

7-2887A

# Thomson Consumer Electronics, Inc. Audio and Communications Basic Service Data

7-2887A



**Technical Publications**  
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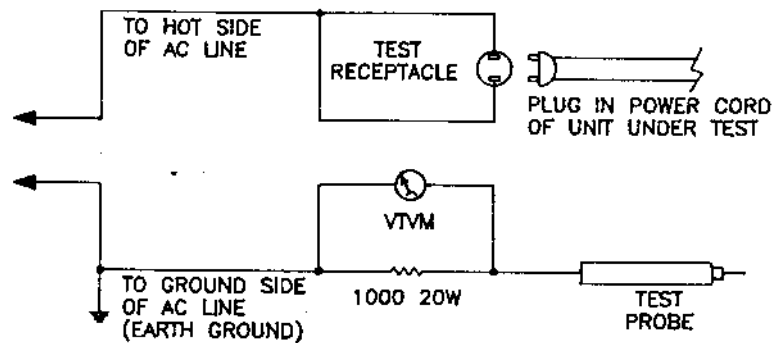
### SAFETY NOTICE

Components having special safety characteristics are identified by stars (★) on schematics and on the parts list in this Service Data and its bulletins. Before servicing this instrument, it is important that the service technician read and follow all applicable "Safety Precautions" and "Product Safety Notices".

# SAFETY CHECK

Perform the following safety check after servicing this unit.

1. Remove all externally connected test equipment and wires before safety testing this unit.
2. Use RT6440 Safety Test Box or construct circuit as shown.
3. Plug power cord of unit to be tested into Test Receptacle.
4. Switch unit being tested to On position.
5. Connect VTVM across 1K resistor in test circuit. Set meter on high (150 V AC) scale to avoid meter damage and touch the following points with Test Probe.
  - a) Power transformer frame
  - b) Volume control frame
6. Any reading greater than two tenth (.2) volts indicates a potential shock hazard. If this occurs determine the cause of the leakage, correct the problem, and repeat safety test.



# ALIGNMENT PROCEDURE

## AM ALIGNMENT—AM ALIGNMENT SWITCH IN AM POSITION

AM Generator—RF Radiated Signal Modulated 30% at 400Hz				
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. 455 KHz	Low End	Output Meter  Across Speaker	T4, T5, T6, T9	Adjust for maximum.
2. 1640 KHz	High End		C37	Adjust for maximum.
3. 520 KHz	Low End		L5	Adjust for maximum. Repeat Steps 2 and 3 for Band Ends.
4. 1420 KHz	Tune to Signal		C8, C30	Adjust for maximum.
5. 600 KHz	Tune to Signal		L6, T10	Adjust to obtain maximum output. Repeat Steps 4 and 5 until no further improvement is noted.

## FM ALIGNMENT—BAND SWITCH IN FM POSITION/VOLUME CONTROL AT MINIMUM

High Side of FM Sweep Generator thru a 5pF capacitor in series with 68Ω resistor to TP1. Use only enough Marker Signal for indication.				
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. 10.7 MHz	Low End	Scope at TP4.	T1, T2, T3	Adjust for maximum gain and symmetry. Repeat as necessary.
2. 10.7 MHz	Low End	Scope at TP5.	T7, T8	Adjust for symmetrical S-Curve using strong input signal.
FM Generator—Modulated RF Radiated Signal				
3. 109.0 MHz	High End	Output Meter  Across Speaker	C26	Adjust for maximum.
4. 87.2 MHz	Low End		L4	Spread or compress coil windings slightly to raise or lower frequency. Repeat Steps 3 and 4.
5. 108.0 MHz	Tune to Signal		C13, C17	Adjust for maximum.
6. 88.1 MHz	Tune to Signal		L1, L2	Spread or compress coil windings slightly to obtain optimum alignment. Repeat Steps 5 and 6.

NOTE: Scope used must have at least 50 MV/CM sensitivity and sweep generator at least 200MV output.

### L7 ALIGNMENT

1. Connect a frequency counter through a 150K ohm resistor to the cathode of D1.
2. Adjust L7 for 3 MHz to 3.5MHz.

### R1 ALIGNMENT

Set band switch to FM position and AFC switch to off.

1. Connect a high impedance voltmeter to junction of R2 and C7.
2. Adjust R1 for 9.4V to 9.6V.

### AFC ALIGNMENT

Set radio frequency to 98MHz and AFC switch to off.

