

T31.

TOSHIBA MODEL 14L-828F



TOSHIBA TRANSISTOR RADIO

SERVICE DATA

SPECIFICATIONS

FREQUENCY RANGE:	AM 530~1650 KC MB 2 ~ 6 MC FM 87.5~108 MC
INTERMEDIATE FREQUENCY:	MB, AM 455 KC FM 10.7 MC
POWER SOURCE:	UM-1 (4"D) × 4.....6V AC 120V ⁵⁰ / ₆₀ CPS
POWER OUTPUT:	1.2 W (max.)
SPEAKER:	5" P. M. D. Type
ANTENNAS:	Ferrite Core Antenna (AM and MB) and Telescopic Antenna(FM) Earphone Jack
JACK:	
TRANSISTORS & DIODES:	
TR 1	2SC384/9032 FM, RF Amplifier
TR 2	2 SC 371 FM Mixer
TR 3	2 SC 371 FM Oscillator
TR 4	2 SC 372 FM, IF Amplifier and AM Converter
TR 5, TR 6	2 SC 372 FM and AM IF Amplifier
TR 7	2 SC 372 Voltage Regulator
TR 8	2 SC 372 FM, IF Amplifier
TR9, TR10	2 SB 54 AF Amplifier
TR 11	2 SB 56 Driver
TR12, TR13	2 SB 365 Power Amplifier
TR 14	2 SC 373 Tuning Indicator
D 1	1 S 86 AFC
D2, D3, D4, D5, D6, D7	1 N 60 Detector Limiter and AGC
DIMENSIONS:	W...11" H...7¼" D...3½"
WEIGHT:	7 lbs (With Batteries)
ACCESSORY:	Earphone

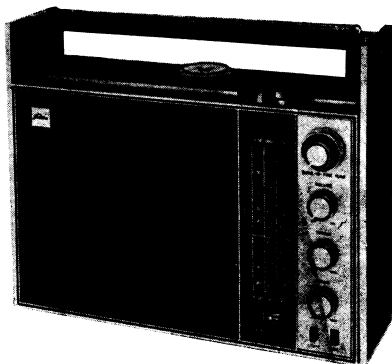
CHASSIS REMOVAL

1. Remove the six knobs (Tune, Fin-Tune, Vol, Tone 2 and Band-Select).
2. Remove the two screws and open the battery lid.
3. Remove the four screws marked (※) shown in the Fig 1, and open the back lid.
4. Remove the four studs and a screw marked (*) shown in the Fig 2.

Carefully pull the chassis from the cabinet.

Remarks:

When separating the chassis, do not loosen any screw except the ones painted with white enamel.



DIAL CORD ARRANGEMENT

1. Set the variable capacitor to the minimum capacitance.
2. Set the cord as number in the diagram.

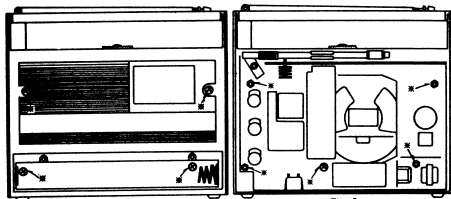
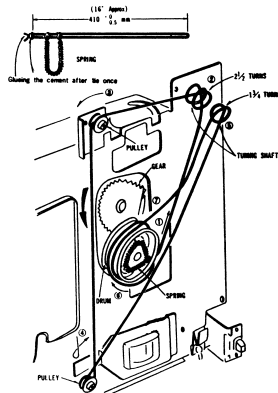
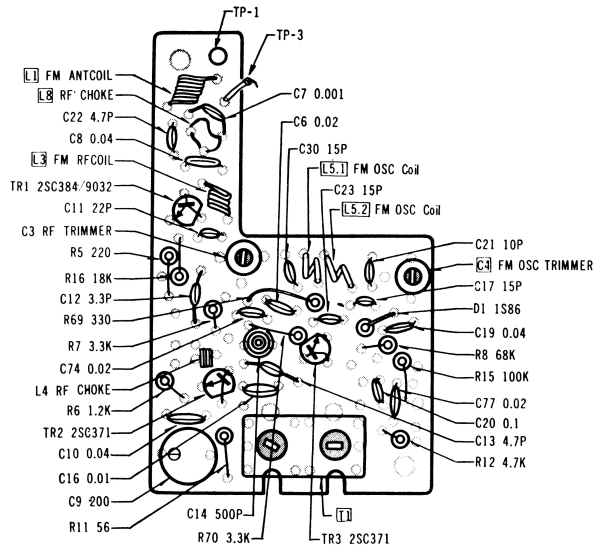


