

FT-212RH

TECHNICAL SUPPLEMENT

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This manual is intended to serve as a supplement to the FT-212RH Operating Manual. Detailed information regarding functions, specifications, options and operation has been provided in the Operating Manual, and is not reprinted herein. Therefore, this supplement is not intended to serve as an independent reference, but to be used in conjunction with the information provided in the Operating Manual.

Because of the compactness and complexity of the double-sided glass-epoxy circuit boards used in the FT-212RH, four layout diagrams are provided for each board. Each side of the board is identified by the type of the majority of components installed on that side. In most cases one side has only chip components, and the other has either a mixture of both chip and lead components (trimmers, coils, electrolytic capacitors, packaged ICs, etc.), or lead components only. The two "obverse" views depict the board as it is seen when viewed directly with the eye, while the two "reverse" views depict the unseen side of the board as it would appear if one were to peer through the board from the other side without seeing the components and tracks on the near side.

While we believe the technical information in this manual is correct, Yaesu assumes no liability for damage that may occur as a result of typographical or other errors that may be present. Your cooperation in pointing out any inconsistencies in the technical information would be appreciated.

Yaesu Musen reserves the right to make changes in the circuitry of this transceiver, in the interest of technological improvement, without notification of the owners.

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CIRCUIT BOARD ACCESS

BOTTOM COVER REMOVAL

The following circuit boards are accessed by removing the bottom cover:

- Main Unit* (component side)
- IF Unit*
- Mic Unit*
- APC Unit
- VCO Unit
- PA Unit (lower edge only)

To remove the bottom cover, remove the four screws marked " ★ " in Figure 1, plus the four marked " * " if the top cover has not already been removed. Then lift the cover away.

* To access these boards it may be necessary to remove the loudspeaker and holder:

- (1) Referring to Figure 2, unplug the speaker wire connector from J1005 on the Main Unit, and lift the loudspeaker out of its bracket.
- (2) Remove the three screws in the arms of the speaker bracket and remove the bracket.

TOP COVER REMOVAL

Removing the top cover exposes the Solder Side of the Main Unit circuit board and the top edge of the PA Unit board.

To remove the top cover, remove the four screws marked " ○ " in Figure 1, plus the four marked " * " if the bottom cover has not already been removed. Then lift the cover away.

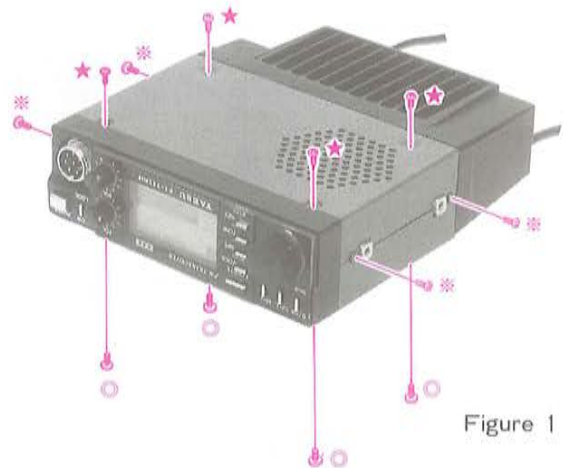


Figure 1

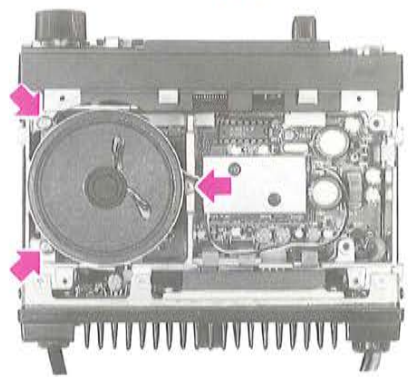


Figure 2

FRONT PANEL REMOVAL

Removing the front panel allows access to the Control Unit and LCD Unit circuit boards.

- (1) After the top and bottom covers have been removed, pull off the Selector, VOL and SQL knobs.
- (2) Remove the nut from the microphone jack using a slotted ring wrench as shown in Figure 3.

The front panel can now be slid forward.

CIRCUIT BOARD ACCESS

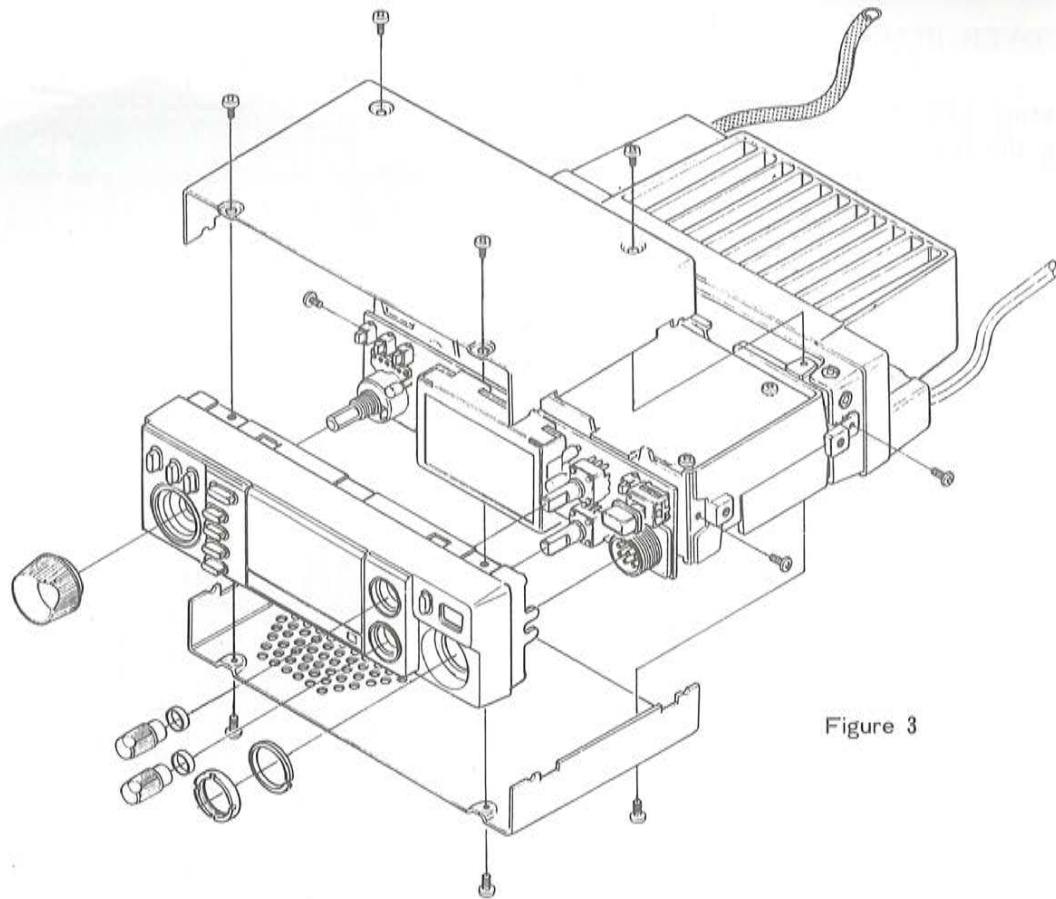
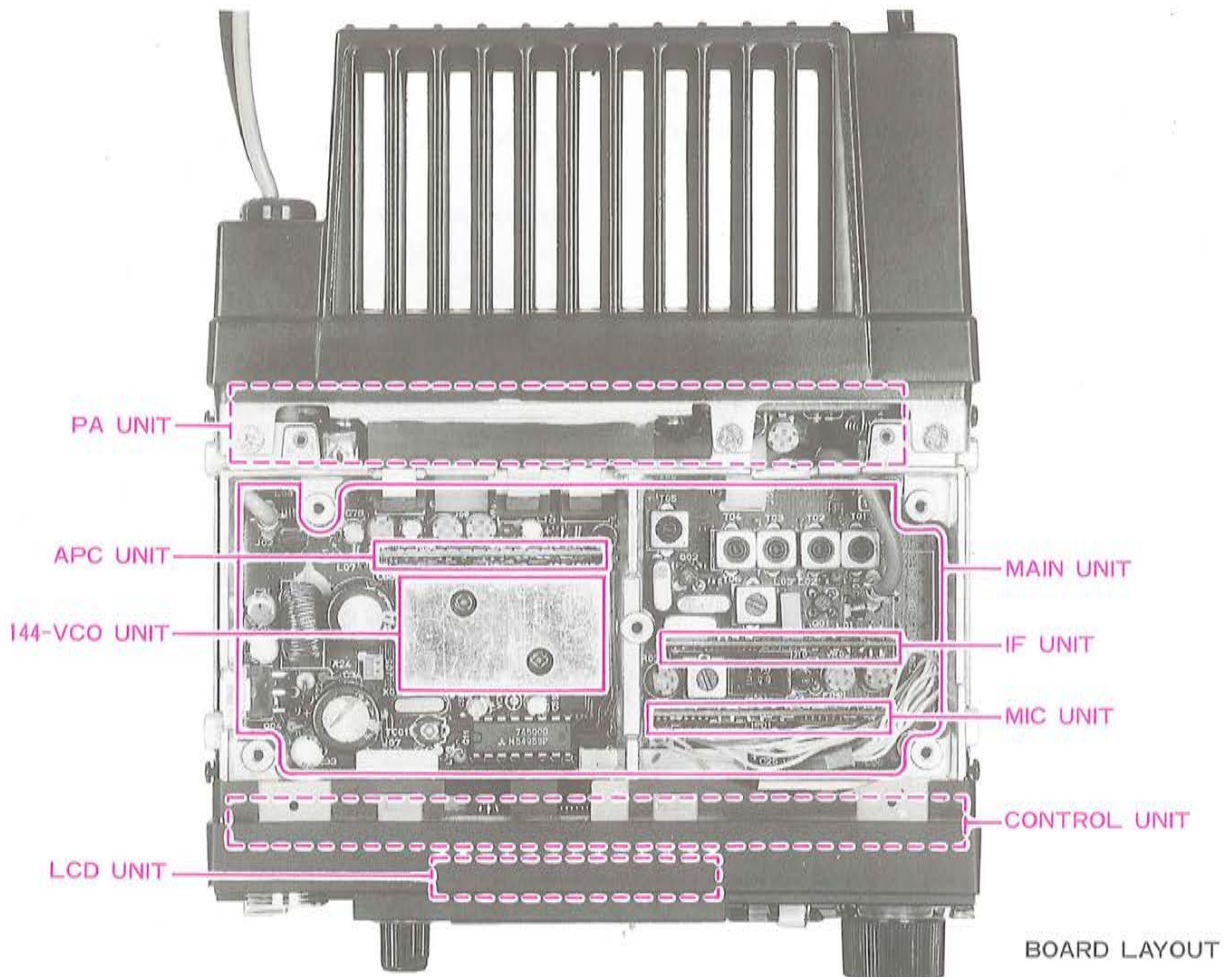


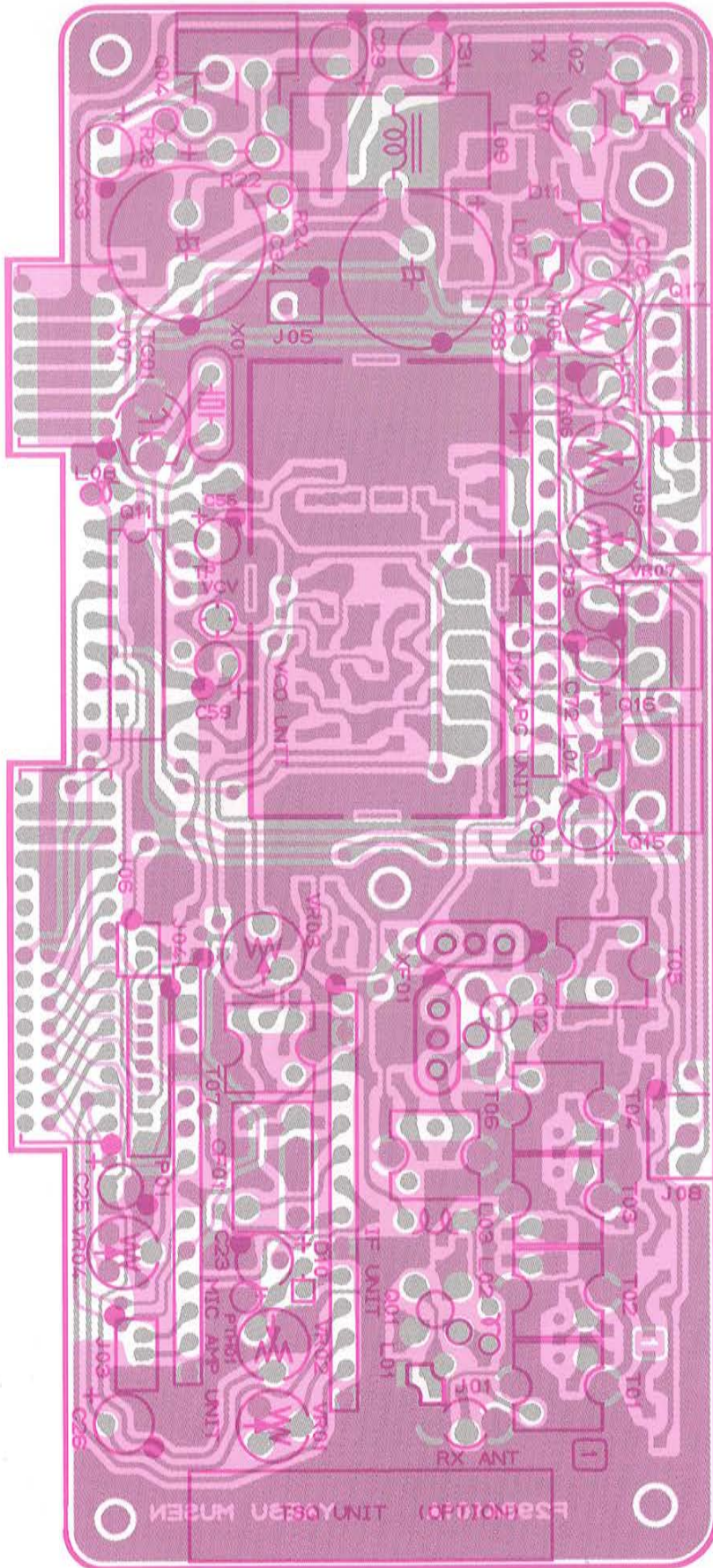
Figure 3



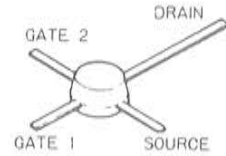
BOARD LAYOUT

MAIN UNIT PARTS LAYOUT

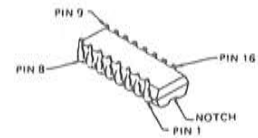
MAIN UNIT (No.1 XXX)



