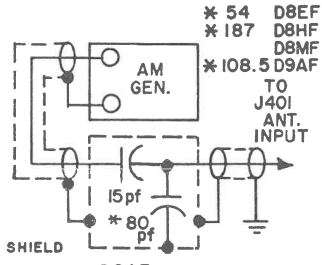


AM ALIGNMENT

PRELIMINARY INFORMATION

1. Disassemble radio as required.
 2. Connect +14 VDC output from power supply to A+ cable lead, and negative lead of power supply to chassis ground.
 3. Connect VTVM or scope to P105 for indication of AM audio output.
 4. Connect AM signal generator as directed in AM ALIGNMENT procedure. (See diagram D for the dummy antenna circuit and for value of shunt capacitor to be used to obtain desired antenna pre-trim.)
 5. Depress AM mode push button for AM operation.
- NOTE: Antenna trimmer VC104 is preset using a dummy antenna of total series and shunt capacitance as specified in diagram D. No further adjustment in the vehicle is recommended.

AM ALIGNMENT PROCEDURE

STEP	SPECIAL INSTRUCTIONS	SIGNAL GENERATOR		RECEIVER	
		CONNECTION TO RECEIVER	DIAL SETTING	DIAL SETTING	ADJUST
1	Follow preliminary instructions.	To Q102 base (converter) thru .1MF capacitor.	262.5KHz	1000KHz	T102 for max.
2	Same as step 1.	Same as step 1.	262.5KHz	1000KHz	T101 for max.
3	Reassemble radio with exception of cover. Connect +14 VDC to A+ cable lead of radio. Set fader control to mid-range and connect a 3.2 ohm load resistor between pin 4 or 5 of output socket J402 and chassis ground in four speaker models. Use pin 2 or 3 of J402 & chassis ground for 2 spkr. models. Connect VTVM or scope across load resistor. Set volume control to max. and adjust generator output for 1.8V RMS across the load resistor.	Thru dummy antenna (diagram D) to antenna input.  <p>D8AF DIAGRAM D. AM DUMMY ANTENNA</p>	1610KHz	1610KHz	1. VC101B (osc.) max. 2. VC101A (R. F.) max. 3. VC204 (ant.) max. (Repeat)
PERFORM THE FOLLOWING ALIGNMENT PROCEDURE ONLY IF TUNING COIL OR CORES HAVE BEEN REPLACED. FACTORY INSTALLED TUNER ASSEMBLIES ARE FACTORY ALIGNED.					
1 - 2	Same as above.				
3	Remove bezel & sub dial. Rotate screw part of all three AM cores counterclockwise as much as possible; then follow step 3 above except do not reassemble bezel and sub dial.**	Thru dummy antenna to antenna input. (Refer to diagram D for dummy antenna.)	1610KHz	1610KHz	1. VC101B (osc.) max. 2. VC101A (R. F.) max. 3. VC204 (ant.) max. (Repeat)
4	Tune coils by adjusting screw part of each coil.	Same as step 5.	1000KHz	1000KHz	1. L103 (osc.) max. 2. L102 (R. F.) max. 3. L101 (ant.) max. (Repeat)
5	Repeat adjustments in steps 3 and 4, if necessary, to improve dial tracking.				
6	After dial tracking is completed, cement brass screw part of each core to its grommet on carriage housing. Reassemble sub dial, bezel, and cover.				

**CAUTION: Avoid scratching sub dial on removal.

*NOTE: Model D9AF identified by yellow painted control shaft ends.

FM ALIGNMENT

1. Power Supply — Hewlett Packard 6285A or equivalent.
2. A-C VTVM — Hewlett Packard 400H or equivalent.
3. FM Generator — Boonton 202H or equivalent.
4. Oscilloscope — Tektronix 504 or equivalent.
5. RF Voltmeter or Detector Probe (See diagram A for information on building an RF detector probe.).
6. Varactor supply voltage from AM tuner panel.
7. Distortion Analyzer — Hewlett Packard 330B or equivalent.

Use a VTVM with an input impedance of 1 megohm or greater for voltage measurements.

1. Connect RF signal generator through dummy antenna to antenna input jack J401. (Refer to Diagram C for dummy antenna configuration.) Use 400 Hz modulation, ± 25 kHz deviation signal at frequency indicated and keep generator output at 1 millivolt in complete FM alignment procedure (except where otherwise indicated).
2. Use junction of C303, R228, and R229 for indication of FM audio output.

When replacing a component on the FM tuner panel, alignment should be performed only on the component replaced. The procedure in each case is shown in simplified chart form below.

SHIELDED ENCLOSURE

R.F. PROBE TIP

C1

330K

6.8K

Q1

.001

330K

Q2

C2

D1

220K

D2

470K

.001

.001

+9V TO 14V

220

VTVM OR SCOPE

COMMON

RADIO CHASSIS

DIAGRAM A. RF DETECTOR PROBE SCHEMATIC

C1	1pf	3LO-11093
C2	10pf	3LO-0010-6
D1,D2	—	3L4-2001-3
Q1,Q2	AR211	3L4-6007-12

**Ford D8AF19A241AB,D8EF19A241AC
D8HF19A241BB,D8MF19A241AB
D9AF19A241AA**

COMPLETE FM ALIGNMENT PROCEDURE

STEP	PROCEDURE
1	Connect VTVM or scope to junction of C303, R228, and R229 for indication of FM audio output.
2	Set gain adjust control VR201 at maximum gain.*
3	Apply 1.8 to 2.0 VDC from low impedance source (50 ohms or less) to base of Q201 to defeat AGC or ground collector of Q204.
4	Connect RF voltmeter or scope to output of F202 (junction of F202 and R233). (If RF voltmeter is not available, use detector probe suggested in Diagram A.)
5	Pull out high end pushbutton to unlock. Manually tune radio to 108MHz for varactor tuning voltage into FM panel J201 of +6.5 VDC on VTVM. Push the button in to lock-in voltage setting.
6	Set generator to 108MHz.
7	Adjust oscillator trimmer VC203, antenna trimmer VC201, and RF trimmer VC202 for max. output on scope or meter. Adjust generator output as needed to prevent limiting in N201.
8	Pull out low end pushbutton to unlock. Manually tune radio to 88MHz for varactor tuning voltage of 0.75 VDC on VTVM. Push the button in to lock-in voltage setting.
9	Set generator to 88MHz.
10	Adjust oscillator transformer T203, antenna coil T201 and RF transformer T202 for max. output on scope or meter.
11	Repeat steps 5 and 6. If output reading on scope or meter is within 1 dB of max. output, no further tuning is required. If output reading is not within limit specified, repeat steps 6 through 10 until output is within the limit.
12	Tune radio to 98MHz. Set generator to 98MHz, 75KHz deviation, and 1 millivolt output. Record audio output level.
13	Reduce generator input level to zero. Adjust VR201 so that noise level is 25 to 31 dB below recorded audio output level at speaker load.
14	Align FM detector as follows: a. Adjust generator frequency for max. output at pin 4 of IC201. b. Set generator to 75KHz deviation, 400Hz modulated signal at 1 millivolt output. c. Adjust FM detector coil T205 for max. output on scope of meter. d. Adjust generator frequency for min. distortion in output indication. e. At null point, readjust T205 for max. output on scope or meter.

