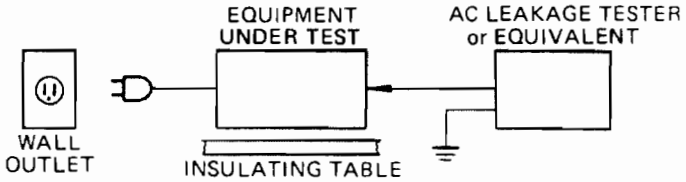
■TO SERVICE PERSONAL

1. **Critical Components Information.**
   Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.

2. **Leakage Current Measurement (For 120V Model Only).**
   When service has been completed, it is imperative that you verify that all exposed conductive surfaces are properly insulated from supply circuits.

   - Meter impedance should be equivalent to 1500 ohm shunted by 0.15μF.
   - Leakage current must not exceed 0.5mA.
   - Be sure to test for leakage with the AC plug in both polarities.



■SPECIFICATIONS

■ FM SECTION

Tuning Range . . . . . 87.6 ~ 108.0MHz
50 dB Quieting Sensitivity
Mono (DX) 1.6μV (15.3dBf)
(NR ON) 1.2μV (12.8dBf)
Stereo (DX) 20μV (37.2dBf)
(NR ON) 10μV (31.2dBf)
Usable Sensitivity
(IHF Mono) 75Ω 0.9μV (10.3dBf)
Usable Sensitivity (DIN)
Mono (S/N 26dB) . . . . . 1.0μV (E)
Stereo (S/N 46dB) . . . . . 3.0μV (E)
Image Response Ratio 95dB
IF Response Ratio 115dB
Spurious Response Ratio 110dB
AM Suppression Ratio 70dB
Capture Ratio
Local 1.2dB
Alternate Channel Selectivity
DX . . . . . 85dB (U,C,R,A)
Selectivity (two Signals) (DIN 40kHz Dev.)
DX . . . . . 70dB (E)
Adjacent Channel Selectivity
DX . . . . . 20dB (U,C,R,A)
Signal to Noise Ratio (IHF)
Mono . . . . . 94dB (U,C,R,A)
Stereo . . . . . 86dB (U,C,R,A)
Signal to Noise Ratio
(DIN-Weighted) Mono . . . . . 88dB (E)
Stereo . . . . . 80dB (E)
Harmonic Distortion
Mono 100Hz . . DX0.03%, Local 0.02% (U,C,R,A)
1kHz . . . DX0.15%, Local 0.03% (U,C,R,A)
6kHz . . . DX0.4%, Local 0.06% (U,C,R,A)
Stereo 100Hz . DX0.5%, Local 0.04% (U,C,R,A)
1kHz . . . DX0.5%, Local 0.03% (U,C,R,A)
6kHz . . . DX0.8%, Local 0.07% (U,C,R,A)
(40kHz Dev)
Stereo 100Hz . . . . . DX 0.5%, Local 0.05% (E)
1kHz . . . . . DX 0.5%, Local 0.04% (E)
6.3kHz . . . . . DX 0.5%, Local 0.08% (E)
Stereo Separation (1kHz) (Local)
50kHz 65dB
1kHz . . . . . 65dB (U,C,R,A)
60dB (E)
10kHz . . . . . 50dB (U,C,R,A)
40dB (E)
Frequency Response
50Hz to 10kHz . . . . . $0^{+0.2}_{-0.3}$dB
20Hz to 15kHz . . . . . $0^{+0.2}_{-0.5}$dB
Subcarrier Product Ratio 65dB
Meter Saturation Level 3mV (75dBf)

■ AM SECTION

Tuning Range . . . . . 510 ~ 1620kHz (U,C,R)
513 ~ 1620kHz (E,A,R)
Usable Sensitivity 250μV
Selectivity 30dB
Signal to Noise Ratio 55dB
Image Response Ratio 40dB
Spurious Response Ratio 50dB
Distortion (400Hz) 0.2%

■ AUDIO SECTION

Output Level/Impedance (HIGH)
FM (100% MOD, 1kHz) . . . . 1V/2kΩ (U,C,R,A)
1.6V/2kΩ (E)
FM (30% MOD, 400Hz) 0.3V/2kΩ
REC CAL (50% MOD, 333Hz) 0.5V/2kΩ
Output Level/Impedance (LOW)
FM (100% MOD, 1kHz) . . 0.5V/2.5kΩ (U,C,R,A)
0.8V/2.5kΩ (E)
AM (100% MOD, 1kHz) 0.15V/2.5kΩ
REC CAL (50% MOD, 333Hz) . . . 0.25V/2.5kΩ

■ GENERAL

Power Supply
U.S. & Canadian Models 120V, 60Hz
General Model 110/120V, 50/60Hz
220/240V, 50/60Hz
European Model 220V, 50Hz
240V, 50Hz
Australian Model 240V, 50Hz
Power Consumption
U.S. & Canadian Models 13W
General Model 13W
European Model 13W
Australian Model 12W
Dimension (WxHxD) . 435 x 93.5 x 357mm (U,C,R,A)
(17-1/8" x 3-1/32" x 14-1/16")
435 x 93.7 x 357mm (E)
(17-1/8" x 3-1/32" x 14-1/16")
Weight 5kg
(11lbs)

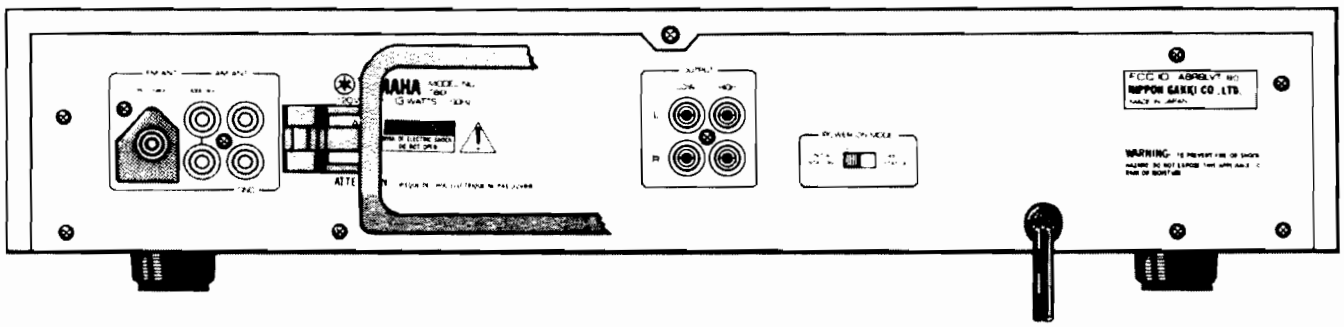
Specifications subject to change without notice

MARKET

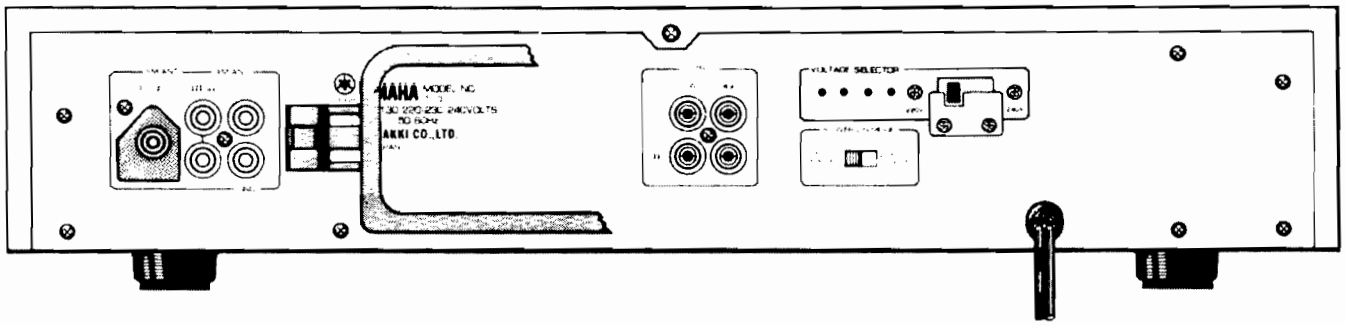
U: U.S. Model
C: Canadian Model
R: General Model
E: European Model
A: Australian Model
J: Japanese Model

