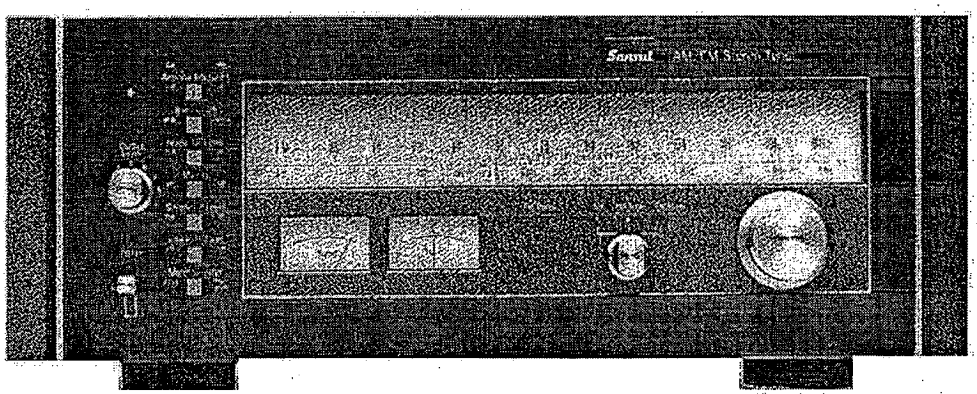
SERVICE MANUAL

AM/FM STEREO TUNER

SANSUI TU-9900



Sansui

SANSUI ELECTRIC CO., LTD.

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This service manual is designed for service engineers to repair, adjust, maintain and order the replacement parts of the TU-9900 correctly. When ordering the parts, use the stock number and parts name specifically referring to the Parts Locations & Parts Lists.
For general usage and maintenance of the unit, please refer to the Operating Instructions attached with the unit.

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1. SPECIFICATIONS

FM SECTION
TUNING RANGE ..... 88 to 108 MHz
SENSITIVITY (IHF) ..... 1.5 μV
(DIN) ..... 0.9 μV
QUIETING SLOPE
STEREO : WIDE ..... 39dB (10 μV), 53dB (50 μV)
NARROW ..... 40dB (10 μV), 54dB (50 μV)
MONO : WIDE ..... 61dB (10 μV), 73dB (50 μV)
NARROW ..... 61dB (10 μV), 73dB (50 μV)
TOTAL HARMONIC DISTORTION
STEREO : WIDE ..... less than 0.08% (1 kHz)
less than 0.1% (50 Hz)
less than 0.15% (10 kHz)
NARROW ..... less than 0.8% (1 kHz)
less than 0.8% (50 Hz)
less than 1.2% (10 kHz)
MONO : WIDE ..... less than 0.06% (1 kHz)
NARROW ..... less than 0.5% (1 kHz)
SIGNAL TO NOISE RATIO
..... better than 76dB (stereo)
better than 80dB (mono)
SELECTIVITY
WIDE ..... better than 55dB (400 kHz)
better than 5dB (200 kHz)
NARROW ..... better than 90dB (400 kHz)
better than 20dB (200 kHz)
CAPTURE RATIO
WIDE ..... less than 1.0dB
NARROW ..... less than 3.0dB
AM SUPPRESSION ..... better than 58dB
IMAGE REJECTION ..... better than 100dB (98 MHz)
IF REJECTION ..... better than 110dB (98 MHz)
SPURIOUS REJECTION ..... better than 110dB (98 MHz)
SPURIOUS RADIATION ..... less than 34dB

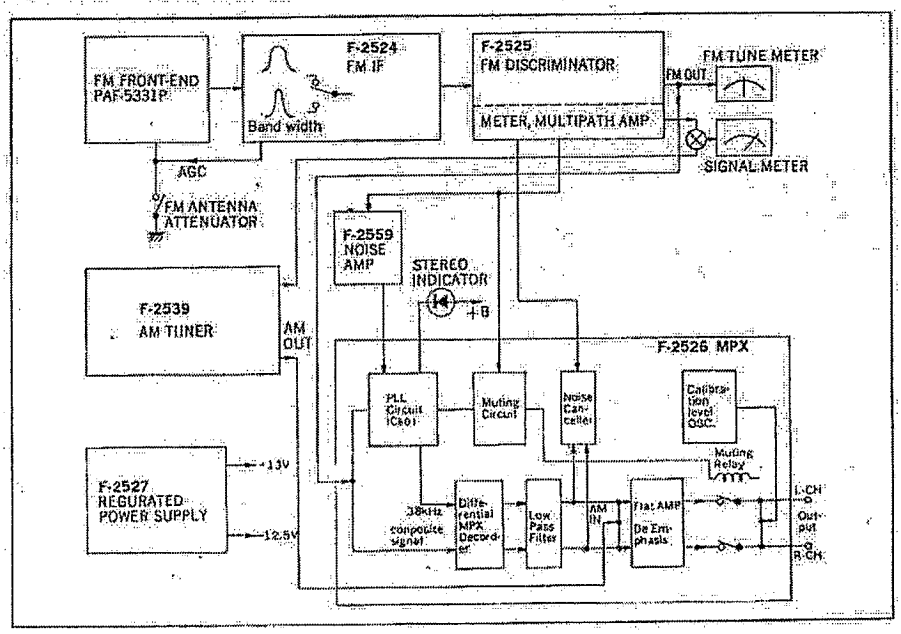
STEREO SEPARATION
WIDE ..... better than 50dB (1 kHz)
NARROW ..... better than 30dB (1 kHz)
FREQUENCY RESPONSE ..... 30 to 15,000 Hz $^{+0.5}_{-0.8}$ dB
ANTENNA INPUT IMPEDANCE
..... 75Ω unbalanced
300Ω balanced
ANTENNA ATTENUATOR 30dB

AM SECTION
TUNING RANGE ..... 535 to 1,605 kHz
SENSITIVITY (Bar antenna) ..... 45dB/m (1,000 kHz)
SELECTIVITY ..... better than 70dB (1,000 kHz)
IMAGE REJECTION ..... better than 100dB/m (1,000 kHz)
IF REJECTION ..... better than 100dB/m (1,000 kHz)

OTHERS
OUTPUT LEVEL
OUTPUT ..... 0 to 1V
DOLBY FM 0.4V
POWER REQUIREMENTS 100, 120, 220, 240V 50/60Hz
120V (Usable 110-130V), 60Hz (For U.S.A. & Canada only)
POWER CONSUMPTION ..... 20W (rated)
DIMENSIONS ..... 460mm (18-1/8") W
160mm (6-5/16") H
310mm (12-1/4") D
WEIGHT ..... 9.6 kg (21.2 lbs) net
11.3 kg (24.9 lbs) packed

*Design and specifications subject to change without notice for improvements.

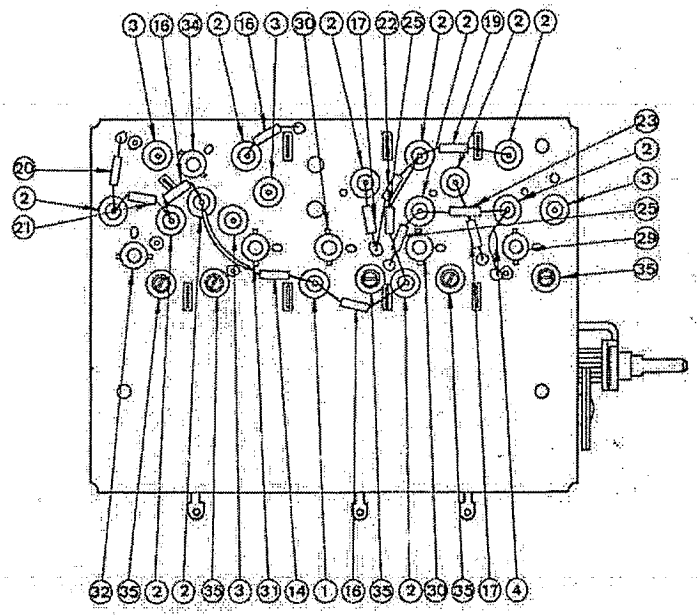
2. BLOCK DIAGRAM



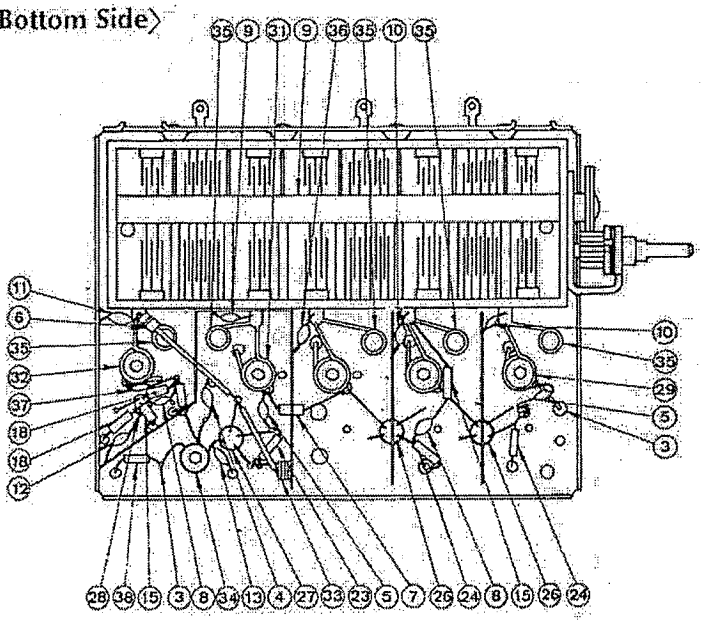
3. PARTS LOCATION AND PARTS LIST

3-1. PA5331P FM FRONT-END PACK (Stock No. 7510701)

〈Top Side〉



〈Bottom Side〉



Parts List 〈Top, Bottom Side〉

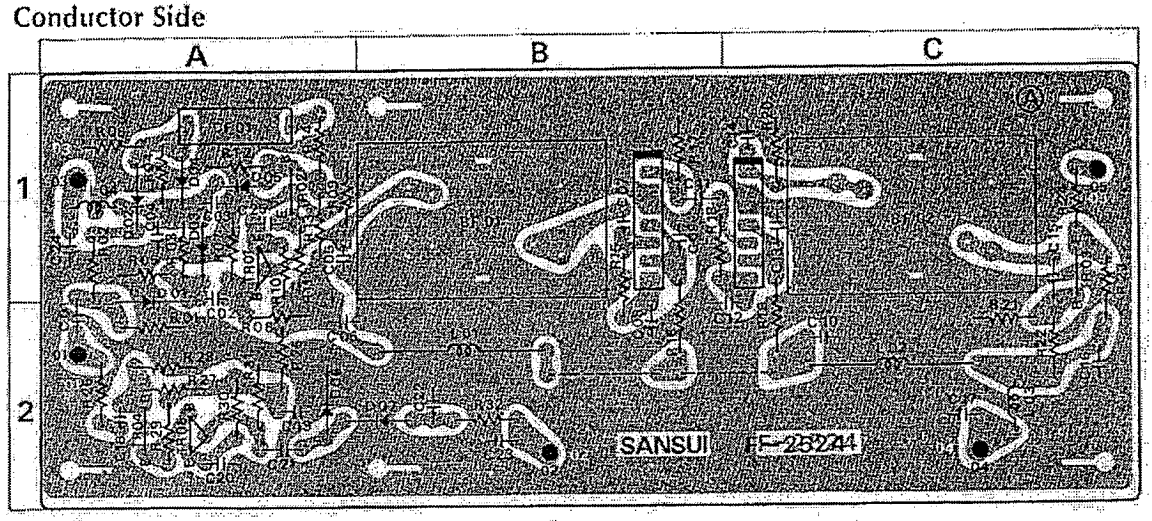
Position	Parts No.	Stock No.	Description
㉘	TR01	0305802	2SC1947 C Transistor
㉙	FT01	0370131	3SK41
㉚	FT02	0370131	3SK41 FET
㉛	FT03	0370160	3SK39
⑮	C01	0669272	12pF
⑯	C02	0657102	1000pF
⑰	C03	0659510	1000pF
㉒	C04	0659510	1000pF
	C05	0659510	1000pF
①	C06	0657223	22000pF
③	C07	0659510	1000pF 50V C.C.
⑤	C08	0669344	8.2pF
⑫	C09	0669272	12pF
	C10	0659510	1000pF
⑦	C11	0659510	1000pF
	C12	0659510	1000pF
⑨	C13	0659511	2000pF
⑩	C14	0679020	3.3pF 500V C.C.
⑪	C15	0669275	15pF
⑬	C16	0657102	1000pF
⑭	C17	0669275	15pF
⑱	C18	0659510	1000pF
⑲	C19	0669224	33pF
⑳	C20	0657223	22000pF
㉑	C21	0659510	1000pF 50V C.C.
㉓	C22	0669221	22pF
㉔	C23	0669344	8.2pF
㉖	C24	0659510	1000pF
	C25	0659510	1000pF
㉗	C26	0669225	39pF
㉛	C27	0669280	20pF
㉜	C28	0679008	1.0pF 500V C.C.
	C29	0659510	1000pF 50V C.C.
	C30	0512100	10μF 10V E.C.
㉝	R01	0110124	120kΩ
㉞	R02	0110104	100kΩ
㉟	R04	0110105	1MΩ
㊱	R05	0110222	2.2kΩ
㊲	R06	0110105	1MΩ
㊳	R07	0110333	33kΩ
㊴	R08	0110220	22Ω
㊵	R09	0110124	120kΩ
㊶	R11	0110121	120Ω
㊷	R12	0110270	27Ω
㊸	R13	0110104	100kΩ 1/4W S.R.
㊹	R14	0110121	120Ω
㊺	R15	0110391	390Ω
㊻	R16	0110272	2.7kΩ
㊼	R17	0113472	4.7kΩ
㊽	R18	0113822	8.2kΩ
㊾	R19	0110220	22Ω
㊿	R20	0110272	2.7kΩ
(51)	R21	0110121	120Ω
(52)	R22	0110470	47Ω
(53)	L01	4200340	Antenna Coil
(54)	L02	4210070	
	L03	4210070	RF Coil
(55)	L04	4210210	
(56)	L05	4220170	OSC Coil
(57)	L06	4290070	Choke Coil
(58)	L07	4235740	IF Coil
(59)	VC01	1220240	AM-FM Variable Capacitor
(60)	TC01	1230080	
	TC02	1230080	
	TC05	1230080	Trimmer
	TC04	1230080	
	TC05	1230080	
		0659507	1.5pF 50V C.C.