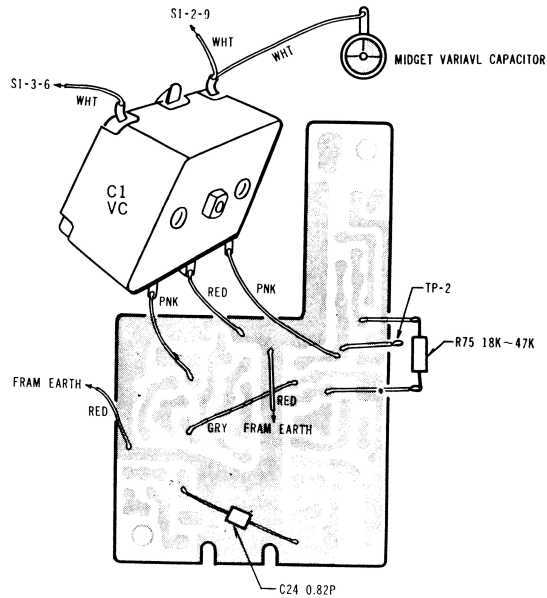
Fig 1

Fig 2

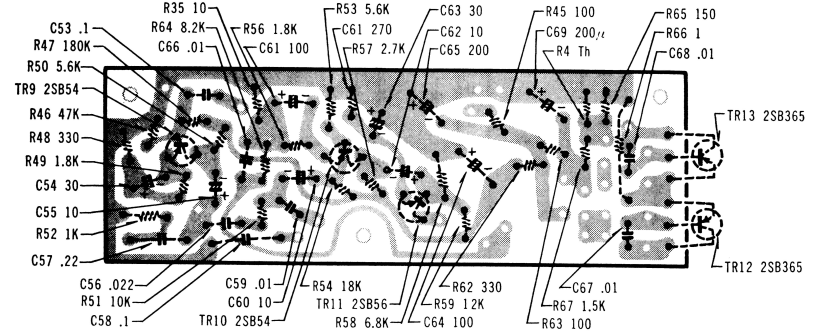
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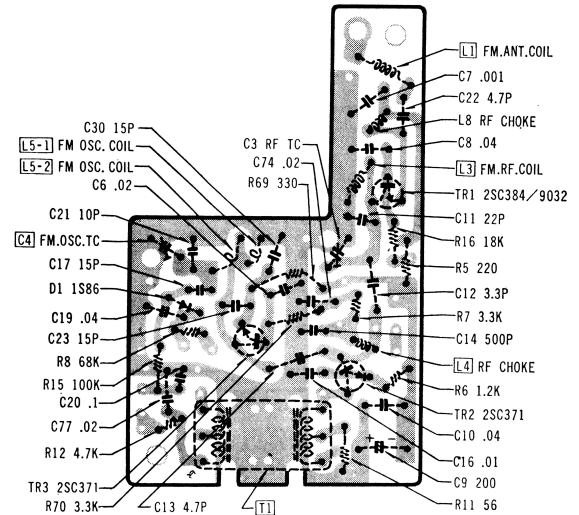
TOP VIEW OF TUNER SECTION