1. Measure DC voltage at junction of C5 and S2.
2. Connect voltmeter to junction of R45 and S2 and adjust R45 for same voltage measured at junction of C5 and S2.

# REPLACEMENT PARTS

Ref. No.	Cat. No.	Description	Ref. No.	Cat. No.	Description
<b>CABINET AND CHASSIS</b>					
CA60	98A20159	CABINET, FRONT	CA76	43A20169	KNOB
CA61	98A20160	CABINET, BACK	CA84	95A20170	SPEAKER, 6-1/2"
CA63	9A20161	DOOR, BATTERY	CA85	95A20171	SPEAKER, 2"
CA65	90A20162	CRYSTAL, DIAL	CA86	88A20172	★TRANSFORMER, POWER
CA66	90A20163	CRYSTAL, TOP	CA90	EA66X87	★CORD, POWER
CA67	78A20164	HANDLE	C102	5-1992	ANTENNA, WHIP
CA69	89A20165	GRILLE, SPEAKER	CA104	2A20173	SPRING, BATTERY
CA70	43A20166	KNOB, TUNING	CA105	EA2X1893	CONTACT, BATTERY
CA72	43A20167	KNOB	CA106	2A20174	SPRING, CONICAL
CA74	43A20168	KNOB, POWER			

## ELECTRICAL

C66	31A19120	★CAP LYTC 1000UF 16V	Q9	EA15X1061	TRANSISTOR C732TM
D1	EA16X503	DIODE 1S1588	Q10	EA15X1061	TRANSISTOR C732TM
D2	EA16X878	DIODE 1N4148	Q11	EA15X1061	TRANSISTOR C732TM
D3	EA16X878	DIODE 1N4148	Q12	EA15X1061	TRANSISTOR C732TM
D4	EA16X878	DIODE 1N4148	Q13	EA15X1061	TRANSISTOR C732TM
D5	EA16X941	DIODE	Q14	EA15X681	TRANSISTOR 2SC1923
D6	EA16X854	DIODE ZENER	Q15	EA15X681	TRANSISTOR 2SC1923
D7	EA57X14	DIODE 1N4002	Q16	EA15X1061	TRANSISTOR C732TM
D8	EA57X14	DIODE 1N4002	Q17	EA15X1061	TRANSISTOR C732TM
D9	EA57X14	DIODE 1N4002	R53	49A20177	RES CONTROL
D10	EA57X14	DIODE 1N4002	R56	49A20177	RES CONTROL
D11	EA16X878	DIODE 1N4148	R64	EA49X881	RES CONTROL
D12	EA16X878	DIODE 1N4148	S1	39A20178	SWITCH
D13	EA16X878	DIODE 1N4148	S2	39A20178	SWITCH
F1	EA41X780	FILTER CERAMIC FM	S3	EA39X1115	SWITCH
J1	EA41X844	JACK PHONE STEREO	S4	39A20178	SWITCH
Q1	EA15X7242	TRANSISTOR	U1	EA33X9431	IC AM/FM
Q2	15A20175	TRANSISTOR	VD1	16A20150	DIODE VARACTOR
Q3	15A20176	TRANSISTOR	VD2	16A20150	DIODE VARACTOR
Q4	EA15X1422	TRANSISTOR C380TM	VD3	16A20150	DIODE VARACTOR
Q5	15A20176	TRANSISTOR	VD4	16A20150	DIODE VARACTOR
Q6	EA15X4335	TRANSISTOR	VD5	16A20179	DIODE VARACTOR
Q7	EA15X4335	TRANSISTOR	VD6	16A20179	DIODE VARACTOR
Q8	EA15X1061	TRANSISTOR C732TM		UC72887A	USE & CARE GUIDE

**NOTE: "CA", "MS" and "TM" references are for factory use only.**

Parts not listed or listed without catalog number are non-stocked items.

Capacitors, resistors and items not listed are non-stocked items. All such items should be replaced with same type, size and rating as original.

Parts marked on the schematic and in the parts list with a ★ are safety critical and must be replaced with factory replacement parts in order to maintain the safety characteristics of the instrument.

