781 V1

ORDER NO. AD8903059C8

Service Manual

Tuner

QUARTZ Synthesizer
LW/MW/FM Stereo Tuner

40767 ST-X999L

Color

(K)...Black Type

Area

Country Code	Area	Color
(E)	Continental Europe	(K)
(EB)	Great Britain	(K)
(G)	Third Region	(K)

SPECIFICATIONS

(DIN 45 500)

■ FM TUNER SECTION

Frequency range	87.50~108.00 MHz (0.05 MHz-steps)
Sensitivity	1.5 µV (IHF, usable)
S/N 30 dB	1.3 µV (75Ω)
S/N 26 dB	1.2 µV (75Ω)
S/N 20 dB	0.9 µV (75Ω)
IHF 46 dB stereo quieting sensitivity	28 µV / 75Ω
Total harmonic distortion	
MONO	0.15%
STEREO	0.3%
S/N	
MONO	70 dB (78 dB,IHF)
STEREO	65 dB (71 dB,IHF)
Frequency response	20 Hz ~ 15 kHz, +0.5 dB ~ -1.5 dB
Alternate channel selectivity	
±400 kHz	65 dB
Capture ratio	1.0 dB
Image rejection at 98 MHz	46 dB
IF rejection at 98 MHz	70 dB
Spurious response rejection at 98 MHz	70 dB
AM suppression	55 dB
Stereo separation	
1 kHz	40 dB
10 kHz	30 dB
Carrier leak	
19 kHz	-30 dB (-35 dB,IHF)
38 kHz	-45 dB (-50 dB,IHF)
Channel balance (250 Hz ~ 6,300 Hz)	± 1.5 dB
Limiting point	1.2 µV
Bandwidth	
IF amplifier	180 kHz
FM demodulator	1000 kHz
Antenna terminals	75Ω (unbalanced)

■ AM TUNER SECTION

Frequency range	
MW	522 kHz ~ 1611 kHz (9 kHz-steps)
	530 kHz ~ 1620 kHz (10 kHz-steps)
LW	155 kHz ~ 353 kHz (9 kHz-steps)
	153 kHz ~ 351 kHz (-2 kHz shift)
Sensitivity (S/N 20 dB)	
MW	20 µV,300 µV/m
LW	50 µV
Selectivity (± 9 kHz)	
MW (at 999 kHz)	55 dB
LW (at 254 kHz)	55 dB
Image rejection	
MW (at 999 kHz)	40 dB
LW (at 254 kHz)	40 dB
IF rejection	
MW (at 999 kHz)	60 dB
LW (at 254 kHz)	60 dB

■ TIMER SECTION

Clock	Quarz-lock type
	24-hour indication
Precision	Within 0 sec.~±10 sec.
	monthly (at 25°C)
Functions	24-hours programmable
	weekly (1 setting)
	once only (1 setting)
	sleep (at 10~60 min. 10-min. intervals)
Programmable content	Program source(FM,MW,LW)
	Power ON/OFF setting
	Designation of preset station
Setting intervals	1 minute ~23 hours,59 minutes
	(at 1-min.intervals)
Priority order	sleep, once, weekly

■ GENERAL

Output voltage	0.3V (0.6V,IHF)
Power consumption	9W(clock 5W)
Power supply	
For Great Britain	AC 50 Hz/60 Hz,240V
For continental Europe	AC 50 Hz/60 Hz,220V
For others	AC 50 Hz/60 Hz,110V/127V/220V/240V
Dimensions (W x H x D)	360 x 64.5 x 288 mm
	(14-3/16″ x 2-17/32″ x 11-11/32″)
Weight	2.1 kg (4.6 lb.)

Notes:
Specifications are subject to change without notice.
Weight and dimensions are approximate.

Technics

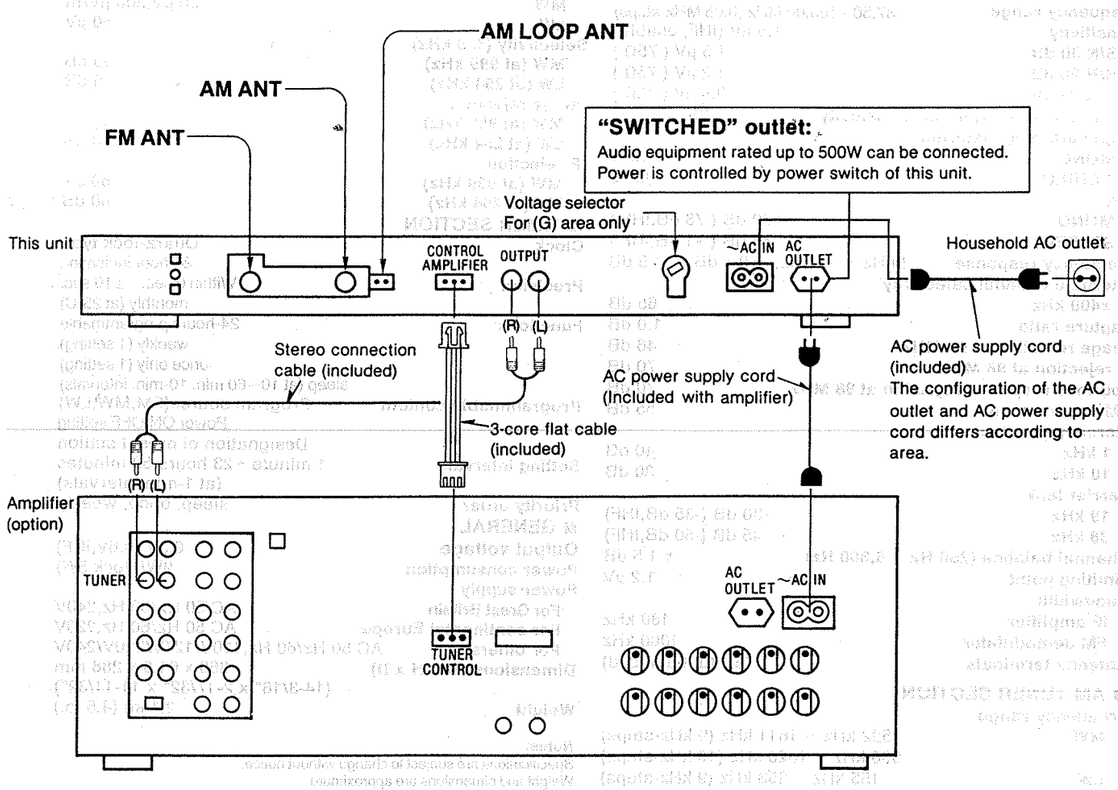
Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

■ CONTENTS

■ ACCESSORIES

- Stereo connection cable (SJP2269) 1
- FM indoor antenna 1
  For [G] area only (SSA269M)
  For others areas (SSA270M)
- AM loop antenna (SPB1162T) 1
- AM antenna holders (SMA233-1M) 1
  (SMA231M) 1
- Screws (XTB3+10AFZ) 2
- 3-core flat cable (SWKTX930E) 1
- Attachment plug (SJP9009 for [EB] area only) 1
- AC plug adaptor (RJP120ZBS-H for [G] area only) 1
- AC power supply cord 1
  For [EB] area only (SJA193)
  For [EG] area only (RJA0004)
  For others areas (SFDAC05E03)
- Remote-control transmitter (EUR64754) 1
- Batteries (R03) 2

■ CONNECTIONS



ORDER NO. AD8903059C8-A

QUARTZ Synthesizer
LW/MW/FM Stereo Tuner

DEUTSCH

Tuner

ST-X999L

■ MESSUNGEN UND JUSTIERUNGEN

UKW JUSTIERUNGEN

Einstellungen der Bedienelemente und zu verwendende Geräte.

- UKW-Messender(UKW-MS)
- Stereo-Modulator
- Verzerrungs-Analystator
- Elektronische Gleichstrom-Voltmeter(EVM)
- Frequenzzähler
- Drosselspule(100µH)
- Widerstand(100kΩ)

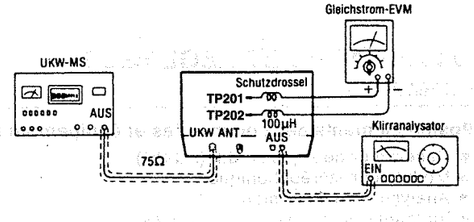
Anmerkung: Für Z202,Z251,L321 und L322 werden bereits justierte Ersatzteile geliefert. Die Kerne dieser Teile daher nicht drehen.

UKW-MONO-VERZERRUNGS-JUSTIERUNG

1.Der Testaufbau ist in der Abbildung gezeigt.
2.Stellen Sie die Einheit auf **"FM(UKW)"** Betrieb.
3.Die Radiofrequenzanzeige und den Messender auf **100.10MHz** einstellen.
4.Den Kern von **T201** so justieren, daß die im Signalzustand gemessene Spannung **0mV (0±20mV)** im 300mV-Bereich beträgt.
5.**T202** so justieren, daß der Verzerrungsfaktor des linken Kanals minimal wird.
6.Schritte 4 und 5 einige Male wiederholen.
7.Versichern Sie sich, daß die Verzerrungsfaktoren von Kanal L und Kanal R annähernd gleich sind und auf ein Minimum gehalten sind.

Anmerkung:
Für die Justierung ist ein Schraubendreher aus Kunststoff zu verwenden.

ZUSTAND DES UKW-MESSENDERS
Modulation 100%
Modulationsfrequenz 1kHz
Ausgangspegel 66dB



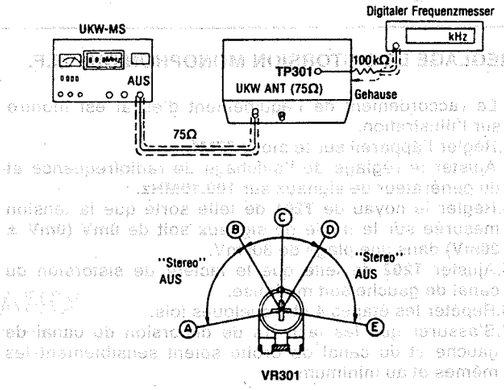
MPX-SGO-JUSTIERUNG

1.Der Testaufbau ist in der Abbildung gezeigt.
2.Den UKW-Bertriebsart-Wahlshalter in die **"on/auto"** Position stellen.
3.Radio und Meßsender auf **100.10MHz** einstellen.
4.**VR301** auf **19kHz ± 30Hz** auf der Frequenzzähleranzeige justieren.

● VERWENDUNG EINES ALTERNATIVSYSTEMS

1.Stereosignal vom Meßsender eingeben oder eine Stereo-Sendung empfangen.
2.**VR301** justieren, bis die Stereo-Anzeige aufleuchtet. Den Arm von **VR301** mit Lack sichern, wie in der Abbildung gezeigt.

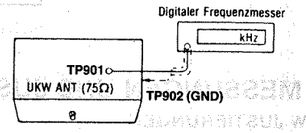
ZUSTAND DES UKW-MESSENDERS
Modulation 100%
Modulationsfrequenz 0kHz
Ausgangspegel,.....66dB



Ⓐ–Ⓑ,
Ⓓ–Ⓔ..... "Stereo" AUS Stellung
Ⓑ–Ⓓ..... "Stereo" EIN Stellung (Anzeigebeleuchtung)
Ⓒ..... Einstellpunkt des pilotschaltkreis'

ELNSTELLUNG DER PHASENSPERRUNG EINES SCHLEIFENVERSCHIUSSES

1.Der Testaufbau ist in der Abbildung gezeigt.
2.Den UKW-Bertriebsart-Wahlshalter in die **"AM"** Position stellen.
3.Vornehmen Sie ein Kurzschluß zwischen **TP903** und **TP904**.
4.Stellen Sie den Radiofrequenzbildschirm auf **"1629kHz"**.
5.**CT901** auf **524.288kHz± 10Hz** auf der Frequenzzähleranzeige justieren.