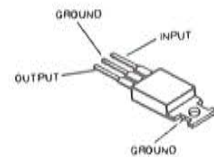
obverse view of "component" side



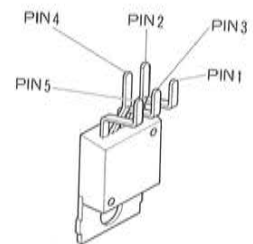
3SK81 (Q1002)
3SK122L (Q1001)



M54959P(Q1011)

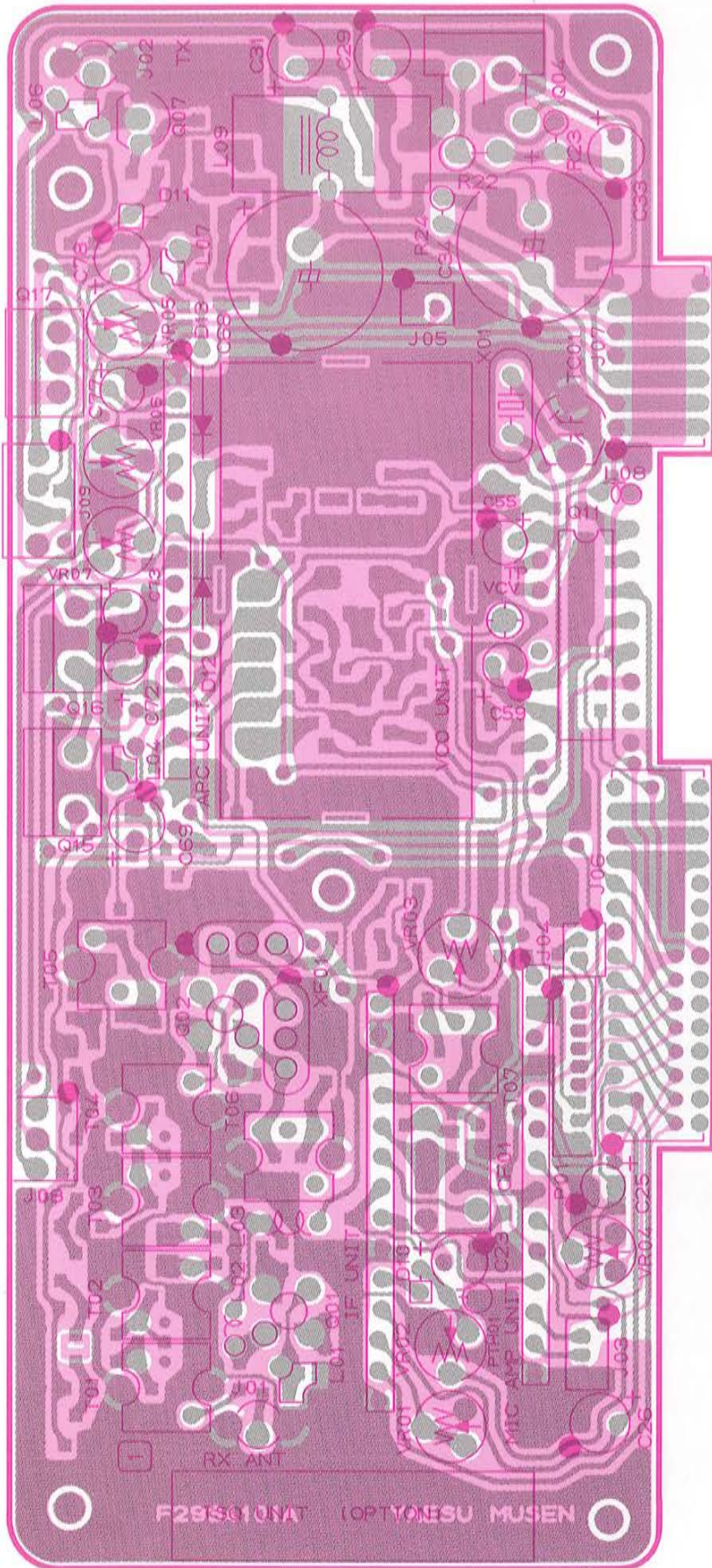


μPC7805H (Q1015)
L7809 (Q1016)

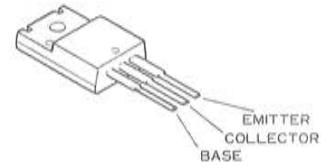


TDA2003 (Q1004)

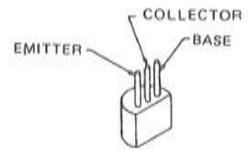
MAIN UNIT PARTS LAYOUT



reverse view of "component" side



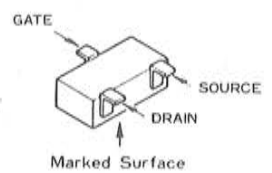
2SB1134R (Q1017)



2SC2538 (Q1007)

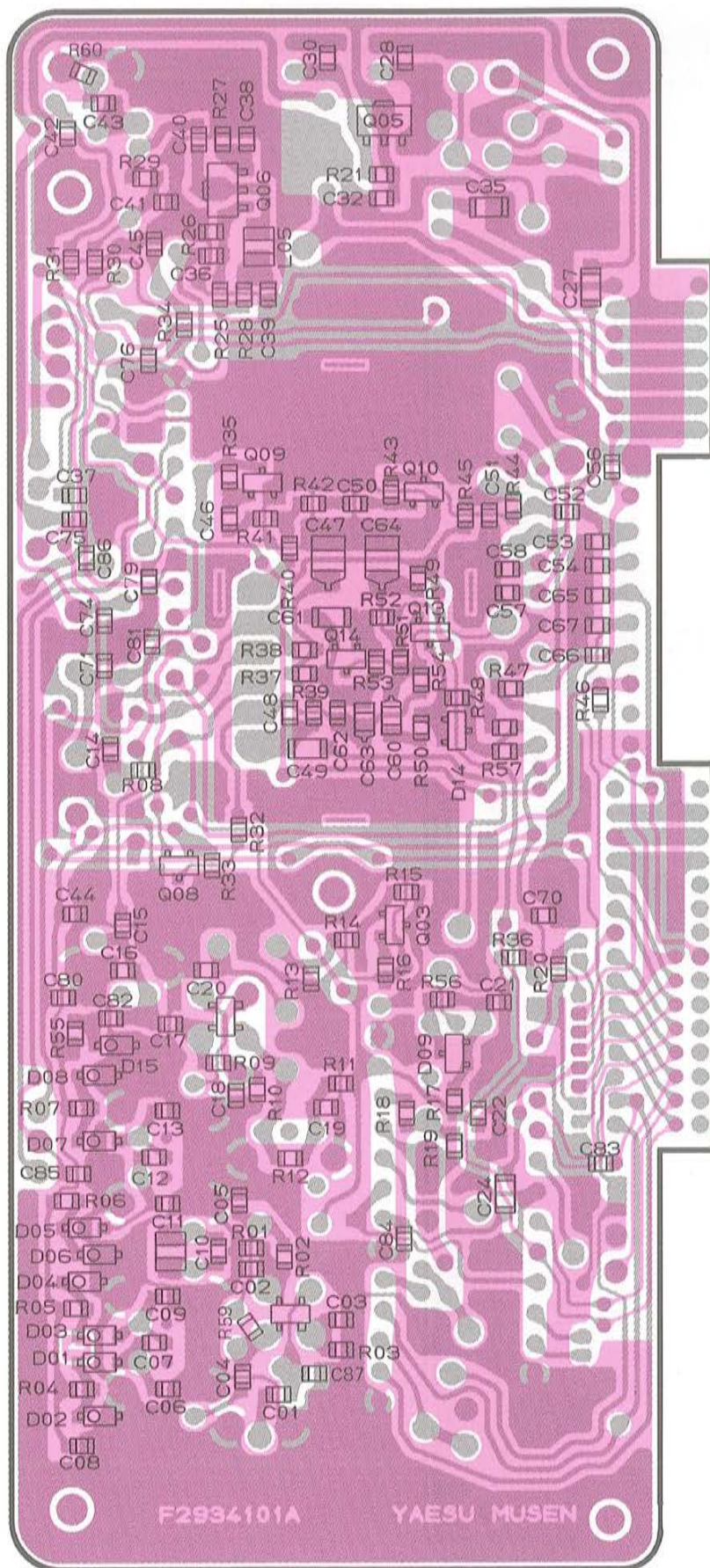


2SD1000(LL) (Q1005)
2SC3357(RK) (Q1006)

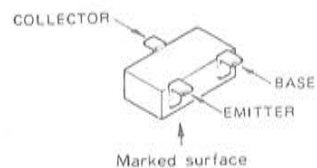


2SK209GR(XG) (Q1008)
2SK208Y (JY) (Q1013)

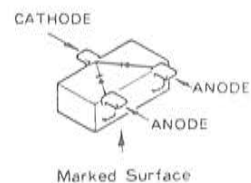
MAIN UNIT PARTS LAYOUT



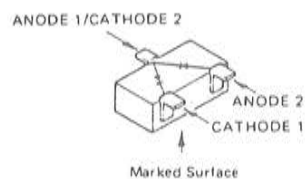
obverse view of "chip-only" side



2SC2620(QB)
(Q1003,1009,1010)
2SC1623(L7) (Q1014)

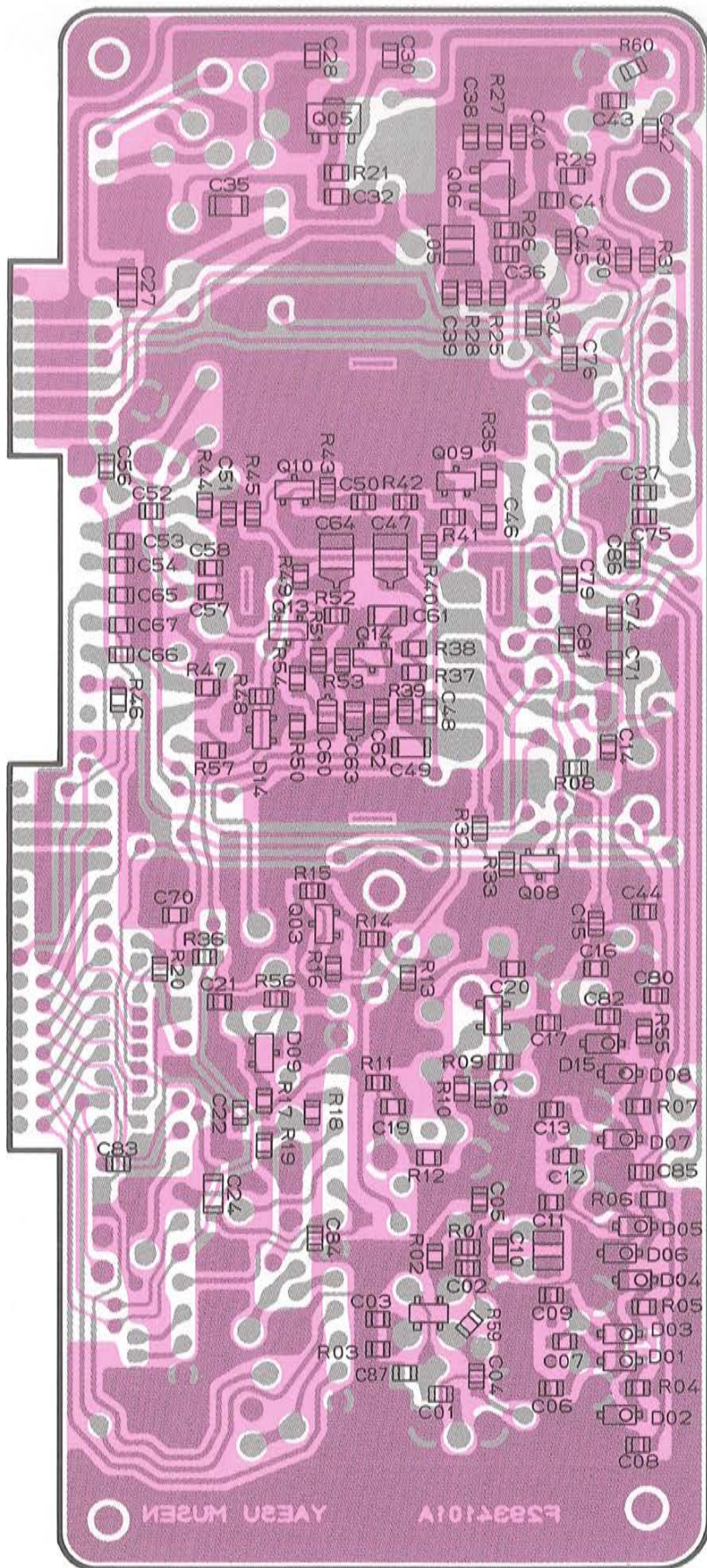


1SS184(B3) (D1014)