Abbreviations

C.R.	: Carbon Resistor	BP.E.C.	: Bi-Polar Electrolytic Capacitor
S.R.	: Solid Resistor	C.C.	: Ceramic capacitor
Ce.R.	: Cement Resistor	MI.C.	: Mica Capacitor
M.R.	: Metallized Film Resistor	O.C.	: Oil Capacitor
M.C.	: Mylar Capacitor	P.C.	: Polystyrene Capacitor
E.C.	: Electrolytic Capacitor	T.C.	: Tantalum Capacitor

3-2. F-2524 FM IF Circuit Board (Stock No. 7521121 Complete Circuit Board F-2524)

Conductor Side



Parts List

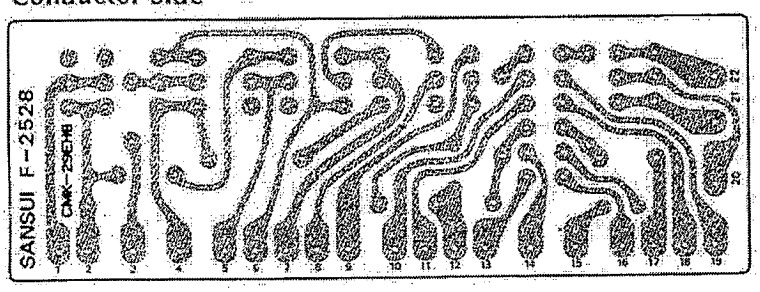
Parts No.	Stock No.	Description		Position
TRo1	0306349, 1	2SC1674 (M, L)	Transistor	1A
TRo2	0306349, 1	2SC1674 (M, L)		1A
TRo3	0305792	2SC930 (E)		1, 2C
	0306349, 1	2SC1674 (M, L)		
TRo4	0305792	2SC930 (E)		2A
	0306349-9	2SC1674 (M, L, K)		
TRo5	0305792	2SC930 (E)		2A
	0306349-2	2SC1674 (M)		
ICo1	0360120	FC555H	IC	
ICo2	0360120	FC555H		
Do1	0310401	1N34A	Diode	1A
Do2	0310401	1N34A		1A
Do3	0311160	1S2473D		1A
	0311180	1S1588		
Do4	0311160	1S2473D		1A
	0311180	1S1588		
Do5	0311160	1S2473D		1A
	0311180	1S1588		
Do6	0310330, 1	1N60		2A
Do7	0310330, 1	1N60		2B
Co1	0657103	10000pF	50V C.C.	1, 2A
Co2	0657223	22000pF		2A
Co3	0657223	22000pF		1A
Co4	0657223	22000pF		1A
Co5	1230050		Trimmer Capacitor	1A
Co6	0657223	22000pF	50V C.C.	2A, B
Co7	0657103	10000pF		1B
Co8	0657223	22000pF		2B

Parts No.	Stock No.	Description		Position
Co9	0657223	22000pF	50V C.C.	1B
Co10	0657223	22000pF		1C
Co11	0657103	10000pF		1B
Co12	0657223	22000pF		2B, C
Co13	0657223	22000pF		1C
Co14	1230050		Trimmer Capacitor	1C
Co15	0657103	10000pF	50V C.C.	1C
Co16	0657223	22000pF		2C
Co17	0657223	22000pF		2C
Co18	0660100	10pF		2A
Co19	0657223	22000pF		2A
Co20	0657223	22000pF		2A
Co21	0657103	10000pF		2A
Co22	0657223	22000pF		2B
Co23	0657223	22000pF		2B
Co24	0657223	22000pF		1A
Co25	0620471	470pF	50V P.C.	1A
Ro1	0113109	1.04Ω	½W C.R.	2A
Ro2	0113181	180Ω		1A
Ro3	0113152	1.5kΩ		1A
Ro4	0113152	1.5kΩ		1A
Ro5	0113103	10kΩ		1A
Ro6	0113103	10kΩ		1A
Ro7	0113582	5.6kΩ		1A
Ro8	0113182	1.8kΩ		2A
Ro9	0113102	1.0kΩ		1A
Ro10	0113271	270Ω		1A
Ro11	0113122	1.2kΩ		1A
Ro12	0113569	5.6kΩ		1A

Parts No.	Stock No.	Description		Position
Ro13	0113182	1.8kΩ	½W C.R.	1A
Ro14	0113470	47Ω		1A
Ro15	0113681	680Ω		1B
Ro16	0113220	22Ω		2B
Ro17	0113102	1.0kΩ		1B
Ro18	0113122	1.2kΩ		1B
Ro19	0113220	22Ω		1, 2C
Ro20	0113102	1.0kΩ		1C
Ro21	0113152	1.5kΩ		2C
Ro22	0113122	1.2kΩ		2C
Ro23	0113222	2.2kΩ	½W S.R.	1, 2C
Ro24	0113680	68Ω		1C
Ro25	0113101	100Ω		2A
Ro26	0113472	4.7kΩ		2A
Ro27	0113392	3.9kΩ		2A
Ro28	0113152	1.5kΩ		2A
Ro29	0113222	2.2kΩ		2A
Ro30	0113681	680Ω		2A
Ro31	0113102	1.0kΩ		2A
Ro32	0113154	150kΩ		2B
Ro33	0113223	22kΩ		
Lo1	4250011	Choke Coil		2B
Lo2	4250011	Choke Coil		2C
Lo3	4900298	Inductor		2C
Lo4	4900298	Inductor		1A
CFo1	8910328	Ceramic Filter		1A
IFo1	4235960	IF Coil		1B
IFo2	4235960	IF Coil		1C

3-3. F-2528 Switch Circuit Board (Stock No. 7592781 Complete Circuit Board F-2528)

Conductor Side

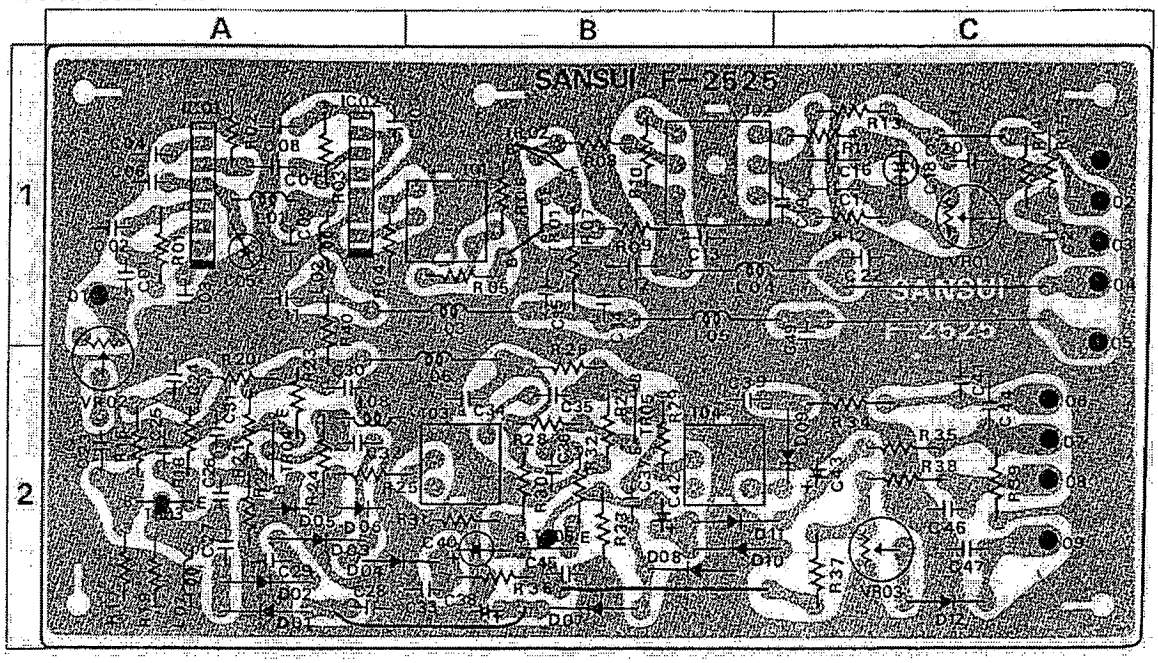


Parts List

Parts No.	Stock No.	Description	
Ro1	0113182	1.8kΩ	½W C.R.
Ro2	0113101	100Ω	
Ros.04	0113102	1.0kΩ	
Ros.06	0113183	18kΩ	½W S.R.
Ro7	0113470	47Ω	
Ro8	0113681	680Ω	
So1	1131130	Push Switch	

3-4. F-2525 FM Discriminator Circuit Board (Stock No. 7521131 Complete Circuit Board F-2525)

Conductor Side



Parts List

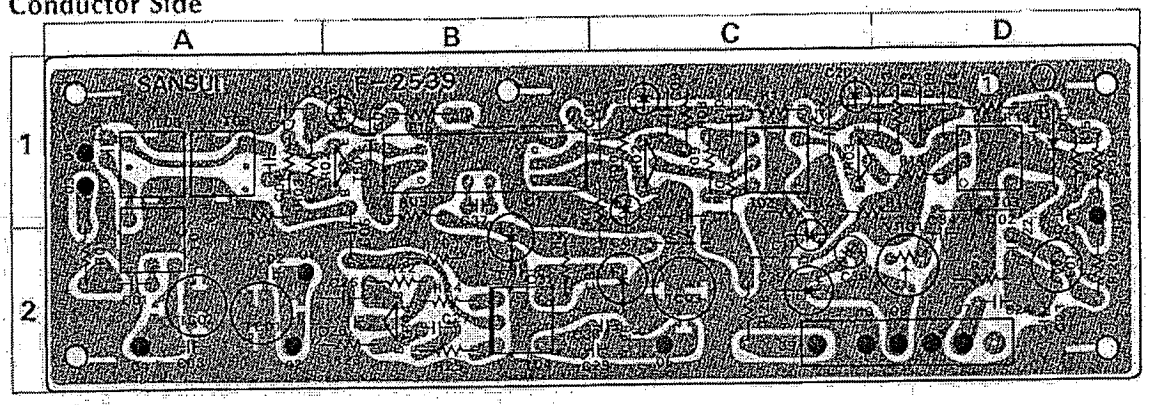
Parts No.	Stock No.	Description	Position
TRc1	0306309	2SC1360	1 B
TRc2	0306309	2SC1360	1 B
TRc3	0306349, 1	2SC1674 (M, L)	2 A
TRc4	0306349, 1	2SC1674 (M, L)	2 A
TRc5	0306349, 1	2SC1674 (M, L)	2 B
	0305316	2SC458LG (B)	
TRc6	0305931-3	2SC945 (O, P, K)	2 B
	0306131-3	2SC1364 (6, 7, 8)	
ICc1	0260270	μPC1577H IC	1 A
ICc2	0260120	μPC555H IC	1 A
Dc1	0310330, 1	1N60	2 A
Dc2	0310330, 1	1N60	2 A
Dc3	0310330, 1	1N60	2 A
Dc4	0310330, 1	1N60	2 A
Dc5	0311160	1S2473D	2 A
	0311160	1S1588	
	0311160	1S2473D	
Dc6	0311160	1S1588 Diode	2 A
Dc7	0310330, 1	1N60	2 B
Dc8	0310330, 1	1N60	2 B
Dc9	0310330, 1	1N60	2 C
Dc10	0310331	1N60	2 B, C
Dc11	0310331	1N60	2 B, C
Dc12	0311160	1S2473D	2 C
	0311160	1S1588	
Cc1	0657103	10000pF	1 A
Cc2	0657223	22000pF	1 A
Cc3	0657223	22000pF 50V C.C.	1 A
Cc4	0657223	22000pF	1 A
Cc5	0512105	1μF 12V E.C.	1 A
Cc6	0657223	22000pF	1 A
Cc7	0657103	10000pF	1 A
Cc8	0657223	22000pF	1 A
Cc9	0657223	22000pF	1 A
Cc10	0657223	22000pF	1 A
Cc11	0657223	22000pF 50V C.C.	1 A
Cc12	0657223	22000pF	1 B
Cc13	0657223	22000pF	1 B
Cc14	0657223	22000pF	1 B
Cc15	0657223	22000pF	1 B
Cc16	0657223	22000pF	1 B
Cc17	0660221	220pF	1 C
Cc18	0660221	220pF	1 C

