

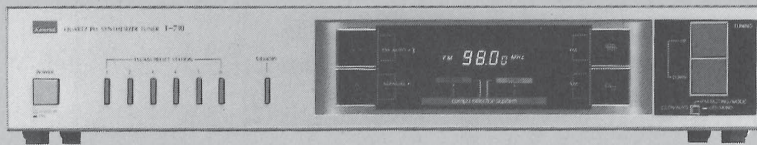
# SERVICE MANUAL

QUARTZ PLL SYNTHESIZER TUNER


## SANSUI T-710

(Silver & Black Model)

## CLASSIQUE T-901



### CAUTION

1. Parts identified by the  symbol on the schematic diagram and the parts list are critical for safety. Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

### •SPECIFICATIONS

#### < T-710/T-901 >

##### FM Section

Tuning range..... 88 to 108 MHz

##### Usable sensitivity

Mono IHF ..... 10.8 dBf (1.9  $\mu$ V: T-100)

##### 50 dB quieting sensitivity

Mono ..... 16.5 dBf

Stereo ..... 37.0 dBf

##### Signal to noise ratio at 65 dBf

Mono ..... 75 dB

Stereo ..... 70 dB

##### Distortion at 65 dBf

Mono ..... Less than 0.15% at 1,000 Hz

Stereo ..... Less than 0.2% at 1,000 Hz

##### Alternate channel selectivity

(at 400 kHz)..... 55 dB

Stereo separation ..... 40 dB at 1,000 Hz

Frequency response..... 30 to 15,000 Hz

+1.0 dB, -1.5 dB

##### Antenna input impedance

..... 300 ohms balanced

75 ohms unbalanced

##### AM Section

Tuning range..... 530 to 1,600 kHz

##### Usable sensitivity (Loop antenna)

..... 53 dB/m (446  $\mu$ V/m)

Signal to noise ratio ..... 45 dB

Image response ratio..... 40 dB at 1,000 Hz

##### Others

##### Output voltage and impedance

..... 500 mV/2.2 kilohms

##### Power requirements < T-710 >

..... 120/220/240V (50/60 Hz)

For U.S.A. and Canada

..... 120V (60 Hz)

Power voltage < T-901 > .... 120V (60 Hz)

Power consumption ..... 10W

Dimensions ..... 430 mm (16-15/16") W

78 mm (3-1/8") H

223 mm (8-13/16") D

Weight ..... 2.5 kg (5.5 lbs.) net

3.3 kg (7.3 lbs.) packed

\* Design and specifications subject to changes without notice for improvements.

*Sansui*

SANSUI ELECTRIC CO., LTD.

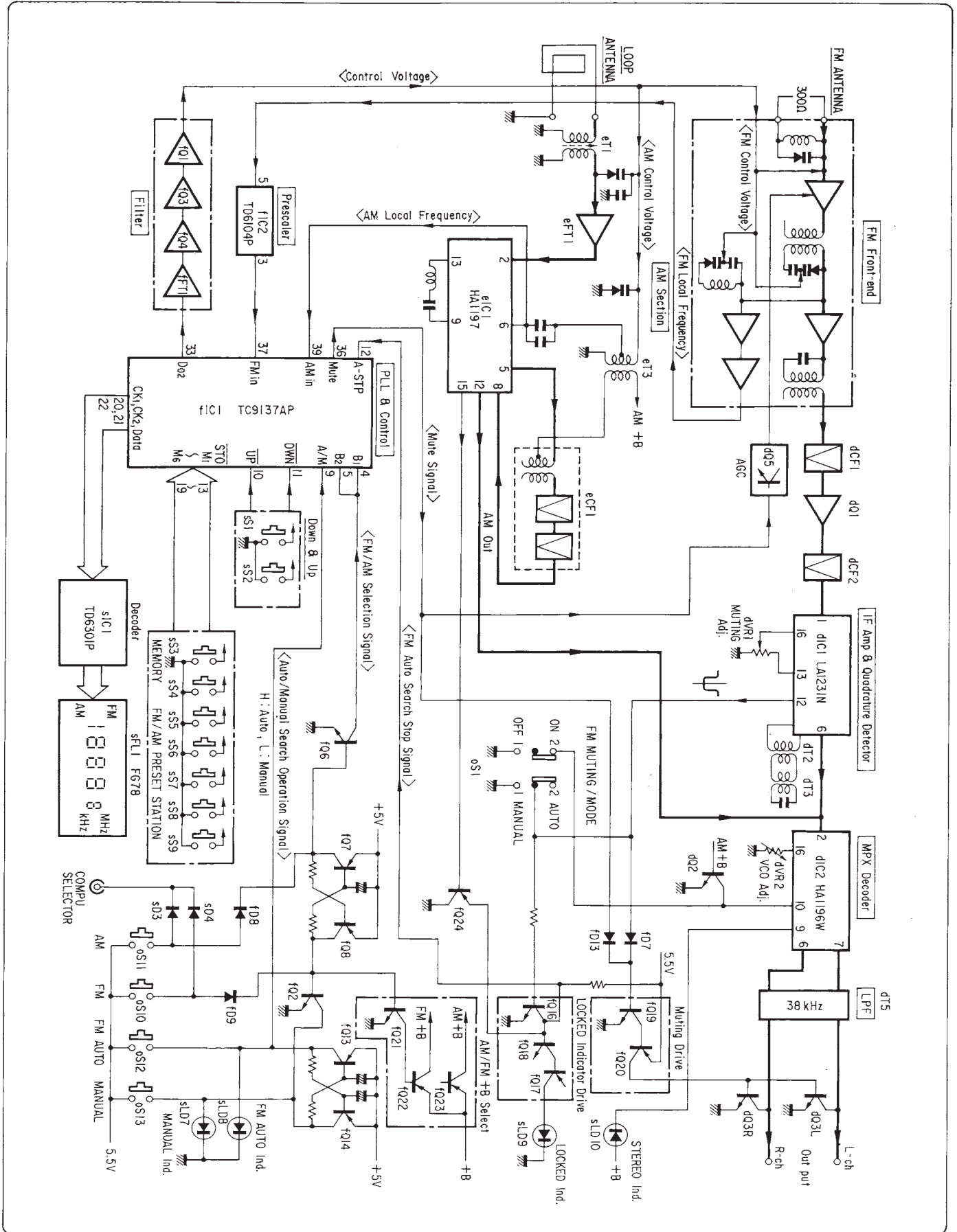
## CAUTION

1. The symbols, UL, CSA, SA, BS, UK, EU, AS and XX (EXPORT) on the parts list and the schematic diagram mean followings respectively.
  - UL..... Manufactured for U.S.A market.  
(Underwriters Laboratories approved model.)
  - CSA..... Manufactured for Canadian market.
  - SA..... Manufactured for South African market.
  - BS, UK ..... Manufactured for United Kingdom market.
  - EU ..... Manufactured for European market.
  - AS..... Manufactured for Australian market.
  - XX (EXPORT) ..... Standard Version.
  - NON MARK ..... Common Parts.
  
2. Some printed circuit boards are not supplied as the assembled. To separate these in this service manual, the stock No's are not indicated at the ends of the board names. However, the individual parts on the circuit boards are provided by orders.
  
3. Since some of capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors & resistors, which was issued on February 1983.
  