# ALIGNMENT PROCEDURE

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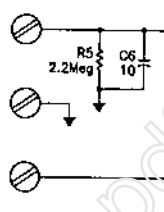
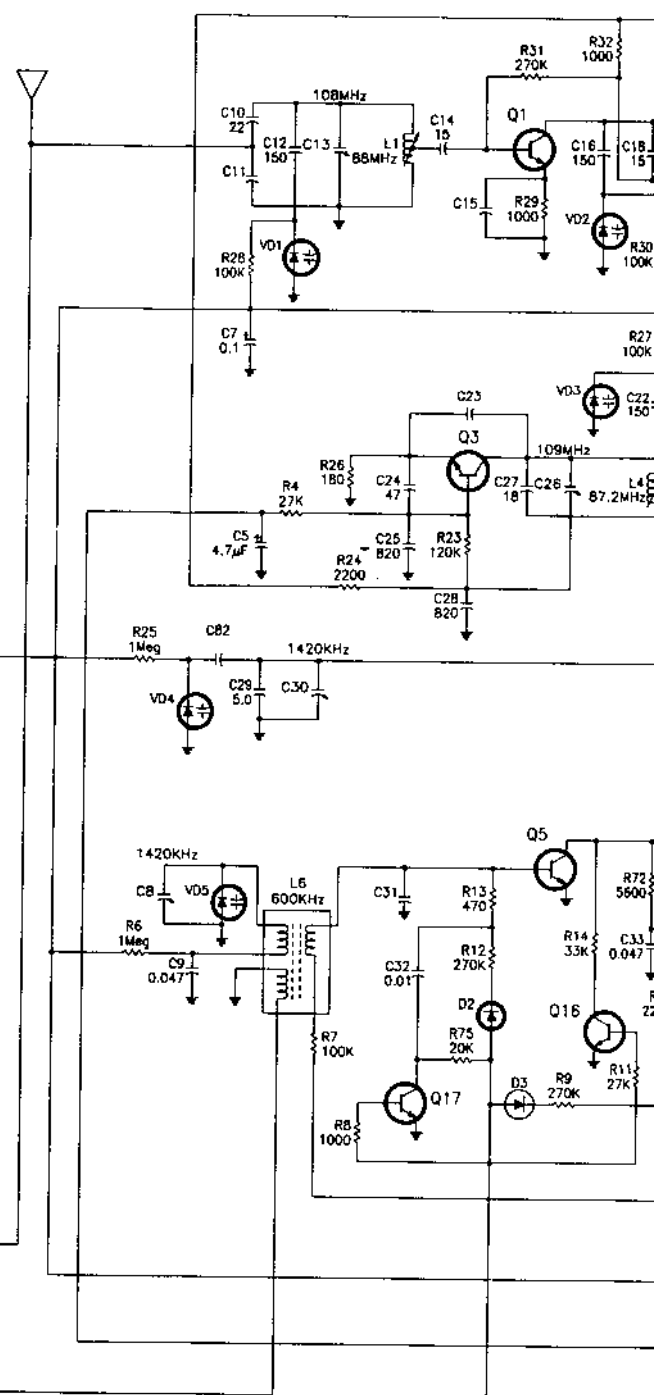
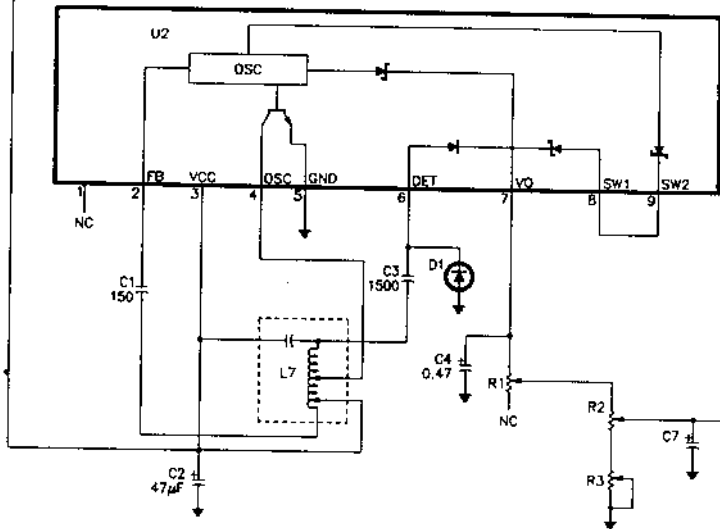
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2. Connect voltmeter to junction of R45 and S2 and adjust R45 for same voltage measured at junction of C5 and S2.