Parts No.	Stock No.	Description	Position
Cc19	0532100	10μF 16V E.C.	1 C
Cc20	0660470	47pF	1 C
Cc21	0660101	100pF	1 C
Cc22	0657223	22000pF	1 C
Cc23	0657223	22000pF 50V C.C.	1 C
Cc24	0657103	10000pF	2 A
Cc25	0657223	22000pF	2 A
Cc26	0657223	22000pF	2 A
Cc27	0620101	100pF 50V P.C.	2 A
Cc28	0669224	33pF	2 A
Cc29	0657223	22000pF	2 A
Cc30	0660221	220pF	2 A
Cc31	0657223	22000pF	2 A
Cc32	0657223	22000pF 50V C.C.	2 A
Cc33	0669224	33pF	2 A
Cc34	0660221	220pF	2 B
Cc35	0657223	22000pF	2 B
Cc36	0620101	100pF 50V P.C.	2 B
Cc37	0657223	22000pF	2 B
Cc38	0669224	33pF 50V C.C.	2 B
Cc39	0512100	10μF 16V E.C.	2 B
Cc40	0657223	22000pF 50V C.C.	2 B
Cc41	0515109	1μF 50V E.C.	2 B
Cc42	0657223	22000pF 50V C.C.	2 C
Cc43	0514339	3.3μF 35V E.C.	2 B
Cc44	0514339	3.3μF	2 B
Cc45	0657223	22000pF	2 C
Cc46	0657223	22000pF	2 B
Cc47	0657223	22000pF 50V C.C.	2 C
Cc48	0657223	22000pF	2 C
Cc49	0657223	22000pF	1, 2 C
Rc1	0113102	1.0kΩ	1 A
Rc2	0113102	1.0kΩ	1 A
Rc3	0113102	1.0kΩ	1 A
Rc4	0113472	4.7kΩ ¼W S.R.	1 A
Rc5	0113101	100Ω	1 B
Rc6	0113821	820Ω	1 B
Rc7	0201393	390Ω 1W C.R.	1 B
Rc8	0113330	33Ω	1 B
Rc9	0113330	33Ω	1 B
Rc10	0113821	820Ω	1 B
Rc11	0113122	1.2kΩ ¼W S.R.	1 C
Rc12	0113122	1.2kΩ	1 C
Rc13	0113101	100Ω	1 C

Parts No.	Stock No.	Description	Position
Rc14	0113223	22kΩ	1 C
Rc15	0113472	4.7kΩ	2 A
Rc16	0113153	15kΩ	2 A
Rc17	0113681	680Ω	2 A
Rc18	0113222	2.2kΩ	2 A
Rc19	0113220	22Ω	2 A
Rc20	0113472	4.7kΩ	2 A
Rc21	0113153	15kΩ	2 A
Rc22	0113102	1.0kΩ	2 A
Rc23	0113681	680Ω	2 A
Rc24	0113122	1.2kΩ	2 A, B
Rc25	0113472	4.7kΩ	2 B
Rc26	0113153	15kΩ ¼W S.R.	2 B
Rc27	0113681	680Ω	2 B
Rc28	0113471	470Ω	2 B
Rc29	0113103	10kΩ	2 B
Rc30	0113823	82kΩ	2 B
Rc31	0113471	470Ω	2 B
Rc32	0113332	3.3kΩ	2 B
Rc33	0113222	2.2kΩ	2 C
Rc34	0113222	2.2kΩ	2 C
Rc35	0113562	5.6kΩ	2 B
Rc37	0113222	2.2kΩ	2 C
Rc38	0113272	2.7kΩ	2 C
Rc40	0113220	22Ω	1, 2 A
Lc1	4900200	Inductor	1 A
Lc2	4900200	Inductor	1 A
Lc3	4290011		1 A, B
Lc4	4290011	Choke Coil	1 B, C
Lc5	4290011		1 B, C
Lc6	4290011		2 A, B
Lc7	4900200	Inductor	2 A
Lc8	4900200	Inductor	2 A, B
Tc1	4235860		1 B
Tc2	4233980		1 B
Tc3	4235940	FM IF Coil 10.7MHz	2 B
Tc4	4235940		2 B
VRc1	1035130	10kΩ (B)	1 C
VRc2	1035130	10kΩ (B) Volume	1, 2 A
VRc3	1035170	10kΩ (B)	2 C
	2410590	4P Pin Ass'y Type D	

3-5. F-2539 AM IF Circuit Board (Stock No. 7530281 Complete Circuit Board F-2539)

Conductor Side



Parts List

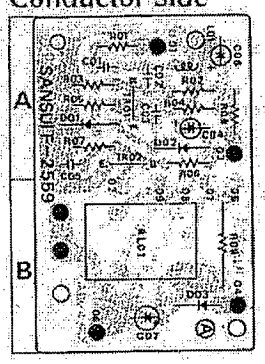
Parts No.	Stock No.	Description	Position
TRa1	0306241, 2	2SC1675 (L, K) Transistor	1B
TRa2	0306241, 2	2SC1675 (L, K) Transistor	1C
TRa3	0306131, 2	2SC1364 (L, K) Transistor	1C
TRa4	0306241, 2	2SC1675 (L, K) Transistor	2B
Da1	0310330, 1	1N60 Diode	1D
Da2	0310330, 1	1N60 Diode	1D
Ca1	0660221	220pF	2A
Ca2	0669270	10pF 50V C.C.	2A
Ca3	0669270	10pF 50V C.C.	2A
Ca4	0657223	22000pF	1A
Ca5	0601477	0.047μF 50V M.C.	1, 2B
Ca6	0657473	47000pF 50V C.C.	1B
Ca7	0515109	1μF 50V E.C.	1, 2C
Ca8	0657473	47000pF	1C
Ca9	0657473	47000pF 50V C.C.	1C
Ca10	0657473	47000pF	1C
Ca11	0515109	1μF 50V E.C.	2C
Ca12	0657473	47000pF 50V C.C.	1C
Ca13	0601827	0.082μF 50V M.C.	1D
Ca14	0657473	47000pF 50V C.C.	1D
Ca15	0601127	0.012μF 50V M.C.	1D
Ca16	0515109	1μF 50V E.C.	1B
Ca17	0657473	47000pF 50V C.C.	1A
Ca18	0513479	4.7μF 25V E.C.	1C
Ca19	0657473	47000pF 50V C.C.	1D
Ca20	0513479	4.7μF 25V E.C.	1C
Ca21	0601276	0.0027μF	1, 2D
Ca22	0601107	0.01μF 50V M.C.	2D
Ca23	0601276	0.0027μF	2D

Parts No.	Stock No.	Description	Position
Ca24	0601227	0.022μF 50V M.C.	2D
Ca25	0657473	47000pF 50V C.C.	2B
Ca26	0660100	10pF	2B
Ca27	0601107	0.01μF 50V M.C.	2B
Ca28	0669281	22pF 50V C.C.	2C
Ca29	0669289	20pF	2B, C
Ca30	0620431	430pF 50V P.C.	2C
Ca31	0657473	47000pF 50V C.C.	2B
Ca32	0512470	47pF 16V E.C.	2C
Ca33	0512100	10μF	2B
Ca34	0601474	0.0047μF 50V M.C.	2D
Ca35	0610101	100pF 6.3V E.C.	2C
Ca36	0610101	100pF	2C
Ca37	0657473	47000pF 50V C.C.	1, 2C
Ra1	0113101	100Ω	2A
Ra2	0113103	10kΩ	1B
Ra3	0113220	22Ω	1A
Ra4	0113102	1.0kΩ	2A
Ra5	0113221	220Ω	1B
Ra6	0113322	3.3kΩ	1C
Ra7	0113104	100kΩ	1, 2C
Ra8	0113102	1.0kΩ	1C
Ra9	0113333	33kΩ ¼W S.R.	1C
Ra10	0113221	220Ω	1C
Ra11	0113393	39kΩ	1D
Ra12	0113682	6.8kΩ	1C
Ra13	0113151	150Ω	1D
Ra14	0113331	330Ω	1D
Ra15	0113103	10kΩ	1D
Ra16	0113222	2.2kΩ	1B
Ra17	0113222	2.2kΩ	1C

Parts No.	Stock No.	Description	Position
Ra18	0113153	15kΩ	1D
Ra19	0113103	10kΩ	1D
Ra20	0113103	10kΩ	2D
Ra21	0113103	10kΩ	2D
Ra22	0113334	330kΩ	2B
Ra23	0113102	1.0kΩ ¼W S.R.	2A, B
Ra24	0113561	560Ω	2B
Ra25	0113100	10Ω	2B
Ra26	0113101	100Ω	2B
Ra27	0113332	3.3kΩ	2B
Ra28	0113470	47Ω	2C
Ra29	0103122	1.2kΩ ½W S.R.	
La1	4200220	Inductor 100M	2D
Lan1	4200540	Bar Antenna 230μH	
Te1	4210100	IF Coil	1, 2A
Te2	4230610	IF Coil 455kHz	1C
Te3	4230500	IF Coil 455kHz	1D
Te4	4220450	OSC Coil 115μH	2B
CFa1	0910310	Ceramic Filter 455kHz	1B
VRa1	1035170	47kΩ B Volume	2C
TCa1	1230060	Trimmer Condenser	2A
TCa2	1230060	Trimmer Condenser	2A
TCa3	1230060	Trimmer Condenser	2C
	2260010	Test pin	
	2410570	5P pin Ass'y type D	

3-6. F-2559 MPX Noise AMP. Circuit Board (Stock No. 7540781 Complete Circuit Board F-2559)

Conductor Side



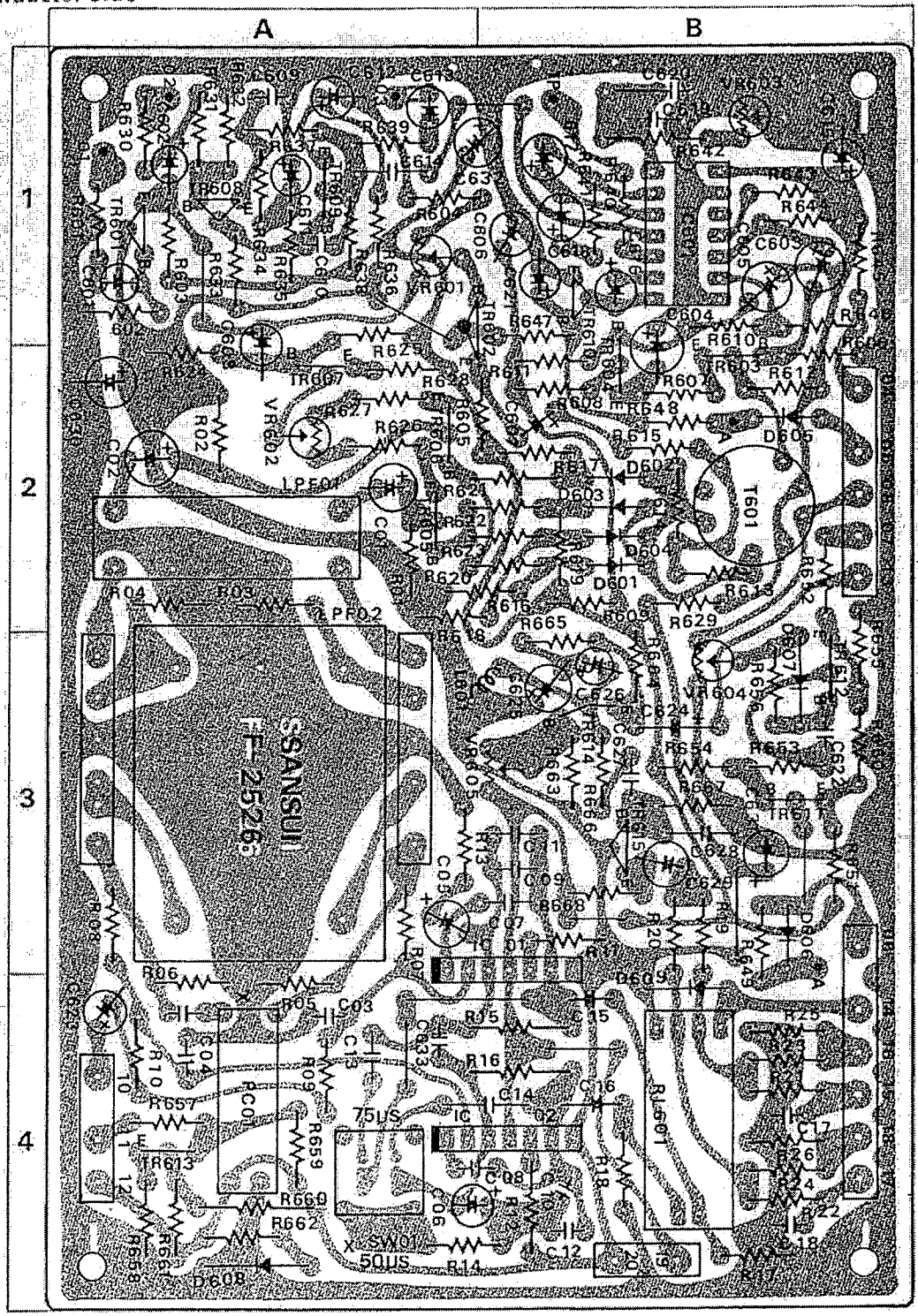
Parts List

Parts No.	Stock No.	Description	Position
TRa1	0306310	2SC458LG (B)	A
	0305951-3	2SC945 (O, P, Q)	
	0306131-3	2SC1364 (L, K, O)	
TRa2	0306310, 1	2SA733 (P, Q)	A
Da1	0310400	1N34A Diode	A
	0310810	5D46 (9)	
Da2	0310400	1N34A Diode	A
	0310810	5D46 (9)	
Da3	0310880	1SD 05	B
Ca1	0660221	220pF	A
Ca2	0660221	220pF 50V C.C.	A
Ca3	0657102	1000pF	A
Ca4	0519105	2.2μF 50V E.C.	A
Ca5	0657102	1000pF 50V C.C.	A
Ca6	0515109	1μF 50V E.C.	A
Ca7	0511470	47μF 10V E.C.	B