4. Abbreviations in this service manual are as follows.

### •Abbreviations List

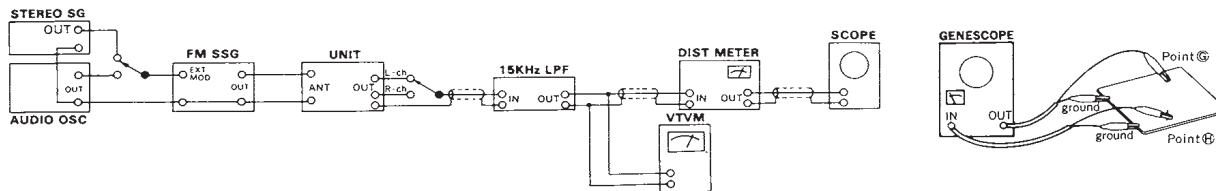
C.R. : Carbon Resistor	E.B.L. : Low Leak Bi-Polar
S.R. : Solid Resistor	Electrolytic Capacitor
Ce.R. : Cement Resistor	Ta.C. : Tantalum Capacitor
M.R. : Metal Film Resistor	F.C. : Film Capacitor
F.R. : Fusing Resistor	M.P. : Metalized Paper Capacitor
N.I.R. : Non-Inflammable Resistor	P.C. : Polystyrene Capacitor
A.R. : Array Resistor	G.C. : Gimmic Capacitor
C.C. : Ceramic Capacitor	A.C. : Array Capacitor
C.T. : Ceramic Capacitor,	V.R. : Variable Resistor
Temperature Compensation	S.V.R. : Semi Variable Resistor
E.C. : Electrolytic Capacitor	SW. : Switch
E.L. : Low Leak Electrolytic	Chip R. : Chip Resistor
Capacitor	Chip C. : Chip Capacitor
E.B. : Bi-Polar Electrolytic	
Capacitor	

# 1. BLOCK DIAGRAM



## 2. ADJUSTMENTS

### 2-1. FM Adjustment (See Top View on Page 8)



#### 1) FM IF & Reference Frequency Adjustment

- Note: 1. SELECTOR..... FM  
2. FM MUTING/MODE..... OFF/MONO

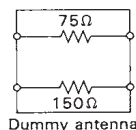
STEP	SUBJECT	FEED SIGNAL		MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
		FROM	TO				
1.	Reference Frequency Adj.	No Input	—	Between Point (A) (Pin 35 of f1C1) & Earth Freq. Counter	fTC1 (F-4485)	25 kHz	<ul style="list-style-type: none"> <li>Short between Point (B) &amp; Point (C) (Pin 6 &amp; 7 of f1C1)</li> <li>See Parts Location F-4485 on Page 5.</li> </ul>
2.	IF Coil Adj.	98MHz ANT Input 20dBf (14.8dB), 1kHz (100% MOD.), FM SSG	ANT terminal 300Ω	Between Point (D) (dVR1, F-4485) & Earth DC Volt Meter	IFT Coil (Front-end, F-4485)	Max. DC Volt	<ul style="list-style-type: none"> <li>See Parts Location F-4485 on Page 5.</li> </ul>
3.	Discriminator Coil Adj. In case of using Genescope	1	No Input	Between Point (E) & Point (F) (Across dR41, F-3767) DC Volt Meter	dT2 (F-3767)	DC 0V ± 30mV	<ul style="list-style-type: none"> <li>Repeat procedures as stated in subject 1 &amp; 2.</li> <li>See Parts Location F-3767 on Page 7.</li> </ul>
		2	Output 80dB, Genescope	Point (G) (dR31)	Between Point (H) (dD1) & Earth	dT3 (F-3767)	
	Discriminator Coil Adj. In case of using Dist meter	1	No Input	Between Point (E) & Point (F) (Across dR41 F-3767) DC Volt Meter	dT2 (F-3767)	DC 0V ± 30mV	<ul style="list-style-type: none"> <li>Repeat procedures as stated in subject 1 &amp; 2.</li> <li>See Parts Location F-3767 on Page 7.</li> </ul>
		2	98MHz ANT Input 65dBf (59.8dB), 1kHz (100% MOD.), FM SSG	ANT terminal 300Ω	• OUTPUT L-CH or R-CH DIST METER & SCOPE	dT3, (F-3767)	

#### • Technical Hint for FM adjustment

There are two kind in indication of FM SSG output attenuator  
 1. Attenuator with marking of 75Ω open ..... open indication type.  
 2. Attenuator with marking of 75Ω load or close ..... load or close indication type.  
 FM SG output level in this FM adjustment are described as open indication type.

To feed FM signal, a dummy antenna circuit as Fig. 2-1 must be connected between FM SG output and ANT terminal (300Ω) of the unit.

Fig. 2-1



- The following table shows relations among FM SG attenuator indication (dB), available power ratio (dBf) and antenna terminal voltage (dB/μV) in each indication type.

	FM SG Attenuator Indication	Available Power Ratio	Antenna Terminal Voltage
Open indication type	0 dB 66 dB	-0.8 dBf 65.2 dBf	-6 dB/μV 60 dB/μV
Load or close indication type	0 dB 60 dB	5.2 dBf 65.2 dBf	0 dB/μV 60 dB/μV

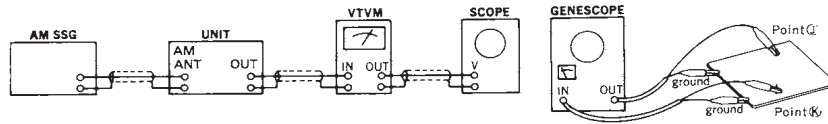
2) FM STEREO Adjustment

Note: 1. SELECTOR..... FM  
2. FM MUTING/MODE ..... ON/AUTO


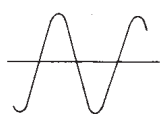
STEP	SUBJECT	FEED SIGNAL		MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
		FROM	TO				
1.	PLL VCO Adj.	98MHz ANT Input 65dBf (59.8dB), FM SSG, Pilot 19kHz (9% MOD.), L or R MODE 1kHz+Pilot (100% MOD.), STEREO SG	ANT terminal 300Ω	Stereo Indicator	dVR2 (F-3767)	Light indicator	Adjust the dVR2 within center of lighting level.
	PLL VCO Adj. In case of using Freq. Counter	No Input	—	Between Point ① (Pin 10 of dIC2) & Earth Freq. Counter	dVR2 (F-3767)	19kHz ± 50Hz Short between Point ② (dC45) & Earth	• See Parts Location F-3767 on Page 7.
2.	Muting level Adj.	98MHz ANT Input 22dBf (16.8dB), FM SSG, Pilot 19kHz (9% MOD.), L or R MODE 1kHz+Pilot (100% MOD.), STEREO SG.	ANT terminal 300Ω	Stereo indicator or OUTPUT L-CH or R-CH, VTVM & SCOPE	dVR1 (F-4485)	Stereo Indicator turns ON or Output signal comes out.	

2-2. AM Adjustment (See Top View on Page 8)

Note: SELECTOR..... AM  
Connect AM loop antenna AM to antenna terminal.



