

## Western Auto Supply Co.

**Model: D1846**

**Chassis:**

**Year: Pre 1952**

**Power:**

**Circuit:**

**IF:**

**Tubes:**

**Bands:**

### Resources

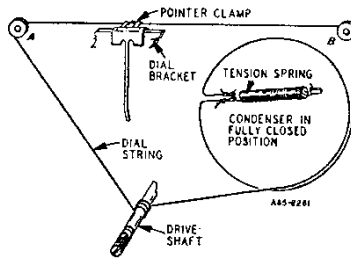
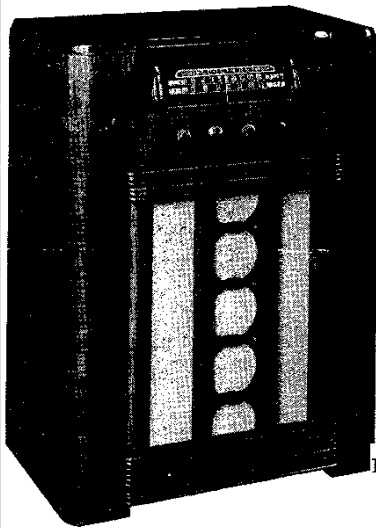
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MODEL D1846



**ELECTRICAL SPECIFICATIONS**

Power Consumption—  
117 volts AC 60 watts normal  
85 watts phono operating

Power Output—  
4.5 watts maximum  
2.5 watts 10% distortion

Speaker—8" PM dynamic

Frequency Ranges—  
Broadcast 540-1600 KC  
Frequency Modulation 88-108 MC

Intermediate Frequency—  
AM 455 KC — FM 10.7 MC

Selectivity — AM — 45 KC broad  
at 1000 times signal, measured  
at 1000 KC

I.F. FM—200 KC broad at 2 times  
down

I.F. FM—950 KC broad at 200  
times down

AM Sensitivity—(For .5 watt output  
with external antenna)  
10 microvolts average

FM Sensitivity—(For .5 watt output)  
100 microvolts average

**DRIVE CORD REPLACEMENT**

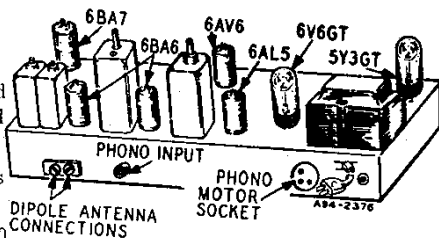
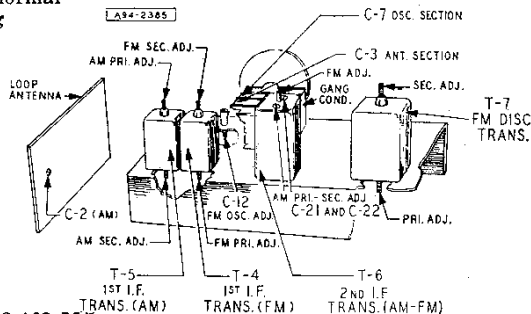
Replacement of the drive cord may be accomplished as shown in the illustration. For this purpose use the new drive cord assembly listed in the Replacement Parts List. Turn the gang condenser until the plates are fully meshed. Then install the string as shown, winding three turns clockwise around the tuning shaft with the turns progressing away from the chassis. After the cord is installed, rotate the tuning shaft several times in order to take up any slack in the cord.

**REMOVAL OF CHASSIS FROM CABINET**

Before removing the chassis from the cabinet it will be necessary to detach the dial pointer from the dial string. To do this, spread the tabs on the pointer and pull the dial string off the pointer.

The dial lamp socket assembly may be disengaged from the cabinet mounting by squeezing together and pulling away from the cabinet mounting, the spring bracket to which the dial lamp socket is mounted. Take care not to bend or damage the large drive pulley on the gang condenser while doing this.

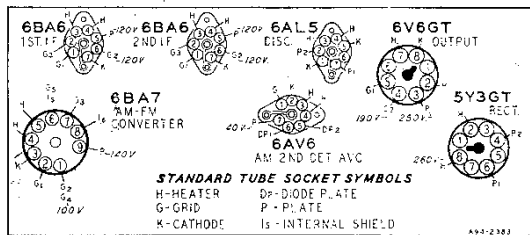
When replacing the chassis in the cabinet it will be necessary to tune in a station of a known frequency and move the dial pointer until that frequency is indicated on the dial and then attach the pointer to the dial string. Take care not to scuff or cut the dial string or bend the pointer during this operation.