1SS226(O3) (D1009)

MAIN UNIT PARTS LAYOUT



reverse view of "chip-only" side

MAIN UNIT PARTS LAYOUT

MAIN UNIT VOLTAGE CHART

(DC VOLTS)

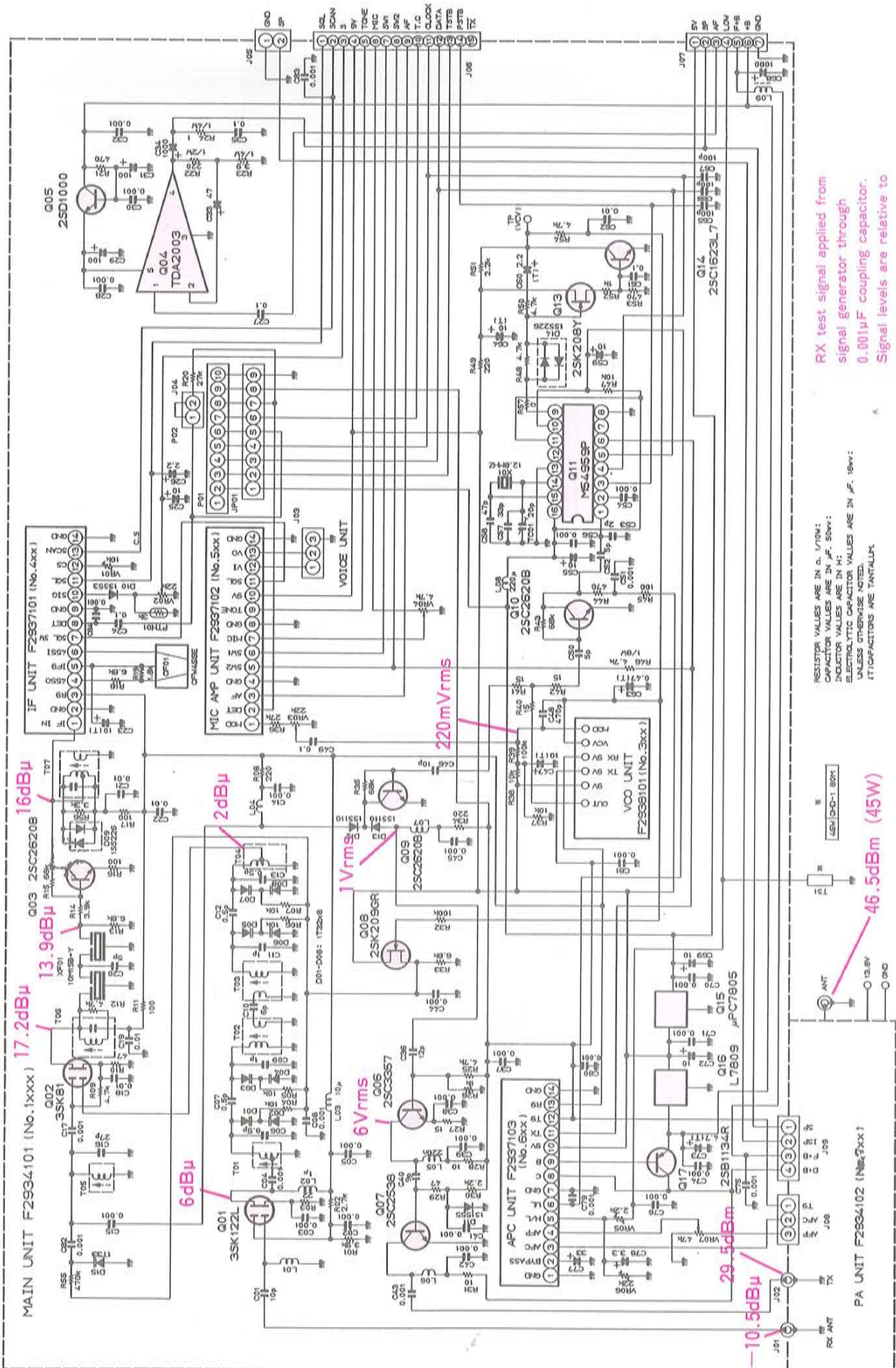
Symbol No.	E(S)	C(D)	B(G1)	G2	REMARKS
Q1001	0.2	9.0	0	5.2	
Q1002	0.18	8.60	0	0.15	
Q1003	0.2	8.8	0.8		
Q1005	12.8	13.6	13.6		
Q1006	0.6	8.5	1.0		
Q1007	0	11.80/350	0.55/0.55		RF POWER HIGH/LOW
Q1008	13.8	9.0	13.8		
Q1009	0	6.5	0.7		
Q1010	0	5.4	0.7		
Q1013	13.8	8.0	13.8		
Q1014	0	13.8	0.6		
Q1017	12.4/13.6	12.4/0	11.2/13.2		RX/TX

MAIN UNIT IC VOLTAGE CHART

(DC VOLTS)

PIN No. Symbol No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	REMARKS
Q1004	0.7	0.7	0	6.4	13.6												
Q1011	2.3	2.6	4.4	0	0	0/3.6	0	0	1.5	0	4.6	0	0	2.0	2.0	4.6	RX/TX
Q1015	13.6	0	9.0														
Q1016	9.0	0	5.0														

MAIN UNIT CIRCUIT DIAGRAM



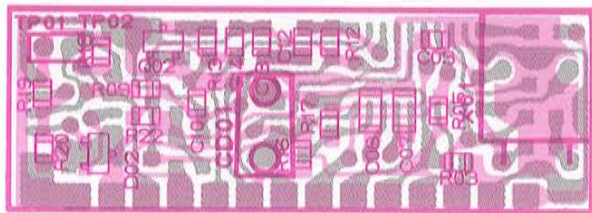
RX test signal applied from signal generator through 0.001μF coupling capacitor. Signal levels are relative to 12dB SINAD.

RESISTOR VALUES ARE IN Ω, 1/10Ω;
CAPACITOR VALUES ARE IN μF, 50nV;
INDUCTOR VALUES ARE IN mH;
ELECTROLYTIC CAPACITOR VALUES ARE IN μF, 10mV;
UNLESS OTHERWISE NOTED.
1T/CAPACITORS ARE TANTALUM.

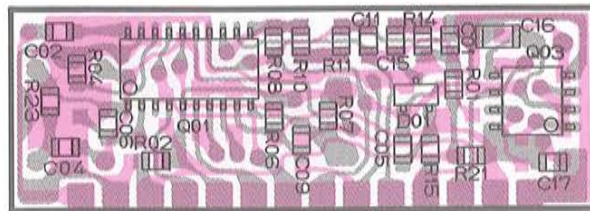
PA UNIT F2934102 (No. 2-xxx)

IF UNIT PARTS LAYOUT/CIRCUIT DIAGRAM

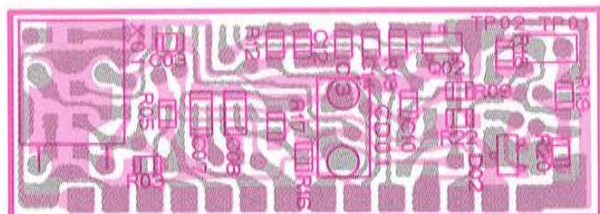
IF UNIT (No. 4 × ×)



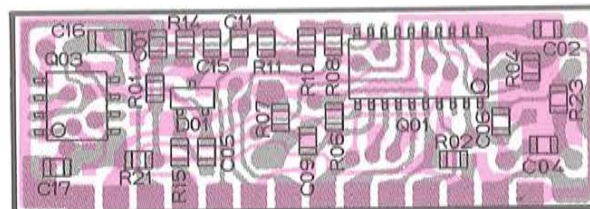
obverse view of "mixed-component" side



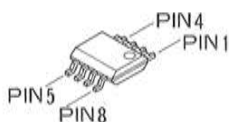
obverse view of "chip-only" side



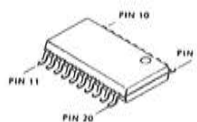
reverse view of "mixed-component" side



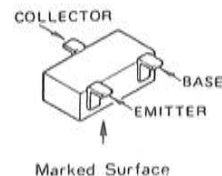
reverse view of "chip-only" side



M5223FP (Q403)



TK10487M (Q401)

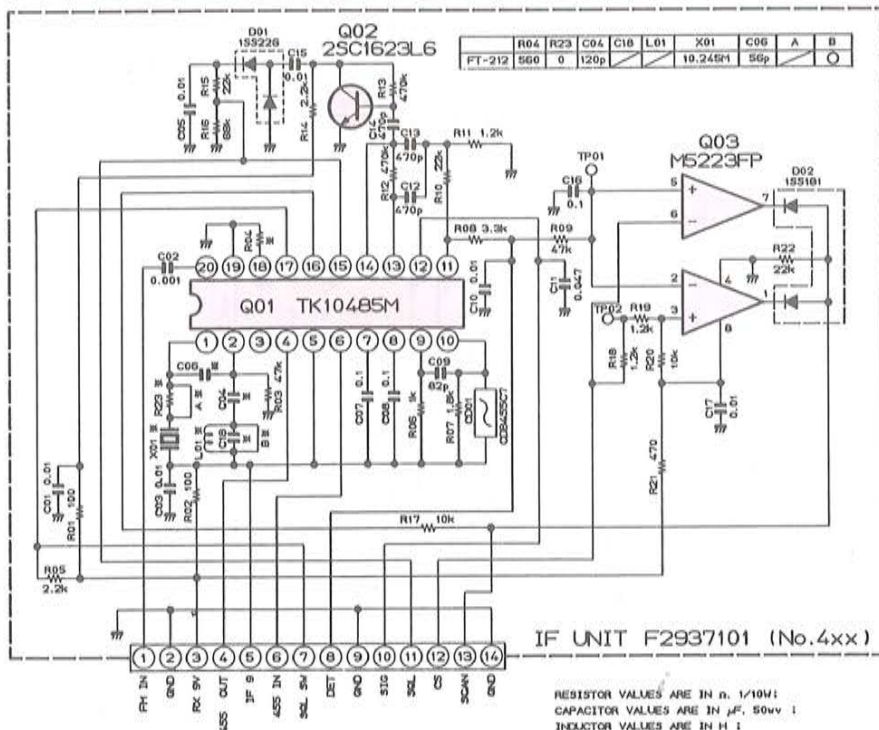


2SC1623(L6) (Q402)

IF UNIT VOLTAGE CHART

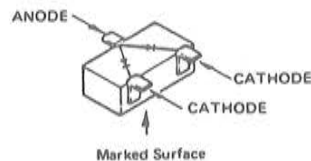
(DC VOLTS)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	REMARKS
FM IN	GND	RX 9V	455 OUT	IF 9	455 IN	SOL SW	DET	GND	SIG	SOL	CS	SCAN	GND	
8.7/0	0	9.0/0	8.0/0	8.4/0	6.6/0	50 OFF 50 ON 9/0 74/0	3.2/0	0		02-18/10	2.7/0	50 OFF 50 ON 50/4 00/4	0	RX/TX

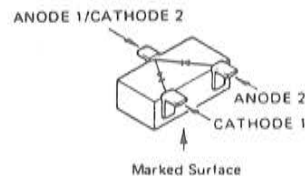


IF UNIT F2937101 (No.4xx)

RESISTOR VALUES ARE IN Ω, 1/10W!
CAPACITOR VALUES ARE IN μF, 50V!
INDUCTOR VALUES ARE IN H!
UNLESS OTHERWISE NOTED.



