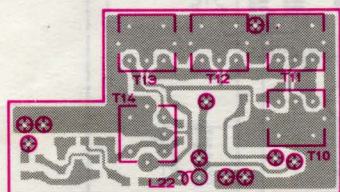
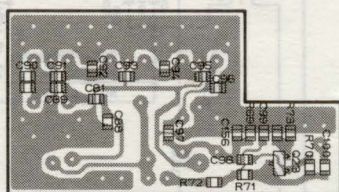


Component side (reverse)

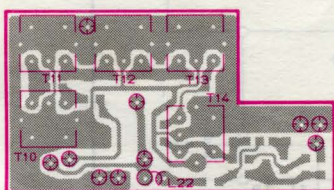
PLL-LPF UNIT PARTS LAYOUT



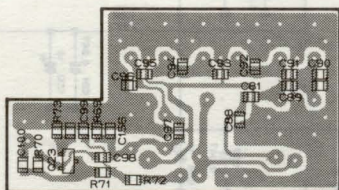
Component side (obverse)



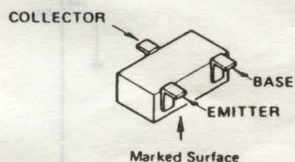
Solder side (obverse)



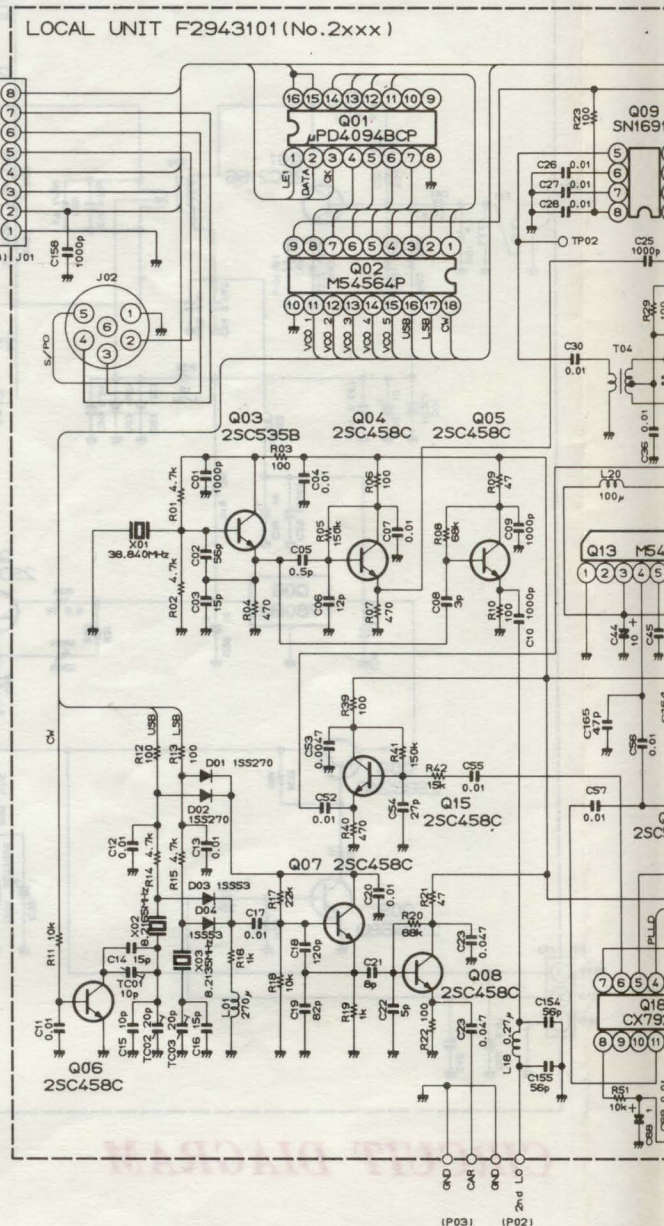
Component side (reverse)

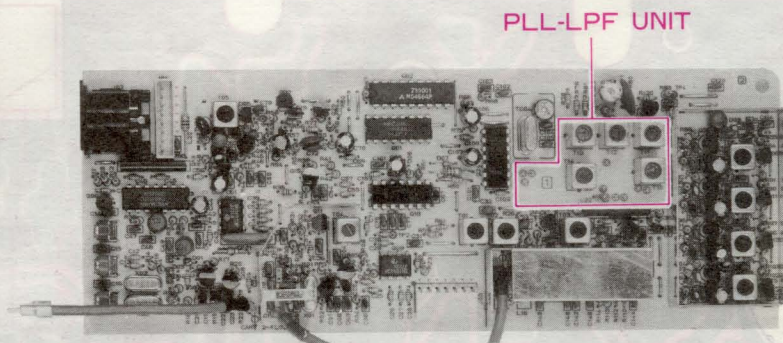


Solder side (reverse)

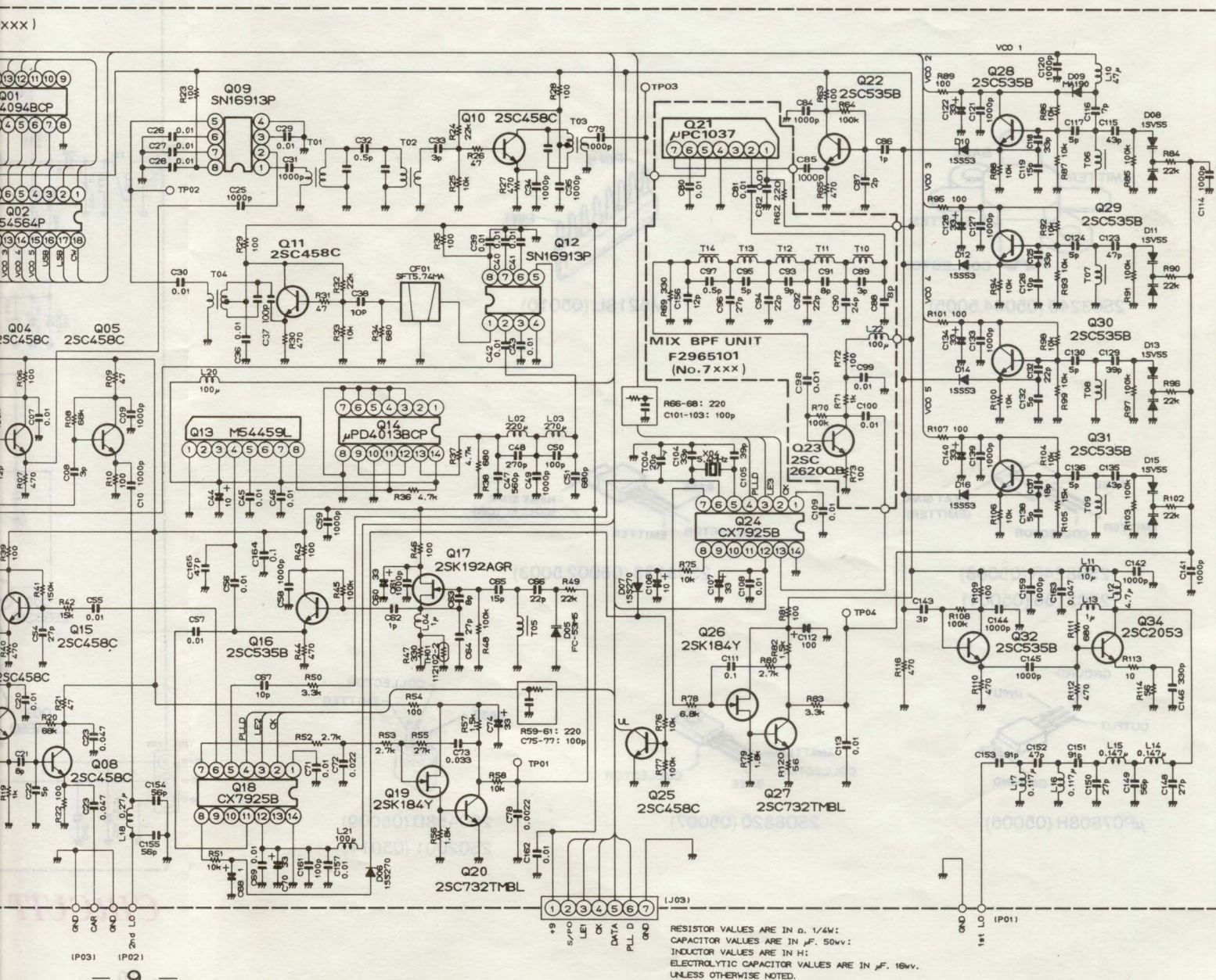


2SC2620QB (Q7023)