* VR 201 is a Fixed Resistor 3.9K or 2.7K

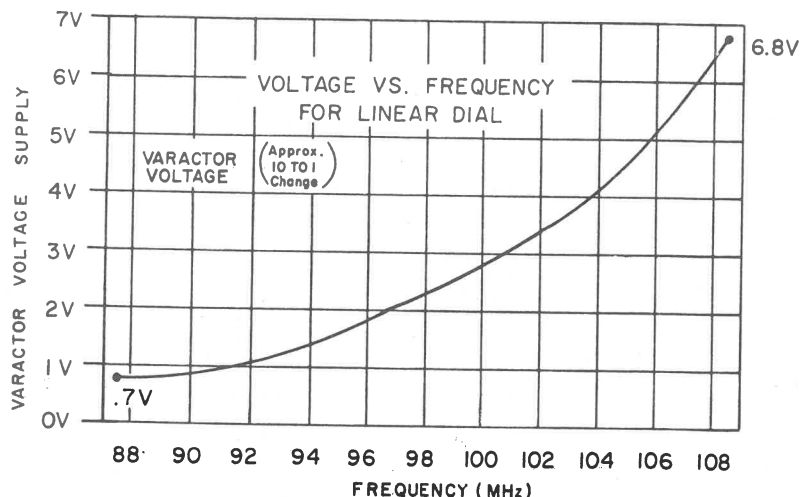


DIAGRAM B. FM VOLTAGE TUNING CHART

VARACTOR POWER SUPPLY ALIGNMENT

SERVICE NOTES

Follow preliminary information steps 1 through 3 below to determine whether the varactor power supply requires complete alignment.

The FM voltage tuning chart in Diagram B can be used as a visual aid to determine whether complete alignment is required.

PRELIMINARY INFORMATION

1. Connect +14 VDC output from power supply to A+ cable lead, and negative lead of power supply to radio chassis.
2. Depress FM mode push button for FM operation.
3. To determine whether varactor power supply alignment is necessary, use VTVM to measure VRAC tuning voltage at J201 under conditions listed below. (If any voltage measured is not within limits specified, proceed with COMPLETE VARACTOR ALIGNMENT procedure.)
 - a. Dial pointer set to extreme high end (at stop) — output on VTVM should be 6.6 VDC or greater.
 - b. Dial pointer set to 94MHz — output on VTVM should be 1.4 to 1.6 VDC.
 - c. Dial pointer set to extreme low end (at stop) — output on VTVM should be 0.72 VDC or less.

COMPLETE VARACTOR ALIGNMENT PROCEDURE

STEP	PROCEDURE
1	Disassemble radio as required.
2	Rotate core of L106 to minimum inductance (fully out of coil).
3	Set dial pointer to extreme high end of band. (Lightly press a push button to release the clutch.)* Adjust VR101 for 6.8 ± 0.05 VDC on VTVM at P101.
4	Set dial pointer to 94MHz. (Make sure dial pointer is straight and centered on dial pointer arm before turning to 94MHz.) Adjust L106 for 1.6 ± 0.05 VDC on VTVM at P101.
5	Repeat steps 3 and 4 until desired voltages are obtained. End alignment with adjustment of VR101 at high end of band.
6	Set dial pointer to extreme low end of band. (Release clutch as instructed in step 3.) Check voltage at extreme low end for 0.72 or less VDC on VTVM at P101. If voltage is not correct, proceed with step 7.
7	If voltage at low end is greater than 0.72 VDC, adjust L106 at 94MHz for a voltage slightly greater than 1.5 VDC. Recheck and adjust VR101 for 6.8 VDC at high end; then recheck voltage at low end. Repeat, as required, until voltage at low end is less than 0.72 VDC.

* It is necessary to release the clutch in order to remove the spring tension on the paddle bar at the extreme ends of the dial. This is done to get repeatability of dial end setting.

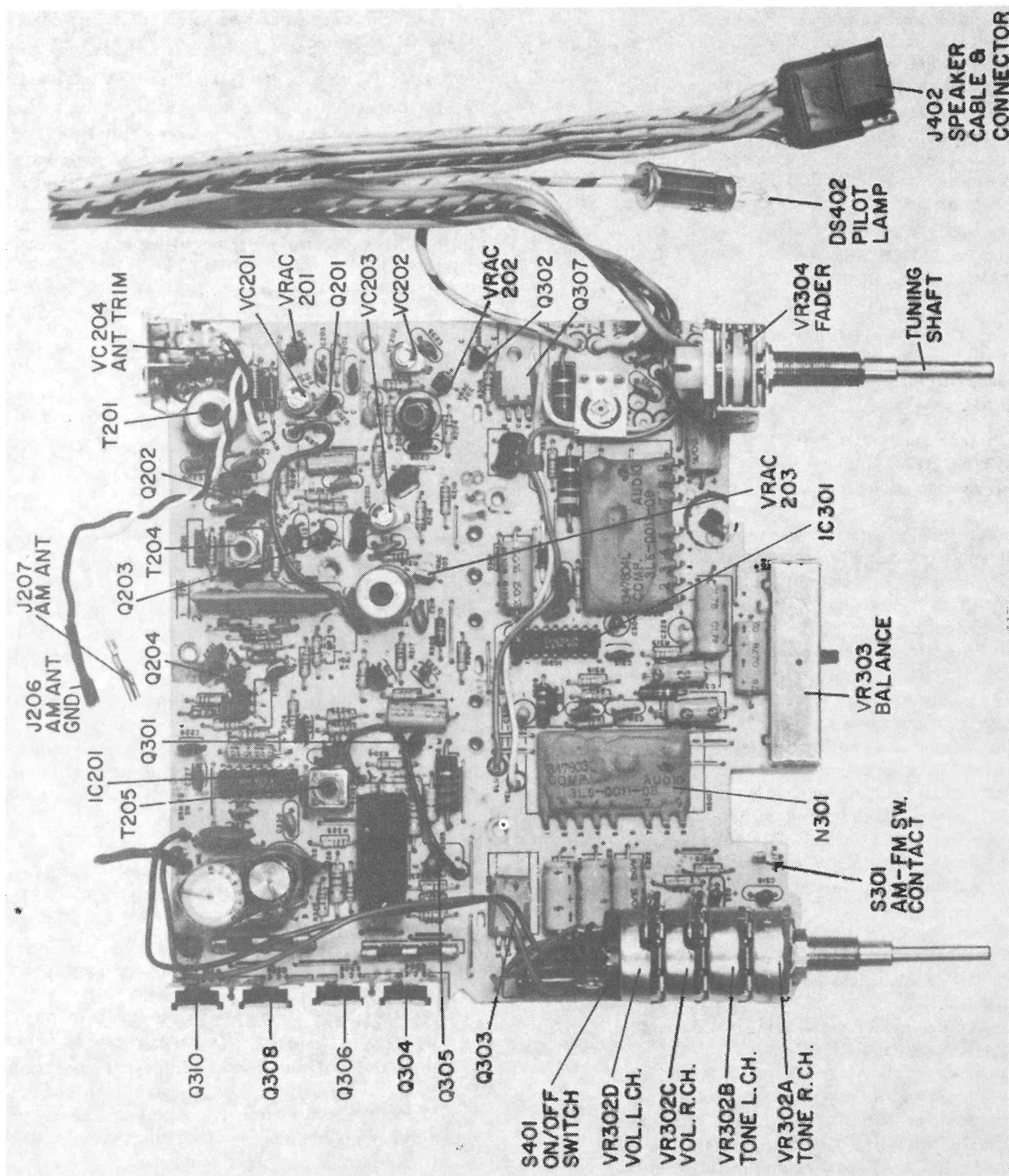
Those models with a fixed resistor instead of a variable resistor (VR101) will use the following alignment procedure:

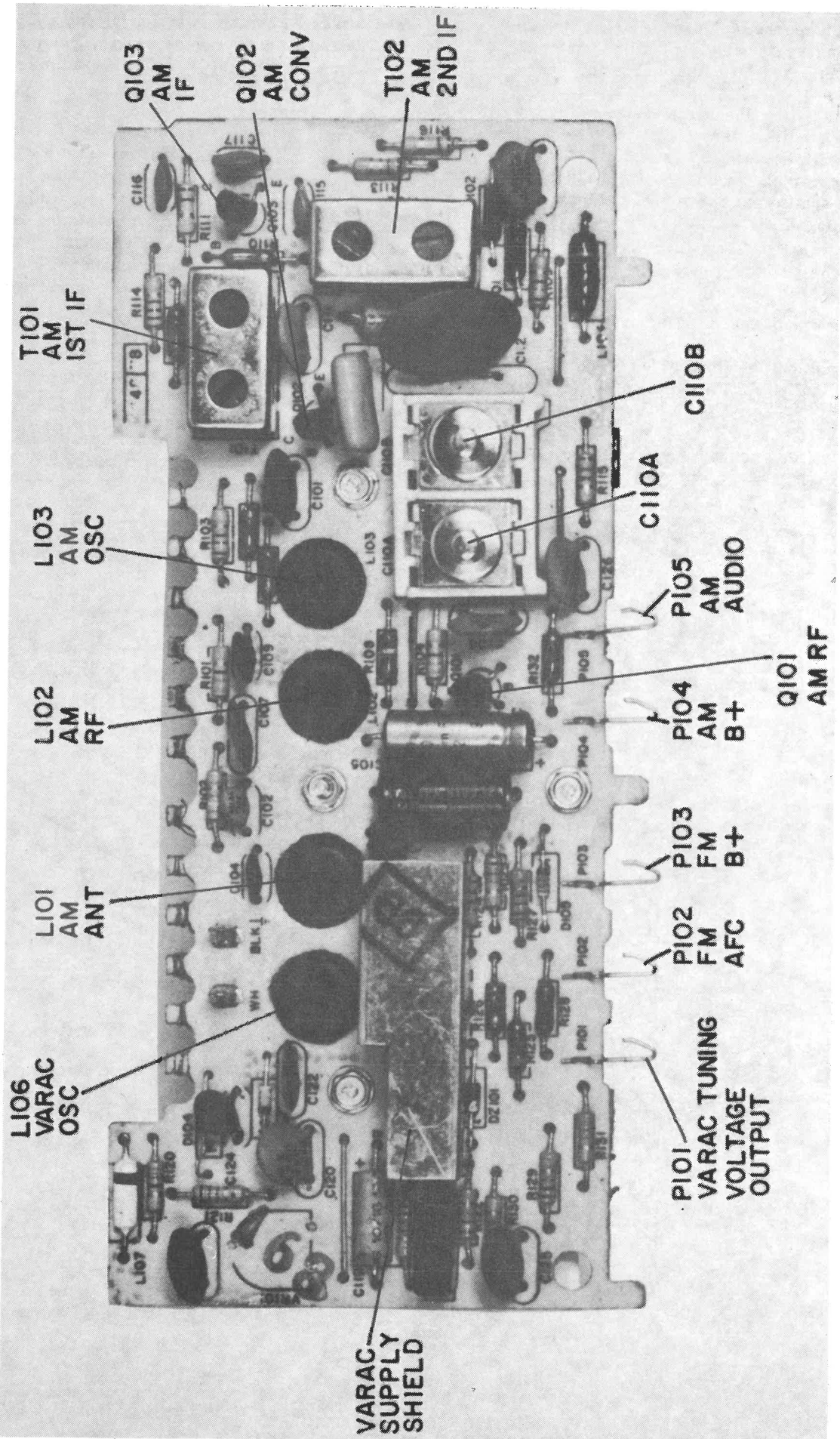
STEP	PROCEDURE
1	Disassemble radio as required
2	Set pointer to 98 MHz (lightly press a push button to release clutch). Adjust core of L106 for 2.30 VDC on VTVM at P101.
3	Check voltages at extreme ends of tuner travel. These voltages should be 0.72 VDC, or less at low end, and 6.6 VDC, or greater at the high end.

MPX ALIGNMENT PROCEDURE

STEP	PROCEDURE
1	Connect frequency counter to 76KHz osc. test point.
2	Adjust 76KHz osc. control VR301 for 18,950 to 19,050 Hz on frequency counter.

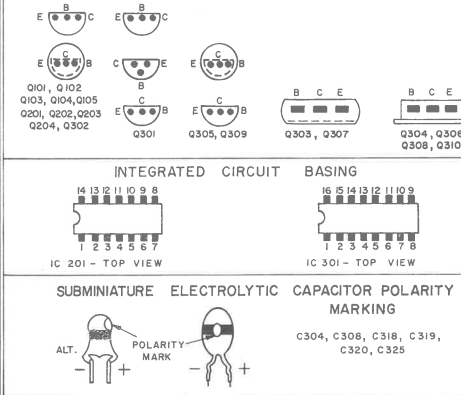
**Ford D8AF19A241AB,D8EF19A241AC
D8HF19A241BB,D8MF19A241AB
D9AF19A241AA**





FM/MPX/AUDIO PANEL

TRANSISTOR BASINGS - BOTTOM VIEW



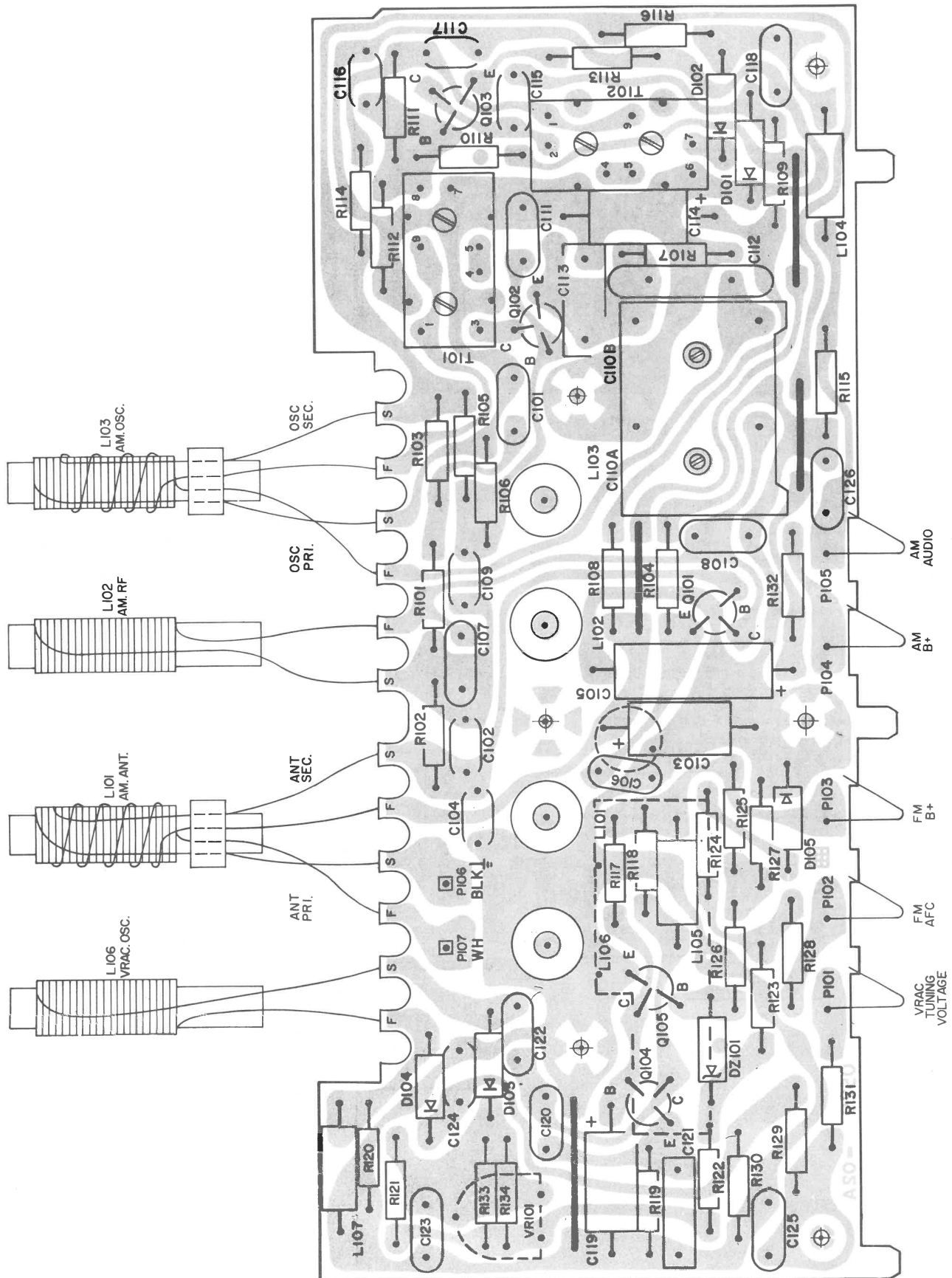
NOTES:

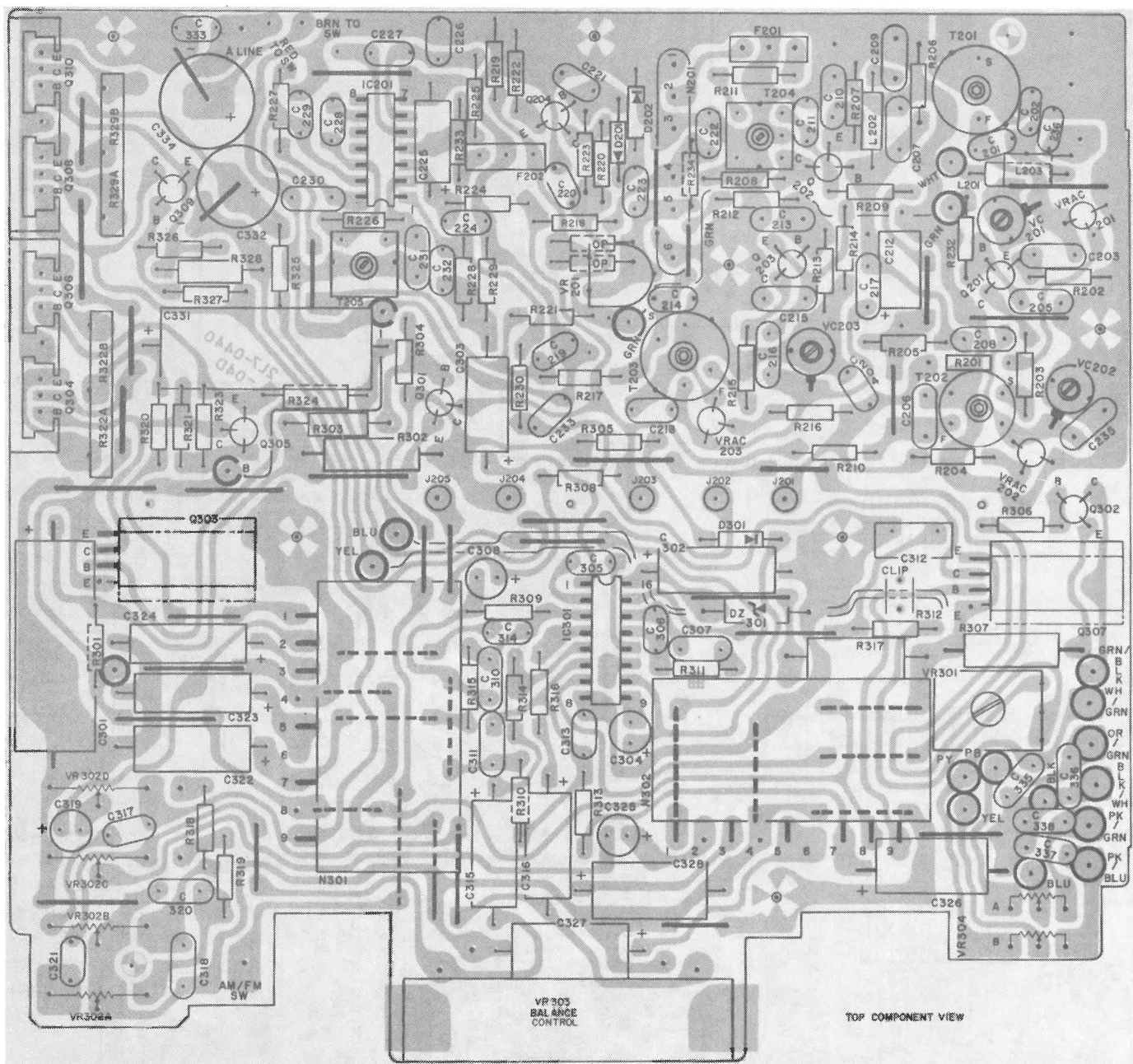
1. ALL VOLTAGES MEASURED WITH A HI-IMPEDANCE VTVM UNDER NO SIGNAL CONDITIONS AND 14.4 VAC SUPPLY WITH RADIO SET FOR FM AND VOLUME AT MINIMUM EXCEPT WHERE OTHERWISE NOTED.
 2. ALL RESISTORS ARE 1/4 WATT EXCEPT WHERE OTHERWISE NOTED. RESISTANCES ARE IN OHMS UNLESS OTHERWISE NOTED.
 3. CAPACITANCE VALUES (UNLESS OTHERWISE NOTED) VALUES LESS THAN ONE = MICROFARADS (UF) VALUES ABOVE ONE = PICOFARADS (PF)
 4. TUNING RANGE - AM = 540 KHz TO 1610 KHz (F = 262.5 KHz) FM = 88 MHz TO 108 MHz (F = 10.7 MHz)
 5. IC 301 MUST BE USED WITH APPROPRIATE VALUE FOR R312 AS FOLLOWS:
IC 301 R312
AE904-4 20 K
AE904-6 22 K
- SEE ELECTRICAL PARTS LIST
VALUES SUBJECT TO CHANGE WITH PRODUCTION CENTERING OF TOLERANCE.
- GROUND, RADIO CHASSIS OR HOUSING
GROUND, P.W. PANEL
STRONG STEREO SIGNAL
ELECTRICAL CONNECTION ONLY, NOT PHYSICAL WIRES.

AM PANEL

[illegible]

**Ford D8AF19A241AB, D8EF19A241AC
D8HF19A241BB, D8MF19A241AB
D9AF19A241AA**





**Ford D8AF19A241AB,D8EF19A241AC
D8HF19A241BB,D8MF19A241AB
D9AF19A241AA**

TUNER REPLACEMENT PARTS

New parts not previously carried are indicated by the symbol "#" following the number.
All parts are Warranty Component Category F.

DESCRIPTION	SERVICE PART NO.
Arm, Dial pointer	7L6-0423-46
Ball Bearing, Paddle bar (2)	7L6-0423-34
Bearing Screw and Nut Assy., Paddle bar	7L6-0423-35
Carriage Grommet (4)	7L6-0150-15
Clutch Bracket	7L6-0423-47
Clutch Drive Assembly	7L6-0423-13
De-clutch Cam	7L6-0423-7
De-clutch Lever	7L6-0423-9
De-clutch Plate Assy.	7L6-0423-8
"E" Ring	7L6-0423-40
Indicator Arm	7L6-0423-20
Nut, Bearing screw, paddle bar	7L6-0150-11
Pivot Bracket	7L6-0423-22
Pointer, Dial	2L8-0755-1
Rivet, Indicator arm	7L6-0423-32
Rivet, Pivot bracket (2)	7L6-0423-31
Screw, Bearing, paddle bar	7L6-0423-36
Screw, Clutch bracket (2)	7L6-0150-50
Set Screw, De-clutch cam	7L6-0423-38
Spring, Clutch	7L6-0423-37
Spring, De-clutch	7L6-0423-10
Spring, Rocker slide (2)	7L6-0423-30
Spring, Toggle	7L6-0423-33
Spring, Torsion, dial pointer arm	7L6-0423-39
Tuner Assembly, Mechanical	7L6-0587-1

ELECTRICAL PARTS LIST

New parts not previously carried are indicated by the symbol "#" following the number.