**TUBE SOCKET VOLTAGES**

Socket voltages are shown on the Bottom Socket diagram at the tube socket terminals. All voltages are between the socket terminal and chassis ground. Plate, screen and cathode voltages were taken with a 1000 ohm-per-volt meter with a 300 volt scale used for plate and screen voltages. Audio grid voltages were read with a vacuum tube volt-meter. Conditions of measurement are:

- Line voltage .....117 Volts AC
- Signal Input .....None
- A Variation of  $\pm 10\%$  is usually permissible.



# SERVICE DATA

## ALIGNMENT PROCEDURES

### AM STAGES

Volume Control Maximum all Adjustments.

Connect Radio Chassis to Ground Post of Signal Generator with a Short Heavy Lead.

Allow Chassis and Signal Generator to "Heat Up" for Several Minutes.

The following is required for aligning:

An All Wave Signal Generator Which Will Provide an Accurately Calibrated Signal at the Test Frequencies as Listed.

Output Indicating Meter, Non-Metallic Screwdriver, Dummy Antennas — .1 mf, and 50 mmf.

SIGNAL GENERATOR					
FREQUENCY SETTING	CONNECTION AT RADIO	GROUND CONNECTION	DUMMY ANTENNA	GANG CONDENSER SETTING	ADJUST TUNING SLUGS AND TRIMMERS
455 KC	Control Grid 1st 6BA6 Pin No. 1	Chassis Base	.1 mf	Turn Rotor to Full Open	2nd I.F. C-21 & C-22
455 KC	Control Grid 6BA7 Pin No. 7 1st Det.	Same as above	.1 mf	Turn Rotor to Full Open	1st I.F. Pri. & Sec.
1620 KC	Control Grid 6BA7 Pin No. 7	Same as above	.1 mf	Turn Rotor to Full Open	Oscillator C-7
1400 KC	External Antenna Lead	Same as above	50 mmf	Turn Dial to 1400 KC. See Note A	Antenna C-2

NOTE A—Set pointer at the 1400 KC mark on the dial scale. Attach painter to drive cord.

### FM STAGES

Allow chassis and signal generator to warm up for several minutes. The following equipment is required for aligning:

An accurately calibrated signal generator providing unmodulated signals at the test frequencies listed below.

Non-metallic screwdriver.

Dummy Antennas and I-F Loading Resistor—2500 mmf, 300 ohms and a 3300 ohm .5 watt resistor with short leads.

Zero center scale DC vacuum tube voltmeter having a range of approximately 3 volts.

(If a zero center scale meter is not available, a standard scale vacuum tube voltmeter may be used by reversing the meter connections for negative readings.)

SIGNAL GENERATOR						
	FREQUENCY SETTING	CONNECTION AT RADIO	DUMMY ANTENNA	BAND SWITCH SETTING	CONDENSER SETTING	ADJUSTMENT FOR MAX. METER DEFLECTION
Discriminator	10.7 MC	6BA6 2nd I-F Pin 1 & Chassis	2500 mmf	FM	Rotor Fully Open	Disc. Pri. Note A
	10.7 MC	Same as above	2500 mmf	FM	Rotor Fully Open	Disc. Sec. Note B
	10.7 MC	Same as above	2500 mmf	FM	Rotor Fully Open	Disc. Pri. Note A
	10.7 MC	Same as above	2500 mmf	FM	Rotor Fully Open	Disc. Sec. Note B
I-F	10.7 MC Note E	6BA6 1st I-F Pin 1 & Chassis	2500 mmf	FM	Rotor Fully Open	2nd I-F Note C
Discriminator	10.7 MC	6BA6 2nd I-F Pin 1 & Chassis	2500 mmf	FM	Rotor Fully Open	Disc. Pri. Note A
I-F	10.7 MC	Antenna and Chassis	2500 mmf	FM	Rotor Fully Open	1st. I-F Pri. and Sec. and Note C.
	10.7 MC	Antenna and Chassis Solder a 3300 ohm resistor across terminals 3 and 4 of 1st. I-F trans.	2500 mmf	FM	Rotor Fully Open	1st. I-F Pri. Note C
	10.7 MC	Antenna and Chassis Note D	2500 mmf	FM	Rotor Fully Open	1st. I-F Sec. Note C