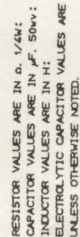




CIRCUIT DIAGRAM

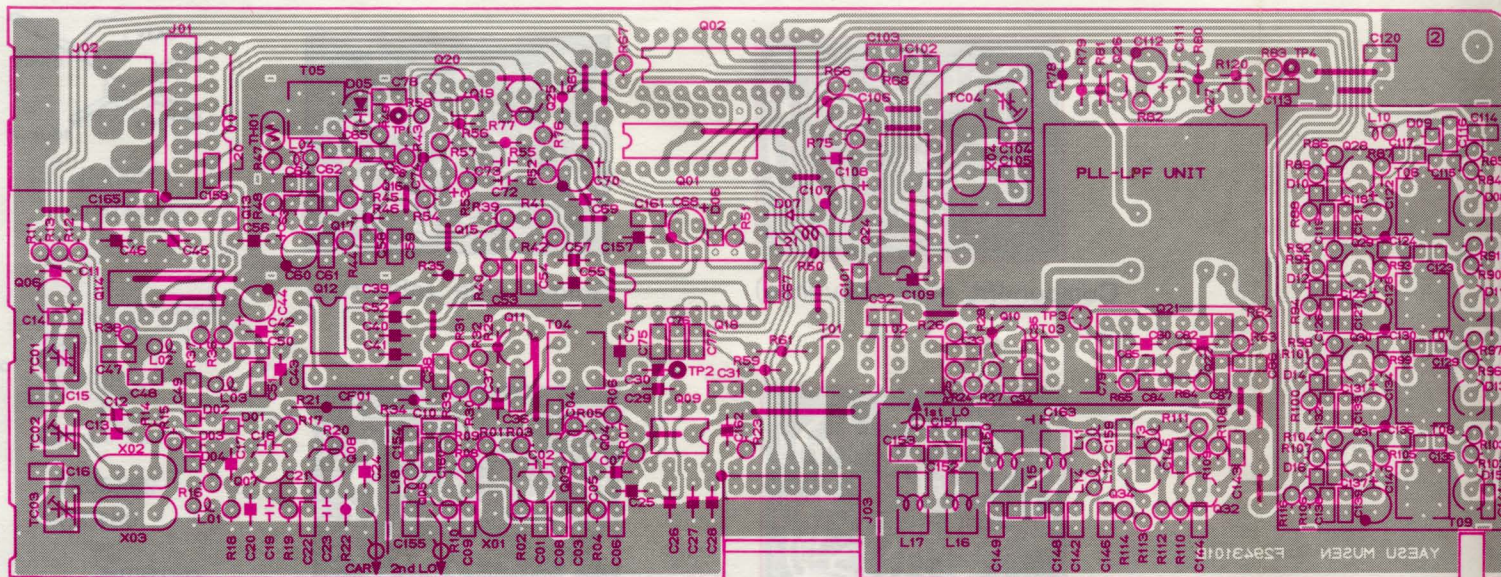


a (reverse)

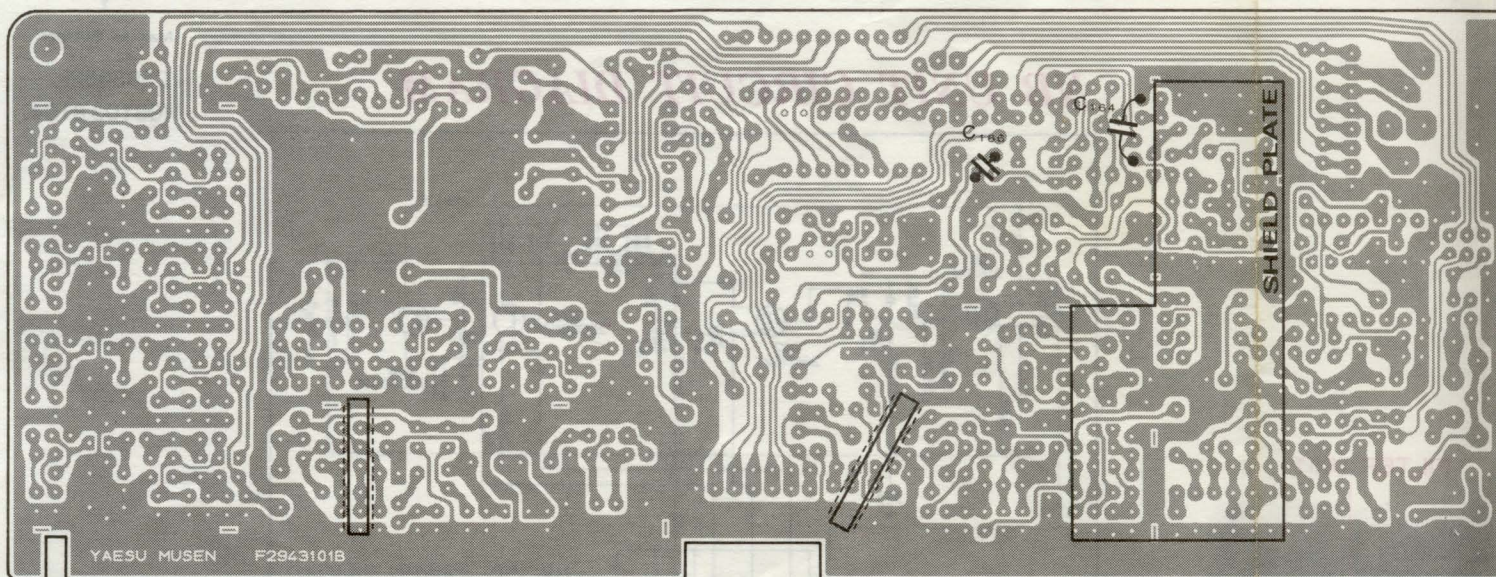


LOCAL UNIT

PARTS LAYOUT



Component side (obverse)



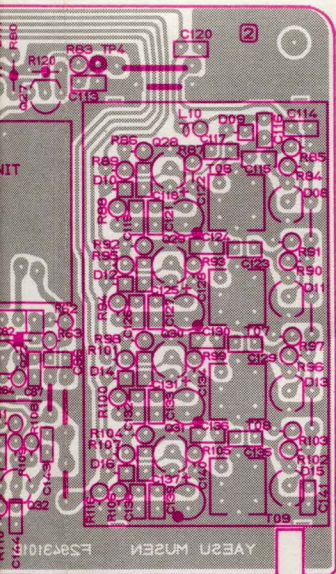
Solder side (obverse)