SYM-BOL	*W A R R.	DESCRIPTION	SERVICE PART NO.
		CAPACITORS	
C101	C	.05 mf/16V, B+ filter	3L0-0008-39
C102	C	22 pf 10%/500V, RF feedback	3L0-0007-13
C103	C	10 mf/10V, AGC filter	3L0-0011-19#
C104	C	.001 mf/50V, Q101 base	3L0-0007-37
C105	C	33 mf/16V, AM B+ filter	3L0-0009-37
C106	C	.05 mf/10V, Q101 emitter	3L0-0008-10
C107	C	150 pf 10%/50V, image rejection	3L0-0006-28
C108	C	150 pf 10%/50V, image rejection	3L0-0006-28
C109	C	.015 mf/25V, RF coupling	3L0-0008-18
C110A, B	C	A 200 pf (nom.), RF trim, B 75 pf (nom.), osc. trim	3L1-0002-4
C111	C	.005 mf/500V, Q102 base	3L0-0007-22
C112	C	390 pf 10%/25V, N330, osc. tank	3L0-0006-62
C113	C	.01 mf/50V, osc. tank	3L0-1001-8
C114	C	10 mf/16V, AGC filter	3L0-0024-1
C115	C	330 pf/500V, AGC coupling	3L0-0007-1
C116	C	.001 mf/50V, Q103 base	3L0-0007-37
C117	C	.02 mf/16V, 2nd IF B+ filter	3L0-0008-17
C118	C	.005 mf/500V, AM detector filter	3L0-0007-22
C119	C	10 mf/16V, Q104 base	3L0-0024-1
C120	C	.0012 mf, 10%/500V, Varac osc. tank	3L0-0007-20
C121	C	0.1 mf 10%/50V, Varac osc. tank	3L0-1001-15
C122	C	500 pf/150V, Varac osc. coupling	3L0-0006-23
C123	C	.05 mf/16V, Varac rect. filter	3L0-0008-39
C124	C	.01 mf/16V, VRAC tuning volt. filter	3L0-0008-15
C125	C	.05 mf/25V, VRAC tuning volt. filter	3L0-0008-39
C126	C	.005 mf/100V, AM filter	3L0-0007-22
C201	C	4.7 pf ± .5 pf/500V, FM mixer input	3L0-0006-17
C202	C	22 pf 10%/500V, ant. input	3L0-0007-13
C203	C	3.3 pf ± .5 pf/500V, FM RF input	3L0-0006-13
C204	C	.05 μf + 80 - 20%/25V, VRAC tuning volt. filter	3L0-0008-39
C205	C	.01 μf 20%/16V, FM AGC bypass	3L0-0008-21
C206	C	.05 μf + 80 - 20%/16V, FM RF B+ filter	3L0-0008-41
C207	C	8.2 pf ± .5/500V, FM mixer input divider	3L0-0006-20
C208	C	4.7 pf ± .5 pf/500V, FM mixer input	3L0-0006-17
C209	C	220 pf 10%/500V, 10.7 MHz trap	3L0-0007-15
C210	C	.001 μf 20%/50V, FM mixer emit. bypass	3L0-0007-37
C211	C	.05 μf + 80 - 20%/16V, FM mixer B+ bypass	3L0-0008-41
C212	C	10 μf/16V, FM B+ filter	3L0-0024-1
C213	C	.01 μf 20%/16V, FM osc. base	3L0-0008-21
C214	C	.01 μf 20%/16V, FM osc. B+ bypass	3L0-0008-21

SYM-BOL	*W A R R.	DESCRIPTION	SERVICE PART NO.
C215	C	68 pf 10%/500V, FM osc. tank	3L0-0010-20#
C216	C	6.8 pf ± .5 pf/50 N330, FM osc. tank	3L0-0006-27
C217	C	2 pf ± .25 pf/500V N220, FM osc. coupling	3L0-0006-52
C218	C	4.7 pf ± .5 pf/150V N330, FM osc. tank	3L0-0006-44
C219	C	.05 μf + 80 - 20%/10V, FM osc. B+ bypass	3L0-0008-10
C220	C	.05 μf + 80 - 20%/10V, FM AGC bypass	3L0-0008-10
C221	C	.47 μf 30%/3V, FM AGC filter	3L0-0008-14
C222	C	.05 μf + 80 - 20%/16V, FM IF bypass	3L0-0008-41
C223	C	180 pf 20%/500V, FM AGC coupling	3L0-0007-36
C224	C	.05 μf + 80 - 20%/16V, IC201 B+ bypass	3L0-0008-41
C225	C	10 μf/16V, IC201 B+ filter	3L0-0024-1
C226	C	.05 μf + 80 - 20%/10V, IC201 bypass	3L0-0008-10
C227	C	.05 μf + 80 - 20%/10V, IC201 bypass	3L0-0008-10
C228	C	3.3 pf ± .5 pf/500V, FM det. coupling	3L0-0006-13
C229	C	.05 μf + 80 - 20%/10V, IC201 bypass	3L0-0008-10
C230	C	180 pf 20%/500V, IC201 bypass	3L0-0007-36
C231	C	.05 μf + 80 - 20%/10V, FM det. bypass	3L0-0008-10
C232	C	.01 μf 20%/16V, FM det. audio out.	3L0-0008-21
C233	C	.47 μf 20%/10V, AFC filter	3L0-0011-14
C234	C	390 pf 10%/150V, AM ant. D8HF and D8MF	3L0-0006-29
C235	C	3.3 pf ± .5 pf/500V, FM RF comp.	3L0-0006-13
C236	C	4.7 pf ± .5 pf/500V, RF filter	3L0-0006-17
C301	C	1000 μf/16V, B+ filter	3L0-0009-44
C302	C	150 μf/16V, B+ filter	3L0-0009-45
C303	C	1 μf/16VDC, FM audio input coupling	3L0-0009-46
C304	C	.47 μf 20%/10V, IC301 coupling	3L0-0011-7
C305	C	.05 μf + 80 - 20%/10V, IC301 coupling	3L0-0008-10
C306	C	.22 μf 30%/3V, DC filter	3L0-0008-30
C307	C	.47 μf 30%/3V, DC filter	3L0-0008-14
C308	C	.33 μf 20%/10V, Audio input coupling	3L0-0011-6
C310	C	.0027 μf 20%/50V, Audio input cplg., L. channel	3L0-0007-32
C311	C	.0027 μf 20%/50V, Audio input cplg., R. channel	3L0-0007-32
C312	C	390 pf 3%/100V, 75 KHz osc. tuning	3L0-0010-17
C313	C	.01 μf 20%/16V, De-emphasis, R. channel	3L0-0008-21
C314	C	.01 μf 20%/16V, De-emphasis, L. channel	3L0-0008-21
C315	C	1.0 μf/16V, Audio cplg., R. channel	3L0-0009-68
C316	C	1.0 μf/16V, Audio cplg., L. channel	3L0-0009-68