**SCHEMATIC NOTES**

UNLESS OTHERWISE SPECIFIED--CAPACITOR VALUES LESS THAN 1 ARE µF, MORE THAN 1 ARE pF.

CAPACITORS--ALL CAPACITORS ARE NON-STOCKED ITEMS AND MAY BE OBTAINED FROM A LOCAL PARTS DISTRIBUTOR.

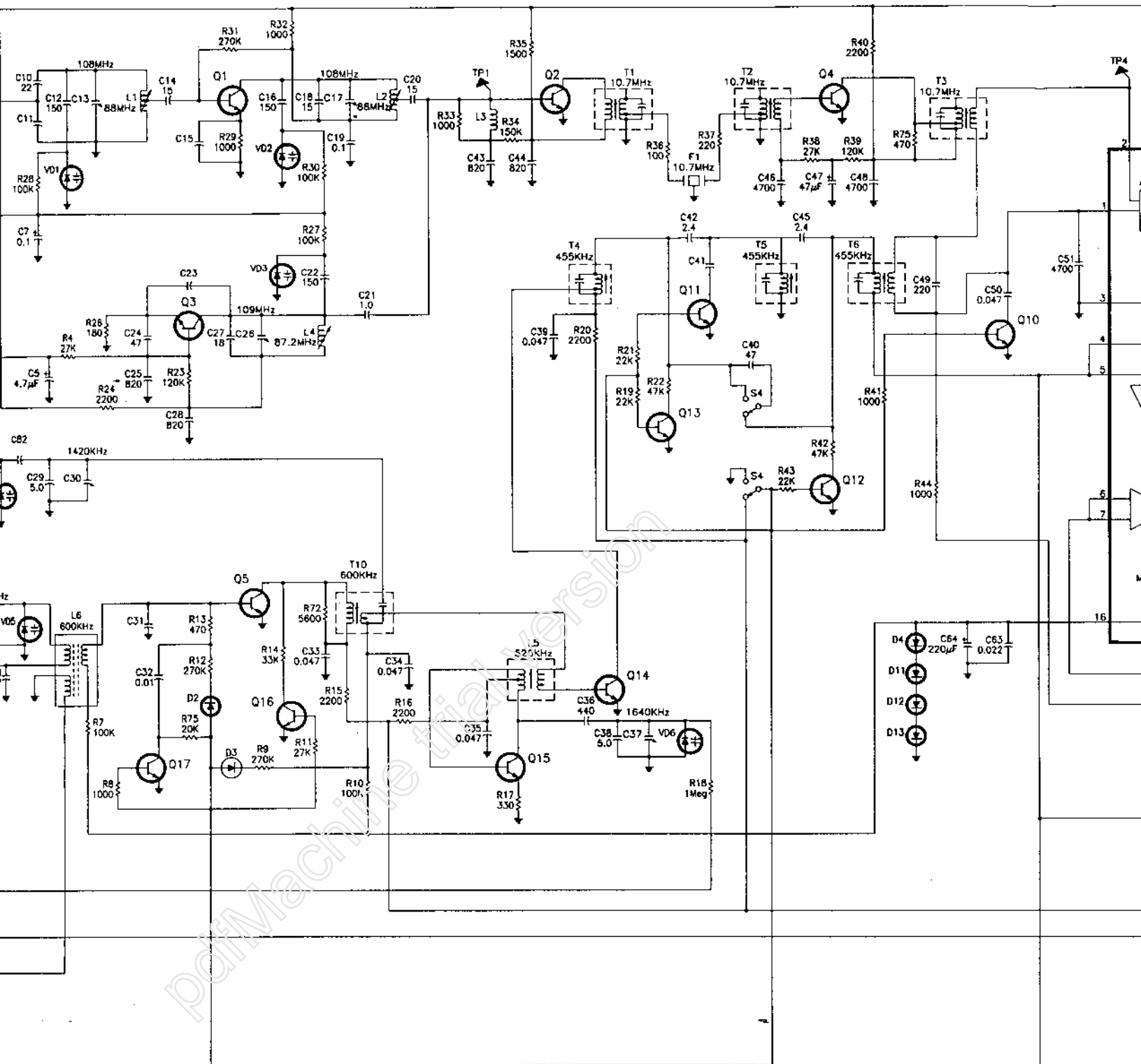
ALL REMAINING CAPACITOR VALUES ARE NOTED ON SCHEMATIC DIAGRAM AND SHOULD BE REPLACED WITH SAME TYPE, SIZE AND VOLTAGE RATING AS ORIGINAL.