FRANÇAIS

■ MEAURAGES ET REGLAGES

M.F. REGLAGES

Positionnements des commandes et équipement utilisé

- Générateur de signaux M.F.(FG-SG)
- Modulateur stéréophonique
- Analyseur de distorsion
- Voltmètre électronique à C.C. (EVM).
- Compteur de fréquence
- Bobine d'amortissement d'arrêt (100μH)
- Résistance (100KΩ)

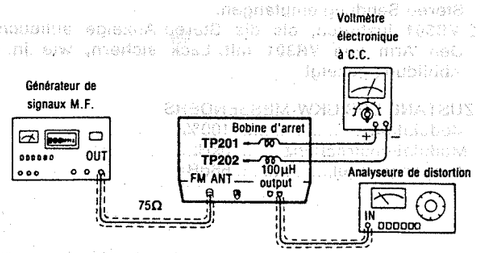
Nota: Pour Z202,Z251,L321 et L322 , ajuster les éléments qui sont fournis. Aussi, ne pas tourner les noyaux de ces éléments.

REGLAGE DE DISTORSION MONOPHONIQUE M.F.

1.Le raccordement de l'équipement d'essai est montré sur l'illustration.
2.Régler l'appareil sur le mode **"FM"**.
3.Ajuster le réglage de l'affichage de radiofréquence et du générateur de signaux sur **100.10MHz**.
4.Régler le noyau de **T201** de telle sorte que la tension mesurée sur le mode de signaux soit de **0mV (0mV ± 20mV)** dans une plage de 300mV.
5.Ajuster **T202** de telle que le facteur de sistorsion du canal de gauche soit minimisé.
6.Répéter les étapes 4 et 5 quelques fois.
7.S'assurer que les facteurs de distorsion du canal de gauche et du canal de droite soient sensiblement les mêmes et au minimum.

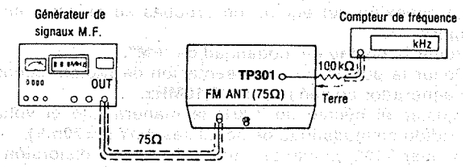
Nota: Le tournevis de réglage utilisé devra être fait en résines.

CONDITION DU GENERATEUR DE SIGNAUX M.F.
Modulation 100%
Fréquenz de modulation 1kHz
Niveau de sortie.....66dB



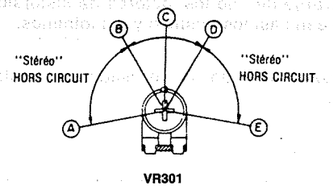
REGLAGE MULTIPLEX DE L'OSCILLATEUR COMMANDE PAR VARIATION DE TENSION

1.Le raccordement de l'équipement d'essai est montré sur la figure.
2.Régler l'appareil sur la position **"on/auto"**.
3.Régler le cadran radio et le générateur de signaux sur **100.10MHz**.
4.Ajuster **VR301** pour **19kHz ± 30Hz** sur le compteur de lecture de fréquences.



● EN UTILISANT UN SYSTEME ALTERNATIF

1.Applique un signal stéréo à partir du générateur ou recevoir une émission stéréo.
2.Ajuster **VR301** jusqu' à ce que l'indicateur stéréo s éclaire. Coller le bras de **VR301** comme il montré sur la figure.

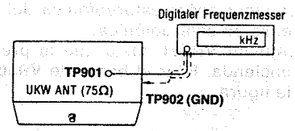


CONDITION DU GENERATEUR DE SIGNAUX M.F.
Modulation 100%
Fréquenz de modulation 0kHz
Niveau de sortie.....66dB

Ⓐ−Ⓑ,
Ⓓ−Ⓔ..... Position de HORS CIRCUIT "Stereo".
Ⓑ−Ⓓ..... Position de MISE EN CIRCUIT "Stereo". (Eciairage de l'indicateur)
Ⓒ..... Point de réglage du circuit pilote.

REGLAGE DE L'HORLOGE EN BOUCLE À BLOCAGE DE PHASE

1.Le raccordement de l'équipement d'essai est montré sur la figure.
2.Régler l'appareil sur la position **"AM"**.
3.Faire de court-circuit entre **TP903** et **TP904**.
4.Régler l'affichage de radiofréquence sur **"1629kHz"**.
5.Ajuster **CT901** pour **524.288kHz±10Hz** sur le compteur de lecture de fréquences.



ESPAÑOL

■ MEDICIONES Y AJUSTES

FM AJUSTES

Posiciones de control y equipo usado

- Generador de señales de FM(FM-SG)
- Modulador estéreo
- Analizador de distorsiones
- Voltímetro electrónico de CC(EVM)
- Frecuencímetro
- Bobina de choque(100μH)
- Resistor(100kΩ)

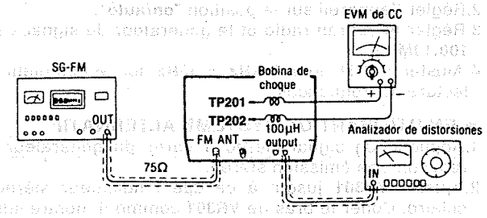
Nota: Para Z202, Z251, L321 y L322 , se suministran piezas ajustadas. Por lo tanto, no cambie los núcleos de estas piezas.

AJUSTE DE DISTORSION MONO FM

1.La conexión del equipo de pruebas se muestra en la figura.
2.Poner la unidad en modalidad de **"FM"**.
3.Poner la puesta de la presentación de radiofrecuencia y generador de señales a **100,10MHz.**
4.Ajustar el núcleo de **T201** de manera que el voltaje medido en modalidad de señal sea **0mV (0±20mV).**
5.Ajustar **T202** de manera que el factor de distorsión de CH-I se minimice.
6.Repetir los pasos 4 y 5 algunas veces.
7.Asegurarse de que los factores de distorsión de CH-I y CH-D sean casi los mismos y los mínimos.

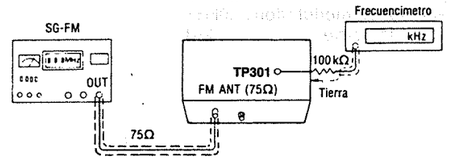
Nota:
El destornillador de ajuste usado debe estar hecho de resina.

CONDICION DE GENERADOR DE SEÑALES DE FM
Modulación 100%
Frecuencia de modulación 1kHz
Nivel de salida 66dB

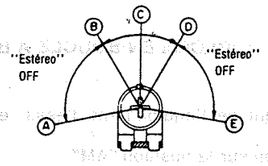


AJUSTE DE MPX VCO(OSCILADOR CONTROLADO POR VOLTAJE MPX)

1.La conexión del equipo de pruebas se muestra en la figura.
2.Poner la unidad en la posición de **"on/auto"**.
3.Poner la presentación de la radio y la puesta del generador de señales en **100.10MHz**.
4.Ajustar **VR301** para **19kHz±30Hz** en lectura de frecuencímetro.



＊USANDO SISTEMA ALTERNATIVO
1.Aplicar señal estereofónica del generador o recibir la emisión estereofónica.
2.Ajustar **VR301** hasta que la presentacón de estéro se encienda. Fijar el brazo de **VR301** como se muestra en la figura.



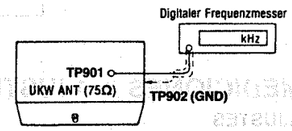
VR301

Ⓐ—Ⓑ,
Ⓓ—Ⓔ..... Pósición de "estéreo" OFF.
Ⓑ—Ⓓ..... Pósición de "estéreo" ON. (indicador encendido)
Ⓒ..... Punto de ajuste de circuito piloto.

CONDICION DE GENERADOR DE SEÑALES DE FM
Modulación 100%
Frecuencia de modulación 0kHz
Nivel de salida 66dB

AJUSTE DEL RELOJ DEL ENLACE DE LA FASE DE CIERRE(PHASE-LOCKED LOOP)

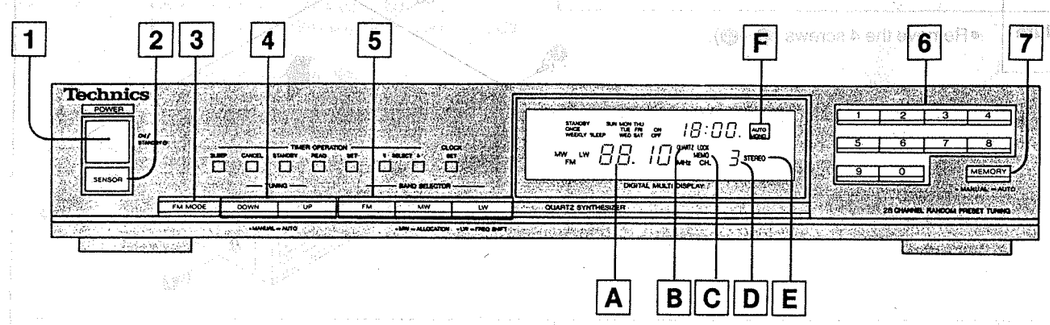
1.La conexión del equipo de pruebas se muestra en la figura.
2.Poner la unidad en la posición de **"AM"**.
3.Hacer cortocircuito del **TP903** y **TP904**.
4.Ajuste la frecuencia de radio a **1629kHz** en la pantalla.
5.Ajustar **CT901** para **524.288kH±10Hz** en lectura de frecuencímetro.



Printed in Japan
F890300850TW/KH

■ LOCATION OF CONTROLS

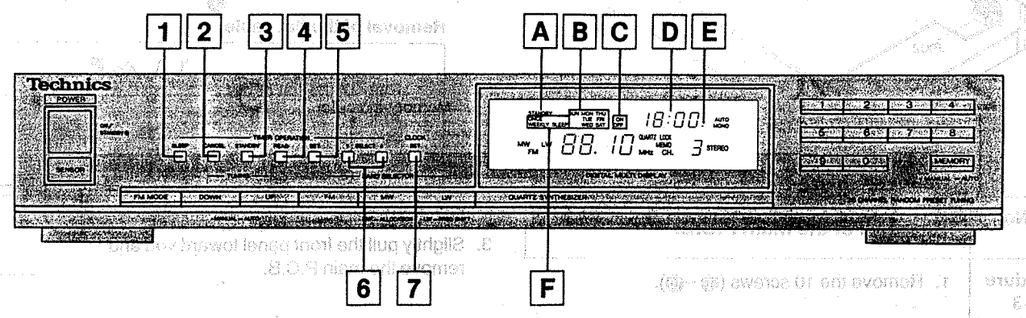
Tuner section



1 Power "STANDBY ⏻/ON" switch (POWER "ON/STANDBY ⏻")
2 Remote-control signal receptor (SENSOR)
3 FM mode selector (FM MODE)
4 Tuning buttons (TUNING)
5 Band selectors (BAND SELECTOR)
6 Preset-tuning buttons (1–0) (28 CHANNEL RANDOM PRESET TUNING)
7 Memory button (MEMORY)

A Digital frequency display
B Quartz-lock indicator (QUARTZ LOCK)
C Memory indicator (MEMO)
D Channel display
E FM stereo indicator (STEREO)
F FM mode indicators

Timer section



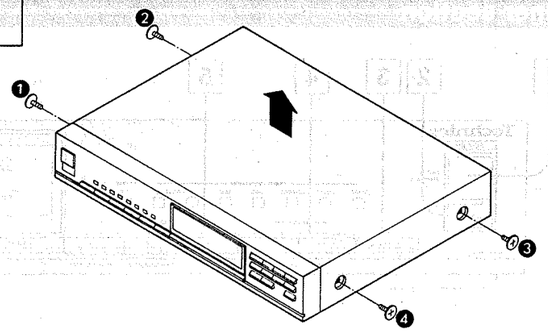
1 Sleep button (SLEEP)
2 Cancel button (CANCEL)
3 Stand-by button (STANDBY)
4 Read button (READ)
5 Set button (SET)
6 Select buttons (SELECT)
7 Clock set button (CLOCK SET)

A Stand-by indicator (STANDBY)
B Day display
C Timer ON/OFF indicator (ON/OFF)
D Time display
E Colon indicator
F Timer-mode indicator (ONCE/WEEKLY/SLEEP)

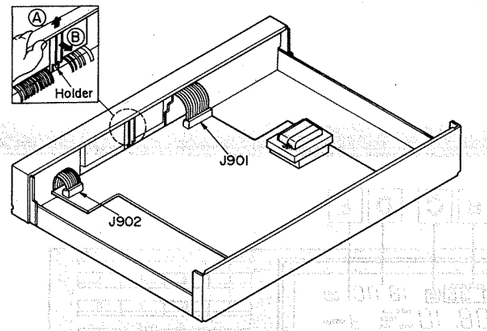
※The operating procedures and features are similar to those for and of the ST-X990L.