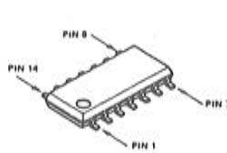
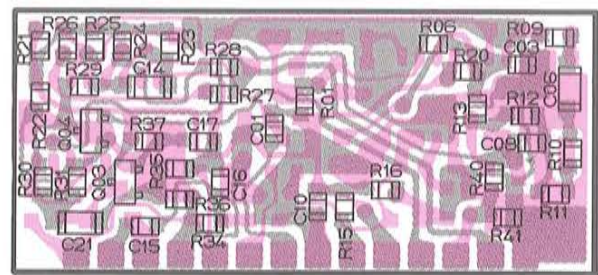
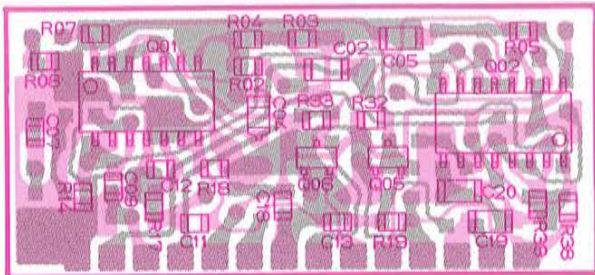
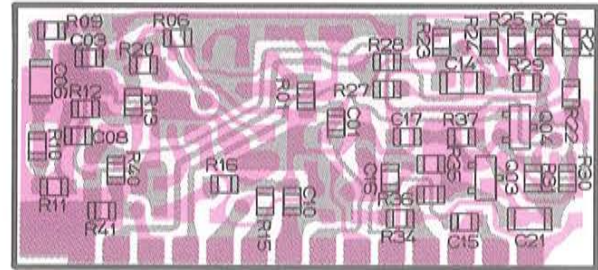
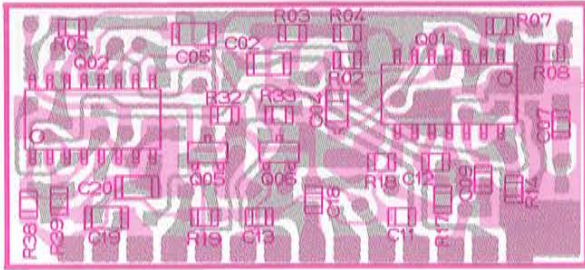
1SS181(A3) (D402)



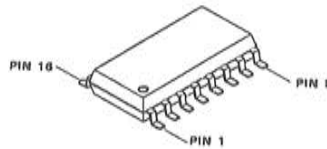
1SS226(C3) (D401)

MIC UNIT PARTS LAYOUT/CIRCUIT DIAGRAM

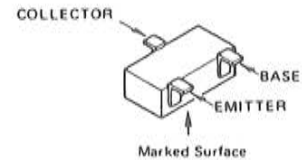
MIC UNIT (No. 5xx)



LA6324M (Q501)



μPD4052BG (Q502)

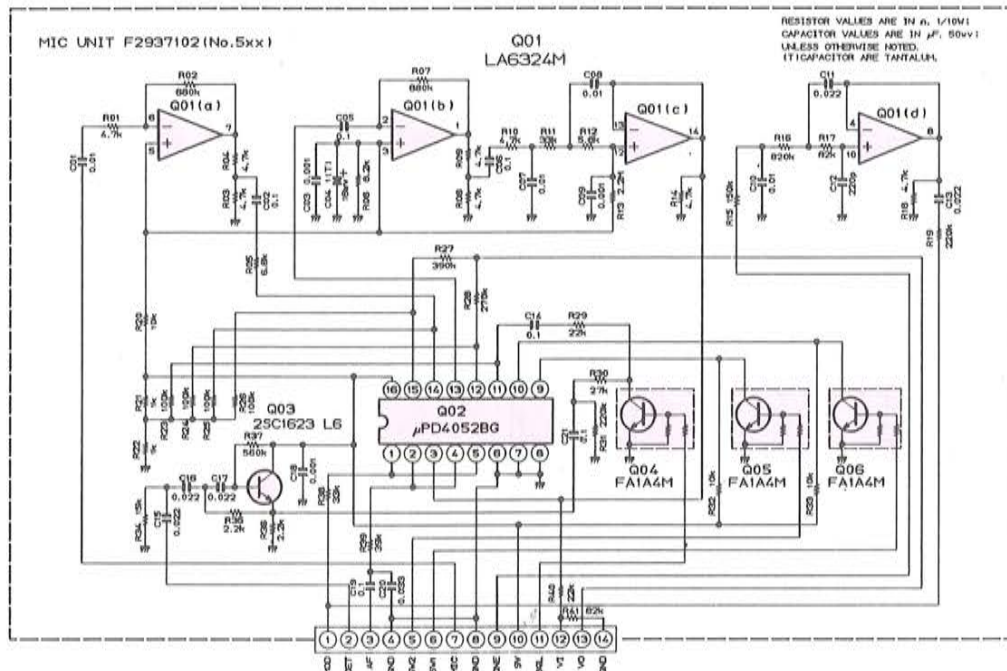


2SC1623(L6) (Q503)
FA1A4M-T2B (L33)
(Q504-506)

MIC UNIT VOLTAGE CHART

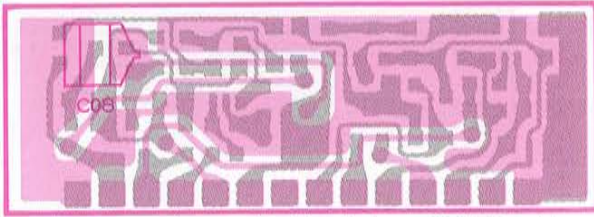
(DC VOLTS)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	REMARKS
MOD	DET	AF	GND	SW2	SW1	MIC	GND	TONE	9V	SQL	VI	VO	GND	
0/2.1			0	0/4.3	0	0	0	1.6/1.6	9.0/9.0	0	3.0/3.0	3.0/9.0	0	RX/TX

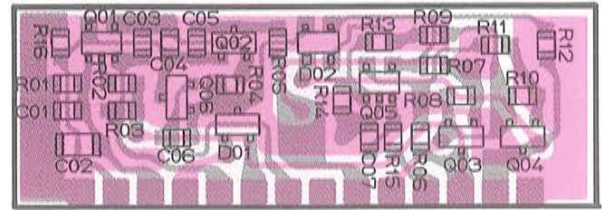


APC UNIT PARTS LAYOUT/CIRCUIT DIAGRAM

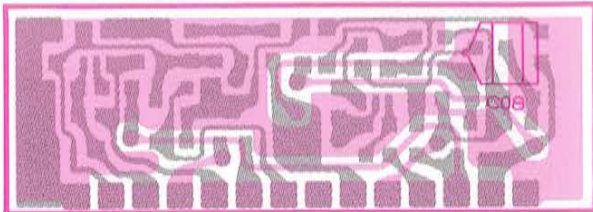
APC UNIT (No. 6 × ×)



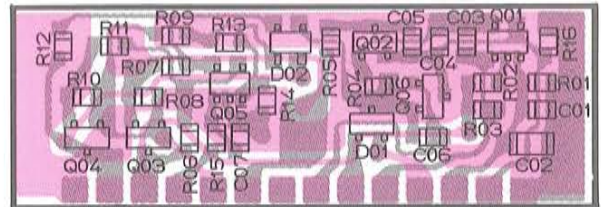
obverse view of "Tantalum CAP" side



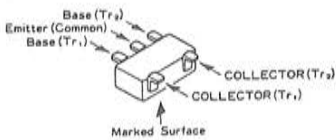
obverse view of "chip-only" side



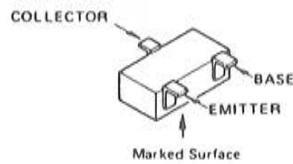
reverse view of "Tantalum CAP" side



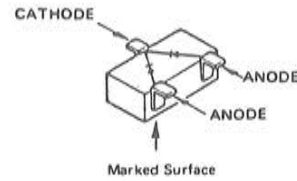
reverse view of "chip-only" side



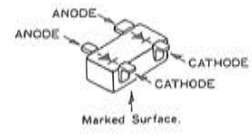
FMS1(S1) (Q601)
FMW1(W1) (Q605)



2SB624(BV4) (Q603,604)
2SC1623(L6) (Q602)
FA1A4M-T2B(L33) (Q606)



1SS184(B3) (D601)

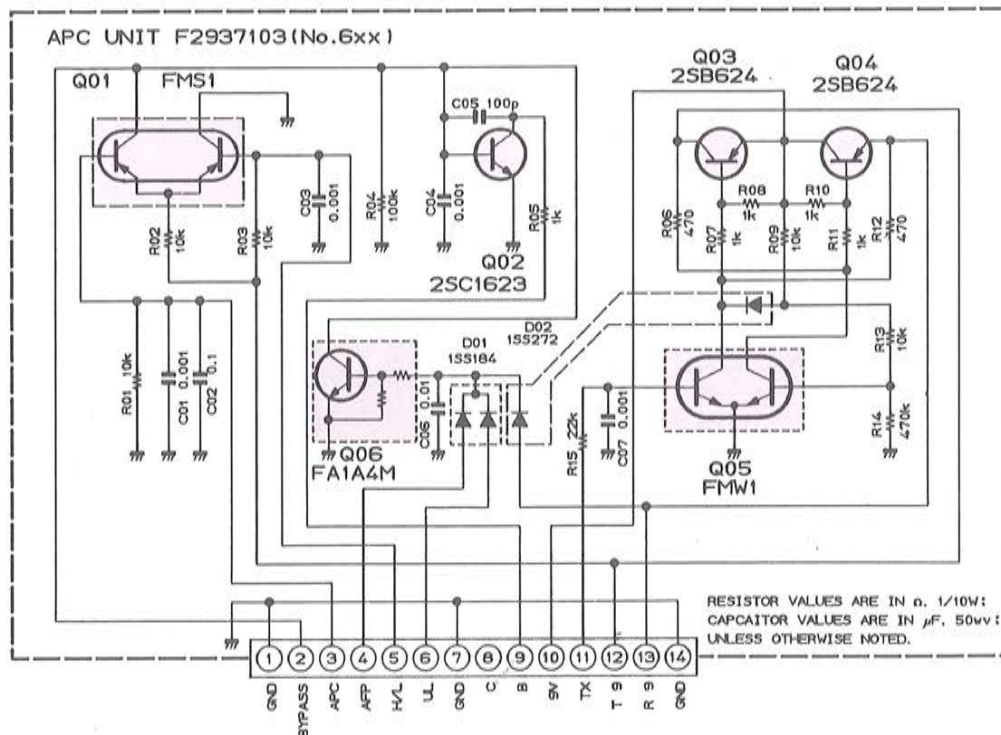


1SS272(A1) (D602)

APC UNIT VOLTAGE CHART

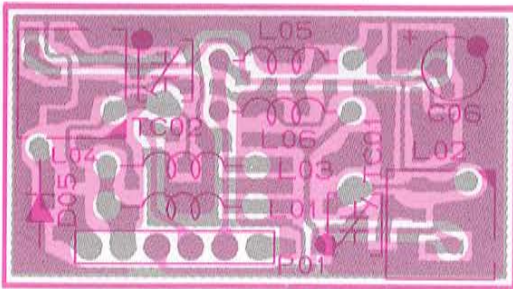
(DC VOLTS)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	REMARKS
GND	BYPASS	APC	AFP	H/L	UL	GND	C	B	9V	TX	T9	R9	GND	RX/TX
0	0/0.6	0/5.7	0	RF HIGH RF LOW 0/5.1 0/1.2	0.1/0.1	0	0/3.7	13.6/13.2	9.0/9.0	0/3.6	0/9.0	9.0/0	0	

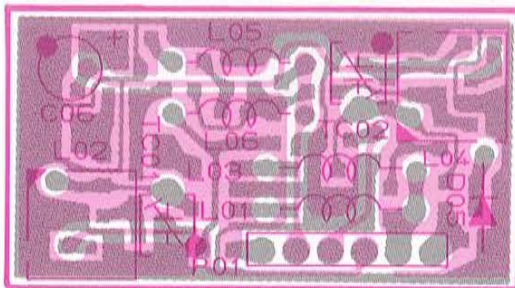


144-VCO UNIT PARTS LAYOUT/CIRCUIT DIAGRAM

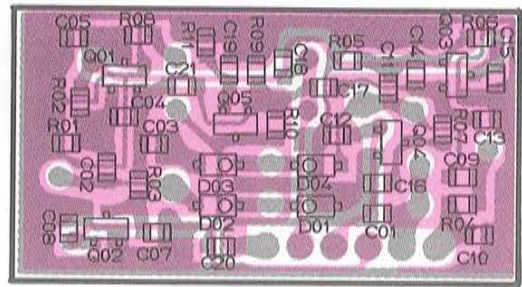
144-VCO UNIT (No. 3 × X)



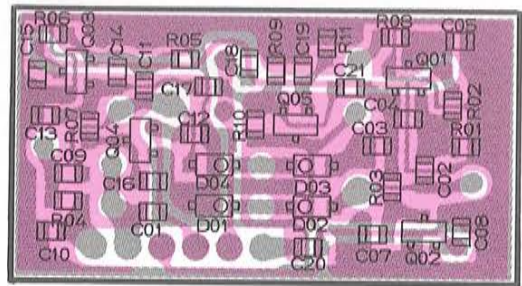
obverse view of "component" side



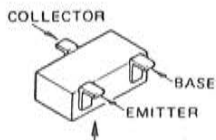
reverse view of "component" side



obverse view of "chip-only" side



reverse view of "chip-only" side



Marked Surface

2SC3356(R24)

(Q301,303,305)

