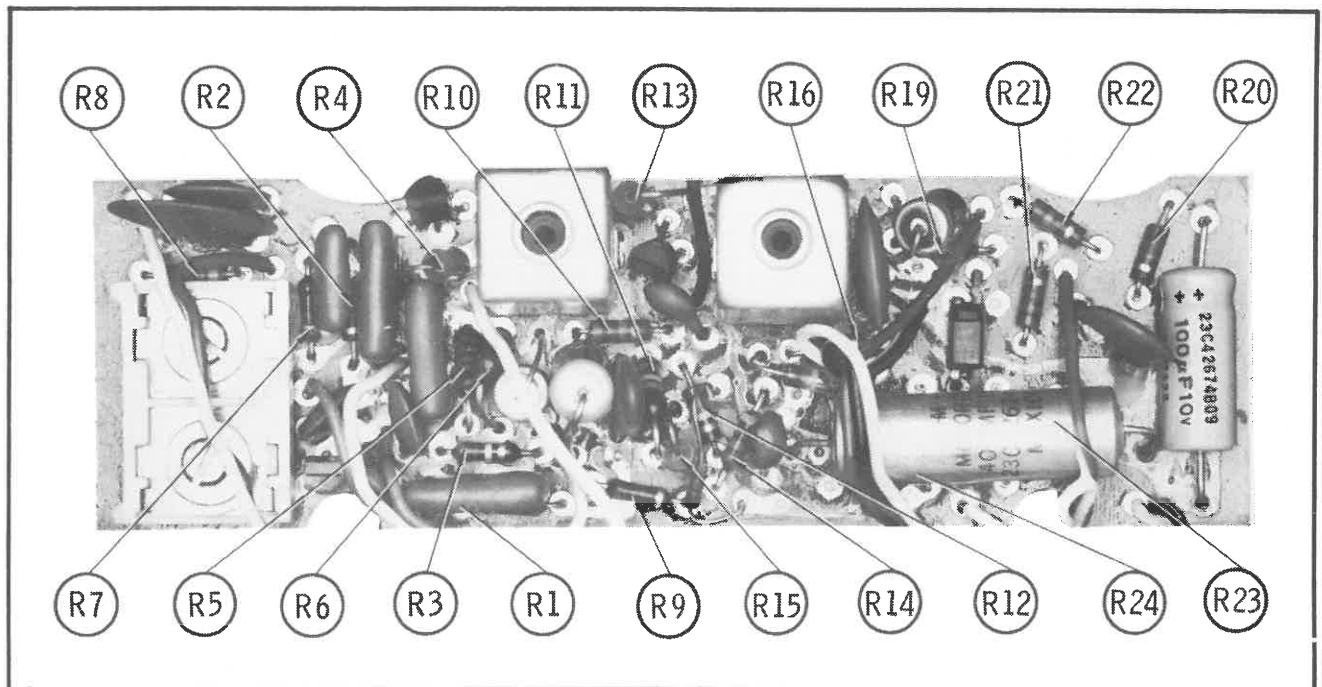
Check for specified source voltage. Use only enough generator output to provide a usable indication. Suggested Alignment Tools:				<b>PUSH-BUTTON ADJUSTMENT</b> 1. Pull button out. 2. Tune manually to desired station. 3. Press button in firmly. 4. Repeat for remaining buttons.	
GC ELECTRONICS T1, T2.....9296, 9297, 9300 C1, C6.....8290, 8868, 9087					
GENERATOR COUPLING	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
High side thru .1uF to point A low side to ground.	262kHz  400-Hz mod.	High freq. end stop.	Output meter across voice coil.	T2, T1	Adjust for maximum.
Thru dummy antenna to antenna input.	1615kHz	"	"	C6B, C6A, C1	"
Tuner alignment is not necessary unless associated components have been disturbed. If necessary, back tuning cores L2, L3, L4 out of coils but not out of forms. Repeat step 2.					
Thru dummy antenna to antenna input.	1000kHz	Tune to signal	Output meter across voice coil.	L4, L3, L2	Adjust for maximum. Repeat alignment until no further improvement is noted.
With radio installed in car and antenna extended to desired height, tune in a weak station near 1400kHz and adjust C1 for maximum output. Antenna adjustment C1 is located behind tuning and Dummy Knobs.					