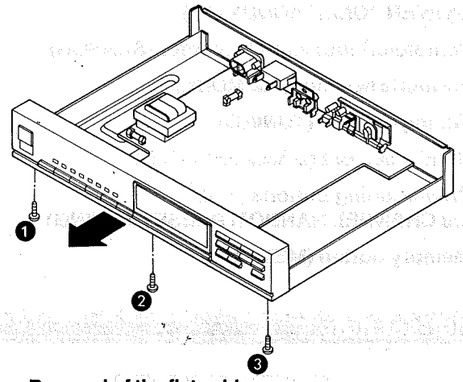
■ DISASSEMBLY INSTRUCTIONS

Ref. No. 1	**Removal of the cabinet**
Procedure 1	•Remove the 4 screws (❶~❹).



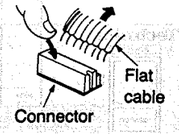
Ref. No. 2	**Removal of the front panel**
Procedure 1→2	1. Remove the flat cable (J901, J902). 2. Push the front panel in the direction of the arrow Ⓐ and remove the holder in the direction of the arrow Ⓑ. 3. Remove the 3 secrews (❶~❸). 4. Remove the front panel in the direction of the arrow.



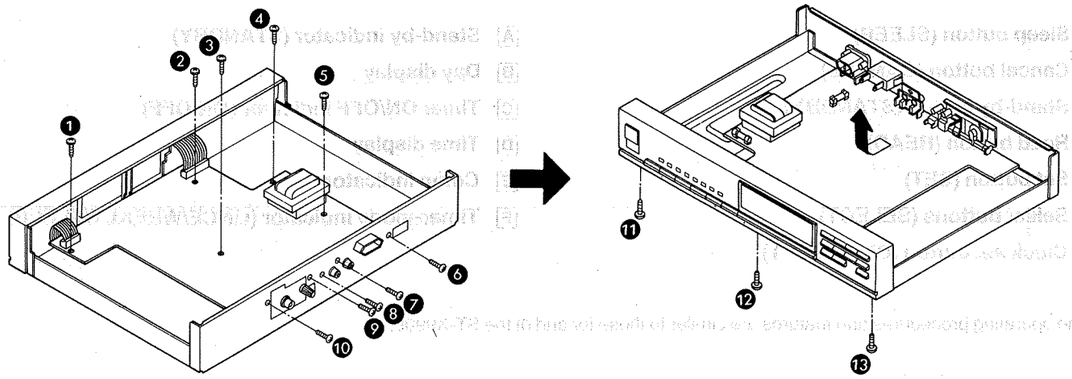


Removal of the flat cable

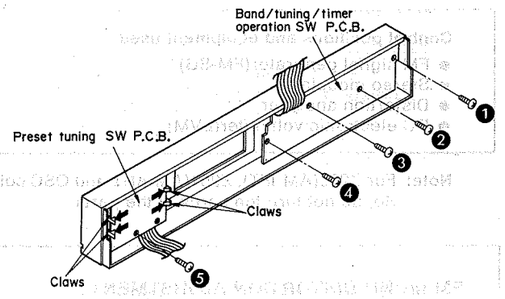
Pull out the flat cable while pressing the connector



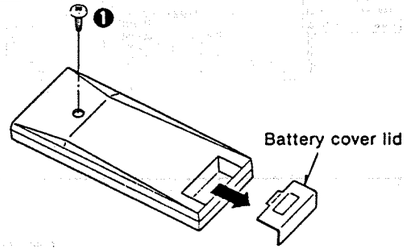
Ref. No. 3	**Removal of the main P.C.B.**
Procedure 1→3	1. Remove the 10 screws (❶~❿). 2. Remove the 3 screws (⓫~⓭). 3. Slightly pull the front panel toward you and remove the main P.C.B.

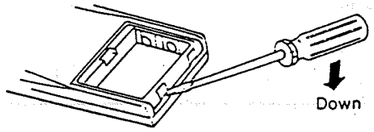


Ref. No. 4	**Removal of the preset tuning SW P.C.B. and band/tuning/timer operation SW P.C.B.**
Procedure 1→2→4	1. Remove the 4 screws (❶~❹). 2. Remove the band/tuning/timer operation SW P.C.B. 3. Remove the 1 screw (❺). 4. Push the 4 claws and remove the preset tuning SW P.C.B.



Ref. No. 5	**Removal of the remote control**
Procedure 5	1. Remove the battery cover lid. 2. Remove the one screw (❶). 3. Insert a screwdriver blade between the upper and lower covers inside the battery compartment and them slowly loosen the bottom cover.





■ MEASUREMENTS AND ADJUSTMENTS

FM ADJUSTMENT

Control positions and equipment used

- FM signal generator(FM-SG)
- Stereo modulator
- Distortion analyser
- DC electronic voltmeter(EVM)
- Frequency counter
- Choke coil(100μH)
- Resistor(100kΩ)

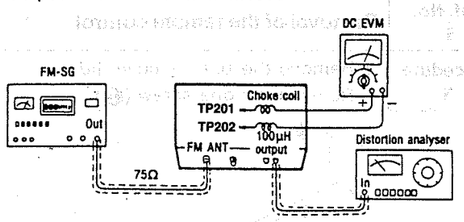
Note: For Z202(AM-IFT), Z251(AM ANT and OSC coil), L321 (L.P.F) and L 322(L.P.F), they are supplied as adjusted parts. So, do not turn the cores of the parts.

FM MONO DISTORTION ADJUSTMENT

1.Test equipment connection is shown in figure.
2.Set the unit to **"FM"** mode.
3.Set the radio frequency display and signal generator to **100.10MHz.**
4.Adjust the core of **T201** so that the voltage measured in signal mode is **0mV(0±20mV)** in 300mV range.
5.Adjust **T202** so that the distortion factor of L-CH is minimized.
6.Repeat steps 4 and 5.
7.Make sure that the distortion factors of L-CH and R-CH are nearly the same and minimum.

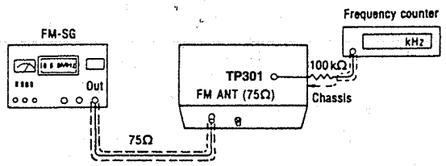
Note: The adjusting screwdriver used should be made of resin.

FM SIGNAL GENERATOR CONDITION
Modulation 100%
Modulation frequency 1kHz
Output level.....66dB



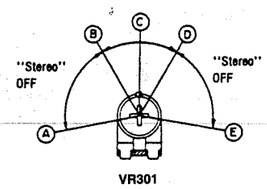
MPX VCO ADJUSTMENT

1.Test equipment connection is shown in figure.
2.Set the unit to **"on/auto"** position.
3.Set the radio frequency display and signal genarator to **100.10MHz.**
4.Adjust **VR301** for **19kHz±30Hz** on frequency counter reading.



USING ALTERNATE SYSTEM

1.Receive the stereo broadcast.
2.Adjust **VR301** until stereo indicator lights up. Fix the arm of **VR301** as shown in figure.

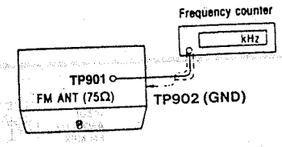


FM SIGNAL GENERATOR CONDITION
Modulation 100%
Modulation frequency 0kHz
Output level.....66dB

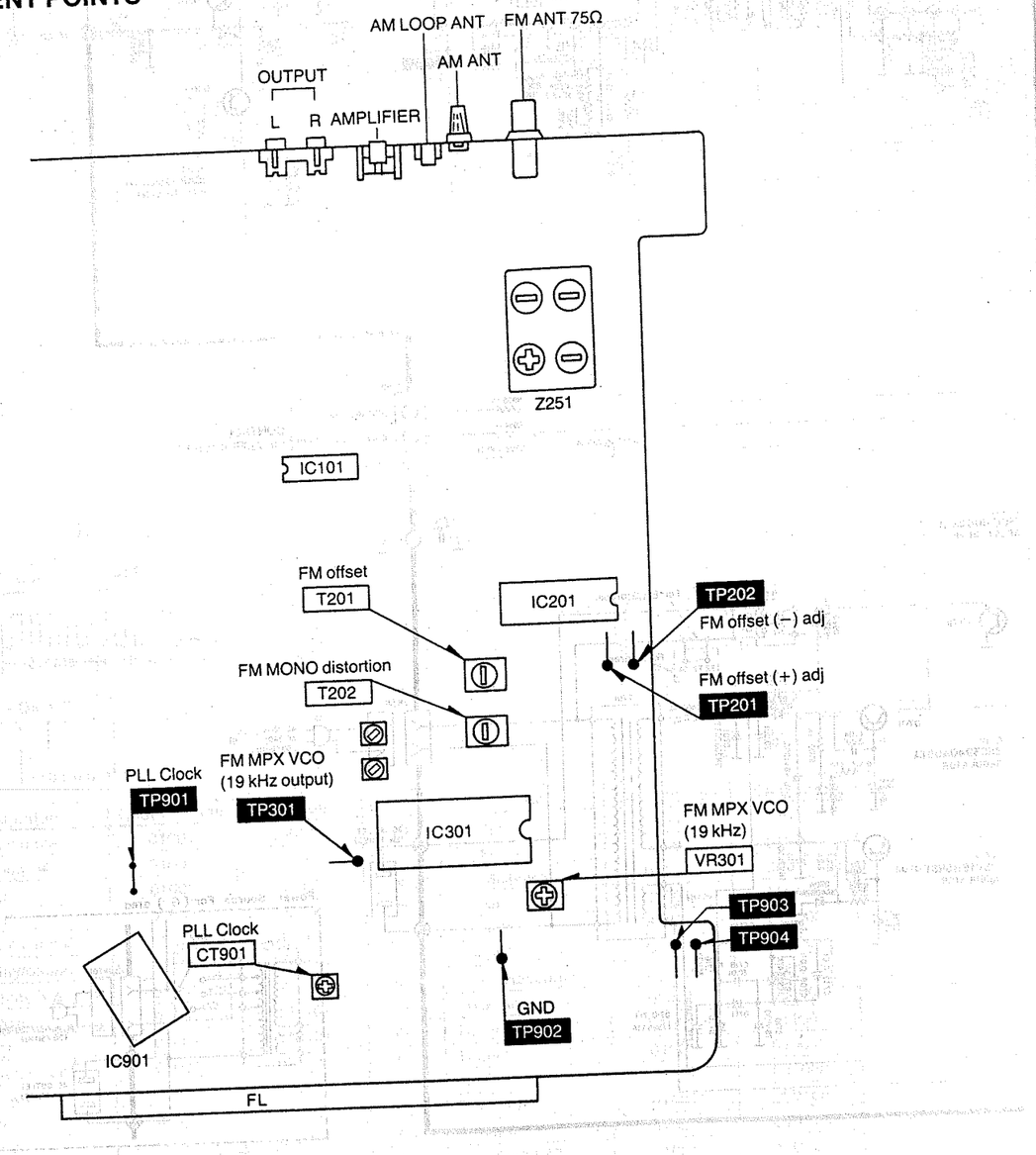
Ⓐ—Ⓑ,
Ⓓ—Ⓔ..... "Stereo" OFF position
Ⓑ—Ⓓ..... "Stereo" ON position (Indicator lighting)
Ⓒ..... Adjust point of pilot circuit