1) AM IF Adjustment & Tuning Adjustment

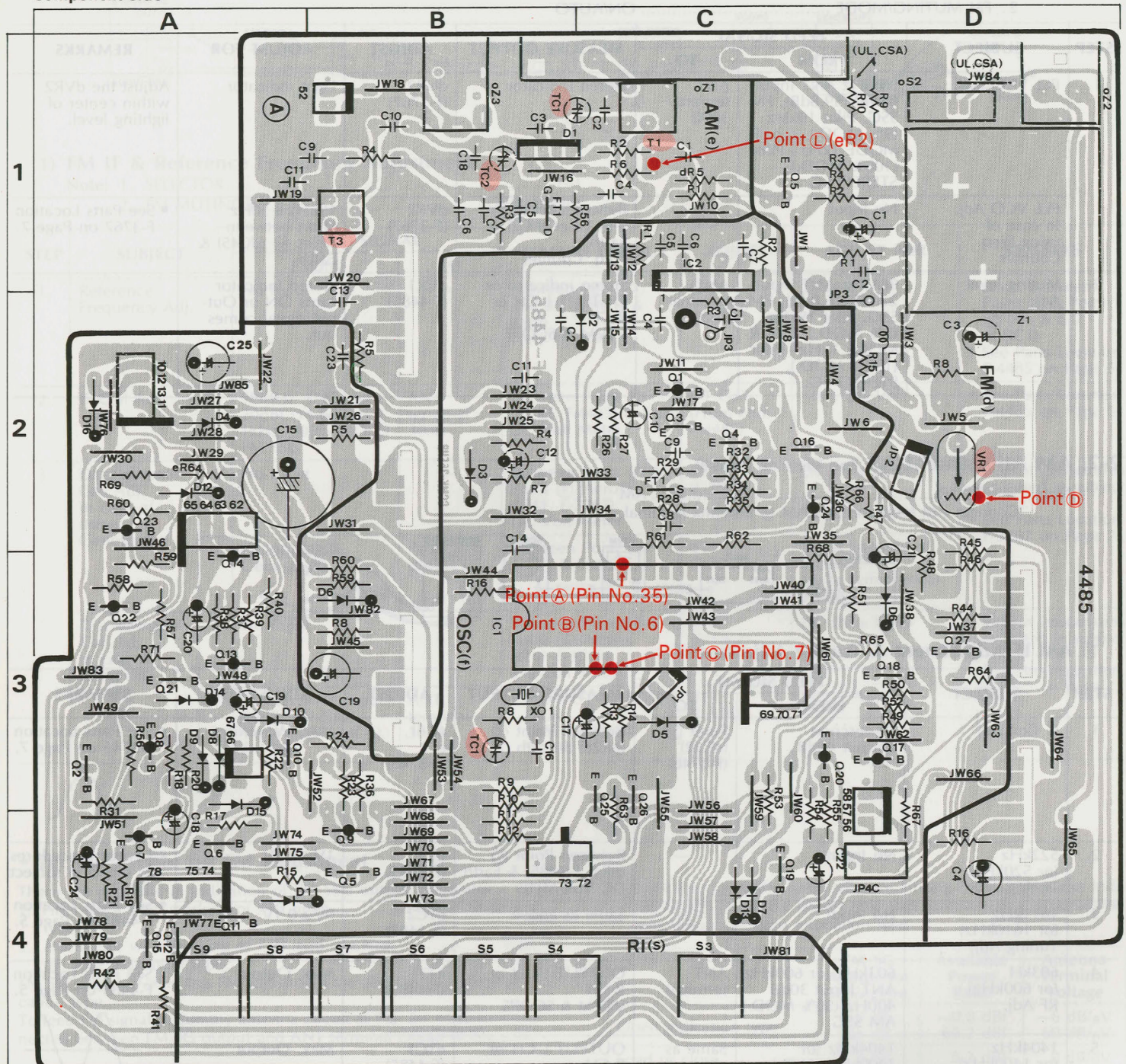
STEP	SUBJECT	FEED SIGNAL		MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
		FROM	TO				
1.	IF Coil Adj.	Genescope Output 40dB	Point ① (eC22) (F-3746)	Between Point ② (eR26) & Earth	eCF1, eL2 (F-3746)	Max, Waveform	• See Parts Location F-3746 on Page 7. 
2.	522kHz (or 520kHz) Tuning Adj.	No Input	—	Between Point ③ (eR1, F-4485) & Earth DC Volt Meter	eT3 (F-4485)	1V ± 0.1V	• Repeat procedures as stated in subject 2 & 3.
3.	1611kHz (or 1610kHz) Tuning Adj.	No Input	—	Same as above	eTC2 (F-4485)	9V ± 0.1V	• See Parts Location F-4485 on Page 5.
4.	603kHz (or 600kHz) RF Adj.	603kHz (or 600kHz) ANT Input 30dB 400Hz (30% MOD.), AM SSG	ANT terminal	OUTPUT L-CH or R-CH VTVM & SCOPE	eT1 (F-4485)	Max. Output	• See Parts Location F-4485 on Page 5. 
5.	1404kHz (or 1400kHz) RF Adj.	1404kHz (or 1400kHz) ANT Input 30dB 400Hz (30% MOD.), AM SSG	Same as above	OUTPUT L-CH or R-CH VTVM & SCOPE	eTC1 (F-4485)	Max. Output	

•Abbreviations	
<b>Equipment</b>	<b>Others</b>
AM FM Generator Oscilloscope..... Genescope	Antenna..... ANT.
AM Standard Signal Generator..... AM SSG	Modulation..... MOD.
FM Standard Signal Generator..... FM SSG	Total Harmonic Distortion..... T.H.D.
FM Stereo Generator..... Stereo SG	
Oscilloscope..... Scope	
Audio Oscillator..... Audio Osc.	
Distortion Meter..... Dist. Meter	

### 3. PARTS LOCATION & PARTS LIST

#### 3-1. F-4485 FM/AM RF and Synthesizer Control Circuit Board (Stock No. 00789801)

Component Side



Parts List

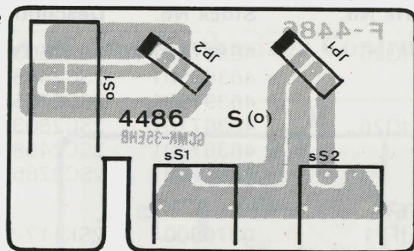
Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
	46170000	FM Frontend Pack FSA-060	•FET		
	or 46562600	FM Frontend Pack ETA-010	eFT1	46393000	2SK192A-Y
•Transistor				or 46393001	2SK192A-GR
dQ5	46367101	2SC2603	•Varactor Diode		
	or 46367301	2SC2458	eD1	46146300	KVR1236Z2
	or 46391901	2SC2785	•Diode		
dL1	07250300	Peaking Coil 2.2μH	eD6	03117600	1S2473T77
dVR1	07241300	10kΩ(B) S.V.R., mute adj.		or 46086000	1S1588TP-3
			eTC1	46095600	Trimmer Capacitor 20pF
				or 46162800	Trimmer Capacitor 20pF

Parts List <F-4485>

Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
eTC2	46095600 or 46162800	Trimmer Capacitor 20pF Trimmer Capacitor 20pF	fQ25	46367101 or 46367301 or 46391901	2SC2603 2SC2458 2SC2785
eT1	46394600	AM Antenna Coil	fQ26	46367101 or 46367301 or 46391901	2SC2603 2SC2458 2SC2785
eT3	46398200	AM RF Coil			
•Transistor			•FET		
fQ1	46367001 or 46367201 or 46392001	2SA1115 2SA1048 2SA1175	fFT1	03703001 or 03703002 or 03703401 or 03703402	2SK117-Y 2SK117-GR 2SK163-K2 2SK163-L1
fQ2	46367101 or 46367301 or 46391901	2SC2603 2SC2458 2SC2785	•IC		
fQ3	46367101 or 46367301 or 46391901	2SC2603 2SC2458 2SC2785	fIC1	46721810	TC9137AP
fQ4	46367101 or 46367301 or 46391901	2SC2603 2SC2458 2SC2785	fIC2	07225000	TD6104P
fQ5	46367101 or 46367301 or 46391901	2SC2603 2SC2458 2SC2785	fXO1	07237700 or 07237701	Quartz Element NC-18C Quartz Element HC-18/C
fQ6	46367101 or 46367301 or 46391901	2SC2603 2SC2458 2SC2785	•Diode		
fQ7	46367001 or 46392001	2SA1115 2SA1175	fD2	03117600 or 46086000	1S2473T77 1S1588TP-3
fQ8	46367001 or 46392001	2SA1115 2SA1175	fD3	03117600 or 46086000	1S2473T77 1S1588TP-3
fQ9	46367001 or 46367201 or 46392001	2SA1115 2SA1048 2SA1175	fD4	03117600 or 46086000	1S2473T77 1S1588TP-3
fQ10	46367101 or 46367301 or 46391901	2SC2603 2SC2458 2SC2785	fD5	03117600 or 46086000	1S2473T77 1S1588TP-3
fQ11	46367101 or 46367301 or 46391901	2SC2603 2SC2458 2SC2785	fD6	03117600 or 46086000	1S2473T77 1S1588TP-3
fQ12	46367101 or 46367301 or 46391901	2SC2603 2SC2458 2SC2785	fD7	03117600 or 46086000	1S2473T77 1S1588TP-3
fQ13	46367001 or 46392001	2SA1115 2SA1175	fD8	03117600 or 46086000	1S2473T77 1S1588TP-3
fQ14	46367001 or 46392001	2SA1115 2SA1175	fD9	03117600 or 46086000	1S2473T77 1S1588TP-3
fQ15	46367101 or 46367301 or 46391901	2SC2603 2SC2458 2SC2785	fD10	03117600 or 46086000	1S2473T77 1S1588TP-3
fQ16	46367101 or 46367301 or 46391901	2SC2603 2SC2458 2SC2785	fD11	03117600 or 46086000	1S2473T77 1S1588TP-3
fQ17	46367001 or 46367201 or 46392001	2SA1115 2SA1048 2SA1175	fD12	03117600 or 46086000	1S2473T77 1S1588TP-3
fQ18	46367101 or 46367301 or 46391901	2SC2603 2SC2458 2SC2785	fD13	03117600 or 46086000	1S2473T77 1S1588TP-3
fQ19	46367101 or 46367301 or 46391901	2SC2603 2SC2458 2SC2785	fD14	03117600 or 46086000	1S2473T77 1S1588TP-3
fQ20	46367001 or 46367201 or 46392001	2SA1115 2SA1048 2SA1175	fD15	03117600 or 46086000	1S2473T77 1S1588TP-3
fQ21	46367101 or 46367301 or 46391901	2SC2603 2SC2458 2SC2785	fD16	03117600 or 46086000	1S2473T77 1S1588TP-3
fQ22	46367001 or 46367201 or 46392001	2SA1115 2SA1048 2SA1175	fC10	08451700	1 $\mu$ F 50V E.B.
fQ23	46367001 or 46367201 or 46392001	2SA1115 2SA1048 2SA1175	fC15	46462600	3900 $\mu$ F 6.3V E.C.
fQ24	46367001 or 46367201 or 46392001	2SA1115 2SA1048 2SA1175	fTC1	46095800 or 46163000	Trimmer Capacitor 45pF Trimmer Capacitor 50pF
			oS2	46177200	Slide SW., AM CHANNEL 9/10kHz
			oZ1	46364200	4P Antenna Terminal
			oZ2	46438100	2P Terminal Board, output
			oZ3	46411800	Jack, COMPU SELECTOR
			sS3	46395900	Push SW., MEMORY
			sS4	46395900	Push SW., FM/AM PRESET STATION
			sS5	46395900	Push SW., FM/AM PRESET STATION
			sS6	46395900	Push SW., FM/AM PRESET STATION
			sS7	46395900	Push SW., FM/AM PRESET STATION
			sS8	46395900	Push SW., FM/AM PRESET STATION
			sS9	46395900	Push SW., FM/AM PRESET STATION

