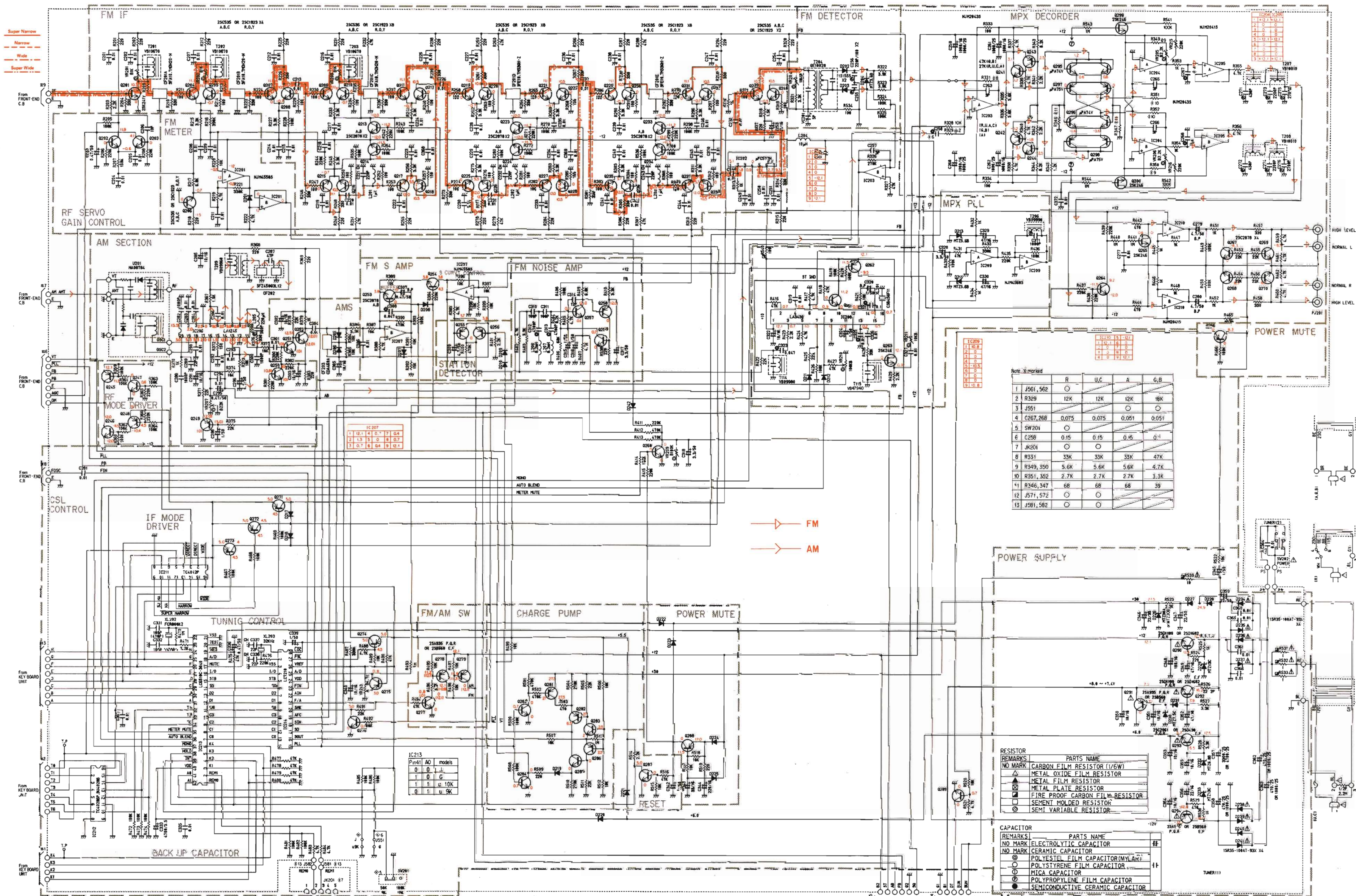


■ SCHEMATIC DIAGRAM (Tuner)



- MATRIX OF DISPLAY (D_{i1} , $B_1 \sim 10$, $L_1 \sim 11, 13, 14$)

C213 (C12)	A [1 Pin]	B [30 Pin]	C [29 Pin]	D [8 Pin]	E [27 Pin]	F [26 Pin]	G [25 Pin]	H [24 Pin]
T8 (4 Pin)	D5	D5	D5	D5	D5	D5	D5	P10/20 (810)
T9	D4	D4	D4	D4	D4	D4	D4	P10/20 (810)
T7 (7 Pin)	D3	D3	D3	D3	D3	D3	D3	P10/20 (810)
T4 (6 Pin)	a	b	c	d	e	f	g	P10/20 (810)
T3	a	b	c	d	e	f	g	P10/20 (810)
T2	a	b	c	d	e	f	g	P10/20 (810)
T1 [2 Pin]	P1/11 (11)	P2/12 (12)	P3/13 (13)	P4/14 (14)	P5/15 (15)	P6/16 (16)	P7/17 (17)	P8/18 (18)
T0 [4 Pin]	CSL (IO13)	IF MODE (IO14)	DIRECT A (LI01)	SUPER C (LI02)	LOCAL D (LI03)	SUPER E (LI04)	LOCAL F (LI05)	SUPER G (LI06)

- IC212 DATA TABLE

INPUT			OUTPUT							
T _C (12 Pin)	T ₃ (18 Pin)	T _A (30 Pin)	T ₀ (14 Pin)	T ₁ (20 Pin)	T ₂ (15 Pin)	T ₃ (16 Pin)	T ₄ (19 Pin)	T ₅ (21 Pin)	T ₆ (22 Pin)	T ₇ (23 Pin)
0	0	0	0	0	0	0	0	0	0	0
0	0	1	1	0	0	0	0	0	0	0
0	1	0	0	1	0	0	0	0	0	0
0	1	1	0	0	1	0	0	0	0	0
1	0	0	0	0	0	1	0	0	0	0
1	0	1	0	0	1	0	1	0	0	0
1	1	0	0	0	0	1	0	1	1	1
1	1	1	0	0	0	0	1	0	0	1

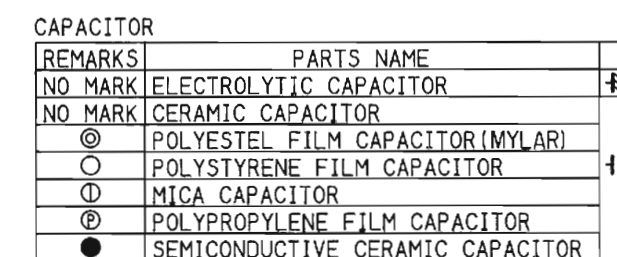
- MATRIX OF INPUT KEY

IC212 IC213	T1 (2 Pin)	T2 (16 Pin)	T3 (19 Pin)	T4 (6 Pin)	T5 (17 Pin)	T6 (4 Pin)
K1 (3 Pin)	P1/11 S1	P5/15 S5	P9/19 S9	UP S20	P11/10-P11-20 S11	AUTO ST/MONO S12
K2 (4 Pin)	P2/12 S2	P6/16 S6	P10/20 S10	DOWN S21	P12/11-P12-21 S24	RF MODE S13
K3 (5 Pin)	P3/13 S3	P7/17 S7	TUNING MODE S16	FINE UP S22	IF MODE S18	LOCAL STEP S15
K4 (6 Pin)	P4/14 S4	P8/18 S8	MEMORY S23	FINE DOWN S21	DAB S13	DX STEP S14

- All voltages measured with a 10M Ω /VDC electric volt meter, under no-signal condition.
FUNCTION $\rightarrow$ FM
TUNING MODE $\rightarrow$ AUTO
RECEIVING MODE $\rightarrow$ AUTO
- The voltages are measured at FM reception mode. Only the voltages at () at A1d reception mode.
- Components having special characteristics are marked Δ , and must be replaced ^{signal} with parts having specifications equal to those originally installed.