PLL CLOCK FREQUENCY ADJUSTMENT

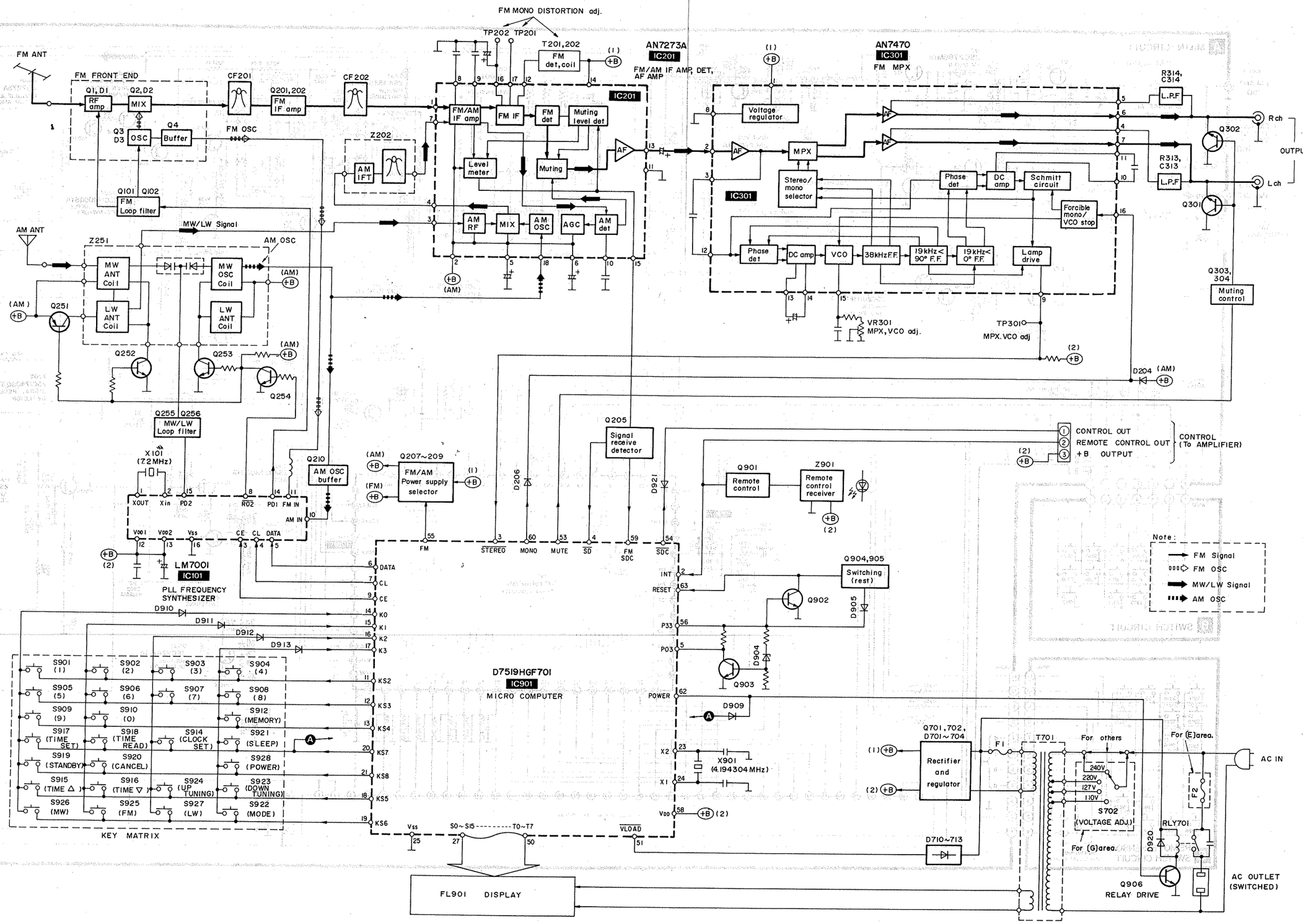
1.Test equipment connection is shown in figure.
2.Set the unit to **"AM"** position.
3.Short **TP903** and **TP904.**
4.Set the radio frequency display **1629 kHz.**
5.Adjust **CT901** for **524.288kHz±10Hz** on frequency counter reading.



●ADJUSTMENT POINTS



■ BLOCK DIAGRAM



1 2 3 4 5 6 7 8 10

A MAIN CIRCUIT

FM signal

JK101-1 FM ANT 75Ω

Q1 2SK544F-AC FM RF AMP

Q2 2SC2786MTA FM MIXER

FM ANT 75Ω GND For(G)area.

JK101-2 AM ANT

JK101-3 AM LOOP ANT

AM signal

D1-3 SVC211SPA-AL

FM OSC

Q3,4 2SC1675FLIL2 FM OSC

Q201,202 2SC2787LTA FM IF AMP

IC101 LM7001 PLL FREQUENCY SYNTHESIZER

Q251 2SA933SQRSTA MW/LW SWITCHING

AM OSC

Q208,209 2SA933SQRSTA POWER SUPPLY (FM/MW/LW)

IC201 AN7273A FM/AM IF AMP, DET, AF AMP

FM mono dis

FM offset voltage (0mV)

TP202 TP201

Q207 2SC1740SQSTA POWER SUPPLY (FM/MW/LW)

Q101 Q102 2SC2603EFGTA FM LOOP FILTER

Q255 Q256 2SC2603EFGTA MW/LW LOOP FILTER

Q210 2SC1740SQSTA BUFFER AMP (MW/LW OSC)

Q252~254 2SC1740SQSTA MW/LW SWITCHING

Q901 2SC1740SQSTA SWITCHING (REMOTE CONT.)

Q304 2SA933SQRSTA MUTING CONT.

Q205 2SC1740SQSTA SIGNAL RECEIVE DETECTOR

D914,915 MA150LF

D910~913,917~919 1SS254TA

D921 1SS254TA

TP903 TP904

CN902

W902

B SWITCH CIRCUIT

Q905 2SA933SQRSTA RESET

Q904 2SC1740SQSTA POWER FAILURE DETECTION

Q906 2SC1740SQSTA RELAY DRIVE

PLL clock frequency

Q902 2SC1740SQSTA SWITCHING

Q903 2SC2787LTA VOLTAGE DETECTION

Q701 2SC3940AQSTA REGULATOR

Q702 2SC1685RST Q702 REGULATOR

W901 CN901

C REMOTE SENSOR/ SWITCH CIRCUIT

Z901 AIGH3029HQ REMOTE CONT. RECEIVER

IC901 D7519HGF701 MICRO COMPUTER

X901 4.194304 MHz

FL901 (SADFV273G) FL DISPLAY

Key Return Signal

Key Scan Signal

Segument Signal

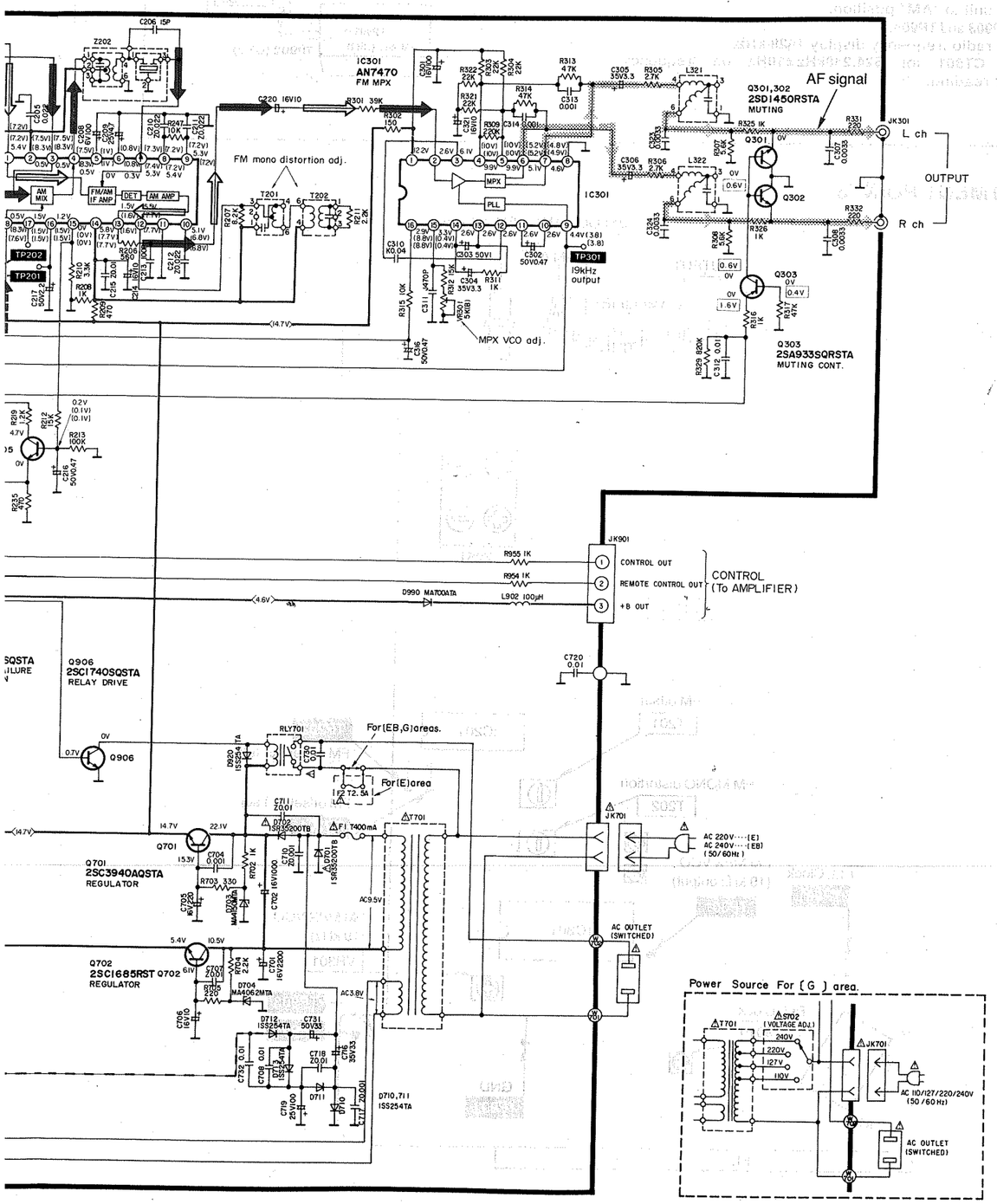
Grid Signal

Muting Output

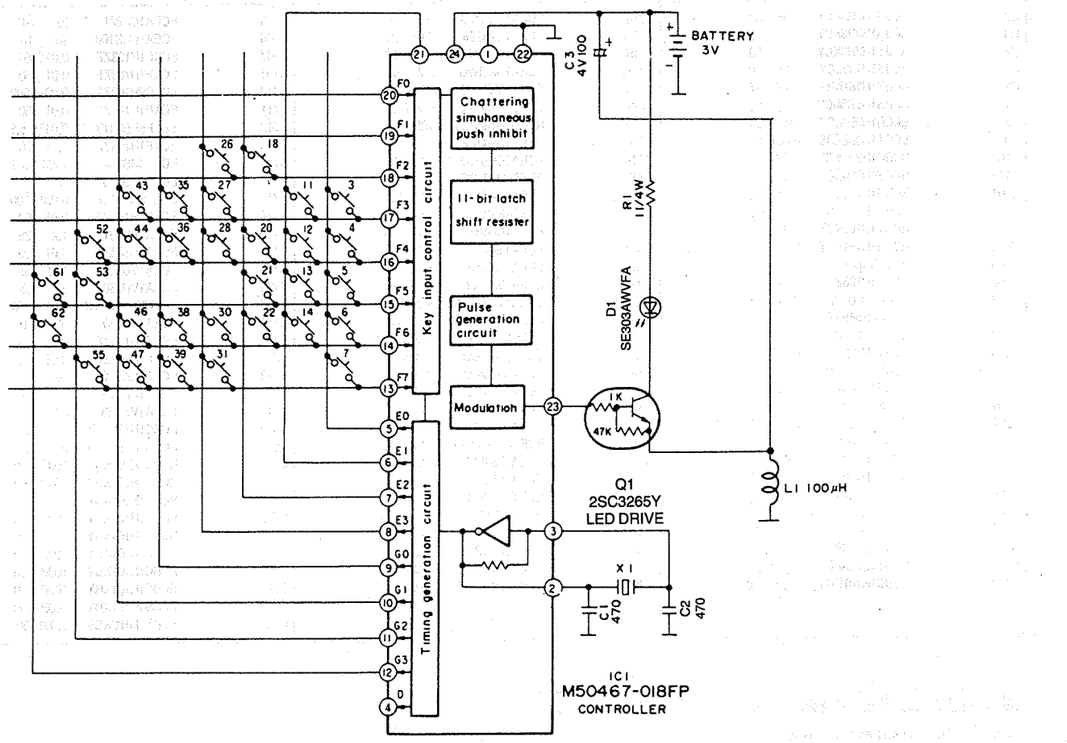
No Signal "H" Received Signal "L" H→4.7V L→0V

For cible mono mode.