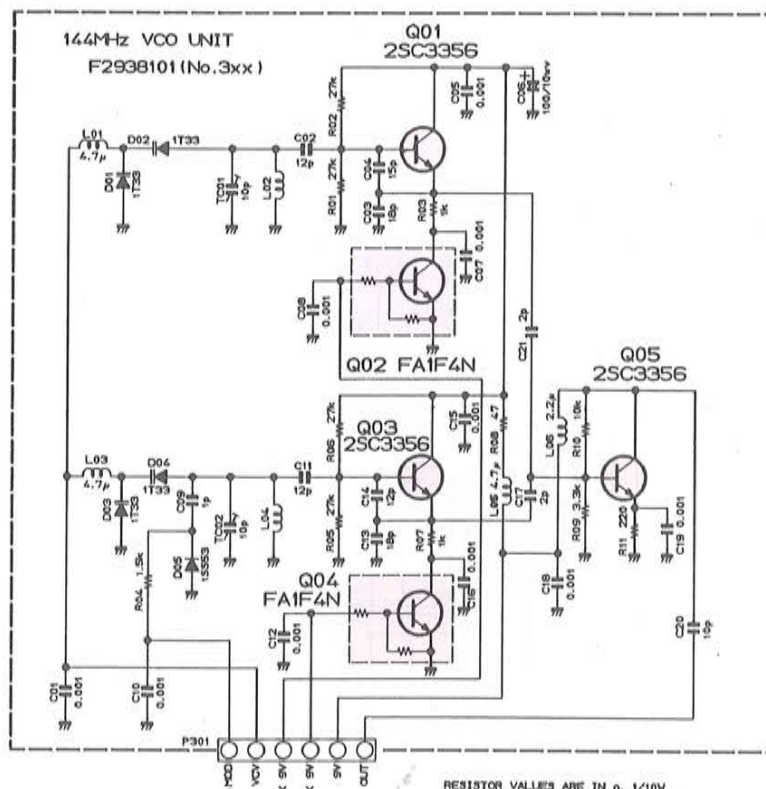
FA1F4N-T2B(R24)

(Q302,304)

VCO UNIT VOLTAGE CHART

(DC VOLTS)

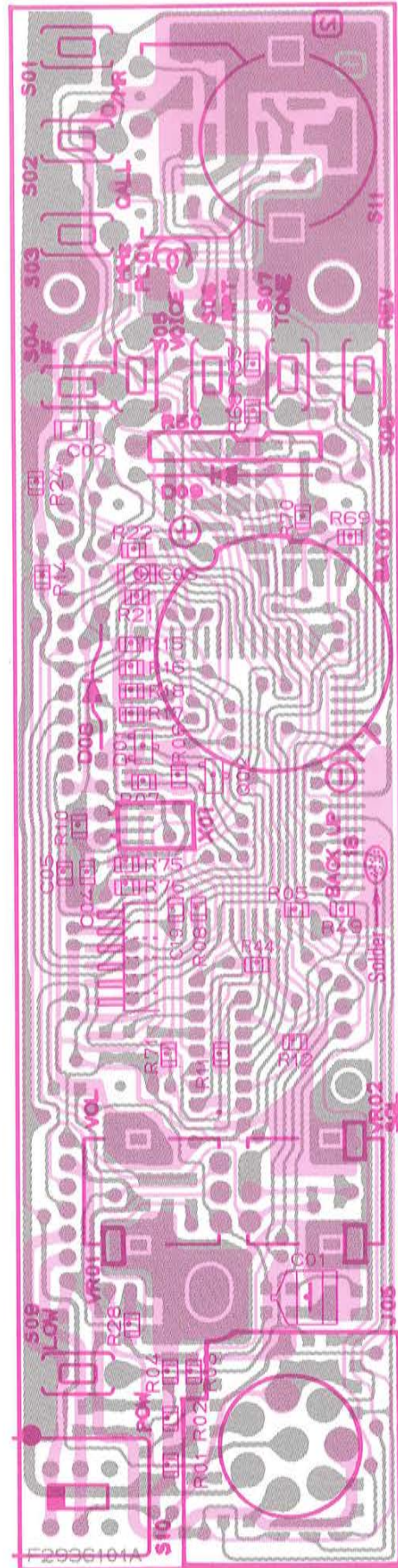
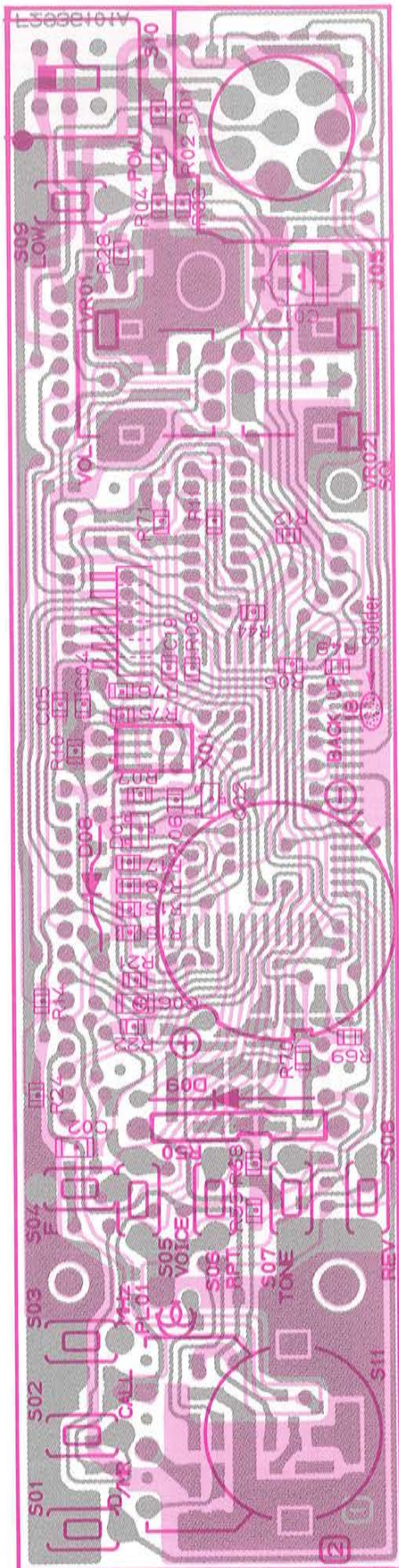
MOD	VCV	R9	T9	9	OUT	REMARKS
3.6		9.0/0	0/9.0	9.0	0	RX/TX



RESISTOR VALUES ARE IN Ω, 1/16W
CAPACITOR VALUES ARE IN μF, 50vV1
INDUCTOR VALUES ARE IN H! UNLESS OTHERWISE NOTED.

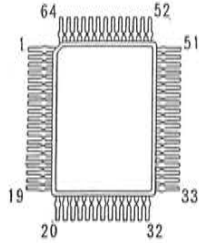
CONTROL UNIT PARTS LAYOUT

CONTROL UNIT (No. 2 XXX)

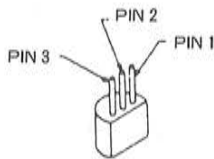
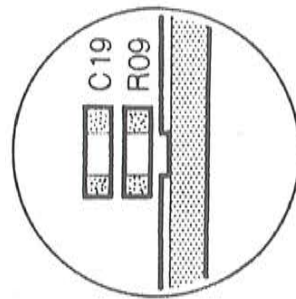


obverse view of "mixed-component" side reverse view of "mixed-component" side

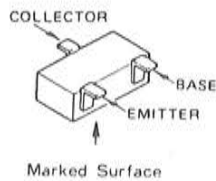
CONTROL UNIT PARTS LAYOUT



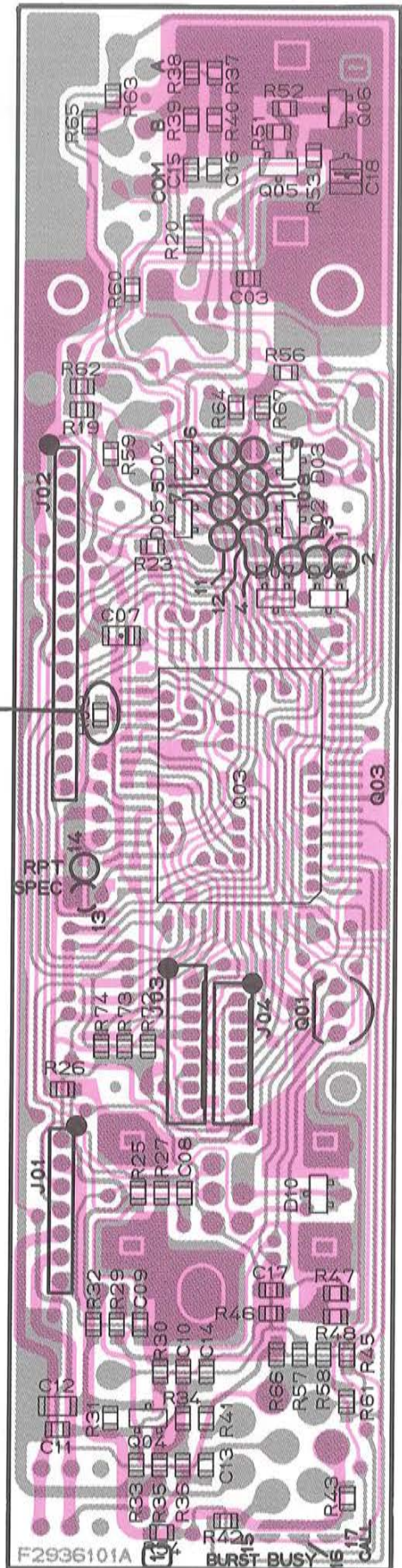
HD404418A01F (Q2003)



PST523C-2 (Q2001)



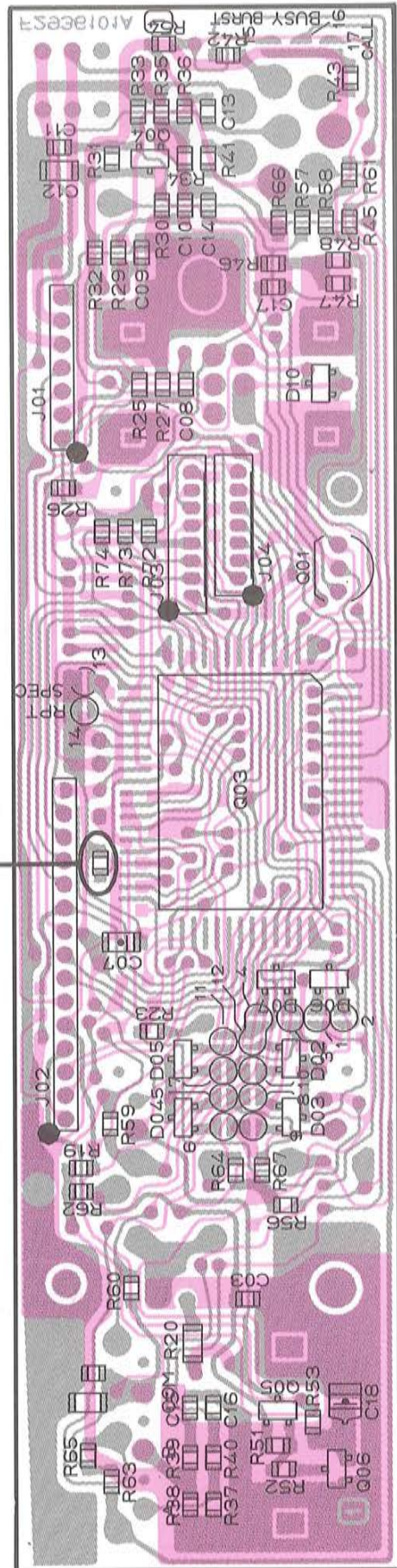
- 2SA812(M6) (Q2002)
- 2SB624(BV4) (Q2005)
- 2SC1623(L6) (Q2004,2006)



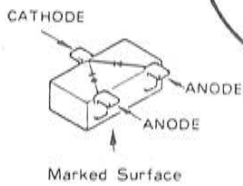
F2936101A BURST BUSY CALL

obverse view of "IC" side

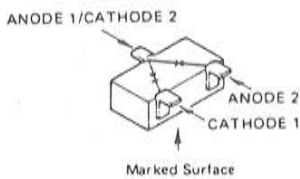
CONTROL UNIT PARTS LAYOUT



obverse view of "IC" side



1SS184(B3)
 (D2002,2003,2004)
 2005,2006,2007
 2010



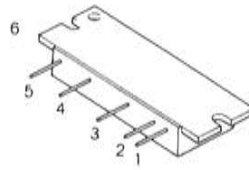
1SS226(C3) (D2001)