•NOTICE

(U) U.S.A model
(C) Canadian model
(A) Australian model
(G) European model
(B) British model
(R) General model



Pin No.	Function	Pin No.	Function
1	Ignition "S"	13	"F-M" Anode
2	Ignition "P" Andor	14	"S" Anode
3	My "M" "E" Anode	15	"S" Cathode
4	Ignition "M" Anode	16	"M" "F-M" Cathode
5	Ignition "G" Anode	17	"M" "F-M" Cathode
6	Ignition "S" Anode	18	Ignition "P" Cathode
7	Ignition "M" Anode	19	"M" "F-M" Cathode
8	"M" "F-M" Cathode	20	Ignition "P" Cathode
9	"M" "F-M" Cathode	21	Ignition "P" Cathode
10	"M" "F-M" Cathode	22	Ignition "P" Cathode
11	"M" "F-M" Cathode	23	Ignition "P" Cathode
12	"M" "F-M" Cathode	24	Ignition "P" Cathode

INPUT					OUTPUT				
T2	T3	T4	T5	T6	T7	T8	T9	T10	T11
[12 p.p.]	[12 p.p.]	[10 p.p.]	[10 p.p.]	[10 p.p.]	[10 p.p.]	[12 p.p.]	[12 p.p.]	[10 p.p.]	[10 p.p.]
0	0	0	0	0	0	0	0	0	0
0	0	0	1	0	0	0	0	0	0
0	0	1	0	0	1	0	0	0	0
0	1	0	0	0	0	1	0	0	0
0	1	1	0	0	0	0	1	0	0
1	0	0	0	0	0	0	1	0	0
1	0	1	0	0	0	0	0	1	0
1	1	0	0	0	0	0	0	0	1
1	1	1	0	0	0	0	0	0	1

IC213 IC212	[A] Pin1	[B] Pin2	[30] Pin3	[25] Pin4	[0] Pin5	[27] Pin6	[28] Pin7	[G] Pin8	[24] Pin9	[V] Pin10
[4] Pin11	D5	D6	D7	D8	D9	D0	D1	D2	D3	P10/9 (B10/9)
T5 [7] Pin1	D4	D5	D6	D7	D8	D9	D0	D1	D2	P10/9 (B10/9)
[6] Pin1	D3	D4	D5	D6	D7	D8	D9	D0	D1	P10/9 (B10/9)
T3 [1] Pin1	D2	D3	D4	D5	D6	D7	D8	D9	D0	P10/9 (B10/9)
T1 [3] Pin1	D1	D2	D3	D4	D5	D6	D7	D8	D9	P10/9 (B10/9)
T2 [15] Pin1	D0	D1	D2	D3	D4	D5	D6	D7	D8	P10/9 (B10/9)
T1 [2] Pin1	P1/11 (B1)	P2/12 (B2)	P3/13 (B3)	P4/14 (B4)	P5/15 (B5)	P6/16 (B6)	P7/17 (B7)	P8/18 (B8)	P9/19 (B9)	P10/20 (B10)
T0 [14] Pin1	CSL IO/31	MODE IO/32	DATA IO/33	DATA IO/34	SUPER IO/35	DATA IO/36	DATA IO/37	DATA IO/38	DATA IO/39	SUPER IO/40

IC212	T2 Pin1	T2 Pin15	T3 Pin1	T4 Pin16	T5 Pin1	T6 Pin1
K1	SI	PS/5	PS/5	SD	PI-1(PI-20)	AUTH
K3	PIA	SI	PS/5	SD		STAC
4 K2	P2/12	P6/18	P10/20	DQM	MA/M	RF MO
4 K4	P2/12	SE	S10	S19		24
K5	P3/13	S7	UNING MODE	FINE UP	IF/MODE	LOCAL STEP
K3	PS	S7				
4 K6	PIA	PS/5	MEMORY	FIN DOWN	DAB	EXT ST
4 K6	PIA	PS/5	MEMORY	FIN DOWN	S13	S14

μPC577H (E,F) 	LA1245 	LC7210 	NJM4558S 	TC4042P TC4028BP BU4028B 	NJM2068S 	M54459L 	LC6510C-3040 	M54526P 
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LB1234 BA12004	BA689 M54562P	LA3430
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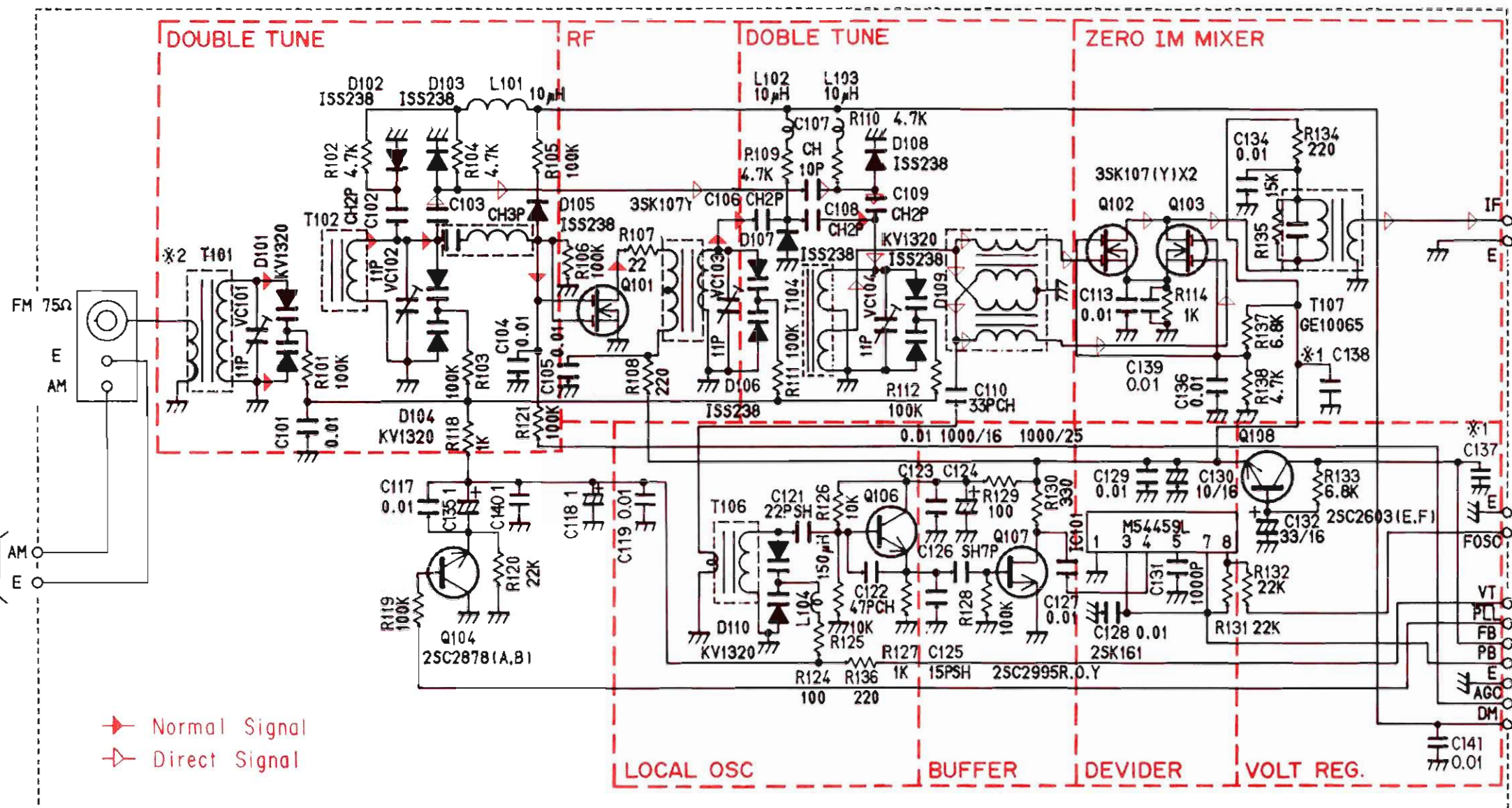
25