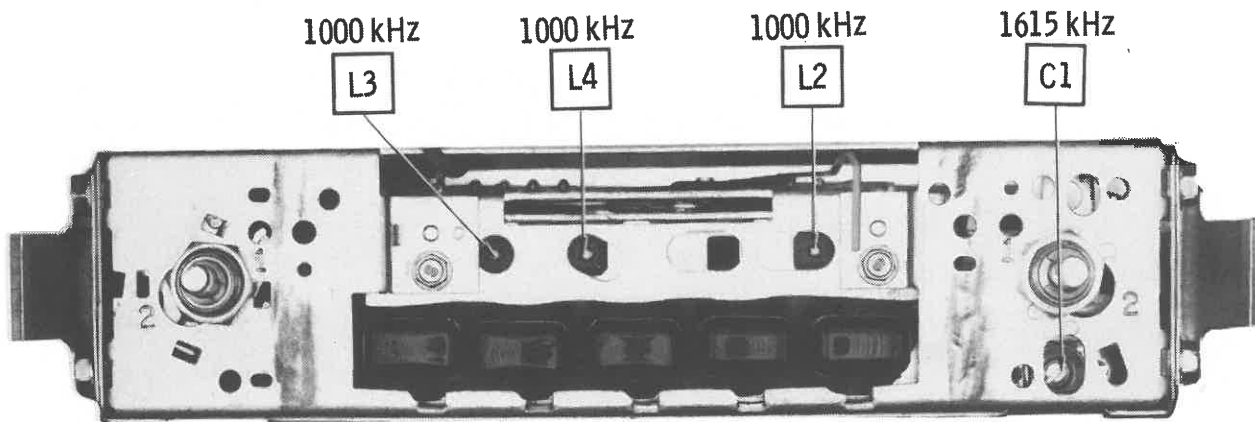
AUDI/PORSCHE/VOLKSWAGEN MODELS 1VW(5VW)1419