LOCAL UNIT IC VOLTAGE CHART

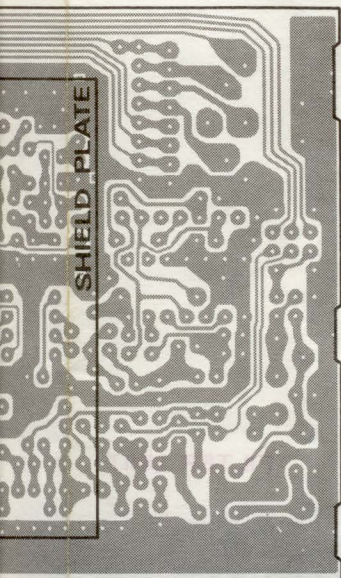
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Q2001	—	—	—	0	4.8	0	0	0	0	0	0	4.8	0	0	5.0	5.0			14MH
Q2002	0	0	4.8	0	0	4.8	0	0	8.8	0	0	0	7.6	0	0	7.6	-0.4	0	14MH
Q2009	6.4	3.8	2.7	0	2.7	3.8	3.8	7.8											14MH
Q2012	6.4	3.8	2.7	0	2.7	3.8	3.8	7.7											14MH
Q2013	0	0	4.9	2.6	2.6	0	4.9	2.5											14MH
Q2014	0	4.9	0	0	0	0	0	0	2.5	0	2.5	2.5	2.3	4.9					14MH
Q2018	-2.4	—	—	—	2.1	2.2	0.5	0	—	—	2.4	5.0	4.2	0					14MH
Q2021	5.9	5.2	4.8	0	2.6	2.6	2.6												14MH
Q2024	-2.4	—	—	—	2.2	1.9	0.5	0	—	—	0.5	4.8	2.0	0					14MH

LOCAL UNIT VOLTAGE CHART (DC VOLT)

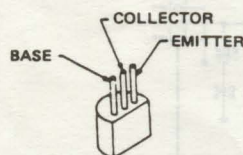
	E (S)	C (D)	B (G)	REMARKS
Q2003	3.1	8.1	3.9	
Q2004	3.5	8.1	4.2	
Q2005	1.4	8.1	2.2	
Q2006	0/0	0.7/0	0/0.7	RX/TX, MODE CW
Q2007	2.0	6.6	2.0	MODE USB
Q2008	1.7	8.0	2.4	MODE USB
Q2010	1.8	8.4	2.5	
Q2011	1.9	8.4	2.6	
Q2015	3.6	8.0	4.2	
Q2016	2.3	8.3	2.9	
Q2017	1.0	8.4	0	
Q2019	8.6	0.5	0.6	
Q2020	0	5.6	0.7	
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	



Component side (obverse)



Solder side (obverse)

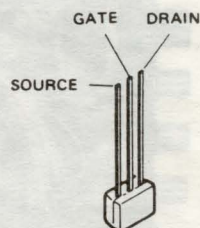


2SC458C (Q2004~2008,
2010,2011,
2015,2025)

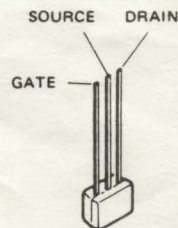
2SC535B (Q2003,2016,
2022,2028-
2032)

2SC732TMBL (Q2020,2027)

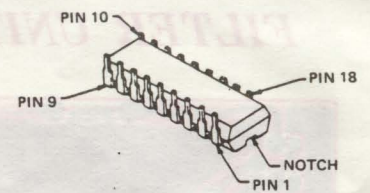
2SC2053 (Q2034)



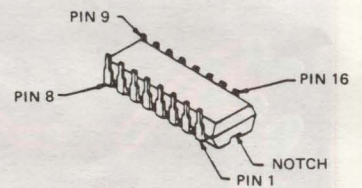
2SK184Y (Q2019,2026)



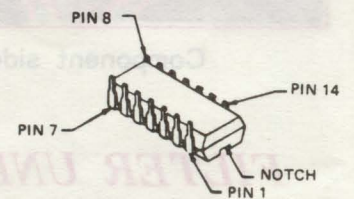
2SK192AGR (Q2017)



M54564P (Q2002)

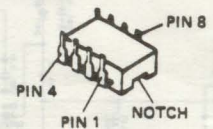


μPD4094BC (Q2001)

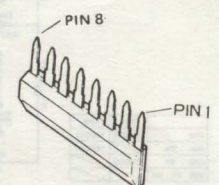


CX-7925B (Q2018,2024)

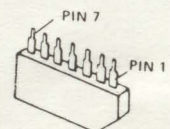
μPD4013BC (Q2014)



SN16913P (Q2009,2012)



M54459L (Q2013)



μPC1037H (Q2021)

(DC VOLT)

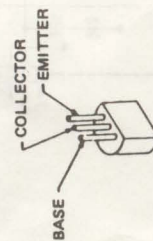
15	16	17	18	REMARKS
5.0	5.0			14MHz
0	7.6	-0.4	0	14MHz, MODE USB
				14MHz, MODE USB
				14MHz, MODE USB
				14MHz, MODE USB
				14MHz, MODE USB
				14MHz, MODE USB
				14MHz, MODE USB
				14MHz, MODE USB

LOCAL UNIT

PARTS LAYOUT

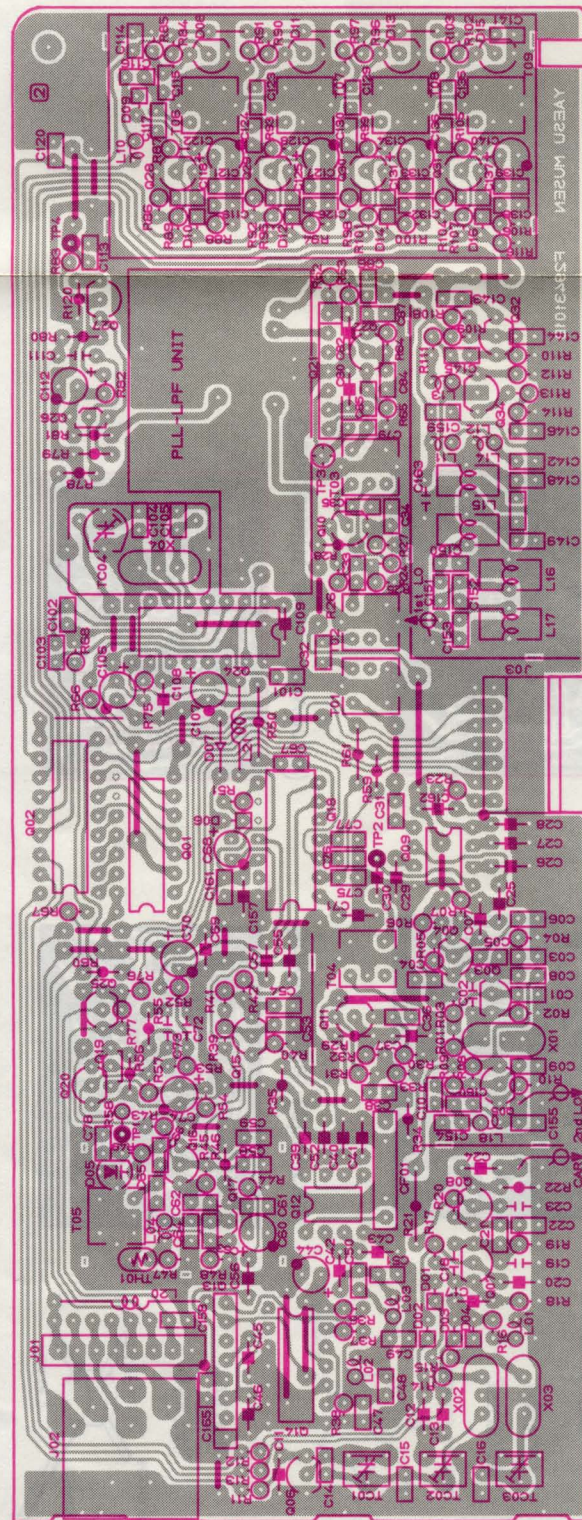
LOCAL UNIT VOLTAGE CHART
(DC VOL)

