CONTENTS

TOP COVER REMOVAL 2
EXPLODED VIEW 3
MAIN UNIT 4
Parts Layout 4
Circuit Diagram 5
FILTER UNIT 7
Parts Layout 7
Circuit Diagram 7
NB UNIT 7
Parts Layout 7
Circuit Diagram 7
LOCAL UNIT 8
Parts Layout 8
Circuit Diagram 9
100W PA UNIT 10
Parts Layout 10
Circuit Diagram 10
LPF UNIT 11
Parts Layout 11
Circuit Diagram 11
DISPLAY UNIT 12
Parts Layout 12
Circuit Diagram 13
CONNECTION DIAGRAM 14
LEVEL DIAGRAM 15
Transmit 15
Receive 16
SIGNAL PATH 17
SSB MODE 17
CW MODE 18
AM MODE 19
FM MODE 20
ALIGNMENT 21
I. Local Unit 23
II. Main Unit - Receiver 24
III. Main Unit - Transmitter 26
IV. Noise Blanker Unit 27
V. 100W PA Unit (Idling Current) 27
VI. LPF Unit (CM Coupler Balance) 28
VII. Main Unit (AFP - Automatic Final Protection) 28
PARTS LIST 29

FT-747GX TECHNICAL SUPPLEMENT

This manual is intended to serve as a supplement to the FT-747GX Operating Manual. Detailed information regarding functions, installation, interconnections 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 there are nearly two hundred and fifty semiconductor devices in the FT-747GX, circuit description information is provided in the form of numerous block diagrams. We hope that this manner of providing functional information proves to be more convenient for the owner and technician than would a lengthy verbal description. Those readers unfamiliar with the basic types of analog and digital circuits that serve as the building blocks of the FT-747GX are encouraged to study instructional material, such as that provided in handbooks on amateur radio and digital circuit design, before attempting to understand the design of the FT-747GX. Each block in the block diagrams represents one such basic circuit. General information on integrated circuits and their applications is available in the data provided by the IC manufacturers. Specific circuit details are provided in the schematic diagrams in this manual.

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 obligation to notify owners or to modify any sets produced prior to the modification.

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Figure 2.
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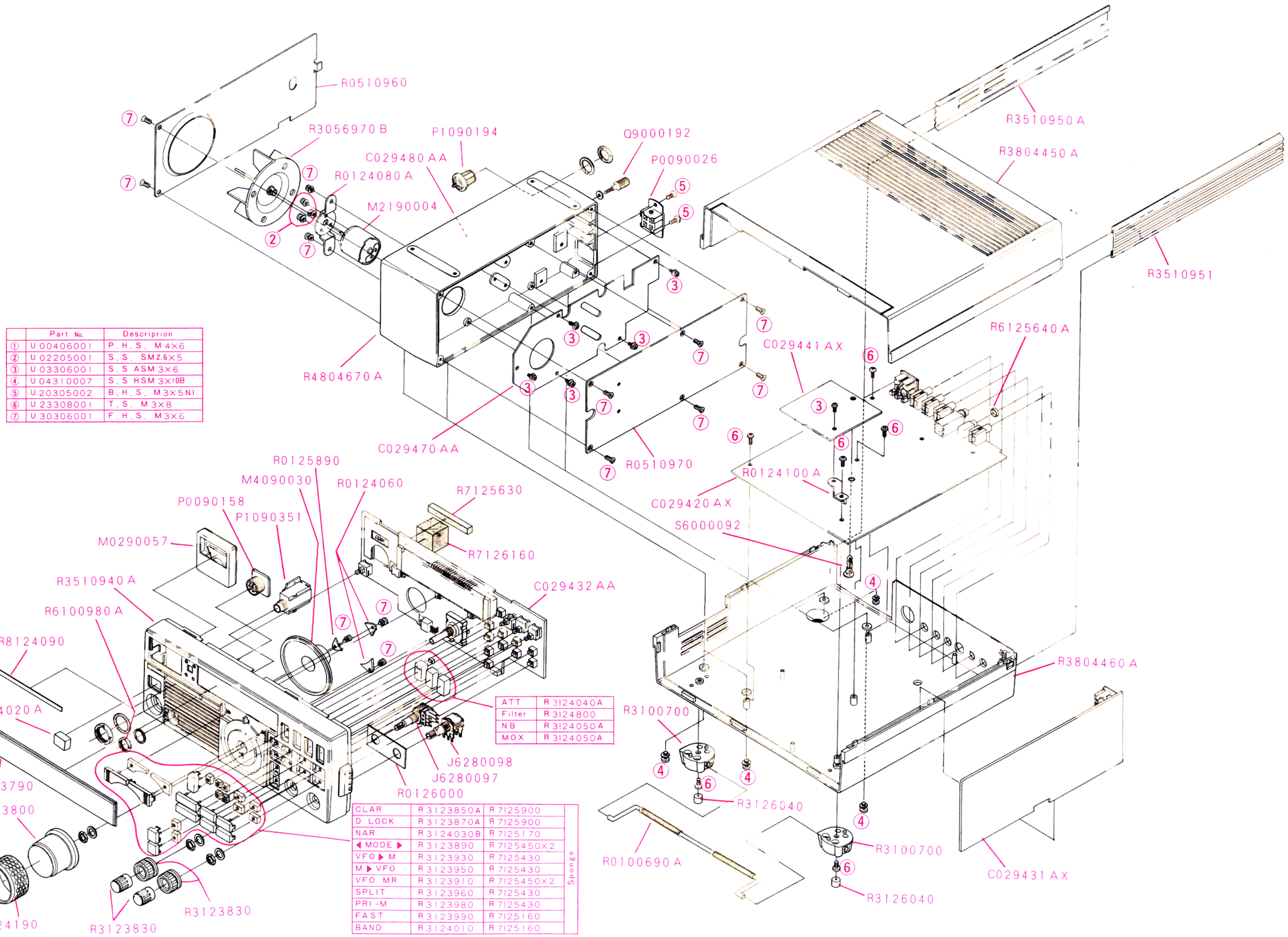
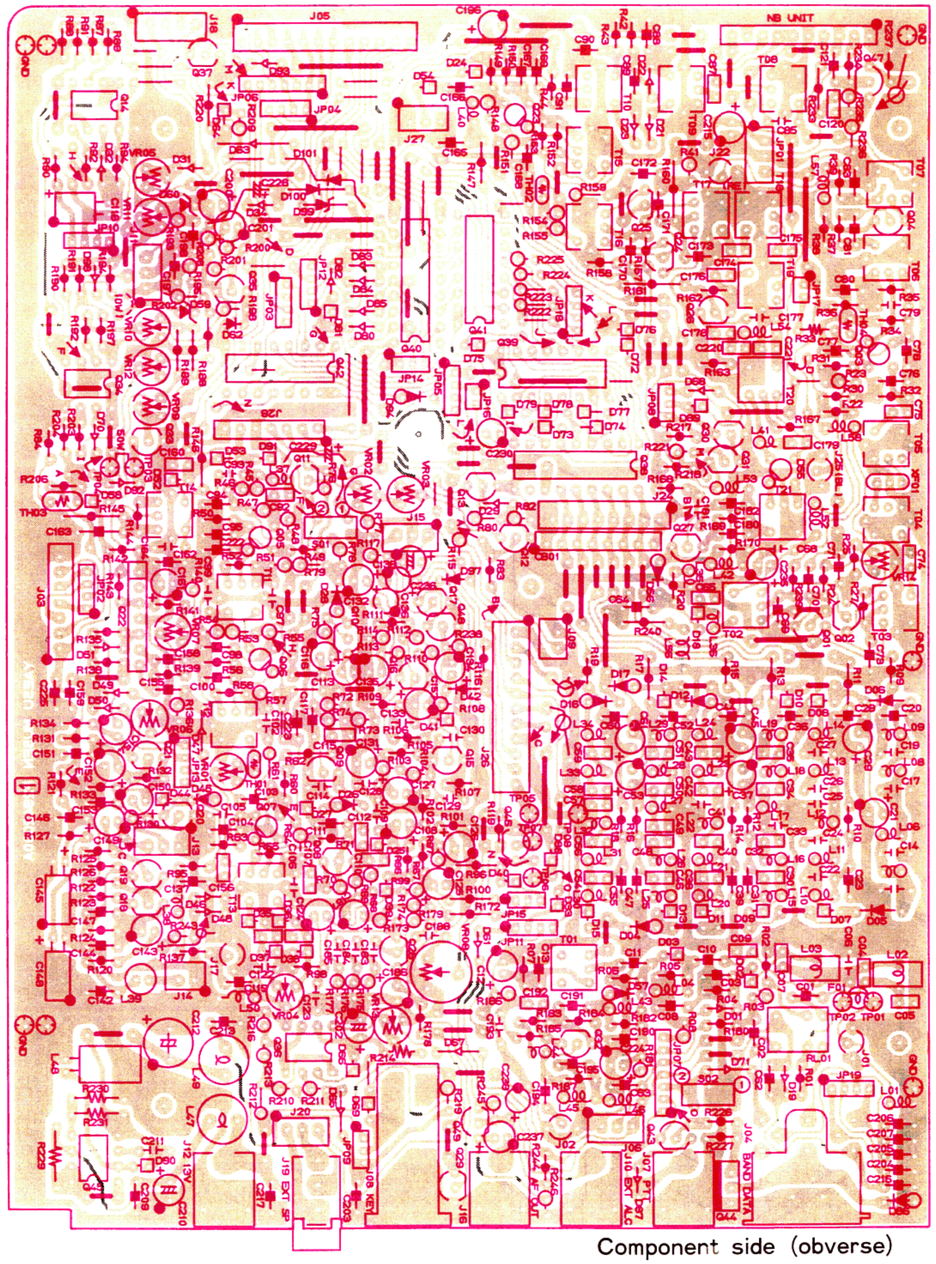


	Part No.	Descriprion
①	U00406001	P.H.S. M4X6
②	U02205001	S.S. SM2.6X5
③	U03306001	S.S ASM 3X6
④	U04310007	S.S HSM 3X10B
⑤	U20305002	B.H.S. M3X5NI
⑥	U23308001	T.S. M3X8
⑦	U30306001	F.H.S. M3X6

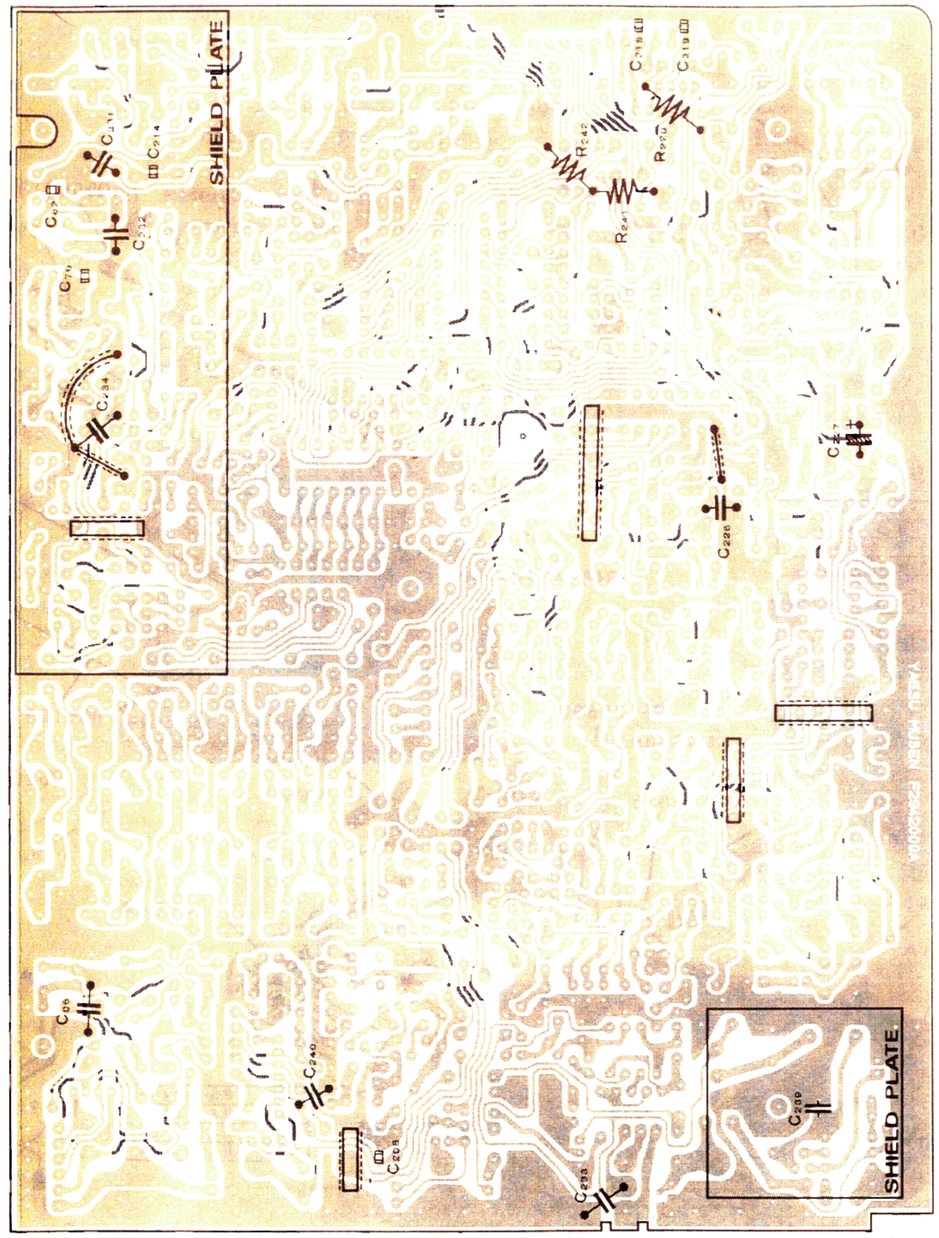
ATT	R3124040A
Filter	R3124800
NB	R3124050A
MOX	R3124050A

CLAR	R3123850A	R7125900	Sponge
D LOCK	R3123870A	R7125900	
NAR	R3124030B	R7125170	
◀ MODE ▶	R3123890	R7125450X2	
VFO ▶ M	R3123930	R7125430	
M ▶ VFO	R3123950	R7125430	
VFO MR	R3123910	R7125450X2	
SPLIT	R3123960	R7125430	
PRI-M	R3123980	R7125430	
FAST	R3123990	R7125160	
BAND	R3124010	R7125160	

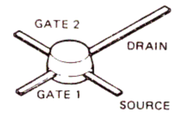
PARTS LAYOUT



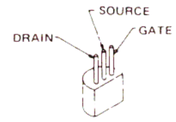
Component side (obverse)



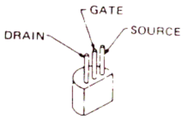
Solder side (obverse)



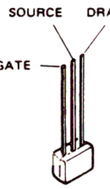
3SK74L (Q1003, 1005~1007, 1023



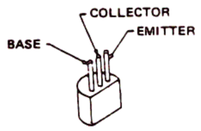
2SK104J (Q1010)



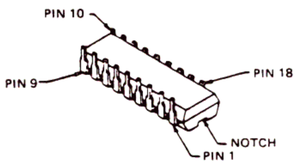
2SK125 (Q1001,1002, 1027



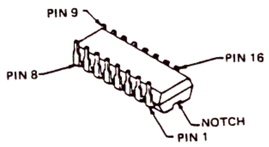
2SK192AGR (Q1011)
2SK241GR (Q1004,1024, 1025



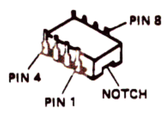
2SA733AP (Q1012)
2SC458B (Q1008,1009, 1015,1016, 1018,1019, 1021,1028, 1047,1049
2SC458BTZ (Q1035)
2SC535B (Q1026)
2SC2053 (Q1032)



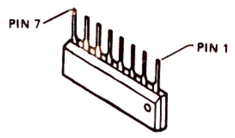
M54563P (Q1038)
M54564P (Q1040)



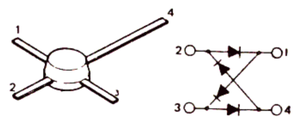
μPD4028BC (Q1039)
μPD4094BC (Q1041,1042)



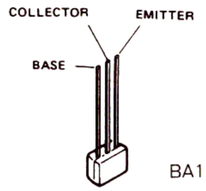
IR3M03A (Q1045)
M5218P (Q1014,1034)
M5223P (Q1036)



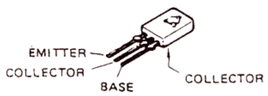
μPC1037H (Q1022)



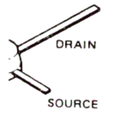
ND487C2-3R (D1055)



BA1A4M (Q1013,1020,1029,1030, 1033,1037,1046
BA1L3Z (Q1017,1048)
DTA143ES (Q1031,1043)

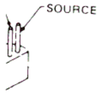


2SD669A (Q1044)



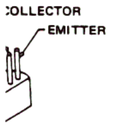
003,
005~1007,
023

010)



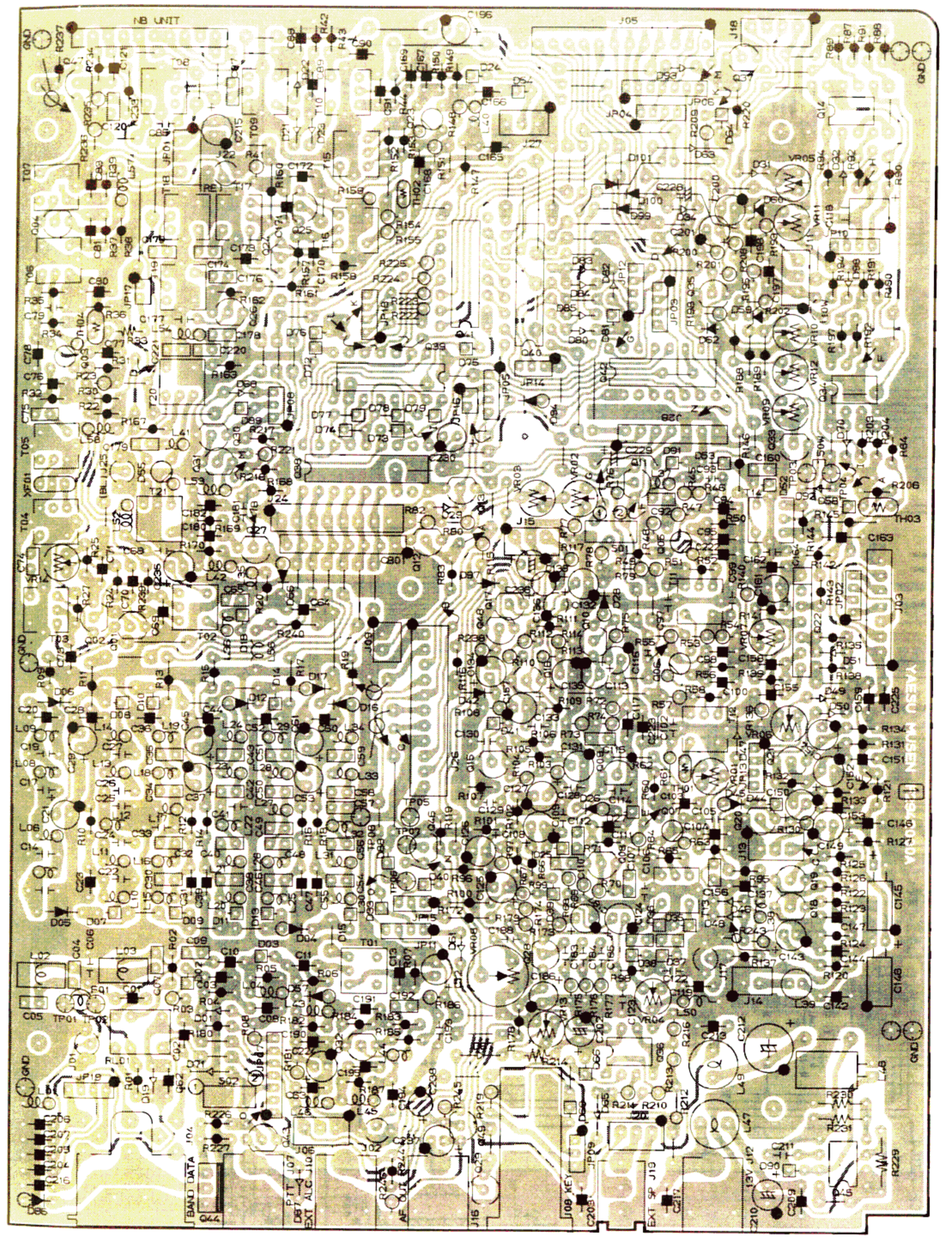
001,1002,
027

Q1011)
Q1004,1024,
1025



1012)
1008,1009,
1015,1016,
1018,1019,
1021,1028,
1047,1049
Q1035)
026)
032)

044)



Component side (reverse)

MAIN UNIT VOLTAGE CHART

(DC VOLT)

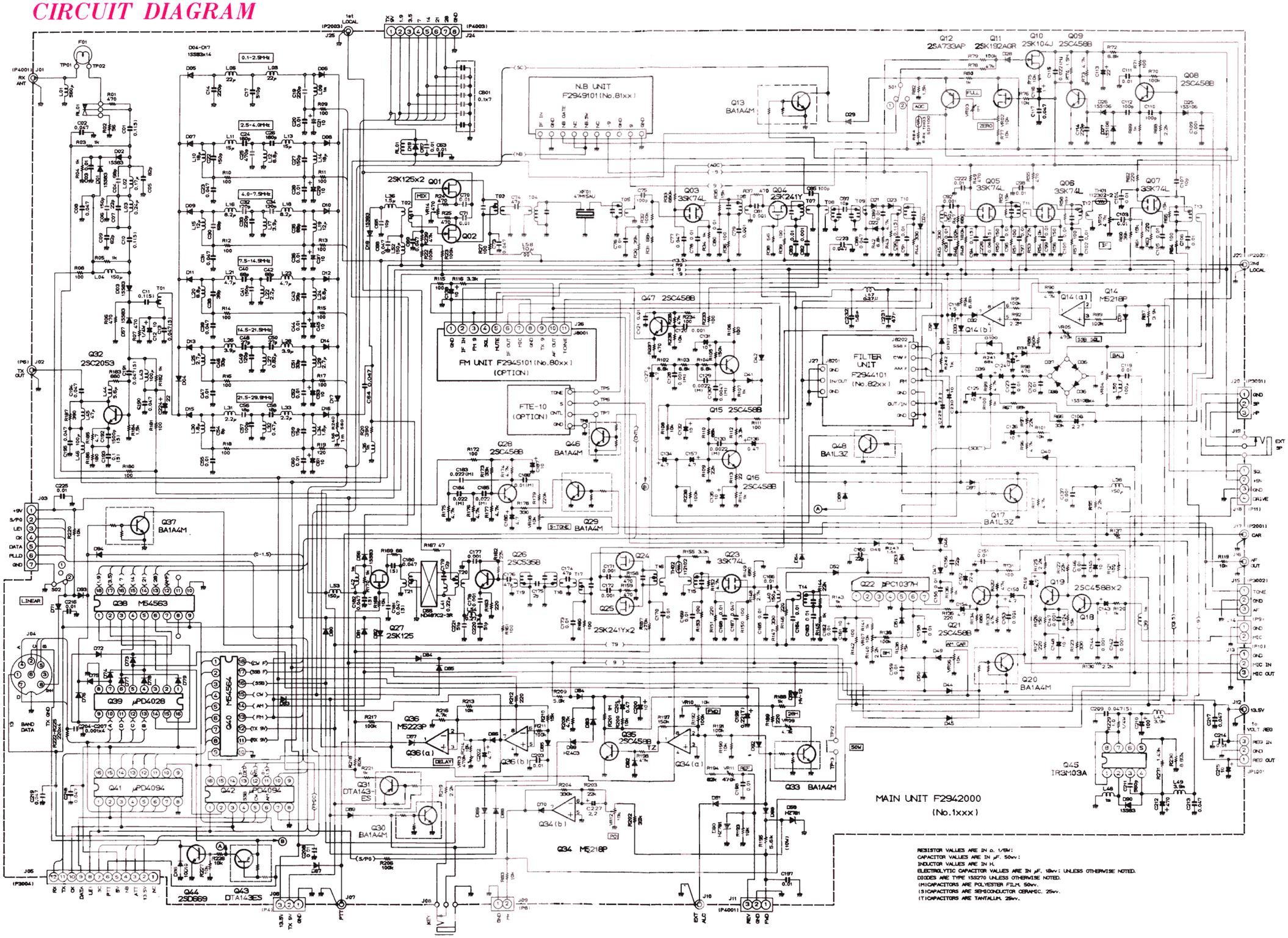
	E (S)	C (D)	B (G_1)	(G_2)	REMARKS
Q1001	2.5/-0.1	12.7/13.4	-0.7/-5.1		RX/TX
Q1002	2.5/-0.1	12.7/13.4	-0.7/-5.1		RX/TX
Q1003	2.0/0	13.2/13.4	1.5/-4.1	3.2/3.2	RX/TX
Q1004	0.6	13.4	0		
Q1005	1.7/0	7.8/8.8	1.7/-4.0	3.4/3.4	RX/TX
Q1006	2.2	7.4	2.4	3.4	
Q1007	1.9	8.0	1.8	3.6	
Q1008	4.8	8.3	5.5		
Q1009	0	3.4	0.1		
Q1010	3.6	3.6	0		
Q1011	6.2	8.8	3.4		
Q1012	5.3/0.7	0/0	4.7/4.6		RX/TX
Q1013	0/0	5.0/0.1	0/4.3		RX/TX
Q1015	4.2	8.4	4.8		
Q1016	1.3	4.4	2.0		
Q1017	0/0	0/0	0.1/3.7		RX/TX
Q1018	0.1	1.4	0.7		
Q1019	0.8	4.2	1.4		
Q1020	0/0	0/0	7.0/0		RX/TX
Q1021	3.0	8.4	3.6		
Q1023	1.9	0	1.8	3.2	
Q1024	0/0.6	8.9/8.6	-3.9/0.1		RX/TX
Q1025	0/0.6	8.9/8.6	-3.9/0.1		RX/TX
Q1026	3.0	7.5	3.8		
Q1027	0/1.6	-4.0/0.1	0/6.9		RX/TX
Q1028	0.6(0.3/0.6)	7.7(7.7/3.7)	1.0(1.0/0.9)		RX CW(TX CW KEY UP/DWN)
Q1029	0(0/0)	0.6(0.6/0)	0(0/11.0)		RX CW(TX CW KEY UP/DWN)
Q1030	0(0/0)	0(7.5/0)	0(0/10.5)		RX CW(TX CW KEY UP/DWN)
Q1031	0(7.5/7.5)	0(-0.5/7.5)	0(7.5/0)		RX CW(TX CW KEY UP/DWN)
Q1032	8.1	13.2	8.8		
Q1033	0	6.9	0		
Q1035	0	3.1	-0.5		
Q1037	0/0	0.5/7.4	4.0/0		0.5~7.5, 14.5~18.5 / 21.5~25.0MHz / other
Q1043	5.5/5.0	0/5.0	5.0/0.6		RX/TX
Q1044	0/0	0.6/0	0/0.6		RX/TX
Q1046	0/0	0.4/0	0/4.8		RX/TX (MODE FM SPLIT ON)
Q1047	0.8	8.7	1.5		
Q1048	0/0	0/0	0.1/3.7		RX/TX