### 3-2. F-4486 TUNING UP/DOWN and FM MUTING/MODE SW. Circuit Board

Component Side

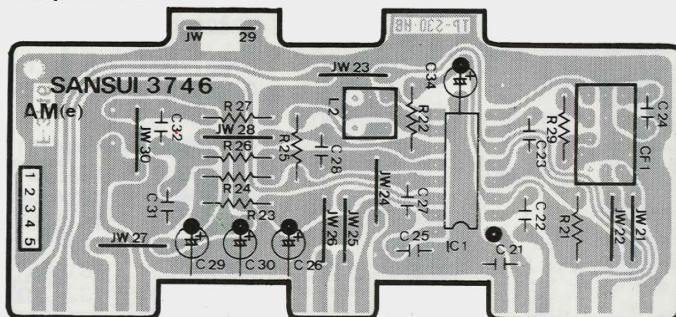


#### Parts List

Parts No.	Stock No.	Description
oS1	46361000	Push SW., FM MUTING/MODE
sS1	46395900	Push SW., DOWN
sS2	46395900	Push SW., UP

### 3-3. F-3746 AM TUNER Circuit Board (Stock No. 00708101)

Component Side

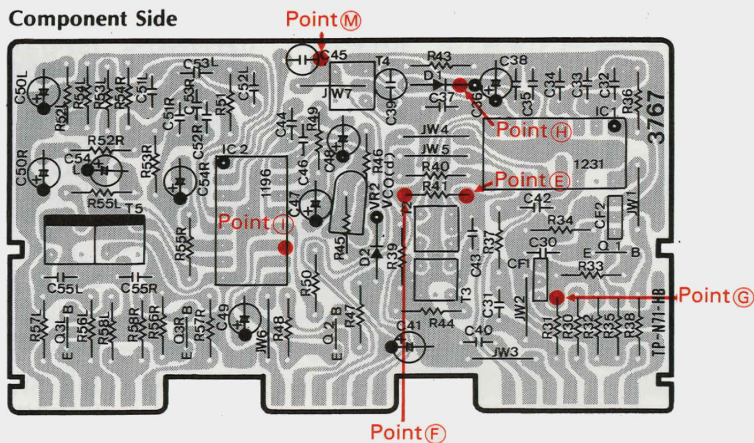


#### Parts List

Parts No.	Stock No.	Description
•IC		
eIC1	03603900	HA1197
eCF1	07254000	Ceramic Filter SFL450G3
eL2	46369600	AM IF Coil

### 3-4. F-3767 FM IF Circuit Board (Stock No. 00744601)

Component Side



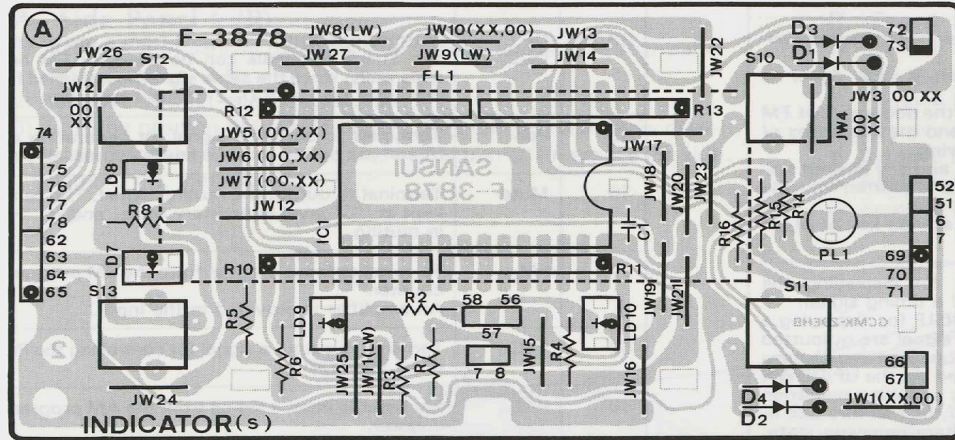
#### Parts List

Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
•Transistor			dC39	08450900	4.7μF 16V E.B.
dQ1	46393201	2SC2786	dC45	08451200	2.2μF 25V E.B.
dQ2	46391901	2SC2785	dCF1	46202500	Ceramic Filter SFE10.7MS2 (RED)
dQ3	46391901	2SC2785	dCF2	46202500	Ceramic Filter SFE10.7MS2 (RED)
•IC			dT2	46369100	FM IF Coil
dIC1	07191200	LA1231N	dT3	46369200	FM IF Coil
dIC2	03603200	HA1196	dT5	46151300	Low Pass Filter (38kHz)
•Diode			or 46151301		Low Pass Filter BL-67QA
dD1	03117600	1S2473T77	dVR2	07241300	10kΩ (B) S.V.R., vco adj.
dD2	03117600	1S2473T77			



3-5. F-3878 Digitally Display Circuit Board (Stock No. 00790201)