Parts No.	Stock No.	Description	Position
Ra1	0113103	10kΩ	A
Ra2	0113104	100kΩ	A
Ra3	0113153	15kΩ	A
Ra4	0113222	2.2kΩ ¼W S.R.	A
Ra5	0113471	470Ω	A
Ra6	0113103	10kΩ	A
Ra7	0113273	27kΩ	A
Ra8	0113470	47Ω	A
Ra9	0103151	150Ω ½W C.R.	B
La1	4950090	Inductor	A
	2260010	Test Pin	
	2410570	5P Pin Ass'y Type D	

3-7. F-2526 FM MPX Circuit Board (Stock No. 7540771 Complete Circuit Board F-2526)

Conductor Side



Parts List

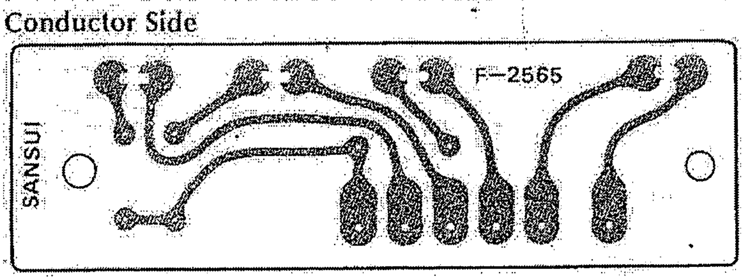
Parts No.	Stock No.	Description		Position
TR601	0306091, 2	2SC1312R (G, H)	Transistor	1A
TR602	0306091, 2	2SC1312R (G, H)		1, 2A B
TR603	0306371, 2	2SC1175 (E, F)		2B
TR604	0300510, 1	2SA733 (P, Q)		1, 2B
TR605	0306091, 2	2SC1312R (G, H)		2A
TR606	0306091, 2	2SC1312R (G, H)		2A
TR607	0306091, 2	2SC1312R (G, H)		2A
TR608	0305310 / 0305951-3 / 0306131-3	2SC458LG (B) / 2SC945 (Q, P, X) / 2SC1364 (6)		1A
TR609	0300510, 1	2SA733 (P, Q)		1A
TR610	0306132, 3	2SC1364 (7, 8)		1B
TR611	0305952, 3 / 0306132, 3	2SC945 (P, X) / 2SC1364 (7, 8)		3B
TR612	0300460 / 0300510, 1	2SA495 (G, Y) / 2SA733 (P, Q)		3B
TR613	0306132, 3	2SC1364 (7, 8)		4A
TR614	0305952 / 0306132	2SC945 (P) / 2SC1364 (7)		3B
TR615	0305951, 2 / 0306131, 2	2SC945 (Q, P) / 2SC1364 (6, 7)		3B
IC601-602	0360250	TA-7136P IC		3,4A8-4A,8
IC603	0360300	HA1156W IC		
D601	0311160 / 0311180	1S2473D / 1S1588	Diode	2B
D602	0311160 / 0311180	1S2473D / 1S1588		2B
D603	0311160 / 0311180	1S2473D / 1S1588		2B
D604	0311160 / 0311180	1S2473D / 1S1588		2B
D605	0311160 / 0311180	1S2473D / 1S1588		2B
D606	0310400, 1	1N34A		3B
D607	0310400, 1	1N34A		4A
D608	0310880	10D 05		2B
PC601	0920060	Photo cell lamp		4A
C01, 02	0519104	1.5μF 50V E.C.		2A
C03, 04	0660221	22pF 50V C.C.		4A
C05, 06	0511470	47μF 10V E.C.		3A-4A, B
C07, 08	0660560	56pF 50V C.C.		3B-4, AB
C09, 10	0620102	1000pF 50V P.C.		3B-4B
C11, 12	0620821	820pF 50V P.C.		4A-4A, B
C13, 14	0532100	10μF 16V E.C.		4B
C17, 18	0601226	0.0027μF 50V M.C.		4B
C19, 20	0660101	100pF 50V C.C.		
C601	0532100	10μF 16V E.C.		1A
C602	0512100	10μF 16V E.C.		1A
C603	0515109	1μF 50V E.C.		1B
C604	0512100	10μF 16V E.C.		1B
C605	0512330	33μF 16V E.C.		1B
C606	0512330	33μF 16V E.C.		1B
C607	0512100	10μF 16V E.C.		2B
C608	0512330	33μF 16V E.C.		1, 2A
C609	0620681	680pF 50V P.C.		1A
C610	0660220	22pF 50V C.C.		1A
C611	0513479	4.7μF 25V E.C.		1A
C612	0512100	10μF 16V E.C.		1A
C613	0535109	1μF 50V E.C.		1A

Parts No.	Stock No.	Description		Position
C614	0601337	0.033μF 50V M.C.		1A
C615	0512330	33μF 16V E.C.		1B
C616	0519107	0.22μF 50V E.C.		1B
C617	0519101	1μF 50V E.C.		1B
C618	0519103	2.2μF 50V E.C.		1B
C619	0620471	470pF 50V P.C.		1B
C621	0513479	4.7μF 25V E.C.		1B
C622	0657103	10000pF 50V C.C.		3B
C623	0512100	10μF 16V E.C.		4A
C624	0512100	10μF 16V E.C.		3B
C625	0573109	1.0μF 35WV E.C.		3B
C626	0573478	0.47μF 35WV E.C.		3B
C627	0601477	0.047μF 50V M.C.		3B
C628	0601396	0.0039μF 50V M.C.		3B
C629	0532100	10μF 16V E.C.		3B
C630	0512100	10μF 16V E.C.		2A
C631	0512100	10μF 16V E.C.		3B
C632	0512221	220μF 16V E.C.		1A, B
C634	0601227	0.022μF 50V M.C.		
C635	0512100	10μF 16V E.C.		
C919, 920	0600396	0.0039μF 50V M.C.		
R01, 02	0113472	4.7kΩ	1/4W S.R.	2A
R03, 04	0113103	10kΩ		2A
R05, 06	0113472	4.7kΩ		4A
R07, 08	0113273	27kΩ		3A
R09, 10	0113473	47kΩ		4A
R11, 12	0113223	22kΩ		3B-4B
R13, 14	0113272	2.7kΩ		3A, 4A, B
R15, 16	0113473	47kΩ		4A, B
R17, 18	0113104	100kΩ		4B
R19, 20	0113333	33kΩ		3B
R21, 22	0113331	330Ω		4B
R23, 24	0113223	22kΩ		4B
R25, 26	0113103	10kΩ		4B
R601	0113102	1.0kΩ		1A
R602	0113104	100kΩ		1A
R603	0113332	3.3kΩ		1A
R604	0113103	10kΩ		1A, B
R605	0113392	3.9kΩ		2B
R606	0113472	4.7kΩ		2B
R607	0113330	33Ω		2B
R608	0113331	330Ω		2B
R609	0113470	47Ω		2B
R610	0113153	15kΩ		1B
R611	0113223	22kΩ		2B
R612	0113471	470Ω		2B
R613	0113122	1.2kΩ		2B
R614	0113122	1.2kΩ		2B
R615	0113680	68Ω		2B
R616	0231104	100kΩ	1/2W M.R.	2A, B
R617	0231104	100kΩ		2B
R618	0231104	100kΩ		2A, B
R619	0231104	100kΩ		2B
R620	0231103	10kΩ		2A, B
R621	0231103	10kΩ		2A, B
R622	0231103	10kΩ		2A, B
R623	0231103	10kΩ		2A, B
R624	0113154	150kΩ	1/4W S.R.	2A
R625	0113563	56kΩ		1A
R626	0113561	560Ω		2A
R627	0113561	560Ω		2A

Parts No.	Stock No.	Description		Position
R628	0113152	1.5kΩ	1/4W S.R.	2A
R629	0113470	47Ω		2B
R630	0113102	1.0kΩ		1A
R631	0113103	10kΩ		1A
R632	0113104	100kΩ		1A
R633	0113103	10kΩ		1A
R634	0113272	2.7kΩ		1A
R635	0113563	56kΩ		1A
R636	0113391	390Ω		1A
R637	0113223	22kΩ		1A
R638	0113332	3.3kΩ		1A
R639	0113102	1.0kΩ		1A
R640	0113473	47kΩ		1B
R641	0113102	1.0kΩ		1B
R642	0107153	15kΩ		1B
R643	0113392	3.9kΩ		1B
R644	0113222	2.2kΩ		1B
R645	0113271	270Ω		1B
R646	0113152	1.5kΩ		1B
R647	0113563	56kΩ		1B
R648	0113472	4.7kΩ		2B
R649	0113223	22kΩ		3, 4B
R650	0113332	3.3kΩ		3B
R651	0113331	330Ω		3B
R652	0113152	1.5kΩ		2B
R653	0113333	33kΩ		3B
R654	0113473	47kΩ		3B
R655	0113151	150Ω		2, 3B
R656	0113473	47kΩ		3B
R657	0113223	22kΩ		4A
R658	0113390	39Ω		4A
R659	0113224	220kΩ		2A
R660	0103561	560Ω	1/2W C.R.	4A
R661	0113561	560Ω	1/4W S.R.	4A
R662	0113561	560Ω		4A
R663	0113563	56kΩ		3B
R664	0113222	2.2kΩ		3B
R665	0113121	120Ω		3B
R666	0113273	27kΩ		3B
R667	0113104	100kΩ		3B
R668	0113472	4.7kΩ		3B
L601	4900220	Inductor		3A, B
T601	4210730	47mH MPX Coil		2B
LF01	0910300	Ceramic Filter BL-14		
LF02	0910290	Ceramic Filter BL-5		
RL601	1150320	Relay Switch		4B
VR601	1035150	22kΩ B	Volume	1A
VR602	1035030	220Ω B		2A
VR603	1034270	10kΩ		1B
VR604	1035170	47kΩ B		3B
VR605	1035170	47kΩ B		3B
S601	1110270	Slide Switch		
	2260810	Test Pin		
	2410570	5P Pin Ass'y Type D		
	2410580	3P Pin Ass'y Type D		
	2410600	6P Pin Ass'y Type D		
	2410650	2P Pin Ass'y Type D		

3-8. F-2565 Indicator Circuit Board (Stock No. 7592801 Complete Circuit Board F-2565)

Conductor Side



Parts List

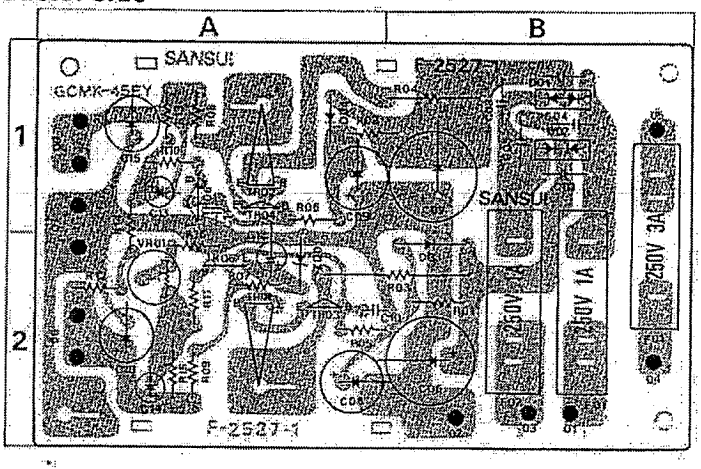
Parts No.	Stock No.	Description	
LD01	0319060	SG2-12C	Light Emitted Diode
LD02, 03	0319050	SG2-13C	
LD04	0319060	SG2-12C	
R01	0113152	1.5kΩ	1/4W S.R.
R02	0113102	1.0kΩ	
R03	0113102	1.0kΩ	

3-9. F-2552 Illumination Circuit Board (Stock No. 7592791 Complete Circuit Board F-2552)

*This F-2552 is only a printed circuit board without any component parts.