MAIN UNIT IC VOLTAGE CHART

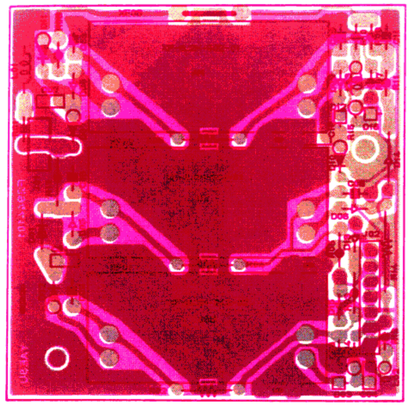
(DC VOLT)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	REMARKS
Q1014	8.4/2.5	8.4/2.5	8.8/2.5	-9.0/-9.0	3.1/2.7	7.0/1.8	-7.6/8.4	8.9/8.9											SQL VR CCW/CW
Q1022	7.0	—	5.4	0	3.1	3.1	3.1												
Q1034	-5.2	0	0	-9.0	0	0	-7.7	8.9											
Q1036	12.0/0.7	0/10.2	4.2/3.9	0/0	4.2/3.9	12.9/2.1	0/10.8	13.1/12.3											KEY UP/DWN (MODE CW VR13 MIN)
Q1038	0	0	0	4.1	0.2	0.2	0	0.1	13.4	0	0.2	13.0	0	0	12.0	0	0	0	MODE AM, 14MHz
Q1039	0	0	0	0	0	4.7	0	0	0	5.0	0	5.0	0	0	0	5.0			MODE AM, 14MHz
Q1040	0/0	4.8/4.8	0/0	0/0	0/0	0/0	0/4.4	4.5/0	8.9/8.9	0/0	7.6/-1.3	0/7.5	0/0	0/0	0/0	7.7/7.7	7.9/7.9	0/0	MODE USB, RX/TX
Q1041	0	4.6	0	5.0	0	5.0	0	0	0	0	0	0	0	4.8	5.0	5.0			14MHz
Q1042	0	0	0	4.8	0	0	0	0	0	0	0	0	4.9	5.0	5.0	5.0			MODE USB, 14MHz
Q1045	13.5	0.1	-8.2	-9.0	-7.8	13.5	13.5	13.5											

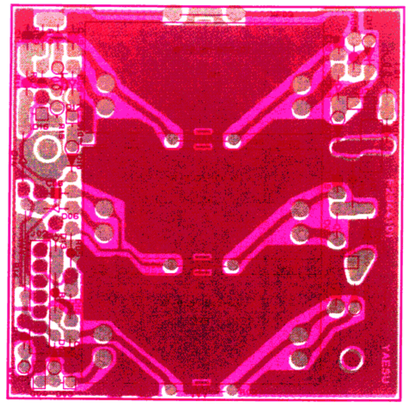
CIRCUIT DIAGRAM



FILTER UNIT PARTS LAYOUT

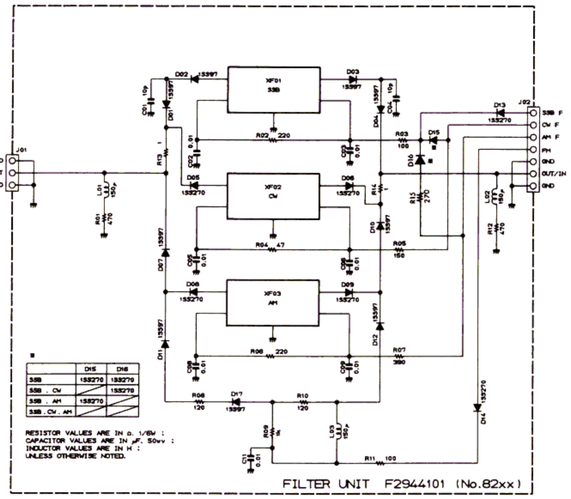


Component side (obverse)



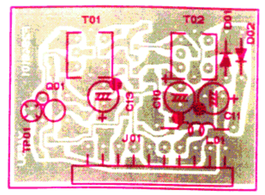
Component side (reverse)

FILTER UNIT CIRCUIT DIAGRAM

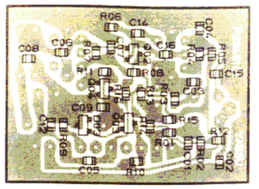


FILTER UNIT F2944101 (No.82xx)

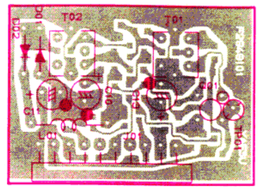
NB UNIT PARTS LAYOUT



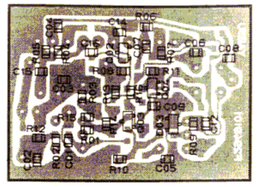
Component side (obverse)



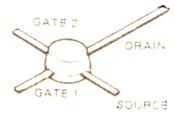
Solder side (obverse)



Component side (reverse)



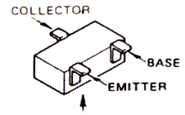
Solder side (reverse)



3SK74L
(Q8101)

Marked Surface

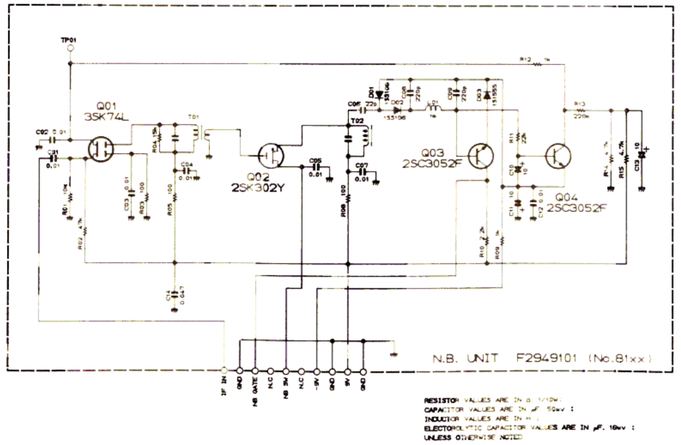
2SK302Y
(Q8102)



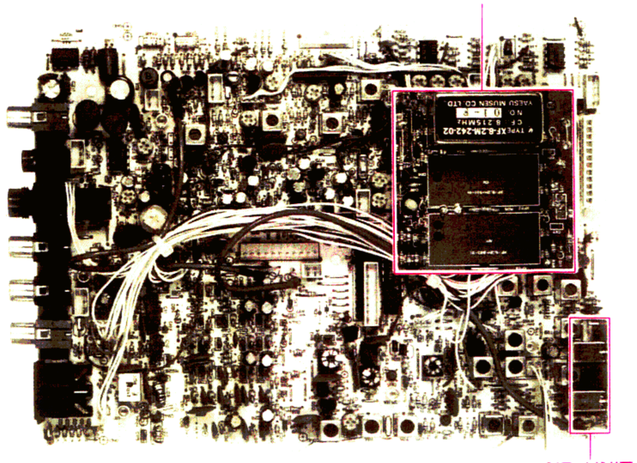
Marked Surface

2SC3052F
(Q8103,8104)

NB UNIT CIRCUIT DIAGRAM



RESISTOR VALUES ARE IN Ω, 1/10W :
CAPACITOR VALUES ARE IN μF, 50WV :
INDUCTOR VALUES ARE IN H :
ELECTROLYTIC CAPACITOR VALUES ARE IN μF, 16WV :
UNLESS OTHERWISE NOTED.

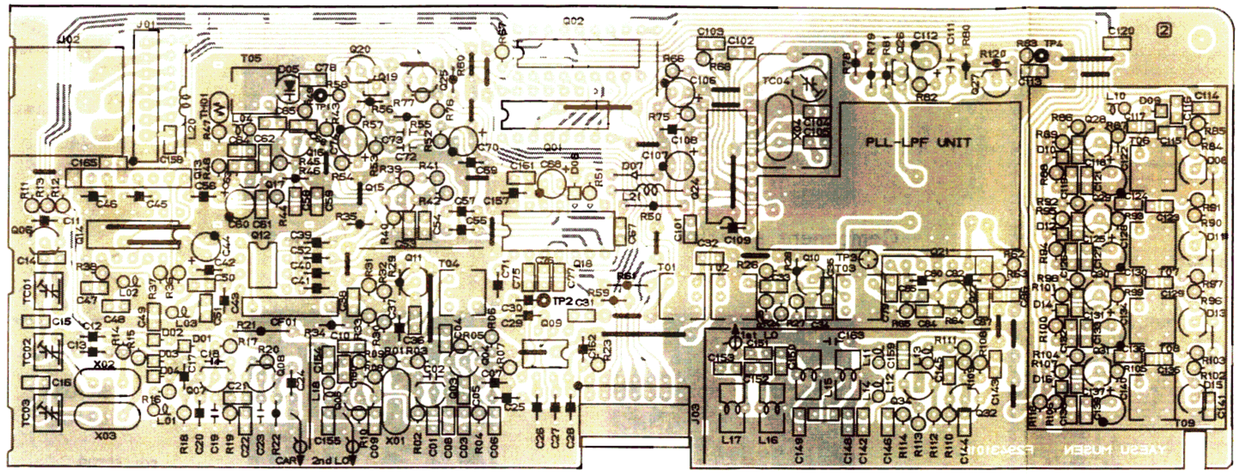


NB UNIT VOLTAGE CHART

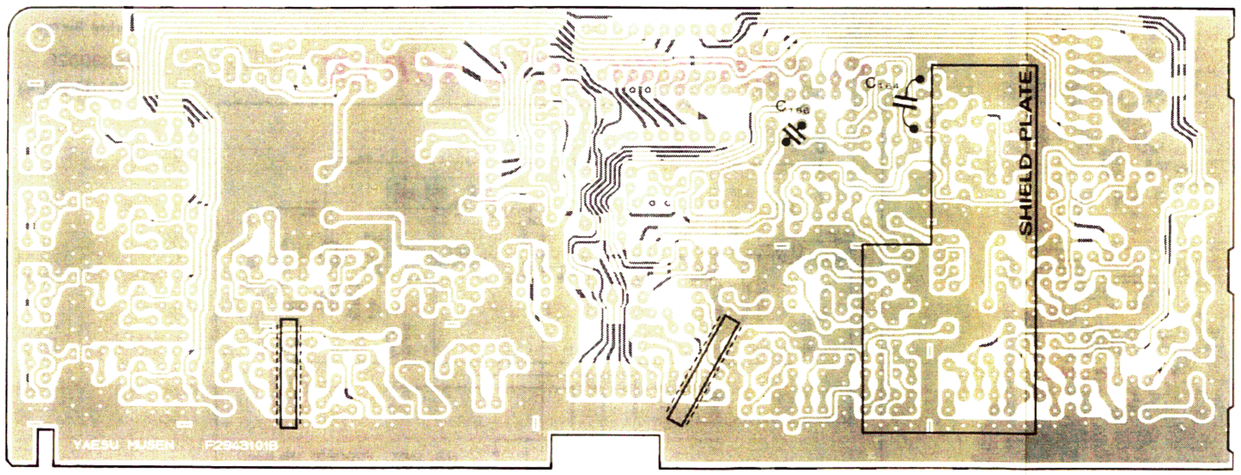
(DC VOLT)

	E (S)	C (D)	B (G_1)	(G_2)	REMARKS
Q8101	7.4	1.5	1.5	4.3	
Q8102	1.7/0	8.9/8.2	0/0		NB OFF/ON
Q8103	-8.8	6.4	-8.9		
Q8104	-9.1	4.3	-9.0		

PARTS LAYOUT



Component side (obverse)



Solder side (obverse)

LOCAL UNIT VOLTAGE CHART

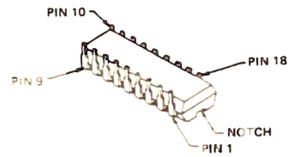
(DC VOLT)

	E (S)	C (D)	B (G)	REMARKS
Q2003	3.1	8.1	3.9	
Q2004	3.5	8.1	4.2	
Q2005	1.4	8.1	2.2	
Q2006	0/0	0.7/0	0/0.7	RX/TX, MODE CW
Q2007	2.0	6.6	2.0	MODE USB
Q2008	1.7	8.0	2.4	MODE USB
Q2010	1.8	8.4	2.5	
Q2011	1.9	8.4	2.6	
Q2015	3.6	8.0	4.2	
Q2016	2.3	8.3	2.9	
Q2017	1.0	8.4	0	
Q2019	8.6	0.5	0.6	
Q2020	0	5.6	0.7	
Q2022	2.5	8.3	3.2	
Q2025	0/0	5.0/0	0/0.6	PLL LOCK/UNLOCK
Q2026	0.8	8.6	0.5	14MHz
Q2027	0.1	5.3	0.8	14MHz
Q2028	2.6	7.1	3.3	3.5MHz
Q2029	2.6	7.1	3.3	28MHz
Q2030	2.6	7.1	3.3	18MHz
Q2031	3.1	7.0	3.9	28MHz
Q2032	2.5	8.3	3.3	
Q2034	2.8	8.7	3.5	

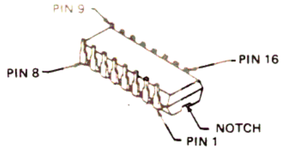
LOCAL UNIT IC VOLTAGE CHART

(DC VOLT)

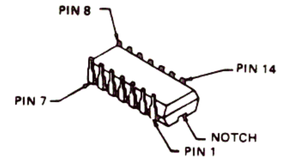
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	REMARKS
Q2001	—	—	—	0	4.8	0	0	0	0	0	0	4.8	0	0	5.0	5.0			14MHz
Q2002	0	0	4.8	0	0	4.8	0	0	8.8	0	0	0	7.6	0	0	7.6	-0.4	0	14MHz, MODE USB
Q2009	6.4	3.8	2.7	0	2.7	3.8	3.8	7.8											14MHz, MODE USB
Q2012	6.4	3.8	2.7	0	2.7	3.8	3.8	7.7											14MHz, MODE USB
Q2013	0	0	4.9	2.6	2.6	0	4.9	2.5											14MHz, MODE USB
Q2014	0	4.9	0	0	0	0	0	0	2.5	0	2.5	2.5	2.3	4.9					14MHz, MODE USB
Q2018	-2.4	—	—	—	2.1	2.2	0.5	0	—	—	2.4	5.0	4.2	0					14MHz, MODE USB
Q2021	5.9	5.2	4.8	0	2.6	2.6	2.6												14MHz, MODE USB
Q2024	-2.4	—	—	—	2.2	1.9	0.5	0	—	—	0.5	4.8	2.0	0					14MHz, MODE USB



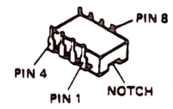
M54564P (Q2002)



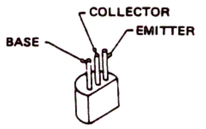
μPD4094BC (Q2001)



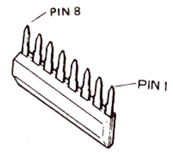
CX-7925B (Q2018,2024)
μPD4013BC (Q2014)



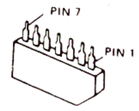
SN16913P (Q2009,2012)



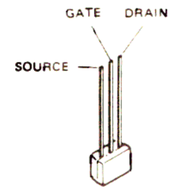
2SC458C (Q2004~2008, 2010,2011, 2015,2025)
2SC535B (Q2003,2016, 2022,2028-2032)
2SC732TMBL (Q2020,2027)
2SC2053 (Q2034)



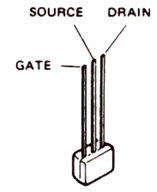
M54459L (Q2013)



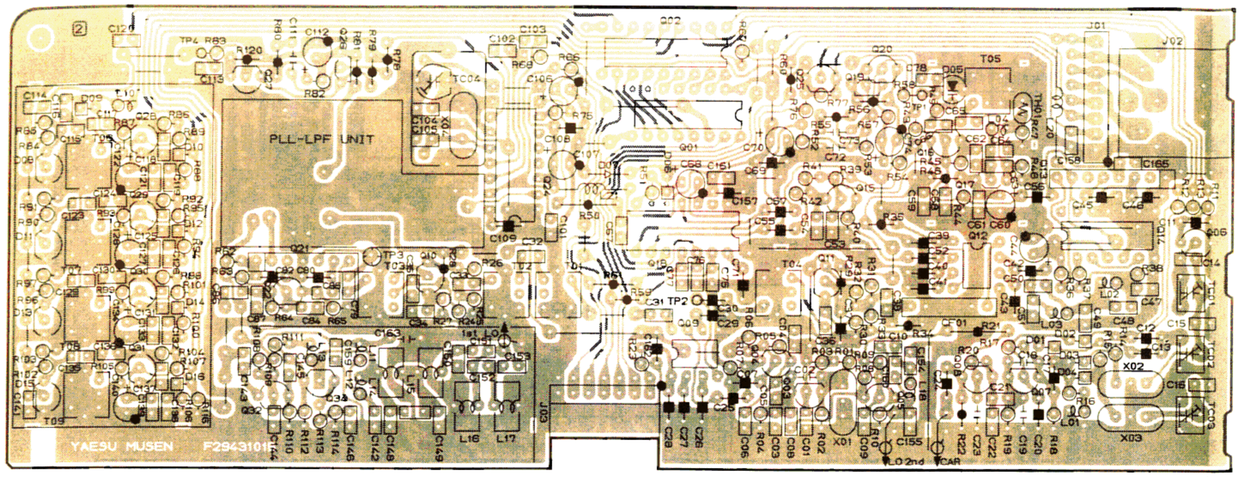
μPC1037H (Q2021)



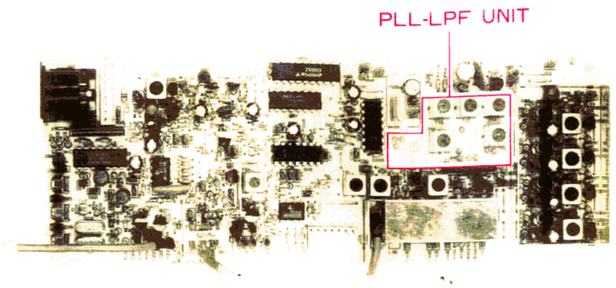
2SK184Y (Q2019,2026)



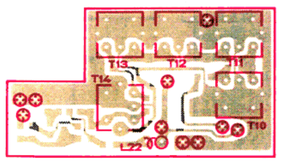
2SK192AGR (Q2017)



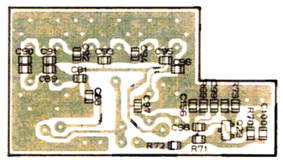
Component side (reverse)



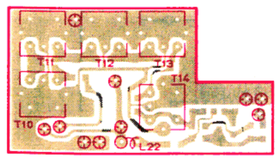
PLL-LPF UNIT PARTS LAYOUT



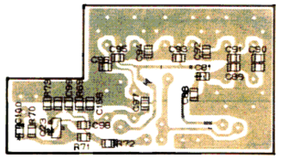
Component side (obverse)



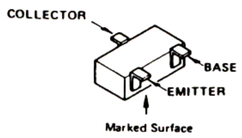
Solder side (obverse)



Component side (reverse)

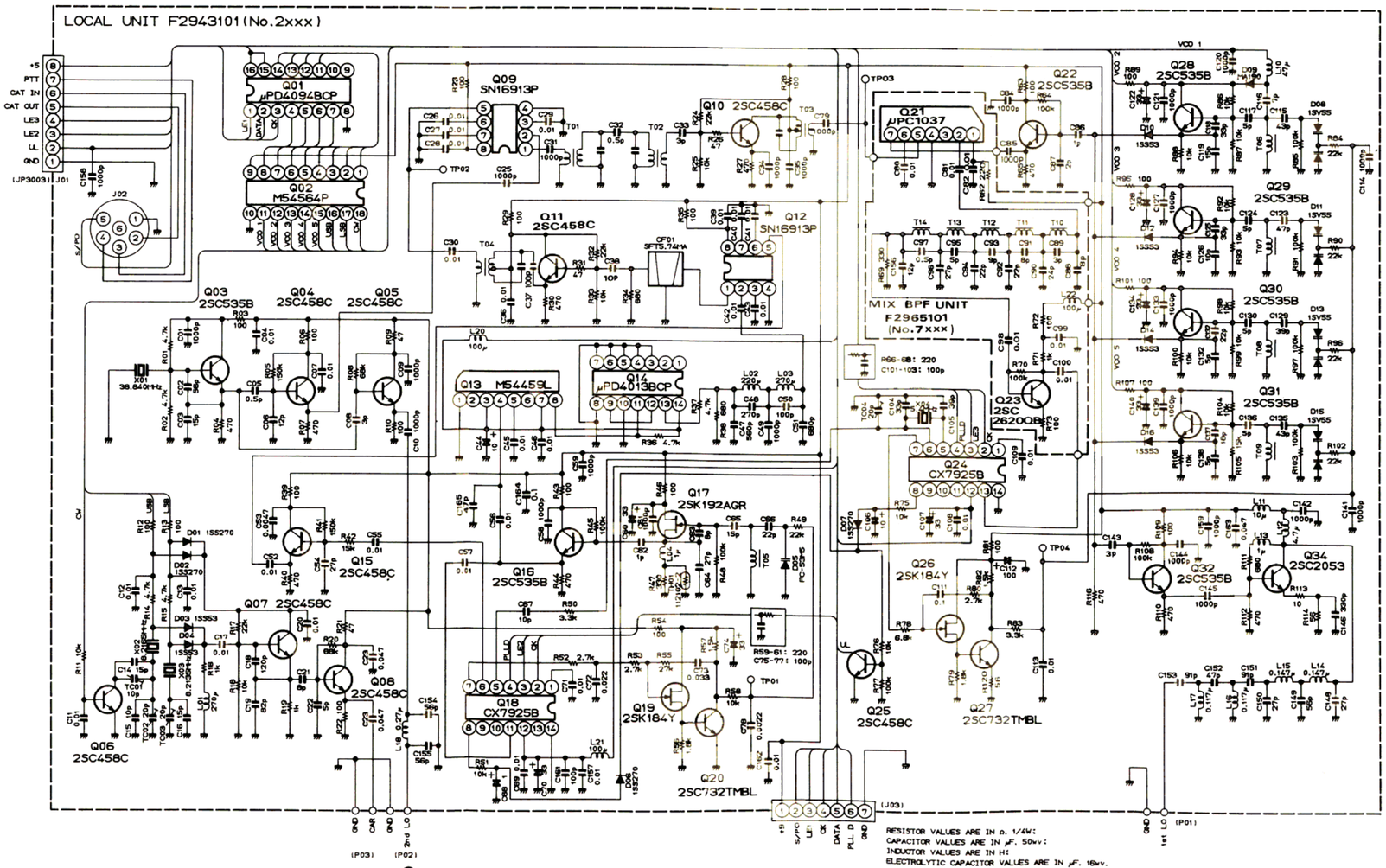


Solder side (reverse)

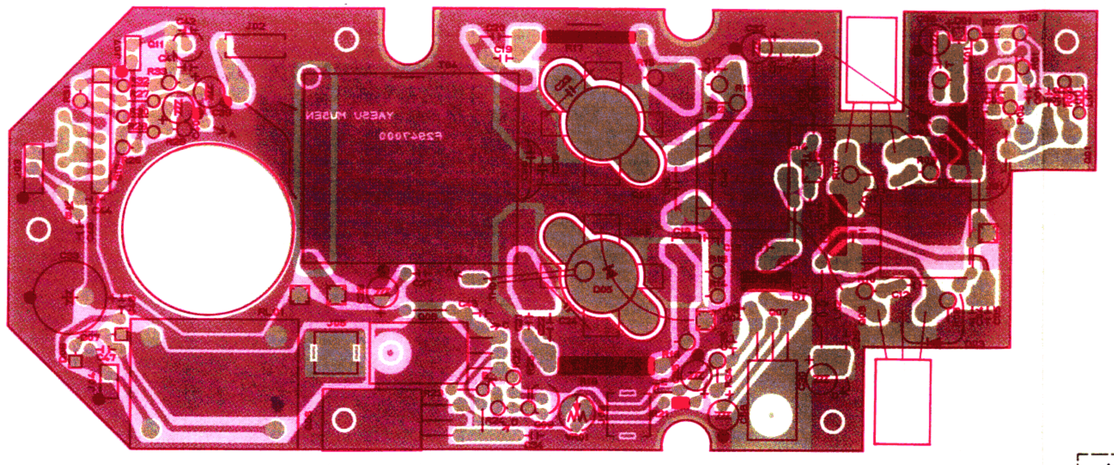


2SC2620QB (Q7023)

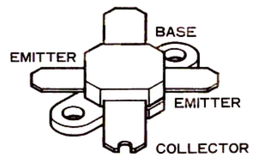
CIRCUIT DIAGRAM



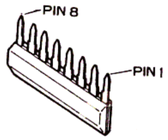
PARTS LAYOUT



Component side (obverse)

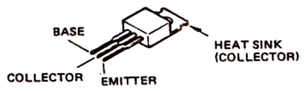


2SC3240 (Q5004,5005)

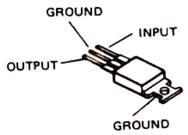


M5218L (Q5010)

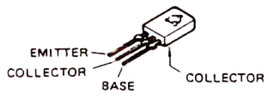
2SB824R (Q5008)
2SC2166 (Q5001)



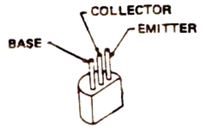
2SC3133 (Q5002,5003)



μPC7808H (Q5006)



2SD882Q (Q5007)



2SC458D (Q5009)
2SC2001 (Q5011)

PA UNIT VOLTAGE CHART

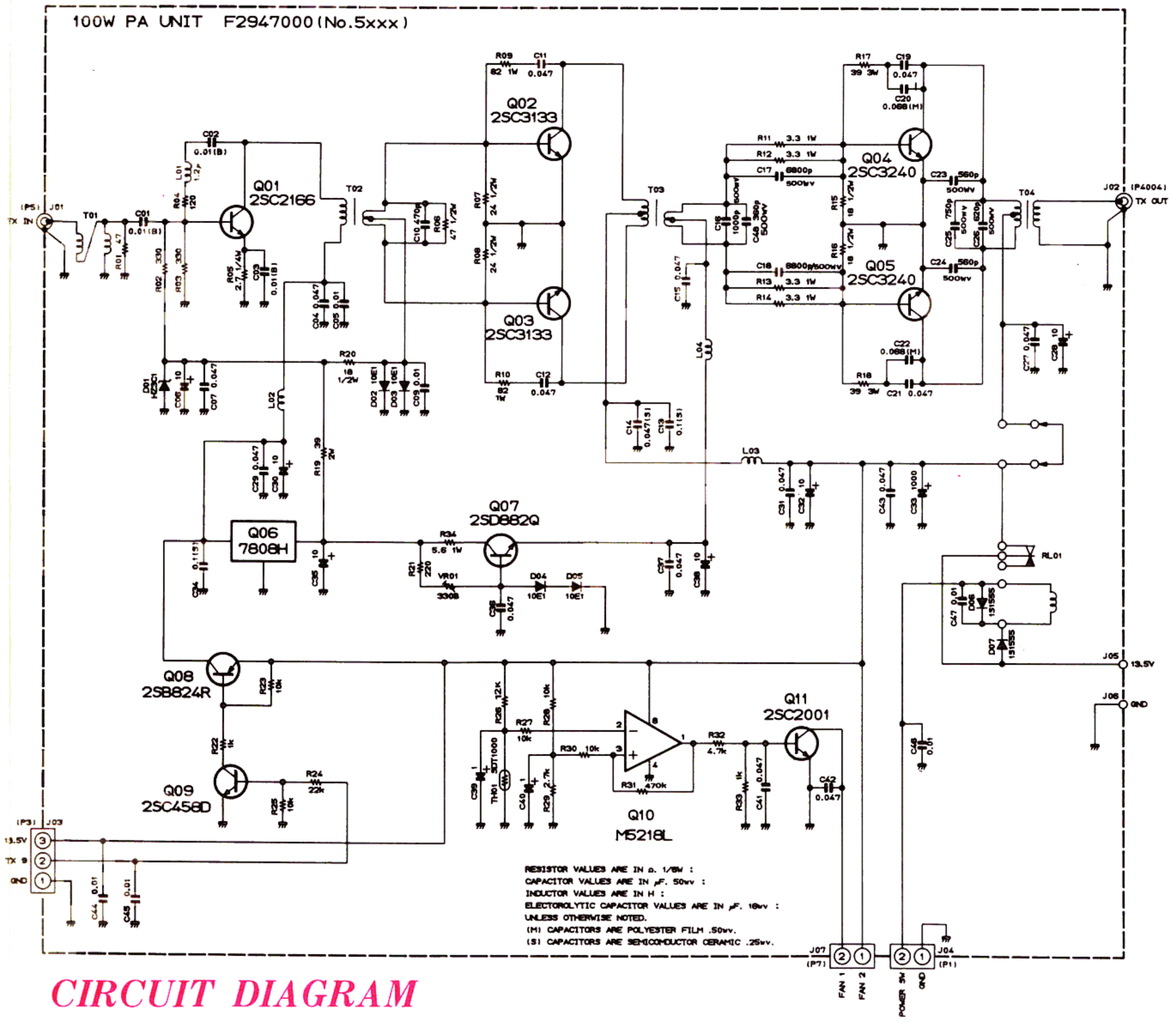
(DC VOLT)