2

3

4

5



#7
TO TUNER (1) C.B
AM
E

#9
TO TUNER (1) C.B
IF
E

#8
TO TUNER (1) C.B
F050
E

#6
TO TUNER (1) C.B
VT
PLL
FB
PB
E
AGO
DM

➔ Normal Signal
➤ Direct Signal

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (1/6W)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
■	FIRE PROOF CARBON FILM RESISTOR
□	SEMENT MOLDED RESISTOR
⊗	SEMI VARIABLE RESISTOR

REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
NO MARK	CERAMIC CAPACITOR
◎	POLYESTEL FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
⊖	MICA CAPACITOR
Ⓢ	POLYPROPYLENE FILM CAPACITOR
●	SEMICONDUCTIVE CERAMIC CAPACITOR

* marked		
	R, U, C, A	G, B
*1	C137, 138, 141	OPEN
*2	T101	VB74210
		VB16990

PRINTED CIRCUIT BOARD (Pattern Side)

Note)
文字面 Component Side

Note: * marked

		R	G	A	B
1	J561, 562	○	U, C		
2	J571, 572	○	○		
3	J581, 582	○	○		
4	R328	10K	10K	10K	6.8K
5	R329	12K	12K	12K	18K
6	J551			○	○
7	C267, 268	0.075	0.075	0.051	0.051
8	SW201	○			
9	C258	0.15	0.15	0.15	0.1
10	JK201	○	○		
11	R331	33K	33K	33K	47K

TUNER CIRCUIT BOARD (1)

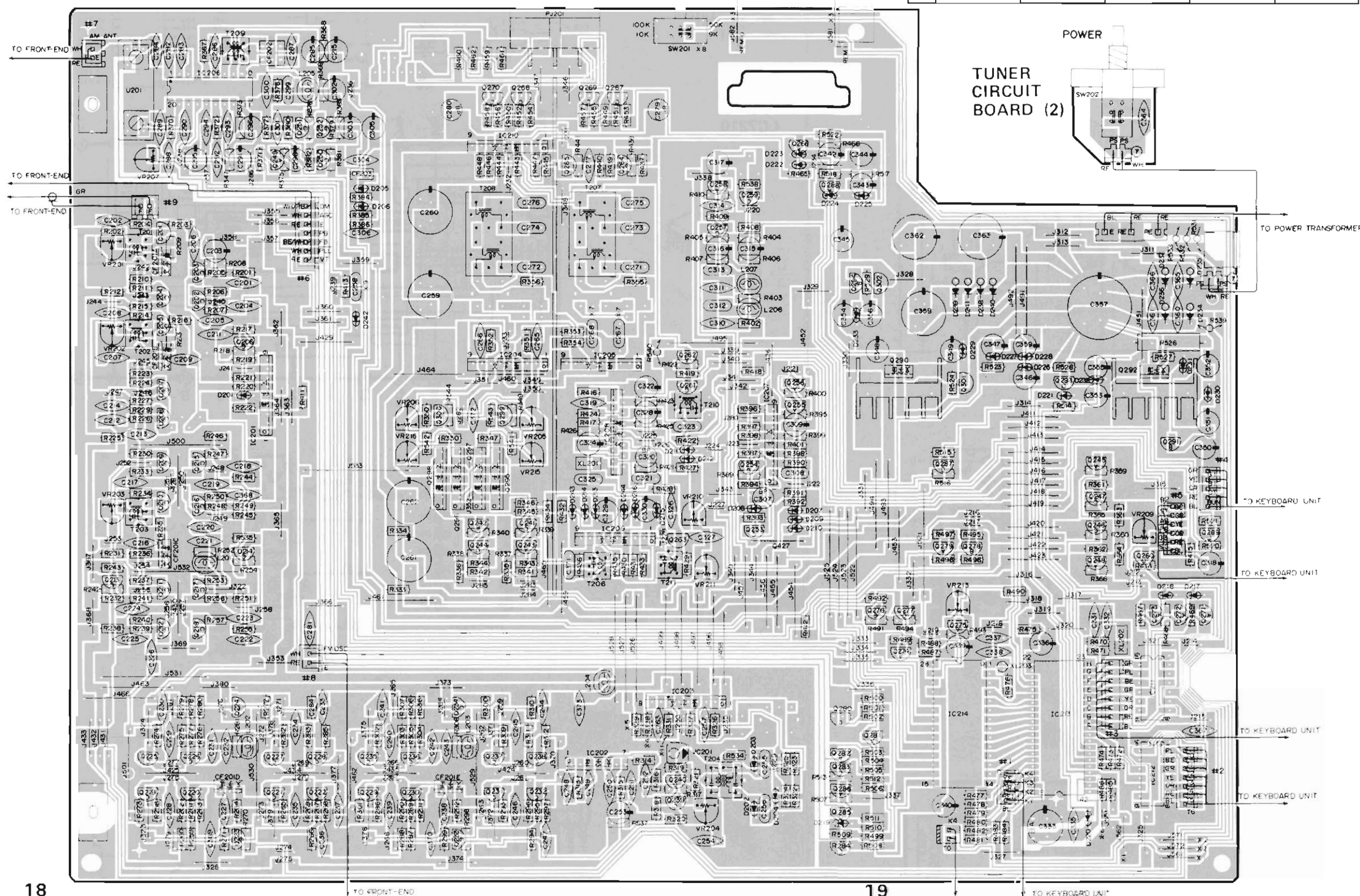
TUNER CIRCUIT BOARD (3)

REMOTE CONTROL

OUTPUT
HIGH LEVEL
NORMAL

TUNER CIRCUIT BOARD (2)

POWER



● Before adjustment

- 1) After the power switch is pushed on, wait for 5 minutes before measuring, to be sure of the most stable operation.
- 2) Adjust the OSC coil and IFT with a nonferrous screw driver.
- 3) Set the switches to the following positions.