Component Side

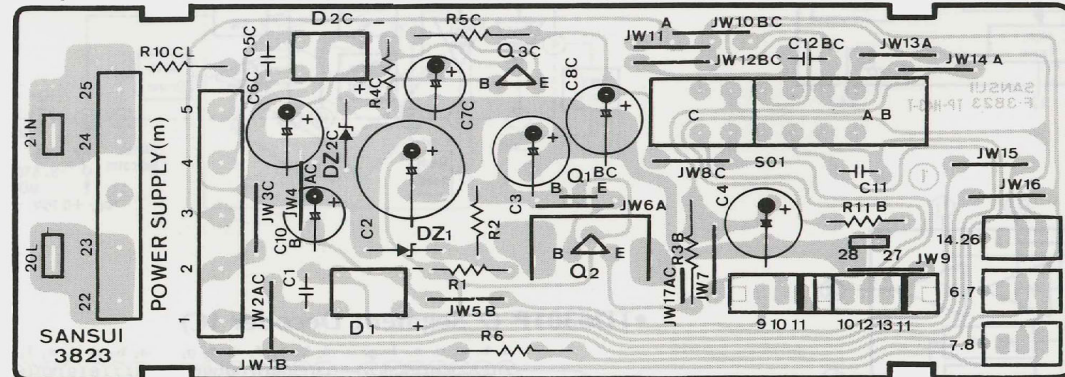


Parts List

Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
•IC			sLD9	07250900	TLG-123A
sIC1	46410100	TD6301AP	or 46470300		SEL2410E
•Diode			sLD10	46176900	TLS-123
sD3	03117600	1S2473T77	or 46470200		SEL2210S
or 46086000		1S1588TP-3	sR10	46348900	4.7kΩ × 8 1/8W A.R.
sD4	03117600	1S2473T77	sR11	46348900	4.7kΩ × 8 1/8W A.R.
or 46086000		1S1588TP-3	sR12	46352600	4.7kΩ × 10 1/8W A.R.
sFL1	46335600	FL. Display Tube FG78F2	sR13	46352600	4.7kΩ × 10 1/8W A.R.
•L.E.D.			sPL1	46286600	Pilot Lamp 12V 0.15A
sLD7	46176900	TLS-123	sS10	46395900	Push SW., FM
or 46470200		SEL2210S	sS11	46395900	Push SW., AM
sLD8	46176900	TLS-123	sS12	46395900	Push SW., FM AUTO
or 46470200		SEL2210S	sS13	46395900	Push SW., MANUAL

3-6. F-3823 Power Supply Circuit Board (Stock No. 00790101)

Component Side

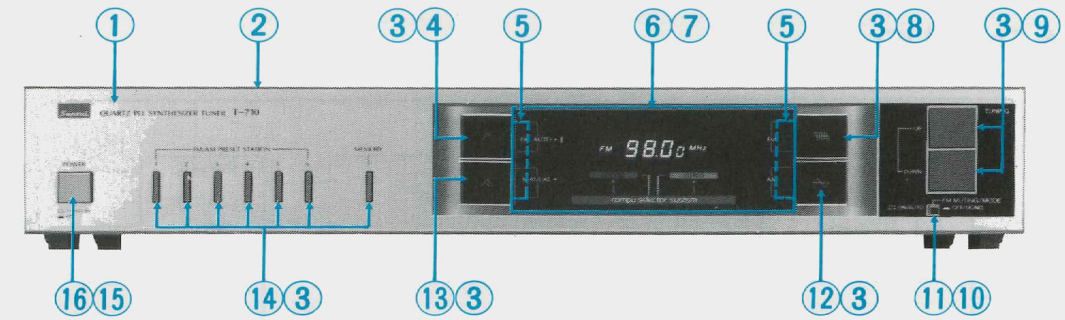


Parts List

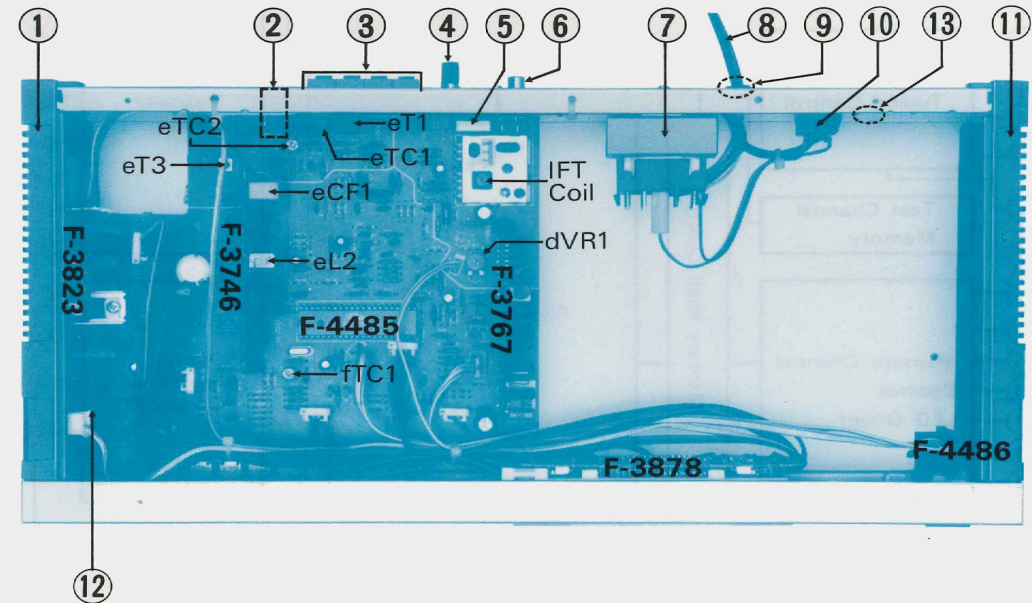
Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
•Transistor			•Zener Diode		
△ mQ1	07299701	2SC2603	mDZ1	03159800	EQA01-14R
or 46078801		2SC2458	mDZ2	07178900	RD6.2E-B
or 46392101		2SC2785	△ mR5	00112800	4.7Ω 1/4W F.R.
△ mQ2	03083901	2SD313AL	△ mR6	00190100	47Ω 2W N.I.R.
△ mQ3	03083901	2SD313AL	△ mSW1	46412500	Push SW., POWER
•Diode					
△ mD1	46273600	DBB10-B			
△ mD2	46273600	DBB10-B			