■REAR PANELS

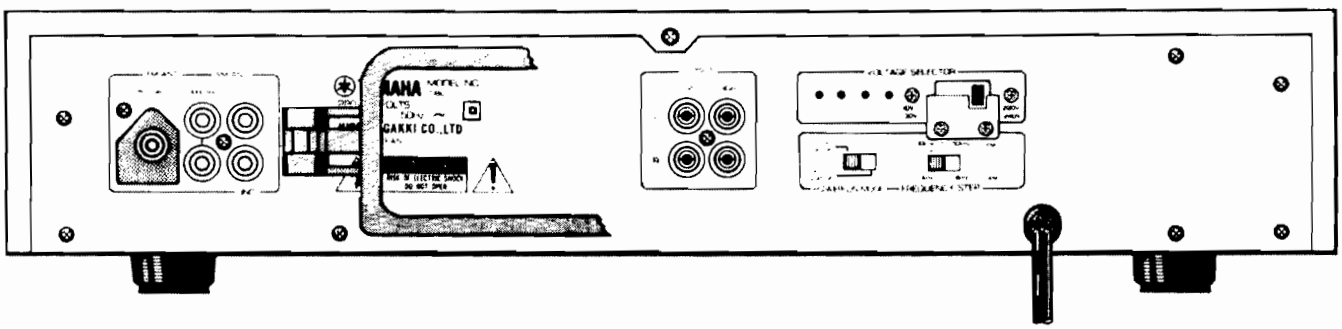
U .S .& CANADIAN MODEL



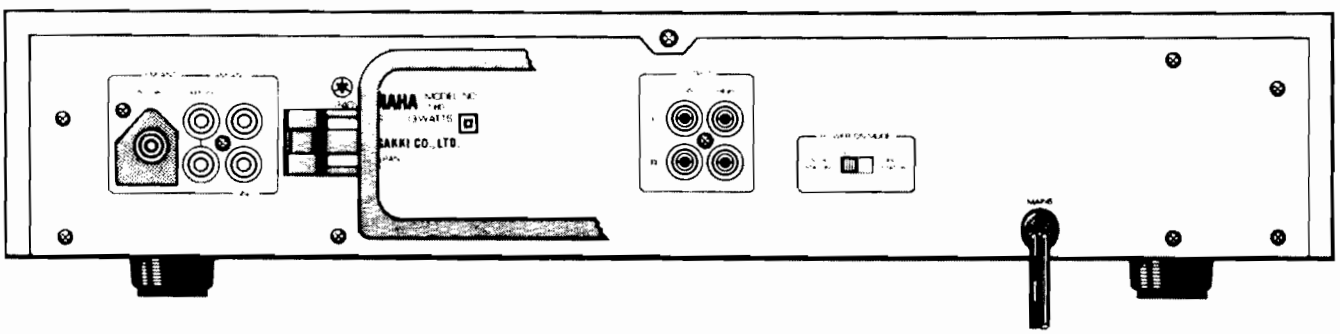
EUROPEAN MODEL



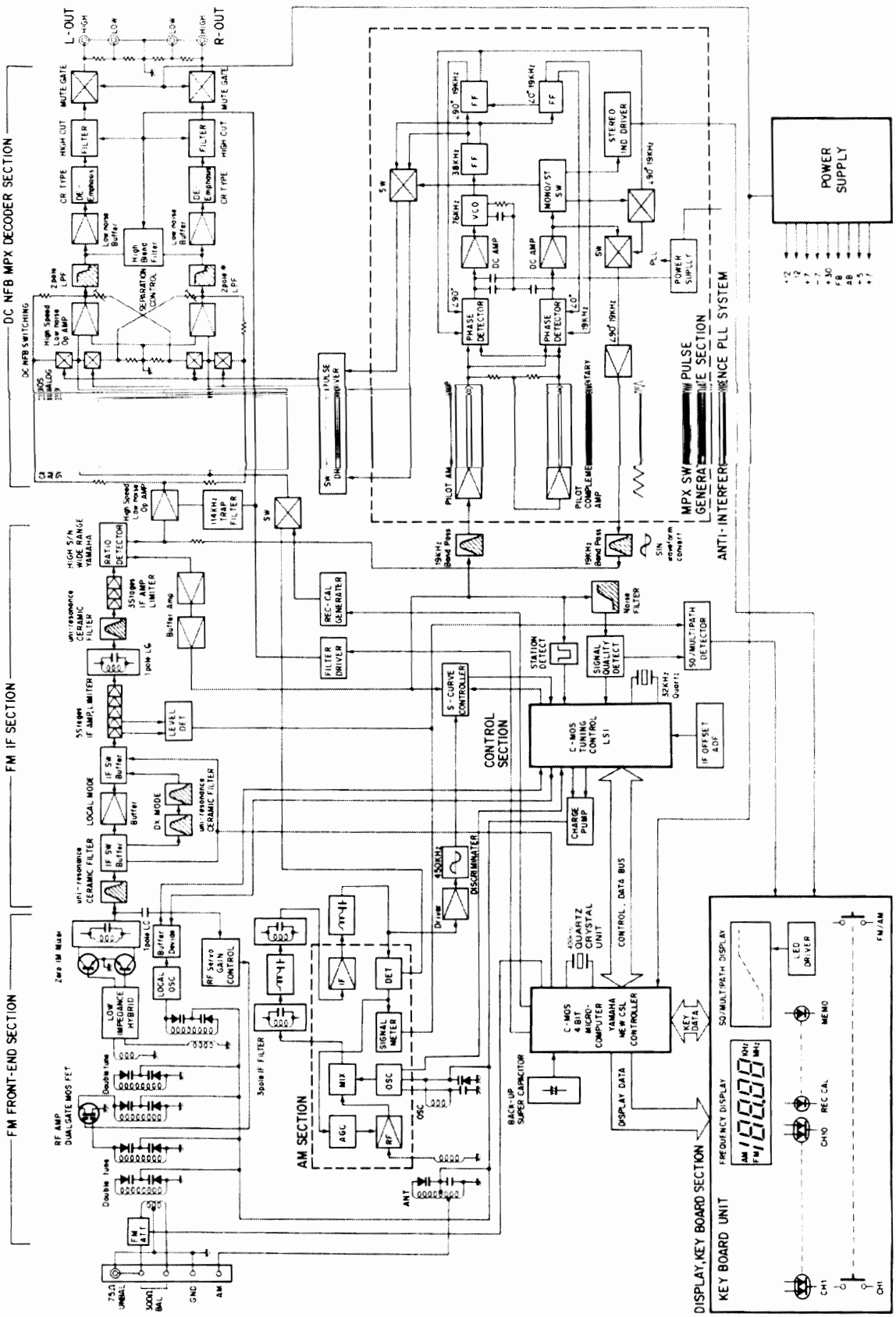
GENERAL MODEL



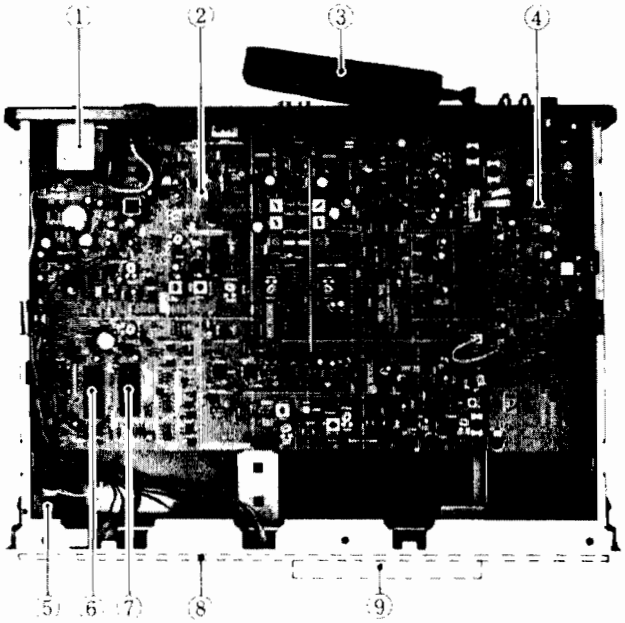
AUSTRALIAN MODEL



■BLOCK DIAGRAM



■INTERNAL VIEW



1. POWER TRANSFORMER
   U. S. & Canadian models: GA67130
   European model: GA67140
   General model: GA67120
   Australian model: GA67150
2. TUNER CIRCUIT BOARD
3. AM LOOP ANTENNA
4. FRONT END CIRCUIT BOARD
5. POWER SWITCH (SW203)
6. IC114 : LC6502C-638
7. IC113 : LC7210
8. KEYBOARD UNIT CIRCUIT BOARD
9. LED FREQUENCY & SIGNAL INDICATOR

■ADJUSTMENT

1. Before Adjustment

1) Start adjustment approximately 5 minutes after the power switch is pushed on in order to stabilize the operation of circuit.
2) Adjust the OSC coil and IFT using high-frequency or nonferrous screwdriver.
3) Adjust the FM section first. After that, adjust the AM section.
4) Set the switches to the following positions unless otherwise specified.
   TUNING MODE . . . . . AUTO
   REC CAL . . . . . OFF
5) Be sure to make adjustment after installing the bottom cover.
6) For connection with OUT PUT, use HIGH terminal.

< Line Voltage Checkup >

Check to see if the specified voltage is provided across each terminal and E in the tuner circuit board.