3-10. F-2527 Power Supply Circuit Board (Stock No. 7501101 Complete Circuit Board F-2508)

Conductor Side



Parts List

Parts No.	Stock No.	Description	Position
TRo1	0308411(-3	2SD314 (D, E, F)	2A
TRo2	0308411(-3	2SD314 (D, E, F)	1A
TRo3	0305931, 2	2SC945 (Q, P)	2A
	0306131, 2	2SC1364 (L, K)	
TRo4	0300290, 1	2SA562 (O, Y)	1A
	0300510, 1	2SA733 (P, Q)	
TRo5	0306319	2SC458 (LG)(B)	2A
	0306091, 2	2SC1312 (G,H)	
TRo6	0300410, 1	2SA728 (F, G)	1A
	0300450	2SA493 (GR)	

Parts No.	Stock No.	Description	Position
Do1	0310530	1S1858	1B
	0311420	CG8P-2-N	
Do2	0310540	1S1858R	1B
	0311430	CG8P-2-R	
Do3,04	0310880	100 DS	2B, 1A

Parts No.	Stock No.	Description	Position
ZDo1	0315530	RD-6A	2A
	0316390	RD8.2E (B)	
Co1	0657473	47000μF 50V E.C.	1B
Co2	0514471	470μF	2A, B
Co3	0514471	470μF 35V E.C.	1B
Co4	0513221	220μF	2A, B
Co5	0513221	220μF 25V E.C.	1A
Co6	0657103	10000pF	2A, B
Co7	0657103	10000pF 50V C.C.	1A
Co8	0511470	47pF 10V E.C.	1, 2A
Co9	0512100	10μF	1A
Co10	0512100	10μF 16V E.C.	2A
Co11	0512330	33μF	1A
Co12	0512221	220μF	2A
Ro1	0113822	8.2kΩ	2B
Ro2	0113822	8.2kΩ 1/4W S.B.	1A, B
Ro3	0104100	10Ω	2A, B
Ro4	0104479	4.7Ω 1W C.F.	1B
Ro5	0113912	8.2kΩ	2A, B
Ro6	0113822	8.2kΩ	1A
Ro7	0113222	2.2kΩ	2A
Ro8	0113229	2.2Ω	1A
Ro9	0113229	2.2Ω	2A
Ro10	0113471	470Ω	1A
Ro11	0113471	470Ω 1/4W S.B.	2A
Ro12	0113123	12kΩ	2A
Ro13	0113103	10kΩ	1A
Ro14	0113152	1.5kΩ	1, 2A
Ro15	0113562	5.6kΩ	2A
Ro16	0113472	4.7kΩ	2A
VRo1	1035110	4.7kΩ (B)	2A
Fo1, 02	0431222	AC Fuse 1A 250V	1, 2B
Fo3	0431260	AC Fuse 3A 250V	1, 2B
	2310050	F Type Fuse Holder	
	2410650	2P Pin Ass'y Type D	

3-11. Figures

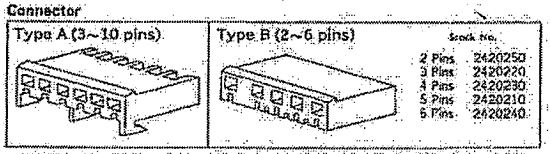
Semiconductor

SEMICONDUCTORS	COMPLETE CIRCUIT BOARD	SEMICONDUCTORS	COMPLETE CIRCUIT BOARD
2SA233 2SC945 2SC1047 2SC1306 2SC1364 2SC1674 2SC1675	F-2506 F-2507 F-2508 FM Pack F-2525 F-2524	2SA493 2SA562	F-2527 F-2526
2SA726 2SC1312	F-2527 F-2526	2SC458	F-2509
2SD938	F-2524	TA7386P	F-2556
2SK30 2SK41	FM Pack	μPC555H μPC577H	F-2525
2SD315	F-2527	HA1156W	F-2526

SEMICONDUCTORS	COMPLETE CIRCUIT BOARD
IN34A IN82	F-2524 F-2525 F-2526 F-2529
10D05	F-2506 F-2527 F-2559
S04S	F-2559
1S1588 1S2473D	F-2524 F-2525 F-2526
RD6A RD6EB	F-2527
1S1850 1S1850R	F-2527

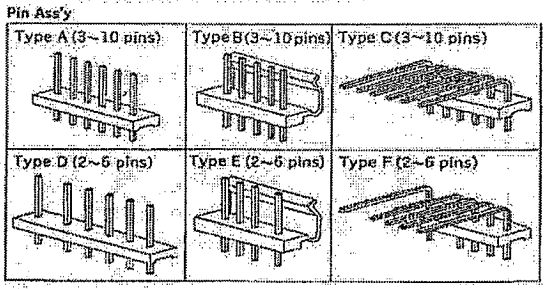
Connector & Pin Ass'y

Connector



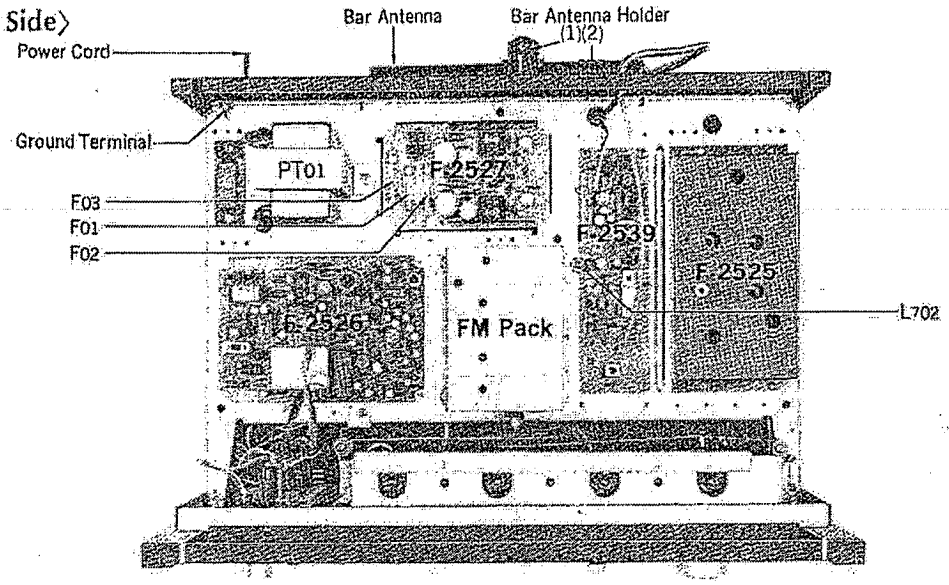
NOTE: Since stock number of famale connectors (type B) with wires are not shown in each parts list of Complete circuit board, please refer to the above parts list when ordering the connector.

Pin Ass'y

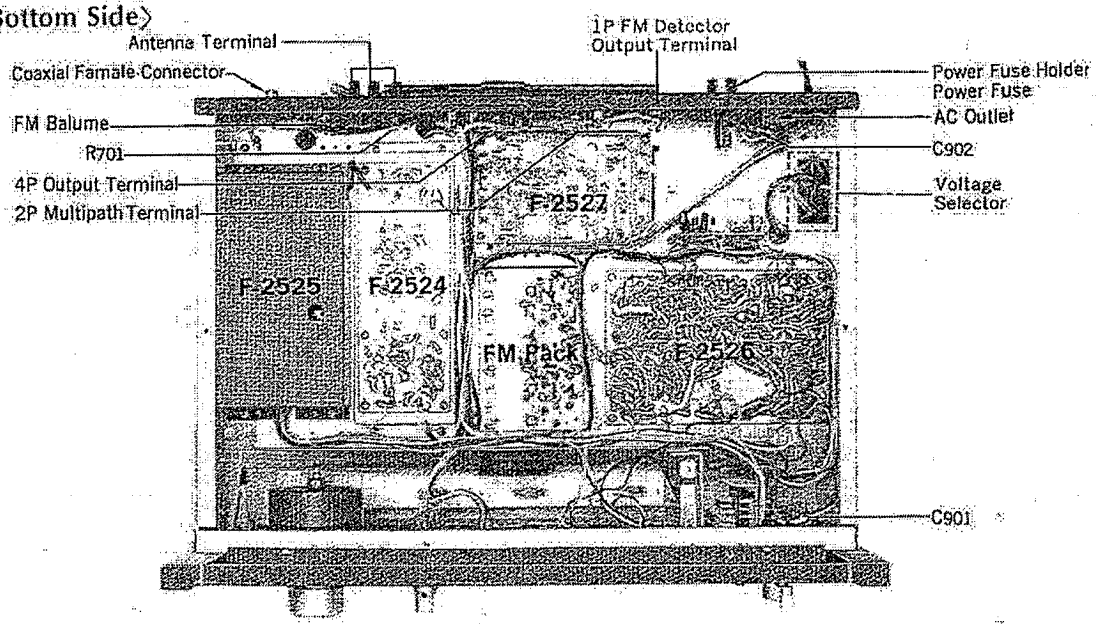


3-12. Other Parts (Top & Bottom Side)

〈Top Side〉



〈Bottom Side〉

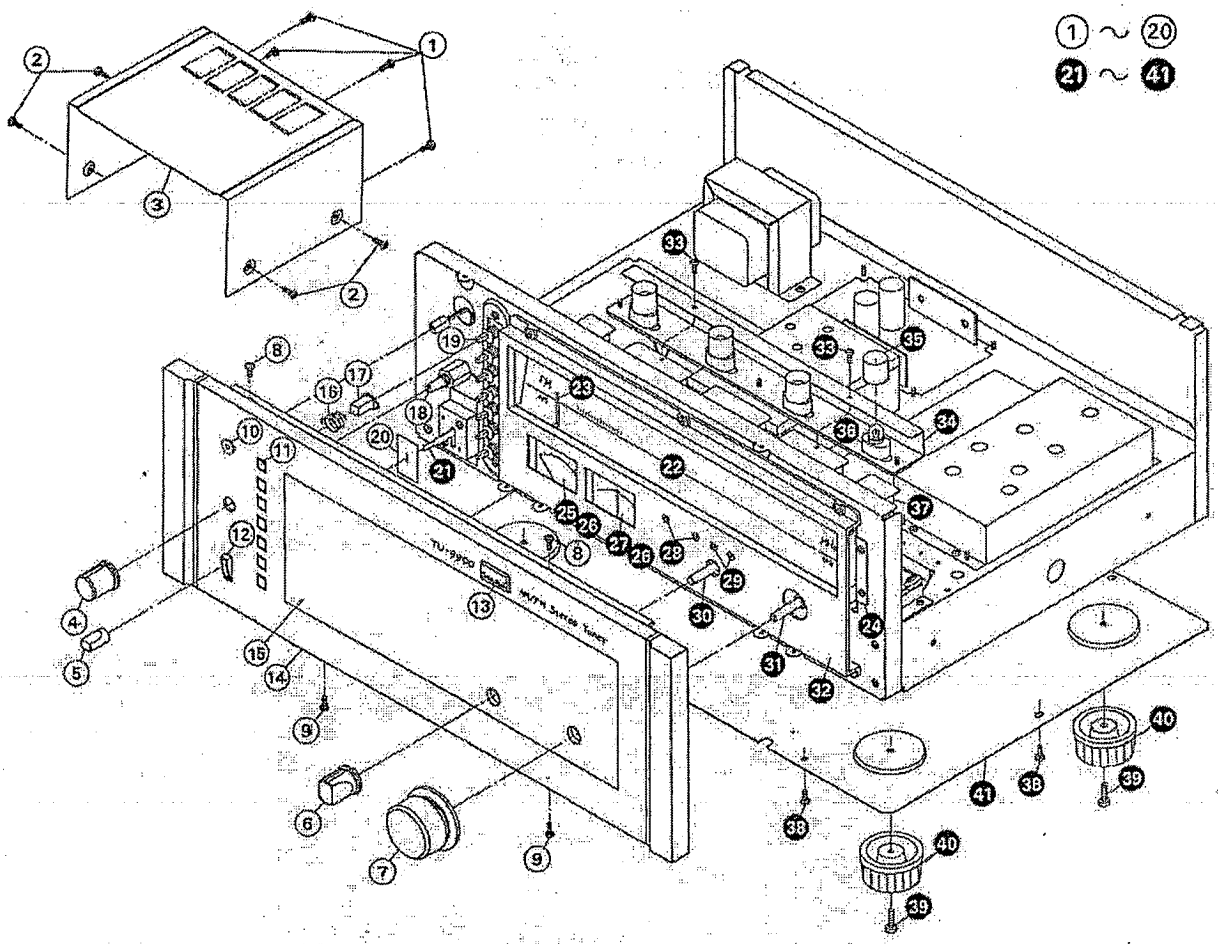


Parts List

Parts No.	Stock No.	Description
COut	2450080	AC Outlet
Lto	4290011	Choke Coil
Cto1	0659801	0.01μF C.C.
Cto2	0659202	0.047μF C.C.
Rto1		1.2kΩ C.R.
	2230051	Ground Terminal
	3800260	Power Cord
	4200540	Bar Antenna
	5266450	Bar Antenna Holder (1)
	5266480	Bar Antenna Holder (2)
PTo1	1902300	Power Transformer

Parts No.	Stock No.	Description
	2410081	Voltage Selector Plug
	2410091	Voltage Selector Socket
Fo1	0431222	1A 250V AC Fuse
Fo2	0431222	1A 250V AC Fuse
Fo3	0431268	3A 250V AC Fuse
	2440020	Coaxial Famale Connector F-P-3C
	4290021	75Ω, 300Ω FM Balun
	2210190	Antenna Terminal
	2260310	4P Output Terminal
	2260350	2P Multipath Terminal
	2260290	1P Detector Out Terminal
	2500060	Fuse Holder, Power
Fo01	0431210	Power Fuse 0.5A 250V