	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 0
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	

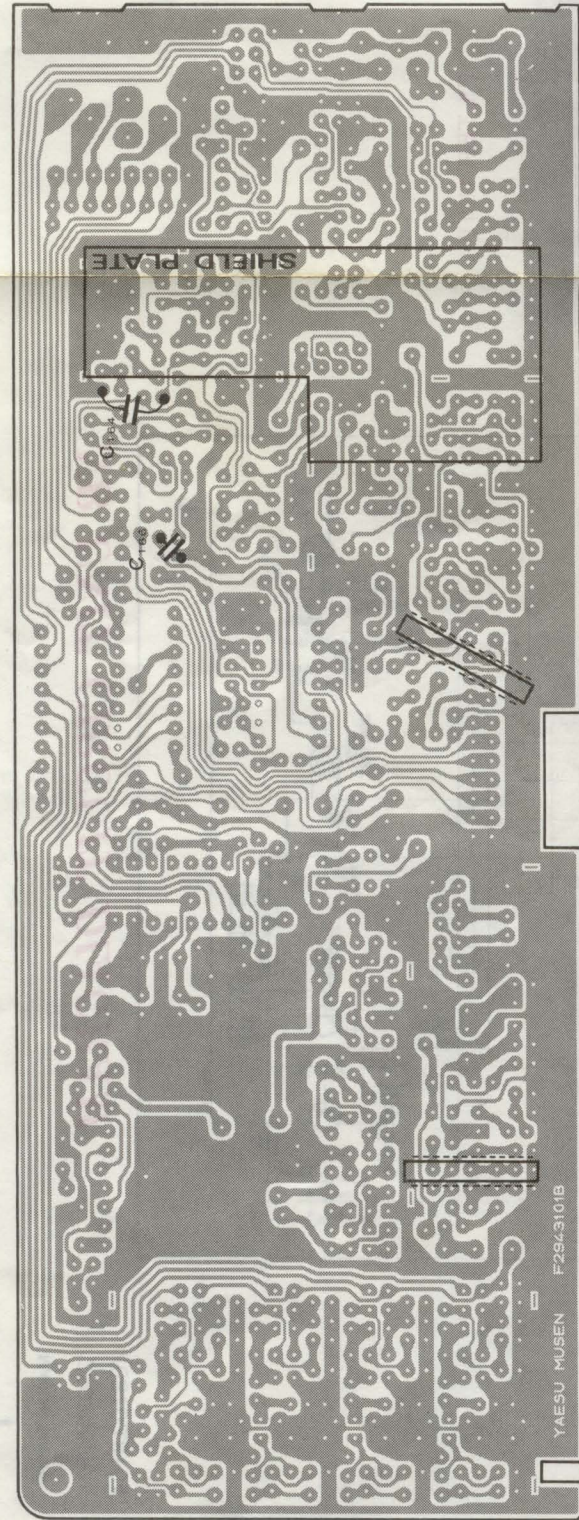


2SC458C (Q2004~2008,
2010,2011,
2015,2025)
2SC535B (Q2003,2016,
2022,2028-
2032)

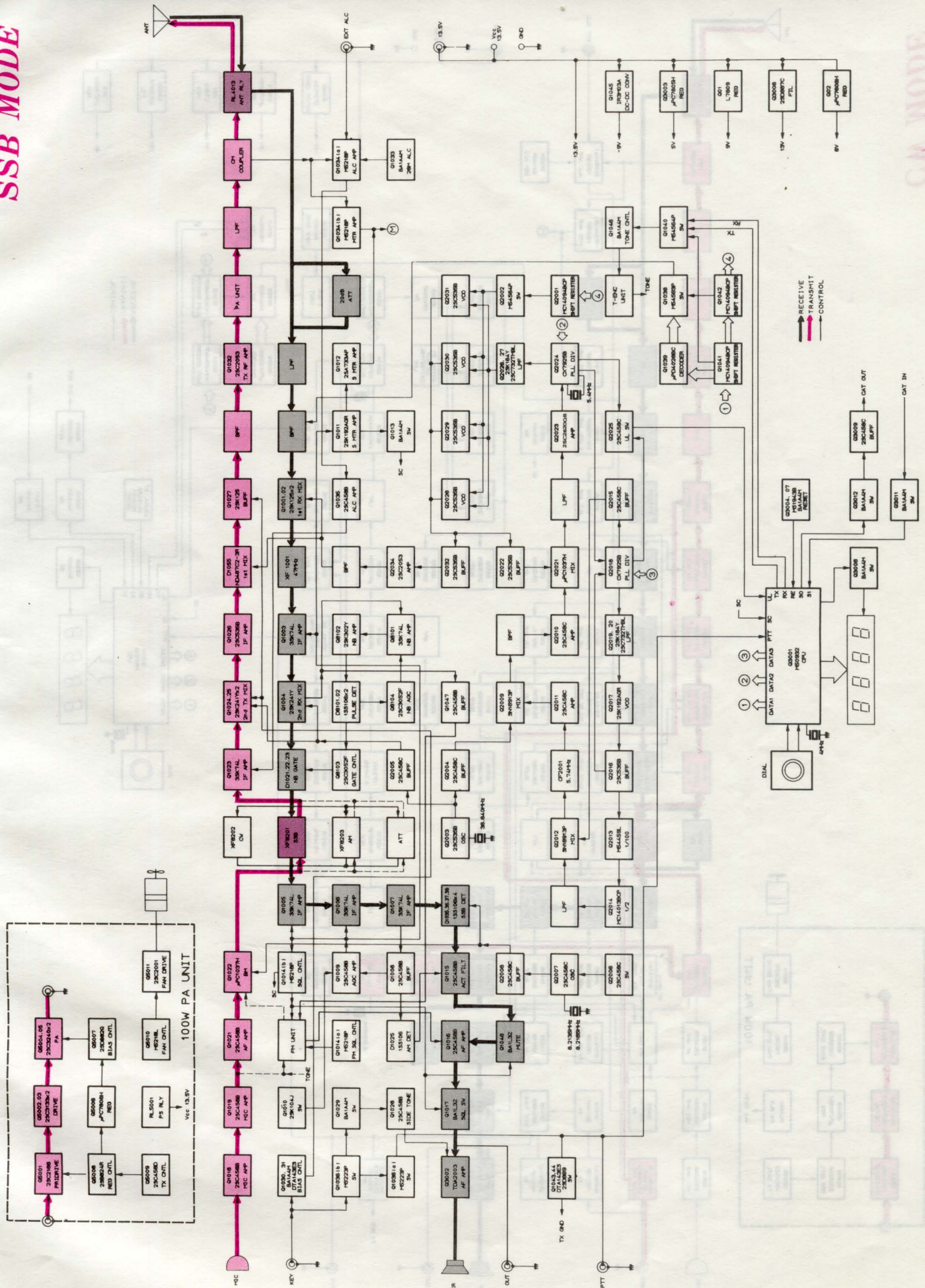
2SC732TMBL (Q2020,2027)
2SC732TMBL (Q2024)