TUNING MODE AUTO

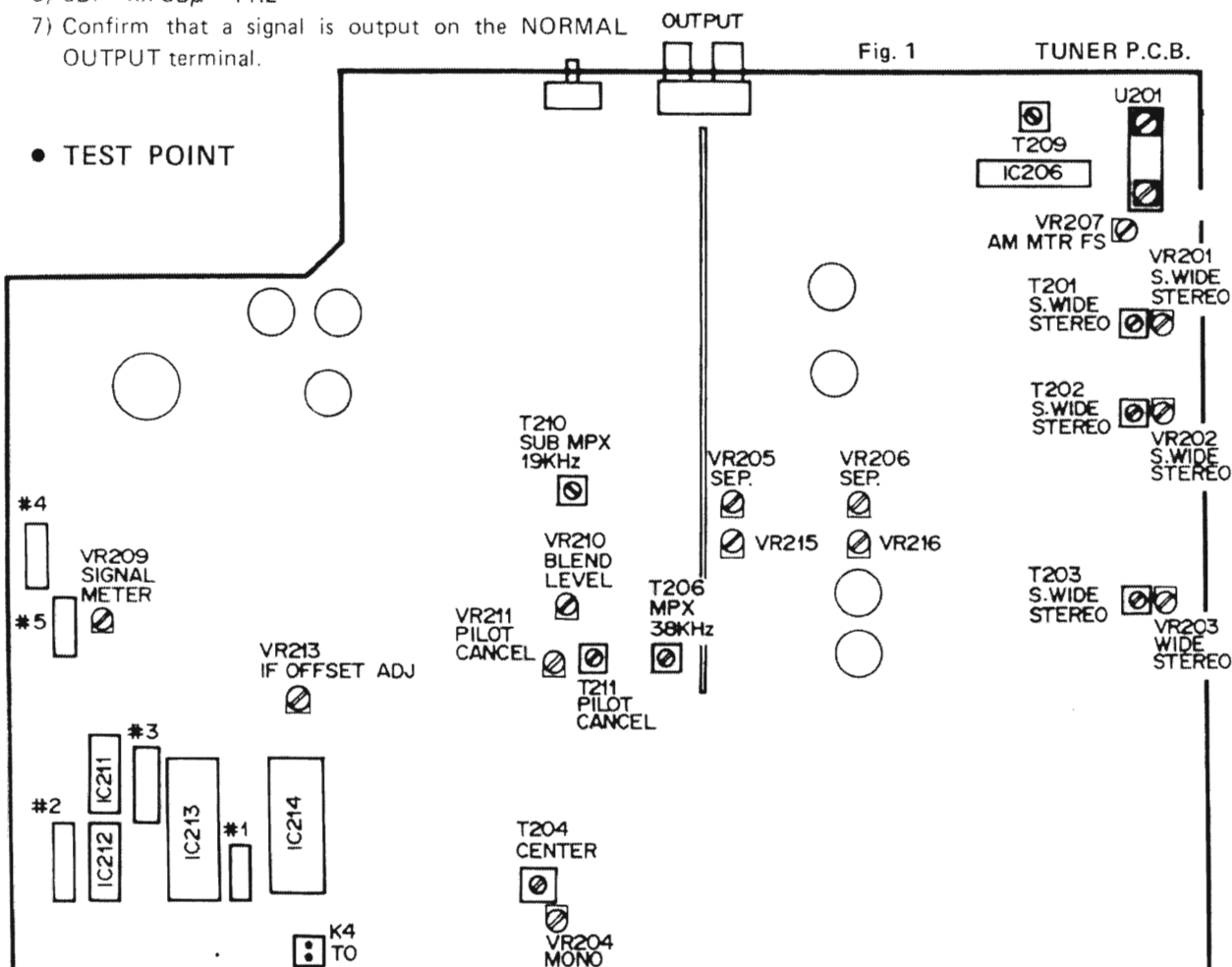
RECEIVING MODE AUTO

- 4) Proceed with the AM section adjustments after having finished the FM section adjustment.
- 5) $0 \text{ dB}\mu = 1 \mu\text{V}$ Ex: $60 \text{ dB}\mu = 1 \text{ mV}$
- 6) $\text{dBf} = \text{xx dB}\mu + 11.2$
- 7) Confirm that a signal is output on the NORMAL OUTPUT terminal.

● Measuring instruments abbreviation

FM SG	: FM signal generator
SSG	: Stereo signal generator
AM SG	: AM signal generator
DIST.M	: Distortion meter
FC	: Frequency counter
ACVM	: AC voltmeter
DCVM	: DC voltmeter

● TEST POINT



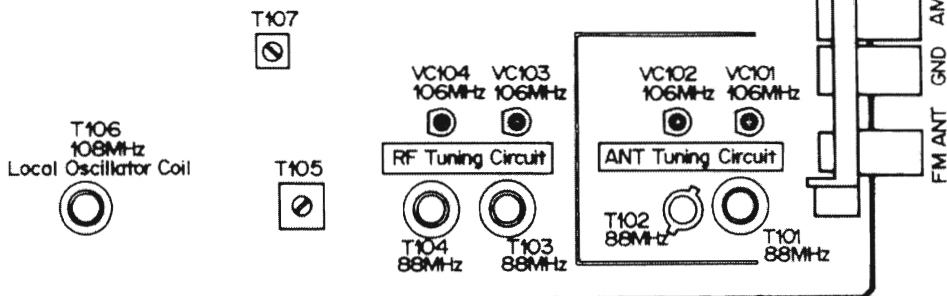


Fig. 1

FRONT-END P.C.B.

<CHECK OF POWER SUPPLY SECTION>

Check that the following voltages are obtained respectively across each test point and ground on tuner circuit.

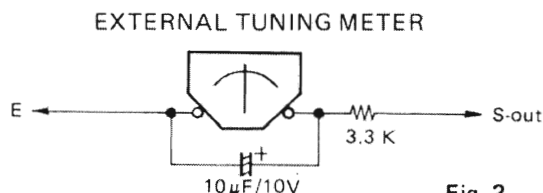
Test Point	Rating or Standard	Remark								
+12	+12.5 V ±0.5 V	Make sure that AC line voltage comes within <table><tr><th>Models</th><th>AC line voltage</th></tr><tr><td>U, C</td><td>120 V ±10%</td></tr><tr><td>G</td><td>220 V ±10%</td></tr><tr><td>A, B</td><td>240 V ±10%</td></tr></table>	Models	AC line voltage	U, C	120 V ±10%	G	220 V ±10%	A, B	240 V ±10%
Models	AC line voltage									
U, C	120 V ±10%									
G	220 V ±10%									
A, B	240 V ±10%									
+5.6	+5.6 V ±0.5 V									
+30	+30 V ±3 V									
-6	-6.0 V ±0.5 V									
FB	At FM Reception mode +12 V ±1 V									
	At AM reception mode 0 V									
AB	At FM reception mode 0 V									
	At AM reception mode +12 V ±1 V									

<PRESET SECTION>

- Shorting K4 T0 while set at FM will result in automatic memory of each preset from P1/P11 to P10/P20 as given in the right table. This is convenient when making an adjustment.

P1/P11	P2/P12	P3/P13	P4/P14	P5/P15
AM 630 kHz	AM 1080 kHz	AM 1440 kHz	FM 87.5 MHz	FM 95.1 MHz
P6/P16	P7/P17	P8/P18	P9/P19	P10/P20
FM 98.1 MHz	FM 101.5 MHz	FM 108.0 MHz	FM 88.0 MHz	FM 106.0 MHz

- Use 19 kHz L.P.F. to measure the output.
- On step 1 and 2 connect the auxiliary center meter (ji00036 or similar) to confirm the best tuned point.
- 100% modulation means that the Frequency Deviation is 75 kHz.
- Connect the audio measuring equipments (Distortion meter, Oscilloscope, and Level meter) to the output terminals of tuner.
- Connect a tuning meter (Ji00036 or equivalent, current sensitivity of around $250 \mu\text{A}$) to between the terminals Sout and E (see Fig. 2).