4. OTHER PARTS

4-1. Front View



4-2. Top View



Parts List < Front View >

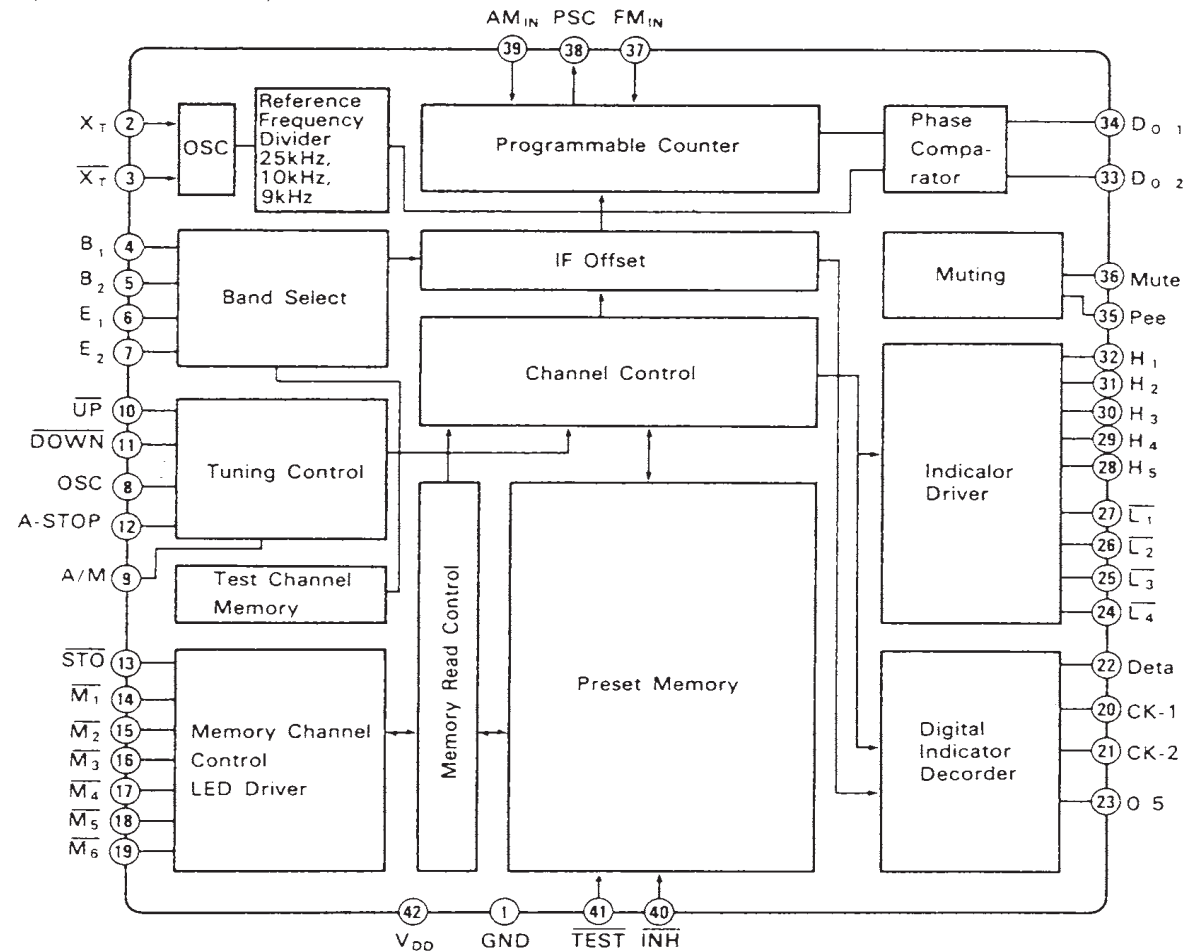
Parts No.	Stock No.	Description
1	47498100	Front Panel Ass'y (T-710, Silver Model)
	47498200	Front Panel Ass'y (T-710, Black Model)
	47498300	Front Panel Ass'y (T-901)
2	07962200	Bonnet
3	46395900	Push SW., FM AUTO, FM, TUNING UP/DOWN, AM, MANUAL, MEMORY, PRESET STATION
4	47445300	Push Knob Ass'y (3), FM AUTO
5	47071210	Rubber Cushion
6	47360900	Display Panel
7	07945200	Display Holder
8	47445200	Push Knob Ass'y (2), FM
9	07976400	Push Knob, TUNING UP/DOWN
10	46361000	Push SW., FM MUTING/MODE
11	47484310	Push Knob, FM MUTING/MODE (T-710, Silver Model)
	47008300	Push Knob, FM MUTING/MODE (T-710, Black Model/T-901)
12	47445100	Push Knob Ass'y (1), AM
13	47445400	Push Knob Ass'y (4), MANUAL
14	47484400	Push Knob, MEMORY, FM/AM PRESET STATION
△ 15	46412500	Push SW., POWER
△ 16	07971220	Push Knob, POWER (T-710, Silver Model)
	07911210	Push Knob, POWER (T-710, Black Model/T-901)

Parts List < Top View >

Parts No.	Stock No.	Description
1	07965400	Side Panel Ass'y (L)
2	46411800	Jack, COMPU SELECTOR
3	46364200	4P Antenna Terminal
4	22301510	GND Terminal
5	46177200	Slide SW., AM CHANNEL 9kHz/10kHz
6	46438100	2P Terminal Board, OUTPUT
△ 7	15009401	Power Transformer <XX> (T-710)
△ 7	15009402	Power Transformer <UL> (T-710/T-901), <CSA> (T-710)
△ 8	15009405	Power Transformer <AS> (T-710)
△ 8	38005400	Power Supply Cord <XX> (T-710)
△ 8	38004700	Power Supply Cord <UL> (T-710/T-901), <CSA> (T-710)
△ 9	07204200	Power Supply Cord <AS> (T-710)
9	39106000	Strain Relief <XX, CSA> (T-710), <UL> (T-710/T-901)
△ 10	46364900	AC Outlet <XX, CSA> (T-710), <UL> (T-710/T-901)
11	07965500	Side Panel Ass'y (R)
12	07963900	Joint Shaft, POWER SW.
△ 13	00048100	3.3MΩ 1/2W S.R. <UL> (T-710/T-901), <CSA> (T-710)
	07917700	AC Cord Cover, <AS> (T-710)

# 5. INTERIOR BLOCK DIAGRAM OF IC and TERMINAL FUNCTION OF TC9137AP

## •TC9137AP (PLL & Control IC)



## • Terminal Function of LSI-TC9137AP

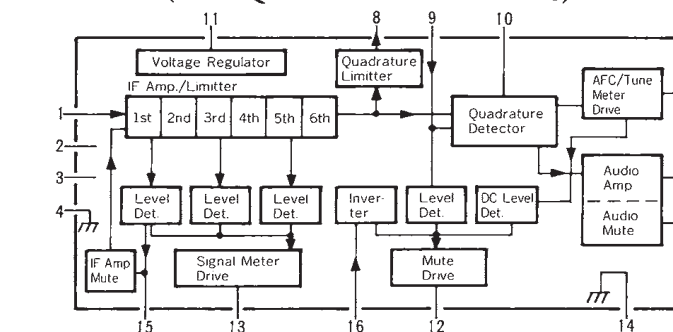
Pin No.	Pin Name	Functions															
2,3	X <sub>T</sub> X <sub>T</sub>	Terminals to connect a quartz oscillator for generating a reference frequency.															
4,5	B <sub>1</sub> B <sub>2</sub>	Terminals to input a signal for switching FM/AM band and a signal for selecting the IF fine tuning in FM receiving. <table border="1"> <tr><td>B<sub>1</sub></td><td>B<sub>2</sub></td><td>Mode</td></tr> <tr><td>0</td><td>0</td><td>AM</td></tr> <tr><td>1</td><td>0</td><td>FM (10.7MHz-50K)</td></tr> <tr><td>0</td><td>1</td><td>FM (10.7MHz+50K)</td></tr> <tr><td>1</td><td>1</td><td>FM (10.7MHz)</td></tr> </table>	B <sub>1</sub>	B <sub>2</sub>	Mode	0	0	AM	1	0	FM (10.7MHz-50K)	0	1	FM (10.7MHz+50K)	1	1	FM (10.7MHz)
B <sub>1</sub>	B <sub>2</sub>	Mode															
0	0	AM															
1	0	FM (10.7MHz-50K)															
0	1	FM (10.7MHz+50K)															
1	1	FM (10.7MHz)															
6,7	E <sub>1</sub> E <sub>2</sub>	Terminals to input a signal for selecting destinations of Japan, USA, and Europe. <table border="1"> <tr><td>E<sub>1</sub></td><td>E<sub>2</sub></td><td>Mode</td></tr> <tr><td>0</td><td>0</td><td>Japan</td></tr> <tr><td>0</td><td>1</td><td>USA</td></tr> <tr><td>1</td><td>1</td><td>Europe</td></tr> </table>	E <sub>1</sub>	E <sub>2</sub>	Mode	0	0	Japan	0	1	USA	1	1	Europe			
E <sub>1</sub>	E <sub>2</sub>	Mode															
0	0	Japan															
0	1	USA															
1	1	Europe															
8	OSC	Terminal to connect a condenser and resistor for the oscillator for determining the speed of automatic search operation. The automatic store-release in the preset memory unit and the conversion period to fast forwarding in manual selection of broadcasting stations are determined according to this oscillation frequency.															
9	A/M	Terminal to input a signal for switching the manual operation to automatic search operation or vice versa in the UP/DOWN tuning mode. "H": Automatic, "L": Manual															

Pin No.	Pin Name	Functions
10,11	UP DOWN	Terminals to input a signal from the tuning key. * In manual operation: When the key is kept depressed for 0.3 sec or more in one-step/one-push step feeding, the operation changes to fast forwarding; when the key is released, the operation stops at the next stop. In this case, even if there is a station on the way, the station is neglected. * In automatic search operation: When the key is depressed once, the automatic search operation starts and stops automatically after having selected the desired station. * A pull-up resistance is provided therein.
12	A-STOP	Terminal to input a signal for performing the automatic search stop. When a "H" level signal is applied to this terminal during automatic search operation, the scanning operation stops.
13	STO	Terminal to input a signal for storing data in the preset memory unit. Input/output terminal in which a LED driver is provided. * When depressing the STO key, the STO lamp comes on. Next, when any desired memory No. key is depressed, the data on receiving frequency is written into the memory unit and the STO lamp goes off. * When the STO key is depressed and the memory No. key is not depressed, the frequency data is released automatically.