	E	C	B	REMARKS
Q5001	0/0.4	0/13.4	0/1.2	RX/TX
Q5002	0/0	13.5/13.5	0/0.7	RX/TX
Q5003	0/0	13.5/13.5	0/0.7	RX/TX
Q5004	0/0	13.5/13.5	0/0.6	RX/TX
Q5005	0/0	13.5/13.5	0/0.6	RX/TX
Q5007	0.4/1.4	0/7.6	0/0.7	RX/TX
Q5008	13.5/13.5	0.5/13.4	13.5/12.7	RX/TX
Q5009	0/0	13.5/0.1	0/0.7	RX/TX
Q5010	0	13.5	0.2	

PA UNIT IC VOLTAGE CHART

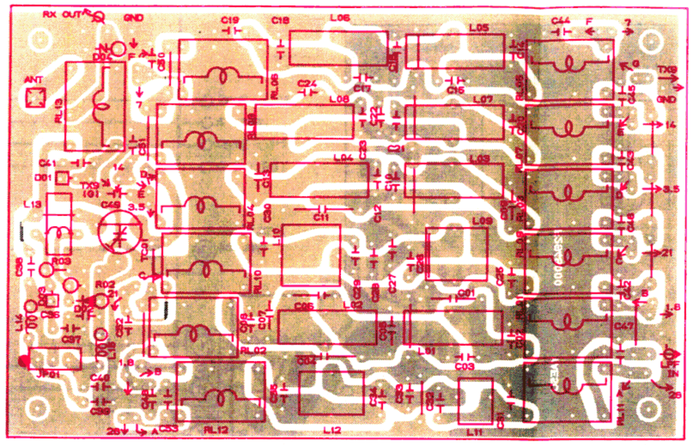
(DC VOLT)

	1 (IN)	2 (GND)	3 (OUT)	4	5	6	7	8	REMARKS
Q5006	0.4/13.4	0/0	0/8.0						RX/TX
Q5010	1.4/1.3	40-70/10-30	2.8/3.1	0/0	—	—	—	13.5/13.5	FAN OFF/ON

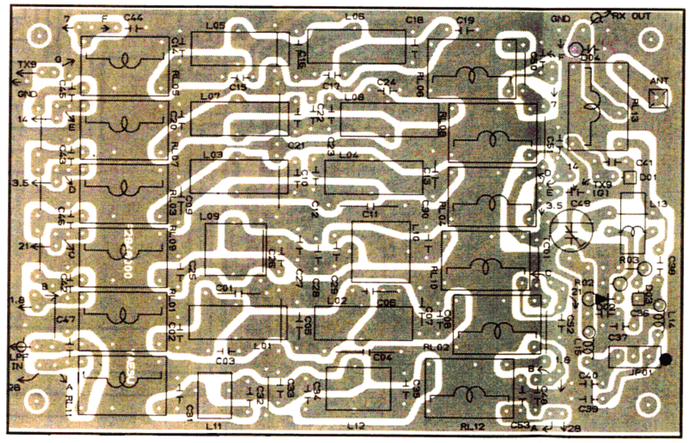


CIRCUIT DIAGRAM

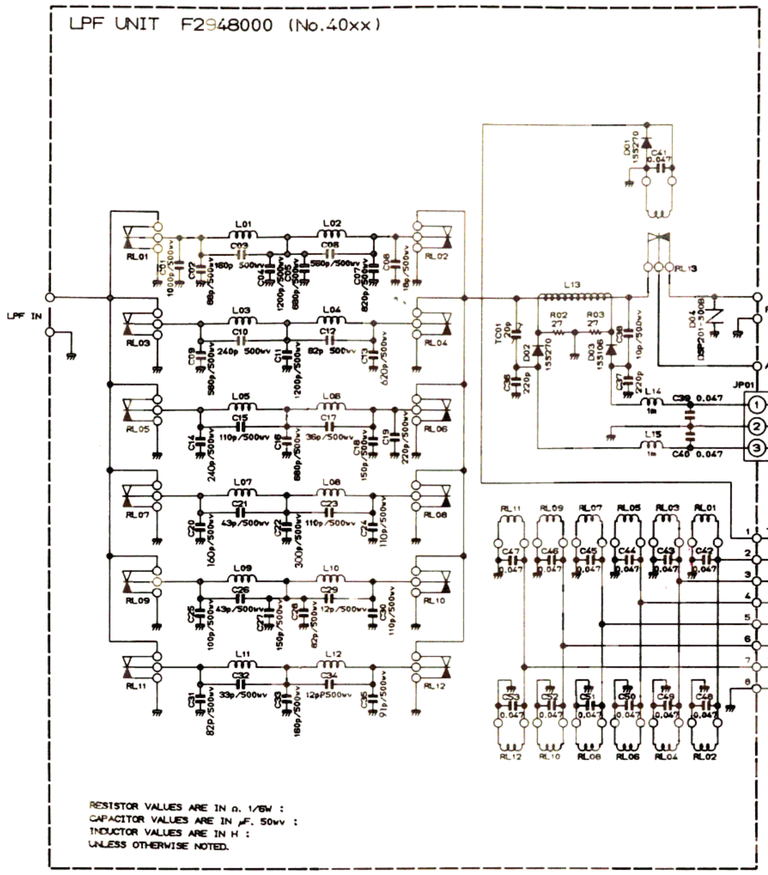
PARTS LAYOUT



Component side (obverse)

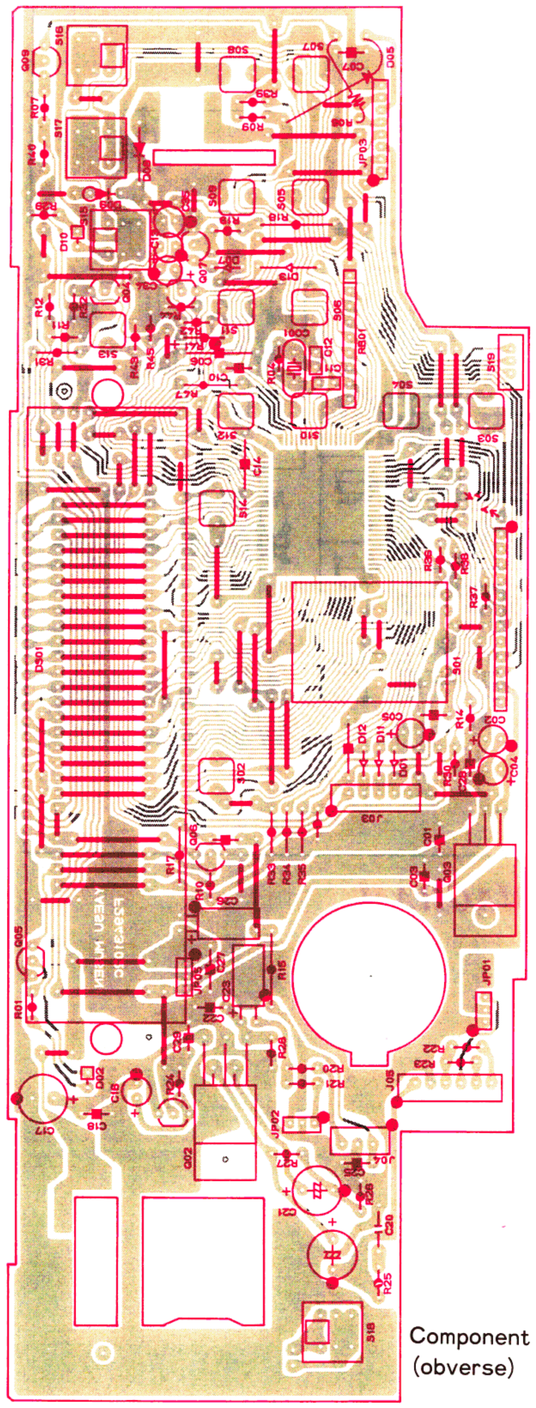


Component side (reverse)

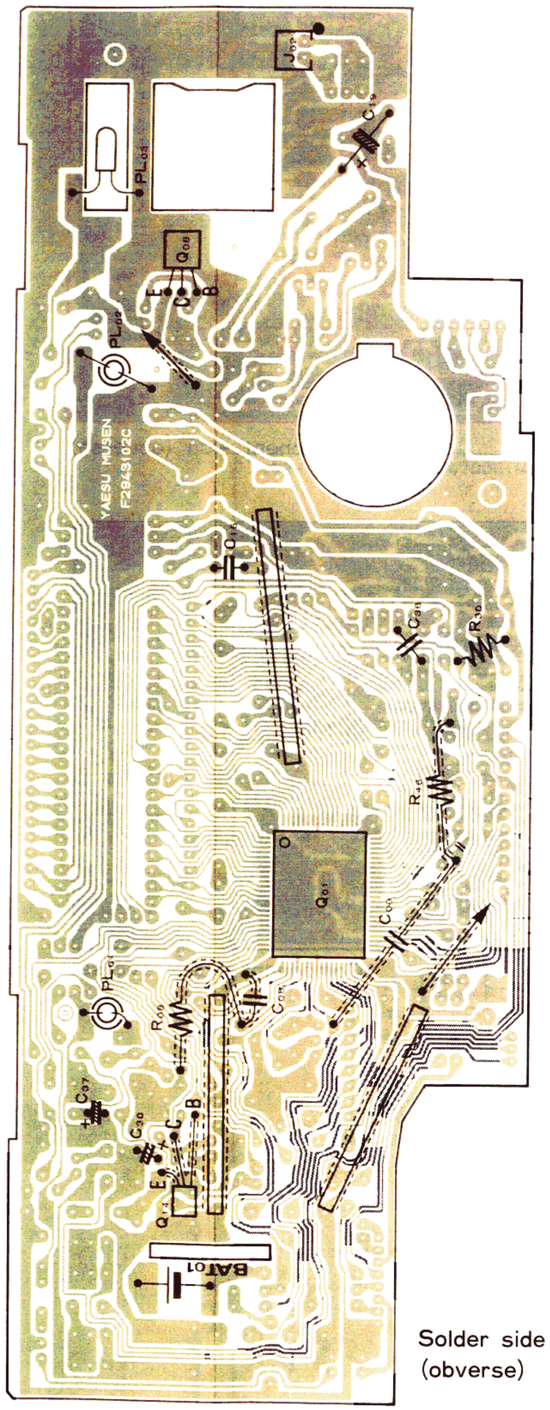


CIRCUIT DIAGRAM

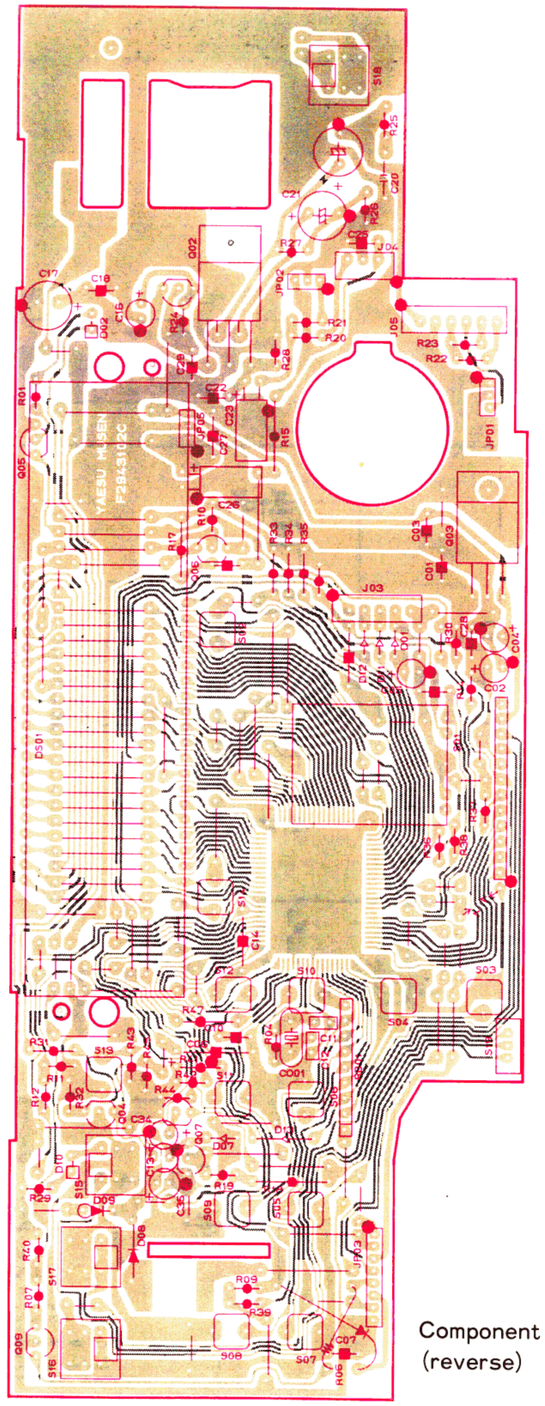
PARTS LAYOUT



Component side
(obverse)

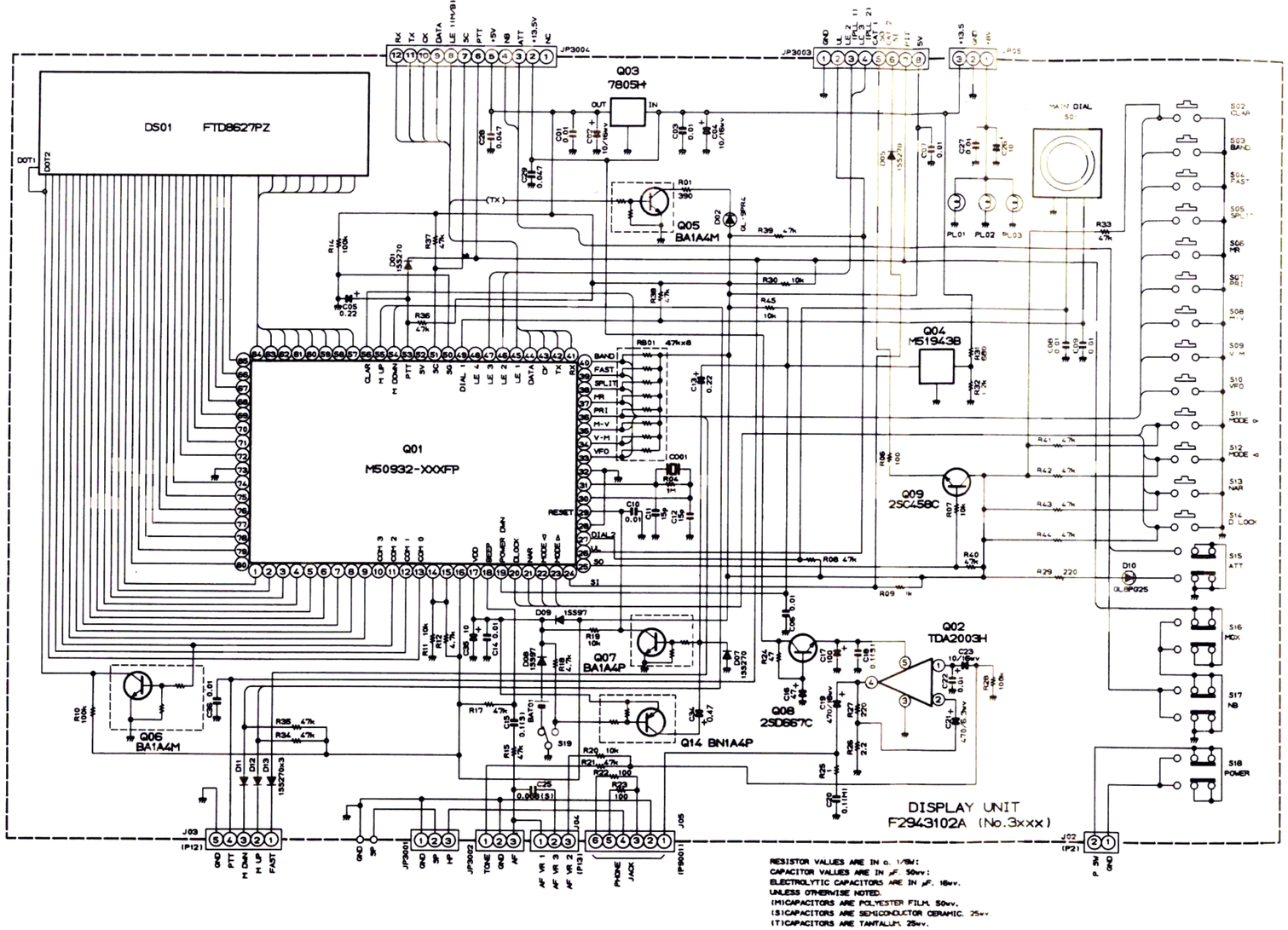


Solder side
(obverse)



Component si
(reverse)

CIRCUIT DIAGRAM



DISPLAY UNIT VOLTAGE CHART

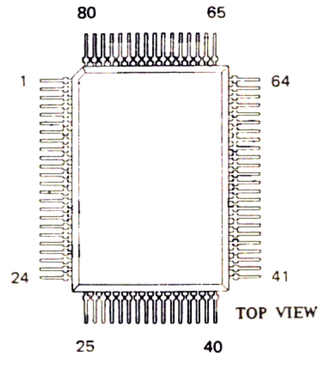
(DC VOLT)

	E	C	B	REMARKS
Q3005	0/0	3.5/0	0/4.5	RX/TX
Q3006	2.7	0.8	0	
Q3007	0	4.6	0	
Q3008	12.7	13.4	13.4	
Q3009	4.2	5.0	4.6	
Q3014	4.6	0	4.0	

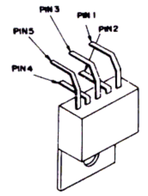
DISPLAY UNIT VOLTAGE CHART

(DC VOLT)

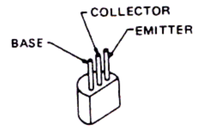
	1 (IN)	2 (GND)	3 (OUT)	4	5	REMARKS
Q3002	0.7	0.1	0	4.8	12.7	
Q3003	13.5	0	5.0			
Q3004	8.3	0	5.0			



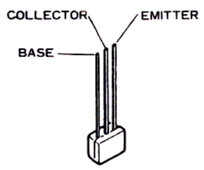
M50932-501FP (Q3001)



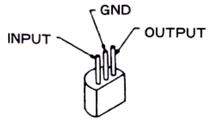
TDA2003H (Q3002)



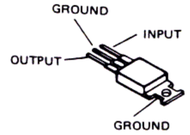
2SC458 (Q3009)
2SD667C (Q3008)



BA1A4M (Q3005,3006)
BA1A4P (Q3007)
BN1A4P (Q3014)



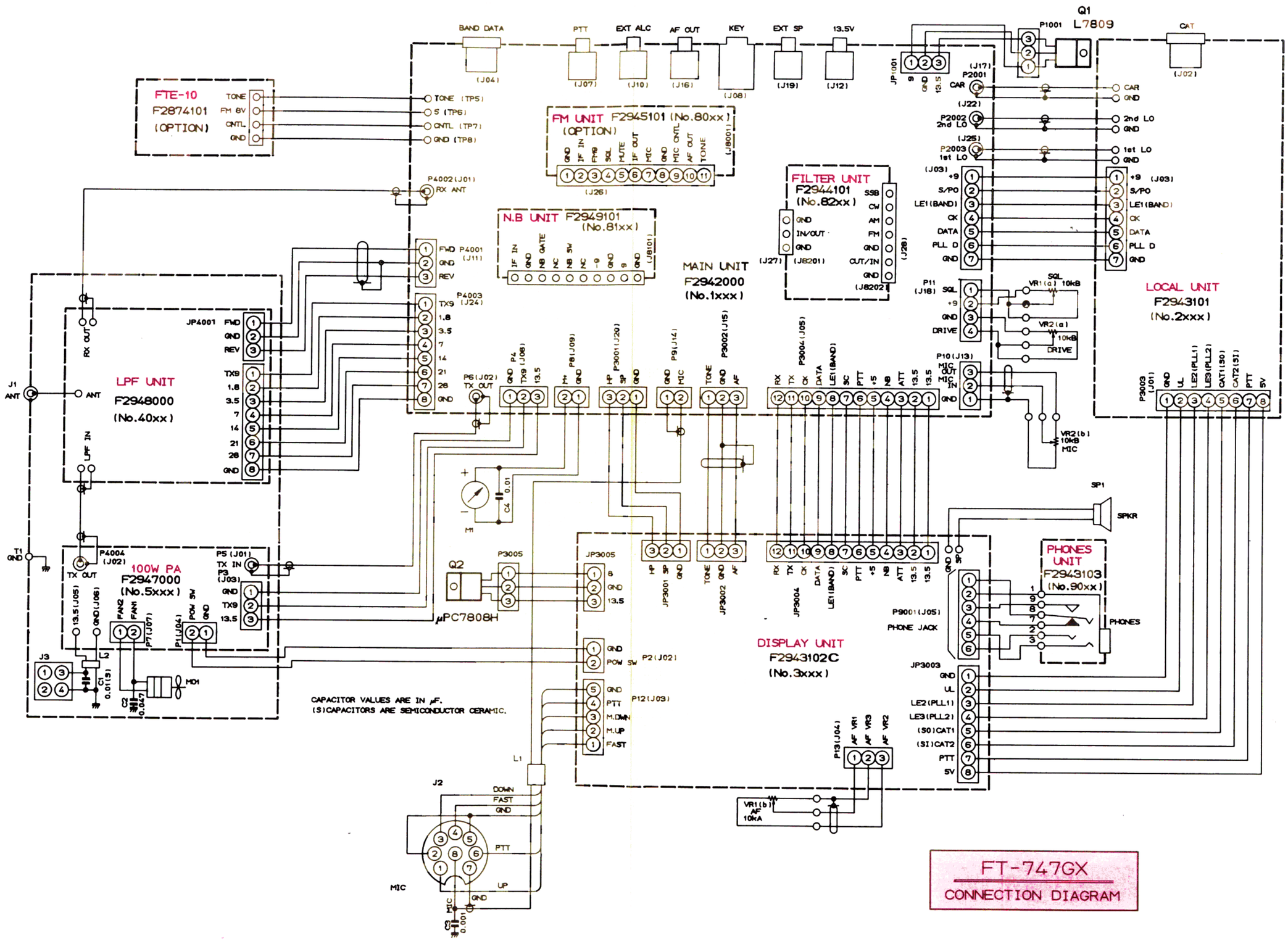
M51943BSL (Q3004)



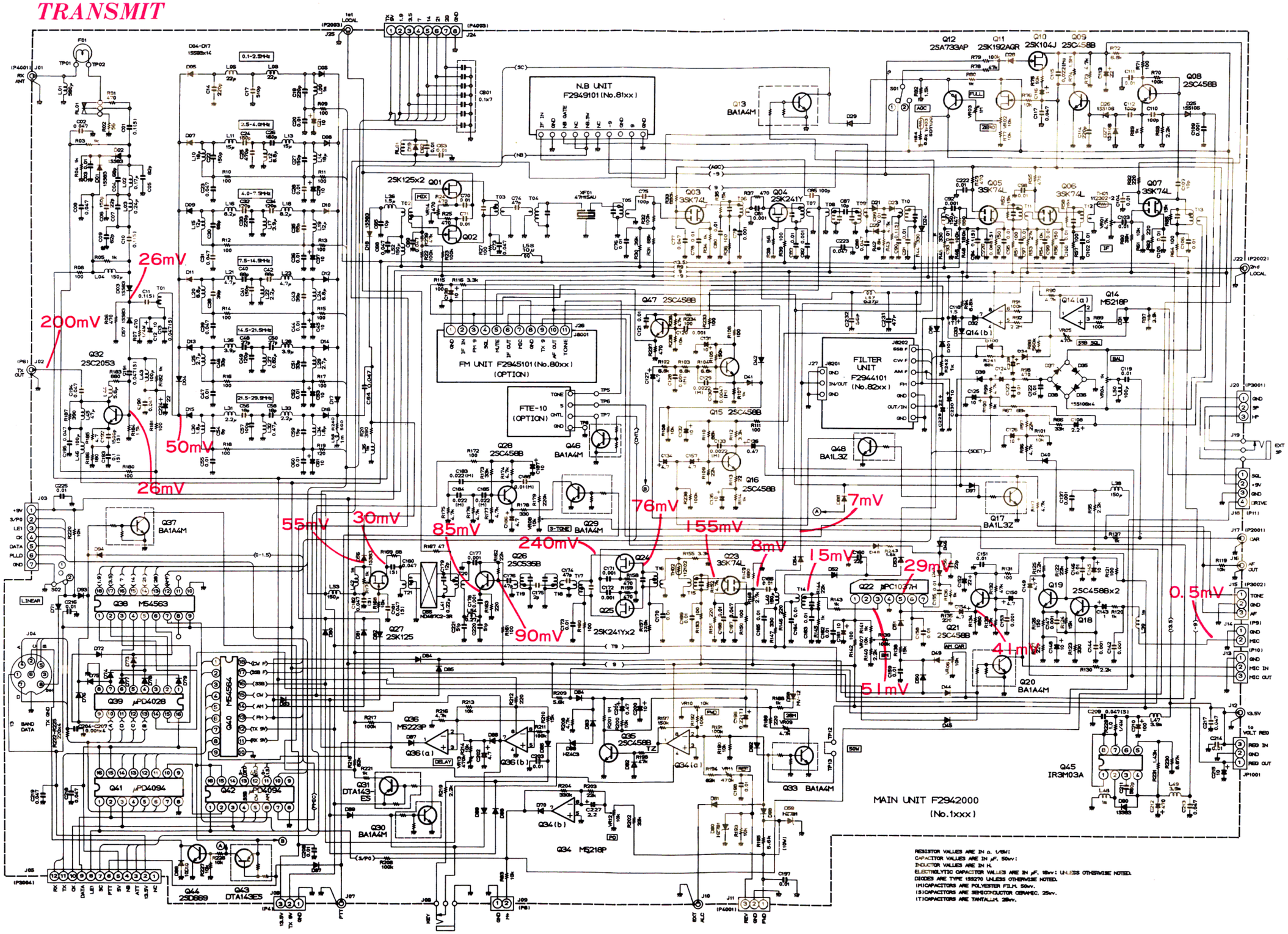
μPC7805H (Q3003)

Component side
reverse)