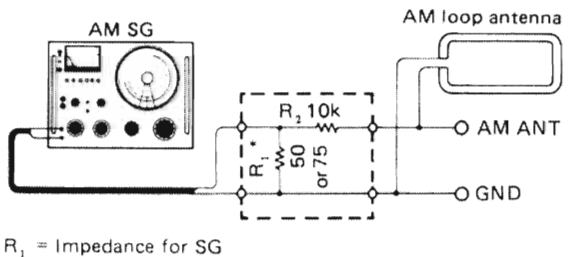


- Use a lowpass filter with an exception for CARRIER LEAK ADJUSTMENT.
- Unless otherwise specified: TUNING MODE, IF MODE, DYNAMIC BLEND → AUTO MODE → AUTO STEREO, RF MODE → NORMAL
- Equipments: FM SG, STEREO SG, DISTORTION METER, OSCILLOSCOPE, TUNING METER (SG signal is applied to 75 Ω ANT terminal)

Step	Item	Input signal (Frequency)	Adjustment Point	Adjustment/Confirmation	Reference
1	Discriminator balance		T204	As operating SEARCH, adjust T204 to the tuning meter 0-point.	Use EXTERNAL TUNING METER connected to S-out terminal
2	Confirmation of tuning center	98 MHz 70 dB μ	Up or DOWN SW	Confirm that the signal is received at around 0 point	Connections: Same as the finished tuner TUNING MODE: → MANUAL
3	Local oscillator coil	108 MHz	T106	Confirm a change of V_T with adjusting the oscillator coil (T106) – PLL lock	
				Adjust T106 to $V_T = +25 \pm 0.2 \text{ V}$	
		87.5 MHz	–	Confirm – $V_T > 5 \text{ V}$	
4	RF tuning circuit	88 MHz	T103	Adjust T103 to the maximum sensitivity	
		106 MHz	VC103	Adjust VC103 to the maximum sensitivity	
		88 MHz	T104	Adjust T104 to the maximum sensitivity	
		106 MHz	VC104	Adjust VC104 to the maximum sensitivity	
				Repeat the above adjustments	
5	ANT tuning circuit	88 MHz	T101	Adjust T101 to the maximum sensitivity	
		106 MHz	VC101	Adjust VC101 to the maximum sensitivity	
		88 MHz	T102	Adjust T102 to the maximum sensitivity	
		106 MHz	VC102	Adjust VC102 to the maximum sensitivity	
				Repeat the above adjustment	
6	Confirmation of sensitivity	88 MHz 98 MHz 106 MHz	–	Confirm that the sensitivity on the each frequency is satisfied the specifications	

Step	Item	IF MODE	Input Signal	Adjustment Point	Adjustment/ Confirmation	Rating	Reference
7	MONO distortion	S. WIDE	Mono 100 Hz (400 Hz) 100% MOD	VC201 VR204 (MONO)	Adjust to the minimum distortion		
8	PLL input phase		STEREO (L-R) 1 kHz 100% MOD	T206 T210 (SUB)	Adjust to the maximum (TUNER OUTPUT)		
9	STEREO distortion	S. WIDE	STEREO (L or R) 1 kHz 100% MOD	T107 T201, VR201 T202, VR202 (STEREO)	Adjust to the minimum distortion	< -56 dB (0.2%)	
10		WIDE		T203 VR203 (STEREO)	Adjust to the minimum distortion		
11	Confirmation of STEREO distortion	NARROW				< -40 dB (1%)	
12		S. NARROW				< -30 dB (3%)	
13	Confirmation of MONO distortion	S. WIDE	MONO 1 kHz 100% MOD			< -56 dB (0.2%)	
14	Separation	S. WIDE	STEREO L, R 1 kHz 100% MOD	VR205 VR206	Adjust to the maximum separation	> 40 dB	
		WIDE		VR215 VR216			
15	Pilot cancel		Pilot 9% MOD only	T211 VR211 (PILOT CANCEL)	Adjust to the minimum carrier leak	< -50 dB	
16	Discriminator balance confirmation		-10 dB μ (1.2 dBff) or detune		Confirm that the tuning meter indicates 0 while searching		If not: Repeat from step-1
17	Signal meter full-scale	S. WIDE	80 dB μ (91.2 dBf)	VR209	Adjust to the point all LEDs light up and —		
			detuning		All fade out		
18	Blend level	S. NARROW	20 dB μ (31.2 dBf) STEREO (L-R) 1 kHz, 30% MOD	VR210	Adjust to the point that the detector output is 0.2 dB down from the maximum level		
19	IF off-set		98 MHz $\pm$ 1 kHz 70 dB μ (81.2 dBf) No modulation	VR213	With each shorting of the terminals K4 and T0, the frequency display shifts 1 digit, so that adjust VR213 for 10 kHz position comes to 9 or 0		CSL reception K4, K0 short
20	Confirmation of Auto-search (UP/DOWN SW)	AUTO	20 dB μ 1 kHz, 100% MOD		Confirm Auto-reception by operating UP/DOWN SW. Also confirm that the mute is working while searching		K4, T0: open
21	Confirmation of RF MODE				Confirm a decline of sensitivity with RF MODE SW at DIRECT position		Observe waveform

- FM Adjustment must be completed.
- Equipments: AM SG, Dummy Ant, Oscilloscope, Distortion meter.
- Connect the AM loop antenna to the AM ANT terminals.
- Connect the AM dummy antenna for adjustment.

AM DUMMY ANTENNA CONNECTION

	Item	Conditions	Adjustment Point	Adjustment	Confirmation
0		AM/FM SW → FM Short K4 and T0	The following frequencies are automatically preset in P1-10/P11-20 MEMORIES.		
1	Confirmation of sensitivity	400 Hz, 30% MOD		Obtain AM SG output level where distortion become 10%.	
		630 kHz	P1/P11		< 58 dB μ (69.2 dBf)
		1080 kHz	P2/P12		< 58 dB μ (69.2 dBf)
		1440 kHz	P3/P13		< 58 dB μ (69.2 dBf)
2	Signal meter full-scale	1080 kHz 80 dB μ (91.2 dBf)	VR207 (AM MTR FS)	Adjust to the point all LEDs light up.	P2/P12
		Detuning		All LEDs goes off	
3	Confirmation of auto-search (UP/DOWN SW)	60 dB μ (71.2 dBf)	UP/DOWN SW	Confirm auto-reception by operating UP/DOWN SW	Tuning mode: → AUTO

Connections: Same as FM, AM SECTION

Equipments: Same as FM, AM SECTION

Input Signal: FM – 98 MHz, 70 dBμ (81.2 dBf), STEREO (L or R), 100% MOD

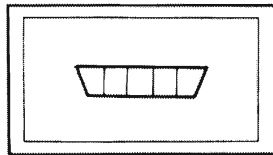
AM – 1080 KHz, 80 dBμ (91.2 dBf), 400 Hz, 30% MOD