*Warranty Component Category

**Ford D8AF19A241AB,D8EF19A241AC
D8HF19A241BB,D8MF19A241AB
D9AF19A241AA**

SYM-BOL	*W A R R.	DESCRIPTION	SERVICE PART NO.
C317	C	.22 μ f 30%/3V, Bass boost L. channel	3L0-0008-30
C318	C	1.0 μ f 20%/35V, Hi-cut, L. channel	3L0-0011-29
C319	C	.47 μ f 20%/10V, L. channel cplg.	3L0-0011-7
C320	C	1.0 μ f 20%/35V, Hi-cut, R. channel	3L0-0011-29
C321	C	.22 μ f 30%/3V, Bass boost, R. channel	3L0-0008-30
C322	C	150 μ f/16V, Audio filter, L. channel	3L0-0009-45
C323	C	150 μ f/6V, Audio filter, L. channel	3L0-0009-50
C324	C	150 μ f/6V, Audio filter, L. channel	3L0-0009-50
C325	C	.47 μ f 20%/10V, R. channel cplg.	3L0-0011-7
C326	C	150 μ f/16V, Audio filter, R. channel	3L0-0009-45
C327	C	150 μ f/6V, Audio filter, R. channel	3L0-0009-50
C328	C	150 μ f/6V, Audio filter, R. channel	3L0-0009-50
C329			
C330			
C331	C	1000 μ f/16V, Audio cplg., L. channel	3L0-0009-44
C332	C	1000 μ f/16V, Audio cplg., R. channel	3L0-0009-44
C333	C	.001 μ f 20%/50V, A+ bypass	3L0-0007-37
C334	C	1400 μ f/16V, A+ filter	3L0-0009-23
C335	C	180 pf 20%/500V, R. front speaker	3L0-0007-36
C336	C	180 pf 20%/500V, L. front speaker	3L0-0007-36
C337	C	180 pf 20%/500V, R. rear speaker	3L0-0007-36
C338	C	180 pf 20%/500V, L. rear speaker	3L0-0007-36
VC101A, B	C	A 200 pf (nom.), AM RF B 75 pf (nom.), AM osc.	3L1-0002-6
VC201	C	1.7-10 pf, FM ant. trim	3L1-0004-1
VC202	C	1.7-10 pf, FM RF trim	3L1-0004-1
VC203	C	1.7-10 pf, FM osc. trim	3L1-0004-1
VC204	C	85 pf (nom.), Ant. trim, D8AF and D8EF	3L1-0003-11
VC204	C	25 pf (nom.), Ant. trim, D8HF, D8MF and D9AF	3L1-0003-12
DIODES			
D101	P	AM AGC detector	3L4-2003-1
D102	P	AM detector	3L4-2003-1
D103	P	VRAC osc. rectifier	3L4-3002-32
D104	P	VRAC osc. rectifier	3L4-3002-32
D105	P	VRAC osc. supply	3L4-3002-7
D201	P	FM AGC	3L4-3002-31
D202	P	FM AGC	3L4-3002-31
D301	P	AM-FM B+ switch	3L4-3002-7
DZ101	P	6.8 Volt Zener, VRAC supply regulator	3L4-3506-43
DZ101	P	6.8 Volt Zener (opt.)	3L4-3506-50
DZ301	P	27 Volt Zener, IC301 protection	3L4-3506-49
VRAC201	P	Varactor, ant. tuning (Blue)	3L4-3508-2
VRAC202	P	Varactor, RF tuning (Blue)	3L4-3508-2
VRAC203	P	Varactor, osc. tuning (White)	3L4-3508-1

SYM-BOL	*W A R R.	DESCRIPTION	SERVICE PART NO.
		CAUTION: Varactors are used together in the combination listed. Replace a defective varactor only with a varactor having the same color dot shown on unit removed.	
		PILOT LAMPS	
DS401	K	#1893 Pilot light	3L4-0001-6
DS402	K	#1892 Stereo indicator	3L4-0001-8
		INTEGRATED CIRCUITS	
IC201	S	AE-907, FM detector	3L4-9007-1
IC301	S	AE904, MPX detector, use with 20K (R312)	3L4-9004-4
IC301	S	AE904, MPX detector (opt.), use with 22K (R312)	3L4-9004-6
		COILS	
L101	D	AM antenna tuning	3L2-0007-11
L102	D	AM RF tuning	3L2-0007-10
L103	D	AM osc. tuning	3L2-0002-8
L104	D	2.7 MH RF choke	3L2-0023-14
L105	D	2.7 MH RF choke	3L2-0023-14
L106	D	Varac. osc. tuning	3L2-0027-1
L107	D	33 μ h varac. osc. tank	3L2-0023-4
L201	D	2.7 μ h RF choke	3L2-0023-15
L202	D	1.0 μ h 10.7 MHz trap	3L2-0023-13
L203	D	RF choke	3L2-0037-7
L401	J	A+ choke (part of A+ Cable assy.)	3L2-0020-2
		NETWORKS	
F201	B	IF filter, 10.7 MHz	3L5-5004-1
F201	B	IF filter, 10.7 MHz (opt.)	3L5-5003-1
F202	B	IF filter, 10.7 MHz	3L5-5004-1
F202	B	IF filter, 10.7 MHz (opt.)	3L5-5003-1
		NOTE: Replace IF filter with same color code as on component removed, or replace both filters with a pair having the same color code and part number.	
N201	B	FM IF amp.	3L5-0020-1
N301	B	Pre-driver, L. channel	3L5-0011-8
N302	B	Pre-driver, R. channel	3L5-0011-8
		TRANSISTORS	
Q101	A	AR200 (White), AM RF amp.	3L4-6007-1
Q102	A	AR201 (Yellow), AM conv.	3L4-6007-2
Q102	A	(Yel-org) AM conv. (opt.)	3L4-6007-43#
Q103	A	AR202 (Green), AM IF amp.	3L4-6007-3
Q104	A	AR213 (Violet), VRAC osc.	3L4-6007-14
Q105	A	VRAC osc. control	3L4-6007-41
Q201	A	AR224, FM RF amp. (White, Yellow)	3L4-6007-35
Q202	A	AR220, FM mixer (Green, Yellow)	3L4-6007-21
Q203	A	AR222, FM osc. (Blue, Yellow)	3L4-6007-23

SYM-BOL	*W A R R.	DESCRIPTION	SERVICE PART NO.
Q204	A	AR222, VRAC osc. (Yellow, Brown)	3L4-6007-42
Q301	A	AR304, AM-FM B+ switch (Red)	3L4-6010-4
Q302	A	AR304, Stereo lamp driver (Red)	3L4-6010-4
Q302	A	AR308, Stereo lamp driver (Brown, Violet) (opt.)	3L4-6010-8
Q303	A	AR44, Driver, L. channel	3L4-6011-9
Q303	A	Driver, L. channel (opt.)	3L4-6011-14
Q304	A	NPN Output Amp., L. chan. (order assy. no., includes Q304, Q306 and heat sink)	
Q305	A	AR306, Mult. L. channel (Orange, Blue)	3L4-6010-6
Q306	A	PNP Output Amp., L. chan. (order assy. no., includes Q304, Q306 and heat sink)	
Q307	A	AR44, Driver, R. channel	3L4-6011-9
Q307	A	Driver, R. channel (opt.)	3L4-6011-14
Q308	A	NPN Output Amp., R. chan. (order assy. no., includes Q308, Q310 and heat sink)	
Q309	A	AR306, Mult. R. channel (Orange, Blue)	3L4-6010-6
Q310	A	PNP Output Amp., R. chan. (order assy. no., includes Q308, Q310 and heat sink)	
RESISTORS			
R101	G	330 ohms 5%, 1/4W, RF B+	
R102	G	39K 5%, 1/4W, Q101 base bias	
R103	G	560 ohms 5%, 1/4W, RF B+	
R104	G	330 ohms 5%, 1/4W, Q101 emit.	
R105	G	27K 5%, 1/4W, Q102 base bias	
R106	G	5.6K 5%, 1/4W, Q102 base bias	
R107	G	1.8K 5%, 1/4W, Q102 emit.	
R108	G	3.9K 5%, 1/4W, AM AGC det. filter	
R109	G	1.8K 5%, 1/4W, AM AGC det. load	
R110	G	33K 5%, 1/4W, Q103 base bias	
R111	G	100K 5%, 1/4W, Q103 base bias	
R112	G	15K 5%, 1/4W, Q103 base bias	
R113	G	5.6 ohms 5%, 1/4W, Q103 emit.	3L3R9561208#
R114	G	1K 5%, 1/4W, AM IF B+	
R115	G	6.8K 5%, 1/4W, AM audio atten.	
R116	G	220K 5%, 1/4W, AM det. bias	
R117	G	22K 5%, 1/4W, Q104 base bias	
R118	G	1.5K 5%, 1/4W, Q104 coll. load	
R119	G	100 ohms 5%, 1/4W, Q104 emit.	
R120	G	3.3K 5%, 1/4W, L107 load	