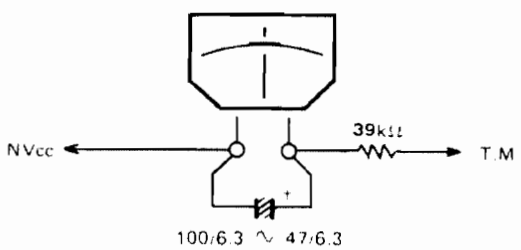
Terminal		Voltage	Measuring Instrument
+30		+30 ± 3V	DCVM
B1 (+7)		+7 ± 1V	
+5		+5.5 ± 0.5V	
B2 (+12)		+12.5 ± 0.5V	
B2	-12	−12.5 ± 0.5V	
	+7	+7 ± 0.5V	
	-7	−7 ± 0.5V	
FB	FM mode	+12 ± 1V	
	AM mode	+1V or lower	
AB	FM mode	+1V or lower	
	AM mode	+12 ± 1V	

2. Measuring Instruments Abbreviation

FM SG . . . . . FM signal generator
SSG . . . . . Stereo signal generator
AM SG . . . . . AM signal generator
OSC . . . . . Oscilloscope
DIST M . . . . . Distortion meter
FC . . . . . Frequency counter
ACVM . . . . . AC voltmeter
Center meter . . . . . Ji00036 or equivalent
DCVM . . . . . DC voltmeter

< FM Tuner Section >

- Use 19kHz L.P.F for OUTPUT L and R terminals and make auditory compensation. Then connect the oscilloscope, AC voltmeter and distortion meter.
- To check the optimum tuning point during adjustment, connect the auxiliary center meter (Ji00036 or equivalent, current sensitivity: 250μA) as shown in the figure.
- The accuracy of FM SG should be within ±1kHz.



Step	Adjustment item	Test point	Instrument (signal)	Adjustment location	Adjustment method	Rating or standard	Remarks
1	Discriminator balance adjustment	Across NVcc and TM	Auxiliary center meter	T203	In detuning state, adjust until the pointer of auxiliary center meter is positioned at zero (center).		After adjustment of steps 1 to 10, to check again. If the pointer is positioned outside the range of ±1mm, re-adjust from step 1.
2	Tuning point set confirmation	300Ω FM ANT Across NVcc and TM	FM SG (98MHz · 1kHz, 70dBμ, Monaural 1kHz 100% modulation) Auxiliary center meter	TUNING button UP, DOWN	Make sure that reception is made with the pointer of auxiliary center meter positioned at zero (center)		Tuning mode SW → AUTO
3	Monaural distortion adjustment	300Ω FM ANT OUTPUT L, R	FM SG (98MHz · 1kHz, 70dBμ, Monaural 100Hz 100% modulation) DIST M, OSC L, P, F	VC202 VR203 (MONO)	Reduce distortion to minimum.	−66dB or lower	Reception should be made in LOCAL mode.
4	VCO adjustment	300Ω FM ANT 19KM (R197) + 12 (J150) 19K (C169)	FM SG (98MHz ± 1kHz, 70dBμ, Nonmodulation) 2.2MΩ FC	VR207 (VCO)	1. Connect 2.2MΩ resistor across R197 and J150 to force stereo mode. 2. Adjust until the frequency across terminals C169 and E becomes 19kHz ± 10Hz.	19kHz ± 10Hz	Stereo indicator light should come on.
5	PLL input phase adjustment	300Ω FM ANT OUTPUT L, R	FM SG (98MHz · 1kHz, 70dBμ, Stereo (L-R) 1kHz 100% non-modulation) OSC	T211 (SUB)	Increase output to maximum.		Remove FC and 2.2MΩ resistor.
6	Stereo distortion adjustment	300Ω FM ANT OUTPUT L, R	FM SG, SSG (98MHz ± 1kHz, 60dBμ, Stereo L, R 1kHz 100% modulation) DISTM, OSC, LPF	L T201 VR201 R T202 VR202	Reduce distortion to minimum.	−56dB or lower	Reception should be made in LOCAL mode.
7	DX distortion adjustment	As above	60dBμ	VC201	Reduce distortion to minimum.		Forced DX
8	Monaural distortion confirmation	As above	FM SG (98MHz ± 1kHz, 70dBμ, Monaural 1kHz 100% modulation)		Confirm that monaural distortion is minimum.	−50dB or lower	Reception should be made in LOCAL mode.

*NOTE: 70dBμ = 75.4dBf, 60dBμ = 65.4dBf.

Step	Adjustment item	Test point	Instrument (signal)	Adjustment location	Adjustment method	Rating or standard	Remarks
9	Separation adjustment	300Ω FM ANT OUTPUT L, R	FM SG, SSG (98MHz • 1kHz 70dBμ Stereo, L, R 1kHz 100% modulation) OSC, ACVM LPF	L VR205 R VR206	Provide stereo signal for R and L channels individually. • R channel alone: adjust OUTPUT Rch VR104 until output is increased to maximum. • R channel alone: adjust OUTPUT Lch VR103 until output is increased to maximum.	Separation: 40dB or higher	
10	Pilot cancel adjustment	300Ω FM ANT OUTPUT L, R	FM SG, SSG (98MHz • 1kHz 70dBμ Pilot signal 9% modulation only) Remove LPF, OSC, ACVM	T212 VR208	Observe with oscilloscope and reduce 19kHz carrier leak level to minimum.	−56dB or lower	
11	Full-scale signal level indicator adjustment	300Ω FM ANT	FM SG, SSG (98MHz • 1kHz 70dBμ Stereo L, R 1kHz 30% modulation)	VR210	Adjust so that all signal indicators light up.		Signal indicators should go off when detuned. Reception should be made in LOCAL mode. FMATT→OFF
12	Signal indicator/multipath switching confirmation	300Ω FM ANT	FM SG, SSG (98MHz ± 1kHz 70dBμ Stereo L, R 1kHz 30% modulation)	Signal indicator/multipath select switch	Make sure that when the select switch is pressed in the state of step 10, the MULTIPATH LED comes on and the indicator displays zero.		
13	Frequency display adjustment (FM IF offset adjustment)	300Ω FM ANT TP(K4) TP(T6)	FM SG, SSG (98MHz ± 1kHz 70dBμ Stereo L, R 1kHz 30% modulation) Short circuit	VR209	By shorting across terminals TP(K4) and TP(T6) the frequency display shifts 1 digit. Therefore, adjust so that 10kHz becomes 9 or 0.		After adjustment, open across TP(K4) and TP(T6).
14	Auto search reception confirmation	300Ω FM ANT	FM SG, SSG (98MHz ± 1kHz 20dBμ Monaural 1kHz 100% modulation)	TUNING UP, DOWN	Make sure that auto search reception is possible with the TUNING button.	Band edge: 76.0 90.0 MHz	TUNING MODE →AUTO During auto search, muting should be made.
15	FM ANT operation confirmation	As above	As above	FM ATT SW	Confirm by output waves that reception sensitivity is deteriorated with FM ATT on.		
16	FM noise filter operation confirmation	300Ω FM ANT	FM SG, SSG (98MHz • 1kHz 20dBμ Stereo L, R 10kHz 100% modulation)	FM NR SW	Make sure that 10kHz output differs between when the FM NR switch is at ON and OFF position.		FM ATT →OFF

< AM Tuner Section >

- Connect the AM loop antenna to the AM ANT terminals.
- Connect the AM dummy used for adjustment to AM SG.
- The accuracy of AM SG should be within ±0.1kHz.