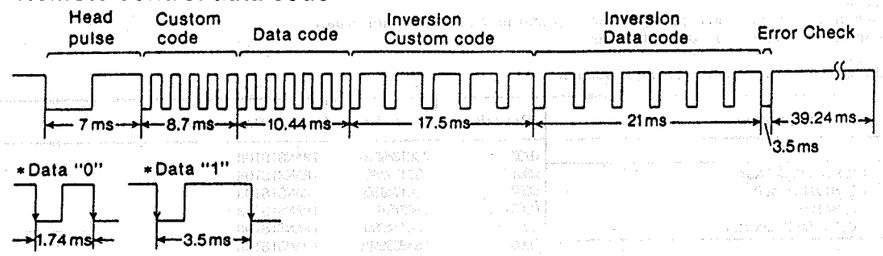
PLL clock frequency



•Remote control unit



• Remote control data code



Key No.	Function	Custom code	Data code	Key No.	Function	Custom code	Data code
3	Auto rec mute	01001	000111	30	Tuner 8	01001	010111
4	Deck play ◀	01001	001001	31	Tuner 1	01001	010000
5	Vol. up	01001	100100	35	CD•skip/search	01100	000010
6	Tuner 5	01001	010100	36	Pause	01001	000110
7	Power ON/OFF	01001	100000	38	Tuner 9	01001	011000
11	CD play/pause	01100	001010	39	Tuner 2	01001	010001
12	Deck play ▶	01001	001010	43	CD•skip/search	01100	000011
13	Vol. Down	01001	100101	44	Deck stop	01001	000000
14	Tuner 6	01001	010101	46	Tuner 0	01001	011001
18	Turntable start	01001	001100	47	Tuner 3	01001	010010
20	Deck ◀◀	01001	000010	52	Rec	01001	001000
21	Muting	01001	100111	53	Deck A/B	01001	000100
22	Tuner 7	01001	010110	55	Tuner 4	01001	010011
26	Turntable stop	01001	001101	61	EQ•OF/FLAT	01001	110000
27	CD stop	01100	000000	62	EQ Preset	01001	110010
28	Deck ▶▶	01001	000011				

■ SCHEMATIC DIAGRAM (Parts list on page 19~21)

(This schematic diagram may be modified at any time with the development of new technology.)

Note 1:

- •S702 : Voltage selector switch in "240 V" position. (110 V←→127 V←→220 V←→240 V) For (G) area only.
- •S901~S910 : Preset tuning switches. (S901: CH1, S902: CH2, S903: CH3, S904: CH4, S905: CH5, S906: CH6, S907: CH7, S908: CH8, S909: CH9, S910: CH0)
- •S912 : Memory switch.
- •S914 : Clock set switch.
- •S915~S921 : Timer operation switches. (S915: SELECT(▲), S916: SELECT(▼), S917: SET, S918: READ, S919: STANDBY, S920: CANCEL, S921: SLEEP)
- •S922 : FM mode selector switch.
- •S923, S924 : Tuning switches. S923: DOWN, S924: UP
- •S925~S927 : Band selector switches. S925: FM, S926: MW, S927: LW
- •S928 : Power switch.

• Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester. ( ): AM voltage

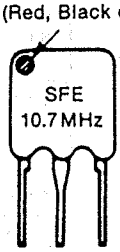
• ——— Positive voltage lines ▒▒▒ AF signal lines
□□□□▷ FM OSC ⇨ FM signal
■■■■▶ AM OSC ➡ AM signal

• Important safety notice
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

Note 2:

• Use of ceramic filters in pairs
The ceramic filters (CF201, CF202) for FM-IF circuit are available in three ranks. For this circuit, be sure to use the ceramics of the same rank in a pair.
At repairing and replacement, pay close attention to the diodes (D915, D914) for use as different diodes must be used depending on each rank of the ceramic filters.

Color marking
(Red, Black or White)



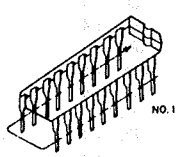
RANK (Color)	D915	D914	CENTER FREQUENCY
Orange	○	×	10.72 MHz
Red	×	×	10.70 MHz
Blue	×	○	10.67 MHz

Note: ○ mark: Diode is used.
× mark: Diode is not used.

✻ Caution!

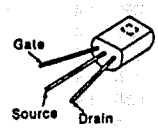
IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
✻ Cover the parts boxes made of plastics with aluminum coil.
✻ Ground the soldering iron.
✻ Put a conductive mat on the work table.
✻ Do not touch the legs of IC or LSI with the fingers directly.

■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

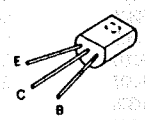


SVIUPC 1161C3	16 Pin
LM7001	16 Pin
AN7273B	18 Pin

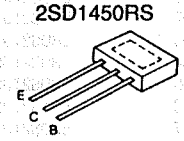
2SK544F-AC

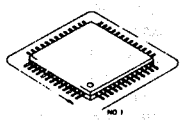


2SC3940A-Q
2SC2787L
2SC2786M
2SC1675L
2SC1685RST



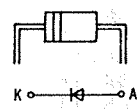
2SC2603EFG
2SC1740SQ
2SA933SQR
2SD1450RS



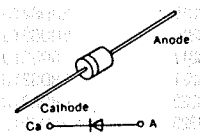


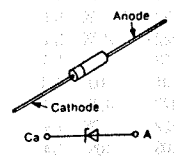
D7519HGF701	64 pin

ISR35200



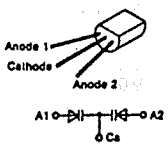
MA165, MA162A
MA700A



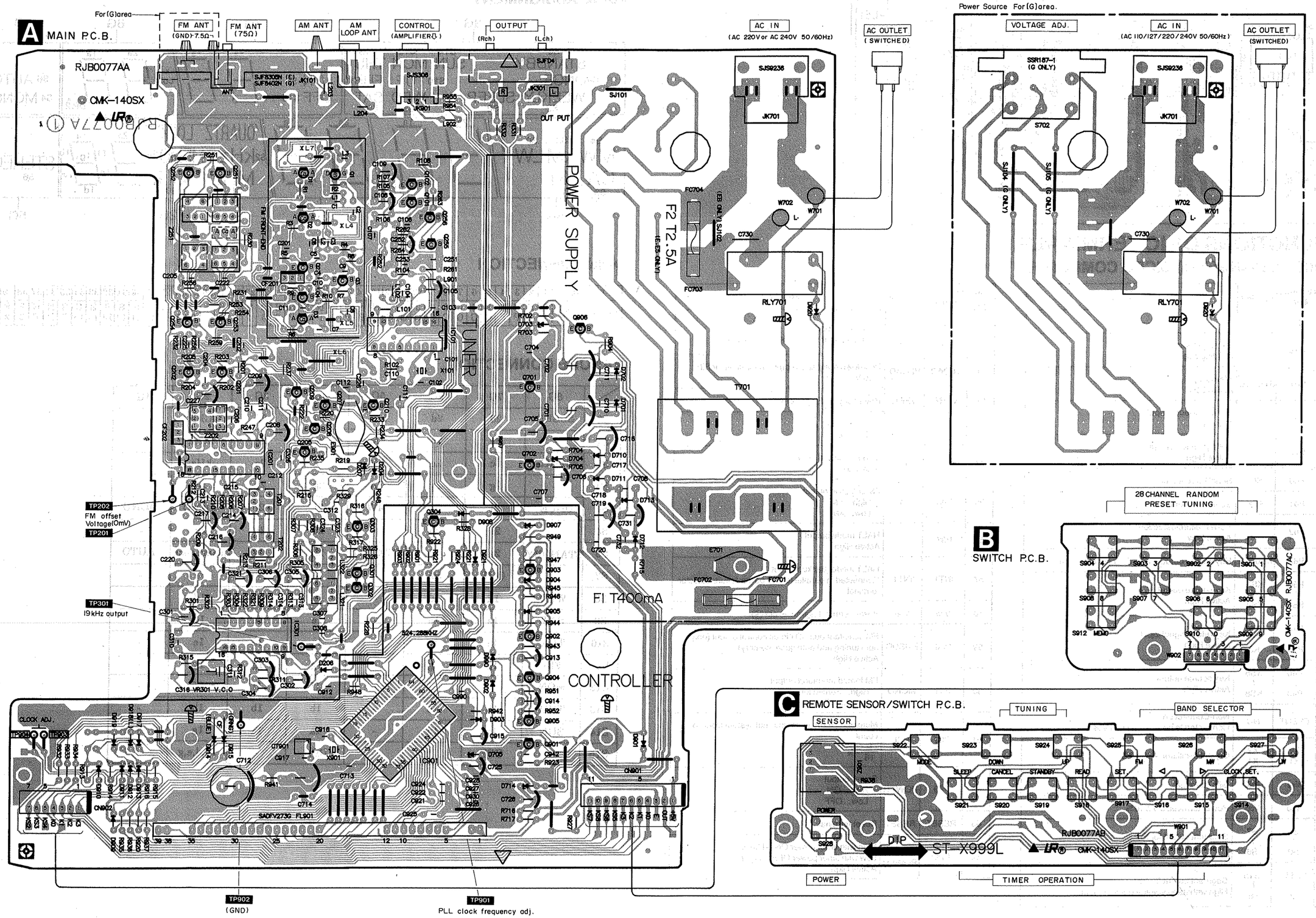


MA4051M,
MA4062M,
MA4150M
MA4330L
MA4043M
MA4100M

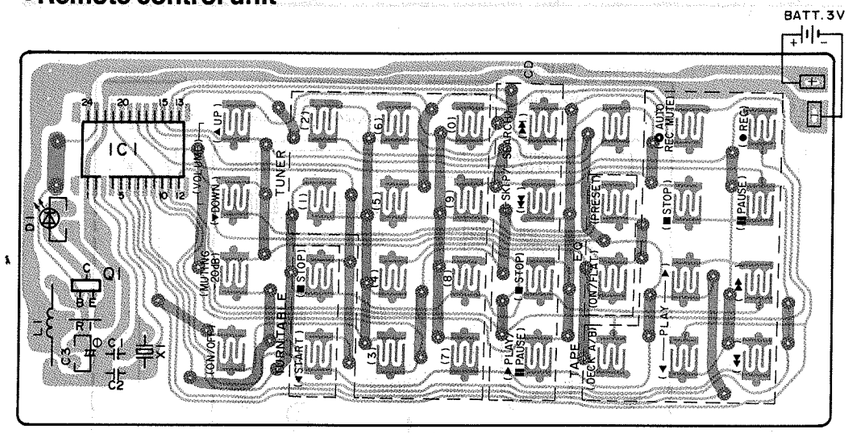
SVC211SPA-AL



■ CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM (Parts list on pages 19~21)