RESISTORS--ALL FIXED RESISTORS ARE CARBON COMPOSITION, 1/8 WATT @ 5% TOLERANCE UNLESS OTHERWISE SPECIFIED ON SCHEMATIC DIAGRAM. RESISTORS ARE NON-STOCKED ITEMS AND MAY BE OBTAINED FROM A LOCAL PARTS DISTRIBUTOR.

NOTE: WHEN REPLACING ANY COMPONENT LABELED KIT, ALL OTHER COMPONENTS ASSOCIATED WITH THAT COMPONENT MUST BE REPLACED WITH FACTORY PARTS.

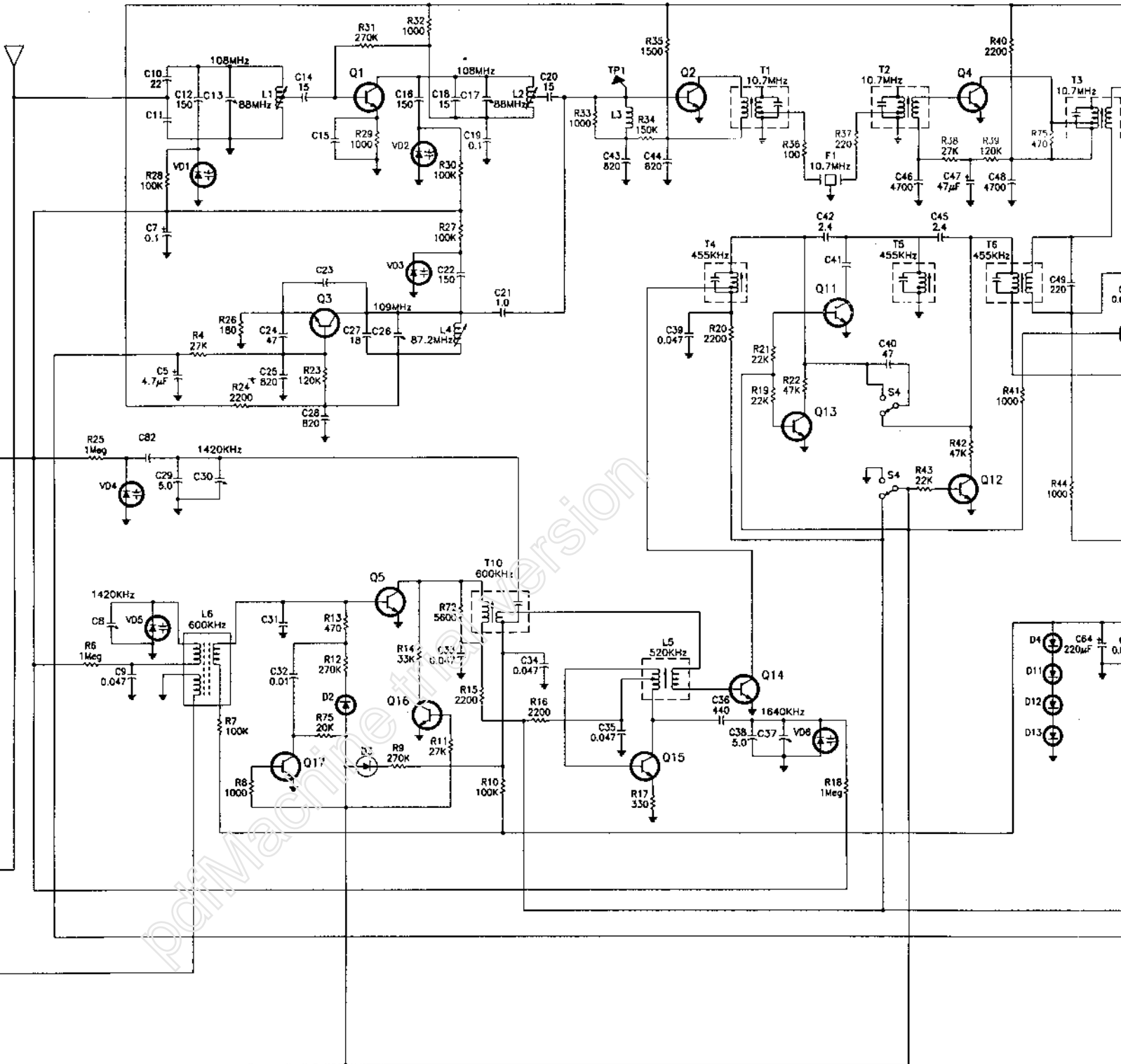
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## SCHEMATIC DIAGRAM