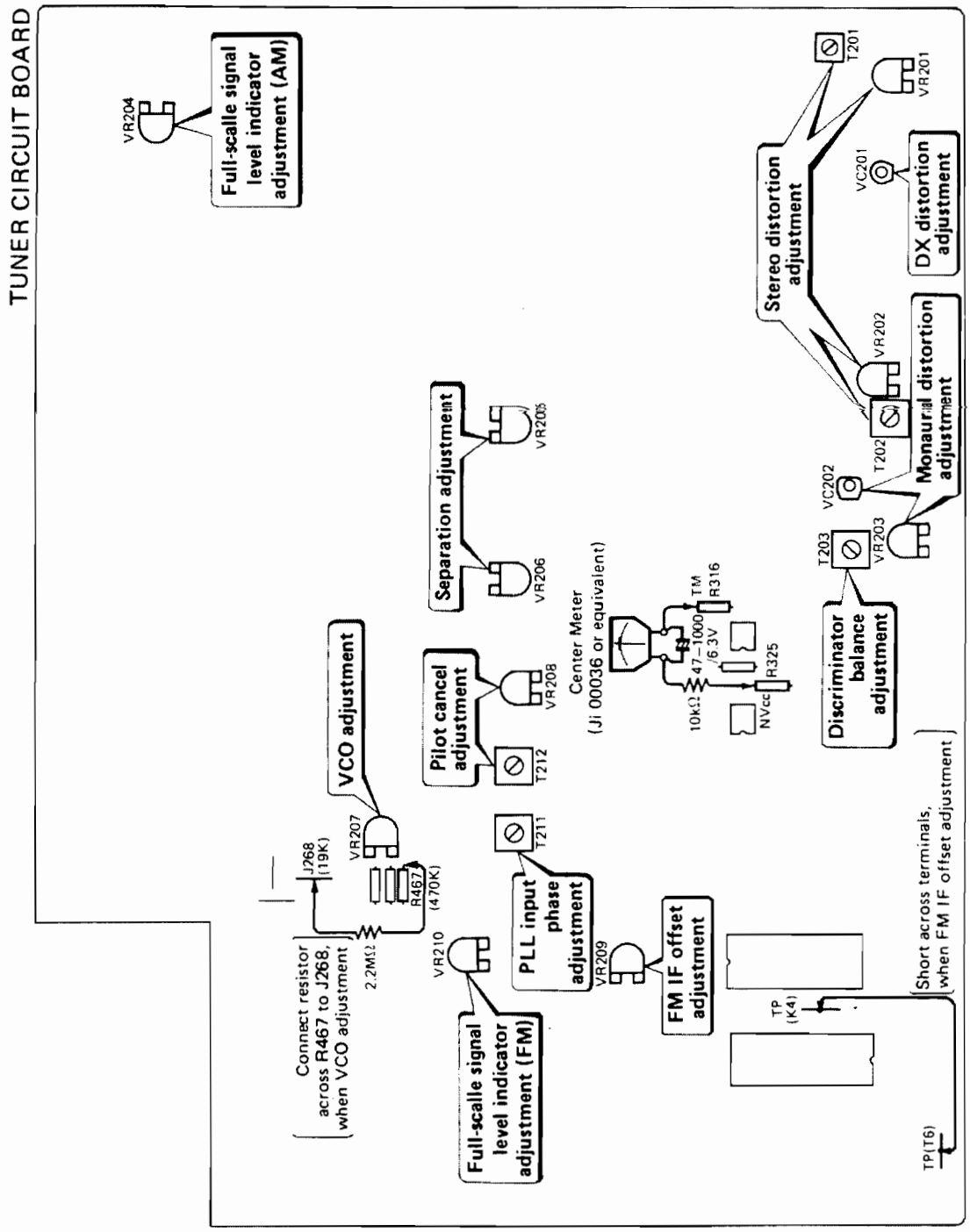
Step	Adjustment item	Test point	Instrument (signal)	Adjustment location	Adjustment method	Rating or standard	Remarks
0				By shorting across the terminals TP(K4) and TP(T6) in FM mode, AM 1,080kHz, FM 92.6 MHz and FM 98.0MHz are automatically stored into preset memories 8 to 10 respectively.			
1	Sensitivity confirmation	AM ANT	AM SG 630kHz ± 0.1kHz 1440kHz ± 0.1kHz 1080kHz ± 0.1kHz (400Hz 30% modulation)		Confirm sensitivity by checking to see if tuning is made at the standard values.	58dBμ or lower 58dBμ or lower 58dBμ or lower	When sensitivity is improper, adjust as described in steps (1) to (5)
		OUTPUT L or R	OSC, DISTM				
2	Full-scale signal level indicator adjustment	AM ANT	AM SG (1080kHz ± 0.1kHz 90dBμ 400Hz 30% modulation)	VR204	Adjust so that all signal indicators light up when tuned.		When VR210 has been turned after adjustment, re-adjust VR204
3	Auto reserarch reception confirmation	AM ANT	AM SG (1080kHz ± 0.1kHz 60dBμ 400Hz 30% modulation	TUNING button UP, DOWN	Make sure that auto search reception can be made with the TUNING button for both UP and DOWN operations.		TUNING MODE SW → AUTO

< Digital Control Section >

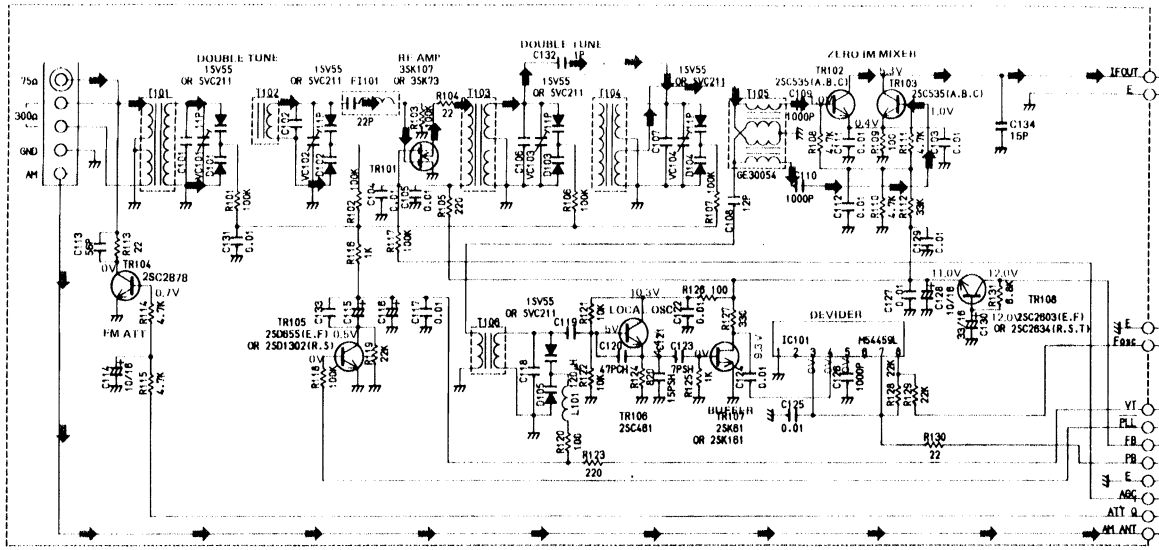
Step	Adjustment item	Test point	Instrument (signal)	Adjustment location	Adjustment method	Rating or standard	Remarks
1	Preset memory confirmation	300Ω FM ANT	FM SG (98MHz ± 1kHz 70dBμ	FM, AM SW TUNING MODE SW → AUTO UP, DOWN SW CH SW	1. Receive FM98MHz and store into CH1. 2. Receive AM1080kHz and sotre into CH2. 3. Press CH1 and CH2 switches and confirm that 98MHz and 1080kHz are displayed, respectively.	1. After tuning, press the MEMORY button, and while the MEMORY indicator is on, press the PRE SET button P1. The MEMORY indicator goes off, and when the indicator above the PRESET button P1 lights up, the FM frequency is stored. 2. In the same way, store the AM frequency.	
		AM ANT	AM SG (1080kHz ± 0.1kHz 400Hz 30% modulation				
2	TUNING mode manual/mono operation confirmation			FM AM SW TUNING MODE SW UP, DOWN SW	1. Move the TUNING MODE switch to MAN'L/MONO position. 2. Confirm that manual search reception can be made with the TUNING button for UP and DOWN operations. Also confirm that when FM is received, forced monaural is selected	The TUNING MODE LED turns off. The FM STEREO LED turns off.	

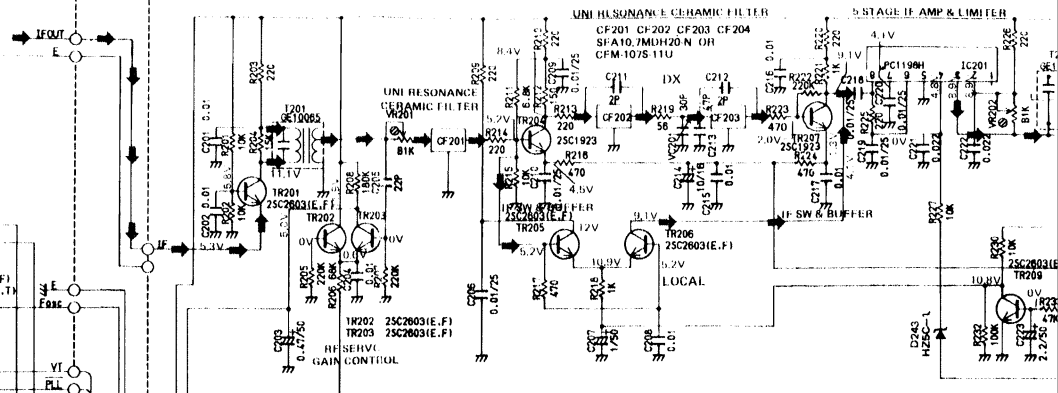
Step	Adjustment item	Test point	Instrument (signal)	Adjustment location	Adjustment method	Rating or standard	Remarks
3	Fine tuning operation confirmation			FINE, TUNING +, −SW	1. Display the frequencies in P1 and P2. 2. Press either of the FINE TUNING "+" or "−" switch. 3. Then, press the FINE TUNING "+" or "−" switch again.	The FINE TUNING LED turns on. At this time, "0" is displayed at the 10kHz area of frequency indicator. (When FM is received). Confirm that search is made with 10kHz steps on P1 (in case of FM) and with 1kHz steps on P2 (in case of AM).	
4	RM mode operation confirmation			FUNCTION FM RX MODE SW	Press the RX MODE switch.	This switch function only when FM is received. Make sure that each time the switch is pressed, the following 3 states are switched and each LED lights up. AUTO DX → Forced DX → Forced LOCAL →	
5	REC CAL operation confirmation			REC CAL SW	Press the REC CAL switch.	* Oscillating output 333Hz ± 66Hz 0.5V ± 3dB * The REC CAL LED should flicker	
6	Last channel memory operation confirmation			POWER SW POWER ON MODE SW → LAST STATION	1. Display the frequencies in P2. 2. Turn off the POWER switch. 3. After 5 or more seconds have passed, turn on the POWER switch.	In the aforementioned state, the frequency in P2 is displayed and the P2 LED turns on.	
7	Initial station set function confirmation			POWER SW MEMORY SW	1. POWER switch. 2. Move the POWER ON MODE switch to INITIAL STATION position. 3 After 5 or more seconds have passed, turn on the POWER switch	→ When the POWER switch is turned on, the frequency in P1 is displayed without respect to the frequency which is displayed before the POWER switch is turned off. Therefore, before turning off the POWER switch, display a frequency which has → been set in other than P1. At this time, confirm that the frequency in P1 is displayed and also the P1 LED turns on.	