### RECHECK I-F ADJUSTMENTS IN ORDER GIVEN

Oscillator	108.4 Note F	Disconnect built-in dipole antenna and connect generator to dipole terminals with resistor in series.	300 ohms	FM	Rotor Fully Open	Osc. C-12
Antenna	104.5	Same as above	300 ohms	FM	Tune rotor for max. AVC voltage	Ant. C-3

### RECHECK ANTENNA & OSC. ADJUSTMENTS IN ORDER GIVEN

### FM ALIGNMENT NOTES

NOTE A—The zero center scale DC vacuum tube voltmeter is to be connected between chassis ground and the AVC line. A signal of .1 volt must be fed into the receiver for this adjustment.  
Note output voltage on the zero center DC vacuum tube voltmeter.

NOTE B—Disconnect zero center DC vacuum tube voltmeter from AVC and connect it to the audio takeoff point at the 27 K ohm resistor (R-11) and its junction with the terminal strip. Adjust for zero voltage indication.

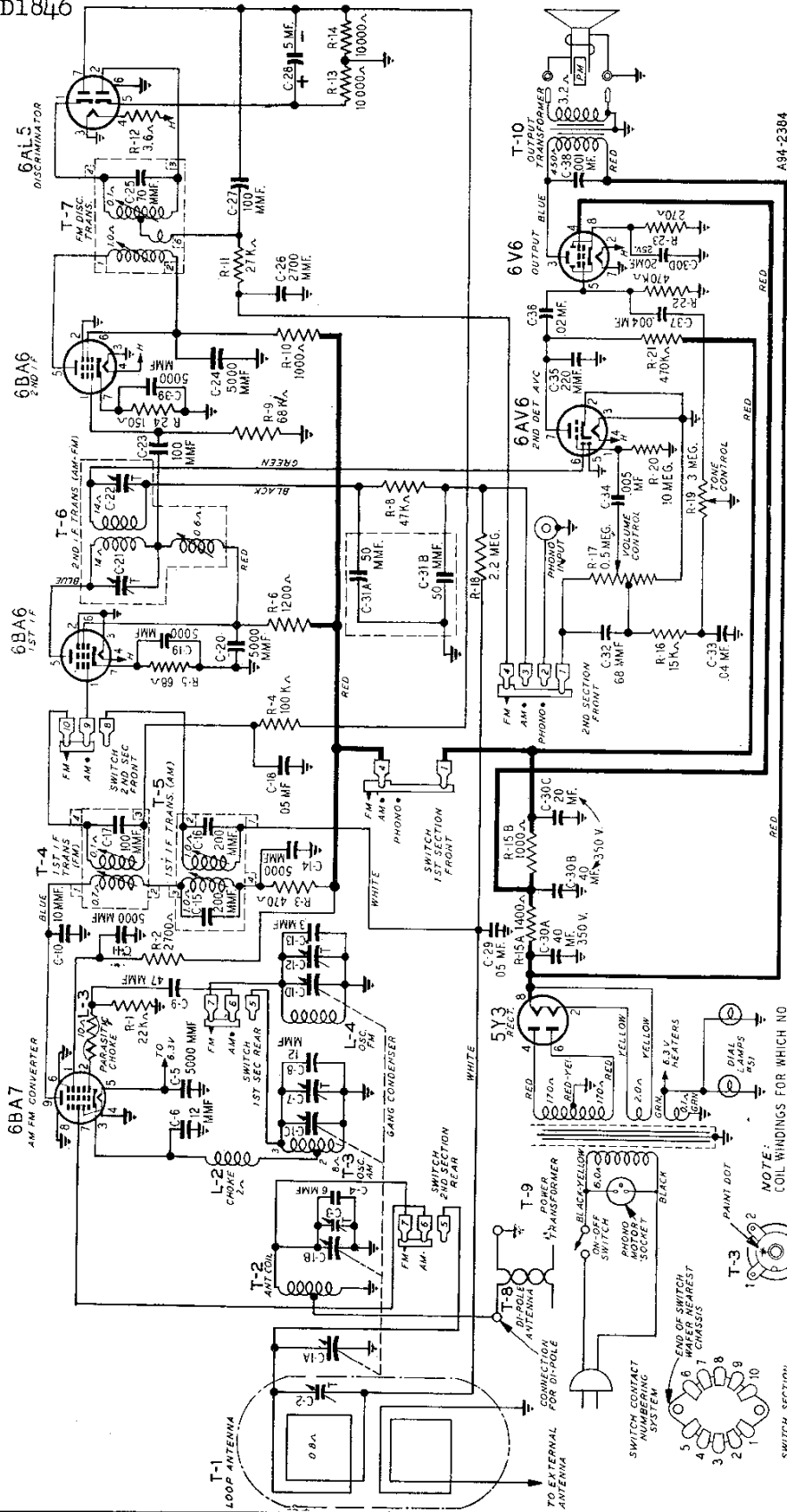
NOTE C—Connect zero center DC vacuum tube voltmeter as in Note A. Adjust input to give same output on the zero center DC vacuum tube voltmeter as in Note A.