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

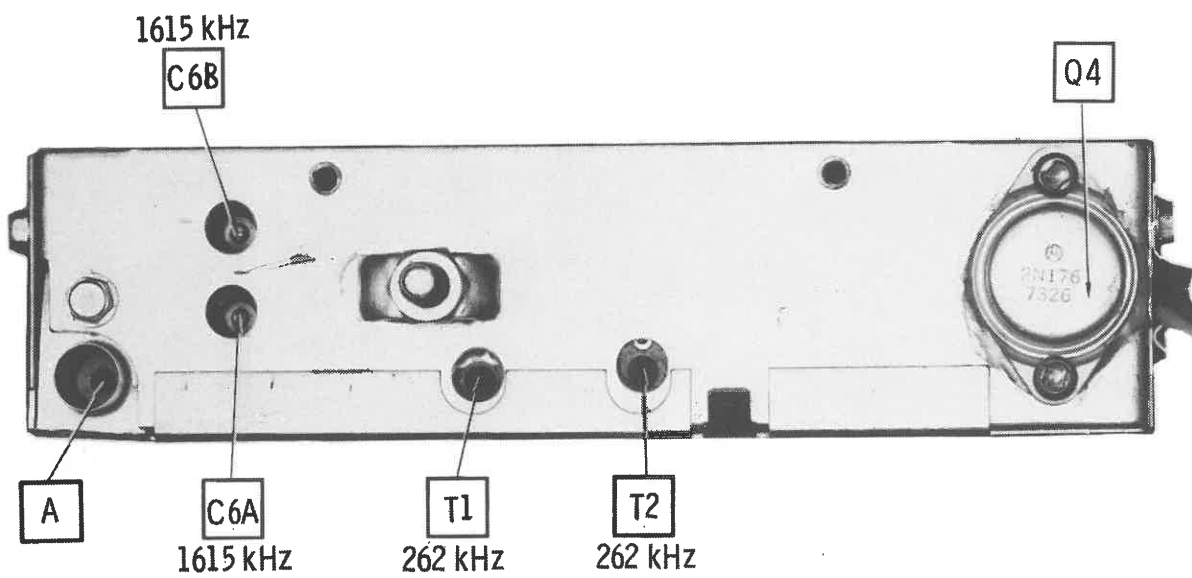
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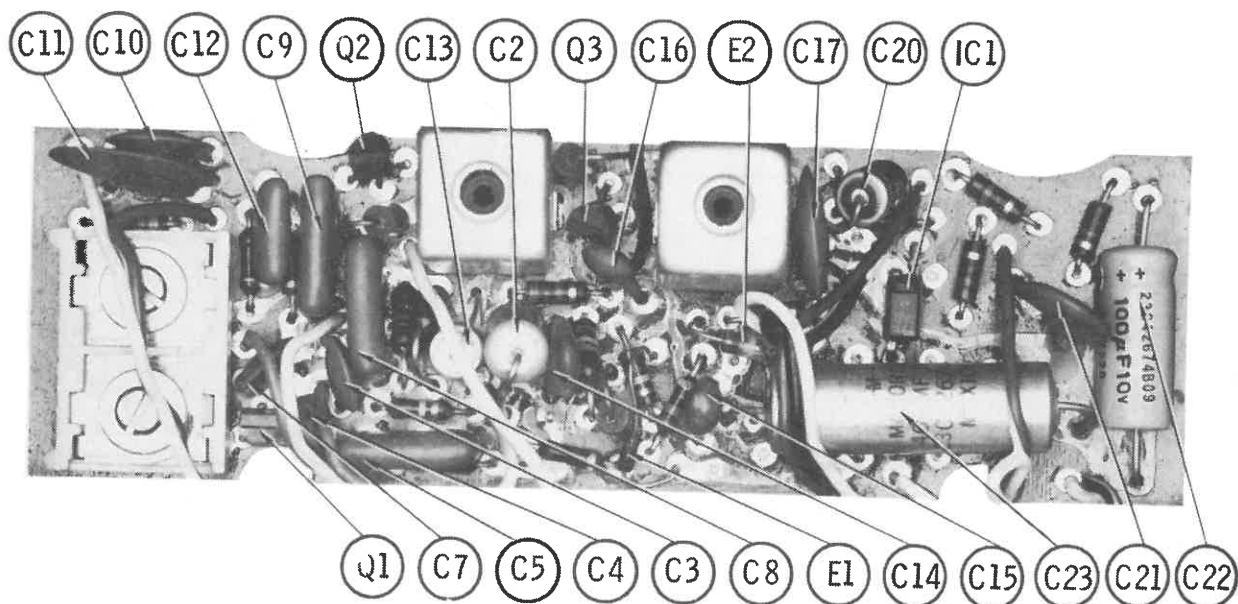
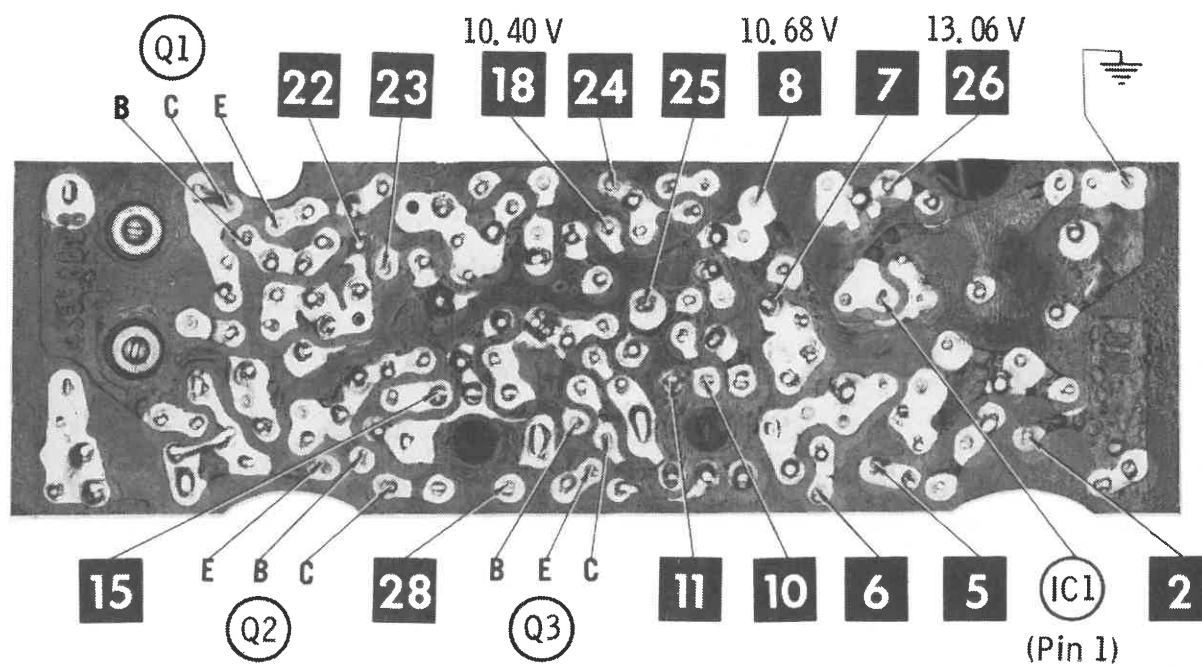
FRONT VIEW.