●Remote control unit



■ FUNCTIONS OF IC TERMINALS

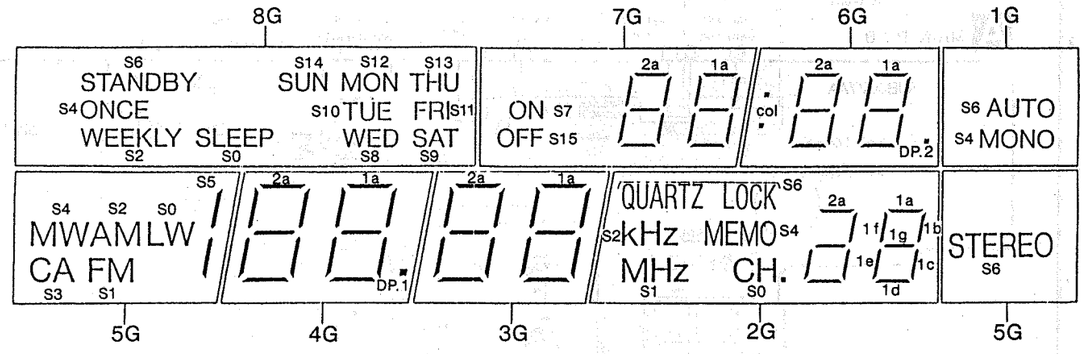
●IC901 (D7519HGF701) MICRO COMPUTER

Pin No.	Terminal Name	Symbol	Function
1	NC	——	——
2	INT0	INT	Remote-control input Leading edge
3	P01	STEREO	Stereo input Active Low
4	P02	SD	Station detector input Active Low
5	P03		Voltage detector input Active High
6	P60	SO	Serial data output
7	P61	SCK	Serial clock output
8	P62		Power failure detection Active Low
9	P63	KS0, CE	Key source output and CE for serial transfer
10 ~ 13	P50 ~ P53	KS1 ~ KS4	Key source output Active High
14 ~ 17	P10 ~ P13	K0 ~ K3	Key return signal input Active High
18 ~ 21	P40 ~ P43	KS5 ~ KS8	Key source output Active High
22	EVENT	NC	Non-Connection Connected to non-connection Vss
23 24	X2 X1	X2 X1	Crystal oscillator 4.19 MHz
25	Vss	GND	GND terminal
26	VDD	VDD	Power terminal 5 V±10%
27 ~ 34	S7 ~ S0	S7 ~ S0	Segment output for FIP High withstand voltage output terminal
35 ~ 42	S15 ~ S8	S15 ~ S8	Segment output for FIP High withstand voltage output terminal

Pin No.	Terminal Name	Symbol	Function
43 ~ 50	T7 ~ T0	T7 ~ T0	Digit output for FIP High withstand voltage output terminal
51	VLOAD	VLOAD	Pull-down resistance common terminal for FIP −30 V
52	VPRE	VPRE	Power aupply for pre-driver
53	P30	MUTE	Muting output Active Low
54	P31	SDC	DTS selective output Active Low
55	P32	FM	FM selective output High…FM Low…AM
56	P33		HALT mode output Active High
57	INT1	INT1	HALT mode (backup) reset Connected in parallel to P62 power failure detector terminal
58	VDD	VDD	Power terminal (same as pin ㉖)
59	P20	FMSDC	FM simultaneous SD circuit control output (only auto tuning and auto scan memory) Active High
60	P21	MONO	FM forced monaural output High…Forced MONO Low…AUTO
61	P22	PCL	Measuring terminal for internal system clock to count $\frac{f_x}{16}=f_0$
62	P23	POWER	Power output High…ON Low…OFF
63	RESET	RESET	Reset terminal
64	PPO	TIMER POWER	High with timer power ON→HIGH Low with timer power OFF→LOW Active High

■ DESCRIPTION OF FL PANEL

●GRID ASSIGNMENT



●PIN CONNECTION

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
CONNECTION	F1	F1	NP	NP	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	NP	NP	NP	NP	NP	S6	S5	S4	S3	S2	S1	S0	S8	S9	S10	S11	S12	S13	S14	S15	S7	NP	NP	F2	F2

●ANODE CONNECTION

	8G	7G	6G	5G	4G	3G	2G	1G
S0	SLEEP	2d	2d	LW	2d	2d	CH.	-
S1	-	2e	2e	FM	2e	2e	MHz	-
S2	WEEKLY	2c	2c	AM	2c	2c	kHz	-
S3	-	2g	2g	CA	2g	2g	2c	-
S4	ONCE	2f	2f	MW	2f	2f	MEMO	MONO
S5	-	2b	2b		2b	2b	2b	-
S6	STANDBY	2a	2a	STEREO	2a	2a	QUARTZ LOCK	AUTO
S7	-	ON	col	-	-	-	-	-
S8	WED	1d	1d	-	1d	1d	1d	-
S9	SAT	1e	1e	-	1e	1e	1e	-
S10	TUE	1c	1c	-	1c	1c	1c	-
S11	FRI	1g	1g	-	1g	1g	1g	-
S12	MON	1f	1f	-	1f	1f	1f	-
S13	THU	1b	1b	-	1b	1b	1b	-
S14	SUN	1a	1a	-	1a	1a	1a	-
S15	-	OFF	DP,2	-	DP,1	-	2a,d,e,g	-

■ RESISTORS AND CAPACITORS

Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Numbering System For Resistors

Example:

ERD	25	F	J	102
Type	Wattage (1/4W)	Shape	Tolerance	Value (1KΩ)
ERX	2	AN	J	471
Type	Wattage (2W)	Shape	Tolerance	Value (470Ω)

Numbering System For Capacitors

Example:

ECKD	1H	102	Z	F
Type	Voltage (50V)	Value (0.001μF)	Tolerance	Unique
ECEA	50	M	330	
Type	Voltage (50V)	Characteristics	Value (33μF)	

● Capacity values are in microfarads (μF) unless specified otherwise, P = Pico-farads (pF) F = Farads (F).
● Resistance values are in ohms (Ω), unless specified otherwise, 1K = 1,000Ω, 1M = 1,000kΩ

Resistor Type		Wattage		Tolerance
ERD	: Carbon	10 : 1/8W	12 : 1/2W	J : ±5%
ERG	: Metal Oxide	14 : 1/4W	25 : 1/4W	F : ±1%
ERQ	: Fuse Type Metal	1A : 1W	18 : 1/8W	G : ±2%
ERX	: Metal Film	S2 : 1/4W	S1 : 1/2W	J : ±5%
ERD L	: Carbon (chip)	2F : 1/4W	50 : 1/2W	K : ±10%
ERO K	: Metal Film (chip)	2A : 2W	3A : 3W	M : ±20%
ERC	: Solid	6G : 1/10W	8G : 1/8W	
ERF	: Incombustible Box-Shaped			
ERM	: Wire-Wound			
RRJ	: Chip Resistor			
ERJ	: Chip Resistor			

Capacitor Type		Voltage		Tolerance
ECE	: Electrolytic	0J : 6.3V	1A : 10V	K : ±10%
ECCD	: Ceramic	1C : 16V	1E : 25V	M : ±20%
ECKD	: Ceramic Capacitor	1H : 50V	1V : 35V	Z : +80 −20 %
ECQM	: Polyester	50 : 50V	05 : 50V	
ECQP	: Polypropylene	2H : 500V	2A : 100V	J : ±5%
ECG	: Ceramic	1 : 100V	1J : 63V	G : ±2%
ECEA N	: Non Polar Electrolytic	KC : 400V AC		F : ±1%
QCU	: Ceramic (Chip Type)	KC : 125V AC (UL)		C : ±0.25pF
ECUX	: Ceramic (Chip Type)			D : ±0.5pF
ECF	: Semiconductor			
EECW	: Liquid electrolyte double layer capacitor			

Ref. No.	Part No.	Value
RESISTORS(VALUE,WATTAGE)		
R1	ERDS2TJ104	100K 1/4
R2	ERDS2TJ470	47 1/4
R3	ERDS2TJ104	100K 1/4
R4	ERDS2TJ824	820K 1/4
R5	ERDS2TJ391	390 1/4
R6	ERDS2TJ272	2.7K 1/4
R7	ERDS2TJ684	680K 1/4
R8	ERDS2TJ122	1.2K 1/4
R9	ERDS2TJ274	270K 1/4
R10	ERDS2TJ391	390 1/4
R102	ERDS2TJ103	10K 1/4
R104	ERDS2TJ102	1K 1/4
R105	ERDS2TJ561	560 1/4
R106	ERDS2TJ562	5.6K 1/4
R107	ERDS2TJ103	10K 1/4
R108	ERDS2TJ391	390 1/4
R201	ERDS2TJ102	1K 1/4
R202	ERDS2TJ824	820K 1/4
R203	ERDS2TJ122	1.2K 1/4
R204	ERDS2TJ824	820K 1/4
R205	ERDS2TJ391	390 1/4
R206	ERDS2TJ561	560 1/4
R207	ERDS2TJ822	8.2K 1/4
R208	ERDS2TJ102	1K 1/4
R209	ERDS2TJ471	470 1/4
R210	ERDS2TJ332	3.3K 1/4
R211	ERDS2TJ222	2.2K 1/4
R212	ERDS2TJ153	15K 1/4
R213	ERDS2TJ104	100K 1/4
R215	ERDS2TJ472	4.7K 1/4
R219	ERDS2TJ122	1.2K 1/4
R220	ERDS2TJ103	10K 1/4
R221	ERDS2TJ104	100K 1/4
R222	ERDS2TJ473	47K 1/4
R228	ERDS2TJ102	1K 1/4
R230	ERDS2TJ104	100K 1/4
R231	ERDS2TJ102	1K 1/4
R232	ERDS2TJ122	1.2K 1/4
R233	ERDS2TJ684	680K 1/4
R234	ERDS2TJ103	10K 1/4
R235	ERDS2TJ471	470 1/4
R237	ERDS2TJ391	390 1/4
R247	ERDS2TJ103	10K 1/4
R248	ERDS2TJ472	4.7K 1/4
R251	ERDS2TJ103	10K 1/4
R252	ERDS2TJ822	8.2K 1/4
R253	ERDS2TJ182	1.8K 1/4
R254	ERDS2TJ223	22K 1/4
R256	ERDS2TJ102	1K 1/4
R258	ERDS2TJ122	1.2K 1/4
R259	ERDS2TJ122	1.2K 1/4
R261	ERDS2TJ102	1K 1/4
R262	ERDS2TJ332	3.3K 1/4
R263	ERDS2TJ153	15K 1/4
R264	ERDS2TJ102	1K 1/4
R301	ERDS2TJ393	39K 1/4
R302	ERDS2TJ151	150 1/4
R303	ERDS2TJ223	22K 1/4
R304	ERDS2TJ223	22K 1/4
R305	ERDS2TJ272	2.7K 1/4
R306	ERDS2TJ272	2.7K 1/4
R307	ERDS2TJ562	5.6K 1/4
R308	ERDS2TJ562	5.6K 1/4
R309	ERDS2TJ224	220K 1/4
R311	ERDS2TJ102	1K 1/4
R312	ERDS2TJ153	15K 1/4
R313	ERDS2TJ473	47K 1/4
R314	ERDS2TJ473	47K 1/4
R315	ERDS2TJ103	10K 1/4
R316	ERDS2TJ102	1K 1/4
R317	ERDS2TJ473	47K 1/4
R321	ERDS2TJ223	22K 1/4
R322	ERDS2TJ223	22K 1/4
R325	ERDS2TJ102	1K 1/4
R326	ERDS2TJ102	1K 1/4
R328	ERDS2TJ473	47K 1/4
R329	ERDS2TJ824	820K 1/4
R331	ERDS2TJ221	220 1/4
R332	ERDS2TJ221	220 1/4
R702	ERDS2TJ102	1K 1/4
R703	ERDS2TJ331	330 1/4
R704	ERDS2TJ222	2.2K 1/4
R705	ERDS2TJ221	220 1/4
R715	ERDS2TJ101	100 1/4
R716	ERDS2TJ101	100 1/4
R717	ERDS2TJ101	100 1/4
R901	ERDS2TJ222	2.2K 1/4
R902	ERDS2TJ222	2.2K 1/4
R903	ERDS2TJ222	2.2K 1/4
R904	ERDS2TJ562	5.6K 1/4
R913	ERDS2TJ154	150K 1/4
R914	ERDS2TJ154	150K 1/4
R915	ERDS2TJ154	150K 1/4
R916	ERDS2TJ154	150K 1/4
R920	ERDS2TJ103	10K 1/4
R921	ERDS2TJ333	33K 1/4
R922	ERDS2TJ103	10K 1/4
R923	ERDS2TJ562	5.6K 1/4
R924	ERDS2TJ563	56K 1/4
R927	ERDS2TJ563	56K 1/4
R932	ERDS2TJ562	5.6K 1/4
R933	ERDS2TJ562	5.6K 1/4
R934	ERDS2TJ562	5.6K 1/4
R935	ERDS2TJ562	5.6K 1/4
R936	ERDS2TJ562	5.6K 1/4
R937	ERDS2TJ562	5.6K 1/4
R938	ERDS2TJ563	56K 1/4
R941	ERDS2TJ331	330 1/4
R942	ERDS2TJ104	100K 1/4
R943	ERDS2TJ122	1.2K 1/4
R944	ERDS2TJ824	820K 1/4
R945	ERDS2TJ474	470K 1/4
R946	ERDS2TJ124	120K 1/4
R947	ERDS2TJ274	270K 1/4
R948	ERDS2TJ273	27K 1/4
R949	ERDS2TJ474	470K 1/4
R951	ERDS2TJ104	100K 1/4
R952	ERDS2TJ104	100K 1/4
R954	ERDS2TJ102	1K 1/4
R955	ERDS2TJ102	1K 1/4
R957	ERDS2TJ561	560 1/4
CAPACITORS(VALUE,VOLTAGE)		
C1	ECBT1H102KB5	0.001 50