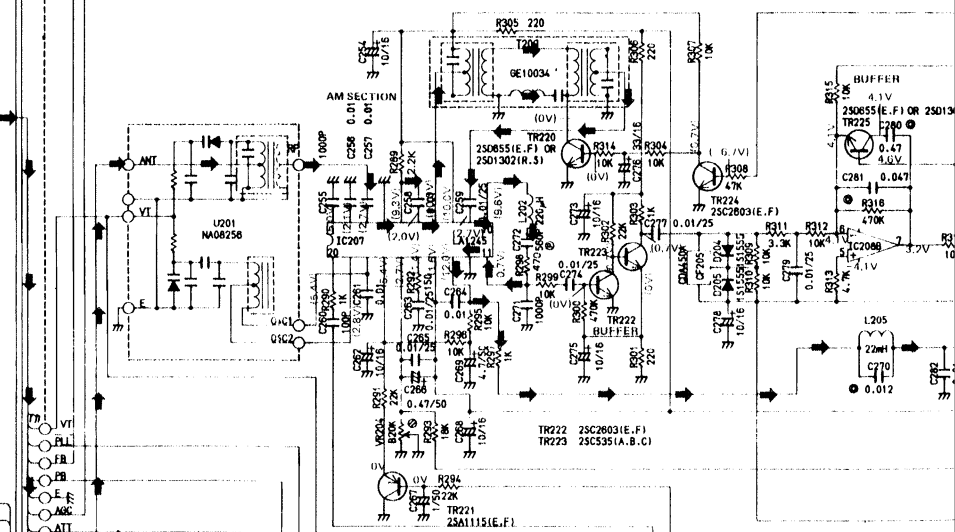
TEST POINTS


TUNER CIRCUIT BOARD
VR204
Full-scalle signal level indicator adjustment (AM)
VC201
DX distortion adjustment
T201
VR201
Stereo distortion adjustment
VR202
T202
Monaural distortion adjustment
VC202
T203
VR203
Discriminator balance adjustment
Separation adjustment
VR205
VR206
Center Meter
(Ji 00036 or equivalent)
Pilot cancel adjustment
VR208
T212
10kΩ
47–1000
6.3V
TM
R316
NVcc
R325
VCO adjustment
VR207
J268 (19K)
R467 (470K)
2.2MΩ
Connect resistor across R467 to J268, when VCO adjustment
PLL input phase adjustment
T211
VR210
Full-scalle signal level indicator adjustment (FM)
VR209
FM IF offset adjustment
TP (K4)
Short across terminals, when FM IF offset adjustment
TP(T6)

■SCHEMATIC DIAGRAM



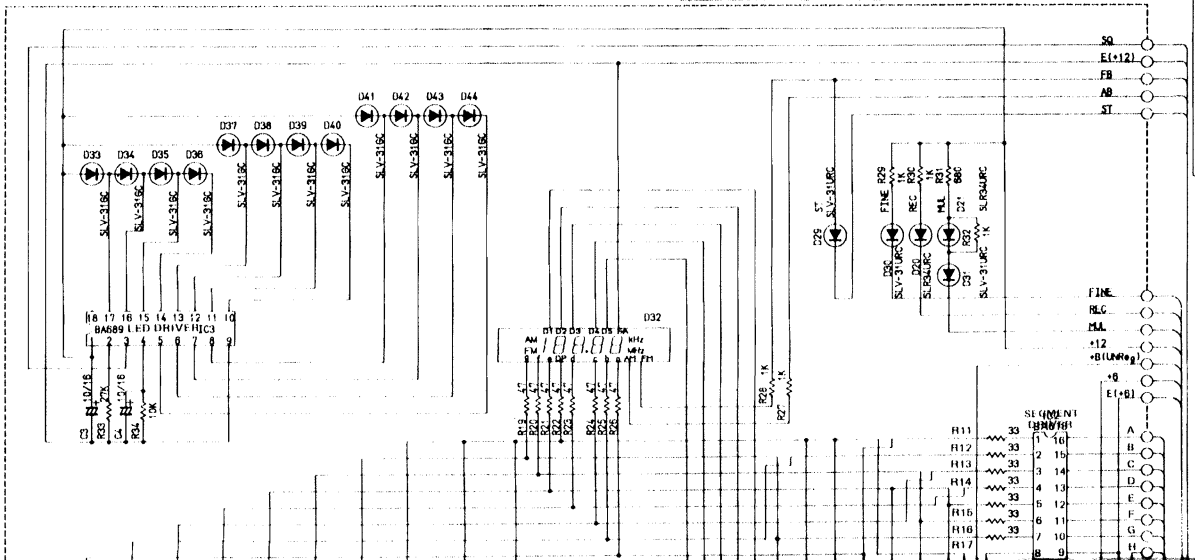


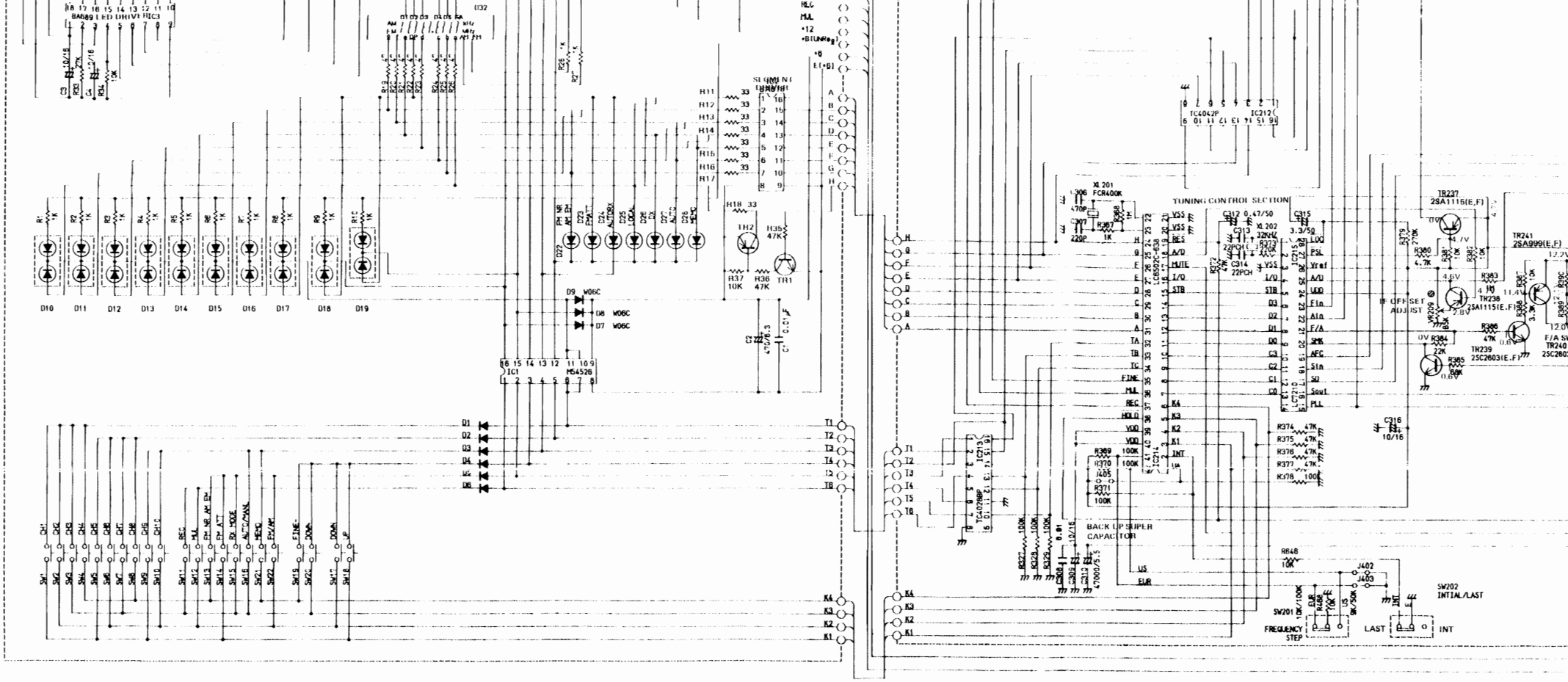


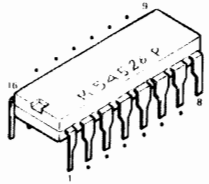
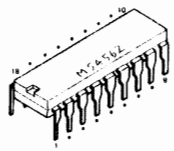
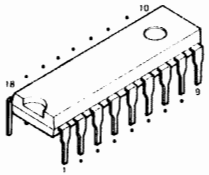
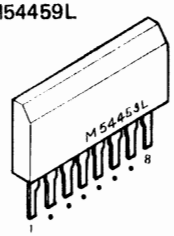
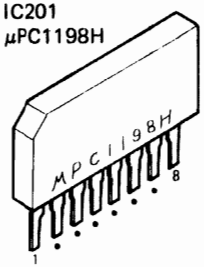
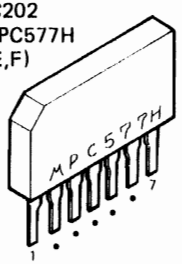
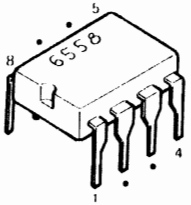
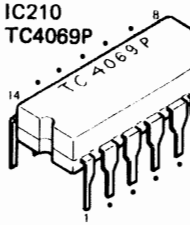
	最終部品番号	欠番
R	131	
D	105	
Tr	108	
C	133	
VC	104	
L	101	