CONNECTION DIAGRAM

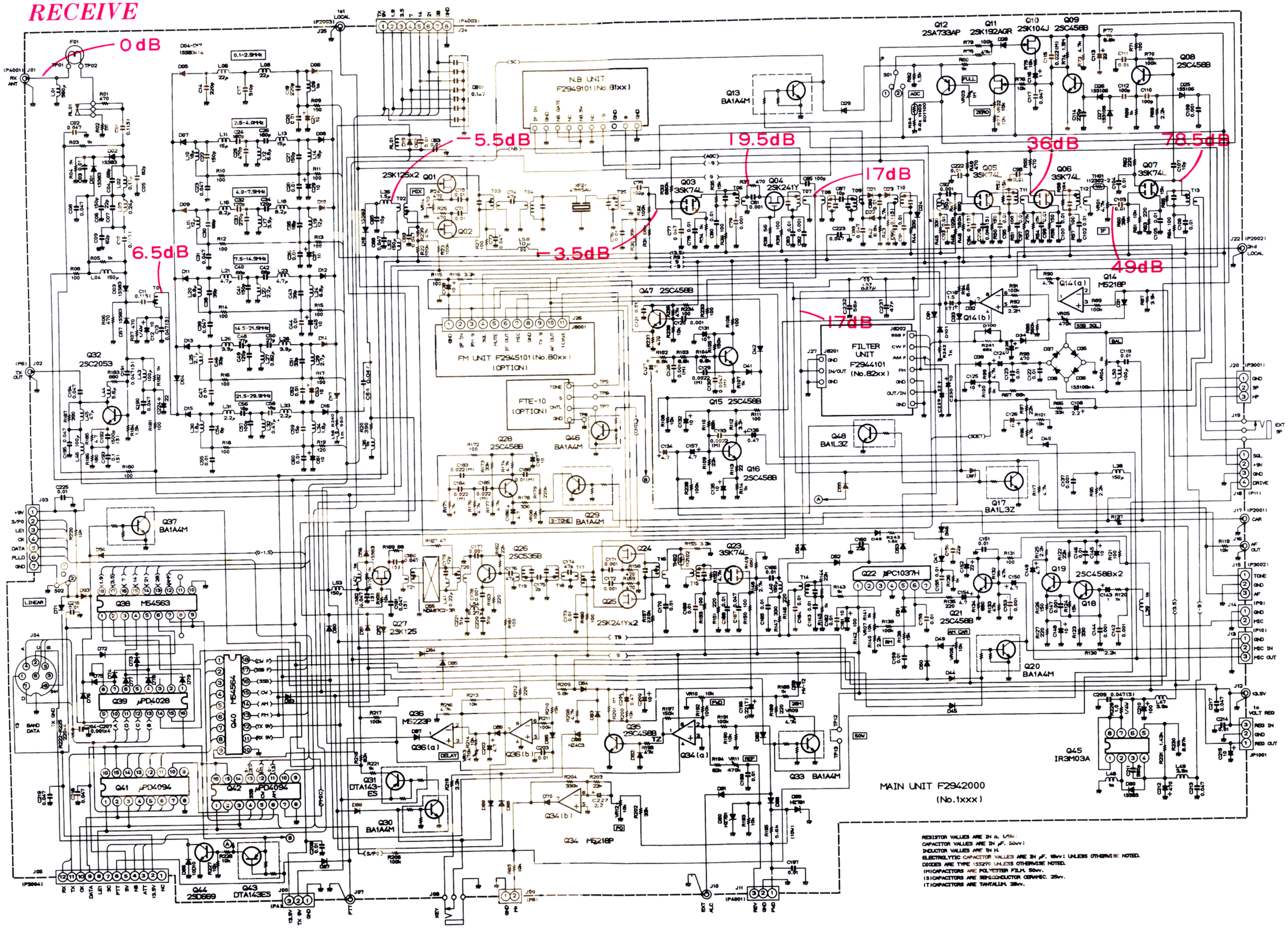


TRANSMIT

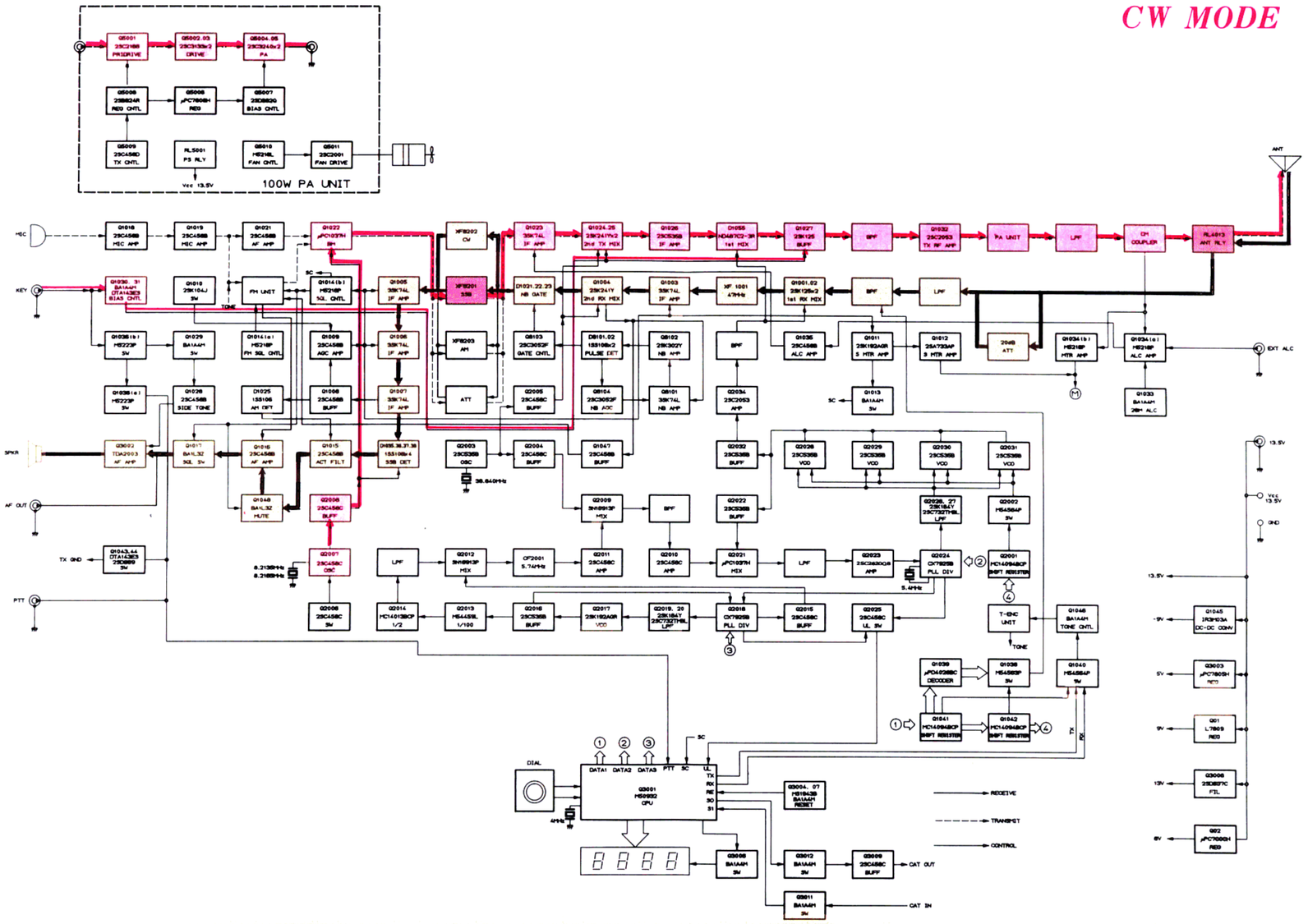

26mV
200mV
50mV
26mV
55mV
30mV
85mV
240mV
90mV
76mV
155mV
7mV
8mV
15mV
29mV
41mV
51mV
0.5mV
N.B UNIT F2949101 (No.81xx)
FM UNIT F2945101 (No.80xx) (OPTION)
FTE-10 (OPTION)
FILTER UNIT F2944101 (No.82xx)
MAIN UNIT F2942000 (No.1xxx)
Q01 2SK125x2
Q02 2SK241Yx2
Q03 3SK74L
Q04 2SK241Y
Q05 3SK74L
Q06 3SK74L
Q07 3SK74L
Q08 2SC458B
Q09 2SC458B
Q10 2SK104J
Q11 2SK192AGR
Q12 2SA733AP
Q13 BA1A4M
Q14 M5218P
Q15 2SC458B
Q16 2SC458B
Q17 BA1L3Z
Q18 2SC458Bx2
Q19 2SC458Bx2
Q20 BA1A4M
Q21 2SC458B
Q22 μPC1037H
Q23 3SK74L
Q24
Q25
Q26 2SC536B
Q27 2SK125
Q28 2SC458B
Q29 BA1A4M
Q30 BA1A4M
Q31 DTA143ES
Q32 2SC2053
Q33 BA1A4M
Q34 M5218P
Q35 2SC458B
Q36 M5223P
Q37 BA1A4M
Q38 M54563
Q39 μPD4028
Q40 M54564
Q41 μPD4094
Q42 μPD4094
Q43 DTA143ES
Q44 2SD669
Q45 IR3M03A
Q46 BA1A4M
Q47 2SC458B
Q48 BA1L3Z
S-TONE
LINEAR
BAND DATA
0.1-2.5MHz
2.5-4.0MHz
4.0-7.5MHz
7.5-14.5MHz
14.5-21.5MHz
21.5-29.9MHz
1st LOCAL
2nd LOCAL
3rd LOCAL
EXT SP
VOLT RED
RESISTOR VALUES ARE IN Ω, 1/8W;
CAPACITOR VALUES ARE IN μF, 50vv;
INDUCTOR VALUES ARE IN H.
ELECTROLYTIC CAPACITOR VALUES ARE IN μF, 16vv; UNLESS OTHERWISE NOTED.
DIODES ARE TYPE 1SS270 UNLESS OTHERWISE NOTED.
(M)CAPACITORS ARE POLYESTER FILM, 50vv.
(S)CAPACITORS ARE SEMICONDUCTOR CERAMIC, 25vv.
(T)CAPACITORS ARE TANTALUM, 25vv.

LEVEL DIAGRAM

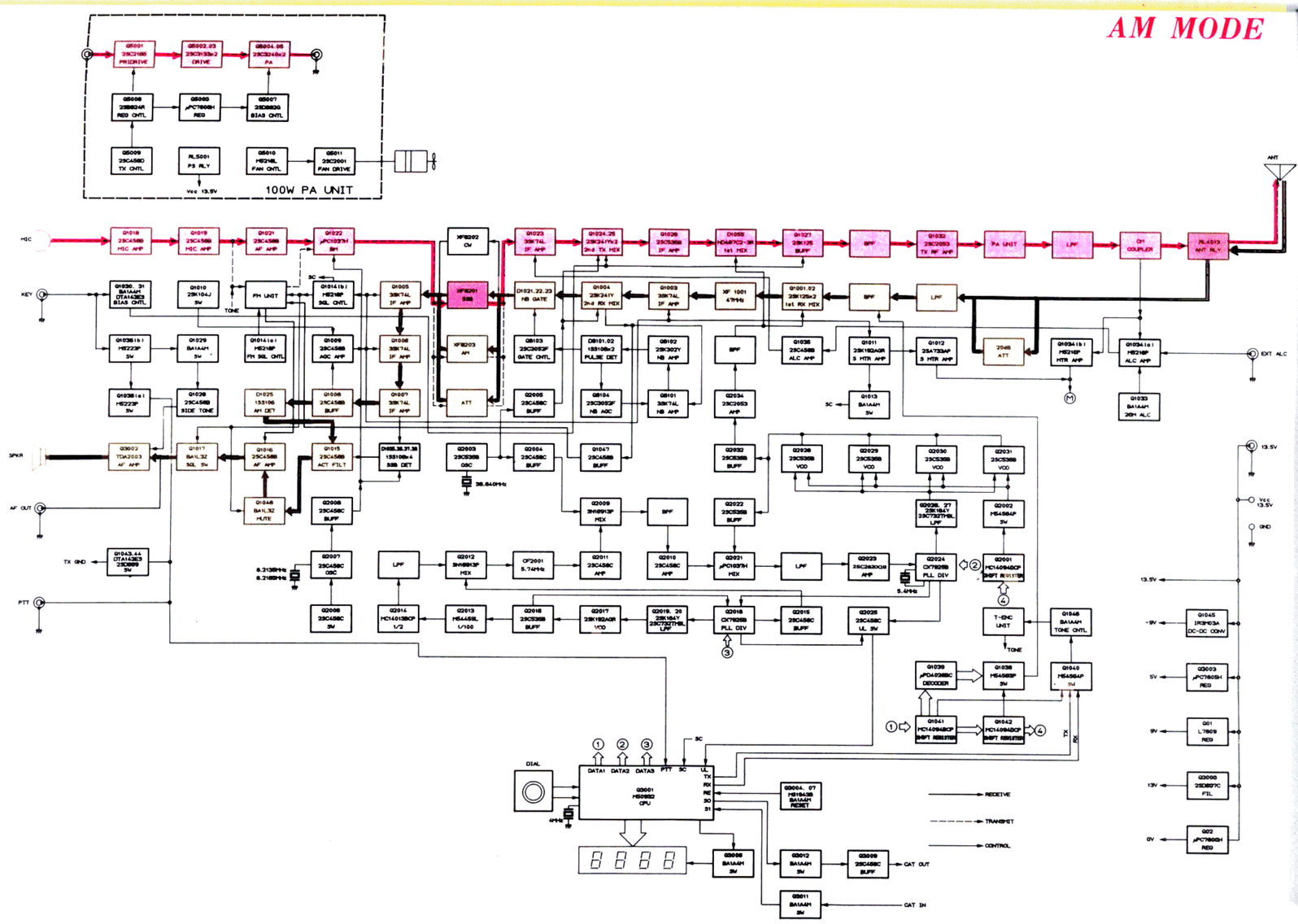
RECEIVE



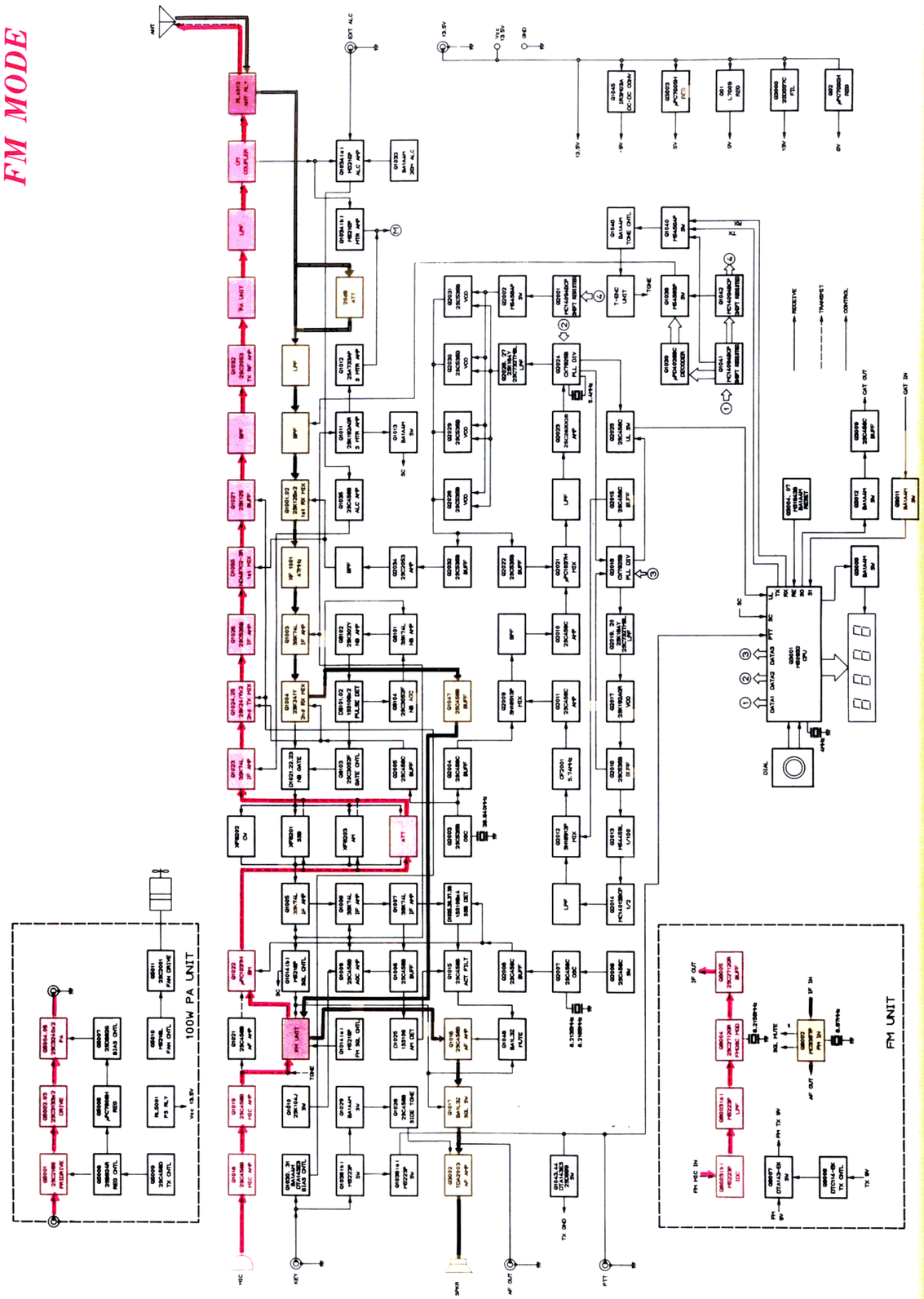
CW MODE



AM MODE



FM MODE



The FT-747GX is carefully designed to allow the knowledgeable operator to make all adjustments required for various station conditions, modes and operator preferences simply from the controls on the front panel, without opening the case of the transceiver. These adjustments are described in the FT-747GX Operating Manual.

The following procedures cover the sometimes critical and tedious adjustments that are not normally required once the transceiver has left 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.

We recommend 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 alignment are cautioned to proceed at their own risk. Problems caused by unauthorized attempts at realignment are not covered by the warranty policy. Also, Yaesu must reserve the right to change circuits and alignment procedures in the interest of improved performance, without notifying owners.

Under no circumstances should alignment 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. While most steps do not require all equipment listed, interactions of some adjustments may require complex adjustments be performed afterwards. Do not attempt to perform only a single step unless it is clearly isolated electrically from all other steps. Rather, have all test equipment ready before beginning, and follow all of the steps in a section in the order they are presented.

A 50-ohm dummy load must be connected to the antenna jack in steps calling for transmission (pressing the MOX button). Correct alignment is not possible with an antenna.

The NAR, ATT and NB buttons should be set to OFF and the SQL control must be fully counterclockwise, unless stated otherwise.

After completing one step, read the following step to determine whether the same test equipment will be required. If not, remove the test equipment (except dummy load and wattmeter, if connected) before proceeding.

Alignment Equipment

Frequency counter with accuracy of 0.1 ppm to 100 MHz

DC voltmeter with at least 10-Megohm input impedance

RF voltmeter with at least 5% accuracy to 100 MHz, high impedance, and ranging from 10 mV to 3 Vrms

AF millivoltmeter

DC milliammeter ranging to 500 mA

RF in-line wattmeter

Resistive dummy load, 50 ohms, 150W; three required for SWR Turndown alignment

RF signal generator covering 1-30 MHz, with calibrated output levels from 5 dBμ to 100 dBμ

AF signal generator with calibrated output levels from 1 mV to 25 mV

RF sampling coupler ("T")

Additional Alignment Precautions

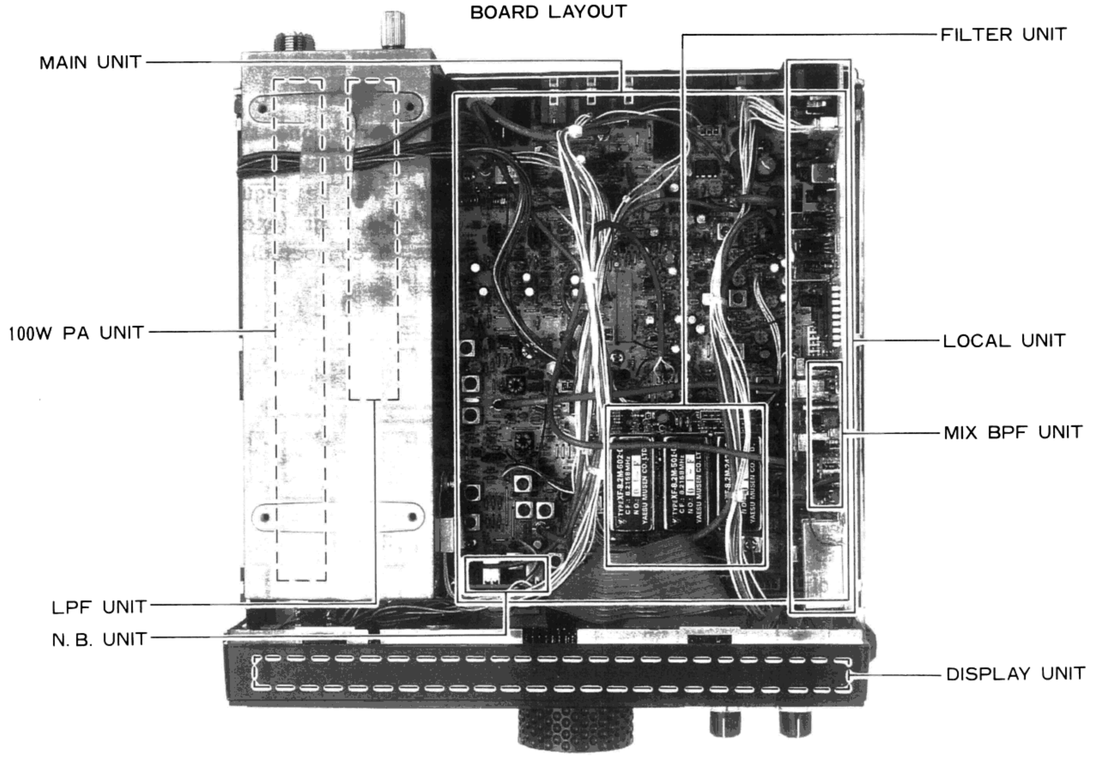
Correct alignment requires that the ambient temperature be the same as that of the transceiver and test equipment, and that this temperature be held constant between 20 and 30 °C (68 to 86 °F). When the transceiver is brought into the shop from hot or cold air it should be allowed some time for thermal equalization before alignment.

Alignments must only be made with oscillator shields and circuit boards firmly affixed in place. Also, the test equipment must be thoroughly warmed up before beginning.

Alignment values assume a DC supply voltage of 13.5V DC.

Note: Signal levels in dB referred to in the alignment procedure are based on 0dBu=0.5uV.

BOARD LAYOUT



ALIGNMENT

I. Local Unit

A. 2nd Local Overall Check

1. Disconnect TMP plug P2002 from J1022 on the Main Unit.
2. Connect the frequency counter to P2002 and confirm 38.8380 MHz ±400 Hz on the counter.
3. Remove the counter and connect a 50-ohm resistor and the RF voltmeter to P2002.
4. Confirm at least 230 mVrms on the voltmeter.
5. Disconnect the resistor and voltmeter, and replace P2002 in J1022.

B. PLL Subloop VCO

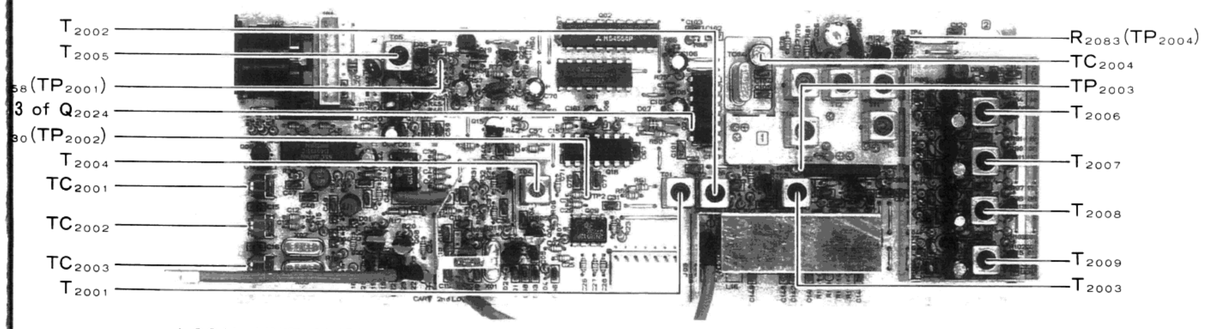
1. Connect the DC voltmeter between the exposed lead of R2058 (TP2001) and chassis ground.
2. Tune the transceiver to 7.0015 MHz, LSB mode.
3. Adjust T2005 for 2.0 ±0.1V on the meter.
4. Retune the transceiver to 7.0014 MHz and confirm at least 5.6 ±0.6V on the voltmeter.
5. Disconnect the voltmeter.

C. PLL Subloop BPF

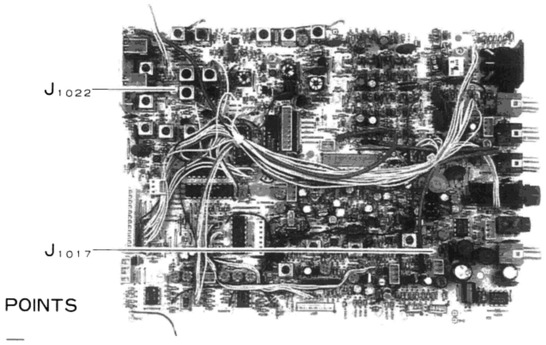
1. Connect the RF voltmeter to the exposed lead of C2030 (TP2002).
2. Tune the transceiver to 7.0265 MHz, LSB mode.
3. Adjust T2004 for peak on the voltmeter (at least 70 mVrms).
4. Move the voltmeter to TP2003, and retune the transceiver to 7.0267 MHz.
5. Adjust T2001-T2003 for peak on the voltmeter (more than 50 mVrms).
6. Disconnect the voltmeter.

D. PLL Main Loop VCO

1. Connect the DC voltmeter between the exposed lead of R2083 (TP2004) and chassis ground.
2. Referring to the following table, tune the transceiver to each adjustment frequency (MHz), adjust the corresponding transformer for 1.5 ±0.1V, retune to the corresponding check frequency and confirm the check voltage on the voltmeter.



LOCAL UNIT ALIGNMENT POINTS



MAIN UNIT ALIGNMENT POINTS

Adjust. Frequency	Adjust. Transformer	Check Freq.	Check Voltage
2.5000	T2006	2.4999	4.5-6.5V
		7.4999	5.0-6.5V
		0.1000	1.5-3.0V
7.5000	T2007	14.4999	5.0-6.5V
14.5000	T2008	21.4999	5.0-6.5V
21.5000	T2009	29.9999	5.0-6.5V

3. Connect the RF voltmeter to pin 13 of Q2024 and tune the transceiver to 29.9999 MHz. Confirm at least 90mVrms on the RF voltmeter.
4. Disconnect the voltmeters.

E. Reference Oscillator
1. Connect the frequency counter to the exposed lead of C2030 (TP2002).
2. Tune the transceiver to 7.0000 MHz, LSB mode.
3. If the TCXO option is installed, adjust the trimmer accessible through the hole in the TCXO housing, if necessary, for 5.7635 MHz ±3 Hz on the counter.
4. If the TCXO option is not installed, adjust TC2004, if necessary, for 5.7635 MHz ±10 Hz on the counter.
5. Remove the counter.