NOTE D—Unsolder 3300 ohm resistor from terminals 3 and 4 of 1st I-F transformer and resolder across terminals 1 and 2.

NOTE E—2nd I-F Trimmers (AM) must be aligned before attempting to adjust 2nd I-F (FM) tuning slug.

NOTE F—Remove the 3300 ohm load resistor before attempting to check the antenna and oscillator adjustments.

MODEL D1846



A94-2384

NOTE:  
COIL WINDINGS FOR WHICH NO  
RESISTANCES ARE SHOWN HAVE  
A D.C. RESISTANCE OF LESS  
THAN 0.1 Ω.

# REPLACEMENT PARTS LIST

NOTICE: There is a Model Number label on the chassis. This label identifies the radio as to chassis, dial and issue letter. When ordering parts or writing, give ALL information appearing on this label.

## MISCELLANEOUS

12A477	8" PM Speaker .....
2A373	Band Change Switch .....
3A383	Molded Octal Tube Socket .....
3A304	Phono Motor Jack .....
3A305	Phono Input Jack .....
3A426	Miniature Tube Socket .....
3A443	Miniature Tube Socket (For AM-FM Converter Tube).....
10A691	Knob (Tuning) .....
10A692	Knob (Off-On Volume) .....
10A693	Knob (Tone) .....
10A694	Knob (AM-FM Phono) .....
13X546	Line Cord and Plug .....
30X547	Line Cord Clamp .....

## CAPACITORS

C-1A, C-1B } 14A204	Gang Condenser Assembly .....
C-1C, C-1D }	Part of T-1 (Loop Antenna Assembly)
C-2	Part of C-1 (Gang Condenser Assembly)
C-3 }	
C-7 }	
C-4	47X521 6 mmf Ceramic.....
C-5	
C-11	
C-14	
C-19	47X507 5000 mmf Silvered Ceramic..
C-20	
C-24	
C-39	
C-6 }	47X522 12 mmf Ceramic.....
C-8 }	
C-9	47X517 47 mmf Ceramic.....
C-10	47X512 10 mmf Ceramic.....
C-12	17A255 1-8 mmf Trimmer.....
C-13	47X547 3 mmf Ceramic.....
C-15 }	Part of T-5 (1st I.F. Transformer AM)
C-16 }	Part of T-4 (1st I.F. Transformer FM)
C-17 }	
C-18 }	866503 .05 mf 200 V Tubular.....
C-29 }	
C-21 }	Part of T-6 (2nd I.F. Transformer AM-FM)
C-22 }	
C-23	47X497 100 mmf Ceramic.....
C-25	Part of T-7 (Discriminator Coil Assembly)
C-26	47X492 2700 mmf Molded.....
C-27	47X526 100 mmf Molded.....
C-28	45X361 5 mf 100 V Dry Electrolytic....
C-30A	40 mf 350 V } Dry Electrolytic....
C-30B	40 mf 350 V }
C-30C	45X359 20 mf 350 V }
C-30D	20 mf 25 V }
C-31A	47X112 50-50 mmf Dual Mica.....
C-31B	
C-32	47X471 68 mmf Molded.....
C-33	866403 .04 mf 200 V Tubular.....
C-34	D66502 .005 mf 400 V Tubular.....
C-35	47X468 220 mmf Ceramic.....
C-36	D66203 .02 mf 400 V Tubular.....
C-37	866402 .004 mf 200 V Tubular.....
C-38	H66102 .001 mf 800 V Tubular.....