PA UNIT PARTS LAYOUT

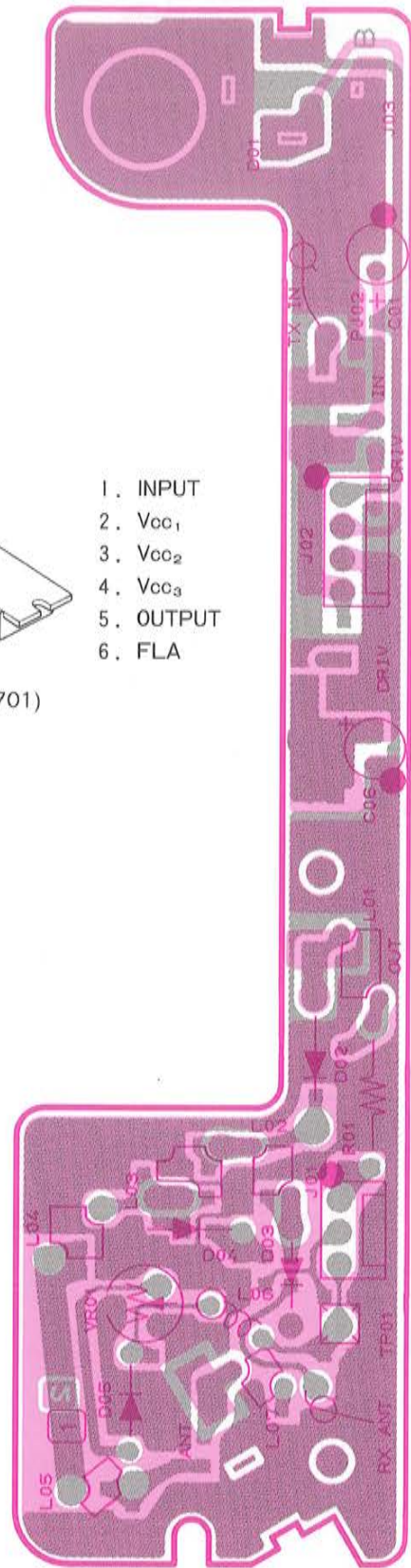
PA UNIT (No. 7XX)



obverse view of "component" side

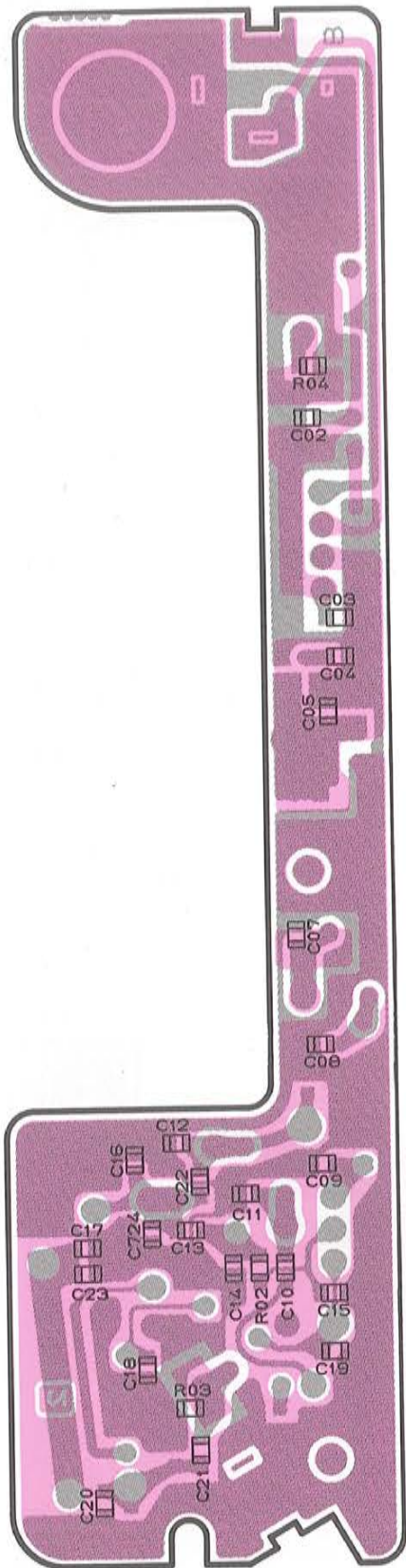


M57726 (Q701)

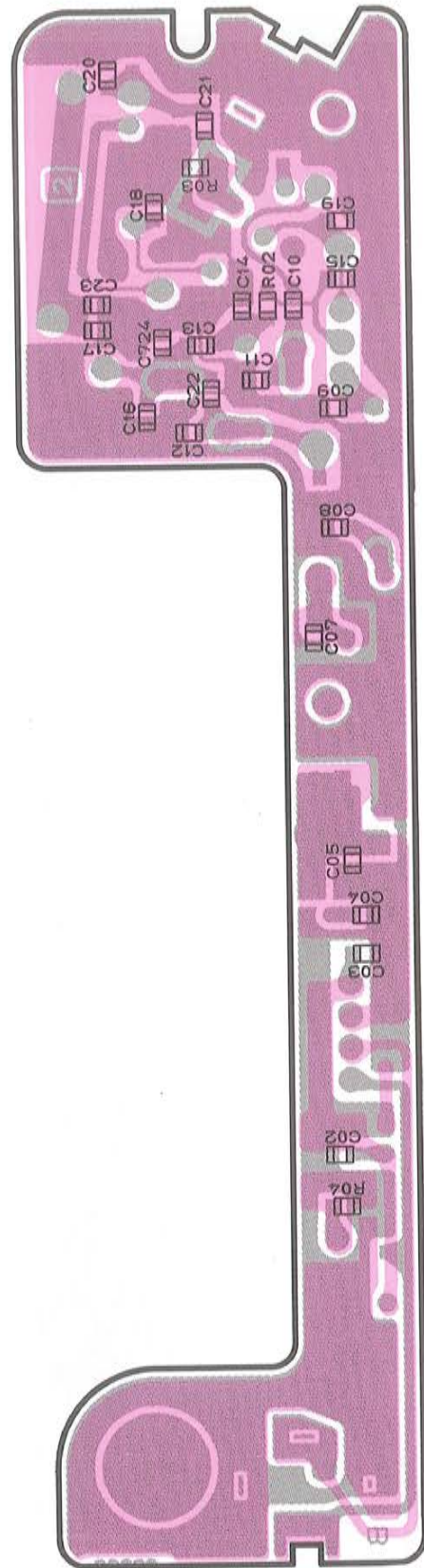


reverse view of "component" side

PA UNIT PARTS LAYOUT

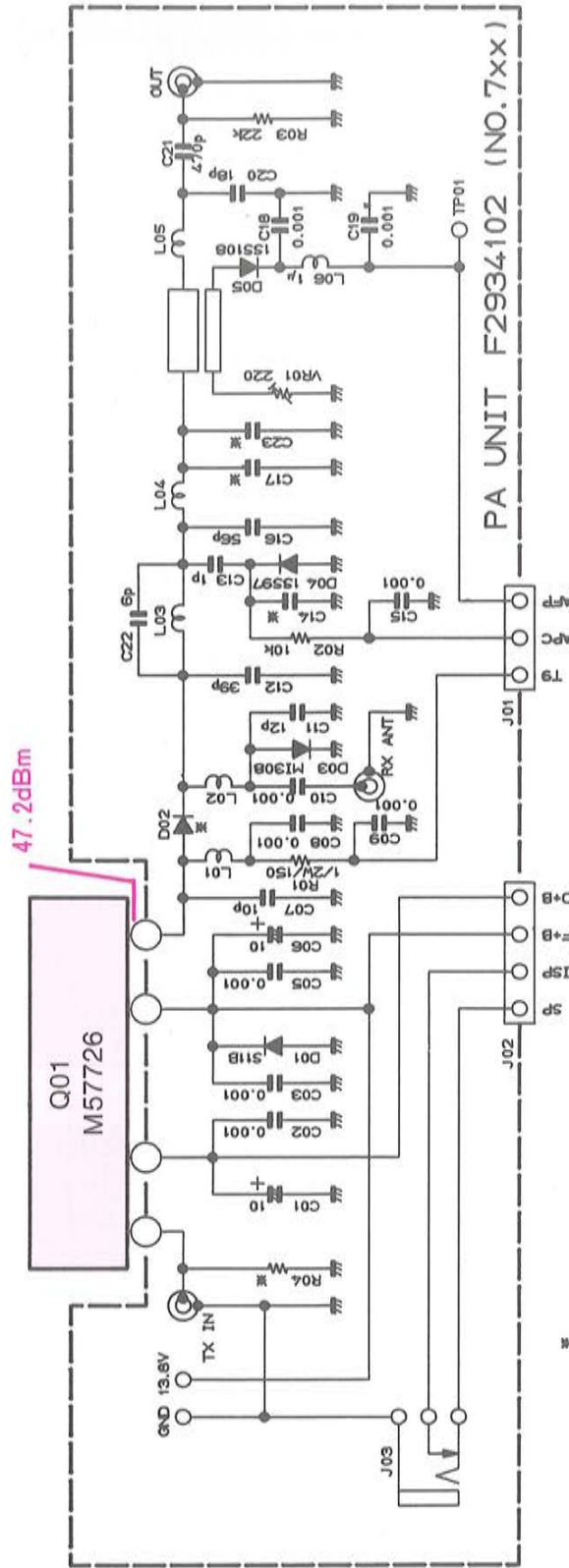


obverse view of "chip-only" side



reverse view of "chip-only" side

PA UNIT CIRCUIT DIAGRAM



Q01	D02	R04	C14	C17	C23
45V M57726	U-B401	3p	27p	27p	27p

SEMICONDUCTOR CROSS-REFERENCE

◎ MAIN UNIT

Symbol No.	ORIGINAL	REPLACEMENT	REPLACEMENT	REPLACEMENT
	Part No.	Part No.	Part No.	Part No.
Q1004	TDA2003	μPC2002V		
	G1090769	G1090284		
Q1014	2SC1623-T2BL7	2SC2712BL TE85R	2SC2462 LDTR	2SC2812 L7TR
	G3316237G	G3327127B	G3324627D	G3328127G
Q1015	μPC7805H	L7805		
	G1090299	G1090776		
D1009	1SS226 TE85R	1SS123-T2B		
	G2070003	G2070020		
D1014	1SS184 TE85R	MC2838-T14-2	DCB015-TA	
	G2070009	G2070018	G2070012	

◎ IF UNIT

Symbol No.	ORIGINAL	REPLACEMENT	REPLACEMENT	REPLACEMENT
	Part No.	Part No.	Part No.	Part No.
Q402	2SC1623-T2BL6	2SC2712GR TE85R	2SC2462 LCTR	2SC2812 L6TR
	G3316237F	G3327127G	G334627C	G3328127F
Q401	1SS226 TE85R	1SS123-T2B		
	G2070003	G2070020		
D402	1SS181 TE85R	MC2836-T14-2	DCA015-TA	
	G2070001	G2070024	G2070014	

◎ MIC UNIT

Symbol No.	ORIGINAL	REPLACEMENT	REPLACEMENT	REPLACEMENT
	Part No.	Part No.	Part No.	Part No.
Q501	LA6324M	μPC324G		
	G1090559	G1090603		
Q503	2SC1623-T2BL6	2SC2712GR TE85R	2SC2462 LCTR	2SC2812 L6TR
	G3316237F	G3327127G	G3324627C	G3328127F

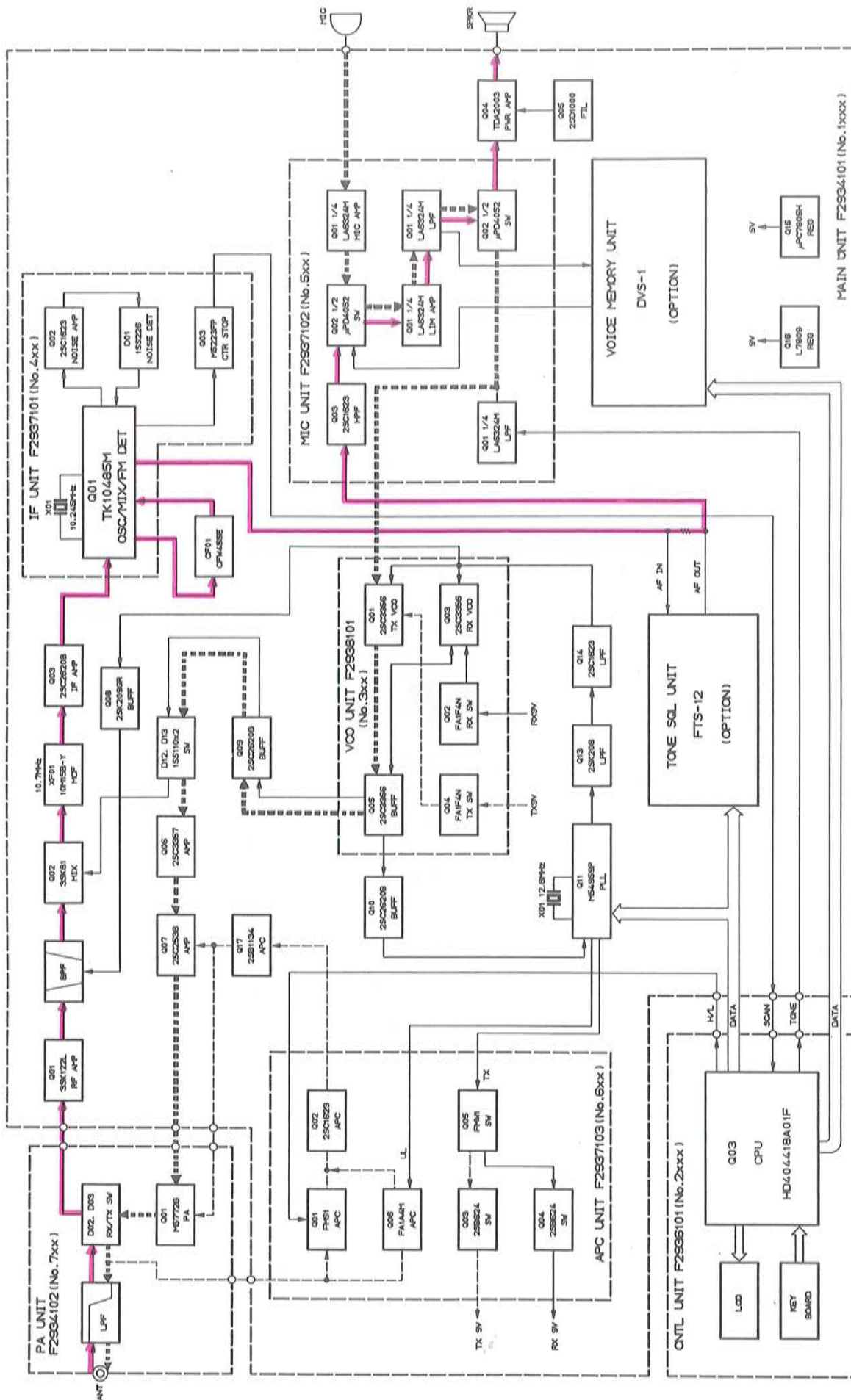
◎ APC UNIT

Symbol No.	ORIGINAL	REPLACEMENT	REPLACEMENT	REPLACEMENT
	Part No.	Part No.	Part No.	Part No.
Q602	2SC1623-T2BL6	2SC2712GR TE85R	2SC2462 LCTR	2SC2812 L6TR
	G3316237F	G332712G	G3324627C	G3328127F
D601	1SS184 TE85R	MC2838-T14-2	DCB015-TA	
	G2070009	G2070018	G2070012	