3-13. Other Parts (Front Side)



Parts List

Parts No.	Stock No.	Description
1	5109222	Binding Head Tapping Screw M3×8
2	5101161	Binding Head Screw, M4×6
3	5006490	Bonnet
4	5318251	B-6 Type Knob, Output level volume
5	5326510	E-2 Type Knob, Power Switch
6	5318260	C-6 Type Knob, Selector Switch
7	5318350	O-6 Type Knob, Tuning
8	5109122	Binding Head Tapping Screw, M3×8
9	5109222	Binding Head Tapping Screw, M3×8
10	7726410	Stereo Indicator Ass'y
11	5286720	Knob Guide
12	5286730	Lever Guide
13	5336580	Sansui Mark
14	7007130	Front Panel Ass'y
15	5047850	Smoked Plate
16	6906480	Spring
17	5326530	Push Knob
18	1011080, 1	Output Level Volume, 10kΩ BYZ
19	1131130	Push Knob
20	5047460	Masking, Lever Switch
21	1170330	Lever Switch, Power

Parts No.	Stock No.	Description
22	5407910	Dial Scale
23	5416410	Dial Pointer
24	5026290	Illumination Box
25	4300900	Signal Meter
26	7726040	Meter Lamp Unit (PL05~08)
27	4300890	Tune Meter
28	0319060	L.E.D 01, 04 (Red)
29	0319050	L.E.D 02, 03 (Green)
30	1101690, 1	Selector Switch, F-1-4-3
31	7036460	Tuning Unit
32	5304140	Dial Scale Holder
33	5109122	Binding Head Tapping Screw, M3×8
34	5226140	Lamp Holder
35	5037520	Blue Filter
36	7726130	Lamp Ass'y, 8V 0.3A (PL01~04)
37	5047830	Illumination Plate
38	5109222	Binding Head Tapping Screw, M3×8
39	5101063	Binding Head Screw, M4×10
40	5517050	Leg
41	5058500	Bottom Plate

4. ALIGNMENTS AND ADJUSTMENTS

Abbreviations

Eqnipment

AM FM Generator Oscilloscope	Genescope
AM Standard Signal Generator	AM SSG
FM Standard Signal Generator	FM SSG
FM Stereo Generator	Stereo SG
Oscilloscope	Scope
Audio Oscillator	Audio Osc.
Distortion Meter	Dist. Meter.

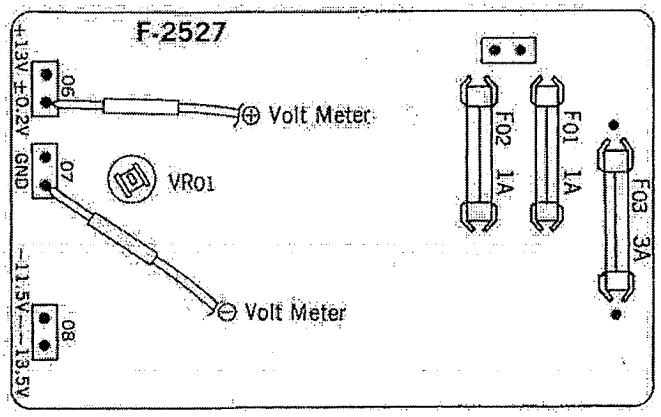
Others

Clockwise	CW.
Counterclockwise	CCW.
Antenna	ANT.
Modulation	MOD.

4-1. Regulated Power Supply Voltage Circuit Board Adjustment

STEP	SUBJECT	EQUIPMENT	MEASURE OUTPUT	ADJUST	ADJUST FOR
1.	Voltage Adj.	DC Volt Meter	06, 07 Terminal of F-2527	VR01 F-2527	+13V ±0.2V

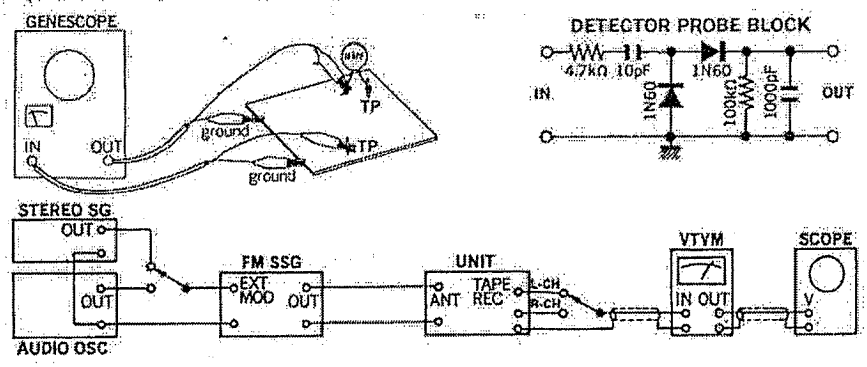
Fig. 4-1

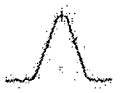


4-2. FM IF Adjustment & Tracking

(See Fig. 4-2, 4-3 on page 13 & Fig. 4-4, 4-5, 4-6 on page 14)

Note:
1. Selector ..... FM AUTO
2. Output level of genescope ..... After attenuator
3. Sweepwidth ..... 1.5~2cm/150kHz
4. Frequency band ..... 9.5~11.5MHz
5. Connection ..... Connect the output of genescope to TP. 1 through 100pF ceramic capacitor.
6. FM MUTING switch ..... OFF.

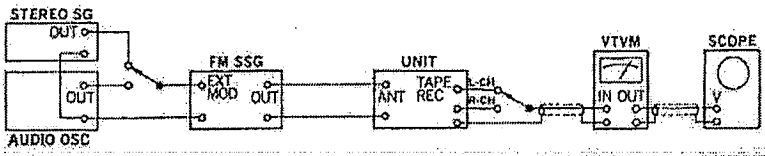


STEP	SUBJECT	FEED SIGNAL FROM	FEED SIGNAL TO	MEASURE OUTPUT	ADJUST	ADJUST FOR	CONDITION
1.	IF Coil Band Width Switch ....wide	Output 90dB Genescope	TP Pin of FM Pack	Terminal 05 of F-2524 Use Detector probe		Unnecessory	Confirm this IF wave 
	Band width Switch ..Narrow	Output 90dB Genescope	Same as above	Same as above		Same as above	Same as above 
2.	Meter Coil	Output 70dB Genescope	Same as above	Terminal ⑦ of F-2559 (In this case, make short between terminal 01 of F-2559 and chassis	T03 T04 F-2525	Max. Output	
3.	Discriminator Coil	Output 70dB Genescope	Same as above	Terminal 01 of F-2526	T02 F-2525	Max. linearity of S Curve	
4.	90MHz Dial Calibration	90MHz ANT Input 60dB 400Hz (100% MOD) FM SSG	ANT Terminal 300Ω	REC OUT L or R-CH VTVM & Scope	L05 FM Pack	Max. Output	
	106MHz Dial Calibration	106MHz ANT Input 60dB 400Hz (100% MOD) FM SSG	Same as above	Same as above	TC05 FM Pack	Same as above	
5.	90MHz RF Adj.	90MHz ANT Input 60dB 400Hz (100% MOD) FM SSG	Same as above	Same as above	L01, L02 L03, L04 FM Pack	Same as above	
	106MHz RF Adj.	106MHz ANT Input 60dB 400Hz (100% MOD) FM SSG	Same as above	Same as above	TC01, TC02 TC03, TC04 FM Pack	Same as above	
6.	Signal Meter Adj.	98MHz ANT Input 60dB 400Hz (100% MOD) FM SSG	Same as above	Signal Meter	VR03 F-2525	4.3 on meter	
7.	Gain Adj.	98MHz ANT Input 40dB FM SSG Pilot 19kHz (10% MOD) L-CH (0% MOD) R-CH 1kHz (45% MOD) STEREO SG	Same as above	VTVM & Scope	VR02 F-2525	Separation (Noise Canceller SW → ON)	Proceed step 6 again to confirm the meter Pointer level, 4.3 If not, repeat from step 6.

Note: 1) Any IF adjustment is unnecessary. Confirm correct IF waveform only.
2) As two trimmers on F-2524 are pre-adjusted in factory, this adjustment is unnecessary.
3) When measuring FM distortion, the following measuring instruments are required.
FM SSG having distortion less than 0.05%
FM Stereo having distortion less than 0.015%

4-3. MPX Alignment (See Fig. 4-5 on page 6)

Note: 1. Selector.....FM Auto
2. FM Muting switch .....OFF



STEP	SUBJECT	FEED SIGNAL FROM	FEED SIGNAL TO	MEASURE OUTPUT	ADJUST	ADJUST FOR	CONDITION
1.	PLL VCO Adj.	98MHz ANT Input 60dB FM SSG Pilot 19kHz (10% MOD) L-CH 1kHz (45% MOD) R-CH (0% MOD) STEREO SG	ANT Terminal 300Ω	Stereo Indicator	VR603 F-2526	Light Indicator	Adjust the VR603 within center of lighting level
	PLL VCO Adj. In case of using Freq. Counter		Make short between MPX input terminal 01 of F-2556 and chassis	TP pin F-2526 Use Freq. Counter	VR603 F-2526	19kHz ±30Hz	
2.	Separation	98MHz ANT Input 60dB FM SSG Pilot 19kHz (10% MOD) L-CH (0% MOD) R-CH 1kHz (45% MOD) STEREO SG	ANT Terminal 300Ω	VTVM & Scope	VR601 F-2526	Min. Output −45dB	
3.	Separation	98MHz ANT Input 60dB FM SSG Pilot 19kHz (10% MOD) R-CH (0% MOD) L-CH 1kHz (45% MOD) STEREO SG	Same as above	REC OUT R-CH VTVM & Scope	VR602 F-2526	Min. Output −45dB	Confirm step 2. If less than −45dB repeat step 2, 3
4.	Muting level & Indicator level	98MHz ANT Input 12dB FM SSG Pilot 19kHz (10% MOD) L-CH (0% MOD) R-CH (45% MOD)	Same as above	Stereo Indicator	VR604 F-2526	Muting level 12dB Indicator lighting level 12dB	

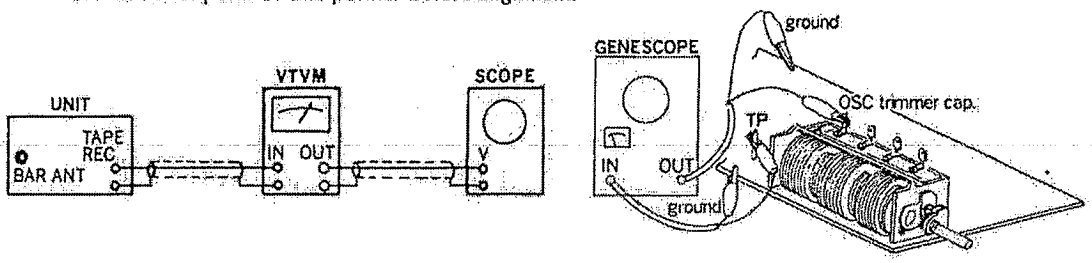
4-4. Calibration level Adjustment (See Fig. 4-6 on page 14)

Note: Two pre-settings and connecting diagram of measuring instruments is same as above 4-3. MPX Alignment.

STEP	SUBJECT	FEED SIGNAL FROM	FEED SIGNAL TO	MEASURE OUTPUT	ADJUST	ADJUST FOR	CONDITION
1.	Calibration level Adj.	98MHz ANT Input 60dB (MONO 100%)	ANT Terminal 300Ω	REC OUT R or L-CH VTVM & Scope		Set Indication level of VTVM to 0dB	Calibration Switch.....Out
				Same as above	VR605 F-2526	Set the Indication level to −9.5dB from the above 0dB	Calibration Switch.....In

4-5. AM IF Adjustment and Tracking (See Fig. 4-7 on page 14)

Note: 1. Selector.....AM
2. Confirm start point of dial pointer before alignment.



