VHF & UHF BAND MODULE INSTALLATION IN THE FT-767GX AMATEUR TRANSCEIVER

This procedure describes the installation procedure for any or all of the FEX-767-6 (6m), FEX-767-2 (2m) or FEX-767-7 (70cm) Band Modules in the Yaesu FT-767GX Transceiver. Each Module consists of linear converters and RF amplifiers for transmit and receive, controlled by the frequency synthesizer in the Transceiver. Power output is ten watts in all modes except AM (2.5W). Full specifications and operating instructions are provided in the FT-767GX Operating Manual.

Two versions of the 70cm Band Module are available: one for 430 to 440 MHz, and another for 440 to 450 MHz operation. Only one 70cm Module may be installed in the FT-767GX at a time (in the 70cm location).

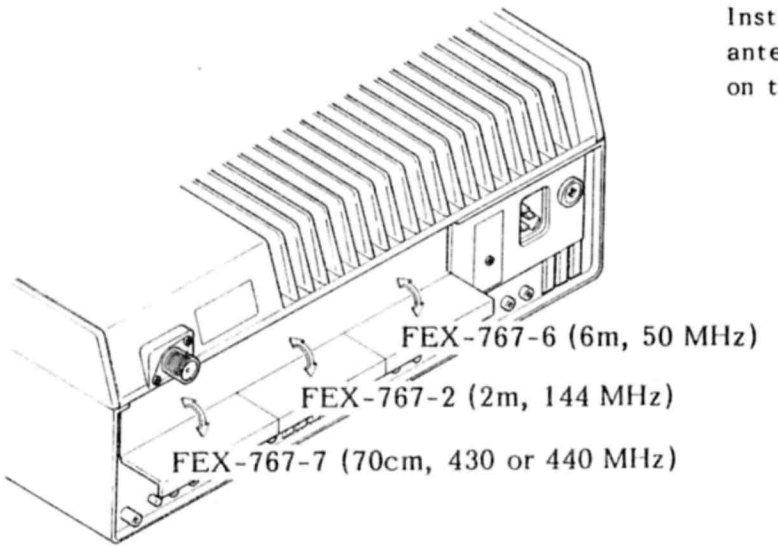
Before installing or removing Band Modules, disconnect the AC power cord from the rear panel of the transceiver.

(1) Referring to Figure 1, note the installation locations for each of the Band Modules: these are <u>not</u> interchangeable! Each band must be installed only in the location shown. Open the black plastic protective cover over the location(s) which will have modules installed, and tear off the cover after flexing the hinge at the lower edge back and forth several times. If some modules are not being installed, leave the covers at those locations in place.

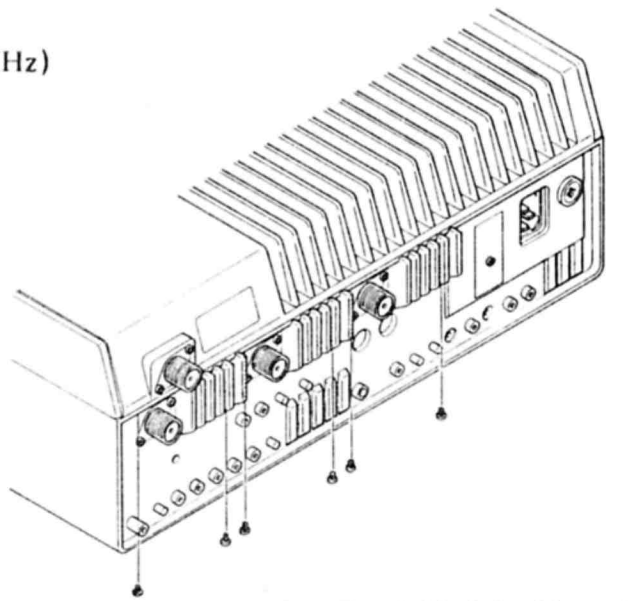
(2) Referring to Figure 2, position (each) Band Module so that the antenna jack is oriented as shown (nearest the HF antenna jack on the transceiver heatsink), and carefully slide each Module straight in so that the circuit board edge connector on the Module mates with the connector inside the transceiver.

(3) Set the transceiver on its side, and install the two screws for each Module shown in Figure 2.

Installation is now complete. Make sure the antenna(s) you use are designed for operation on the 6m, 2m or 70cm amateur bands.



<u>Figure 1.</u> Band Module Locations



<u>Figure 2.</u> Band Module Mounting

YAESU MUSEN CO., LTD.
C.P.O. BOX 1500,
TOKYO, JAPAN

FEX-767-6 6m BAND MODULE

6m LOCAL UNIT

All measurements and adjustments are to be made while receiving unless otherwise stated.