◎ CONTROL UNIT

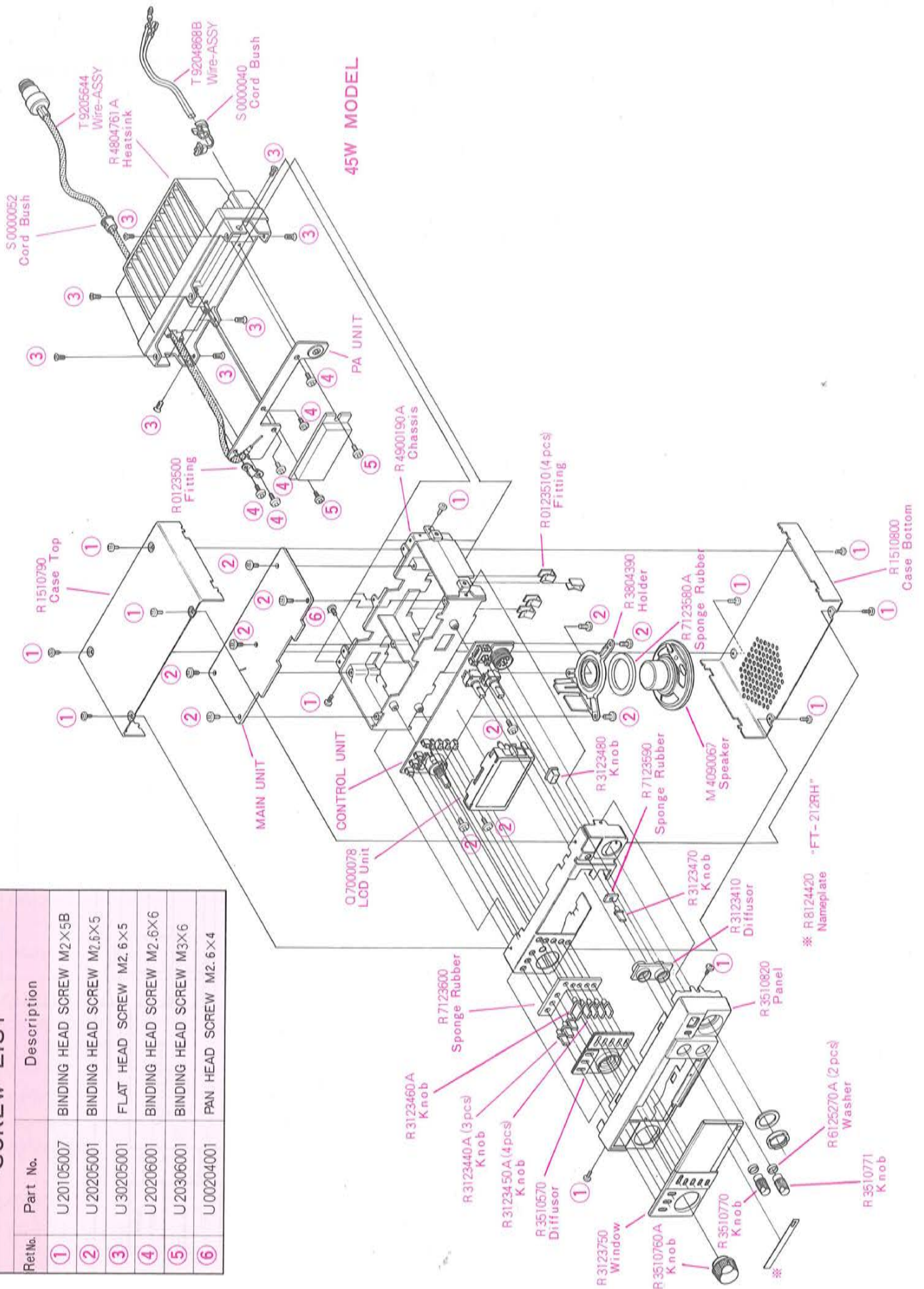
Symbol No.	ORIGINAL	REPLACEMENT	REPLACEMENT	REPLACEMENT
	Part No.	Part No.	Part No.	Part No.
Q2002	2SA812-T2BM6B	2SA1162GR TE85R	2SA1052 MCTR	2SA1179 M6TR
	G3108127F	G3111627G	G3110527C	G3111797E
Q2004,2006	2SC1623-T2BL6	2SC2712GR TE85R	2SC2462 LCTR	2SC2812 L6TR
	G3316237F	G3327127G	G3324627C	G3328127F
D2001	1SS226 TE85R	1SS123-T2B		
	G2070003	G2070020		
D2002,2003,2004 2005,2006,2007 2010	1SS184 TE85R	MC2838-T14-2	DCB015-TA	
	G2070009	G2070018	G2070012	

BLOCK DIAGRAM



EXPLODED VIEW

SCREW LIST	
Ret.No.	Description
①	BINDING HEAD SCREW M2X5B
②	BINDING HEAD SCREW M2.5X5
③	FLAT HEAD SCREW M2.6X5
④	BINDING HEAD SCREW M2.6X6
⑤	BINDING HEAD SCREW M3X6
⑥	PAN HEAD SCREW M2.6X4



ALIGNMENT

The high reliability of the chip components in the FT-212RH minimize the possibility that repair or realignment should be needed after leaving the factory. However, if damage occurs and some parts subsequently be replaced, realignment may be required. If a sudden problem occurs during normal operation, it is likely due to component failure; realignment should not be done until after the faulty component has been replaced.

Because of the compact circuitry of this transceiver, we recommend that servicing be performed only by authorized Yaesu service technicians who are experienced with the circuitry and fully equipped for repair and alignment. Therefore, if a fault is suspected, contact the dealer from whom the transceiver was purchased for instructions regarding repair. Authorized Yaesu service technicians realign all circuits and make complete performance checks to ensure compliance with factory specifications after replacing any faulty components.

Those who do undertake any of the following alignments are cautioned to proceed at their own risk. Yaesu must reserve the right to change circuits and alignment procedures in the interest of improved performance, without notifying owners.

No alignment should be attempted unless the normal function and operation of the transceiver are clearly understood, the cause of the malfunction has been clearly pinpointed and any faulty components replaced, and the need for realignment determined to be absolutely necessary.

The following test equipment (and thorough familiarity with its correct use) is necessary for complete realignment. Correction of problems caused by misalignment resulting from use of improper test equipment is not covered under the warranty policy.

A 50-ohm dummy load that is non-reactive up to 150 MHz is required. Correct alignment is not possible with an antenna.

Alignment Equipment

DC voltmeter (at least 20-kilohms/volt)
150 MHz standard signal generator (SSG) with calibrated level and modulation (see note below)
AF signal generator
SINAD meter (SINADDER)
FM linear detector (deviation meter)
CM coupler (directional coupler)
RF wattmeter (50W, $\pm 5\%$ @ 150MHz)
50-ohm non-reactive (@150 MHz) dummy load
Frequency counter (100Hz resolution at 150MHz)
Oscilloscope (recommended, not required)

Note: SSG levels referred to in the alignment procedure are based on $0\text{dBu}=0.5\text{uV}$.

Alignment Precautions

Correct alignment requires that the ambient temperature be the same as that of the transceiver and test equipment, and that this temperature be held constant between 20 and 30 °C (68 to 86 °F). When the transceiver is brought into the shop it should be allowed at least 2 hours for thermal equalization before alignment.

Alignments must not be made unless the oscillator shields and circuit boards are firmly affixed in place. Also, the frequency counter must be thoroughly warmed up before beginning.

Supply voltage during alignment must be held constant at 13.8V DC. Use a well regulated, adjustable power supply capable of at least 10A continuous load.

ALIGNMENT (PLL)

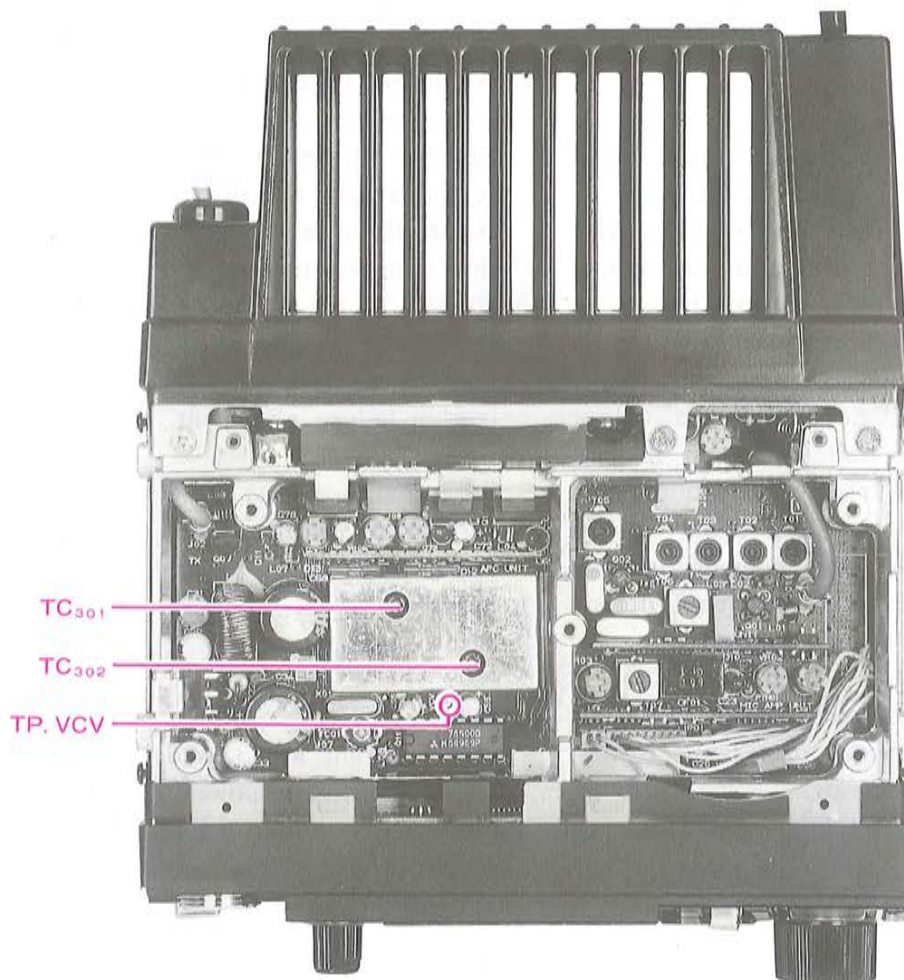
A. PLL Unit

1) VCV (Varactor Control Voltage)

- a) With the dummy load connected to the ANT jack, connect the DC voltmeter (3V scale) to the VCV terminal on the VCO Unit.
- b) Tune the transceiver to the top edge of the band for the model being aligned, and while receiving, adjust TC301 on the VCO Unit for the voltage indicated below ($\pm 0.1V$) for Receive at that frequency:

	Receive	Transmit
146 MHz	1.5V	1.4V
148 MHz	1.7V	1.6V

- c) Retune the transceiver to 144 MHz and confirm at least 1.3V.
- d) Retune to the top edge of the band, close the PTT line, and adjust TC302 for the voltage indicated above for Transmit.
- e) Again retune to 144 MHz and confirm at least 1.2V on the meter while transmitting.
- f) Repeat steps b - e several times, and then remove the voltmeter.



PLL ALIGNMENT POINTS

(Transmitter) ALIGNMENT

B. Transmitter

Set up the test equipment as shown in Figure 1. Close the PTT line when making adjustments. All adjustment points are on the Main Unit.