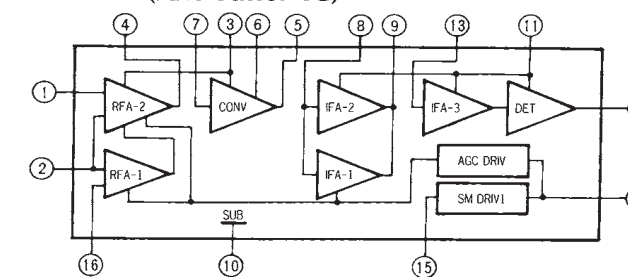
Pin No.	Pin Name	Functions
14~19	M <sub>1</sub> ~M <sub>6</sub>	Terminals to input a signal for designating memory addresses. Input/output terminals in which a LED driver is provided. * Terminals M <sub>1</sub> to M <sub>6</sub> designate the addresses of FM memory unit in FM receiving and the addresses of AM memory unit in AM receiving. * When depressing the STO key and any desired station key of M <sub>1</sub> to M <sub>6</sub> , the data is written into the memory unit. * When depressing any desired station key of M <sub>1</sub> to M <sub>6</sub> , the data is read out.
20~23	CK-1, CK-2, Data, 0/5	Terminals to output the data for displaying the received frequency digitally and a timing signal. The data fed to the driver TD6301P for displaying a static frequency and the timing signal are outputted once only when the frequency is updated in such case as when the power supply is tuned on, the UP/DOWN key is depressed, the automatic scanning operation is made, the data are read out of the memory unit or FM/AM is switched. In the ordinary receiving state, this terminal is fixed to a "L" level. * Data: Binary coded frequency data and receiving band. * CK-1, CK-2: Initialize and transfer clock signals. * 0/5: For displaying 50 kHz during FM receiving in Europe.
24~27	L <sub>1</sub> ~L <sub>4</sub>	Terminal to output a signal for driving the LEDs for displaying the linear scale on a received frequency. The LEDs are driven in push-pull connection with the terminals H <sub>1</sub> to H <sub>5</sub> , 18 points at its maximum.
28~32	H <sub>1</sub> ~H <sub>5</sub>	Terminals to output a signal for driving the LEDs for displaying the linear scale on a received frequency. The LEDs are driven in push-pull connection with the terminals L <sub>1</sub> to L <sub>4</sub> .

Pin No.	Pin Name	Functions
33,34	D <sub>0-1</sub> D <sub>0-2</sub>	Terminals to output a signal from a phase comparator. These terminals can be used for FM and AM, separately, since the same signal is outputted from the terminals D <sub>0-1</sub> and D <sub>0-2</sub> at the same time.
35	Pee	Terminals to output a signal for generating a sound "Pee" to confirm that the key is depressed correctly.
36	Mute	Terminal to output the muting signal. The terminal is kept in "L" level in ordinary state, and in "H" level in muting.
37	FM <sub>IN</sub>	Terminal to input a signal from the FM programmable counter. An amplifier is provided in the input.
38	PSC	Terminal to output a signal for controlling the Prescaler IC of TD6104P.
39	AM <sub>IN</sub>	Terminal to input a signal from the AM programmable counter. An amplifier is provided in the input.
40	INH	Terminal to input a signal of inhibit. Ordinary operation in "H" level; inhibit operation in "L" level.
41	TEST	Terminal to input an initialize signal. This terminal changes to H level in the ordinary operation and to L level in the initialize operation.
1,42	GND, V <sub>DD</sub>	Power supply terminals, 5V ± 0.5V

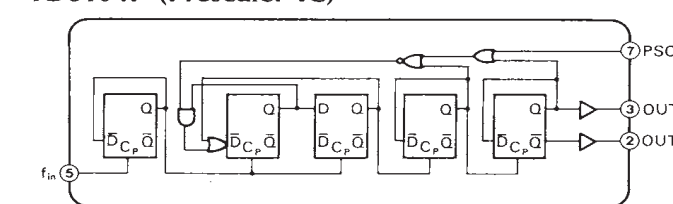
## •LA1231N (IF & Quadrature Detector IC)



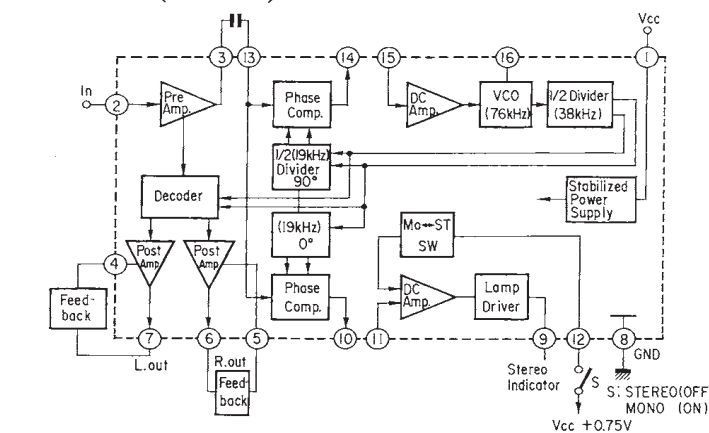
## •HA1197 (AM Tuner IC)



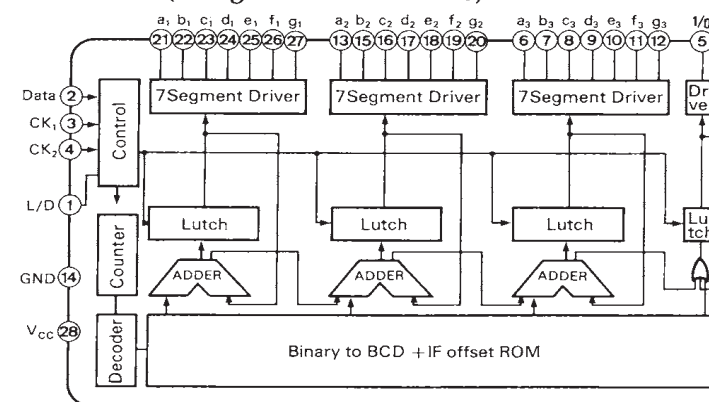
## •TD6104P (Prescaler IC)