	Item	Condition/Procedure	Confirmation	Reference
1	Confirmation of Power supply mute and Initial State	Operate POWER SW On $\leftrightarrow$ OFF	Confirm the function of Muting circuit.	
2	Preset memory	AM/FM SW $\rightarrow$ FM	Confirm that the indicator shows FM band's frequency and "FM", "MHz" indications	
		Operating TUNING MODE SW	Confirm that the MODE is alternately switched AUTO $\leftrightarrow$ MAN'L	Check by AUTO-INDICATOR
		Press UP/DOWN SW repeatedly	Confirm that f-indication changes by 100 kHz-step (A, E, B models and G model are 50 kHz-step)	TUNING MODE SW: $\rightarrow$ MAN'L
		Press UP/DOWN SW continuously	Confirm that f-indication changes by 100 kHz-step continuously	
		Press MEMORY SW	MEMORY INDICATOR flashes	TUNING MODE: AUTO RF MODE: DIRECT IF MODE: AUTO DYNAMIC BLEND: AUTO MODE: AUTO STEREO
		Set P1-10 and press P1	MEMORY INDICATOR goes off and P1-LED lights up (preset has done)	
		Function $\rightarrow$ AM	Confirm that "AM" "kHz" indicators light up	
		Press UP/DOWN SW repeatedly	Confirm that f-indication changes by 9 kHz-step (U, C models and G model are 10 kHz-step)	
		Press UP/DOWN SW continuously	Confirm that f-indication changes by 9 (10) kHz-step continuously	
		Press MEMORY SW	MEMORY INDICATOR flashes	
		Press P2	MEMORY INDICATOR goes off and P2-LED lights up (preset has done)	
		Confirmation: Press P1 (P2)	Confirm that the content is read out and P1 (P2)-LED lights up	
		Press P11-20	P11-20 LED flashes	
		Press MEMORY SW	MEMORY INDICATOR flashes	
		Press P11	MEMORY LED goes off and P11-20 LED lights up (Content of P2 was preset in P11)	
		Confirmation: Press P11	Confirm that the content is read out and P11-LED lights up	
3	MODE AUTO STEREO/MONO	MODE SW $\rightarrow$ MONO Receive STEREO signal	Confirm it results FORCED-MONO reception	STEREO IND: goes off
4	FINE TUNING	Press P1 and P2	Read out P1 and P2	
		Press FINE TUNING SW + or -	Confirm FINE TUNING IND lights up	Digit of 10 kHz indicates Q on FM (except A, B, and E models)
		Press again	Confirm searching action FM per 10 kHz, AM per 1 kHz	
5	IF MODE	Press P1	Read out P1	Also check LEDs properly switched over
		AUTO/MAN'L SW $\rightarrow$ AUTO Press IF MODE SW	Confirm that MODE is automatically switched over to MANUAL when whichever the IF MODE SW (S, WIDE, WIDE, NARROW, and S. NARROW) and pressed	
		AUTO/MAN'L SW $\rightarrow$ AUTO IF MODE: S. WIDE Gradually reduce ANT input level	Confirm IF MODE automatically switched over from S. WIDE through S. NARROW	
6	Last station memory	PWER SW $\rightarrow$ OFF $\rightarrow$ ON again 5 sec. later	Read out PRESET Confirm PRESET is read out	P1-LED lights up

0 = V_L 0 – 1.5 V
1 = V_H 3.3 – 5 V

INPUT DATA

2 pin	3 pin	FUNCTION MODE
0	0	—
1	0	CH UP
0	1	CH DOWN
1	1	P1/10 ↔ P11/20

REMOTE CONTROL
Terminals

1 2 3 4 5

• IC214: LC7210

This is the CMOS LSI utilized to tune the CSL (Computer Servo Lock) tuning system for FM/AM radio which has realized stable station selection by PLL (Phase Locked Loop) synthesizer, precise automatic station search (applicable to all areas of the world and multiple bands) by SL² (Signal Locked Loop) voltage synthesizer, and optimum tuning point reception by AFC operation.

When combined with a prescaler ($\div 100$), this LSI can be controlled by a 4-bit microcomputer in the controller.

The functions are:

- SL² auto search control
- PLL control
- Analog switch for S-curve AFC
- Station-originated frequency counter
- Data generation for FM band IF offset adjustment (5 bits)

Terminal No.	Description	I/O	Function
1	Xin	IN	Oscillation terminals. By connecting Quartz across Xin and Xout, and load capacity across both terminals and Vss, basic clock signal is generated (32kHz).
2	Xout	OUT	
3	Vss	—	Ground terminal
4	DI/DO	IN	Pull-up feature. Input terminal which controls whether data terminal (D ₀ ~ 3) signal is input mode (DI/DO = 1) or output mode, (DI/DO = 0).
5	STB	IN	Pull-up feature. Determines the timing of internal latch, FF clock pulse and set/reset signal which are determined by control input (C ₀ ~ 3).
6	D ₃	I/O	I/O terminals. Push-pull output. Transfers (DI/DO = 1) data to internal data bus (4 bits) or outputs the contents of internal data bus.
7	D ₂		
8	D ₁		
9	D ₀		
10	C ₃	IN	Pull-up feature. Input used to create signal which specifies which logic is to be connected with internal data bus.
11	C ₂		
12	C ₁		
13	C ₀		
14	M/L	OUT	Outputs "1" only when received band is MW, NC.
15	PLL	OUT	Push-pull. Outputs "1" while PLL operation is made.
16	Sout	OUT	Tri-state. Connected with push-pull output and analog switch. • PLL mode: Charge pump output can be obtained. • SEARCH mode: Auto search output can be obtained. • AFC mode: Conducts to Sin terminal via analog switch. High impedance state in other modes
17	SD	IN	Controls whether reception is made by SL ² or PLL when FM is received.
18	Sin	IN	Connected with analog switch or comparator input. • AFC mode: Conducts to Sout terminal via analog switch and makes reception by AFC. • AUTO SEARCH mode: Discriminates S signal between SH and SL via wind comparator and uses as input which controls search speed limit and stop.
19	AFC	OUT	Outputs "1" in AFC mode. Outputs "0" in other than AFC mode.
20	SMK	IN	Prohibits search stop and speed control by SH and SL in AUTO SEARCH mode ("1"). Controls when "0" is input.
21	F/A	OUT	Band data output terminal. Outputs "1" in FM mode.
22	Ain	IN	AM (FM) local oscillator frequency input terminal. Pull-down transistor is turned on in FM mode.
23	Fin	IN	1/100 dividing output of AM (FM) local oscillator frequency is input. Pull-down transistor is turned off in FM mode in which reception is not made by AFC.
24	VDD	—	Power source +5V
25	A/D	IN	Input used to generate data for compensating the shift of center frequency of FM IF filter.
26	Vref	—	Power source for setting wind comparator level (Sin) and power source for A/D converter ladder network of FM fine.
27	PSC	OUT	Outputs "0" when PLL or counter is operated in FM mode. Outputs "1" in other cases (other than when reception is made in FM mode, and other than in FM mode).
28	LOC	I/O	Detects the locking of CSL operation, connected with CR integration circuit. Judges as LOCK state when "1" is input and as UNLOCK state when "0" is input.