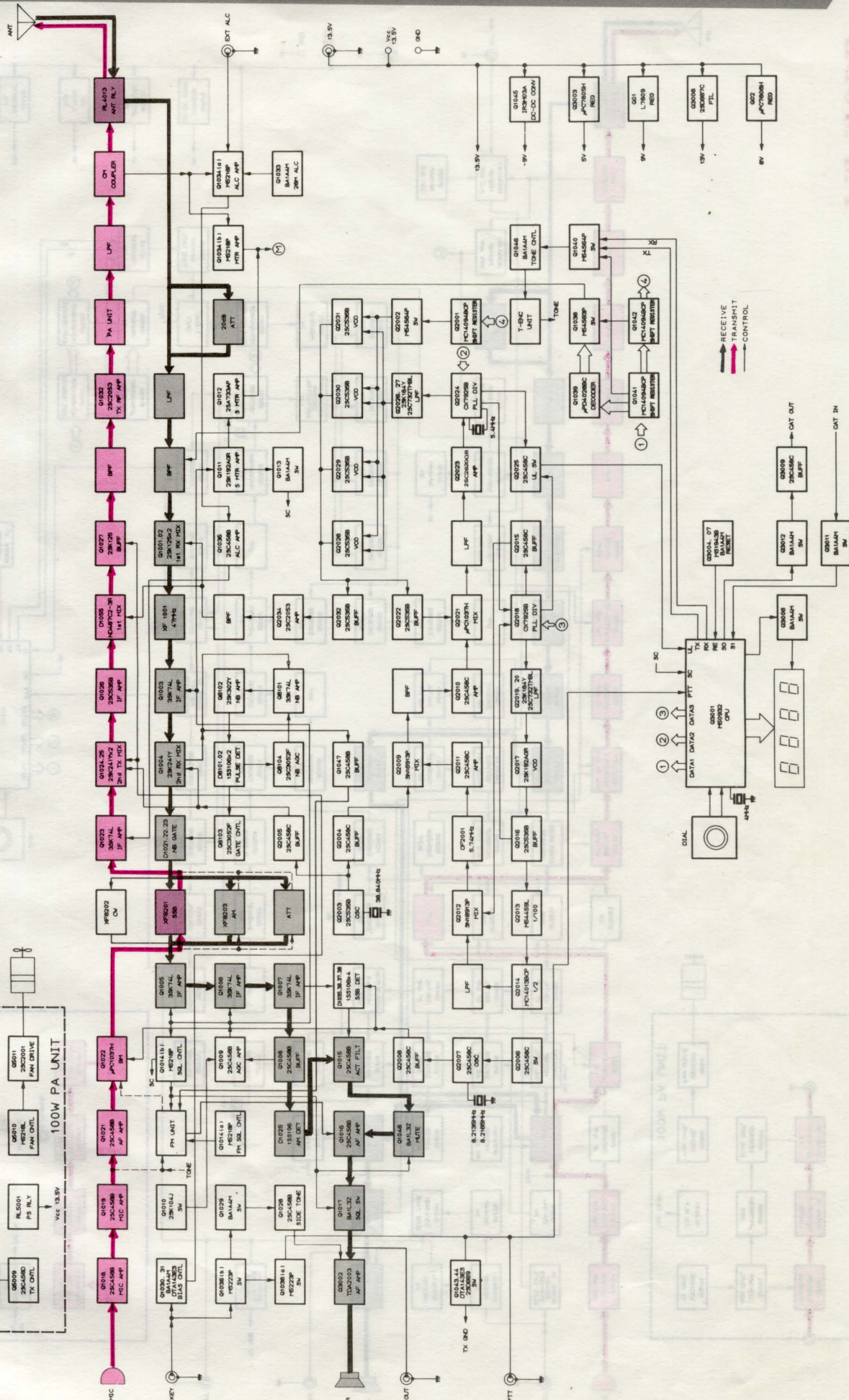
Component side (obverse)



Solder side (obverse)



CW MODE

[illegible]

SIGNAL PATH

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

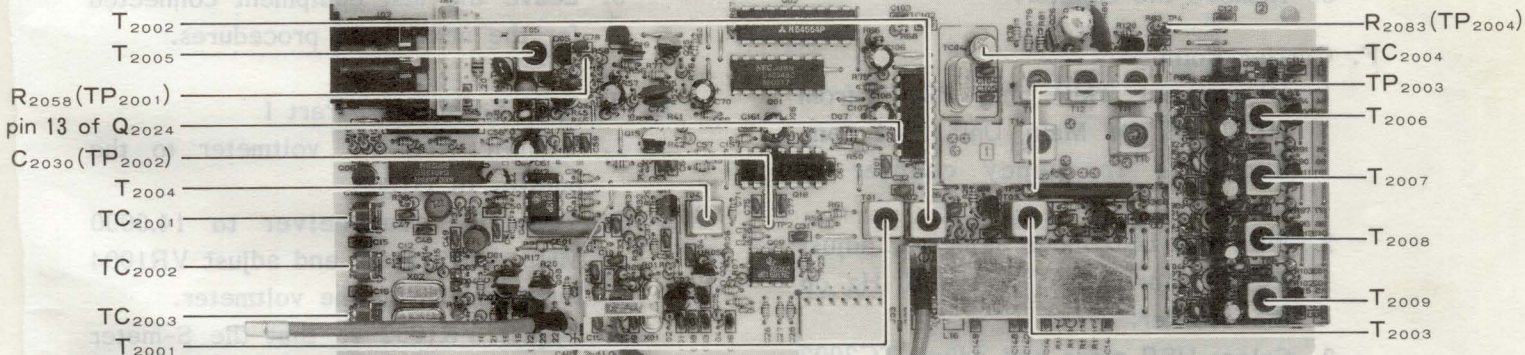
1. Connect the DC voltmeter between the exposed lead of R2058 (TP2001) and chassis ground.
2. Tune the transceiver to 7.0015 MHz, LSB mode.
3. Adjust T2005 for $2.0 \pm 0.1V$ on the meter. *2.185*
4. Retune the transceiver to 7.0014 MHz and confirm at least $5.6 \pm 0.6V$ on the voltmeter.
5. Disconnect the voltmeter.

C. PLL Subloop BPF

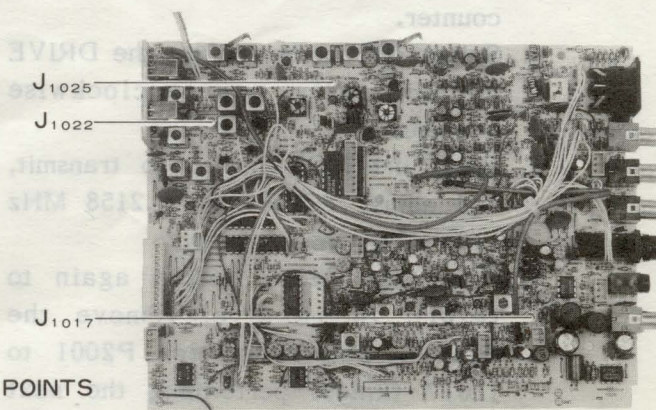
1. Connect the RF voltmeter to the exposed lead of C2030 (TP2002).
2. Tune the transceiver to 7.0265 MHz, LSB mode.
3. Adjust T2004 for peak on the voltmeter (at least 70 mVrms).
4. Move the voltmeter to TP2003, and retune the transceiver to 7.0267 MHz.
5. Adjust T2001-T2003 for peak on the voltmeter (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 $1.5 \pm 0.1V$, retune to the corresponding check frequency and confirm the check voltage on the voltmeter.



LOCAL UNIT ALIGNMENT POINTS



MAIN UNIT ALIGNMENT POINTS

ALIGNMENT

Adjust. Frequency	Adjust. Transformer	Check Freq.	Check Voltage
2.5000	T2006	2.4999	4.5-6.0V
		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 \pm 3 Hz on the counter.
4. If the TCXO option is not installed, adjust TC2004, if necessary, for 5.7635 MHz \pm 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 \pm 10 Hz on the counter.
3. Select USB mode and adjust TC2002 for 8.2165 MHz \pm 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 \pm 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 P2003 from J1025 on the Main Unit, and connect a 50-ohm resistor in parallel with the RF voltmeter to P2003.
2. Confirm at least 230 mVrms on the RF voltmeter in all modes.
3. Remove the voltmeter and resistor, and reconnect P2003 to J1025.

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.