F. Carrier Point
1. Disconnect TMP plug P2001 from J1017 on the Main Unit, and connect the frequency counter to P2001.
2. With the LSB mode selected, adjust TC2003 for 8.2135 MHz ±10 Hz on the counter.
3. Select USB mode and adjust TC2002 for 8.2165 MHz ±10 Hz on the counter.
4. Select CW mode and set the DRIVE control fully counterclockwise (minimum).
5. Press the MOX button to transmit, and adjust TC2001 for 8.2158 MHz ±10 Hz on the counter.
6. Press the MOX button again to return to receive, remove the counter and reconnect P2001 to J1017 (unless performing the next procedure).

G. Carrier Level
1. Disconnect TMP plug P2001 from J1017 on the Main Unit, and connect a 50-ohm resistor in parallel with the RF voltmeter to P2001.
2. Confirm at lease 230 mVrms on the RF voltmeter in all modes.
3. Remove the voltmeter and resistor, and reconnect P2001 to J1017.

II. Main Unit - Receiver

A. RX IF, Part I
1. Connect the RF generator to the antenna jack, and the AF voltmeter and an 8-ohm, 3W resistor across the EXT SPKR jack.
2. Tune the transceiver to 14.2000 MHz, USB mode. Set the AF gain to the 10 o'clock position.
3. Tune the RF generator for a 1.5 kHz heterodyne in the receiver, and adjust the injection level for S-7 on the S-meter.
4. Adjust T1003-T1013 for peak on the AF voltmeter, reducing the injection level, if necessary, to keep S-meter deflection near S-7.
5. Leave the test equipment connected for the next three procedures.

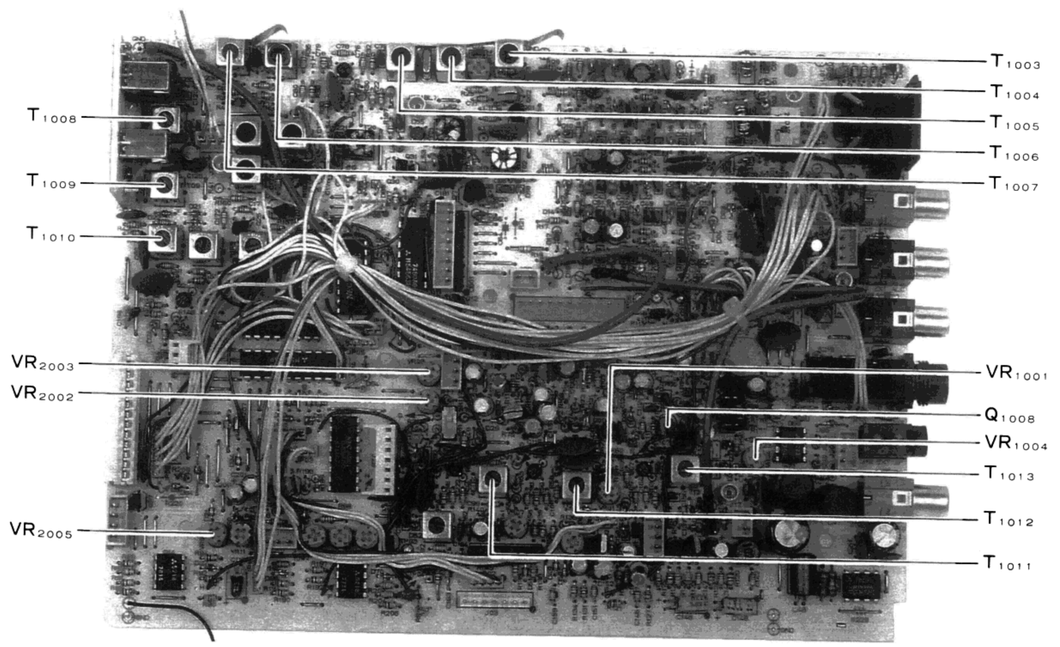
B. S-meter Sensitivity, Part I
1. Connect the RF voltmeter to the emitter of Q1008.
2. Tune the transceiver to 14.0000 MHz, USB mode, and adjust VR1004 for minimum on the voltmeter.
3. Adjust VR1002 so that the S-meter just begins to deflect.
4. Disconnect the voltmeter, and continue with the next procedure.

C. RX IF, Part II
1. Set the transceiver to 14.2000 MHz (USB).
2. Tune the RF generator for a 1.5 kHz heterodyne in the receiver, and adjust the injection level for S-7 on the S-meter.
3. Adjust T1003-T1013 for maximum on the S-meter, reducing the injection level, if necessary, to keep S-meter deflection near S-7.
4. Reduce the injection level to +6dBu and adjust VR1001 for S-1 indication.
5. Perform the next procedure.

D. S-Meter Sensitivity, Part II
Perform the preceeding procedure, if not done already.
1. Set the RF injection level to +100 dBu and adjust VR1003 for S-meter deflection of 60 dB over S-9.
2. Disconnect the test equipment.

E. RX 1st Mixer
1. In LSB mode, tune to the internal heterodyne near 7.1 MHz.
2. Adjust VR1004 for best null of the heterodyne.

F. Noise Squelch
1. Tune to 14.2000 MHz, USB mode, and set the SQL control to the 10 o'clock position.
2. Adjust VR1005 so the squelch just closes when no signal is received.



MAIN UNIT ALIGNMENT POINTS
(Receiver Section)

III. Main Unit, Transmitter

A. TX IF

1. Connect the dummy load and wattmeter to the antenna jack, and tune to 14.2000 MHz, CW mode.
2. Press the MOX button and set the DRIVE control for 50W output.
3. Adjust T1014-T1019 for peak on the wattmeter, reducing the DRIVE, if necessary, to keep power below 60W output.
4. Press the MOX button again to return to receive.

B. ALC & PO Meter Sensitivity

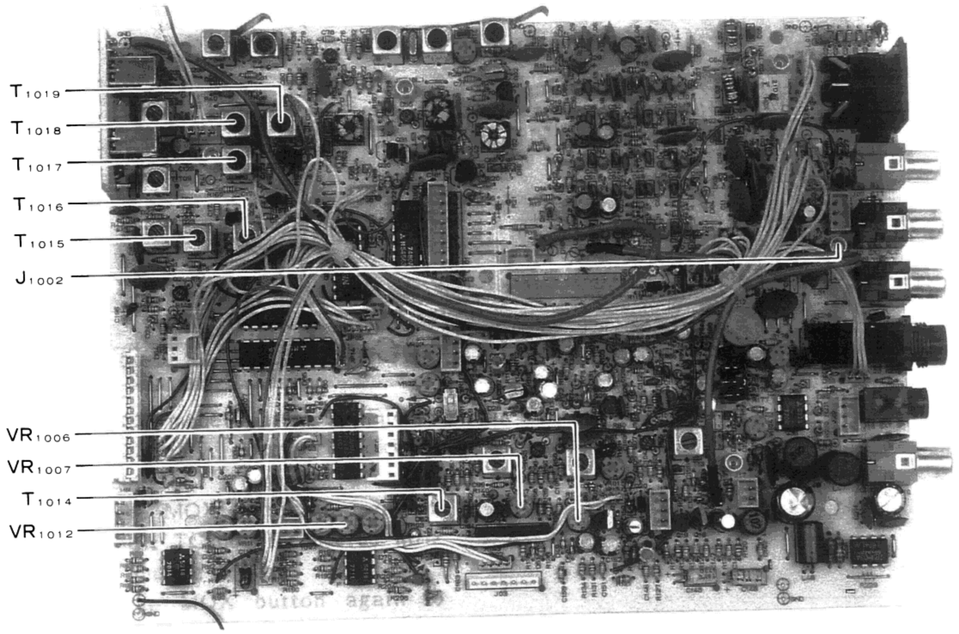
1. With the dummy load and wattmeter connected to the antenna jack, and tuned to 14.2000 MHz, CW mode, set the DRIVE control fully clockwise.
2. Press the MOX button and adjust VR1010 for 100W output, and then VR1012 for S-meter deflection to "8" on the PO scale, repeating both adjustments alternately several times.

C. SSB Carrier Balance

1. With the dummy load and wattmeter connected to the antenna jack, and tuned to 14.2000 MHz, CW mode, set the MIC gain fully counterclockwise.
2. Connect the RF voltmeter to J1002.
3. Press the MOX button and adjust VR1007 for minimum on the voltmeter.
4. Press the MOX button again to return to receive, and disconnect the voltmeter.

D. AM Carrier Level

1. With the dummy load and wattmeter connected to the antenna jack, and tuned to 14.2000 MHz, AM mode, set the MIC gain fully counterclockwise.
2. Preset VR1006 fully clockwise.
3. Press the MOX button and set the DRIVE control for 80W output.
4. Adjust VR1006 for 20W output.
5. Press the MOX button again to return to receive, and remove the test equipment.

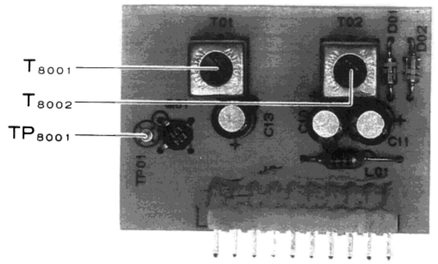


MAIN UNIT ALIGNMENT POINTS
(Transmitter Section)

ALIGNMENT

IV. Noise Blanker Unit

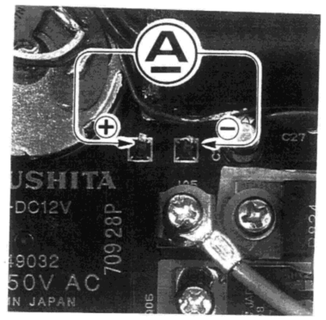
1. Connect the RF generator to the antenna jack, and the DC voltmeter between TP8001 and chassis ground.
2. Tune the transceiver and RF generator to 14.2000 MHz, and inject 40 dBu with no modulation.
3. Press the NB switch and select the USB mode.
4. Adjust T8001 and T8002 for minimum deflection on the voltmeter.
5. Disconnect the test equipment.

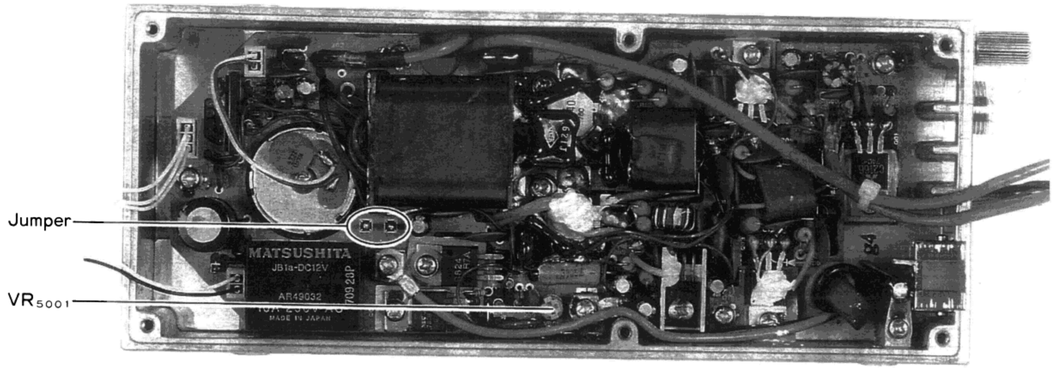


NB UNIT ALIGNMENT POINTS

V. 100W PA Unit (Idling Current)

1. Temporarily remove the jumper indicated below, and connect the DC milliammeter (set to 500 mA range) in its place.
2. Set the transceiver to USB mode, and set the MIC gain fully counterclockwise.
3. Press the MOX button and adjust VR5001 for 200 ±50 mA on the milliammeter.
4. Press the MOX button again to return to receive, remove the milliammeter and reinstall the jumper.





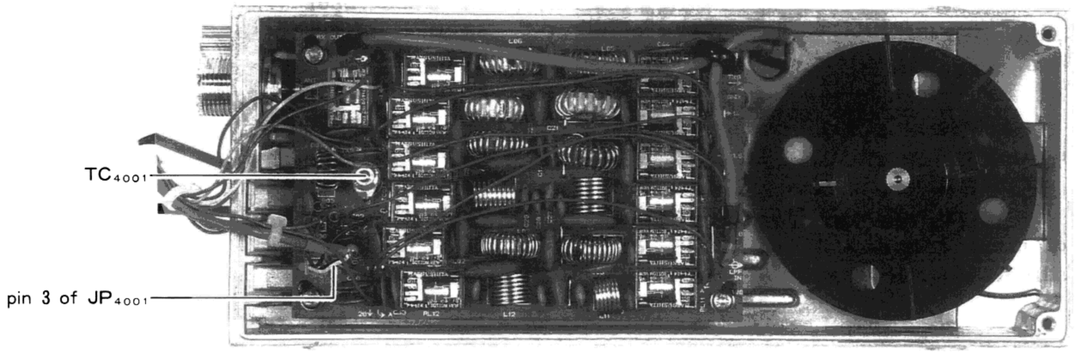
100W PA UNIT ALIGNMENT POINTS

VI. LPF Unit (CM Coupler Balance)

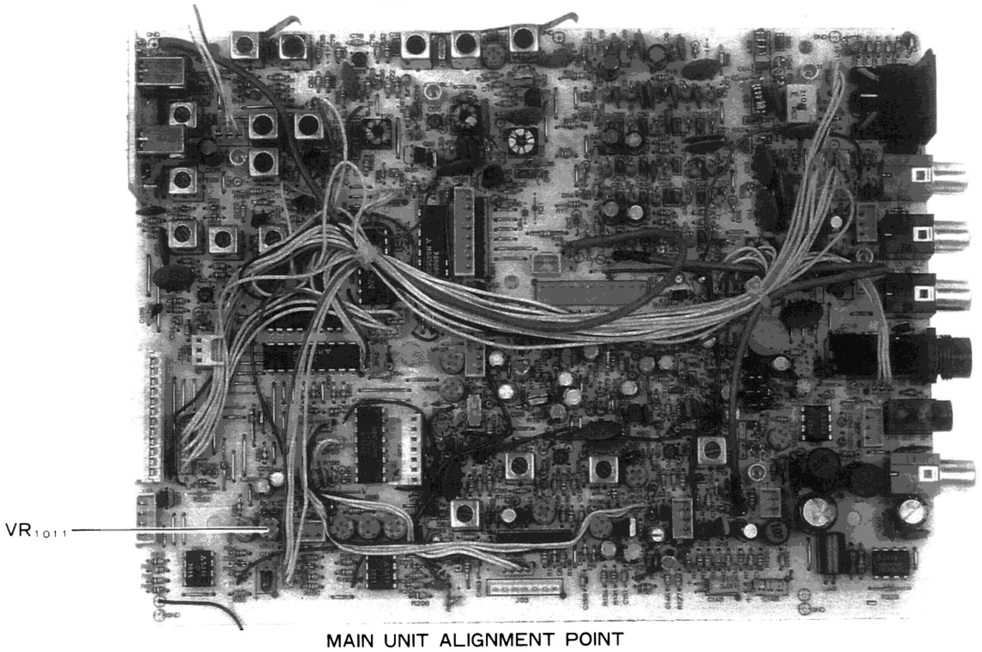
1. Connect the dummy load to the antenna jack, and the DC voltmeter between pin 3 of JP4001 and chassis ground.
2. Tune to 14.2000 MHz, CW mode, and set the DRIVE control fully clockwise.
3. Press the MOX button and adjust TC4001 for minimum deflection on the voltmeter.
4. Press the MOX button again to return to receive, and remove the test equipment.

VII. Main Unit (AFP - Automatic Final Protection)

1. Connect the wattmeter and 16.7-ohm dummy load (three 50-ohm loads in parallel) to the antenna jack.
2. With the transceiver tuned to 14.2000 MHz, CW mode, set the DRIVE control fully clockwise.
3. Press the MOX button and adjust VR1011 for 75W output.
4. Press the MOX button again to return to receive, and disconnect the test equipment.



LPF UNIT ALIGNMENT POINTS



MAIN UNIT ALIGNMENT POINT
(AFP Section)

MAIN CHASSIS

Symbol No.	Part No.	Description	Device
Q1	G1090778	IC	L7809
Q2	G1090294	IC	uPC7808H
VR1	J6280097	Potentiometer	10KA/10kB (AF/SQL)
VR2	J6280098	Potentiometer	10kB/10kB(MIC/DRIVE)
C1	K19149025	Ceramic CAP.	50WV 0.1uF
C2	K13179009	Ceramic CAP. ▲	F 50WV 0.047uF
C3	K10176102	Ceramic CAP.	B 50WV 0.001uF
C4	K13179008	Ceramic CAP.	F 50WV 0.01uF
C5	K19149025	Ceramic CAP.	50WV 0.1uF
L1	L9190010	Ferrite Beads	
L2	L9190047	Ferrite Beads	
SP1	M4090030	Speaker	1.5W 8 ohm
J1	P1090194	Connector (ANT)	
J2	P0090158	Connector (MIC)	
J3	P0090026	Connector (13.8V DC)	
	Q9000078	Terminal	
	Q9000192	Sarcon	
	Q9000125	Insulator	
	T9205617	Wire ASSY	P1-P2
	T9205618	Wire ASSY	P3-P4
	T9315504	Wire ASSY	P5-P6
	T9205619	Wire ASSY ▲	P7
	T9205620	Wire ASSY	P8
	T9205621	Wire ASSY	P9
	T9205622	Wire ASSY	P10
	T9205623A	Wire ASSY	P11
	T9205624A	Wire ASSY	P12
	T9205625	Wire ASSY	P13
	T9311301B	Wire ASSY	P14
	T9317811	Wire ASSY	P15
	T9317825	Wire ASSY	
	R3510940A	Panel	
	R3123790	Filter	
	R3123800	Knob (MAIN)	
	R3123830	Knob (AF,MIC)	
	R6123840	Knob (SQL,DRIVE)	
	R3123850A	Knob (CLAR)	
	R3123870A	Knob (D LOCK)	
	R3123890	Knob (MODE)	
	R3123910	Knob (VFO MR)	
	R3123930	Knob (VFO M)	
	R3123950	Knob (M VFO)	
	R3123960	Knob (SPLIT)	
	R3123980	Knob (PRIM)	
	R3123990	Knob (FAST)	
	R3124020A	Knob (POWER)	
	R3124030B	Knob (NAR)	
	R3124040A	Knob (ATT)	
	R3124050A	Knob (NB,MOX)	
	R3124190	Ring	
	R3804450A	Case Top	
	R3804460A	Case Bottom	
	R5510950A	Side Trim	
	R0510960	Heatsink Cover	
	R0510970A	Heatsink Cover	
	R4804670A	Heatsink	
	R0124060	Fitting	
	R3124010	Knob	
	R5510951	Side Trim	
	R3124800		
	R7049015	SP Net	
	R3100700	Foot	
	R0100690A	Stand	
	R7125160	Sponge	
	R7125170	Sponge	
	R7125230	Press Board	
	R7125430	Sponge	
	R7125450	Sponge	
	R7125460	Sponge	
	R7125630	Sponge	
	R6125640A	Washer	
	R8013580	Name Plate	
	R0116420	Ground Lug	
	R7125830	Sheet	
	R7125850	Press Board	
	R0125890	Fitting	
	R7125900	Sponge	
	R0126000	Clamp	
	R7125631	Sponge Rubber	
	R3126040	Rubber Foot	
	R7126140	Plate	
	R7126150	Plate	
	R6100980A	Nut	
	R7126400	Plate	
	R7126410	Fiber	
	R7126640	Sheet	
	R8124070	Nameplate "FT-747SX" •	
	R8124090	Nameplate "FT-747GX" ▲	
	R0124080A	Motor Holder	
	R3056970B	Radial Fan	
	M2190004	Motor MDN-7R1	DC13.5V
	T9205619	Wire ASSY	

MAIN UNIT

Symbol No.	Part No.	Description	Device
	F2942000A	Printed Circuit Board	
	C029420AA	PCB with Components (10W: Version F)	
	C029420AB	PCB with Components (100W: Version F)	
	C029420AC	PCB with Components	
	C029420AD	PCB with Components w/o NB UNIT (10W: Version F)	
	C029420AE	PCB with Components w/o NB UNIT (100W: Version F)	
	C029420AF	PCB with Components w/o NB UNIT	
Q1001	G3801250	FET	2SK125
Q1002	G3801250	FET	2SK125
Q1003	G4800740L	FET	3SK74L
Q1004	G3802410Y	FET	2SK241Y
Q1005	G4800740L	FET	3SK74L
Q1006	G4800740L	FET	3SK74L
Q1007	G4800740L	FET	3SK74L
Q1008	G3304580B	Transistor	2SC458B
Q1009	G3304580B	Transistor	2SC458B
Q1010	G3801040J	FET	2SK104J
Q1011	G3801921G	FET	2SK192AGR
Q1012	G3107331P	Transistor	2SA733AP
Q1013	G3090074	Transistor	BA1A4M
Q1014	G1090633	IC	M5218P
Q1015	G3304580B	Transistor	2SC458B
Q1016	G3304580B	Transistor	2SC458B
Q1017	G3090077	Transistor	BA1L3Z
Q1018	G3304580B	Transistor	2SC458B
Q1019	G3304580B	Transistor	2SC458B
Q1020	G3090074	Transistor	BA1A4M
Q1021	G3304580B	Transistor	2SC458B
Q1022	G1090101	IC	uPC1037H
Q1023	G4800740L	FET	3SK74L
Q1024	G3802410Y	FET	2SK241Y
Q1025	G3802410Y	FET	2SK241Y
Q1026	G3305350B	Transistor	2SC535B
Q1027	G3801250	FET	2SK125
Q1028	G3304580B	Transistor	2SC458B
Q1029	G3090074	Transistor	BA1A4M
Q1030	G3090074	Transistor	BA1A4M
Q1031	G3090078	Transistor	DTA143ES
Q1032	G3320530	Transistor	2SC2053
Q1033	G3090074	Transistor	BA1A4M
Q1034	G1090633	IC	M5218P
Q1035	G3304584B	Transistor	2SC458BTZ
Q1036	G1090749	IC	M5223P
Q1037	G3090074	Transistor	BA1A4M
Q1038	G1090721	IC	M54563P
Q1039	G1090657	IC	uPD4028BC
Q1040	G1090836	IC	M54564P

• 10W Type
▲ 100W Type

Q1041	G1090297	IC	uPD4094BC	
Q1042	G1090297	IC	uPD4094BC	
Q1043	G3090078	Transistor	DTA143ES	
Q1044	G3406691	Transistor	2SD669A	
Q1045	G1090837	IC	IR3M03A	
Q1046	G3090074	Transistor	BA1A4M	
Q1047	G3304580B	Transistor	2SC458B	
Q1048	G3090077	Transistor	BA1L3Z	
Q1049	G3304580B	Transistor	2SC458B	
D1001	G2090340	Diode	1SS83	
D1002	G2090340	Diode	1SS83	
D1003	G2090340	Diode	1SS83	
D1004	G2090340	Diode	1SS83	
D1005	G2090340	Diode	1SS83	
D1006	G2090340	Diode	1SS83	
D1007	G2090340	Diode	1SS83	
D1008	G2090340	Diode	1SS83	
D1009	G2090340	Diode	1SS83	
D1010	G2090340	Diode	1SS83	
D1011	G2090340	Diode	1SS83	
D1012	G2090340	Diode	1SS83	
D1013	G2090340	Diode	1SS83	
D1014	G2090340	Diode	1SS83	
D1015	G2090340	Diode	1SS83	
D1016	G2090340	Diode	1SS83	
D1017	G2090340	Diode	1SS83	
D1018	G2090340	Diode	1SS83	
D1019	G2060004	Diode	1SS270TJ	
D1021	G2060004	Diode	1SS270TJ	
D1022	G2060004	Diode	1SS270TJ	
D1023	G2060004	Diode	1SS270TJ	
D1024	G2090408	Diode	1SS270	
Q1025	G2090244	Diode	1SS106	
Q1026	G2090244	Diode	1SS106	
Q1027	G2090244	Diode	1SS106	
Q1028	G2060004	Diode	1SS270TJ	
Q1029	G2060004	Diode	1SS270TJ	
Q1031	G2060004	Diode	1SS270TJ	
Q1032	G2060004	Diode	1SS270TJ	
Q1033	G2060004	Diode	1SS270TJ	
Q1034	G2060004	Diode	1SS270TJ	
Q1035	G2090244	Diode	1SS106	
Q1036	G2090244	Diode	1SS106	
Q1037	G2090244	Diode	1SS106	
Q1038	G2090244	Diode	1SS106	
Q1039	G2090408	Diode	1SS270	
Q1040	G2090408	Diode	1SS270	
Q1041	G2090408	Diode	1SS270	
Q1042	G2060004	Diode	1SS270TJ	
Q1044	G2090408	Diode	1SS270	
Q1045	G2060004	Diode	1SS270TJ	
Q1046	G2060004	Diode	1SS270TJ	
Q1047	G2060004	Diode	1SS270TJ	
Q1048	G2060004	Diode	1SS270TJ	
Q1049	G2060004	Diode	1SS270TJ	
Q1050	G2060004	Diode	1SS270TJ	
Q1051	G2060004	Diode	1SS270TJ	
D1052	G2090408	Diode	1SS270	
D1053	G2090408	Diode	1SS270	
D1054	G2090408	Diode	1SS270	
D1055	G2090135	Diode	ND487C2-3R	
D1056	G2090340	Diode	1SS83	
D1057	G2090340	Diode	1SS83	
D1058	G9090007	Diode	MV12	
D1059	G2090229	Diode	HZ7B1	
D1060	G2090229	Diode	HZ7B1	
D1061	G2060004	Diode	1SS270TJ	
D1062	G2060004	Diode	1SS270TJ	
D1063	G2060004	Diode	1SS270TJ	
D1064	G2090408	Diode	1SS270	
D1065	G2060004	Diode	1SS270TJ	
D1066	G2090408	Diode	1SS270	
D1067	G2090118	Diode	1SS97	
D1068	G2060004	Diode	1SS270TJ	
D1069	G2090408	Diode	1SS270	
D1070	G2060004	Diode	1SS270TJ	
D1071	G2060004	Diode	1SS270TJ	
D1072	G2090408	Diode	1SS270	
D1073	G2090408	Diode	1SS270	
D1074	G2090408	Diode	1SS270	
D1075	G2090408	Diode *	1SS270	
D1076	G2090408	Diode *	1SS270	
D1077	G2090408	Diode	1SS270	
D1078	G2090408	Diode	1SS270	
D1079	G2090408	Diode	1SS270	
D1080	G2060004	Diode	1SS270TJ	