SYM-BOL	*W A R R.	DESCRIPTION	SERVICE PART NO.
R122	G	15K 5%, 1/4W, VRAC supply divider	
R123	G	4.7K 5%, 1/4W, FM AFC input	
R124	G	6.2K 5%, 1/4W, D105 protection	
R125	G	22K 5%, 1/4W, Q105 base bias	
R126	G	5.6K 5%, 1/4W, Q105 base bias	
R127	G	120 ohms 5%, 1/4W, Q105 base bias	
R128	G	5.6K 5%, 1/4W, FM AFC input	
R129	G	10K 5%, 1/4W, VRAC supply filter	
R130	G	33K 5%, 1/4W, VRAC supply load	
R131	G	47K 5%, 1/4W, VRAC supply filter	
R132	G	220 ohms 5%, 1/4W, AM B+	
R201	G	560K 5%, 1/4W, VRAC201 bias	
R202	G	330 ohms 5%, 1/4W, Q201 emit.	
R203	G	150 ohms 5%, 1/4W, Q201 collector	
R204	G	100K 5%, 1/4W, VRAC202 bias	
R205	G	2.7K 5%, 1/4W, Q202 base bias	
R206	G	680 ohms 5%, 1/4W, Q202 base bias	
R207	G	1.8K 5%, 1/4W, Q202 emit.	
R208	G	12K 5%, 1/4W, Q202 collector	
R209	G	330 ohms 5%, 1/4W, FM mixer B+	
R210	G	220 ohms 5%, 1/4W, FM mixer B+	
R211	G	100 ohms 5%, 1/4W, F201 input	
R212	G	3.3K 5%, 1/4W, Q203 base bias	
R213	G	3.9K 5%, 1/4W, Q203 base bias	
R214	G	1.8K 5%, 1/4W, Q203 emit.	
R215	G	100 ohms 5%, 1/4W, Q203 collector	
R216	G	100K 5%, 1/4W, VRAC203 bias	
R217	G	100 ohms 5%, 1/4W, FM osc. B+	
R218	G	220 ohms 5%, 1/4W, FM IF B+	
R219	G	390 ohms 5%, 1/4W, F202 input divider	
R220	G	1.2K 5%, 1/4W, Q204 collector	
R221	G	3.3K 5%, 1/4W, Q204 B+	
R222	G	100 ohms 5%, 1/4W, Q204 emit.	
R223	G	33K 5%, 1/4W, Q204 base bias	
R224	G	10 ohms 5%, 1/4W, IC201 B+	
R225	G	330 ohms 5%, 1/4W, IC201 input	
R226	G	12K 5%, 1/4W, T205 shunt	
R227	G	47K 5%, 1/4W, IC201 cplg.	
R228	G	1.2K 5%, 1/4W, Audio comp.	

*Warranty Component Category

**Ford D8AF19A241AB, D8EF19A241AC
D8HF19A241BB, D8MF19A241AB
D9AF19A241AA**

SYM-BOL	*W A R R.	DESCRIPTION	SERVICE PART NO.
R229	G	6.8K 5%, 1/4W, Audio comp.	66-0563634
R230	G	47K 5%, 1/4W, AFC divider	
R231	G	1 Meg 5%, 1/4W, AM ant. (D8HF, D8MF)	
R232	G	6.8K 5%, 1/4W, Q201 base	
R233	G	68 ohms 5%, 1/4W, IC201 cplg.	
R301	G	10 ohms 5%, 1/4W, Q301 emit.	
R302	G	180 ohms 10%, 2W, AM B+	
R303	G	330 ohms 5%, 1/2W, Q301 B to E	
R304	G	1.8K 5%, 1/4W, Q301 B+ input	
R305	G	390K 5%, 1/4W, D301 bias	
R306	G	1.5K 5%, 1/4W, Q302 base	3L3-0028-4
R307	G	56 ohms 10%, 2W, Q302 emit.	
R308	G	47K 5%, 1/4W, Q301 collector	
R309	G	10K 5%, 1/4W, Audio cplg., L. channel	
R310	G	10K 5%, 1/4W, Audio cplg., R. channel	
R311	G	3.3K 5%, 1/4W, DC filter	
R312	G	20K 2%, 1/4W, use with IC301 AE304-4	
R312	G	22K 2%, 1/4W, use with IC301 AE304-6	
R313	G	5.1K 5%, 1/4W, IC301 load, R. channel	
R314	G	680 ohms 5%, 1/4W, Audio out., R. channel	
R315	G	5.1K 5%, 1/4W, IC301 load, L. channel	66-04763634
R316	G	680 ohms 5%, 1/4W, Audio out., L. channel	
R317	G	47 ohms 10%, 2W, B+ drop.	
R318	G	330 ohms 5%, 1/4W, Vol. cont. tap, L. channel	
R319	G	330 ohms 5%, 1/4W, Vol. cont. tap, R. channel	
R320	G	100 ohms 5%, 1/4W, Feed-back, L. channel	
R321**	G	62 ohms 5%, 1/4W, Q305 bias	
R321**	G	59 ohms 5%, 1/4W, Q305 bias	
R322A, B	G	.27/.27 ohms, 2W, Dual, L. chan. out. emit.	
R323**	G	75 ohms 5%, 1/4W, Q305 bias	3L3-075123

SYM-BOL	*W A R R.	DESCRIPTION	SERVICE PART NO.
R323**	G	68 ohms 5%, 1/4W, Q305 bias	3L3-068123
R324	G	100 ohms 5%, 1/2W, Q305 emit.	
R325	G	100 ohms 5%, 1/4W, Feed-back, R. channel	
R326**	G	75 ohms 5%, 1/4W, Q309 bias	
R326**	G	68 ohms 5%, 1/4W, Q309 bias	
R327**	G	62 ohms 5%, 1/4W, Q309 bias	
R327**	G	59 ohms 5%, 1/4W, Q309 bias	
R328	G	100 ohms 5%, 1/2W, Q309 emit.	
R329A, B	G	.27/.27 ohms, 2W, Dual, R. channel out. emit.	
		CONTROLS	3L3-0027-4
VR101***	G	1.8K 5%, 1/4W, VRAC supply	
VR201***	G	3.9K 5%, 1/4W, IF gain	
VR201***	G	2.7K 5%, 1/4W, IF gain (opt.)	
VR301	H	5K, 75 KHz, osc. adj.	
VR302A, B, C, D	H	Dual 8K Vol./40K Tone & on/off switch, D8AF, D9AF, D8HF & D8MF	
VR302A, B, C, D	H	Dual 8K Vol./40K Tone & on/off switch, D8EF	
VR303	H	10K, Balance	
VR303	H	10K, Balance (opt.)	
VR304A, B	H	35 ohms, Fader, R. chan. and L. chan., D8AF, D9AF, D8HF & D8MF	
VR304A, B	H	35 ohms, Fader, R. chan. and L. chan. (opt.), D8AF, D9AF, D8HF, D8MF	3L3-0023-8
		TRANSFORMERS	
T101	E	262.5 KHz, AM 1st IF	
T102	E	262.5 KHz, AM 2nd IF	
T201	E	FM Ant.	
T202	E	FM RF	
T203	E	FM Osc.	
T204	E	10.7 MHz, FM Mixer	
T205	E	10.7 MHz, FM Detector	

*Warranty Component Category

***Fixed Resistors

MECHANICAL AND ELECTRICAL MISCELLANEOUS PARTS LIST

New parts not previously carried are indicated by the symbol "*" following the number.