AUDI/PORSCHE/VOLKSWAGEN MODELS 1W/5W/1419



REAR VIEW



## 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.

### 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.)
Ignition Noise Suppression .....	Use BELDEN No. 7300-Series Spark-Plug Sets

### SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE / MFR. No. / PART No.	REPLACEMENT DATA						
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
E1 E2 IC1	DHD800/48-134816 1N139/48-137495 M4050/51-10534A03 4050/51-10534A01 4050/51-43648B02 2135E/51-10534A04 SC5150P/51-43684B01	GE-300 1N34AS	D200 1N34A	PTC214 PTC207	HEPR0602 HEP134	SK3100 SK3087	RT218 TVCM-17 TVCM-17 TVCM-17	ECG 177 ECG 109 ECG 755 ECG 755 ECG 755 ECG 735 ECG 755
Q1 Q2 Q3 Q4	25B2/48-134805 25H2/48-134804 54B/48-134810 2N176/48-134747	GE-20 GE-20 GE-20 GE-3	TR-24 TR-21 TR-21 TR-01	PTC136 PTC136 PTC136 PTC138	HEPC6013 HEPC6064P HEP723 HEP729 HEP725 HEP623	SK3018 SK3018 SK3124 SK3013	RT113 RT107 RT102 RT124	ECG 108 ECG 123A ECG 123A ECG 121

### ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA					
		MFR. PART No.	ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C2	32 10V	23C41928A33	ME-3-D-035	EA15-25	WBR35-50	MTA30D15	TVA-1149.1
	47 10V	23-42674B23	ME-3-D-050	EA15-50	WBR50-25	MTA50E15	TVA-1129.94
C13	1 15V	23-43280A17	ME-1-E-001	EA15-1	WBR1-50	MTA1D50	TVA-1140
C15	10 6V	(1)				TDC106M025FL	SD20-109
C18	.5 6V	23-43280A23				TDC474M050EL	SD35-R479
C19	.5 6V	23-43280A23				TDC474M050EL	SD35-R479
C20	2 10V	23-43280A01	ME-1-D-002	EA15-2	WBR2-50	MTA2D50	TVA-1129.81
C22	100 10V	23-42674B09	ME-4-D-100	EA15-100	WBR100-16	MTA100E10	TVA-1130
C23	400 16V	23-42674B10	ME-G500	EA15-500	WBR500-16	MTA500G25	TVA-1162
C24	680 16V	23-41928A43	ME-G1000	EA15-1000	WBR1000-16	TT15X600	EV-1163

(1) Some versions may use a .047 capacitor.

### CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			ARCO/ELMENC0 PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	30-220	20-40674C04	*			*	
C3	47 10% N220		CCD-331	DD-331	GP330	GP333	10TS-T33
C4	330 10%		CCD-472				10TS-D47
C5	.0047 10%						
C6A	90-210	20-42280B06					
C6B	30-140			DTN-68	N68	CN7468	10TCU-Q68
C7	70 5% N750			DC-103	GP10000	MAG5011	2SS-S10
C8	.01		CCD-103				10TS-D47
C9	.0047 10%		CCD-472				
C10	160 5% N330		*			*	
C11	180 5% N330		*			*	
C12	.0068 10%		DM30-682J	CPR-6800J	CD20FD682J03	SX268	10TS-T82
C14	800 10%		CCD-821	DD-821	GP820	GP382	10TS-T33
C16	330 10%		CCD-331	DD-331	GP330	GP333	2SS-D50
C17	.005		CCD-502	DC-502	GP5000	TA250	2SS-S10
C21	.01		CCD-103	DC-103	GP10000	MAG5011	
C25	.001	21-560232					
C26		64-561876					

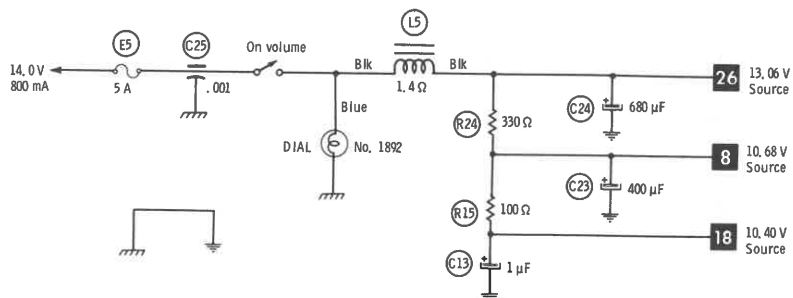
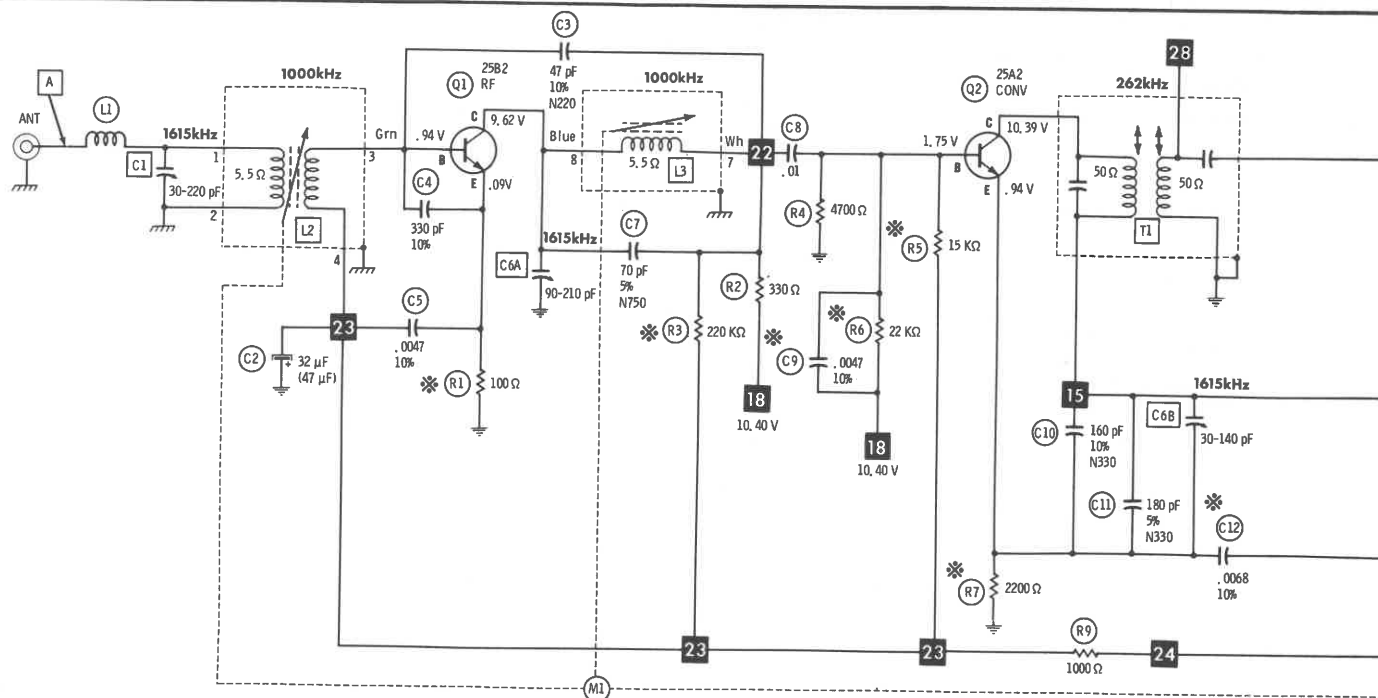
\* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