*: Version F

D1081	G2090408	Diode	1SS270	
D1082	G2060004	Diode	1SS270TJ	
D1083	G2060004	Diode	1SS270TJ	
D1084	G2060004	Diode	1SS270TJ	
D1085	G2060004	Diode	1SS270TJ	
D1086	G2090002	Diode	10D10	
D1087	G2060004	Diode	1SS270TJ	
D1088	G2090408	Diode	1SS270	
D1089	G2090408	Diode	1SS270	
D1090	G2090340	Diode	1SS83	
D1091	G2090408	Diode	1SS270	
D1092	G2090408	Diode *	1SS270	
D1093	G2060004	Diode	1SS270TJ	
D1094	G2090408	Diode	1SS270	
D1097	G2060004	Diode	1SS270TJ	
D1098	G2060004	Diode	1SS270TJ	
D1099	G2090226	Diode	HZ4C3	
D1100	G2090408	Diode	1SS270	
D1101	G2090408	Diode	1SS270	
TH1001	G9090010	Thermistor	112302-2	
TH1002	G9090008	Thermistor	112102-2	
TH1003	G9090015	Thermistor	SDT-100	
TH1004	G9090039	Thermistor	112152-2	
XF1001	H1102090	XTAL Filter	47M15AU	
R1001	J01225471	Carbon Film RES.	1/6W 470 ohm	PJ
R1002	J01225560	Carbon Film RES.	1/6W 56 ohm	PJ
R1003	J02225102	Carbon Film RES.	1/6W 1k ohm	UJ
R1004	J01225102	Carbon Film RES.	1/6W 1k ohm	PJ
R1005	J01225102	Carbon Film RES.	1/6W 1k ohm	PJ
R1006	J01225471	Carbon Film RES.	1/6W 470 ohm	PJ
R1007	J02245471	Carbon Film RES.	1/4W 470 ohm	SJ
R1008	J02245101	Carbon Film RES.	1/6W 100 ohm	UJ
R1009	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1010	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1011	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1012	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1013	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1014	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1015	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1016	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1017	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1018	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1019	J01225121	Carbon Film RES.	1/6W 120 ohm	PJ
R1020	J01225391	Carbon Film RES.	1/6W 390 ohm	PJ
R1022	J01225104	Carbon Film RES.	1/6W 100k ohm	PJ
R1023	J02225104	Carbon Film RES.	1/6W 100k ohm	UJ
R1024	J01225471	Carbon Film RES.	1/6W 470 ohm	PJ
R1025	J01225471	Carbon Film RES.	1/6W 470 ohm	PJ
R1027	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1030	J01225393	Carbon Film RES.	1/6W 39k ohm	PJ
R1031	J01225683	Carbon Film RES.	1/6W 68k ohm	PJ
R1032	J01225104	Carbon Film RES.	1/6W 100k ohm	PJ
R1033	J01225684	Carbon Film RES.	1/6W 680k ohm	PJ
R1034	J01225272	Carbon Film RES.	1/6W 2.7k ohm	PJ
R1035	J01225153	Carbon Film RES.	1/6W 15k ohm	PJ
R1036	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1037	J01225471	Carbon Film RES.	1/6W 470 ohm	PJ
R1038	J01225560	Carbon Film RES.	1/6W 56 ohm	PJ
R1039	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1042	J01225682	Carbon Film RES.	1/6W 6.8k ohm	PJ
R1043	J01225472	Carbon Film RES.	1/6W 4.7k ohm	PJ
R1044	J01225331	Carbon Film RES.	1/6W 330 ohm	PJ
R1045	J02225331	Carbon Film RES.	1/6W 330 ohm	UJ
R1046	J02225104	Carbon Film RES.	1/6W 100k ohm	UJ
R1047	J02225681	Carbon Film RES.	1/6W 680 ohm	UJ
R1048	J02225184	Carbon Film RES.	1/6W 180k ohm	UJ
R1049	J01225471	Carbon Film RES.	1/6W 470 ohm	PJ
R1050	J01225151	Carbon Film RES.	1/6W 150 ohm	PJ
R1051	J02225101	Carbon Film RES.	1/6W 100 ohm	UJ
R1052	J01225153	Carbon Film RES.	1/6W 15k ohm	PJ
R1053	J02225273	Carbon Film RES.	1/6W 27k ohm	UJ
R1054	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ
R1055	J02225471	Carbon Film RES.	1/6W 470 ohm	UJ
R1056	J01225151	Carbon Film RES.	1/6W 150 ohm	PJ
R1057	J02225101	Carbon Film RES.	1/6W 100 ohm	UJ
R1058	J01225153	Carbon Film RES.	1/6W 15k ohm	PJ
R1060	J01225393	Carbon Film RES.	1/6W 39k ohm	PJ
R1061	J01225103	Carbon Film RES.	1/6W 10k ohm	PJ
R1062	J01225221	Carbon Film RES.	1/6W 220 ohm	PJ
R1063	J01225221	Carbon Film RES.	1/6W 220 ohm	PJ
R1064	J02225101	Carbon Film RES.	1/6W 100 ohm	UJ
R1065	J01225153	Carbon Film RES.	1/6W 15k ohm	PJ
R1066	J01225333	Carbon Film RES.	1/6W 33k ohm	PJ
R1067	J01225683	Carbon Film RES.	1/6W 68k ohm	PJ

R1068	J02225222	Carbon Film RES.	1/6W 2.2k ohm	UJ
R1069	J02225102	Carbon Film RES.	1/6W 1k ohm	UJ
R1070	J02225104	Carbon Film RES.	1/6W 100k ohm	UJ
R1071	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1072	J02225682	Carbon Film RES.	1/6W 6.8k ohm	UJ
R1073	J02225472	Carbon Film RES.	1/6W 4.7k ohm	UJ
R1074	J02225155	Carbon Film RES.	1/6W 1.5M ohm	UJ
R1075	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ
R1076	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ
R1077	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ
R1078	J02225473	Carbon Film RES.	1/6W 47k ohm	UJ
R1079	J02225104	Carbon Film RES.	1/6W 100k ohm	UJ
R1080	J02225102	Carbon Film RES.	1/6W 1k ohm	UJ
R1082	J02225152	Carbon Film RES.	1/6W 1.5k ohm	UJ
R1083	J01225103	Carbon Film RES.	1/6W 10k ohm	PJ
R1084	J01225682	Carbon Film RES.	1/6W 6.8k ohm	PJ
R1087	J01225392	Carbon Film RES.	1/6W 3.9k ohm	PJ
R1088	J01225564	Carbon Film RES.	1/6W 560k ohm	PJ
R1089	J01225104	Carbon Film RES.	1/6W 100k ohm	PJ
R1090	J01225472	Carbon Film RES.	1/6W 4.7k ohm	PJ
R1091	J01225104	Carbon Film RES.	1/6W 100k ohm	PJ
R1092	J01225225	Carbon Film RES.	1/6W 2.2M ohm	PJ
R1094	J01225103	Carbon Film RES.	1/6W 10k ohm	PJ
R1095	J01225222	Carbon Film RES.	1/6W 2.2k ohm	PJ
R1096	J01225472	Carbon Film RES.	1/6W 4.7k ohm	PJ
R1097	J02225223	Carbon Film RES.	1/6W 22k ohm	UJ
R1098	J01225471	Carbon Film RES.	1/6W 470 ohm	PJ
R1099	J02225472	Carbon Film RES.	1/6W 4.7k ohm	UJ
R1100	J01225102	Carbon Film RES.	1/6W 1k ohm	PJ
R1101	J01225103	Carbon Film RES.	1/6W 10k ohm	PJ
R1102	J01225682	Carbon Film RES.	1/6W 6.8k ohm	PJ
R1103	J01225682	Carbon Film RES.	1/6W 6.8k ohm	PJ
R1104	J02225682	Carbon Film RES.	1/6W 6.8k ohm	UJ
R1105	J01225154	Carbon Film RES.	1/6W 150k ohm	PJ
R1106	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1107	J01225102	Carbon Film RES.	1/6W 1k ohm	PJ
R1108	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ
R1109	J01225223	Carbon Film RES.	1/6W 22k ohm	PJ
R1110	J02225683	Carbon Film RES.	1/6W 68k ohm	UJ
R1111	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1112	J02225332	Carbon Film RES.	1/6W 3.3k ohm	UJ
R1113	J02225220	Carbon Film RES.	1/6W 22 ohm	UJ
R1114	J02225102	Carbon Film RES.	1/6W 1k ohm	UJ
R1115	J02225101	Carbon Film RES.	1/6W 100 ohm	UJ
R1116	J01225332	Carbon Film RES.	1/6W 3.3k ohm	PJ
R1117	J02225472	Carbon Film RES.	1/6W 4.7k ohm	UJ
R1119	J01225103	Carbon Film RES.	1/6W 10k ohm	PJ
R1120	J01225102	Carbon Film RES.	1/6W 1k ohm	PJ
R1121	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1122	J01225223	Carbon Film RES.	1/6W 22k ohm	PJ
R1123	J01225331	Carbon Film RES.	1/6W 330 ohm	PJ
R1124	J01225153	Carbon Film RES.	1/6W 15k ohm	PJ
R1125	J01225222	Carbon Film RES.	1/6W 2.2k ohm	PJ
R1126	J01225151	Carbon Film RES.	1/6W 150 ohm	PJ
R1127	J01225221	Carbon Film RES.	1/6W 220 ohm	PJ
R1130	J02225222	Carbon Film RES.	1/6W 2.2k ohm	UJ
R1131	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1132	J01225473	Carbon Film RES.	1/6W 47k ohm	PJ
R1133	J01225473	Carbon Film RES.	1/6W 47k ohm	PJ
R1134	J01225681	Carbon Film RES.	1/6W 680 ohm	PJ
R1135	J01225221	Carbon Film RES.	1/6W 220 ohm	PJ
R1136	J02225102	Carbon Film RES.	1/6W 1k ohm	UJ
R1137	J01225102	Carbon Film RES.	1/6W 1k ohm	PJ
R1138	J01225153	Carbon Film RES.	1/6W 15k ohm	PJ
R1139	J01225104	Carbon Film RES.	1/6W 100k ohm	PJ
R1140	J02225222	Carbon Film RES.	1/6W 2.2k ohm	UJ
R1141	J01225102	Carbon Film RES.	1/6W 1k ohm	PJ
R1142	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1143	J01225102	Carbon Film RES.	1/6W 1k ohm	PJ
R1144	J01225223	Carbon Film RES.	1/6W 22k ohm	PJ
R1145	J01225102	Carbon Film RES.	1/6W 1k ohm	PJ
R1146	J01225221	Carbon Film RES.	1/6W 220 ohm	PJ
R1147	J01225331	Carbon Film RES.	1/6W 330 ohm	PJ
R1148	J02225272	Carbon Film RES.	1/6W 2.7k ohm	UJ
R1149	J01225681	Carbon Film RES.	1/6W 680 ohm	PJ
R1150	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1151	J02225221	Carbon Film RES.	1/6W 220 ohm	UJ
R1152	J01225472	Carbon Film RES.	1/6W 4.7k ohm	PJ
R1153	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1155	J02225332	Carbon Film RES.	1/6W 3.3k ohm	UJ
R1157	J01225224	Carbon Film RES.	1/6W 220k ohm	PJ
R1158	J01225471	Carbon Film RES.	1/6W 470 ohm	PJ
R1159	J01225471	Carbon Film RES.	1/6W 470 ohm	PJ
R1160	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1161	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1162	J01225223	Carbon Film RES.	1/6W 22k ohm	PJ
R1163	J02225221	Carbon Film RES.	1/6W 220 ohm	PJ

R1167	J01225470	Carbon Film RES.	1/6W 47 ohm	PJ
R1168	J01225103	Carbon Film RES.	1/6W 10k ohm	PJ
R1169	J01225680	Carbon Film RES.	1/6W 68 ohm	PJ
R1170	J01225102	Carbon Film RES.	1/6W 1k ohm	PJ
R1172	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1173	J02225333	Carbon Film RES.	1/6W 33k ohm	UJ
R1174	J02225472	Carbon Film RES.	1/6W 4.7k ohm	UJ
R1175	J02225472	Carbon Film RES.	1/6W 4.7k ohm	UJ
R1176	J02225472	Carbon Film RES.	1/6W 4.7k ohm	UJ
R1177	J02225472	Carbon Film RES.	1/6W 4.7k ohm	UJ
R1178	J01225331	Carbon Film RES.	1/6W 330 ohm	PJ
R1179	J02225224	Carbon Film RES.	1/6W 220k ohm	UJ
R1180	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1181	J02225101	Carbon Film RES.	1/6W 100 ohm	UJ
R1182	J01225102	Carbon Film RES.	1/6W 1k ohm	PJ
R1183	J01225681	Carbon Film RES.	1/6W 680 ohm	PJ
R1184	J01225152	Carbon Film RES.	1/6W 1.5k ohm	PJ
R1185	J02225479	Carbon Film RES.	1/6W 4.7 ohm	UJ
R1186	J02225181	Carbon Film RES.	1/6W 180 ohm	UJ
R1187	J01225391	Carbon Film RES.	1/6W 390 ohm	PJ
R1188	J01225102	Carbon Film RES.	1/6W 1k ohm	PJ
R1189	J01225221	Carbon Film RES.	1/6W 220 ohm	PJ
R1190	J01225103	Carbon Film RES.	1/6W 10k ohm	PJ
R1191	J01225104	Carbon Film RES.	1/6W 100k ohm	PJ
R1192	J01225104	Carbon Film RES.	1/6W 100k ohm	PJ
R1193	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ
R1194	J01225823	Carbon Film RES.	1/6W 82k ohm	PJ
R1195	J02225562	Carbon Film RES.	1/6W 5.6k ohm	UJ
R1197	J01225154	Carbon Film RES.	1/6W 150k ohm	PJ
R1198	J02225473	Carbon Film RES.	1/6W 47k ohm	UJ
R1200	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ
R1201	J02225105	Carbon Film RES.	1/6W 1M ohm	UJ
R1202	J02225333	Carbon Film RES.	1/6W 33k ohm	UJ
R1203	J01225223	Carbon Film RES.	1/6W 22k ohm	PJ
R1204	J01225334	Carbon Film RES.	1/6W 330k ohm	PJ
R1206	J01225104	Carbon Film RES.	1/6W 100k ohm	PJ
R1208	J02225472	Carbon Film RES.	1/6W 4.7k ohm	UJ
R1209	J02225562	Carbon Film RES.	1/6W 5.6k ohm	UJ
R1210	J02225153	Carbon Film RES.	1/6W 15k ohm	UJ
R1211	J02225104	Carbon Film RES.	1/6W 100k ohm	UJ
R1212	J01225221	Carbon Film RES.	1/6W 220 ohm	PJ
R1213	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ
R1214	J01225103	Carbon Film RES.	1/6W 10k ohm	PJ
R1216	J02225472	Carbon Film RES.	1/6W 4.7k ohm	UJ
R1217	J01225104	Carbon Film RES.	1/6W 100k ohm	PJ
R1218	J01225823	Carbon Film RES.	1/6W 82k ohm	PJ
R1219	J02225222	Carbon Film RES.	1/6W 2.2k ohm	UJ
R1220	J01225103	Carbon Film RES.	1/6W 10k ohm	PJ
R1221	J02225102	Carbon Film RES.	1/6W 1k ohm	UJ
R1222	J02225221	Carbon Film RES.	1/6W 220 ohm	UJ
R1223	J02225221	Carbon Film RES.	1/6W 220 ohm	UJ
R1224	J02225221	Carbon Film RES.	1/6W 220 ohm	UJ
R1225	J02225221	Carbon Film RES.	1/6W 220 ohm	UJ
R1226	J01225103	Carbon Film RES.	1/6W 10k ohm	PJ
R1227	J01225103	Carbon Film RES.	1/6W 10k ohm	PJ
R1230	J20249046	Metal Film RES.	1/4W 8.87k ohm	
R1231	J20249102	Metal Film RES.	1/4W 1.43k ohm	
R1233	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1234	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ
R1235	J02225473	Carbon Film RES.	1/6W 47k ohm	UJ
R1236	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ
R1237	J01225471	Carbon Film RES.	1/6W 470 ohm	PJ
R1238	J02225104	Carbon Film RES.	1/6W 100k ohm	UJ
R1239	J01225473	Carbon Film RES.	1/6W 47k ohm	PJ
R1240	J01225561	Carbon Film RES.	1/6W 560 ohm	PJ
R1241	J01225683	Carbon Film RES.	1/6W 68k ohm	PJ
R1242	J01225102	Carbon Film RES.	1/6W 1k ohm	PJ
R1243	J02225152	Carbon Film RES.	1/6W 1.5k ohm	UJ
R1244	J01225221	Carbon Film RES.	1/6W 220 ohm	PJ
R1245	J02225104	Carbon Film RES.	1/6W 100k ohm	UJ
R1246	J02225102	Carbon Film RES.	1/6W 1k ohm	UJ
VR1001	J51745472	POT.	B 4.7k ohm	
VR1002	J51745103	POT.	B 10k ohm	
VR1003	J51745105	POT.	B 1M ohm	
VR1004	J51745102	POT.	B 1k ohm	
VR1005	J51745474	POT.	B 470k ohm	
VR1006	J51745103	POT.	B 10k ohm	
VR1007	J51745103	POT.	B 10k ohm	
VR1008	J51723103	POT.	B 10k ohm	
VR1009	J51745472	POT.	B 4.7k ohm	
VR1010	J51745103	POT.	B 10k ohm	
VR1011	J51745474	POT.	B 470k ohm	
VR1012	J51745103	POT.	B 10k ohm	
VR1013	J51745474	POT.	B 470k ohm	
VR1014	J51745471	POT.	B 470 ohm	

C1001	K19149025	Ceramic CAP.		25V	0.1uF
C1002	K13179009	Ceramic CAP.	F	50V	0.047uF
C1003	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1004	K00175680	Ceramic CAP.	SL	50V	68pF
C1005	K00175820	Ceramic CAP.	SL	50V	82pF
C1006	K00175151	Ceramic CAP.	SL	50V	150pF
C1007	K00175220	Ceramic CAP.	SL	50V	22pF
C1008	K13179009	Ceramic CAP.	F	50V	0.047uF
C1009	K00179011	Ceramic CAP.	SL	50V	62pF
C1010	K19149025	Ceramic CAP.		25V	0.1uF
C1011	K19149025	Ceramic CAP.		25V	0.1uF
C1012	K40129004	AL. Electro. CAP.		16V	10uF
C1013	K19149021	Ceramic CAP.		25V	0.047uF
C1014	K00175221	Ceramic CAP.	SL	50V	220pF
C1017	K00175511	Ceramic CAP.	SL	50V	510pF
C1019	K00175221	Ceramic CAP.	SL	50V	220pF
C1020	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1021	K40129004	AL. Electro. CAP.		16V	10uF
C1022	K00175151	Ceramic CAP.	SL	50V	150pF
C1023	K13179009	Ceramic CAP.	F	50V	0.047uF
C1024	K00175181	Ceramic CAP.	SL	50V	180pF
C1025	K00175471	Ceramic CAP.	SL	50V	470pF
C1026	K00175181	Ceramic CAP.	SL	50V	180pF
C1027	K00175151	Ceramic CAP.	SL	50V	150pF
C1028	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1029	K40129004	AL. Electro. CAP.		16V	10uF
C1030	K00175680	Ceramic CAP.	SL	50V	68pF
C1031	K13179009	Ceramic CAP.	F	50V	0.047uF
C1032	K00175121	Ceramic CAP.	SL	50V	120pF
C1033	K00175221	Ceramic CAP.	SL	50V	220pF
C1034	K00175121	Ceramic CAP.	SL	50V	120pF
C1035	K00175680	Ceramic CAP.	SL	50V	68pF
C1036	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1037	K40129004	AL. Electro. CAP.		16V	10uF
C1038	K00175330	Ceramic CAP.	SL	50V	33pF
C1039	K13179009	Ceramic CAP.	F	50V	0.047uF
C1040	K00175680	Ceramic CAP.	SL	50V	68pF
C1041	K00175151	Ceramic CAP.	SL	50V	150pF
C1042	K00175680	Ceramic CAP.	SL	50V	68pF
C1043	K00175390	Ceramic CAP.	SL	50V	39pF
C1044	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1045	K40129004	AL. Electro. CAP.		16V	10uF
C1046	K00175330	Ceramic CAP.	SL	50V	33pF
C1047	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1048	K00175270	Ceramic CAP.	SL	50V	27pF
C1049	K00175121	Ceramic CAP.	SL	50V	120pF
C1050	K00175270	Ceramic CAP.	SL	50V	27pF
C1051	K00175330	Ceramic CAP.	SL	50V	33pF
C1052	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1053	K40129004	AL. Electro. CAP.		16V	10uF
C1054	K00173080	Ceramic CAP.	SL	50V	8pF
C1055	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1056	K00175180	Ceramic CAP.	SL	50V	18pF
C1057	K00175101	Ceramic CAP.	SL	50V	100pF
C1058	K00175180	Ceramic CAP.	SL	50V	18pF
C1059	K00175150	Ceramic CAP.	SL	50V	15pF
C1060	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1061	K40129004	AL. Electro. CAP.		16V	10uF
C1062	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1063	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1064	K13179009	Ceramic CAP.	F	50V	0.047uF
C1065	K00173100	Ceramic CAP.	SL	50V	10pF
C1066	K13179009	Ceramic CAP.	F	50V	0.047uF
C1068	K13179009	Ceramic CAP.	F	50V	0.047uF
C1070	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1071	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1073	K13179009	Ceramic CAP.	F	50V	0.047uF
C1074	K00175470	Ceramic CAP.	SL	50V	47pF
C1075	K00175101	Ceramic CAP.	SL	50V	100pF
C1076	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1077	K13179009	Ceramic CAP.	F	50V	0.047uF
C1078	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1079	K22170805	CAP. Chip	B	50V	1000pF
C1080	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1081	K28179001	Ceramic CAP.	B	50V	1000pF
C1082	K22170805	CAP. Chip	B	50V	1000pF
C1083	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1085	K00175101	Ceramic CAP.	SL	50V	100pF
C1087	K00173100	Ceramic CAP.	SL	50V	10pF
C1088	K19149021	Ceramic CAP.	Y	25V	0.047uF
C1089	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1090	K19149025	Ceramic CAP.		25V	0.1uF
C1091	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1092	K12171102	Ceramic CAP.	E	50V	1000pF
C1093	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1094	K19149025	Ceramic CAP.		25V	0.1uF
C1095	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1097	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1098	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1099	K28179001	Ceramic CAP.	B	50V	1000pF
C1100	K38129001	Ceramic CAP.	Y	16V	0.01uF
C1102	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1103	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1104	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1105	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1106	K38129001	Ceramic CAP.	Y	16V	0.01uF
C1107	K00173100	Ceramic CAP.	SL	50V	10pF
C1108	K40179006	AL. Electro. CAP.		50V	2.2uF
C1109	K28179001	Ceramic CAP.	B	50V	1000pF
C1110	K00175101	Ceramic CAP.	SL	50V	100pF
C1111	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1112	K00175101	Ceramic CAP.	SL	50V	100pF
C1113	K40129013	AL. Electro. CAP.		16V	22uF
C1114	K00175221	Ceramic CAP.	SL	50V	220pF
C1115	K50170015	Film CAP.		50V	0.022uF
C1116	K40179001	AL. Electro. CAP.		50V	1uF
C1117	K13179009	Ceramic CAP.	F	50V	0.047uF
C1118	K70147155	Tantalum CAP.		25V	1.5uF
C1119	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1120	K12171102	Ceramic CAP.	E	50V	1000pF
C1121	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1122	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1123	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1124	K40179001	AL. Electro. CAP.		50V	1uF
C1125	K40129012	AL. Electro. CAP.		16V	10uF
C1126	K40129012	AL. Electro. CAP.		16V	10uF
C1127	K40149011	AL. Electro. CAP.		25V	4.7uF
C1128	K50170007	Film CAP.		50V	0.001uF
C1129	K50170005	Film CAP.		50V	0.0022uF
C1130	K50170011	Film CAP.		50V	0.0047uF
C1131	K40129012	AL. Electro. CAP.		16V	10uF
C1132	K40129012	AL. Electro. CAP.		16V	10uF
C1133	K50177222	Film CAP.		50V	0.0022uF
C1134	K40149011	AL. Electro. CAP.		25V	4.7uF
C1135	K40129012	AL. Electro. CAP.		16V	10uF
C1136	K40179005	AL. Electro. CAP.		50V	0.47uF
C1137	K28179001	Ceramic CAP.	B	50V	1000pF
C1138	K40129012	AL. Electro. CAP.		16V	10uF
C1142	K28179001	Ceramic CAP.	B	50V	1000pF
C1143	K40179013	AL. Electro. CAP.		50V	1uF
C1144	K28179001	Ceramic CAP.	B	50V	1000pF
C1145	K40129012	AL. Electro. CAP.		16V	10uF
C1146	K28129001	Ceramic CAP.	B	16V	0.01uF
C1147	K28129001	Ceramic CAP.	B	16V	1000pF
C1148	K40129012	AL. Electro. CAP.		16V	10uF
C1149	K40149011	AL. Electro. CAP.		25V	4.7uF
C1150	K40149011	AL. Electro. CAP.		25V	4.7uF
C1151	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1152	K40129013	AL. Electro. CAP.		16V	22uF
C1153	K28179001	Ceramic CAP.	B	50V	1000pF
C1154	K40149011	AL. Electro. CAP.		25V	4.7uF
C1155	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1156	K00175220	Ceramic CAP.	Y	50V	22pF
C1157	K40149011	AL. Electro. CAP.		25V	4.7uF
C1158	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1159	K28129001	Ceramic CAP.	Y	16V	0.01uF

C1160	K00175220	Ceramic CAP.	SL	50V	22pF
C1161	K40129004	AL. Electro. CAP.		16V	10uF
C1162	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1163	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1164	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1165	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1166	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1167	K13179009	Ceramic CAP.	F	50V	0.047uF
C1168	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1169	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1170	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1171	K28179001	Ceramic CAP.	B	50V	1000pF
C1172	K28179001	Ceramic CAP.	B	50V	1000pF
C1173	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1174	K00175470	Ceramic CAP.	SL	50V	47pF
C1175	K00179020	Ceramic CAP.	SL	50V	47pF
C1176	K00175470	Ceramic CAP.	SL	50V	2pF
C1177	K28179001	Ceramic CAP.	B	50V	1000pF
C1178	K12171102	Ceramic CAP.	E	50V	1000pF
C1179	K00175120	Ceramic CAP.	SL	50V	12pF
C1180	K19149021	Ceramic CAP.	Y	25V	0.047uF
C1181	K19149025	Ceramic CAP.		25V	0.1uF
C1182	K19149021	Ceramic CAP.	Y	25V	0.047uF
C1183	K50177223	Film CAP.		50V	0.022uF
C1184	K50177223	Film CAP.		50V	0.022uF
C1185	K50177223	Film CAP.		50V	0.022uF
C1186	K40149001	AL. Electro. CAP.		25V	4.7uF
C1187	K40129012	AL. Electro. CAP.		16V	10uF
C1188	K50170014	Film CAP.		50V	0.01uF
C1190	K13179009	Ceramic CAP.	F	50V	0.047uF
C1191	K19149021	Ceramic CAP.	Y	25V	0.047uF
C1192	K19149003	Ceramic CAP.		25V	1500pF
C1193	K19149025	Ceramic CAP.		25V	0.1uF
C1194	K13179009	Ceramic CAP.	F	50V	0.047uF
C1195	K13179009	Ceramic CAP.	F	50V	0.047uF
C1196	K70167224	Tantalum CAP.		40V	0.22uF
C1197	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1198	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1200	K40129012	AL. Electro. CAP.		16V	10uF
C1201	K40179005	AL. Electro. CAP.		50V	0.47uF
C1202	K40149011	AL. Electro. CAP.		25V	4.7uF
C1203	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1204	K28179001	Ceramic CAP.	B	50V	1000pF
C1205	K28179001	Ceramic CAP.	B	50V	1000pF
C1206	K28179001	Ceramic CAP.	B	50V	1000pF
C1207	K28179001	Ceramic CAP.	B	50V	1000pF
C1208	K22170817	CAP. Chip	B	50V	0.01uF
C1209	K19149021	Ceramic CAP.		25V	0.047uF
C1210	K40129007	AL. Electro. CAP.		16V	100uF
C1211	K00175471	Ceramic CAP.	SL	50V	470pF
C1212	K40129006	AL. Electro. CAP.		18V	470uF
C1213	K13179009	Ceramic CAP.	F	50V	0.047uF
C1214	K22170817	CAP. Chip	B	50V	0.01uF
C1215	K40129004	AL. Electro. CAP.		16V	10uF
C1216	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1217	K13179009	Ceramic CAP.	F	50V	0.047uF
C1218	K22171008	CAP. Chip	F	50V	0.047uF
C1219	K22171008	CAP. Chip	F	50V	0.047uF
C1220	K00175510	Ceramic CAP.	SL	50V	51pF
C1221	K00175510	Ceramic CAP.	SL	50V	51pF
C1222	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1223	K13179009	Ceramic CAP.	F	50V	0.047uF
C1224	K40129016	AL. Electro. CAP.		16V	22uF
C1225	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1226	K19149023	Ceramic CAP.		25V	0.068uF
C1227	K40179009	AL. Electro. CAP.		50V	2.2uF
C1228	K40179001	AL. Electro. CAP.		50V	1uF
C1229	K40129013	AL. Electro. CAP.		16V	22uF
C1230	K40129012	AL. Electro. CAP.		16V	10uF
C1231	K00175470	Ceramic CAP.	SL	50V	47pF
C1232	K00175560	Ceramic CAP.	SL	50V	56pF
C1233	K28179001	Ceramic CAP.	B	50V	1000pF
C1234	K28129001	Ceramic CAP.	Y	16V	0.01uF
C1235	K40179001	AL. Electro. CAP.		50V	1uF
C1236	K40179001	AL. Electro. CAP.		50V	1uF
C1237	K40179001	AL. Electro. CAP.		50V	1uF
C1238	K40129004	AL. Electro. CAP.		16V	10uF
C1239	K19149025	Ceramic CAP.		25V	0.1uF
C1240	K13179009	Ceramic CAP.	F	50V	0.047uF
CB1001	K80000013	CAP. Block		50V	0.1uFx7