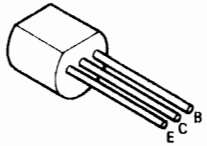
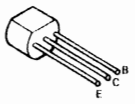
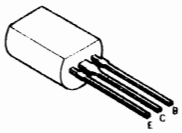
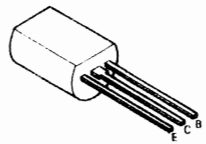
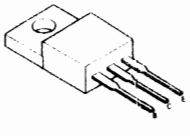
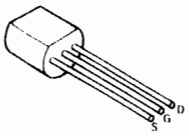
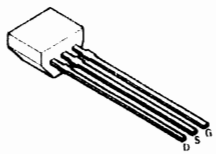
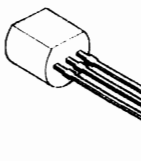
	J	JB	R,RB	UB,CB	A,AB	E,EB
T101	GE10068	GE10068	GE10069	GE10069	GE10069	GE10069
T102	GE30057	GE30057	GE10071	GE10071	GE10071	GE10071
T103	GE30058	GE30058	GE30059	GE30059	GE30059	GE30059
T104	GE30058	GE30058	GE30059	GE30059	GE30059	GE30059
T106	GE10067	GE10067	GE10070	GE10070	GE10070	GE10070
C101	7PCH	7PCH				
C102	7PCH	7PCH				
C106	7PCH	7PCH				
C107	7PCH	7PCH				
C115	2.2/50	2.2/50	2.2/50	2.2/50	2.2/50	2.2/50
C116	1/50	1/50	1/50	1/50	1/50	1/50
C118	7PUJ	7PUJ				
C119	7PSH	7PSH	15PSH	15PSH	15PSH	15PSH
C133						

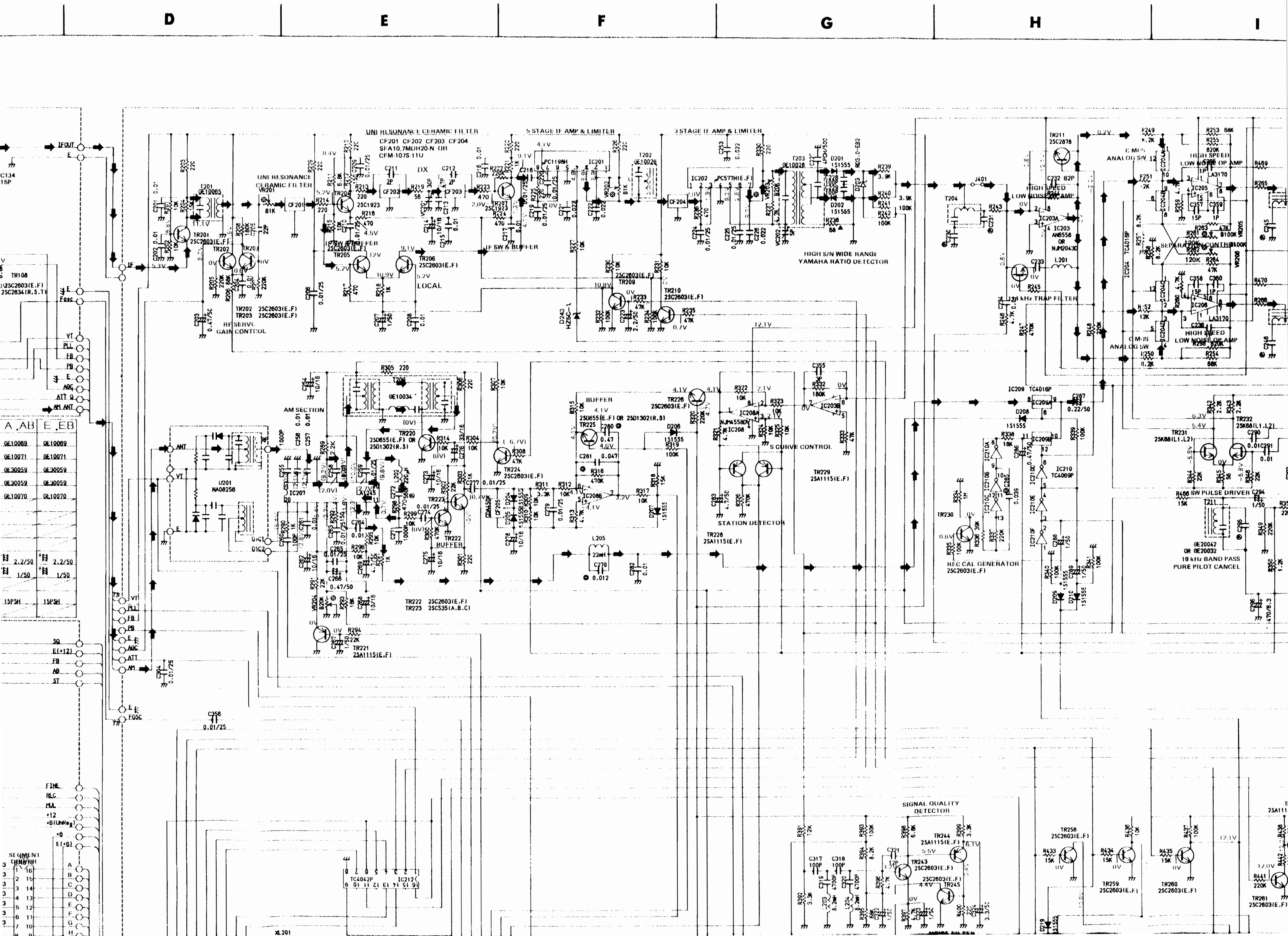
(NOTE)
* All voltages measured with a 10 MΩ/V DC electric volt meter, under no-signal condition.
FUNCTION – FM TUNING MODE – AUTO
RX MODE – AUTO LOCAL REC CAL – OFF
The voltages are measured at FM reception mode. Only the voltages at ( ) are at AM reception mode.
* Schematic Diagram is subject to change without notice.