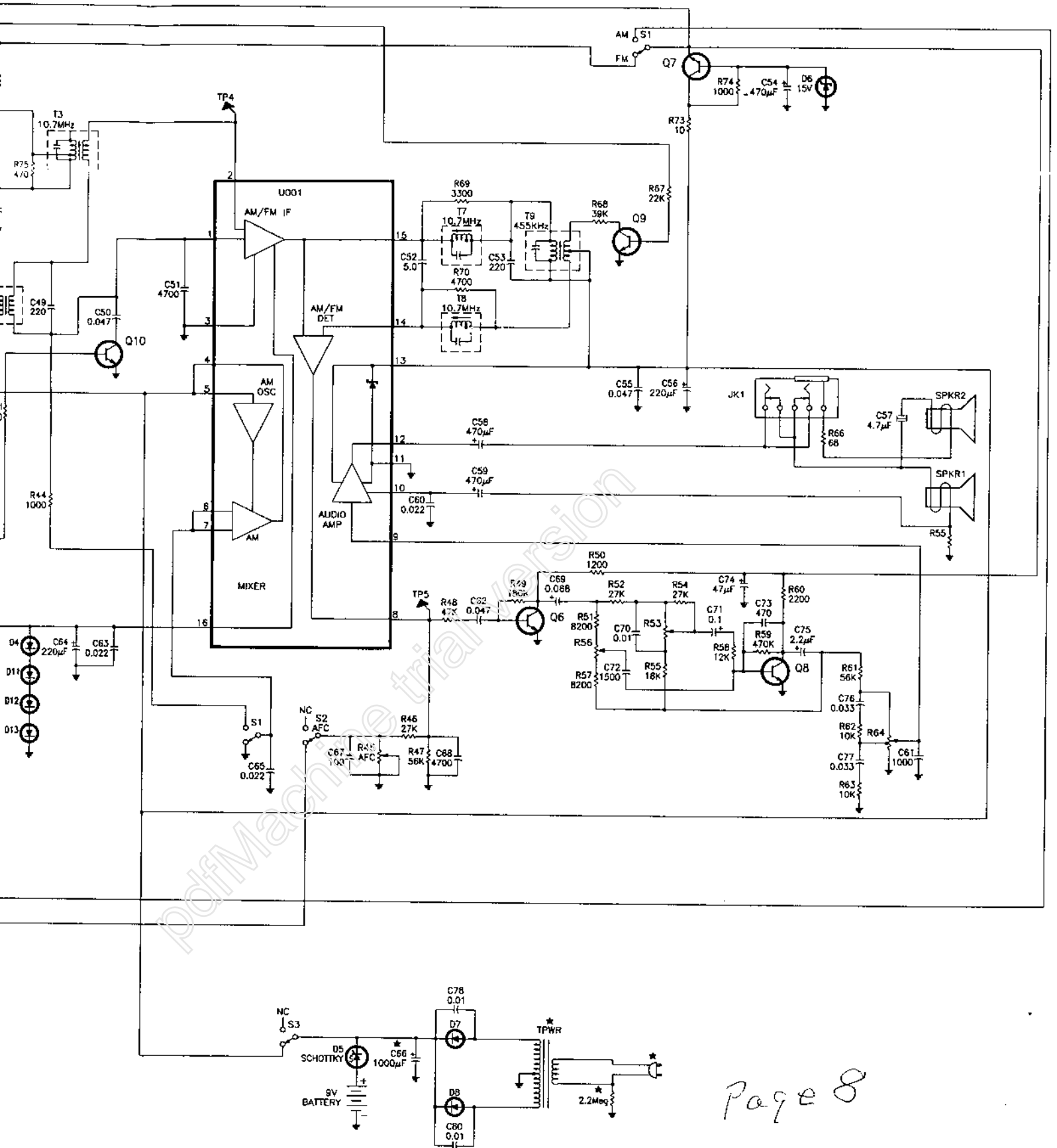
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