L1001	L1190227	M. RFC	560uH
L1002	L0021231	Coil	0.17uH
L1003	L0021222	Coil	0.24uH
L1004	L1190220	M. RFC	150uH
L1006	L1190210	M. RFC	22uH
L1008	L1190210	M. RFC	22uH
L1009	L1190189	M. RFC	1mH
L1010	L1190209	M. RFC	18uH
L1011	L1190208	M. RFC	15uH
L1012	L1190205	M. RFC	6.8uH
L1013	L1190206	M. RFC	15uH
L1014	L1190209	M. RFC	18uH
L1015	L1190207	M. RFC	12uH
L1016	L1190206	M. RFC	8.2uH
L1017	L1190203	M. RFC	3.9uH
L1018	L1190206	M. RFC	8.2uH
L1019	L1190207	M. RFC	12uH
L1020	L1190205	M. RFC	6.8uH
L1021	L1190201	M. RFC	4.7uH
L1022	L1190199	M. RFC	2.2uH
L1023	L1190203	M. RFC	4.7uH
L1024	L1190205	M. RFC	6.8uH
L1025	L1190200	M. RFC	3.3uH
L1026	L1190202	M. RFC	3.9uH
L1027	L1190195	M. RFC	0.82uH
L1028	L1190202	M. RFC	3.9uH
L1029	L1190200	M. RFC	2.7uH
L1030	L1190199	M. RFC	1.8uH
L1031	L1190199	M. RFC	2.2uH
L1032	L1190192	M. RFC	0.47uH
L1033	L1190199	M. RFC	2.2uH
L1034	L1190198	M. RFC	1.8uH
L1035	L1190189	M. RFC	1mH
L1036	L1190187	M. RFC	1.5uH
L1037	L1190220	M. RFC	150uH
L1038	L1190220	M. RFC	150uH
L1039	L1190040	M. RFC	1mH
L1040	L1190220	M. RFC	150uH
L1041	L1190188	M. RFC	0.22uH
L1042	L1190000	M. RFC	1mH
L1043	L1190218	M. RFC	100uH
L1044	L1190204	M. RFC	5.6uH
L1045	L1190214	M. RFC	47uH
L1046	L1190218	M. RFC	100uH
L1047	L1190123	M. RFC	3.9mH
L1048	L1190040	M. RFC	1mH
L1049	L1190123	M. RFC	3.9mH
L1050	L1190218	M. RFC	100uH
L1052	L1190220	M. RFC	150uH
L1053	L1190037	M. RFC	150uH
L1054	L1190190	M. RFC	0.27uH
L1056	L1190189	M. RFC	1mH
L1057	L1190190	M. RFC	0.27uH
L1058	L1190148	M. RFC	10uH
T1001	L0020788A	Coil	
T1002	L0021351	Coil	
T1003	L0020225	Coil	
T1004	L0020224	Coil	
T1005	L0020482	Coil	
T1006	L0020858	Coil	
T1007	L0021199	Coil	
T1008	L0021199	Coil	
T1009	L0021199	Coil	
T1010	L0021199	Coil	
T1011	L0021199	Coil	
T1012	L0021199	Coil	
T1013	L0021192	Coil	
T1014	L0021199	Coil	
T1015	L0021199	Coil	
T1016	L0021195	Coil	
T1017	L0021225	Coil	
T1018	L0021225	Coil	
T1019	L0021225	Coil	

T1020	L0020788A	Coil			Q2007	G3304580C	Transistor	2SC458C
T1021	L0020788A	Coil			Q2008	G3304580C	Transistor	2SC458C
					Q2009			SN16913P
RL1001	M1190056	Relay		FBR21D12 (DC12V)	Q2010	G3304580C	Transistor	2SC458C
					Q2011	G3304580C	Transistor	2SC458C
S1001	N6090633	Slide Switch			Q2012	G1090012	IC	SN16913P
S1002	N6090633	Slide Switch			Q2013	G1090839	IC	MS4454L
					Q2014	G1090280	IC	uPD4013HC
					Q2015	G3304580C	Transistor	2SC458C
					Q2016	G3305350B	Transistor	2SC535B
					Q2017	G3801921G	Transistor	2SK192AGR
					Q2018	G1090834	IC	CX-1925B
					Q2019	G3801840Y	FET	2SK184AY
					Q2020	G3307320B	Transistor	2SC732TMBL
					Q2021	G1090101	IC	uPC1037H
					Q2022	G3305350B	Transistor	2SC535B
					Q2024	G1090834	IC	CX-7925B
					Q2025	G3304580C	Transistor	2SC458C
					Q2026	G3801840Y	FET	2SK184Y
					Q2027	G3307320B	Transistor	2SC732TMBL
					Q2028	G3305350B	Transistor	2SC535B
					Q2029	G3305350B	Transistor	2SC535B
					Q2030	G3305350B	Transistor	2SC535B
					Q2031	G3305350B	Transistor	2SC535B
					Q2032	G3305350B	Transistor	2SC535B
					Q2034	G3320530	Transistor	2SC2053

NB UNIT

Symbol No.	Part No.	Description	Device
	F2949101	Printed Circuit Board	
	C0284914A	PCB with Components	
Q8101	G4800740L	FET	3SK74L
Q8102	G3803027Y	FET	2SK302Y TE85R
Q8103	G3304527F	Transistor	2SC3052-T14-2F
Q8104	G3305527F	Transistor	2SC3052-T14-2F
D8101	G2090244	Diode	1SS106
D8102	G2090244	Diode	1SS106
D8103	G2070009	Diode	1SS184 TE85R
R8101	J24405103	RES. Chip	1/10W 10k ohm
R8102	J24405473	RES. Chip	1/10W 47k ohm
R8103	J24405101	RES. Chip	1/10W 100 ohm
R8104	J24405153	RES. Chip	1/10W 15k ohm
R8105	J24405101	RES. Chip	1/10W 100 ohm
R8106	J24405104	RES. Chip	1/10W 100k ohm
R8108	J24405101	RES. Chip	1/10W 100 ohm
R8109	J24405102	RES. Chip	1/10W 1k ohm
R8110	J24405222	RES. Chip	1/10W 2.2k ohm
R8111	J24405223	RES. Chip	1/10W 22k ohm
R8112	J24405102	RES. Chip	1/10W 1k ohm
R8113	J24405224	RES. Chip	1/10W 220K ohm
R8114	J24405472	RES. Chip	1/10W 4.7k ohm
R8115	J24405472	RES. Chip	1/10W 4.7k ohm
R8116	J24405000	RES. Chip	1/10W 0 ohm
C8101	K22170235	CAP. Chip	CH 50V 100pF
C8102	K22171004	CAP. Chip	F 50V 0.01uF
C8103	K22171004	CAP. Chip	F 50V 0.01uF
C8104	K22171004	CAP. Chip	F 50V 0.01uF
C8105	K22171004	CAP. Chip	F 50V 0.01uF
C8106	K22170219	CAP. Chip	CH 50V 22pF
C8107	K22171004	CAP. Chip	F 50V 0.01uF
C8108	K22170243	CAP. Chip	CH 50V 220pF
C8109	K22170243	CAP. Chip	CH 50V 220pF
C8110	K40129004	AL. Electro. CAP.	16V 10uF
C8111	K40129004	AL. Electro. CAP.	16V 10uF
C8112	K22171004	CAP. Chip	F 50V 0.01uF
C8113	K40129004	AL. Electro. CAP.	16V 10uF
C8114	K22170235	CAP. Chip	CH 50V 100pF
C8115	K22171004	CAP. Chip	F 50V 0.01uF
L8101	L1190189	M. RFC	
T8101	L0022199	Coil	8.20MHz
T8102	L0022199	Coil	8.20MHz
J8101	P0090481	Connector	

LOCAL UNIT

Symbol No.	Part No.	Description	Device
	F2943101B	Printed Circuit Board	
	C0293414A	PCB with Components	
	C0293413AB	PCB with Components w/o PLL UNIT	
Q2001	G1090297	IC	uPD4094BC
Q2002	G1090836	IC	M54564P
Q2003	G3305350B	Transistor	2SC535B
Q2004	G3304580C	Transistor	2SC458C
Q2005	G3304580C	Transistor	2SC458C
Q2006	G3304580C	Transistor	2SC458C

R2037	J0225472	Carbon Film RES.	1/6W	4.7k ohm	C2011	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2038	J0225681	Carbon Film RES.	1/6W	680 ohm	C2012	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2039	J0225101	Carbon Film RES.	1/6W	100 ohm	C2013	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2040	J0225471	Carbon Film RES.	1/6W	470 ohm	C2014	K0217515D	Ceramic CAP.	CH	50V	15pF
R2041	J0225154	Carbon Film RES.	1/6W	150k ohm	C2015	K0217510D	Ceramic CAP.	CH	50V	10pF
R2042	J0225153	Carbon Film RES.	1/6W	15k ohm	C2016	K0217515D	Ceramic CAP.	CH	50V	15pF
R2043	J0225101	Carbon Film RES.	1/6W	100 ohm	C2017	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2044	J0225471	Carbon Film RES.	1/6W	470 ohm	C2018	K0217512I	Ceramic CAP.	CH	50V	120pF
R2045	J0225104	Carbon Film RES.	1/6W	100k ohm	C2019	K0217582D	Ceramic CAP.	CH	50V	82pF
R2046	J0225101	Carbon Film RES.	1/6W	100 ohm	C2020	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2047	J0225331	Carbon Film RES.	1/6W	330 ohm	C2021	K0217308D	Ceramic CAP.	CH	50V	3pF
R2048	J0225104	Carbon Film RES.	1/6W	100k ohm	C2022	K0217305D	Ceramic CAP.	CH	50V	5pF
R2049	J0225223	Carbon Film RES.	1/6W	22k ohm	C2023	K1914902I	Ceramic CAP.	25V	0.047uF
R2050	J0122532	Carbon Film RES.	1/6W	3.3k ohm	C2024	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2051	J0225103	Carbon Film RES.	1/6W	10k ohm	C2025	K2B179001	Ceramic CAP.		50V	1000pF
R2052	J0225273	Carbon Film RES.	1/6W	27k ohm	C2026	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2053	J0225272	Carbon Film RES.	1/6W	2.7k ohm	C2027	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2054	J0225101	Carbon Film RES.	1/6W	100 ohm	C2029	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2055	J0125273	Carbon Film RES.	1/6W	27k ohm	C2029	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2056	J0125182	Carbon Film RES.	1/6W	1.8k ohm	C2030	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2057	J0225152	Carbon Film RES.	1/6W	1.5k ohm	C2031	K1279110Z	Ceramic CAP.	E	50V	1000pF
R2058	J0125103	Carbon Film RES.	1/6W	10k ohm	C2032	K0017900I	Ceramic CAP.	SL	50V	0.5pF
R2059	J0125221	Carbon Film RES.	1/6W	220 ohm	C2033	K0017503D	Ceramic CAP.	SL	50V	3pF
R2060	J0125221	Carbon Film RES.	1/6W	220 ohm	C2034	K1271710Z	Ceramic CAP.	E	50V	1000pF
R2061	J0125221	Carbon Film RES.	1/6W	220 ohm	C2035	K1271710Z	Ceramic CAP.	E	50V	1000pF
R2062	J0225221	Carbon Film RES.	1/6W	220 ohm	C2036	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2063	J0225101	Carbon Film RES.	1/6W	100 ohm	C2037	K0017510I	Ceramic CAP.	SL	50V	10pF
R2064	J0225104	Carbon Film RES.	1/6W	100k ohm	C2038	K0017310I	Ceramic CAP.	SL	50V	1pF
R2065	J0225471	Carbon Film RES.	1/6W	470 ohm	C2039	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2066	J0225221	Carbon Film RES.	1/6W	220 ohm	C2040	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2067	J0225221	Carbon Film RES.	1/6W	220 ohm	C2041	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2068	J0225221	Carbon Film RES.	1/6W	220 ohm	C2042	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2075	J0225103	Carbon Film RES.	1/6W	10k ohm	C2043	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2076	J0225103	Carbon Film RES.	1/6W	10k ohm	C2044	K40129004	AL. Electro. CAP.		16V	10uF
R2077	J0225104	Carbon Film RES.	1/6W	100k ohm						
R2078	J0125685	Carbon Film RES.	1/6W	6.8k ohm	C2045	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2079	J0122182	Carbon Film RES.	1/8W	1.8k ohm	C2046	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2080	J0122572	Carbon Film RES.	1/8W	2.7k ohm	C2047	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2081	J0125101	Carbon Film RES.	1/6W	100 ohm	C2048	K1017627I	Ceramic CAP.	B	50V	680pF
R2082	J0225153	Carbon Film RES.	1/6W	15k ohm	C2049	K1017610Z	Ceramic CAP.	B	50V	270pF
R2083	J0122332	Carbon Film RES.	1/6W	3.3k ohm	C2050	K1017610I	Ceramic CAP.	B	50V	1000pF
R2084	J0225223	Carbon Film RES.	1/6W	22k ohm	C2050	K1017610I	Ceramic CAP.	B	50V	100pF
R2085	J0225104	Carbon Film RES.	1/6W	100k ohm	C2051	K1017668I	Ceramic CAP.	B	50V	680pF
R2086	J0225103	Carbon Film RES.	1/6W	10k ohm	C2052	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2087	J0225103	Carbon Film RES.	1/6W	10k ohm	C2053	K1317501I	Ceramic CAP.	F	50V	0.0047uF
R2088	J0229162	Carbon Film RES.	1/6W	47.5k ohm	C2054	K0017527D	Ceramic CAP.	SL	50V	27pF
R2089	J0225101	Carbon Film RES.	1/6W	100 ohm	C2055	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2090	J0225223	Carbon Film RES.	1/6W	22k ohm	C2056	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2091	J0225104	Carbon Film RES.	1/6W	100k ohm	C2057	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2092	J0225103	Carbon Film RES.	1/6W	10k ohm	C2058	K1317110Z	Ceramic CAP.	E	50V	1000pF
R2093	J0225103	Carbon Film RES.	1/6W	10k ohm	C2059	K1211103	Ceramic CAP.	E	50V	0.01uF
R2094	J0225103	Carbon Film RES.	1/6W	10k ohm	C2080	K40129008	AL. Electro. CAP.		16V	33uF
R2095	J0225101	Carbon Film RES.	1/6W	100 ohm	C2081	K1211710Z	Ceramic CAP.	E	50V	1000pF
R2096	J0225223	Carbon Film RES.	1/6W	22k ohm	C2082	K0217900I	Ceramic CAP.	CH	50V	1pF
R2097	J0225104	Carbon Film RES.	1/6W	100k ohm	C2083	K0517308D	Ceramic CAP.	RH	50V	5pF
R2098	J0225103	Carbon Film RES.	1/6W	10k ohm	C2084	K0217527D	Ceramic CAP.	CH	50V	27pF
R2099	J0225103	Carbon Film RES.	1/6W	10k ohm	C2085	K0217515D	Ceramic CAP.	CH	50V	15pF
R2100	J0225103	Carbon Film RES.	1/6W	10k ohm	C2086	K0617522D	Ceramic CAP.	UJ	50V	22pF
R2101	J0225683	Carbon Film RES.	1/6W	68k ohm	C2087	K0217310D	Ceramic CAP.	CH	50V	10pF
R2102	J0225223	Carbon Film RES.	1/6W	22k ohm	C2088	K40179013	AL. Electro. CAP.		50V	10uF
R2103	J0225104	Carbon Film RES.	1/6W	100k ohm						
R2104	J0225103	Carbon Film RES.	1/6W	10k ohm	C2089	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2105	J0225153	Carbon Film RES.	1/6W	15k ohm	C2090	K40129008	AL. Electro. CAP.		16V	33uF
R2106	J0225103	Carbon Film RES.	1/6W	10k ohm						
R2107	J0225101	Carbon Film RES.	1/6W	100 ohm	C2091	K2B129001	Ceramic CAP.	Y	16V	0.01uF
R2108	J0225104	Carbon Film RES.	1/6W	100k ohm	C2092	K1914901I	Ceramic CAP.		25V	0.022uF
R2109	J0225101	Carbon Film RES.	1/6W	100 ohm	C2093	K1914901I	Ceramic CAP.		25V	0.033uF
R2110	J0225471	Carbon Film RES.	1/6W	470 ohm	C2094	K40129008	AL. Electro. CAP.		16V	33uF
R2111	J0225681	Carbon Film RES.	1/6W	680 ohm						
R2112	J0225471	Carbon Film RES.	1/6W	470 ohm	C2095	K1017610I	Ceramic CAP.	B	50V	100pF
R2113	J0225100	Carbon Film RES.	1/6W	10 ohm	C2096	K1017610I	Ceramic CAP.	B	50V	100pF
R2114	J0225560	Carbon Film RES.	1/6W	56 ohm	C2097	K1017610I	Ceramic CAP.	B	50V	100pF
R2116	J0225471	Carbon Film RES.	1/6W	470 ohm	C2098	K1914905I	Ceramic CAP.		25V	0.0022uF
R2120	J0125560	Carbon Film RES.	1/6W	56 ohm	C2079	K1271102	Ceramic CAP.	E	50V	1000pF
					C2080	K3812900I	Ceramic CAP.	Y	16V	0.01uF
TH2001	G3090008	Thermistor	11-2102-2		C2082	K3812900I	Ceramic CAP.	Y	16V	0.01uF
					C2084	K1271102	Ceramic CAP.	E	50V	1000pF
C2001	K1271102	Ceramic CAP.	E	50V 1000pF	C2085	K1211702	Ceramic CAP.	E	50V	1000pF
C2002	K0217556D	Ceramic CAP.	CH	50V 56pF	C2086	K0217900I	Ceramic CAP.	CH	50V	1pF
C2003	K0217515D	Ceramic CAP.	CH	50V 15pF	C2087	K0217020D	Ceramic CAP.	CH	50V	2pF
C2004	K1271102	Ceramic CAP.	E	50V 1000pF	C2101	K1017610I	Ceramic CAP.	B	50V	100pF
C2005	K0217505D	Ceramic CAP.	CH	50V 0.5pF	C2102	K1017610I	Ceramic CAP.	B	50V	100pF
C2006	K0217512D	Ceramic CAP.	CH	50V 12pF	C2103	K1017610I	Ceramic CAP.	B	50V	100pF
C2007	K2817900I	Ceramic CAP.	B	50V 1000pF	C2104	K0617900I	Ceramic CAP.	UJ	50V	36pF
C2008	K0217303D	Ceramic CAP.	CH	50V 3pF	C2105	K0617539D	Ceramic CAP.	UJ	50V	39pF
C2009	K1271102	Ceramic CAP.	E	50V 1000pF	C2106	K40129004	AL. Electro. CAP.		16V	10uF
C2010	K1271102	Ceramic CAP.	E	50V 1000pF						

C2107	K40129008	AL. Electro. CAP.		16V	33uF
C2108	K28129001	Ceramic CAP.	Y	16V	0.01uF
C2109	K28129001	Ceramic CAP.	Y	16V	0.01uF
C2111	K19149025	Ceramic CAP.		25V	0.1uF
C2112	K40129038	AL. Electro. CAP.		16V	100uF
C2113	K19149015	Ceramic CAP.		25V	0.01uF
C2114	K12171102	Ceramic CAP.	E	50V	1000uF
C2115	K06179008	Ceramic CAP.	UJ	50V	43uF
C2116	K02179070	Ceramic CAP.	CH	50V	7uF
C2117	K06179050	Ceramic CAP.	UJ	50V	5uF
C2118	K06175330	Ceramic CAP.	UJ	50V	33uF
C2119	K06175150	Ceramic CAP.	UJ	50V	15uF
C2120	K12171102	Ceramic CAP.	E	50V	1000uF
C2121	K12171102	Ceramic CAP.	E	50V	1000uF
C2122	K40129008	AL. Electro. CAP.		16V	33uF
C2123	K06175470	Ceramic CAP.	UJ	50V	47pF
C2124	K06172050	Ceramic CAP.	UJ	50V	5pF
C2125	K05175330	Ceramic CAP.	RH	50V	33pF
C2126	K02175100	Ceramic CAP.	CH	50V	10pF
C2127	K12171102	Ceramic CAP.	E	50V	1000pF
C2128	K40129008	AL. Electro. CAP.		16V	33uF
C2129	K06175390	Ceramic CAP.	UJ	50V	39pF
C2130	K06172050	Ceramic CAP.	UJ	50V	5pF
C2131	K06175220	Ceramic CAP.	UJ	50V	22pF
C2132	K06172050	Ceramic CAP.	UJ	50V	5pF
C2133	K12171102	Ceramic CAP.	E	50V	1000pF
C2134	K40129008	AL. Electro. CAP.		16V	33uF
C2135	K06179008	Ceramic CAP.	UJ	16V	43pF
C2136	K05172050	Ceramic CAP.	RH	50V	5pF
C2137	K05175180	Ceramic CAP.	RH	50V	18pF
C2138	K05172050	Ceramic CAP.	RH	50V	5pF
C2139	K12171102	Ceramic CAP.	E	50V	1000pF
C2140	K40129008	AL. Electro. CAP.		16V	33uF
C2141	K12171102	Ceramic CAP.	E	50V	1000pF
C2142	K12171102	Ceramic CAP.	E	50V	1000pF
C2143	K02172030	Ceramic CAP.	CH	50V	3pF
C2144	K12171102	Ceramic CAP.	E	50V	1000pF
C2145	K12171102	Ceramic CAP.	E	50V	1000pF
C2146	K10176331	Ceramic CAP.	B	50V	330pF
C2148	K00175270	Ceramic CAP.	SL	50V	27pF
C2149	K00175560	Ceramic CAP.	SL	50V	56pF
C2150	K00175270	Ceramic CAP.	SL	50V	27pF
C2151	K00179013	Ceramic CAP.	SL	50V	91pF
C2152	K00175470	Ceramic CAP.	SL	50V	47pF
C2153	K00179013	Ceramic CAP.	SL	50V	91pF
C2154	K00175560	Ceramic CAP.	SL	50V	56pF
C2155	K00175560	Ceramic CAP.	SL	50V	56pF
C2157	K28129001	Ceramic CAP.	Y	16V	0.01uF
C2158	K12171102	Ceramic CAP.	E	50V	1000pF
C2159	K12171102	Ceramic CAP.	E	50V	1000pF
C2161	K00175101	Ceramic CAP.	SL	50V	100pF
C2162	K28129001	Ceramic CAP.	Y	16V	0.01uF
C2163	K13179009	Ceramic CAP.	F	50V	0.047uF
C2164	K19149025	Ceramic CAP.		25V	0.1uF
C2165	K00175470	Ceramic CAP.	SL	50V	47pF
C2166	K10176331	Ceramic CAP.	B	50V	330pF
TC2001	K91000141	Trimmer CAP.			10pF
TC2002	K91000142	Trimmer CAP.			20pF
TC2003	K91000142	Trimmer CAP.			20pF
TC2004	K91000186	Trimmer CAP.			20pF
L2001	L1190223	M. RFC			270uH
L2002	L1190224	M. RFC			220uH
L2003	L1190038	M. RFC			270uH
L2004	L1190005	M. RFC			1uH
L2010	L1190229	M. RFC			47uH
L2011	L1190014	M. RFC			10uH
L2012	L1190011	M. RFC			4.7uH
L2013	L1190005	M. RFC			1uH
L2014	L0021410	Coil			0.147uH
L2015	L0021410	Coil			0.147uH
L2016	L0021409	Coil			0.117uH
L2017	L0021409	Coil			0.117uH
L2018	L1190190	M. RFC			0.27uH
L2020	L1190218	M. RFC			100uH
L2021	L1190218	M. RFC			100uH
T2001	L0021862	Coil			44.6MHz
T2002	L0021862	Coil			44.6MHz
T2003	L0021862	Coil			44.6MHz
T2004	L0021861	Coil			5.74MHz
T2005	L0021380	Coil			0.40uH
T2006	L0021860	Coil			0.45uH
T2007	L0021380	Coil			0.40uH
T2008	L0021380	Coil			0.40uH
T2009	L0021382	Coil			0.29uH
J2001	P0090627	Connector			
J2002	P1090554	Connector			
J2003	P1090594	Connector			
	T9317814	Wire ASSY	P2001		
	T9317813	Wire ASSY	P2002		
	T9317812	Wire ASSY	P2003		
	K0124120	VCO Case			
	K0124130	VCO Cover			
	K0124140A	Shield Plate			
	K0124150A	Shield Plate			
	K0124160B	Shield Plate			
	K0123770	Ground Lead			
	K0125800	Leaf Spring			

PLL-LPF UNIT

Symbol No.	Part No.	Description	Device		
	F2971101A	Printed Circuit Board			
	C0297111AA	PCB with Components			
Q7023	G3326207B	Transistor	2SC2620QBTR		
R7069	J24205331	RES. Chip	1/10W 330 ohm		
R7070	J24205104	RES. Chip	1/10W 100k ohm		
R7071	J24205102	RES. Chip	1/10W 1k ohm		
R7072	J24205101	RES. Chip	1/10W 100 ohm		
R7073	J24205101	RES. Chip	1/10W 100 ohm		
C7081	K22176817	CAP. Chip	B	50V	0.01uF
C7088	K22170205	CAP. Chip	CH	50V	5pF
C7089	K22170204	CAP. Chip	CH	50V	3pF
C7090	K22170220	CAP. Chip	CH	50V	24pF
C7091	K22170209	CAP. Chip	CH	50V	9pF
C7092	K22170219	CAP. Chip	CH	50V	22pF
C7093	K22170210	CAP. Chip	CH	50V	9pF
C7094	K22170219	CAP. Chip	CH	50V	22pF
C7095	K22170206	CAP. Chip	CH	50V	5pF
C7096	K22170221	CAP. Chip	CH	50V	27pF
C7097	K22170201	CAP. Chip	CH	50V	0.5pF
C7098	K22170817	CAP. Chip	B	50V	0.01uF
C7099	K22170817	CAP. Chip	B	50V	0.01uF
C7100	K22170817	CAP. Chip	B	50V	0.01uF
C7156	K22170213	CAP. Chip	CH	50V	15pF
L7022	L1190218	M. RFC			100uH
T7010	L0021553	Coil			
T7011	L0021554	Coil			
T7012	L0021554	Coil			
T7013	L0021553	Coil			
T7014	L0021555	Coil			