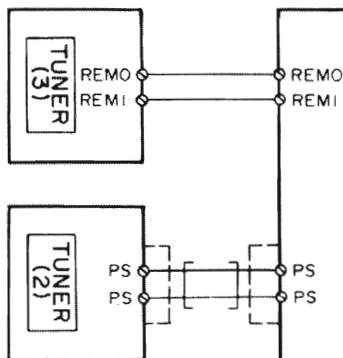
1-chip type 4-bit microcomputer which incorporates 4096 x 8 bit ROM (for programming) and 256 x 4 bit RAM (for data memory)

Terminal No.	Description	I/O	Function
1	PA ₂ REM ϕ	IN	Remote Control INPUT
2	PA ₃ REM 1	IN	Remote Control INPUT
3	PB ₀ K1	IN	} Key matrix input. Judges the switches 101 to 117.
4	PB ₁ K2	IN	
5	PB K3	IN	
6	PB ₃ K4	IN	
7	PC ₀ CO	OUT	} Control output. Specifies which logic of LC7210 is connected with data bus.
8	PC ₁ C1	OUT	
9	PC ₂ C2	OUT	
10	PC ₃ C3	OUT	
11	PD ₀ D0	I/O	} Data bus. Sends and receives data to and from LC7210.
12	PD ₁ D1	I/O	
13	PD ₂ D2	I/O	
14	PD ₃ D3	I/O	
15	PE _n STB	OUT	Strobe output.
16	PE ₁ DI/DO	OUT	Specifies the direction of I/O of data bus.
17	PE ₂ MUTE	OUT	Muting output. +4.5V (reference value) in MUTING mode.
18	PE ₃ A/D	OUT	Signal Quality/IF Offset select. Signal Quality at "1" IF Offset at "0".
19	RES	IN	Reset input. +5V in normal condition.
20	TEST	—	
21	Vss	—	Power ground.
22	OSC1	IN	} Terminals for clock oscillating circuit.
23	OSC2	OUT	
24	PF ₀ H	OUT	} Display, segment output.
25	PF ₁ G	OUT	
26	PF ₂ F	OUT	
27	PF ₃ E	OUT	
28	PG ₀ D	OUT	
29	PG ₁ C	OUT	
30	PG ₂ B	OUT	
31	PG ₃ A	OUT	
32	PH ₀ TA	OUT	} Display, digit output
33	PH ₁ TB	OUT	
34	PH ₂ TC	OUT	
35	PH ₃ MUTE	OUT	Meter Mute Control
36	PI ₀ AUTO BLEND	OUT	AUTOBLEND ON: "0"
37	PI ₁ MONO	OUT	Mono Mode Control Mono: "0"
38	HOLD	IN	Hold mode demand input terminal.
39	INT	—	INTVAL
40	Vdd	—	Power source +5V.
41	PA ₀ U	IN	} Destination symbol.
42	PA ₁ G	IN	

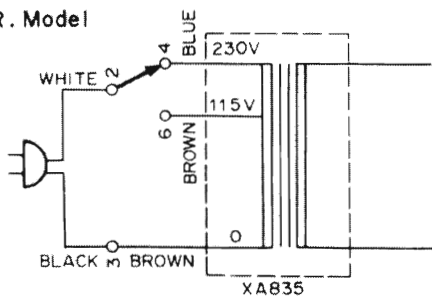
42 pin	0	1
41 pin	J	—
0	J	—
1	G	U

WIRING

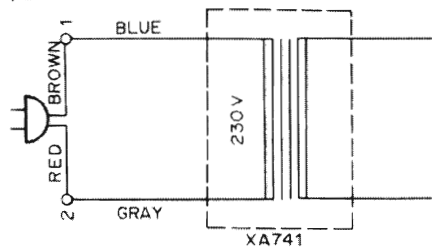
R, U, C, Only



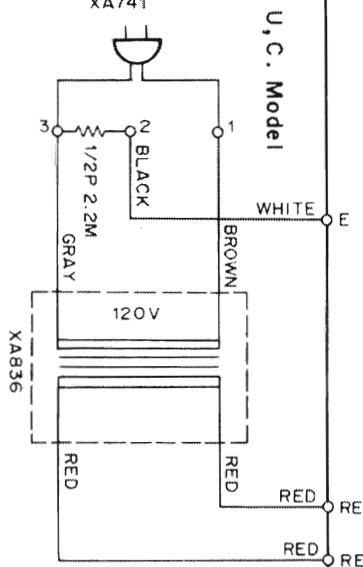
R. Model



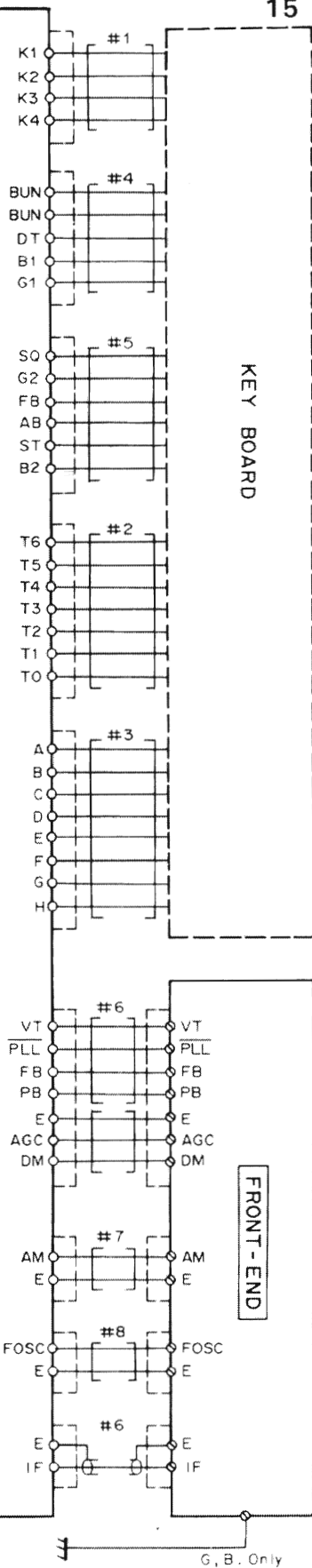
A, G, B. Model



U, C. Model



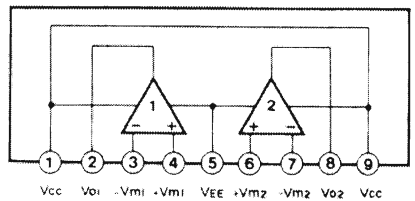
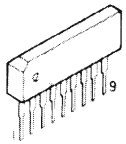
TUNER (1)



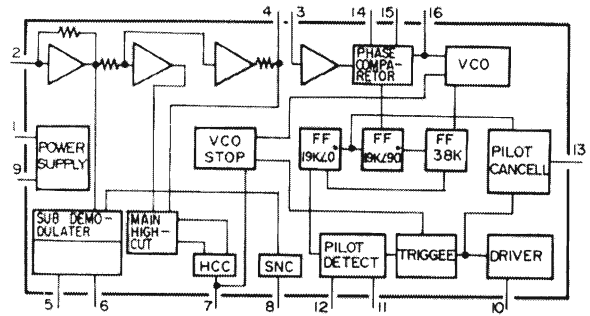
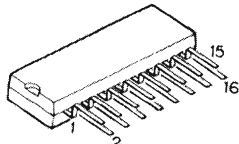
G, B. Only

IC BLOCK DIAGRAM

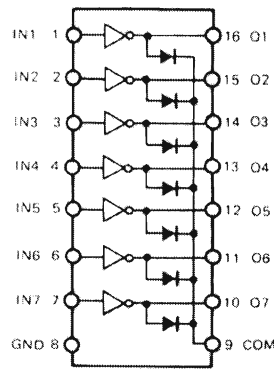
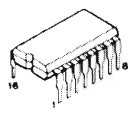
IC201, 207
NJM4558S