STEP	SUBJECT	FEED SIGNAL FROM	FEED SIGNAL TO	MEASURE OUTPUT	ADJUST	ADJUST FOR	CONDITION
1.	IF Coil	Genescope Output 55dB	L702 F-2539	TP01 F-2539	T02, T03 F-2539	Max. Output	
		Genescope Output 55dB	L702 F-2539	TP01 F-2539	CF01 F-2539	Same as above	
2.	600kHz Dial Calibration	600kHz ANT Input 60dB 400Hz (MOD 30%) AM SSG	AM ANT Terminal	REC OUT L or R-CH VTVM & Scope	T04 F-2539	Same as above	
	1400kHz Dial Calibration	1400kHz ANT Input 50dB 400Hz (MOD 30%) AM SSG	Same as above	Same as above	TC03 F-2539	Same as above	
3.	600kHz RF Adj.	600kHz ANT Input 40dB 400Hz (MOD 30%) AM SSG	Same as above	Same as above	Bar ANT L701 T01 F-2539	Same as above	
	1400kHz RF Adj.	1400kHz ANT Input 50dB 400Hz (MOD 30%) AM SSG	Same as above	Same as above	TC01 TC02 F-2539	Same as above	
4.	Signal Meter	1000kHz ANT Input 100dB	Same as above	Signal Meter	VR01 F-2539	4.1 on Meter	

F-2559 FM MPX Noise AMP. Circuit Board

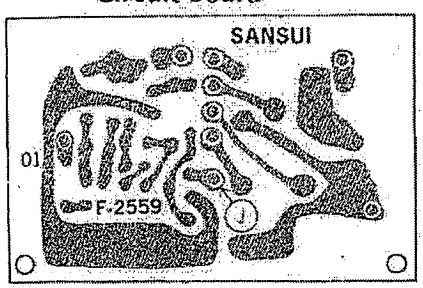


Fig. 4-2

F-2524 FM IF Circuit Board

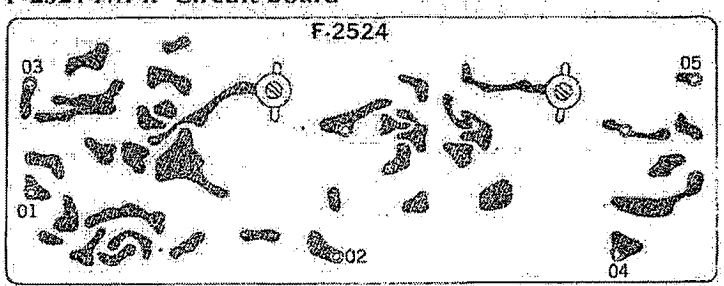


Fig. 4-3

FM Pack (Bottom Side)

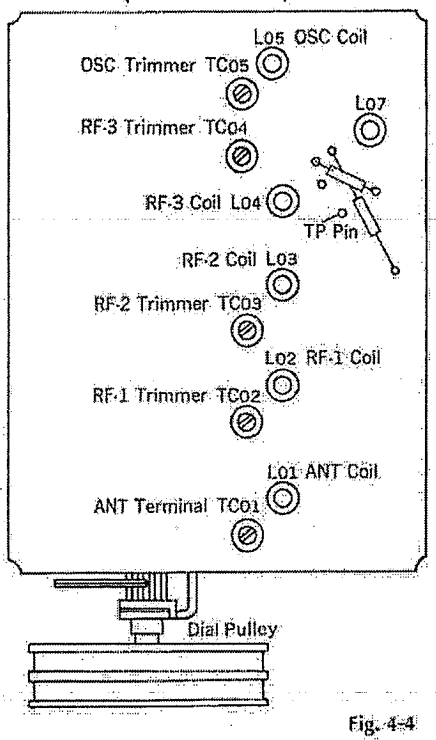


Fig. 4-4

F-2526 MPX Circuit Board

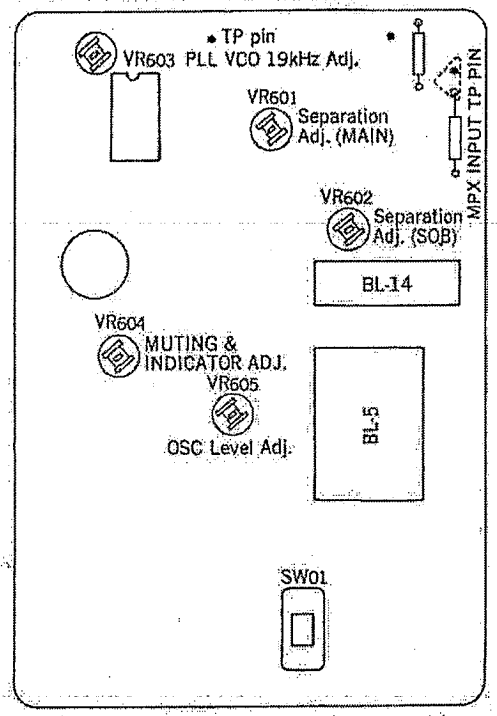


Fig. 4-5

F-2525 FM Discriminator Circuit Board

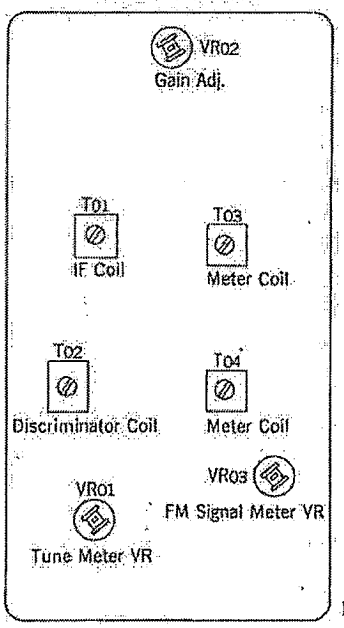


Fig. 4-6

F-2539 AM IF Circuit Board

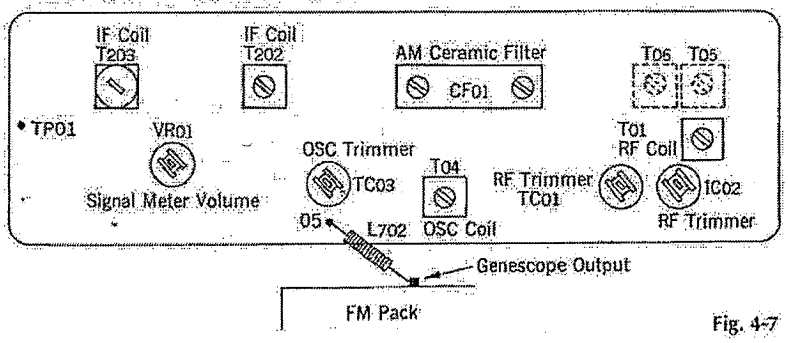


Fig. 4-7

5. TROUBLESHOOTING CHART

*The functional operation of each section is shown in the block diagram on page 16.
Please utilize the diagram together with "Main Troubleshooting on Each Section" in this manual, if necessary.

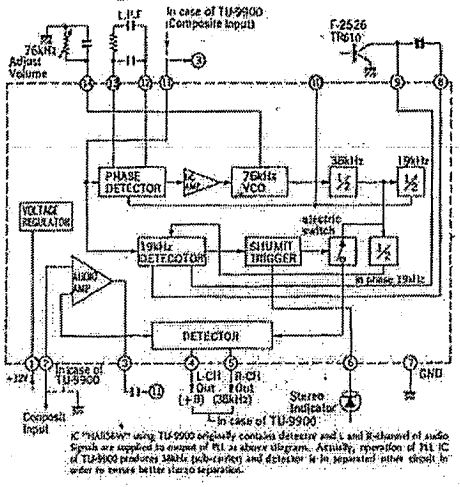
5-1. Main Troubleshooting on Each Section

Symptom	Cause
1. FM and AM inoperative	
1-1. No any voltage supplied to each section	1. Defective power switch, S9 and voltage selector
	2. Power Fuse, F901 opens
	3. Power Fuse, F01, F02 on F-2527 open
	4. Defective each transistor on F-2527
	5. Unproper setting of regulated voltage
1-2. Relay inoperative on MPX output section	6. Defective relay, RL601
	7. Defective Power Switch, S9b. (No voltage supplied to relay)
	8. Defective calibration switch, S6
	9. Muting circuit inoperative
1-3. Defective IC01, IC02 on MPX circuit board	
2. Troubles on FM section	
2-1. FM inoperative	
1) Signal meter inoperative (Meter circuit operative)	1. Defective FM pack PAF-5331P
	2. FM Pack, PAF-5331P out of adjustment
	3. Defective TR01~TR03 on F-2524
	4. Defective CF01, BF01, BF02 on F-2524
	5. Defective IC01, IC02 on F-2524
	6. Defective band width switch, S3
2) Signal meter operative (No output signal at DETECTOR OUTPUT)	7. Defective IC01, IC02 on F-2525
	8. Defective TR01, TR02 on F-2525
	9. T201, T202 out of adjustment or open
	10. Defective TR01 on F-2526
2-2. Troubles on Meter Section	
1) Signal meter inoperative	11. Defective TR03, TR04 on F-2525
	12. Defective D02~D04 on F-2525
	13. Meter volume, VR03 out of adjustment
	14. Defective Signal Meter
	15. Defective meter selector switch, S8
2) No input signal to muting, indicator circuit	16. T203, T204 open on F-2525
	17. Defective TR05 on F-2525
3) Multi-path meter inoperative (When meter selector switch is pushed) ON (MULTI-PATH)	18. Defective TR06 on F-2525
	19. Defective D10, D11 on F-2525
	20. Defective meter selector switch, S8
2-3. Troubles on AGC Circuit Section	21. Defective TR04, TR05 on F-2524
	22. Defective D06, D07 on F-2524

Symptom	Cause
3. Troubles on MPX Section	
3-1. No channel separation on FM stereo broadcasting	
1) Stereo indicator lamp not lighted	1. Defective TR608, TR609 on F-2526
	2. VR603 (76kHz adjustment volume) out of adjustment
	3. Defective IC601 on PLL
	4. TR601 shorted on F-2525
	5. Defective stereo indicator LED04
2) Stereo indicator lamp lighted	6. TR603, TR604 open on F-2526
	7. T601 open on F-2526
	8. Defective D601~D604 on F-2526
3-2. MPX inoperative at FM MONO position	9. Defective TR601, TR602 on F-2526
	10. Defective TR605~TR607 on F-2526
	11. Imperfect contact of low pass filter switch
	12. Imperfect contact of selector switch, S01c, S01b
3-3. Troubles on Muting, indicator circuit	
1) Muting inoprative	13. Meter circuit inoperative
	14. Noise AMP. circuit board, F-2559 inoprative
	15. VR604 out of adjustment on F-2526
	16. Defective TR610~TR612 on F-2526
4. Troubles on FM Noise Canceller Circuit	1. Meter AMP. circuit inoperative
	2. Defective TR613 on F-2526
	3. Defective photo-cell lamp, PC601
5. Troubles on Calibration Level Circuit	1. Defective TR614, TR615 on F-2526
	2. VR605 out of adjustment
	3. Imperfect contact of calibration switch, S6
6. Troubles on AM Section	
6-1. AM inoperative or weak serisitivity	1. IF out of adjustment
	2. RF or tracking out of adjustment
	3. Each coil open
	4. Defective transistor on F-2539

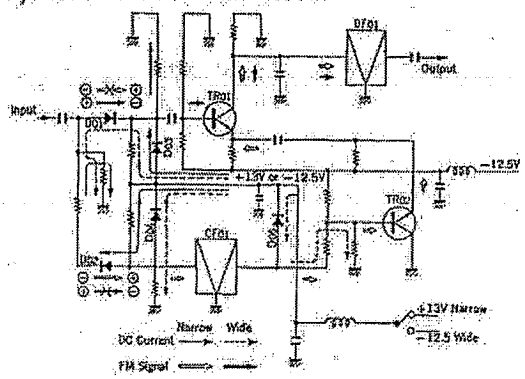
5-2. Operation Block Diagram

1) Block Diagram of PLL



IC "HA1156W" using TU-9900 originally contains detector and L and R-channel of audio signals are supplied to element of PLL as above diagram. Actually, operation of PLL IC of TU-9900 produces 38kHz sub-carrier and detector is in separated other circuit in order to ensure better stereo separation.

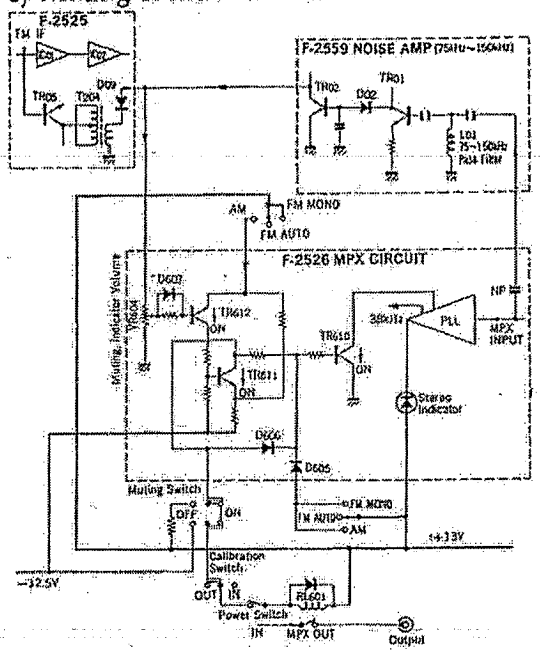
2) FM IF Band With Circuit



*Operation of Band Width Circuit

1) Band width switch.....wide
   ①−12.5V is supplied to diode switch circuit.
   ②D01 in signal circuit is ON and D02 is OFF.
   ③When D01 is ON, TR01 is ON.
2) Band width switch.....Narrow
   ①+13V is supplied to diode switch circuit.
   ②D01 in signal circuit is OFF and D02 is ON.
   ③Signal flows into narrow band filter (CF01), then TR02 is ON.
   ④As TR02, TR01 are used for differential amplifier, output signal is obtained from colletor of TR01 by switching the TR02 ON.