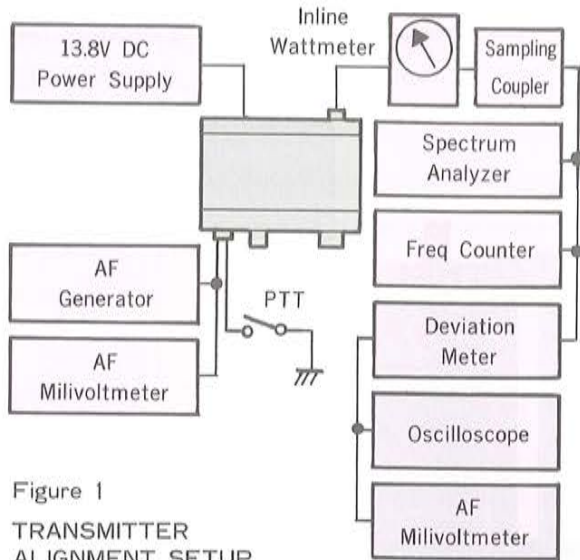


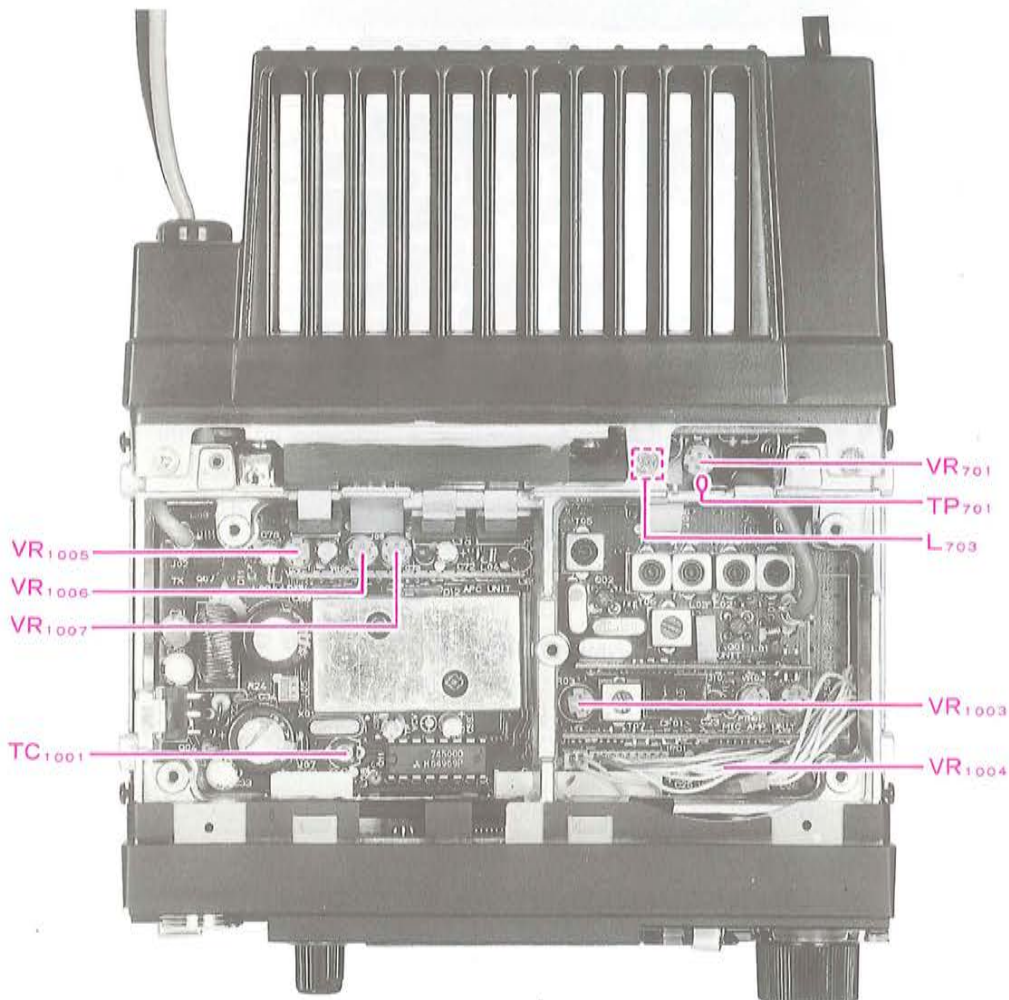
Figure 1
TRANSMITTER
ALIGNMENT SETUP

1) Early Stage Coupling

- a) Tune the transceiver to the center of the band, and set the LOW button to the high power position.
- b) Adjust L703 for maximum power output (at least 46 watts).

2) Power Output

- a) With the transceiver tuned to the center of the band, set the LOW button to the high power position.
- b) Connect the DC voltmeter to TP701 on the PA Unit.
- c) Press the PTT switch and adjust VR701 for minimum on the voltmeter.



TRANSMITTER ALIGNMENT POINTS

ALIGNMENT (Transmitter)

d) Adjust VR1006 for 46 watts output.

e) Press the LOW switch and adjust VR1005 for 5W output.

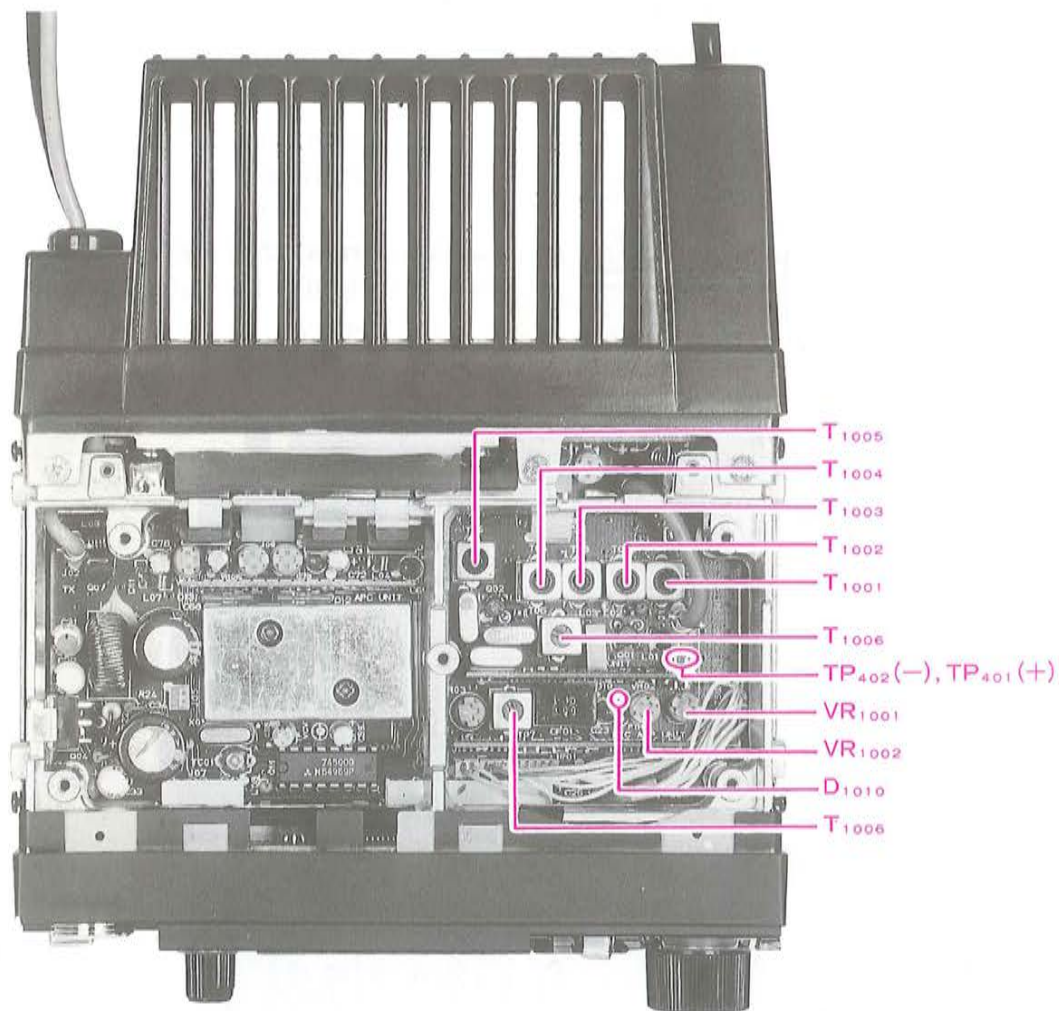
3) Frequency Calibration

a) Adjust TC1001 to match the counter indication with the transceiver frequency.

4) Deviation

a) Set the AF generator for 25mV output at 1 kHz. Adjust VR1003 for ± 4.5 kHz deviation on the Deviation Meter.

b) Reduce the AF generator level to 5mV and adjust VR1004 for ± 3.5 kHz deviation.



RECEIVER ALIGNMENT POINTS

C. Receiver

Set up the test equipment as shown in Figure 2. All adjustment points are on the Main Unit.

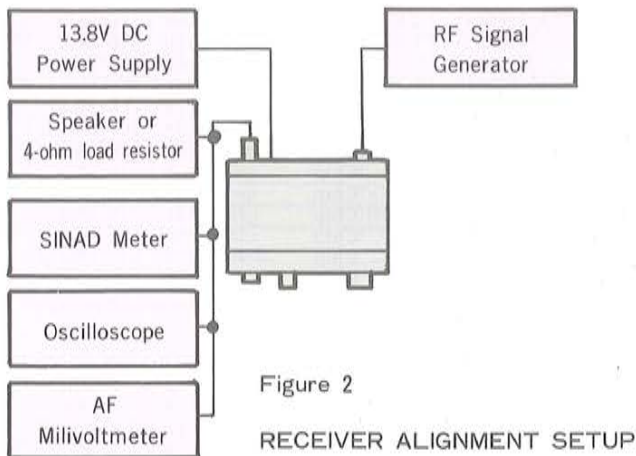


Figure 2
RECEIVER ALIGNMENT SETUP

1) Interstage Transformers

- a) Connect the DC voltmeter between the cathode of D1010 and chassis ground.
- b) Modulate the RF signal generator for ± 3.5 kHz deviation of a 1 kHz tone.
- c) Tune the transceiver and signal generator to the same frequency at the center of the band, and set the injection level to produce midrange S-meter indication.
- d) Adjust T1001 through T1007 for maximum S-meter indication. Reduce the injection level, if

necessary, to keep the S-meter near midrange.

- e) Confirm 12dB SINAD sensitivity of -7.5dBu (0.21 μ V) or better on the SINADDER.

2) S-Meter Calibration

- a) At the center of the band, set the signal generator for 30dBu (50 μ V) injection with ± 3.5 kHz deviation of a 1 kHz tone.
- b) Adjust VR1002 so that all S-meter segments are just on.

3) Scanner Center-Stop

- a) Connect the DC voltmeter (3V range) between TP401 (+) and TP402 (-) on the IF Unit.
- b) Tune the transceiver to 146.000 MHz, and set the SQL fully counterclockwise (the BUSY lamp should be lit).
- c) Tune the signal generator also to 146.000 MHz, and inject 20dBu (5 μ V) with ± 3.5 kHz deviation of a 1 kHz tone.
- d) Adjust VR1001 for 0V on the voltmeter.

PARTS LIST

Symbol No.	Part No.	Description	Device
Q1000065	Lamp	9V 60mA	
PA UNIT			
F2934120B	Printed Circuit Board		
C029342AA	PCB with Component (45W Model)		
C029342AB	PCB with Component (10W Model)		
Q701	G1090251	IC ⊙	M57715
	G1090625	IC △	M57726
D701	G2090232	Diode	S11B
D702	G2090345	Diode ⊙	MI407
	G2090425	Diode △	UM9415
D703	G2090337	Diode	MI308
D704	G2090118	Diode	ISS97
D705	G2090377	Diode	ISS108
R701	J01275151	CAP. Chip	1/10W 150 ohm
R702	J24205103	CAP. Chip	1/10W 10k ohm
R703	J24205223	CAP. Chip	1/10W 22k ohm
R704	J24205101	CAP. Chip	1/10W 100 ohm
VR701	J50770221	POT.	220 ohm
C701	K40129012	AL. Electro. CAP.	16V 10uF
C702	K22170805	CAP. Chip	B 50V 0.001uF
C703	K22170805	CAP. Chip	B 50V 0.001uF
C705	K22170805	CAP. Chip	B 50V 0.001uF
C706	K40129012	AL. Electro. CAP.	16V 10uF
C707	K22170211	CAP. Chip	CH 50V 10pF
C708	K22170805	CAP. Chip	B 50V 0.001uF
C709	K22170805	CAP. Chip	B 50V 0.001uF
C710	K22170805	CAP. Chip	B 50V 0.001uF
C711	K22170213	CAP. Chip	CH 50V 12pF
C712	K22170225	CAP. Chip	CH 50V 39pF
C713	K22170202	CAP. Chip	CH 50V 1pF
C714	K22170204	CAP. Chip	CH 50V 3pF
C715	K22170805	CAP. Chip	B 50V 0.001uF
C716	K22170221	CAP. Chip	CH 50V 27pF
C717	K22170229	CAP. Chip ⊙	CH 50V 56pF
	K22170221	CAP. Chip △	CH 50V 27pF
C718	K22170805	CAP. Chip	B 50V 0.001uF
C719	K22170805	CAP. Chip	B 50V 0.001uF
C720	K22170217	CAP. Chip	CH 50V 18pF
C721	K22170801	CAP. Chip	B 50V 470pF
C722	K22170207	CAP. Chip	CH 50V 6pF
C723	K22170221	CAP. Chip	CH 50V 27pF
C724	K22170221	CAP. Chip	CH 50V 27pF
J701	P1090599	Connector	
J702	P1090600	Connector	
J703	P1090603	Connector	
ACCESSORIES			
Symbol No.	Part No.	Description	Device
	T9015605	DC Cord ⊙	
	T9015615	DC Cord △	
	Q0000005	Fuse ⊙	5A 2 pcs
	Q0000008	Fuse △	15A 2 pcs
	D1000067	MIC ●	MH-14D8
	D1000051	MIC ▲	MH-14A8
	D1000052	MIC ▲	MH-14B8
	D1000067	MIC ▲	MH-14D8
	D1000060	MIC ▲	MH-15C8
	D1000061	MIC ▲	MH-15D8
	D6000055	Mobile Bracket	MMB-36
	D6000056	Mobile Bracket ▲	MMB-37

⊙ : 10W Model

▲ : 45W Model

● : Version F

▲ : Version A1, A2, A3, A4, B : One of these MICROPHONE will be supplied is per local requirement.