BOTTOM VIEW OF TUNER SECTION



BOTTOM VIEW OF AF SECTION



BOTTOM VIEW OF TUNER SECTION

FM, RF ALIGNMENT

ALIGNMENT PROCEDURE

The following equipment is required for alignment:

1. Signal generator with a frequency range of at least from 455 KC to 6.5 MC, AM.
2. Signal generator with a frequency range of at least from 10.7 MC to 109 MC, FM.
3. Vacuum tube volt meter.
4. Sweep signal generator with a sweep range of at least 300 KC and center frequency of 10.7 MC marker (Ext. marker may be used.)
5. Oscilloscope with a wide range amplifier of approximately 100 KC.
6. Test Loop, a coil of any size wire, one turn or more.
7. For alignment points, see schematic.

NOTES:

During alignment keep the signal generator outputs at the lowest level that will maintain a useable output from the set.

Ground connection of signal generator	chassis ground
Generator modulation (FM) (other than IF. alignment)	30%, 1000%
Generator modulation (AM)	30%, 1000%

Step	Generator Connection	Generator Frequency	Band Setting	Position of Tuning Gang	Meter or Oscilloscope Connection	Adjustment	Remarks
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AM ALIGNMENT

1.	Test loop	455 KC	AM	Tuning Gang fully closed	Across Voice Coil	T 7, T 8, T 9	Adjust for maximum
2.	Same	525 KC	Same	Same	Same	L 7	Same
3.	Same	1680 KC	Same	Tuning Gang fully open	Same	C 5 a	Same
4.	Repeat Step 2 and 3						
5.	Same	600 KC	Same	600 KC	Same	L 2 a	Same
6.	Same	1400 KC	Same	1400 KC	Same	C 5 b	Same
7.	Repeat Step 5 and 6						

MB ALIGNMENT

1.	Test loop	1.8 MC	MB	Tuning gang fully closed	Across voice coil	L 6	Adjust for maximum
2.	Same	6.2 MC	Same	Tuning gang fully open	Same	C 5 c	Same
3.	Repeat Step 1 and 2						
4.	Same	2.2 MC	Same	2.2 MC	Same	L 2 b	Same
5.	Same	5.0 MC	Same	5.0 MC	Same	C 5 d	Same
6.	Repeat step 4 and 5						

FM, RF ALIGNMENT

1.	Sweep generator to test point TP-1 thru .05µF, Fig. C	10.7 MC center freq. sweep with 10.7 MC Marker	FM	Tuning gang fully open	Set scope for external sweep point TP-2, Fig. C	T 1, T 2, T 3, T 5, T 6	Adjust for scope pattern illustrated below with 10.7MC marker in center, Fig. A
2.	Same	Same	Same	Same	Set scope for external sweep point TP-3 directly	T 5, T 6	Adjust for ratio detector "S" curve as illustrated below Fig. B

1.	FM signal generator to ant. directly, Fig. C	86.5 MC	FM	Tuning Gang fully closed	Across Voice Coil	L 5-1 L 5-2	Adjust for maximum
2.	Same	109 MC	Same	Tuning Gang fully open	Same	C 4	Same
3.	Repeat Step 1 and 2						
4.	Same	88 MC	Same	88 MC	Same	L 3	Same
5.	Same	108 MC	Same	108 MC	Same	C 3	Same
6.	Repeat Step 4 and 5						

SWEEP RESPONSE CURVE



FIG. A

"S" CURVE

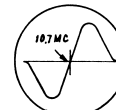


FIG. B

IF SWEEP TEST

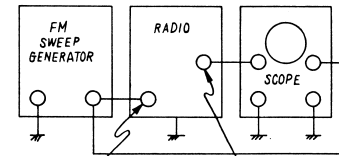


FIG. C

GENERATOR COUPLING HOOK-UP

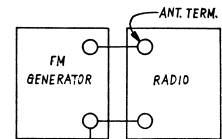


FIG. D