## •HA1196 (MPX IC)

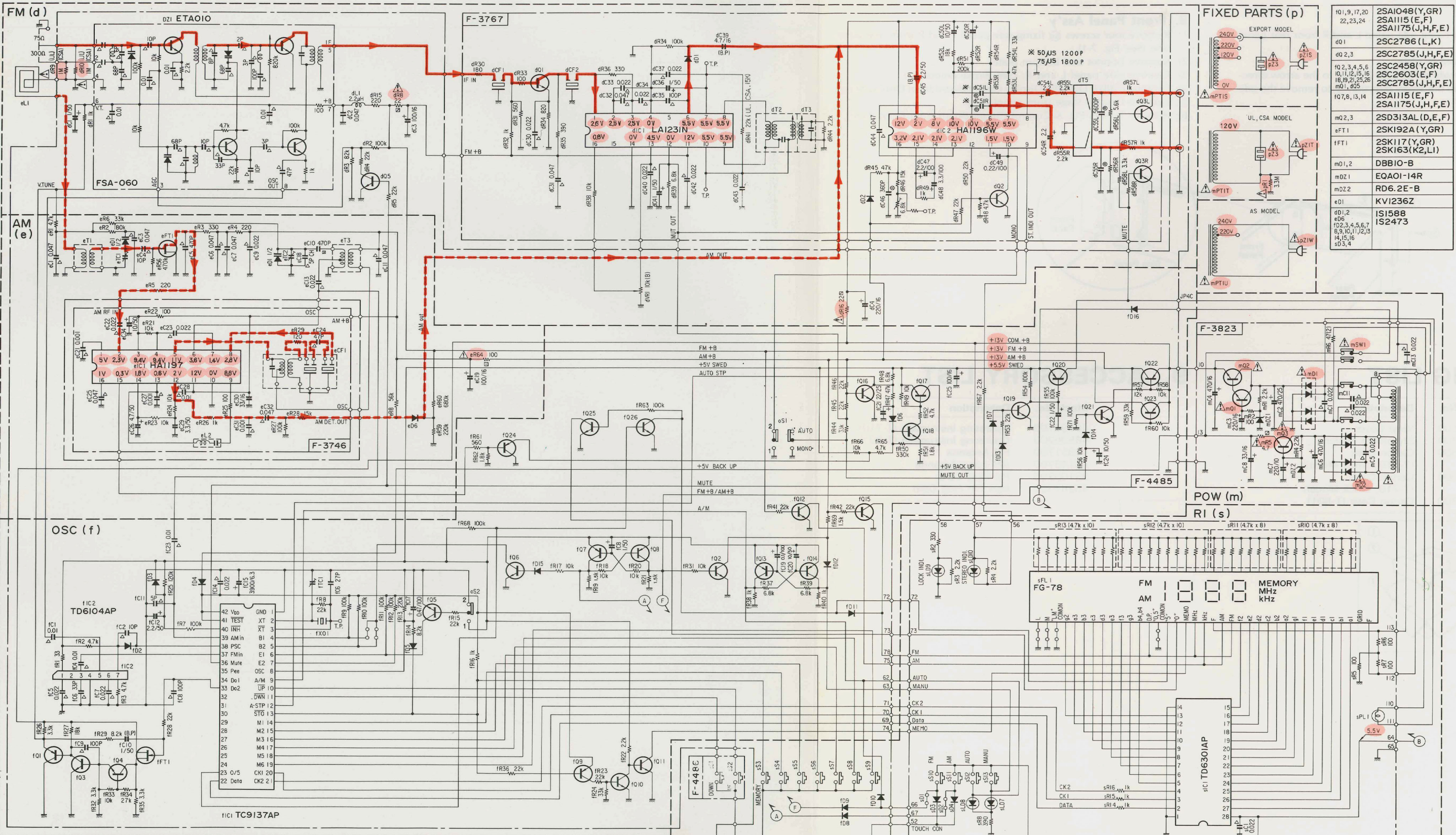


## •TD6301P (7 Segment Decoder IC)

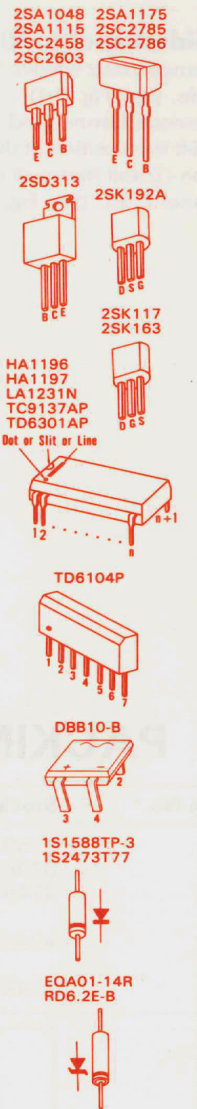


# 6. SCHEMATIC DIAGRAM

\*Design and specifications subject to change without notice for improvement.  
\*La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.  
\*Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



FIXED PARTS (p)	
101,9,17,20	2SA1048(Y,GR)
22,23,24	2SA1115(E,F)
	2SA1175(J,H,F,E)
dQ1	2SC2786(L,K)
dQ2,3	2SC2785(J,H,F,E)
102,3,4,5,6	2SC2458(Y,GR)
0,1,12,15,16	2SC2603(E,F)
16,19,21,25,26	2SC2785(J,H,F,E)
m01,405	
107,8,13,14	2SA1115(E,F)
	2SA1175(J,H,F,E)
mQ2,3	2SD313AL(D,E,F)
eFT1	2SK192A(Y,GR)
1FT1	2SK117(Y,GR)
	2SK163(K2,L1)
mD1,2	DBB10-B
mDZ1	EQAO1-14R
mDZ2	RD6.2E-B
eD1	KVI236Z
dD1,2	IS1588
eD6	IS2473
102,3,4,5,6,7	
8,9,10,11,12,13	
14,15,16	
sD3,4	



**RESISTORS**  
Are in ohms, 1/4 Watts, ±5% Tolerance  
Unless Otherwise Noted. K: kΩ, M: MΩ

**CAPACITORS**  
Are in μF, Unless Otherwise Noted. P: pF

**SYMBOL**  
△ Ceramic  
△ Mylar  
□ Styrol  
○ Polystyrene  
[B.P.] Bi-Polar Electrolytic  
[F] Fusing Resistor  
[N.I.] Non-Inflammable Resistor

**is Safety Part**  
Use only replacement parts recommended by the manufacturer.

**SWITCHES**  
oS2 1 AM 10KHz FM 100KHz  
2 AM 9 KHz FM 50KHz  
FM MUTING/MODE  
oS1 1 OFF / MONO  
2 ON / AUTO

— FM Signal Line  
- - - AM Signal Line

## 7. MAIN PARTS REPLACEMENT

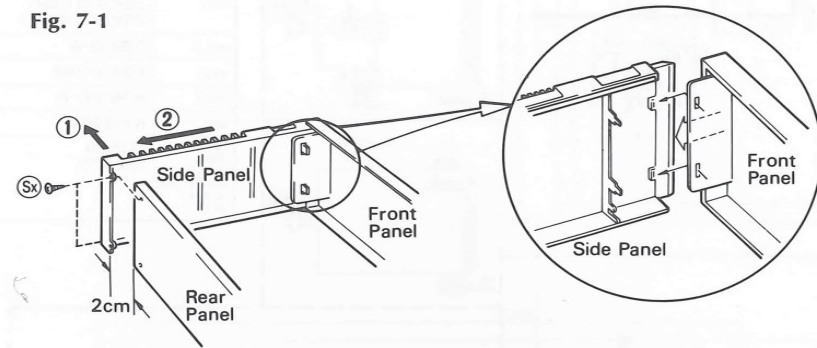
### A. Side Panel L (R)

- 1) Remove four screws  $\otimes$  fixing side panel L and R from rear panel side. (See Fig. 7-1)
- 2) Remove bonnet and bottom plate.
- 3) Shift the position of the side panel L (R) 2 cm in to the arrow direction ① and then pull it to the arrow direction ② to remove the side panel L (R). (See Fig. 7-1)

### B. Front Panel Ass'y

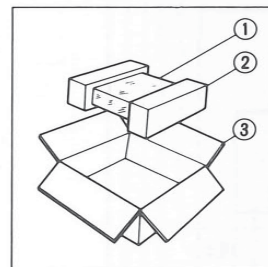
- 1) Remove four screws  $\otimes$  fixing side panel L and R from rear panel side (See Fig. 7-1)
- 2) Remove bonnet and bottom plate.
- 3) Remove side panel L and R. (See Replacement A)
- 4) Remove F-3878 Digitally Display Circuit Board from Display Stage.
- 5) Remove Display stage from panel ass'y.
- 6) Remove F-4485 PLL & Control Circuit Board from Front Panel.

Fig. 7-1



## 8. PACKING LIST

Parts No.	Stock No.	Description
1	07599500	Vinyl Cover
2	07965300	Styrofoam Packing
3	47497600	Carton Case (T-710, Silver Model)
	47497500	Carton Case (T-710, Black Model)
	47497700	Carton Case (T-901)



## 9. ACCESSORY LIST

Stock No.	Description
46896100	Operating Instruction (T-710)
46896200	Operating Instruction (T-901)
46051700	FM Antenna
46145700	AM Loop Antenna
38103200	Pin Plug Cord
46267300	Mini Pin Plug Cord

*Sansui*

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