PARTS LIST

T1020	L0020788A	Coil				Q2007	G3304580C	Transistor	2SC458C
T1021	L0020788A	Coil				Q2008	G3304580C	Transistor	2SC458C
RL1001	M1190056	Relay	FBR21D12 (DC12V)			Q2009	G1090012	IC	SN16913P
S1001	N6090033	Slide Switch				Q2010	G3304580C	Transistor	2SC458C
S1002	N6090033	Slide Switch				Q2011	G3304580C	Transistor	2SC458C
						Q2012	G1090012	IC	SN16913P
						Q2013	G1090838	IC	M54459L
						Q2014	G1090280	IC	uPD4013BC
						Q2015	G3304580C	Transistor	2SC458C
						Q2016	G3305350B	Transistor	2SC535B
						Q2017	G3801921G	Transistor	2SK192AGR
						Q2018	G1090834	IC	CX-1925B
						Q2019	G3801840Y	FET	2SK184Y
						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
						D2001	G2090408	Diode	1SS270
						D2002	G2090408	Diode	1SS270
						D2003	G2090027	Diode	1SS53
						D2004	G2090027	Diode	1SS53
						D2005	G2090180	Diode	FC-53M-5
						D2006	G2090408	Diode	1SS270
						D2007	G2060004	Diode	1SS270 TJ
						D2008	G2090161	Diode	1SV55
						D2009	G2090237	Diode	MA190
						D2010	G2090027	Diode	1SS53
						D2011	G2090161	Diode	1SV55
						D2012	G2090027	Diode	1SS53
						D2013	G2090161	Diode	1SV55
						D2014	G2090027	Diode	1SS53
						D2015	G2090161	Diode	1SV55
						D2016	G2090027	Diode	1SS53
						X2001	H0102853	XTAL	HC-48/U 38.840MHz
						X2002	H0102852	XTAL	HC-48/U 8.2165MHz
						X2003	H0102851	XTAL	HC-48/U 8.2135MHz
						X2004	H0102850	XTAL	HC-48/U 5.400MHz
						CF2001	H3900390	Ceramic Filter	SFT-5.74MA
						R2001	J02225472	Carbon Film RES.	1/6W 4.7k ohm UJ
						R2002	J02225472	Carbon Film RES.	1/6W 4.7k ohm UJ
						R2003	J02225101	Carbon Film RES.	1/6W 100 ohm UJ
						R2004	J02225471	Carbon Film RES.	1/6W 470 ohm UJ
						R2005	J02225154	Carbon Film RES.	1/6W 150k ohm UJ
						R2006	J02225101	Carbon Film RES.	1/6W 100 ohm UJ
						R2007	J02225471	Carbon Film RES.	1/6W 470 ohm UJ
						R2008	J02225683	Carbon Film RES.	1/6W 68k ohm UJ
						R2009	J02225470	Carbon Film RES.	1/6W 47 ohm UJ
						R2010	J02225101	Carbon Film RES.	1/6W 100 ohm UJ
						R2011	J02225103	Carbon Film RES.	1/6W 10k ohm UJ
						R2012	J02225101	Carbon Film RES.	1/6W 100 ohm UJ
						R2013	J02225101	Carbon Film RES.	1/6W 100 ohm UJ
						R2014	J02225472	Carbon Film RES.	1/6W 4.7k ohm UJ
						R2015	J02225472	Carbon Film RES.	1/6W 4.7k ohm UJ
						R2016	J02225102	Carbon Film RES.	1/6W 1k ohm UJ
						R2017	J02225223	Carbon Film RES.	1/6W 22k ohm UJ
						R2018	J02225103	Carbon Film RES.	1/6W 10k ohm UJ
						R2019	J02225102	Carbon Film RES.	1/6W 1k ohm UJ
						R2020	J02225683	Carbon Film RES.	1/6W 68k ohm UJ
						R2021	J01225470	Carbon Film RES.	1/6W 47 ohm PJ
						R2022	J01225101	Carbon Film RES.	1/6W 100 ohm PJ
						R2023	J02225101	Carbon Film RES.	1/6W 100 ohm UJ
						R2024	J02225223	Carbon Film RES.	1/6W 22k ohm UJ
						R2025	J02225103	Carbon Film RES.	1/6W 10k ohm UJ
						R2026	J01225470	Carbon Film RES.	1/6W 47 ohm UJ
						R2027	J02225471	Carbon Film RES.	1/6W 470 ohm UJ
						R2028	J01225101	Carbon Film RES.	1/6W 100 ohm PJ
						R2029	J01225101	Carbon Film RES.	1/6W 100 ohm PJ
						R2030	J02225471	Carbon Film RES.	1/6W 470 ohm UJ
						R2031	J02225470	Carbon Film RES.	1/6W 47 ohm UJ
						R2032	J02225223	Carbon Film RES.	1/6W 22k ohm UJ
						R2033	J02225103	Carbon Film RES.	1/6W 10k ohm UJ
						R2034	J01225681	Carbon Film RES.	1/6W 680 ohm PJ
						R2035	J01225101	Carbon Film RES.	1/6W 100 ohm PJ
						R2036	J02225472	Carbon Film RES.	1/6W 4.7k ohm UJ
NB UNIT									
Symbol No.	Part No.	Description	Device						
	F2949101	Printed Circuit Board							
	C029491AA	PCB with Components							
Q8101	G4800740L	FET	3SK74L						
Q8102	G3803027Y	FET	2SK302Y TE85R						
Q8103	G3330527F	Transistor	2SC3052-T14-2F						
Q8104	G3330527F	Transistor	2SC3052-T14-2F						
D8101	G2090244	Diode	1SS106						
D8102	G2090244	Diode	1SS106						
D8103	G2070009	Diode	1SS184 TE85R						
R8101	J24205103	RES. Chip	1/10W 10k ohm						
R8102	J24205473	RES. Chip	1/10W 47k ohm						
R8103	J24205101	RES. Chip	1/10W 100 ohm						
R8104	J24205153	RES. Chip	1/10W 15k ohm						
R8105	J24205101	RES. Chip	1/10W 100 ohm						
R8106	J24205104	RES. Chip	1/10W 100k ohm						
R8108	J24205101	RES. Chip	1/10W 100 ohm						
R8109	J24205102	RES. Chip	1/10W 1k ohm						
R8110	J24205222	RES. Chip	1/10W 2.2k ohm						
R8111	J24205223	RES. Chip	1/10W 22k ohm						
R8112	J24205102	RES. Chip	1/10W 1k ohm						
R8113	J24205224	RES. Chip	1/10W 220k ohm						
R8114	J24205472	RES. Chip	1/10W 4.7k ohm						
R8115	J24205472	RES. Chip	1/10W 4.7k ohm						
R8116	J24205000	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	L00221199	Coil	8.20MHz						
T8102	L00221199	Coil	8.20MHz						
J8101	P0090481	Connector							
LOCAL UNIT									
Symbol No.	Part No.	Description	Device						
	F2943101B	Printed Circuit Board							
	C029431AA	PCB with Components							
	C029431AB	PCB with Components w/o PLL LPF 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						