	DESCRIPTION	D8AF	D8EF	D8HF D8MF	D9AF
	Bezel	2L7-0252-10	2L7-0252-11	2L7-0252-10	2L7-0252-10
	Bracket, Ant. socket	2L8-0668-1	2L8-0668-1	2L8-0668-1	2L8-0668-1
	Bracket & Bushing, Tuning shaft	-	7L6-0446-4	-	-
	Button, Push (5)	2L7-0150-2	2L7-0150-2	2L7-0150-2	2L7-0150-2
	Cable, A+ lead and pilot light	4L1-0077-13	4L1-0077-14	4L1-0077-13	4L1-0077-13
	Cable, External A+ choke assembly	7L6-0479-11	7L6-0479-12	7L6-0479-11	7L6-0479-11
	Cable Assy., Speaker	7L6-0392-7	4L1-0085-4	7L6-0392-7	7L6-0392-7
	Cable & Socket Assy., Stereo light	3L8-0981	3L8-0981	3L8-0981	3L8-0981
	Clamp, A+ & P.L. cable	2L8-14660-1	2L8-14660-1	2L8-14660-1	2L8-14660-1
	Clamp, Speaker cable	2L8-0226-1	2L8-0226-1	2L8-0226-1	2L8-0226-1
	Clip, Heatsink	2L8-0527-1	2L8-0527-1	2L8-0527-1	2L8-0527-1
	Clip, Vol. control & tuning shaft align.	2L8-0379-1	2L8-0379-1	2L8-0379-1	2L8-0379-1
	Core, Ant. and RF (option - 5)	2L8-0069-4	2L8-0069-4	2L8-0069-4	2L8-0069-4
	Core, AM osc.	2L8-0045-6	2L8-0045-6	2L8-0045-6	2L8-0045-6
	Core, Varac. osc.	2L8-0069-15	2L8-0069-15	2L8-0069-15	2L8-0069-15
	Cover, Housing	2L8-0666-1	2L8-0666-1	2L8-0666-1	2L8-0666-1
	Drive Coupling Assy. (tuning)	-	3L8-0983	-	-
	Fader Control Assy.	3L8-0982	-	3L8-0982	3L8-0982
	Filter, Color	2L7-0438-1	2L7-0438-2	2L7-0438-1	2L7-0438-1
	Grommet, P.W. panel (4)	2L7-0022-1	2L7-0022-1	2L7-0022-1	2L7-0022-1
	Heatsink Assy. (includes 2 output transistors)	-	7L6-0628-1	-	-
	Housing & Bracket Assy.	-	-	-	-
	Housing & Weldbolt Assy.	7L6-0588-1	-	7L6-0588-1	7L6-0588-1
	Insulator, Housing (FM-MPX-Audio Panel)	5L4-0095-1	5L4-0095-1	5L4-0095-1	5L4-0095-1
	Insulator, Pilot light and stereo light	2L7-0064-1	2L7-0064-1	2L7-0064-1	2L7-0064-1
	Jewel, Stereo indicator	2L7-0266-1	2L7-0266-1	2L7-0266-1	2L7-0266-1
	Nut, Mtg., vol. control and tuning shaft	28-14686-1	28-14686-1	28-14686-1	28-14686-1
	P.W. Panel Assy., AM	3L8-0978	3L8-0978	3L8-0978	3L8-0978
	P.W. Panel Assy., MPX-FM-Audio	3L8-0977	3L8-0980	3L8-0979	3L8-1143#
	Pinion Shaft	2L7-0030-18	2L7-0030-18	2L7-0030-18	2L7-0030-18
	Pointer, Dial	2L8-0755-1	2L8-0755-1	2L8-0755-1	2L8-0755-1
	Retainer, Stereo indicator	LW-0024-1	LW-0024-1	LW-0024-1	LW-0024-1
	Retainer Plate, Fader control	2L8-0312-3	2L8-0312-4	2L8-0312-3	2L8-0312-3
	Seal, Light (stereo indicator)	2L7-0275-1	2L7-0275-1	2L7-0275-1	2L7-0275-1
	Shaft, Tuning	2L7-0071-8	2L7-0071-12	2L7-0071-8	2L7-0071-8
	Shield, Pilot light	2L8-0225-1	2L8-0225-1	2L8-0225-1	2L8-0225-1
	Shield, Stereo light	2L8-0385-1	2L8-0385-1	2L8-0385-1	2L8-0385-1
	Slide Bar, AM-FM	2L8-0232-3	2L8-0232-3	2L8-0232-3	2L8-0232-3
	Slider Knob, Balance control (knob & spring)	424-9687	424-9687	424-9687	424-9687
	Sleeve, Powdered iron (ant., RF & osc.)	2L8-0138-1	2L8-0138-1	2L8-0138-1	2L8-0138-1
	Sleeve, Powdered iron (ant., RF & osc.) (opt.)	2L8-0138-2	2L8-0138-2	2L8-0138-2	2L8-0138-2
	Sleeve, Powdered iron (ant., RF & osc.) (opt.)	2L8-0138-3	2L8-0138-3	2L8-0138-3	2L8-0138-3
	Sleeve, Powdered iron (Varac. osc.)	2L8-0138-9	2L8-0138-9	2L8-0138-9	2L8-0138-9
	Sleeve, Paper (4)	5L4-0002-1	5L4-0002-1	5L4-0002-1	5L4-0002-1
	Socket, Antenna	2L7-0139-2	2L7-0139-2	2L7-0139-2	2L7-0139-2
	Socket Assy., Stereo indicator light	7L6-0443-1	7L6-0443-1	7L6-0443-1	7L6-0443-1
	Socket and Cover Assy., Pilot light	7L6-0589-1	7L6-0589-1	7L6-0589-1	7L6-0589-1
	Spacer, Tuning shaft	-	2L8-0177-6	-	-
	Spacer, Volume control shaft	-	2L8-0177-5	-	-
	Spring, AM-FM switch	2L8-0390-3	2L8-0390-3	2L8-0390-3	2L8-0390-3
	Spring, Balance control	2L8-0597-1	2L8-0597-1	2L8-0597-1	2L8-0597-1
	Spring, Pinion retainer	2L8-0685-1	2L8-0685-1	2L8-0685-1	2L8-0685-1
	Spring, Pilot light and stereo light	2L8-0067-1	2L8-0067-1	2L8-0067-1	2L8-0067-1
	Spring, Retainer - AM-FM slide bar	2L8-0393-1	2L8-0393-1	2L8-0393-1	2L8-0393-1
	Spring, Tension - tuning shaft	2L8-0314-1	2L8-0314-1	2L8-0314-1	2L8-0314-1
	Sub dial	2L7-0441-1	2L7-0441-1	2L7-0441-1	2L7-0441-1
	Sub dial Assy. (includes stereo indicator jewel)	3L8-0860	3L8-0860	3L8-0860	3L8-0860
	Tuner Assy., Mechanical	7L6-0587-1	7L6-0587-1	7L6-0587-1	7L6-0587-1