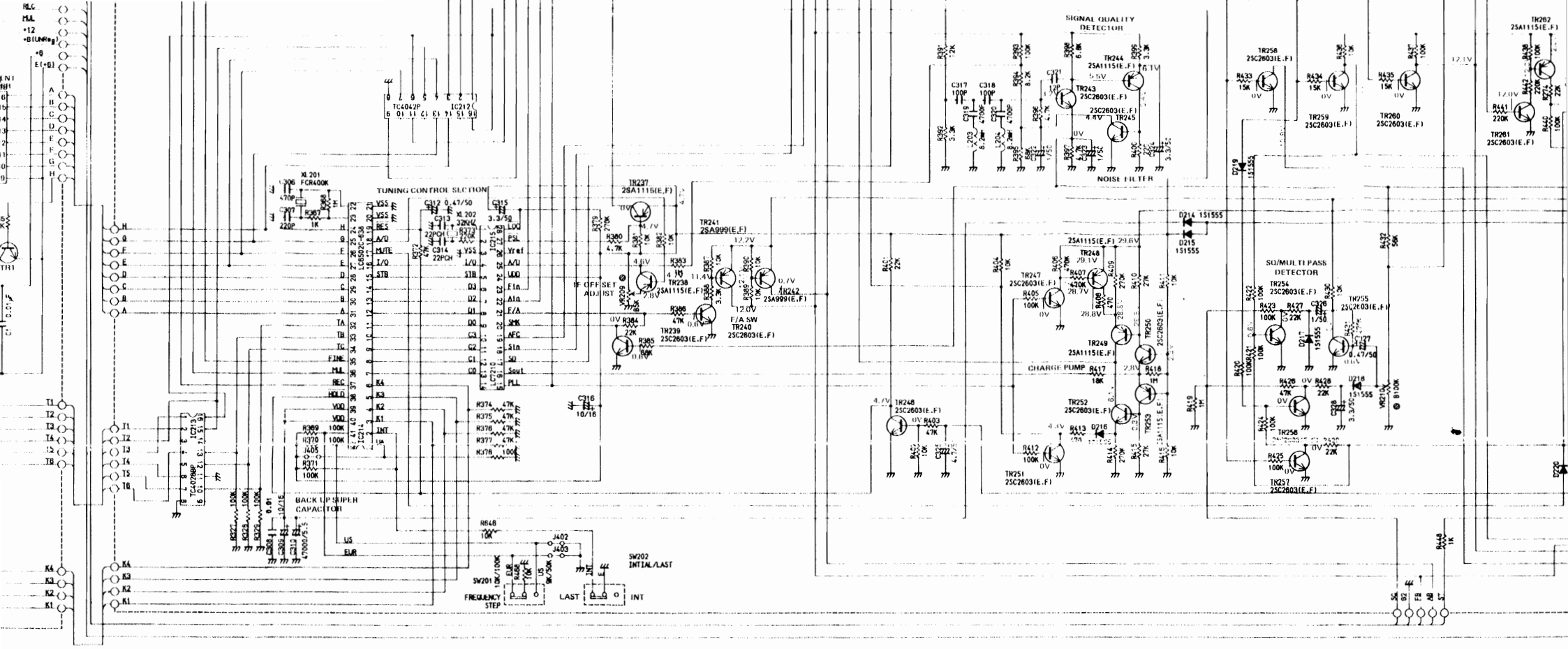




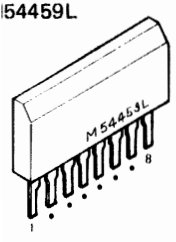
IC1 M54526	IC2 M54562	IC3 BA689	IC101 M54459L	IC201 μPC1198H	IC202 μPC577H (E,F)	IC203 AN6558	IC204,209 TC4016P IC210 TC4069P
							

2SA999 2SA1127 2SC535 2SC461 2SC1923 2SC2603 2SC2634 2SC2878 2SD655 2SD1302	2SA1115	2SA934 2SC2060	2SB544 2SD400	2SC1983	2SK68 2SK105	2SK161	2SK246
							

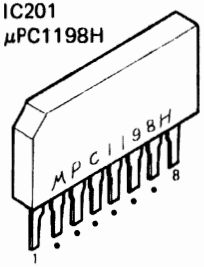

D
E
F
G
H
I
UNI RESONANCE CERAMIC FILTER
CF201 CF202 CF203 CF204
SFA10.7MDH20-N OR
CFM-107S 11U
5 STAGE IF AMP & LIMITER
3 STAGE IF AMP & LIMITER
HIGH S/N WIDE RANGE
YAMAHA RATIO DETECTOR
RF SERVO
GAIN CONTROL
LOCAL
IF SW & BUFFER
AM SECTION
BUFFER
STATION DETECTOR
S CURVE CONTROL
REC CAL GENERATOR
SW PULSE DRIVER
19 kHz BAND PASS
PURE PILOT CANCEL
19 kHz TRAP FILTER
SIGNAL QUALITY
DETECTOR



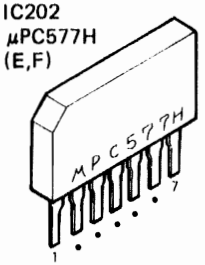
IC101
M54459L



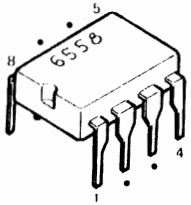
IC201
μPC1198H



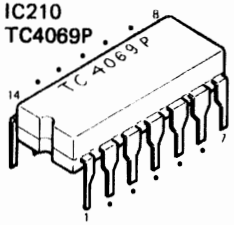
IC202
μPC577H
(E,F)