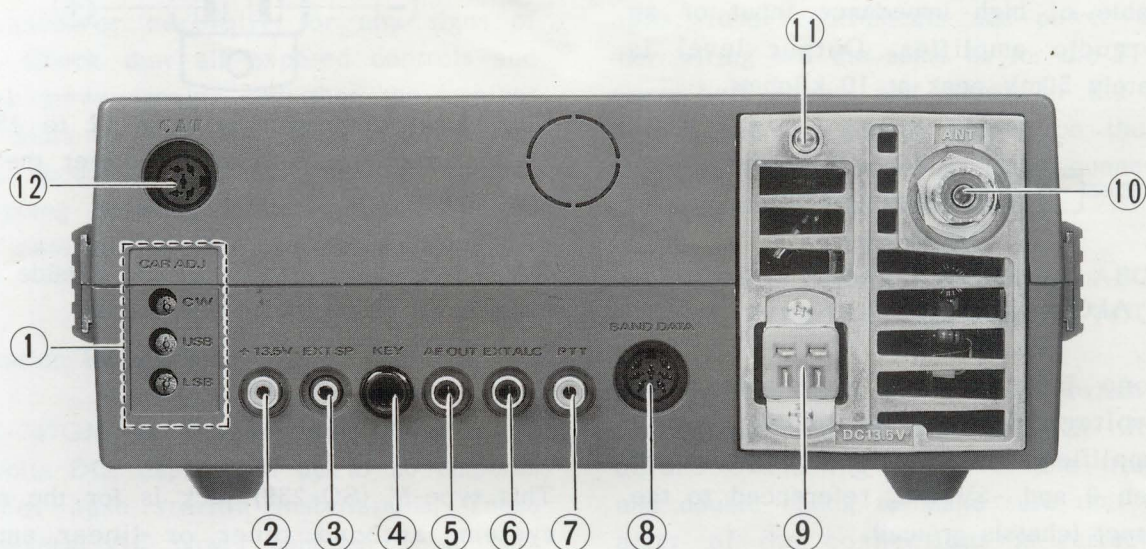
PARTS LIST

R2037	J02225472	Carbon Film RES.	1/6W 4.7k ohm	UJ	C2011	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2038	J02225681	Carbon Film RES.	1/6W 680 ohm	UJ	C2012	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2039	J02225101	Carbon Film RES.	1/6W 100 ohm	UJ	C2013	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2040	J02225471	Carbon Film RES.	1/6W 470 ohm	UJ	C2014	K02175150	Ceramic CAP.	CH	50V	15pF	
R2041	J02225154	Carbon Film RES.	1/6W 150k ohm	UJ	C2015	K02173100	Ceramic CAP.	CH	50V	10pF	
R2042	J02225153	Carbon Film RES.	1/6W 15k ohm	UJ	C2016	K02175150	Ceramic CAP.	CH	50V	15pF	
R2043	J02225101	Carbon Film RES.	1/6W 100 ohm	UJ	C2017	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2044	J02225471	Carbon Film RES.	1/6W 470 ohm	UJ	C2018	K02175121	Ceramic CAP.	CH	50V	120pF	
R2045	J02225104	Carbon Film RES.	1/6W 100k ohm	UJ	C2019	K02175820	Ceramic CAP.	CH	50V	82pF	
R2046	J01225101	Carbon Film RES.	1/6W 100 ohm	PJ	C2020	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2047	J02225331	Carbon Film RES.	1/6W 330 ohm	UJ	C2021	K02173080	Ceramic CAP.	CH	50V	8pF	
R2048	J02225104	Carbon Film RES.	1/6W 100k ohm	UJ	C2022	K02172050	Ceramic CAP.	CH	50V	5pF	
R2049	J02225223	Carbon Film RES.	1/6W 22k ohm	UJ	C2023	K19149021	Ceramic CAP.		25V	0.047uF	
R2050	J01225332	Carbon Film RES.	1/6W 3.3k ohm	PJ	C2024	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2051	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ	C2025	K28179001	Ceramic CAP.		50V	1000pF	
R2052	J02225272	Carbon Film RES.	1/6W 2.7k ohm	UJ	C2026	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2053	J02225272	Carbon Film RES.	1/6W 2.7k ohm	UJ	C2027	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2054	J02225101	Carbon Film RES.	1/6W 100 ohm	UJ	C2028	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2055	J01225273	Carbon Film RES.	1/6W 27k ohm	PJ	C2029	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2056	J01225182	Carbon Film RES.	1/6W 1.8k ohm	PJ	C2030	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2057	J02225152	Carbon Film RES.	1/6W 1.5k ohm	UJ	C2031	K12171102	Ceramic CAP.	E	50V	1000pF	
R2058	J01225103	Carbon Film RES.	1/6W 10k ohm	PJ	C2032	K00179001	Ceramic CAP.	SL	50V	0.5pF	
R2059	J01225221	Carbon Film RES.	1/6W 220 ohm	PJ	C2033	K00172030	Ceramic CAP.	SL	50V	3pF	
R2060	J01225221	Carbon Film RES.	1/6W 220 ohm	PJ	C2034	K12171102	Ceramic CAP.	E	50V	1000pF	
R2061	J01225221	Carbon Film RES.	1/6W 220 ohm	PJ	C2035	K12171102	Ceramic CAP.	E	50V	1000pF	
R2062	J02225221	Carbon Film RES.	1/6W 220 ohm	UJ	C2036	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2063	J02225101	Carbon Film RES.	1/6W 100 ohm	UJ	C2037	K00175101	Ceramic CAP.	SL	50V	100pF	
R2064	J02225104	Carbon Film RES.	1/6W 100k ohm	UJ	C2038	K00173100	Ceramic CAP.	SL	50V	10pF	
R2065	J02225471	Carbon Film RES.	1/6W 470 ohm	UJ	C2039	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2066	J02225221	Carbon Film RES.	1/6W 220 ohm	UJ	C2040	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2067	J02225221	Carbon Film RES.	1/6W 220 ohm	UJ	C2041	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2068	J02225221	Carbon Film RES.	1/6W 220 ohm	UJ	C2042	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2075	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ	C2043	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2076	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ	C2044	K40129004	AL. Electro. CAP.		16V	10uF	
R2077	J02225104	Carbon Film RES.	1/6W 100k ohm	UJ							
R2078	J01225682	Carbon Film RES.	1/6W 6.8k ohm	PJ	C2045	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2079	J01225182	Carbon Film RES.	1/6W 1.8k ohm	UJ	C2046	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2080	J01225272	Carbon Film RES.	1/6W 2.7k ohm	UJ	C2047	K10176561	Ceramic CAP.	B	50V	560pF	
R2081	J01225101	Carbon Film RES.	1/6W 100 ohm	UJ	C2048	K10176271	Ceramic CAP.	B	50V	270pF	
R2082	J02225152	Carbon Film RES.	1/6W 1.5k ohm	UJ	C2049	K10176102	Ceramic CAP.	B	50V	1000pF	
R2083	J01225332	Carbon Film RES.	1/6W 3.3k ohm	PJ	C2050	K10176101	Ceramic CAP.	B	50V	100pF	
R2084	J02225223	Carbon Film RES.	1/6W 22k ohm	UJ	C2051	K10176681	Ceramic CAP.	B	50V	680pF	
R2085	J02225104	Carbon Film RES.	1/6W 100k ohm	UJ	C2052	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2086	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ	C2053	K13179014	Ceramic CAP.	F	50V	0.0047uF	
R2087	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ	C2054	K00175270	Ceramic CAP.	SL	50V	27pF	
R2088	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ	C2055	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2089	J02225101	Carbon Film RES.	1/6W 100 ohm	UJ	C2056	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2090	J02225223	Carbon Film RES.	1/6W 22k ohm	UJ	C2057	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2091	J02225104	Carbon Film RES.	1/6W 100k ohm	UJ	C2058	K12171102	Ceramic CAP.	E	50V	1000pF	
R2092	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ	C2059	K12171102	Ceramic CAP.	E	50V	1000pF	
R2093	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ	C2060	K40129008	AL. Electro. CAP.		16V	33uF	
R2094	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ							
R2095	J02225101	Carbon Film RES.	1/6W 100 ohm	UJ	C2061	K12171102	Ceramic CAP.	E	50V	1000pF	
R2096	J02225223	Carbon Film RES.	1/6W 22k ohm	UJ	C2062	K02179001	Ceramic CAP.	CH	50V	1pF	
R2097	J02225104	Carbon Film RES.	1/6W 100k ohm	UJ	C2063	K05173080	Ceramic CAP.	RH	50V	8pF	
R2098	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ	C2064	K02175270	Ceramic CAP.	CH	50V	27pF	
R2099	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ	C2065	K02175150	Ceramic CAP.	CH	50V	15pF	
R2100	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ	C2066	K06175220	Ceramic CAP.	UJ	50V	22pF	
R2101	J02225101	Carbon Film RES.	1/6W 100 ohm	UJ	C2067	K02173100	Ceramic CAP.	CH	50V	10pF	
R2102	J02225223	Carbon Film RES.	1/6W 22k ohm	UJ	C2068	K40179013	AL. Electro. CAP.		50V	1uF	
R2103	J02225104	Carbon Film RES.	1/6W 100k ohm	UJ							
R2104	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ	C2069	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2105	J02225153	Carbon Film RES.	1/6W 15k ohm	UJ	C2070	K40129008	AL. Electro. CAP.		16V	33uF	
R2106	J02225103	Carbon Film RES.	1/6W 10k ohm	UJ							
R2107	J02225101	Carbon Film RES.	1/6W 100 ohm	UJ	C2071	K28129001	Ceramic CAP.	Y	16V	0.01uF	
R2108	J02225104	Carbon Film RES.	1/6W 100k ohm	UJ	C2072	K19149017	Ceramic CAP.		25V	0.022uF	
R2109	J02225101	Carbon Film RES.	1/6W 100 ohm	UJ	C2073	K19149019	Ceramic CAP.		25V	0.033uF	
R2110	J02225471	Carbon Film RES.	1/6W 470 ohm	UJ	C2074	K40129008	AL. Electro. CAP.		16V	33uF	
R2111	J02225681	Carbon Film RES.	1/6W 680 ohm	UJ							
R2112	J02225471	Carbon Film RES.	1/6W 470 ohm	UJ	C2075	K10176101	Ceramic CAP.	B	50V	100pF	
R2113	J02225100	Carbon Film RES.	1/6W 10 ohm	UJ	C2076	K10176101	Ceramic CAP.	B	50V	100pF	
R2114	J02225560	Carbon Film RES.	1/6W 56 ohm	UJ	C2077	K10176101	Ceramic CAP.	B	50V	100pF	
R2116	J02225471	Carbon Film RES.	1/6W 470 ohm	UJ	C2078	K19149005	Ceramic CAP.		25V	0.0022uF	
R2120	J01225560	Carbon Film RES.	1/6W 56 ohm	PJ	C2079	K12171102	Ceramic CAP.	E	50V	1000pF	
					C2080	K28129001	Ceramic CAP.	Y	16V	0.01uF	
TH2001	G9090008	Thermistor	11-2102-2		C2082	K28129001	Ceramic CAP.	Y	16V	0.01uF	
					C2084	K12171102	Ceramic CAP.	E	50V	1000pF	
C2001	K12171102	Ceramic CAP.	E	50V	1000pF	C2085	K12171102	Ceramic CAP.	E	50V	1000pF
C2002	K02175560	Ceramic CAP.	CH	50V	56pF	C2086	K02179001	Ceramic CAP.	CH	50V	1pF
C2003	K02175150	Ceramic CAP.	CH	50V	15pF	C2087	K02172020	Ceramic CAP.	CH	50V	2pF
C2004	K12171102	Ceramic CAP.	E	50V	1000pF	C2101	K10176101	Ceramic CAP.	B	50V	100pF
C2005	K02172059	Ceramic CAP.	CH	50V	0.5pF	C2102	K10176101	Ceramic CAP.	B	50V	100pF
C2006	K02175120	Ceramic CAP.	CH	50V	12pF	C2103	K10176101	Ceramic CAP.	B	50V	100pF
C2007	K28179001	Ceramic CAP.	B	50V	1000pF	C2104	K06179007	Ceramic CAP.	UJ	50V	36pF
C2008	K02172030	Ceramic CAP.	CH	50V	3pF	C2105	K06175390	Ceramic CAP.	UJ	50V	39pF
C2009	K12171102	Ceramic CAP.	E	50V	1000pF	C2106	K40129004	AL. Electro. CAP.		16V	10uF
C2010	K12171102	Ceramic CAP.	E	50V	1000pF						