3) Muting & Indicator Circuit



Operation of Muting Circuit

1) Muting switch.....ON
   •When input level to TR612 is less than 12dB,
   ①TR612. OFF ②TR611. OFF ③Relay. OFF (on MPX output section) ④Output signal from output terminal is not obtained.
   •When input level to TR612 is more than 12dB,
   ①TR612. ON ②TR611. ON ③Relay. ON (on MPX output section) ④Output signal from output terminal is obtained.
2) Muting switch.....OFF or AM position
   •Relay. ON (on MPX output section)

Operation of Stereo Indicator Circuit

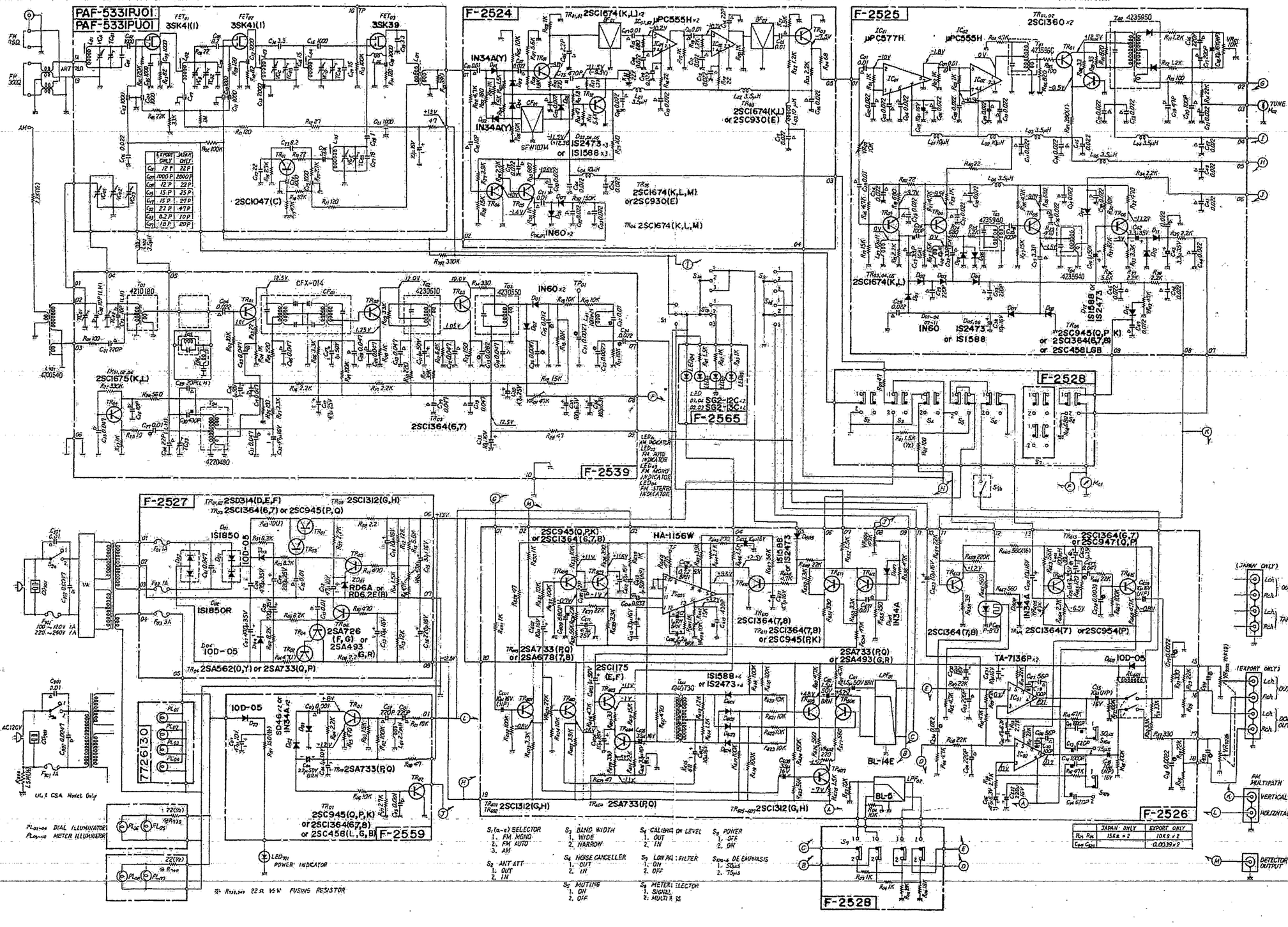
1) Selector.....FM AUTO
   •When input level to TR612 is less than 12dB,
   ①TR612. OFF ②TR611. ON ③TR610. ON ④Indicator dose not light up.
   •When input level to TR612 is move than 12dB,
   ①TR612. ON ②TR611. ON ③TR610. OFF ④Indicator lights up.
2) Selector.....FM MONO or AM position.
   ①TR610. ON ②Indicator does not light up.

Operation of Anti-misoperating Circuit

①Noises from 75kHz to 150kHz included in MPX composite signal are amplified by TR01.
②By switching TR01 ON, TR02 becomes ON.
③When TR02 becomes ON, Vcc (V1) of TR02 nearly becomes 0 volt. If signal through TR05 produces negative potential voltage (V2) by diode, D09.
The input levels (V1÷V2) to TR612 are controlled by the noise level.
④When input level to TR612 is less than 12dB indicator does not light up.

6. SCHEMATIC DIAGRAM

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



6. SCHEMATIC DIAGRAM

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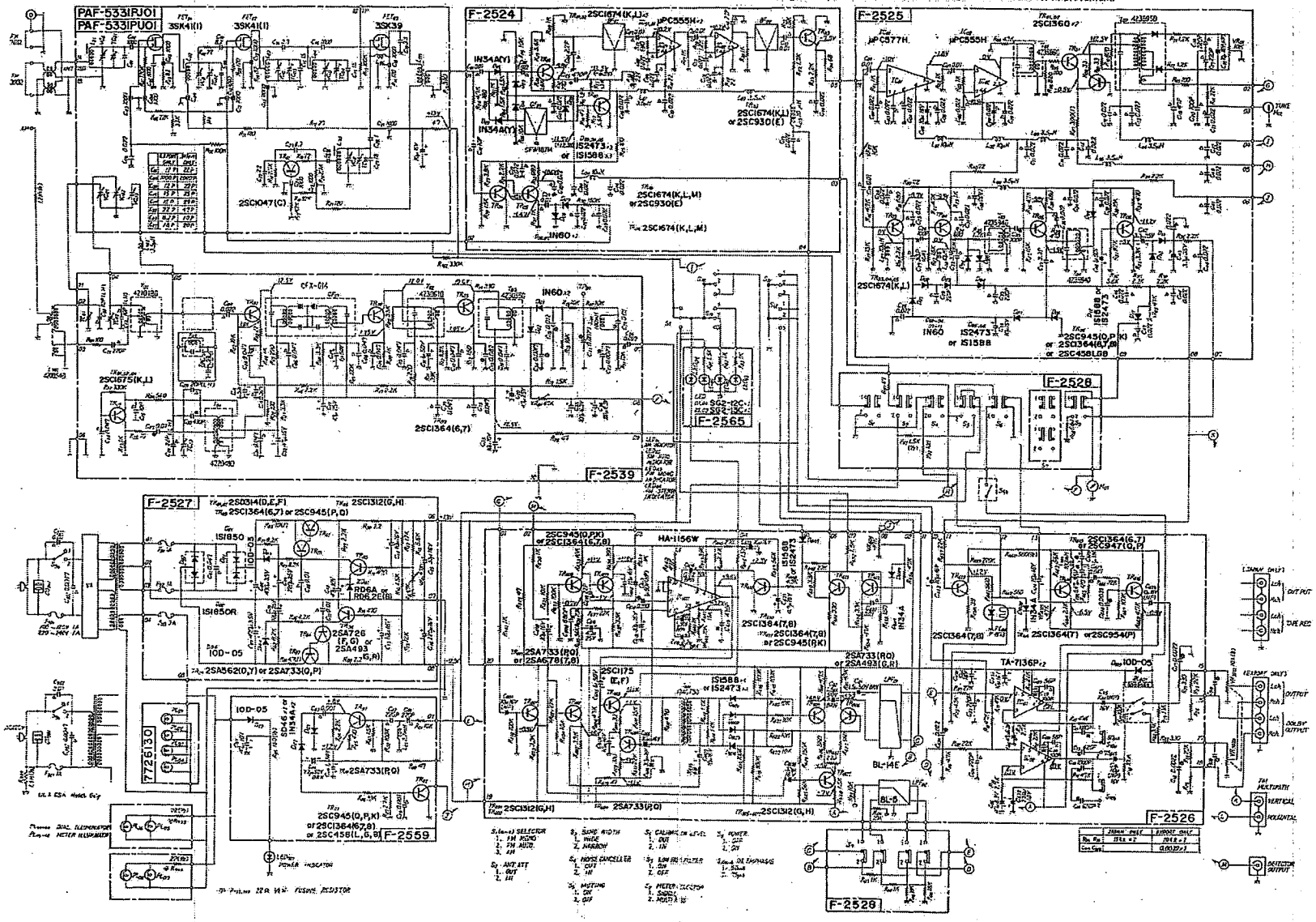


7. THREADING OF DIAL CORD

*If a dial cord is cut off or slips, replace it by following procedures.
This unit uses 0.6mmφ cord, please replace it with the same type certainly.
*The length of dial cord is approximately 160cm (63 inch).

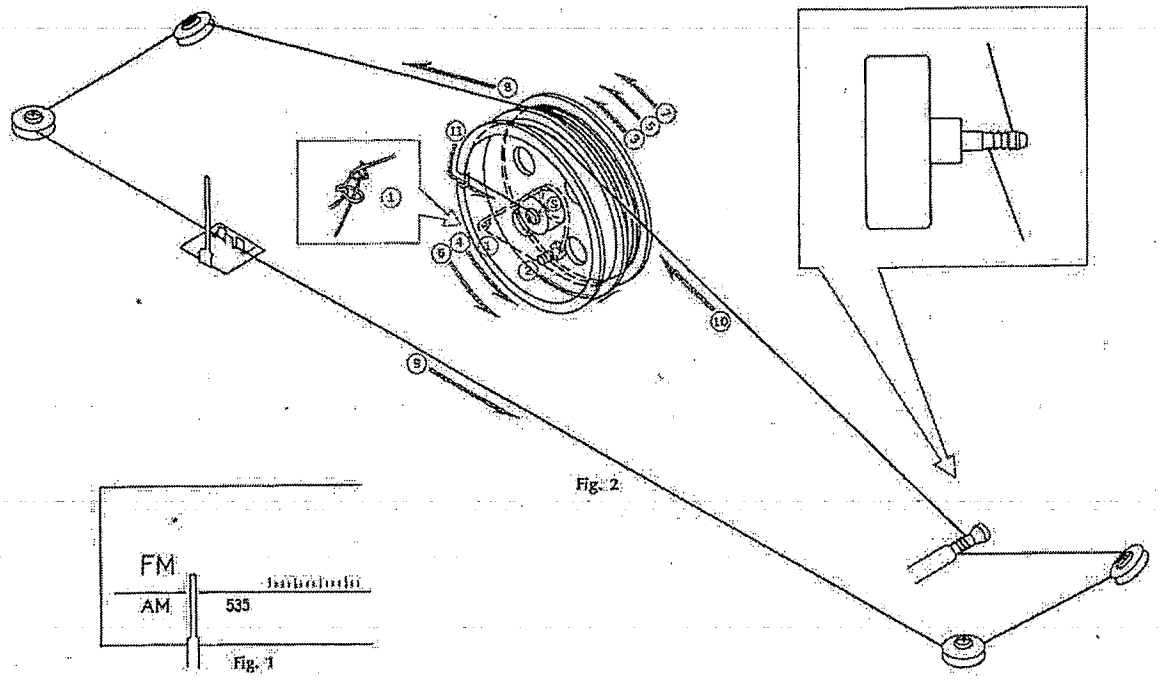


Fig. 2

Fig. 1

7-1. Threadiug of Dial Cord

Threading of Dial Cord

Thread the dial cord in numerical order from ① to ⑩ as Fig. 2.

1) Open the variable capacitor completely (Min. capacitance).
2) Tie dial cord to the dial spring as Fig. 2.
3) Thread cord in the direction of arrow from ① to ⑩.
4) After ⑩, tie the cord to the screw Ⓢ of the dial pulley as Fig. 2.

7-2. Attachment of Dial Pointer

Attachment of Dial Pointer

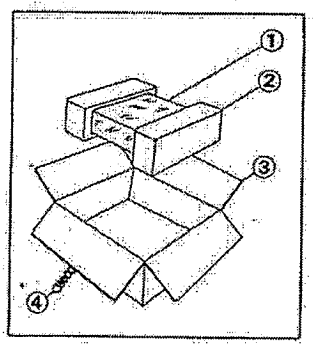
1) Close the variable capacitor completely.
2) Set the dial pointer to the position on dial scale as shown in Fig. 1.

*Confirm that the dial pointer runs smoothly on the dial scale by turning the tuning shaft.

Stock No.	Description
6036051	Dial Cord (0.6mmφ)
6146680	D-52 Type Pulley
(5109122	M3×8 Screw)
(6906490	Dial Spring)

8. PACKING LIST

Parts No.	Stock No.	Description
1	9116670	Vinyl Cover
2	9027920	Stylofoam Packing
3	9009370	Carton Case
4	5996080	Curl Stopper



9. ACCESSORY PARTS LIST

Stock No.	Description
9209190	Operating Instructions
3820090, 1	FM Antenna
3810180, 1	Pinplug Cord
2440030	Coaxial Male Connector F-8-R
9237000	Schematic Diagram

Sansui

SANSUI ELECTRIC CO., LTD.
14-1, 2-chome, Izumi, Suginami-ku, Tokyo 168, Japan.
TELEPHONE: (03) 323-1111/TELEX: 232-2076

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