Ref. No.	Part No.	Value
C2	RCBS1H3R3KCY	3.3P 50
C3	RCBS1H3R3KCY	3.3P 50
C4	RCBS1H3R3KCY	3.3P 50
C5	RCBS1H180JCY	18P 50
C6	RCBS1H181KBY	180P 50
C7	RCBS1H1R5MCY	1.5P 50
C8	ECCD1H060CC	6P 50
C9	ECBT1H102KB5	0.001 50
C10	RCBC1H2R7KCY	2.7P 50
C11	RCBS1H180JCY	18P 50
C101	RCBS1H150JCY	15P 50
C102	RCBS1H150JCY	15P 50
C103	ECBT1H102KB5	0.001 50
C104	RCBS1H181KBY	180P 50
C105	ECEA0JU101	100 6.3
C106	ECKF1H103ZF	0.01 50
C107	ECKF1H103ZF	0.01 50
C108	ECEA25M4R7R	4.7 25
C109	ECEA1CU330	33 16
C110	ECBT1H102KB5	0.001 50
C111	ECKF1H103ZF	0.01 50
C112	ECKF1H103ZF	0.01 50
C201	ECKF1H103ZF	0.01 50
C202	ECKF1H103ZF	0.01 50
C204	ECBT1H102KB5	0.001 50
C205	ECBT1E223ZF	0.022 25
C206	RCBS1H150JCY	15P 50
C208	ECEA0JU101	100 6.3
C209	ECEA1EK4R7	4.7 25
C210	ECKD1H223PF	0.022 50
C211	ECKD1H223PF	0.022 50
C212	ECBT1E223ZF	0.022 25
C213	RCBC1H101KBY	100P 50
C214	ECEA1CKS100	10 16
C215	ECBT1E103ZF	0.01 25
C216	ECEA1HKR47	0.47 50
C217	ECEA1HK2R2B	2.2 50
C220	ECEA1CKS100	10 16
C222	ECFTD473KXL	0.047 25
C225	RCBS1H180JCY	18P 50
C226	ECKF1H103ZF	0.01 50
C227	ECEA1CKS100	10 16
C251	ECKD1H223PF	0.022 50
C252	ECEA1HK010	1 50
C253	ECKD1H223PF	0.022 50
C301	ECEA1CU101	100 16
C302	ECEA1HKR47	0.47 50
C303	ECEA1HK010	1 50
C304	ECEA1VK3R3	3.3 35
C305	ECEA1VK3R3	3.3 35
C306	ECEA1VK3R3	3.3 35
C307	ECFTD332KXL	0.0033 25
C308	ECFTD332KXL	0.0033 25
C310	ECFTD473KXL	0.047 25
C311	ECQP1471JZ	470P 125
C312	ECKF1H103ZF	0.01 50
C313	ECBT1H102KB5	0.001 50
C314	ECBT1H102KB5	0.001 50
C316	ECEA1HKR47	0.47 50
C321	ECEA1CKS100	10 16
C323	ECFTD332KXL	0.0033 25
C324	ECFTD332KXL	0.0033 25
C326	ECKF1H103ZF	0.01 50
C701	ECEA1CU222	2200 16
C702	ECEA16V1000	1000 16
C704	ECBT1H102KB5	0.001 50
C705	ECEA1CU221	220 16
C706	ECEA1CKS100	10 16
C707	ECKF1H103ZF	0.01 50
C708	ECKF1H103ZF	0.01 50
C710	ECKD2H102ZF	0.001 500
C711	ECKF1H103ZF	0.01 50
C712	EECF5R5U473	0.047F 5.5
C713	ECKF1H103ZF	0.01 50
C714	ECEA0JS102	1000 6.3
C716	ECEA1VU330	33 35
C717	ECKD2H102ZF	0.001 500
C718	ECKF1H103ZF	0.01 50
C719	ECEA1EU101	100 25
C720	ECKF1H103ZF	0.01 50
C725	ECEA1VU101	100 35
C726	ECEA1VU330	33 35
C730	ECKWNS103ZVS	0.01 250
C731	ECEA1HS330	33 50
C732	ECKF1H103ZF	0.01 50
C912	ECKF1H103ZF	0.01 50
C913	ECEA1CKS100	10 16
C914	ECEA1HK010	1 50
C915	ECEA1VK3R3	3.3 35
C916	RCBC1H120KCY	12P 50
C917	RCBS1H5R6KCY	5.6P 50
C921	RCBC1H101KBY	100P 50
C922	RCBC1H101KBY	100P 50
C924	RCBC1H101KBY	100P 50
C925	RCBC1H101KBY	100P 50
C926	RCBC1H101KBY	100P 50
C927	RCBC1H101KBY	100P 50
C928	RCBC1H101KBY	100P 50
C930	RCBC1H101KBY	100P 50
C942	RCBS1H181KBY	180P 50
C990	ECBT1H102KB5	0.001 50

■ REPLACEMENT PARTS LIST

Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.
* Remote Control Ass'y:
Supply period for three years from termination of production.

Ref. No.	Part No.	Description
INTEGRATED CIRCUITS		
IC101	LM7001	I.C. PLL FREQUENCY
IC201	AN7273B	I.C. FM/AM IF AMP
IC301	SVIUPC1161C3	I.C. FM MPX
IC901	D7519HGF701	I.C., MICRO COMPUTER
TRANSISTORS		
Q1	2SK544F-AC	TRANSISTOR
Q2	2SC2786M	TRANSISTOR
Q3	2SC1675L1L2	TRANSISTOR
Q4	2SC1675L1L2	TRANSISTOR
Q101	2SC2603EFG	TRANSISTOR
Q102	2SC2603EFG	TRANSISTOR
Q201	2SC2787L	TRANSISTOR
Q202	2SC2787L	TRANSISTOR
Q205	2SC1740SQ	TRANSISTOR
Q207	2SC1740SQ	TRANSISTOR
Q208	2SA933SQR	TRANSISTOR
Q209	2SA933SQR	TRANSISTOR
Q210	2SC1740SQ	TRANSISTOR
Q251	2SA933SQR	TRANSISTOR
Q252	2SC1740SQ	TRANSISTOR
Q253	2SC1740SQ	TRANSISTOR
Q254	2SC1740SQ	TRANSISTOR
Q255	2SC2603EFG	TRANSISTOR
Q256	2SC2603EFG	TRANSISTOR
Q301	2SD1450RSTA	TRANSISTOR
Q302	2SD1450RSTA	TRANSISTOR
Q303	2SA933SQR	TRANSISTOR
Q304	2SA933SQR	TRANSISTOR
Q701	2SC3940AQSTA	TRANSISTOR
Q702	2SC1685RST	TRANSISTOR
Q901	2SC1740SQ	TRANSISTOR
Q902	2SC1740SQ	TRANSISTOR
Q903	2SC2787L	TRANSISTOR
Q904	2SC1740SQ	TRANSISTOR
Q905	2SA933SQR	TRANSISTOR
Q906	2SC1740SQ	TRANSISTOR
DIODES		
D1	SVC211SPA-AL	VARICAP
D2	SVC211SPA-AL	VARICAP
D3	SVC211SPA-AL	VARICAP
D204	MA165	DIODE
D206	MA165	DIODE
D207	MA165	DIODE
D701 ⚠	SVD1SR35200A	DIODE
D702 ⚠	SVD1SR35200A	DIODE
D703	MA4150M	DIODE
D704	MA4062M	DIODE
D705	MA4330L	DIODE
D710	MA165	DIODE
D711	MA165	DIODE
D712	MA165	DIODE
D713	MA165	DIODE
D714	MA4051-M	DIODE
D901	MA165	DIODE
D902	MA165	DIODE
D903	MA165	DIODE
D904	MA4043M	DIODE
D905	MA700	DIODE
D907	MA4100M	DIODE
D908	MA165	DIODE

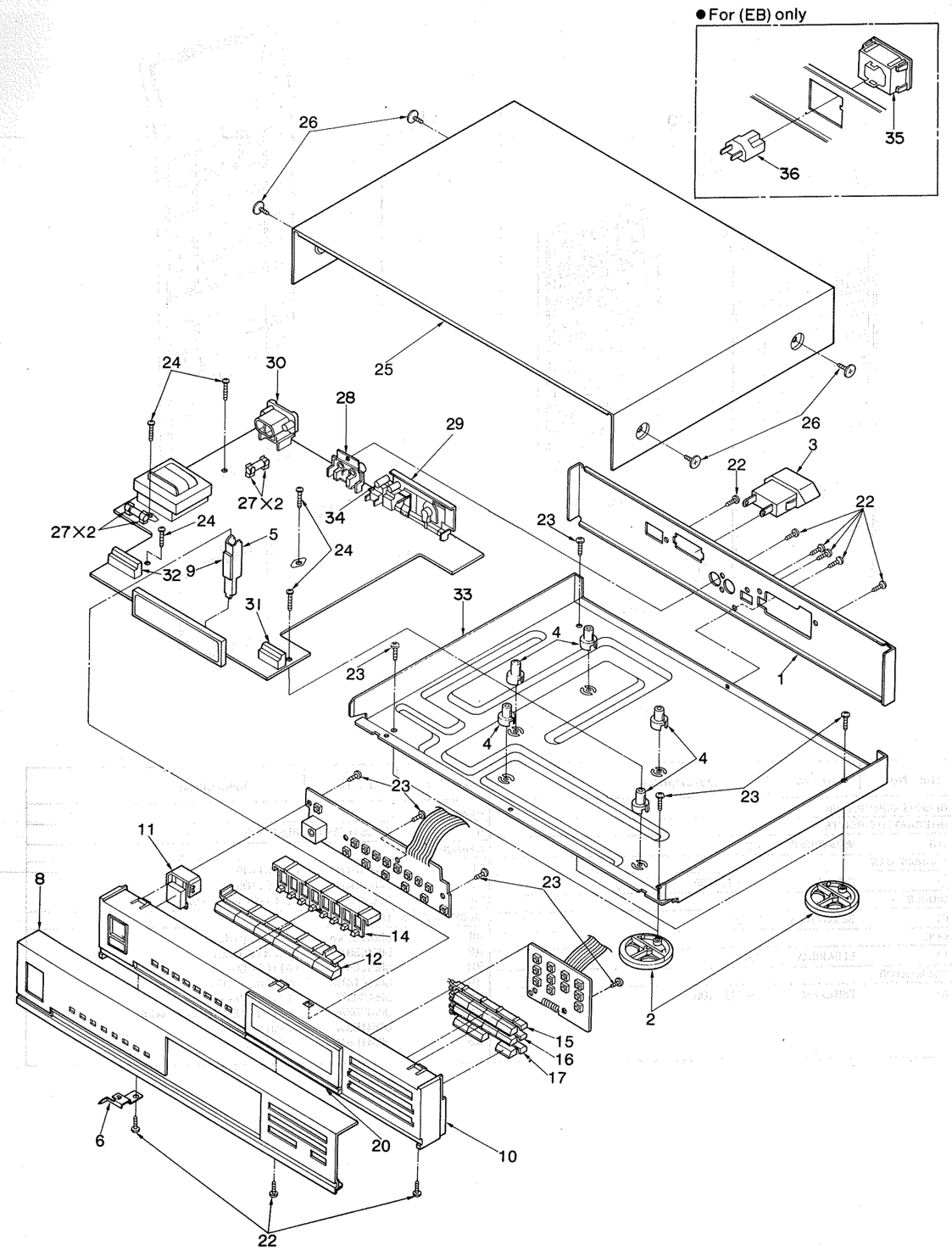
Ref. No.	Part No.	Description
D909	MA165	DIODE
D910	MA165	DIODE
D911	MA165	DIODE
D912	MA165	DIODE
D913	MA165	DIODE
D914	MA162A	DIODE
D915	MA162A	DIODE
D917	MA165	DIODE
D918	MA165	DIODE
D919	MA165	DIODE
D920	MA165	DIODE
D921	MA165	DIODE
D990	MA700	DIODE
VARIABLE RESISTORS		
VR301	EVNDXAA00B53	V.R., MPX VCO ADJ.
VARIABLE CAPACITORS		
CT901	ECRLA010A52	TRIMMER CAPACITOR
COILS AND TRANSFORMERS		
L1	RLQZP1R2KT-Y	CHOKE COIL
L2	RLQZP1R2KT-Y	CHOKE COIL
L3	RLQY15S5-0	ANTENNA COIL
L101	RLQZPR22KT-Y	COIL
L102	RLQZP1R2KT-Y	CHOKE COIL
L203	ELEPKR22MA	COIL
L204	ELEPKR22MA	COIL
L321	SLM1B9-P	MPX COIL
L322	SLM1B9-P	MPX COIL
L901	RLQZP101KT-Y	COIL
L902	RLQZP101KT-Y	COIL
T201	RLI4B002-Z	I.F.TRANSFORMER
T202	RLI4B003-Z	I.F.TRANSFORMER
T701 ⚠ (E)	SLT5K262-K	POWER TRANSFORMER
T701 ⚠ (EB)	SLT5K263-K	POWER TRANSFORMER
T701 ⚠ (G)	SLT5K264-K	POWER TRANSFORMER
COMPONENT COMBINATIONS		
Z202	SLI7Z101-T	I.F.TRANSFORMER
Z251	SLA6Z1-T	COIL
Z901	A1QH3029H0	COMPONENT COMBINATION
FILTERS		
CF201	RLFETNGM02LB	CERAMIC FILTER(BLUE)