PARTS LIST

C2107	K40129008	AL. Electro. CAP.		16V	33uF	T2004	L0021861	Coil		5.74MHz
C2108	K28129001	Ceramic CAP.	Y	16V	0.01uF	T2005	L0021380	Coil		0.40uH
C2109	K28129001	Ceramic CAP.	Y	16V	0.01uF	T2006	L0021860	Coil		0.45uH
C2111	K19149025	Ceramic CAP.		25V	0.1uF	T2007	L0021380	Coil		0.40uH
C2112	K40129038	AL. Electro. CAP.		16V	100uF	T2008	L0021380	Coil		0.40uH
C2113	K19149013	Ceramic CAP.		25V	0.01uF	T2009	L0021382	Coil		0.29uH
C2114	K12171102	Ceramic CAP.	E	50V	1000uF	J2001	P0090627	Connector		
C2115	K06179008	Ceramic CAP.	UJ	50V	43uF	J2002	P1090554	Connector		
C2116	K02173070	Ceramic CAP.	CH	50V	7uF	J2003	P1090594	Connector		
C2117	K06172050	Ceramic CAP.	UJ	50V	5uF		T9317814	Wire ASSY	P2001	
C2118	K06175330	Ceramic CAP.	UJ	50V	33uF		T9317813	Wire ASSY	P2002	
C2119	K06175150	Ceramic CAP.	UJ	50V	15uF		T9317812	Wire ASSY	P2003	
C2120	K12171102	Ceramic CAP.	E	50V	1000uF					
C2121	K12171102	Ceramic CAP.	E	50V	1000uF		R0124120	VCO Case		
C2122	K40129008	AL. Electro. CAP.		16V	33uF		R0124130	VCO Cover		
C2123	K06175470	Ceramic CAP.	UJ	50V	47pF		R0124140A	Shield Plate		
C2124	K06172050	Ceramic CAP.	UJ	50V	5pF		R0124150A	Shield Plate		
C2125	K05175330	Ceramic CAP.	RH	50V	33pF		R0124160B	Shield Plate		
C2126	K02173100	Ceramic CAP.	CH	50V	10pF		R0123770	Ground Lead		
C2127	K12171102	Ceramic CAP.	E	50V	1000pF		R0125800	Leaf Spring		
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	L1190024	M. RFC			220uH					
L2003	L1190038	M. RFC			270uH					
L2004	L1190005	M. RFC			1uH					
L2010	L1190029	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	D3001	G2090118	Diode	1SS97	
T2002	L0021862	Coil			44.6MHz	D3002	G2090375	Diode	GL-9PR4	
T2003	L0021862	Coil			44.6MHz	D3005	G2090408	Diode	1SS270	

REAR PANEL CONTROLS & CONNECTORS



(1) CAR ADJ Potentiometers

These (recessed) trimmer capacitors set the IF passband center offset from the carrier. They are aligned at the factory and should not be adjusted without proper test equipment. The procedure is described in the "FT-747GX Technical Supplement".

(2) +13.5V

This phono jack provides 13.5V DC at up to 200 mA for powering accessories. The center contact is positive.

Note: Repairs to damage caused by exceeding the current capabilities of the accessory DC jack may not be covered by the warranty.

(3) EXT SP (External Speaker)

This 1/8-inch 2-conductor mini phone jack provides amplified receiver output to drive an external 4- to 16-ohm loudspeaker.

(4) KEY

This 1/4-inch 2-conductor phone jack accepts a CW key or external electronic keyer. Open circuit voltage is +13V DC and closed circuit current is 0.7 to 1 mA.