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

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA				
			MFR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	MALLORY PART No.	TRW PART No.
R18a b	Tone Volume/Switch	20K 10KTAP2000	18-41803C03 18C41803C01 (5)				

(5) Number on unit.

(CONTINUED ON PAGE 12)



#### Terminal Guides



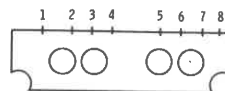
Q1, Q2 & Q3



Q4



IC1  
(Top view)  
Part #51 - 10534A03



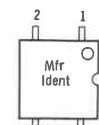
M1



Part #51 - 10534A01  
(Top View)



Part #51 - 43648B02  
(Top View)



Part #51 - 10534A04  
(Top View)

#### Alternate IC Terminal Guides.

- ⏏ Indicates common tie point.
- ⏏ Indicates chassis.
- ⏏ Indicates ground. (Voltage reference unless otherwise noted).
- Indicates connection used in some versions.
- x- Indicates connection not used in some versions.
- \* Omitted in some versions.
- ⊙ See parts list.
- \* Value varies; replace with original value.
- RF-IF coil resistance less than one ohm not given.
- Measurements taken with switching as shown unless otherwise noted.
- Values shown in ( ) used in some versions.
- Resistors are 1/2 W, or less, 10% unless otherwise noted.
- Supply voltage maintained at rated value for measurements.
- Voltage measured with VTVM, no signal applied, controls adjusted for normal operation.
- Arrow on control indicates direction of advance.
- Numbers assigned to terminals may not be found on unit.

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
with **CIRCUITRACE**

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## 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.

### COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	RF Choke	24-40788A04		4604	(1) Part of M1.
L2	Antenna	(1)			
L3	RF	(1)			
L4	Oscillator	(1)			
T1	Input IF	24-40310B13			
T2	Output IF	24-40314B14	24D40310B14		

### FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MFG. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L5	800mA	1.4	6.8mH	25-43869B20	TC-2	TR-152	TY17X7	

### TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE	REPLACEMENT DATA				NOTES
	PRI.	MFG. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T3	.30 Tap @ 4	25-40782C23		TR170		

### SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFG. PART No.	QUAM PART No.	
E3	5 3/4" PM, 3.2 ohms 4" X 6" PM, 3.2 ohms PM, 3.2 ohms 4" X 6" PM, 3.2 ohms 5 3/4" PM, 3.2 ohms	50-41777C01 50-40973C05 50-42640C01 50-41828C02 50-43332C01		Custom Beetle, Transporter, 412, Karmann Ghia Super Beetle 100LS, Fox 914 181

### 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
E5	5 AMP	65-122345	9-41356C16 (Includes fuse)	AGA5	HAF	301005	150145	

### MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M1	Tuner Tuning Coil Assembly	77-41900C04 1-41800C67	AS-207 (Complete)

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

ITEM	PART No.	ITEM	PART No.
Escutcheon	64-41629C05	Dial Pointer Assembly	52-40281C13
Trim Plate, Custom Beetle	13-43644B10	Dial Scale	61-43402C09
Trim Plate, Super Beetle, Transporter	13-40056C08	Knob, Volume/Tuning	36-40544C02
412, Ghia		Knob, Tone	36-42182B01
Trim Plate, 914, 100LS, Fox, Dasher	13-40371C07	Pushbutton (5 used)	38-42185B01