Ref. No.	Part No.	Description
CF201	RLFETNGM02LC	CERAMIC FILTER(ORANGE)
CF202	RLFETNGM02LB	CERAMIC FILTER(BLUE)
CF202	RLFETNGM02LC	CERAMIC FILTER(ORANGE)
DISPLAYS		
FL901	SADFV273G	DISPLAY TUBE
FUSES		
F1 ⚠	XBA2C04TB0	FUSE, T0.4A 250V
F2 ⚠ (E)	XBA2C25TB0	FUSE, T2.5A 250V
SWITCHES		
S702 ⚠ (G)	SSR187-1	SW, VOLTAGE SELECTOR
S901	EVQQB005R	SW, 1
S902	EVQQB005R	SW, 2
S903	EVQQB005R	SW, 3
S904	EVQQB005R	SW, 4
S905	EVQQB005R	SW, 5
S906	EVQQB005R	SW, 6
S907	EVQQB005R	SW, 7
S908	EVQQB005R	SW, 8
S909	EVQQB005R	SW, 9
S910	EVQQB005R	SW, 0
S912	EVQQB005R	SW, MEMORY
S914	EVQQB005R	SW, CLOCK SET
S915	EVQQB005R	SW, SELECT
S916	EVQQB005R	SW, SELECT
S917	EVQQB005R	SW, SET
S918	EVQQB005R	SW, READ
S919	EVQQB005R	SW, STAND-BY
S920	EVQQB005R	SW, CANCEL
S921	EVQQB005R	SW, SLEEP
S922	EVQQB005R	SW, FM MODE
S923	EVQQB005R	SW, TUNING DOWN
S924	EVQQB005R	SW, TUNING UP
S925	EVQQB005R	SW, BAND FM
S926	EVQQB005R	SW, BAND MW
S927	EVQQB005R	SW, BAND LW
S928	EVQQB005R	SW, POWER
RELAYS		
RLY701 ⚠	SSY138	RELAY
OTHERS		
X101	SVQ49U722-S	CRYSTAL OSCILLATOR
X901	SVQ49U422T-S	CRYSTAL OSCILLATOR

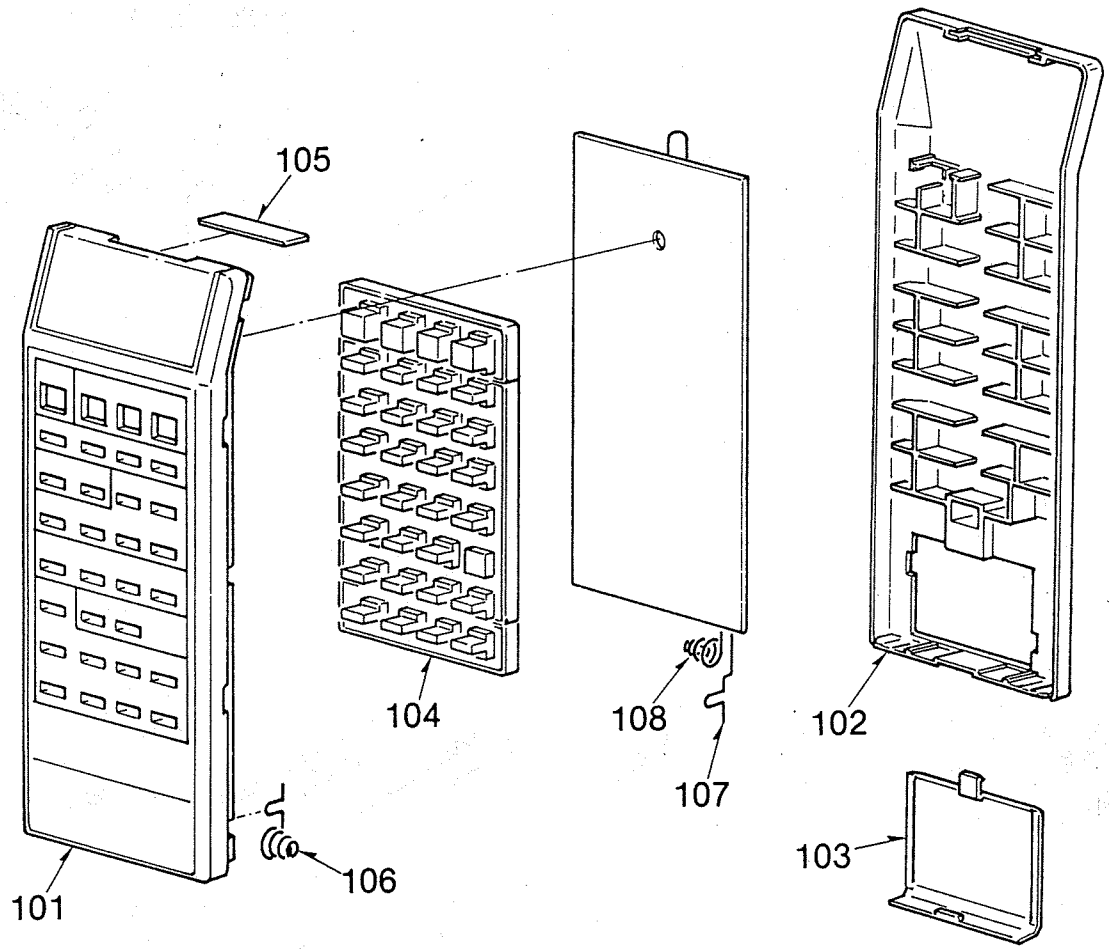
Ref. No.	Part No.	Description
CABINET AND CHASSIS		
1 (E)	SGP7360E	REAR PANEL
1 (G)	SGP7362B	REAR PANEL
1 (EB)	SGP7363A	REAR PANEL
2	SKL307	FOOT
3 ⚠ (G)	6JS9221	AC OUTLET
3 ⚠ (E)	SJS9225	AC OUTLET
4	SHE181	HOLDER
5	SUW3102	BRACKET
6	SUS874	SPRING
8	RYP0066	FRONT PANEL
9	SHG6390	RUBBER SPACER
10	SGXTX990-KG	FRONT GRILLE
11	SBC986	BUTTON, POWER
12	SBC1029A	BUTTON, SELECTOR
14	SBC988	BUTTON, TIMER
15	SBC989D	BUTTON, PRESET
16	SBC989E	BUTTON, PRESET
17	SBZ9104	BUTTON, PRESET
20	SGX7971A	ORNAMENT
22	XTBS3+8JFZ1	SCREW
23	XTB3+8G	SCREW
24	XTB3+20J	SCREW
25	SKC2061K16	CABINET
26	SNE2129-1	SCREW
27 ⚠	SJT390	FUSE HOLDER
28	SJFD4	TERMINAL BOARD, OUTPUT
29	SJF8305N	TERMINAL BOARD, ANT
29 (G)	SJF8402N	TERMINAL PLATE
30 ⚠	SJS9236	AC INLET
31	SJT30740LX-V	CONNECTOR(7P)(CN902)
32	SJT31143-V	CONNECTOR(11P)(CN901)
33	SKU11651-4	BOTTOM BOARD
34	RJS1A0203-0M	SOCKET(3P)(JK901)
35 (EB)	SJS9332A	AC OUTLET COVER
36 ⚠ (EB)	SJS9332B	AC OUTLET

Ref. No.	Part No.	Description
PACKING MATERIAL		
P1	RPG0106	PACKING CASE
P2	SPS5169	PAD
P3	SPS5170	PAD
P4	SPS5073	PAD
ACCESSORIES		
A1 (E)	RQF0091	INSTRUCTION MANUAL
A1 (G)	RQF0092	INSTRUCTION MANUAL
A1 (EB)	RQF0093	INSTRUCTION MANUAL
A2 ⚠ (G)	RJA0004	POWER CORD
A2 ⚠ (E)	SFDAC05E03	POWER CORD
A2 ⚠ (EB)	SJA193	POWER CORD
A3	SJP2269	CORD
A4	SPB1162T	AM LOOP ANTENNA
A4-1	SMA233-1M	HOLDER
A4-2	SMA231M	BRACKET
A4-3	XTB3+10AFZ	SCREW
A5 (G)	SSA269M	FM ANTENNA
A5 (E, EB)	SSA270M	FM ANTENNA
A6	SWKTX930E	LEAD WIRE
A7 ⚠ (EB)	SJP9009	ATTACHMENT PLUG
A8 ⚠ (G)	RJP120ZBS-H	AC PLUG ADAPTOR
A101	EUR64754	REMOTE CONTROLLER

■ EXPLODED VIEW



•REMOTE CONTROL UNIT



Ref. No.	Part No.	Description
REMOTE CONTROLLER		
INTEGRATED CIRCUITS		
IC1	M50467018FP	I.C
TRANSISTORS		
Q1	2SC3265Y	TRANSISTOR
DIODES		
D1	SE303AWVFA	L.E.D
COIL		
L1	ELEA101JA	COIL
OSCILLATOR		
X1	CSB420PB6	OSCILLATOR

Ref. No.	Part No.	Description
RESISTORS		
R1	ERD25TLJ1R0U	RESISTOR
CAPACITORS		
C1	ECUV1H471KCG	CAPACITOR
C2	ECUV1H471KCG	CAPACITOR
C3	ECEA0GK101	ELECTROLYTIC, 100μF, 4V
MECHANISM PARTS		
101	UR64VCS566	UPPER CABINET
102	UR64CS803A	LOWER CABINET
103	UR64EC804	BATTERY COVER
104	UR64CT805D	RUBBER SWITCH
105	UR52SB327	PLATE(SMOKE)
106	UR64TD374	BATTERY TERMINAL(COMMON)
107	UR64TD808	TERMINAL (+)
108	UR64TD809	TERMINAL (-)

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