DISPLAY UNIT

Symbol No.	Part No.	Description	Device
	F2943102C	Printed Circuit Board	
	C0294324AA	PCB with Components	
Q3001	G1096665	IC	M50932-501FP
Q3002	G1090815	IC	TDA2003H
Q3003	G1090299	IC	uPC7805H
Q3004	G1090840	IC	M51943BSL
Q3005	G3090074	Transistor	BA14A4M
Q3006	G3090074	Transistor	BA14A4M
Q3007	G3090079	Transistor	BA14A4P
Q3008	G3406870C	Transistor	2SD667C
Q3009	G3304580C	Transistor	2SC458C
Q3014	G3090075	Transistor	BA14A4F
D3001	G2090118	Diode	1SS97
D3002	G2090375	Diode	GL-5PR4
D3005	G2090408	Diode	1SS270

D3007	G2060904	Diode	1SS270TJ		
D3008	G2090118	Diode	1SS97		
D3009	G2090118	Diode	1SS97		
D3010	G2090415	Diode	GL8FG25		
D3011	G2060004	Diode	1SS270TJ		
D3012	G2060004	Diode	1SS270TJ		
D3013	G2060004	Diode	1SS270TJ		
DS3001	G6090066	LCD	FTD8627PZ		
CO3001	H3300170	Ceramic Filter	CSA400MG5		
R3001	J01225391	Carbon Film RES.	1/6W 390 ohm	FJ	
R3004	J01225105	Carbon Film RES.	1/6W 1M ohm	FJ	
R3006	J01225101	Carbon Film RES.	1/6W 100 ohm	FJ	
R3007	J01225103	Carbon Film RES.	1/6W 10k ohm	FJ	
R3008	J01225473	Carbon Film RES.	1/6W 47k ohm	FJ	
R3009	J01225102	Carbon Film RES.	1/6W 1k ohm	FJ	
R3010	J01225104	Carbon Film RES.	1/6W 100k ohm	FJ	
R3011	J01225103	Carbon Film RES.	1/6W 10k ohm	FJ	
R3012	J01225472	Carbon Film RES.	1/6W 4.7k ohm	FJ	
R3014	J01225104	Carbon Film RES.	1/6W 100k ohm	FJ	
R3015	J01225473	Carbon Film RES.	1/6W 47k ohm	FJ	
R3017	J01225473	Carbon Film RES.	1/6W 47k ohm	FJ	
R3018	J01225472	Carbon Film RES.	1/6W 4.7k ohm	FJ	
R3019	J01225103	Carbon Film RES.	1/6W 10k ohm	FJ	
R3020	J01225103	Carbon Film RES.	1/6W 10k ohm	FJ	
R3021	J01225473	Carbon Film RES.	1/6W 47k ohm	FJ	
R3022	J01225101	Carbon Film RES.	1/6W 100 ohm	FJ	
R3023	J01225101	Carbon Film RES.	1/6W 100 ohm	FJ	
R3024	J01225470	Carbon Film RES.	1/6W 47 ohm	FJ	
R3025	J01225010	Carbon Film RES.	1/6W 1 ohm	FJ	
R3026	J01225272	Carbon Film RES.	1/6W 2.2 ohm	FJ	
R3027	J01225221	Carbon Film RES.	1/6W 220 ohm	FJ	
R3028	J01225104	Carbon Film RES.	1/6W 100k ohm	FJ	
R3029	J01225221	Carbon Film RES.	1/6W 220 ohm	FJ	
R3030	J01225272	Carbon Film RES.	1/6W 2.7k ohm	FJ	
R3031	J01225681	Carbon Film RES.	1/6W 680 ohm	FJ	
R3032	J01225122	Carbon Film RES.	1/6W 1.2k ohm	FJ	
R3033	J01225473	Carbon Film RES.	1/6W 47k ohm	FJ	
R3034	J01225473	Carbon Film RES.	1/6W 47k ohm	FJ	
R3035	J01225473	Carbon Film RES.	1/6W 47k ohm	FJ	
R3036	J01225473	Carbon Film RES.	1/6W 47k ohm	FJ	
R3037	J01225473	Carbon Film RES.	1/6W 47k ohm	FJ	
R3038	J01225473	Carbon Film RES.	1/6W 47k ohm	FJ	
R3039	J01225473	Carbon Film RES.	1/6W 47k ohm	FJ	
R3040	J01225473	Carbon Film RES.	1/6W 47k ohm	FJ	
R3041	J01225473	Carbon Film RES.	1/6W 47k ohm	FJ	
R3042	J01225473	Carbon Film RES.	1/6W 47k ohm	FJ	
R3043	J01225473	Carbon Film RES.	1/6W 47k ohm	FJ	
R3044	J01225473	Carbon Film RES.	1/6W 47k ohm	FJ	
R3045	J01225103	Carbon Film RES.	1/6W 10k ohm	FJ	
R3046	J01225560	Carbon Film RES.	1/6W 56 ohm	FJ	
R3047	J01225560	Carbon Film RES.	1/6W 56 ohm	FJ	
RB3001	J40900030	Block RES.	8P 47k ohm		
C3001	K28129001	Ceramic CAP.	Y	16V	0.01uF
C3002	K40129012	AL. Electro. CAP.		16V	10uF
C3003	K28129001	Ceramic CAP.	Y	16V	0.01uF
C3004	K40129012	AL. Electro. CAP.		16V	10uF
C3005	K40179003	AL. Electro. CAP.		50V	0.22uF
C3006	K28129001	Ceramic CAP.	Y	16V	0.01uF
C3007	K28129001	Ceramic CAP.	Y	16V	0.01uF
C3008	K28129001	Ceramic CAP.	Y	16V	0.01uF
C3009	K28129001	Ceramic CAP.	Y	16V	0.01uF
C3010	K28129001	Ceramic CAP.	Y	16V	0.01uF
C3011	K00175150	Ceramic CAP.	SL	50V	15pF
C3012	K00175150	Ceramic CAP.	SL	50V	15pF
C3013	K40179005	AL. Electro. CAP.		50V	0.47uF
C3014	K28129001	Ceramic CAP.	Y	16V	0.01uF
C3015	K19149025	Ceramic CAP.		25V	0.1uF
C3016	K40129028	AL. Electro. CAP.		16V	47uF
C3017	K40129038	AL. Electro. CAP.		16V	100uF
C3018	K19149025	Ceramic CAP.		16V	0.1uF
C3019	K40129049	AL. Electro. CAP.		16V	470uF
C3020	K50177104	Film CAP.		50V	0.1uF
C3021	K40989009	AL. Electro. CAP.		6.3V	470uF
C3022	K28129001	Ceramic CAP.	Y	16V	0.01uF
C3023	K40129012	AL. Electro. CAP.		16V	10uF
C3025	K19149023	Ceramic CAP.		25V	0.068uF
C3028	K40129012	AL. Electro. CAP.		16V	10uF
C3027	K28129001	Ceramic CAP.	Y	16V	0.01uF
C3028	K13179009	Ceramic CAP.	F	50V	0.047uF
C3029	K13179009	Ceramic CAP.	F	50V	0.047uF
C3030	K40179010	AL. Electro. CAP.		50V	0.47uF
C3034	K40179005	AL. Electro. CAP.		50V	0.74uF
C3035	K40129012	AL. Electro. CAP.		16V	10uF
C3036	K13179008	Ceramic CAP.	F	50V	0.01uF
C3037	K40179013	AL. Electro. CAP.		50V	1uF
S3001	Q9000394	Rotary Code Switch			
S3002	N5090010	Tact Switch			KEG10904
S3003	N5090010	Tact Switch			KEG10904
S3004	N5090010	Tact Switch			KEG10904
S3005	N5090010	Tact Switch			KEG10904
S3006	N5090010	Tact Switch			KEG10904
S3007	N5090010	Tact Switch			KEG10904
S3008	N5090010	Tact Switch			KEG10904
S3009	N5090010	Tact Switch			KEG10904
S3010	N5090010	Tact Switch			KEG10904
S3011	N5090010	Tact Switch			KEG10904
S3012	N5090010	Tact Switch			KEG10904
S3013	N5090010	Tact Switch			KEG10904
S3014	N5090010	Tact Switch			KEG10904
S3015	N4090081	Push Switch			SPH121C16
S3016	N4090081	Push Switch			SPH121C16
S3017	N4090081	Push Switch			SPH121C16
S3018	N4090081	Push Switch			SPH121C16
S3019	N6090061	Slide Switch			SSJ-012M
J3002	P0090203	Connector			S02H-XH-A
J3003	P0090638	Connector			SC25-0.5WL
J3004	P0090637	Connector			SC25-0.3WL
J3005	P0090639	Connector			SC25-0.6WL
PL3001	Q1000010	Lanp			HQ041-22803A
PL3002	Q1000010	Lanp			HQ041-22803A
PL3003	Q1000010	Lanp			HQ041-22803A
BAT 3001	Q9000108	Lithium Battery			CR2025-HM1
	Q9000192	Sarcon			30F-TC-220
	R0102810	Nut Board			
	R3124170A	Light Reflector			
	R0124180	Heatsink Plate			
	R7125120A	Filter			
	R7125420	Sponge			
	R7125440	Sponge			
	R7126160	Sponge Rubber			
	R7126480	Mylar Film			
	T9205611	Wire ASSY			JP1-P1
	T9205612	Wire ASSY			JP2-P2
	T9205613	Wire ASSY			JP3-P3
	T9205626	Wire ASSY			JP4-P4
	T9205636	Wire ASSY			JP5

LPF UNIT

Symbol No.	Part No.	Description	Device		
	F2948000	Printed Circuit Board			
	C0294604AA	PCB with Components			
D4001	G2090408	Diode	1SS270		
D4002	G2090408	Diode	1SS270		
D4003	G2090244	Diode	1SS106		
D4004	Q9000375	Surge Absorber	DSP201M-SOO8		
R4002	J02225270	Carbon Film RES.	1/8W 27 ohm		UJ
R4003	J02225270	Carbon Film RES.	1/8W 27 ohm		UJ
C4001	K30275102	Mica CAP.		500V	1000pF
C4007	K00275680	Ceramic CAP.	SL	500V	68pF

C4003	K0027618!	Ceramic CAP.	SL	500V	180pF
C4004	K3027512	Mica CAP.		500V	1200pF
C4005	K3027588!	Mica CAP.		500V	680pF
C4006	K3027556!	Mica CAP.		500V	560pF
C4007	K3027582!	Mica CAP.		500V	820pF
C4008	K0027518!	Ceramic CAP.	SL	500V	18pF
C4009	K3027556!	Mica CAP.		500V	560pF
C4010	K0027524!	Ceramic CAP.	SL	500V	240pF
C4011	K3027512	Mica CAP.		500V	1200pF
C4012	K0027582!	Ceramic CAP.	SL	500V	82pF
C4013	K3027562!	Mica CAP.		500V	620pF
C4014	K0027524!	Ceramic CAP.	SL	500V	240pF
C4015	K0027511!	Ceramic CAP.	SL	500V	110pF
C4016	K3027568!	Mica CAP.		500V	680pF
C4017	K0027536!	Ceramic CAP.	SL	500V	36pF
C4018	K0027515!	Ceramic CAP.	SL	500V	150pF
C4019	K0027522!	Ceramic CAP.	SL	500V	220pF
C4020	K0027616!	Ceramic CAP.	SL	500V	160pF
C4021	K0027543!	Ceramic CAP.	SL	500V	43pF
C4022	K3027530!	Mica CAP.		500V	300pF
C4023	K0027511!	Ceramic CAP.	SL	500V	110pF
C4024	K0027511!	Ceramic CAP.	SL	500V	110pF
C4025	K0027510!	Ceramic CAP.	SL	500V	100pF
C4026	K0027543!	Ceramic CAP.	SL	500V	43pF
C4027	K0027515!	Ceramic CAP.	SL	500V	150pF
C4028	K0027582!	Ceramic CAP.	SL	500V	82pF
C4029	K0027512!	Ceramic CAP.	SL	500V	12pF
C4030	K0027511!	Ceramic CAP.	SL	500V	110pF
C4031	K0027582!	Ceramic CAP.	SL	500V	82pF
C4032	K0027533!	Ceramic CAP.	SL	500V	33pF
C4033	K0027616!	Ceramic CAP.	SL	500V	160pF
C4034	K0027512!	Ceramic CAP.	SL	500V	12pF
C4035	K0027591!	Ceramic CAP.	SL	500V	91pF
C4036	K0017522!	Ceramic CAP.	SL	50V	220pF
C4037	K0017522!	Ceramic CAP.	SL	50V	220pF
C4038	K0027510!	Ceramic CAP.	SL	500V	10pF
C4039	K1317909	Ceramic CAP.	F	50V	0.047uF
C4040	K1317909	Ceramic CAP.	F	50V	0.047uF
C4041	K1317909	Ceramic CAP.	F	50V	0.047uF
C4042	K1317909	Ceramic CAP.	F	50V	0.047uF
C4043	K1317909	Ceramic CAP.	F	50V	0.047uF
C4044	K1317909	Ceramic CAP.	F	50V	0.047uF
C4045	K1317909	Ceramic CAP.	F	50V	0.047uF
C4046	K1317909	Ceramic CAP.	F	50V	0.047uF
C4047	K1317909	Ceramic CAP.	F	50V	0.047uF
C4048	K1317909	Ceramic CAP.	F	50V	0.047uF
C4049	K1317909	Ceramic CAP.	F	50V	0.047uF
C4050	K1317909	Ceramic CAP.	F	50V	0.047uF
C4051	K1317909	Ceramic CAP.	F	50V	0.047uF
C4052	K1317909	Ceramic CAP.	F	50V	0.047uF
C4053	K1317909	Ceramic CAP.	F	50V	0.047uF
TC4001	K91000013	Variable CAP.			20pF
L4001	L0021405	Coil			3.77uH
L4002	L0021406	Coil			2.84uH
L4003	L0020615	Coil			1.90uH
L4004	L0021433	Coil			2.40uH
L4005	L0020617	Coil			1.10uH
L4006	L0020618	Coil			1.32uH
L4007	L0021407	Coil			0.62uH
L4008	L0021408	Coil			0.46uH
L4009	L0021855	Coil			
L4010	L0021856	Coil			
L4011	L0021857	Coil			
L4012	L0021858	Coil			
L4013	L0021859	Coil			
L4014	L1190090	M. RFC			1mH
L4015	L1190090	M. RFC			1mH
RL4001	M1190045	Relay		AG2013 (DC12V)	
RL4002	M1190045	Relay		AG2013 (DC12V)	
RL4003	M1190045	Relay		AG2013 (DC12V)	
RL4004	M1190045	Relay		AG2013 (DC12V)	
RL4005	M1190045	Relay		AG2013 (DC12V)	
RL4006	M1190045	Relay		AG2013 (DC12V)	
RL4007	M1190045	Relay		AG2013 (DC12V)	
RL4008	M1190045	Relay		AG2013 (DC12V)	
RL4009	M1190045	Relay		AG2013 (DC12V)	
RL4010	M1190045	Relay		AG2013 (DC12V)	
RL4011	M1190045	Relay		AG2013 (DC12V)	
RL4012	M1190045	Relay		AG2013 (DC12V)	
RL4013	M1190078	Relay		AG2017 (DC9V)	
	T9317815	Wire ASSY	P4002		
	T9205615	Wire ASSY	P4003		
	T9317816	Wire ASSY	P4004		

	T9205614A	Wire ASSY	JP4001 (P4001)

10W-PA UNIT

Symbol No.	Part No.	Description	Device
	F2946000	Printed Circuit Board	
	C029480AA	PCB with Components	
Q4001	G3321660	Transistor	2SC2166
Q4002	G3090086	Transistor	2SC3133
Q4003	G3090086	Transistor	2SC3133
Q4004	G1090080	IC	uPC78L08
Q4005	G3408820Q	Transistor	2SD882Q
Q4006	G3208240R	Transistor	2SB824R
Q4007	G3090079	Transistor	BA14AP
D4001	G2090217	Diode	HZ3C1
D4002	G2015880	Diode	1S1588
D4003	G2090306	Diode	10E1
D4004	G2015550	Diode	1SI555
D4005	G2015550	Diode	1SI555
R4001	J02225221	Carbon Film RES.	1/6W 220 ohm UJ
R4002	J02225471	Carbon Film RES.	1/6W 470 ohm UJ
R4003	J02225681	Carbon Film RES.	1/6W 680 ohm UJ
R4004	J0122581	Carbon Film RES.	1/6W 820 ohm PJ
R4005	J02225181	Carbon Film RES.	1/6W 180 ohm UJ
R4006	J0125150	Carbon Film RES.	1/2W 15 ohm TJ
R4007	J0125150	Carbon Film RES.	1/2W 15 ohm TJ
R4008	J0125331	Carbon Film RES.	1/2W 330 ohm TJ
R4009	J0125331	Carbon Film RES.	1/2W 330 ohm TJ
R4010	J0125390	Carbon Film RES.	1/2W 39 ohm TJ
R4011	J02225102	Carbon Film RES.	1/6W 1k ohm UJ
R4013	J02225103	Carbon Film RES.	1/6W 10k ohm UJ
R4014	J02225331	Carbon Film RES.	1/6W 330 ohm UJ
R4015	J20336680	Metal Film RES.	1/6W 68 ohm
VR4001	J51727222	POT.	B 2.2k ohm
C4001	K13179009	Ceramic CAP.	F 50V 0.047uF
C4002	K13179009	Ceramic CAP.	F 50V 0.047uF
C4003	K0017522!	Ceramic CAP.	SL 50V 220pF
C4004	K13179009	Ceramic CAP.	F 50V 0.047uF
C4005	K13179009	Ceramic CAP.	F 50V 0.047uF
C4006	K4018904	AL. Electro. CAP.	16V 10uF
C4007	K0027512!	Ceramic CAP.	SL 500V 120pF
C4008	K13179008	Ceramic CAP.	F 50V 0.047uF
C4009	K13179009	Ceramic CAP.	F 50V 0.047uF
C4010	K13179009	Ceramic CAP.	F 50V 0.047uF
C4011	K0027515!	Ceramic CAP.	SL 500V 150pF
C4012	K0027515!	Ceramic CAP.	SL 500V 150pF
C4013	K0027515!	Ceramic CAP.	SL 500V 150pF
C4014	K1017904	Ceramic CAP.	B 50V 0.01uF
C4015	K13179009	Ceramic CAP.	F 50V 0.047uF
C4016	K5017154	Film CAP.	50V 0.15uF
C4017	K5017154	Film CAP.	50V 0.15uF
C4018	K13179008	Ceramic CAP.	F 50V 0.01uF
C4019	K13179008	Ceramic CAP.	F 50V 0.01uF
C4020	K13179009	Ceramic CAP.	F 50V 0.047uF
C4021	K4012904	AL. Electro. CAP.	16V 10uF
C4022	K13179009	Ceramic CAP.	F 50V 0.047uF
C4023	K13179009	Ceramic CAP.	F 50V 0.047uF
C4024	K13179009	Ceramic CAP.	F 50V 0.047uF
C4025	K13179008	Ceramic CAP.	F 50V 0.01uF
C4026	K4012908	AL. Electro. CAP.	16V 33uF
C4027	K13179009	Ceramic CAP.	F 50V 0.047uF
C4028	K4012921	AL. Electro. CAP.	16V 1000uF
C4029	K13179009	Ceramic CAP.	F 50V 0.047uF
C4030	K13179008	Ceramic CAP.	F 50V 0.01uF
C4031	K13179008	Ceramic CAP.	F 50V 0.01uF
C4032	K0027536!	Ceramic CAP.	SL 500V 36pF
L4001	L1190149	M. RFC	1uH
L4002	L1190213	M. RFC	39uH
L4003	L1020032	RFC	9.9uH
L4004	L1020015	RFC	
L4005	L1020032	RFC	9.9uH
L4006	L1020666A	RFC	

T4001	L0020788A	Coil	
T4002	L0021607	Coil	
T4003	L0020834A	Coil	
RL4001	M1190054	Relay	AR42II (DC12V)
J4001	P1090255	Connector	
J4002	P1090255	Connector	
J4003	P0090622	Connector	
J4004	P0090631	Connector	
J4005	P0160970	Terminal	
J4006	P0160970	Terminal	
	R0103760	TR Heatsink	
	R0102810	NUT Board	
	Q9000192	Sarcon	

100W-PA UNIT

Symbol No.	Part No.	Description	Device
	F2947000	Printed Circuit Board	
	C029470AA	PCB with Components	
Q5001	G3321660	Transistor	2SC2166
Q5002	G3090086	Transistor	2SC3133-21
Q5003	G3090086	Transistor	2SC3133-21
Q5004	G3090087	Transistor	2SC3240-21
Q5005	G3090087	Transistor	2SC3240-21
Q5006	G1090294	IC	uPC7808H
Q5007	G3408820Q	Transistor	2SD882Q
Q5008	G3208240R	Transistor	2SB824R
Q5009	G3206458D	Transistor	2SC458D
Q5010	G0190025	Thermistor	M5218L
Q5011	G3320010L	Transistor	2SC2001-L
TH5001	G3090011	Thermistor	SDT1000
D5001	G2090217	Diode	HZ3C1
D5002	G2090306	Diode	10E1
D5003	G2090306	Diode	10E1
D5004	G2090306	Diode	10E1
D5005	G2090306	Diode	10E1
D5006	G2015550	Diode	1SI555
D5007	G2015550	Diode	1SI555
R5001	J02225470	Carbon Film RES.	1/6W 47 ohm UJ
R5002	J02225331	Carbon Film RES.	1/6W 330 ohm UJ
R5003	J02225331	Carbon Film RES.	1/6W 330 ohm UJ
R5004	J02225121	Carbon Film RES.	1/6W 120 ohm UJ
R5005	J02245279	Carbon Film RES.	1/4W 2.7 ohm UJ
R5006	J01275470	Carbon Film RES.	1/2W 47 ohm PJ
R5007	J01275240	Carbon Film RES.	1/2W 24 ohm PJ
R5008	J01275240	Carbon Film RES.	1/2W 24 ohm PJ
R5009	J20306820	Metal Film RES.	1W 82 ohm
R5010	J20306820	Metal Film RES.	1W 82 ohm
R5011	J20306339	Metal Film RES.	1W 3.3 ohm
R5012	J20306339	Metal Film RES.	1W 3.3 ohm
R5013	J20306339	Metal Film RES.	1W 3.3 ohm
R5014	J20306339	Metal Film RES.	1W 3.3 ohm
R5015	J01275180	Carbon Film RES.	1/2W 18 ohm PJ
R5016	J01275180	Carbon Film RES.	1/2W 18 ohm PJ
R5017	J22259001	Metal Film RES.	3W 39 ohm
R5018	J22259001	Metal Film RES.	3W 39 ohm
R5019	J21339003	Metal Film RES.	2W 39 ohm
R5020	J01275180	Carbon Film RES.	1/2W 18 ohm PJ
R5021	J01275221	Carbon Film RES.	1/6W 220 ohm PJ
R5022	J02225102	Carbon Film RES.	1/6W 1k ohm UJ
R5023	J02225103	Carbon Film RES.	1/6W 10k ohm UJ
R5024	J02225223	Carbon Film RES.	1/6W 22k ohm UJ
R5025	J02225103	Carbon Film RES.	1/6W 10k ohm UJ
R5026	J02225223	Carbon Film RES.	1/6W 22k ohm UJ
R5027	J02225103	Carbon Film RES.	1/6W 10k ohm UJ
R5028	J02225103	Carbon Film RES.	1/6W 10k ohm UJ
R5029	J02225272	Carbon Film RES.	1/6W 2.7k ohm UJ
R5030	J02225103	Carbon Film RES.	1/6W 10k ohm UJ
R5031	J02225474	Carbon Film RES.	1/6W 470k ohm UJ
R5032	J02225472	Carbon Film RES.	1/6W 4.7k ohm UJ
R5033	J02225102	Carbon Film RES.	1/6W 1k ohm UJ
R5034	J20306569	Metal Film RES.	1W 5.6 ohm
VR5001	J51745331	POT.	B 33 ohm
C5001	K10179024	Ceramic CAP.	B 50V 0.01uF
C5002	K10179024	Ceramic CAP.	B 50V 0.01uF
C5003	K10179024	Ceramic CAP.	B 50V 0.01uF
C5004	K13179009	Ceramic CAP.	F 50V 0.047uF
C5005	K13179008	Ceramic CAP.	F 50V 0.01uF
C5006	K40129044	AL. Electro. CAP.	16V 10uF
C5007	K13179009	Ceramic CAP.	F 50V 0.047uF
C5009	K13179008	Ceramic CAP.	F 50V 0.01uF
C5010	K60175471	Ceramic CAP.	SL 50V 470uF
C5011	K13179009	Ceramic CAP.	F 50V 0.047uF
C5012	K13179009	Ceramic CAP.	F 50V 0.047uF
C5013	K19149025	Ceramic CAP.	25V 0.1uF
C5014	K19149021	Ceramic CAP.	25V 0.047uF
C5015	K13179009	Ceramic CAP.	F 50V 0.047uF
C5016	K30279093	Mica CAP.	500V 1000pF
C5017	K10276682	Ceramic CAP.	B 500V 6800pF
C5018	K10276682	Ceramic CAP.	B 500V 6800pF
C5019	K13179009	Ceramic CAP.	F 50V 0.047uF
C5020	K50177683	Film CAP.	50V 0.068uF
C5021	K13179009	Ceramic CAP.	F 50V 0.047uF
C5022	K50179283	Film CAP.	50V 0.068uF
C5023	K30279090	Mica CAP.	500V 560pF
C5024	K30279090	Mica CAP.	500V 560pF
C5025	K30278092	Mica CAP.	500V 750pF
C5026	K30279091	Mica CAP.	500V 620pF
C5027	K13179009	Ceramic CAP.	F 50V 0.047uF
C5028	K40129054	AL. Electro. CAP.	16V 10uF
C5029	K13179009	Ceramic CAP.	F 50V 0.047uF
C5030	K40129044	AL. Electro. CAP.	16V 10uF
C5031	K13179009	Ceramic CAP.	F 50V 0.047uF
C5032	K40129044	AL. Electro. CAP.	16V 10uF
C5033	K40129021	AL. Electro. CAP.	16V 1000uF
C5034	K19149025	Ceramic CAP.	25V 0.1uF
C5035	K40129044	AL. Electro. CAP.	16V 10uF
C5036	K13179009	Ceramic CAP.	F 50V 0.047uF
C5037	K13179009	Ceramic CAP.	F 50V 0.047uF
C5038	K40129044	AL. Electro. CAP.	16V 10uF
C5039	K40129013	AL. Electro. CAP.	16V 1uF
C5040	K40129013	AL. Electro. CAP.	16V 1uF
C5041	K13179009	Ceramic CAP.	F 50V 0.047uF
C5042	K13179009	Ceramic CAP.	F 50V 0.047uF
C5043	K13179009	Ceramic CAP.	F 50V 0.047uF
C5044	K13179008	Ceramic CAP.	F 50V 0.01uF
C5045	K13179008	Ceramic CAP.	F 50V 0.01uF
C5046	K13179008	Ceramic CAP.	F 50V 0.01uF
C5047	K13179008	Ceramic CAP.	F 50V 0.01uF
C5048	K30275361	Mica CAP.	500V 360pF
PJ5001	L1190196	M. RFC	1.2uH
L5002	L1020018	RFC	
L5003	L1020016	RFC	
L5004	L0021432	Coil	41.0uH
T5001	L0020788A	Coil	
T5002	L0020834	Coil	
T5003	L0021854	Coil	
T5004	L0020404	Coil	
RL5001	M1190055	Relay	AR49032 (DC12V)
J5001	P1090255	Connector	
J5002	P1090255	Connector	
J5003	P0090622	Connector	
J5004	P0090621	Connector	
J5005	R0100970	Terminal	
J5006	R0160970	Terminal	
J5007	P0090621	Connector	
	R0103760	TR Heatsink	
	Q9000192	Sarcon	
	Q9000284	Insulator	

FILTER UNIT

Symbol No.	Part No.	Description	Device
	C2944101	Printed Circuit Board	