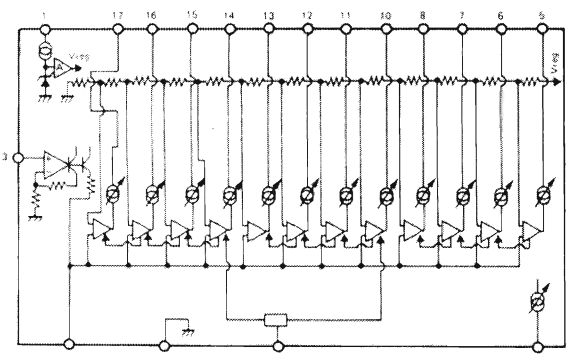
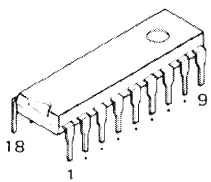
IC208
LA3430



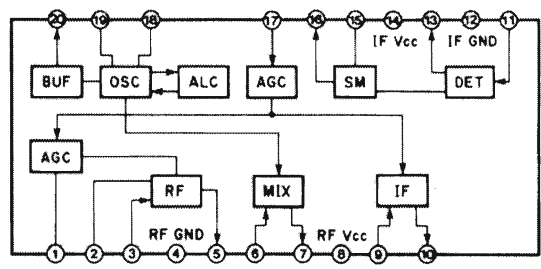
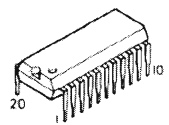
IC1
M54526P



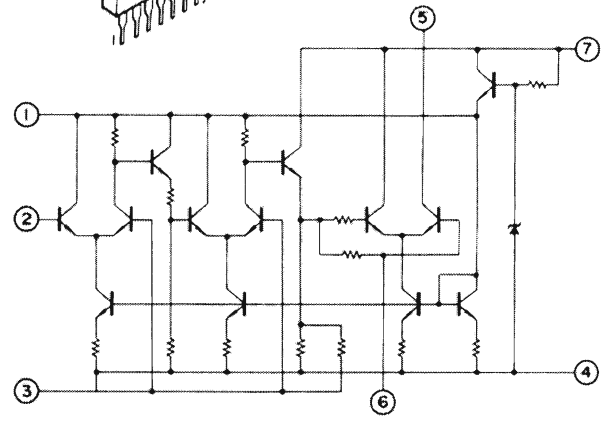
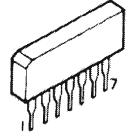
IC3
BA689



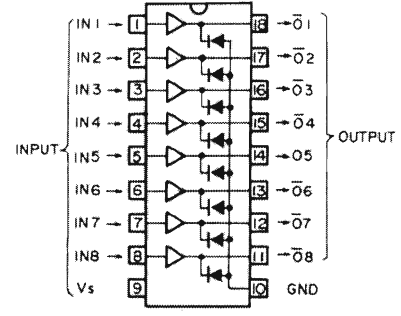
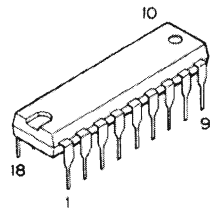
IC206
LA1245



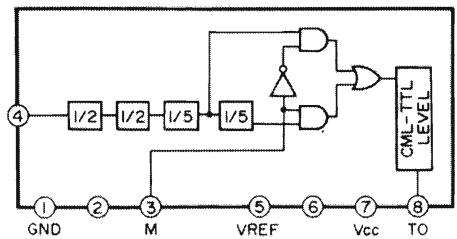
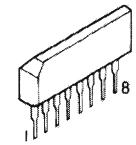
IC202
 μ PC577H



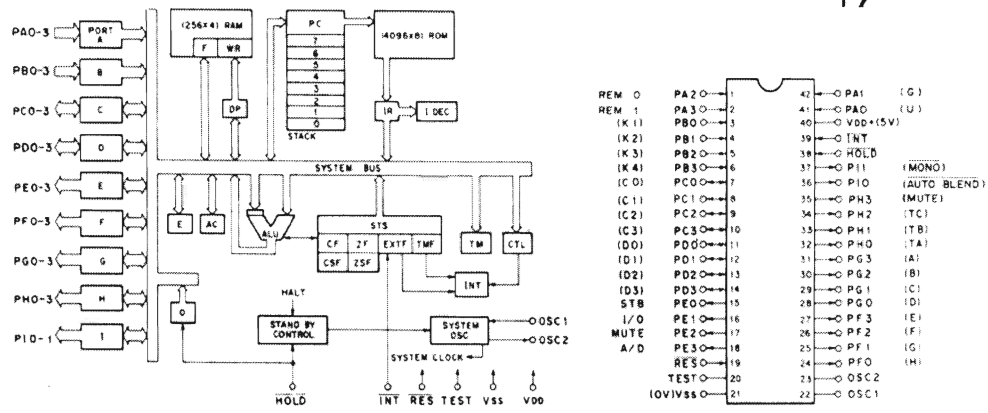
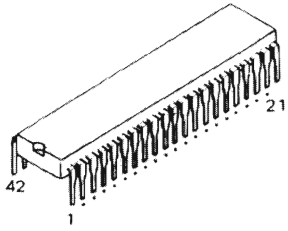
IC2
M54562P



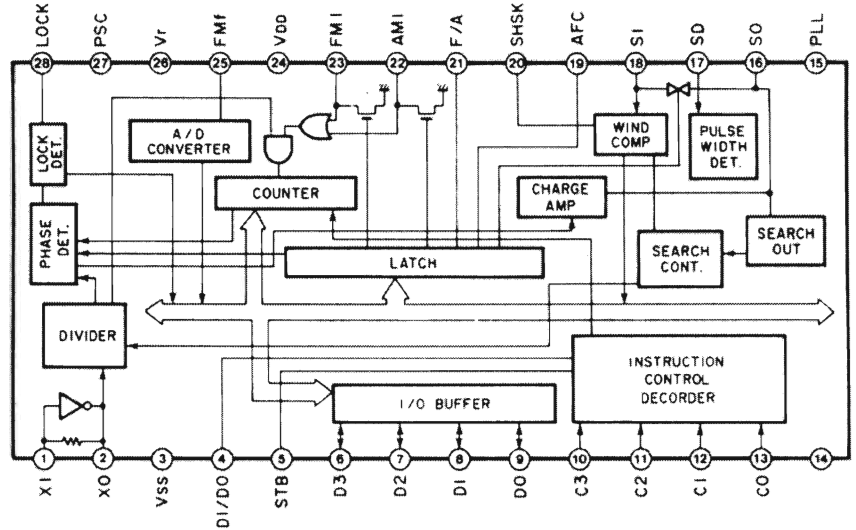
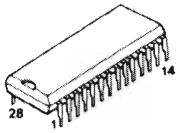
IC101
M54459L



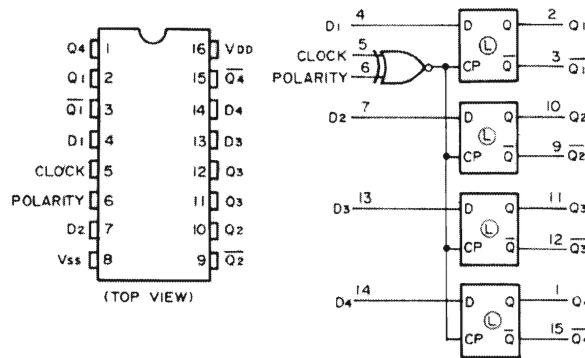
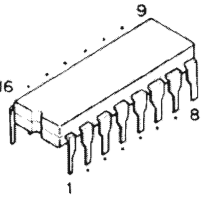
IC213
LC6510C-3040



IC214
LC7210



IC211
TC4042P
IC212
TC4028BP or BU4028B



IC203, 204, 205, 209, 210
NJM2068S