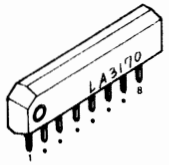
IC203
AN6558



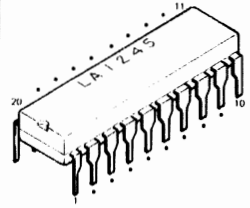
IC204,209
TC4016P
IC210
TC4069P



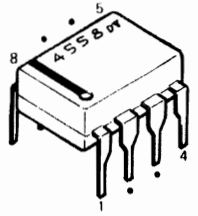
IC205,206
LA3170



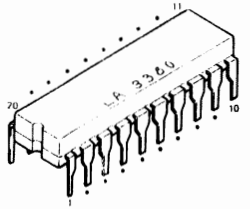
IC207
LA1245



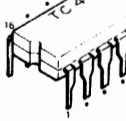
IC208
NJM4558DV



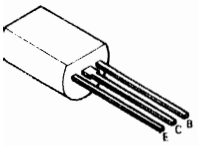
IC211
LA3380



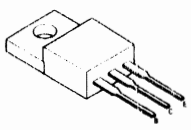
IC212
TC4042P
IC213
TC4028BP



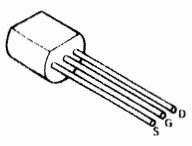
2SB544
2SD400



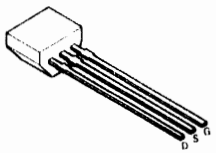
2SC1983



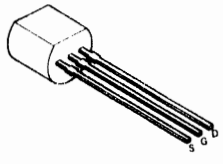
2SK68
2SK105



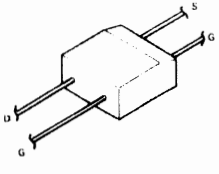
2SK161



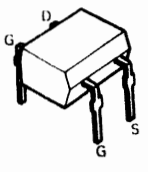
2SK246



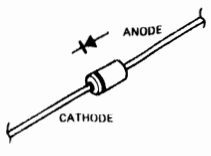
3SK73



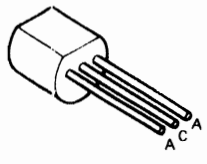
3SK107

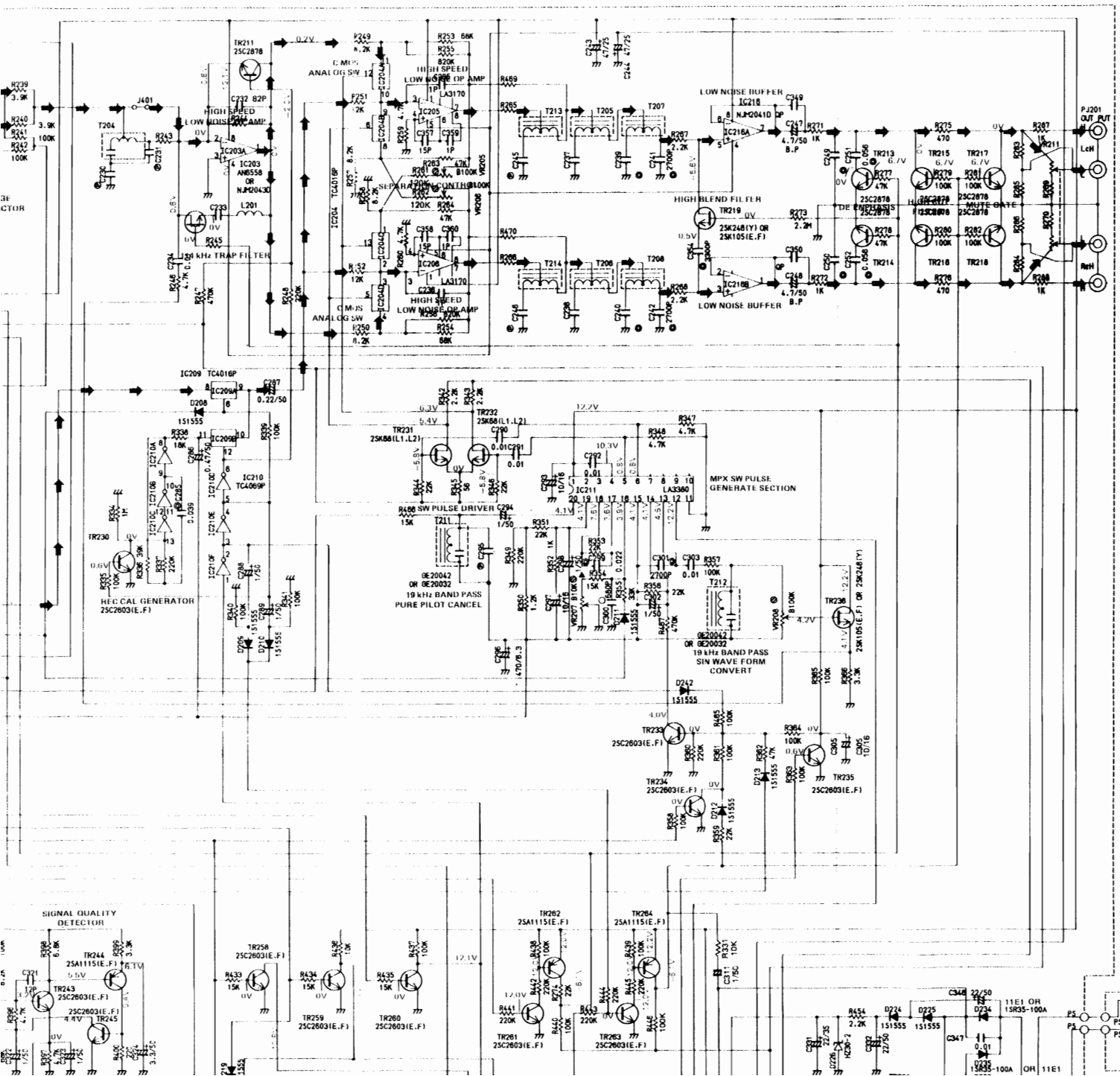


1S1555
RD3.0EB2
1S2473
HZ30-2
HZ7B
RD6.2EB2
HZ12B2



SVC211
1SV55

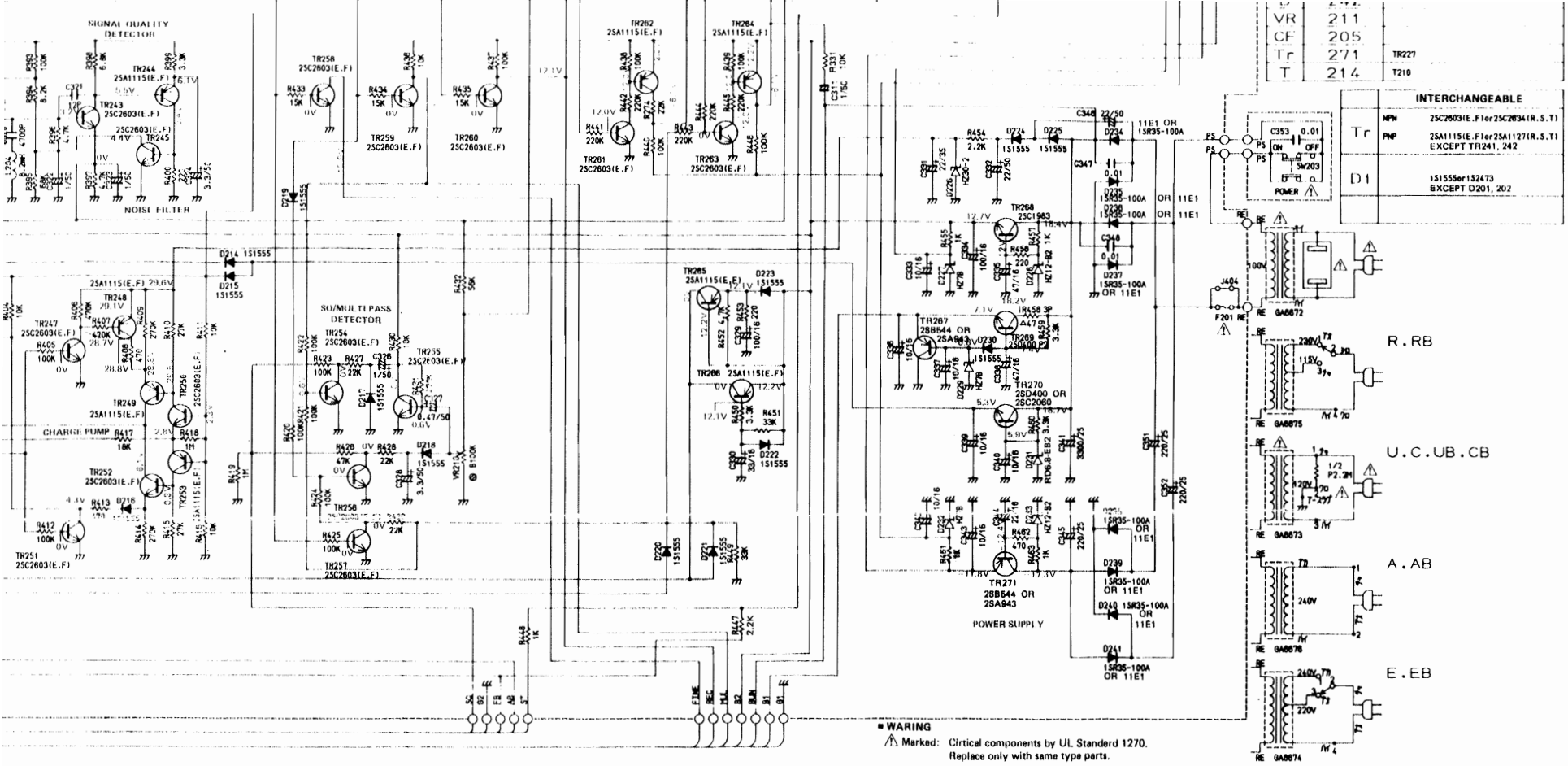




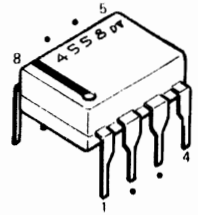
	J	JB	R.RB	U.C. UB.CB	A.AB	E.EB
J401	Set	Set	Set	Set	Set	
J402	Set	Set			Set	
J403	Set	Set		Set		
J404	Set	Set	Set			Set
J405						Set
PJ201	LB40104	LB40125	LB40104	LB40104	LB40104	LB40104
TR212	←			OR 2SK105(E.F)		
T204						GE20046
T205	GE20028	GE20029	GE20028	GE20028	GE20028	GE20028
T206	GE20028	GE20029	GE20028	GE20028	GE20028	GE20028
T207	GE20027	GE20030	GE20027	GE20027	GE20027	GE20027
T208	GE20027	GE20030	GE20027	GE20027	GE20027	GE20027
T213		GE20028				
T214		GE20028				
L201	22mH	22mH	22mH	22mH	22mH	
C230						680P
C231						330P
C233	82P	82P	82P	82P	82P	82P
C237	680P	1500P	680P	680P	680P	680P
C238	680P	1500P	680P	680P	680P	680P
C239	2200P	2700P	2200P	2200P	2200P	2200P
C240	2200P	2700P	2200P	2200P	2200P	2200P
C245		470P				
C246		470P				
C249	0.056	0.056	0.082	0.082	0.056	0.056
C250	0.056	0.056	0.082	0.082	0.056	0.056
C295						680P
C349		100V QP 0.047				
C350		100V QP 0.047				
R468			10K			
R243						2.2K
R244	10K	10K	10K	10K	10K	27K
R245	2.2M	2.2M	2.2M	2.2M	2.2M	
R265		4.7K				
R266		4.7K				
R269		1K				
R270		1K				
R283	4.7K		4.7K	4.7K	4.7K	4.7K
R284	4.7K		4.7K	4.7K	4.7K	4.7K
R285	4.7K		4.7K	4.7K	4.7K	4.7K
R286	4.7K		4.7K	4.7K	4.7K	4.7K
R469	4.7K		4.7K	4.7K	4.7K	4.7K
R470	4.7K		4.7K	4.7K	4.7K	4.7K
VR211		10KB				
SW201			KA40128			
F201				1.0A250V	T1.0A250V	

	FINAL REF NO.	
R	470	R484 R331
C	360	C284 C305 C311
D	242	
VR	211	
CF	205	
Tr	271	TR227
T	214	T210

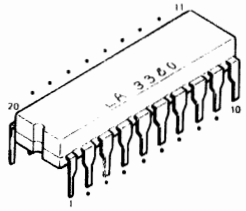
	INTERCHANGEABLE	
Tr	NPN	25C2603(E.F) or 25C2634(R.S.T)
	PNP	25A1115(E.F) or 25A1127(R.S.T) EXCEPT TR241, 242
D1		1S1555 or 1S2473 EXCEPT D201, 202



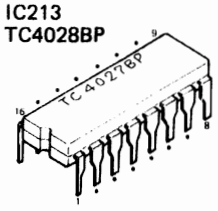
IC208
NJM4558DV



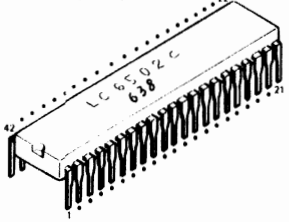
IC211
LA3380



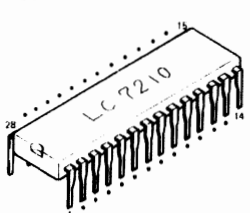
IC212
TC4042P
IC213
TC4028BP



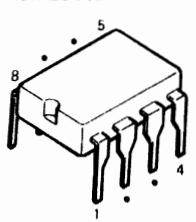
IC214
LC6502C-638



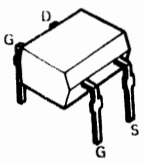
IC215
LC7210



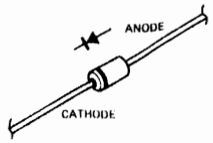
IC216
NJM2041D



SK107



1S1555 **HZ7B**
RD3.0EB2 **RD6.2EB2**
1S2473 **HZ12B2**
HZ30-2



SVC211
1SV55