## RESISTORS

	Ohms	Watts	
R-1	884223 22 K	.5	Carbon.....
R-2	883272 2700	.5	Carbon.....
R-3	884471 470	.5	Carbon.....
R-4	885104 100 K	.5	Carbon.....
R-5	883680 68	.5	Carbon.....
R-6	884122 1200	.5	Carbon.....
R-8	885473 47 K	.5	Carbon.....

		Ohms	Watts	
R-9	885683	68 K	.5	Carbon.....
R-10	884102	1000	.5	Carbon.....
R-11	884273	27 K	.5	Carbon.....
R-12	43X233	3.6	.5	Wire Wound....
R-13 }				
R-14 }	884103	10K	.5	Carbon.....
R-15A }				
R-15B }	43X224	1000	6.0	Wire Wound....
		1400	4.0	
R-16	884153	15 K	.5	Carbon.....
R-17	36X371	.5 meg.		Volume Control
R-18	885225	2.2 meg.	.5	Carbon.....
R-19	40X284	3 meg.		Tone Control....
R-20	885106	10 meg.	.5	Carbon.....
R-21 }				
R-22 }	885474	470 K	.5	Carbon.....
R-23	884271	270	.5	Carbon.....
R-24	884151	150	.5	Carbon.....

## TRANSFORMERS AND COILS

L-2	35A1	Insulated Choke .....
L-3	9A1940	Parasitic Choke Assembly .....
L-4	9A2021	Oscillator Coil Assembly (FM) .....
T-1	9A1972	"B" Range Loop Antenna Assembly .....
T-2	9A1956	Antenna Coil Assembly .....
T-3	9A1997	Oscillator Coil (AM) .....
T-4	9A1932	1st I.F. Transformer (FM) .....
T-5	9A1998	1st I.F. Transformer (AM) .....
T-6	9A1999	2nd I.F. Transformer (AM-FM) .....
T-7	9A1970	Discriminator Coil Assembly .....
T-8	9A2003	Dipole Antenna Assembly .....
T-9	53X290	Power Transformer .....
T-10	51X134	Output Transformer .....

## DIAL AND DRIVE ASSEMBLY

15X229	Pointer .....
6X21	Rubber Grommet .....
20X260	Condenser Cushion Stud } Mtg. Gang Condenser
58X717	Dial .....
28X113	Drive Cord Tension Spring .....
26X507	Drive Shaft .....
19X192	"C" Washer (For drive shaft) .....
10X66	Drive Cord Assembly .....
7A215	Pilot Light Socket Assembly .....
7A32	No. 51 Pilot Light .....
25X1491	Pointer Bracket .....
4X915	Escutcheon (Right) .....
4X916	Escutcheon (Left) .....
30X517	Dial Clamp .....
25X1571	Idler Bracket .....
4X931	Escutcheon Inserts .....

## TYPE O-28A144 RECORD CHANGER PARTS

O-7102-1	Phono motor, 60 cycle, 115 volt .....
O-7583	Idler Pulley Kit } These parts can only be used
O-7103	Turntable } with O-7102-1 Type motor .....
O-7106-1	Phono Motor, 60 cycle, 115 volt .....
O-7584	Idler Pulley Kit } These parts can only be used
O-7107	Turntable } with O-7106-1 Type motor .....
O-7101	Grommet .....
O-4388-3	Fibre Washer .....
O-7478-4	Motor on-off Switch .....
O-7477-1	Switch Cover .....
O-7810	Changer Blade Assembly .....
O-4279	Tenite Cap .....
O-4215-37	Set Screw (Mounting tenite cap) .....
O-6699	Control Button .....
O-7799	Tone Arm Assembly Less Cartridge .....
	Cartridge Shure P93 .....
O-4298-3	Screw (for mtg. cartridge to tone arm) .....
	Needle, Durpoint 15X .....
O-7589	Needle Set Screw .....