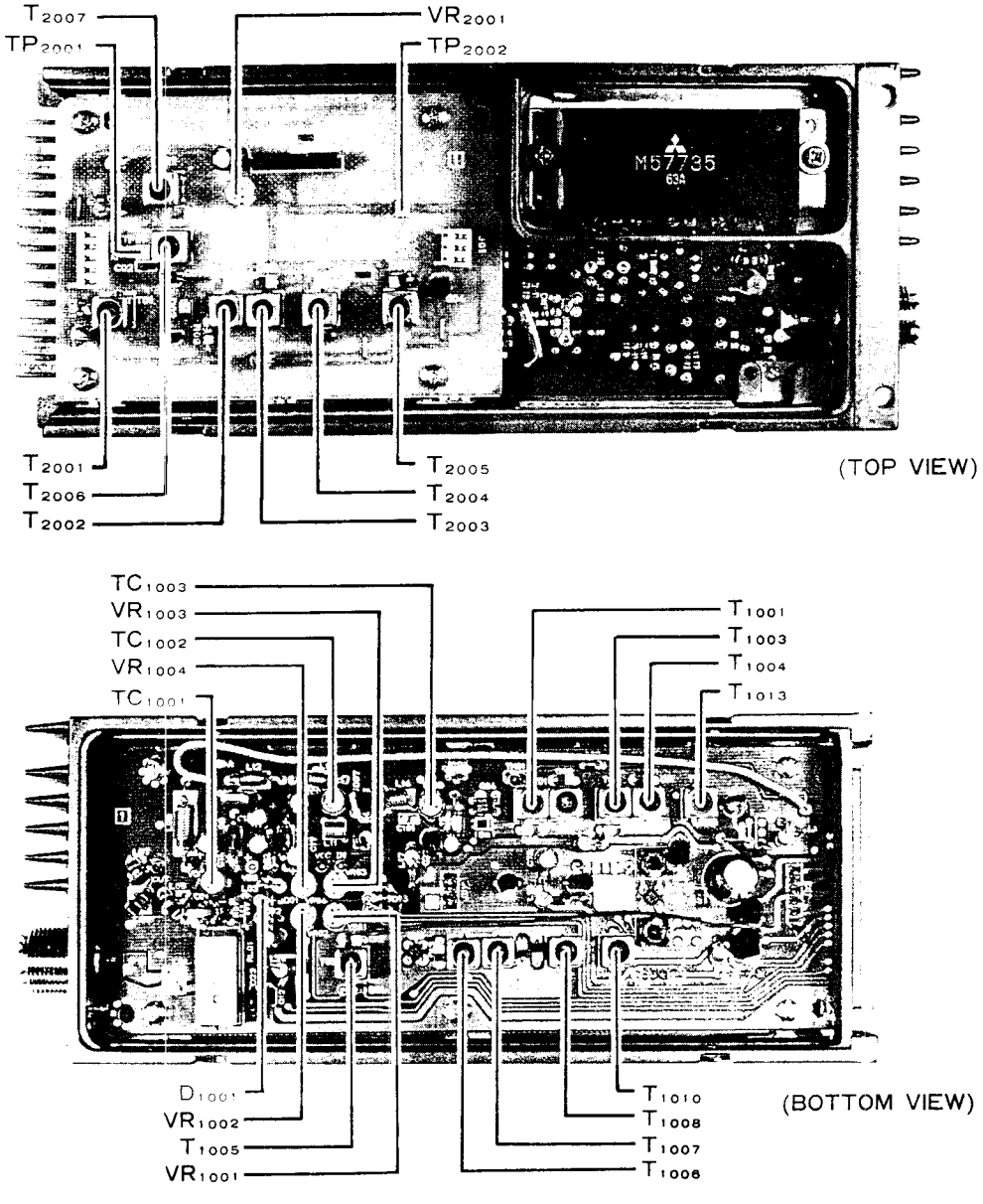
(1) VCV (Varactor Control Voltage)
Tune to 50.5 MHz, and connect the high impedance DC voltmeter to TP2002. Adjust VR2001, if necessary, for 2.0 ±0.2V.

(2) 30 MHz Doubler
Tune the transceiver to 52.0 MHz. Connect the RF voltmeter to TP2001 and adjust T2007 and T2006 for maximum RF (at least 80 mVrms).

(3) Local Output Filters
Tune the transceiver to 51.5 MHz. Connect the RF voltmeter to pin 3 of J2001 and adjust T2001 through T2005 for maximum RF (at least 600 mVrms).

6m RECEIVING CONVERTER

(1) 6m Front End
Tune the transceiver to 50.5 MHz, USB mode. Inject a 60 dBu carrier at the receiving frequency to the 6m ANT jack and adjust T1013, T1008, T1007, T1006 and T1005 for maximum S-meter deflection.



FEX-767-6 Alignment Points

(2) 45 MHz Trap Coil
After the above step, retune the RF signal generator to 45.03 MHz and inject 90 dBu to the 6m ANT jack. Adjust T1010 for minimum S-meter deflection, and then repeat the previous step to realign T1008.

6M TRANSMITTING CONVERTER

Connect a 50-ohm dummy load and in-line wattmeter to the 6m ANT jack for all steps, except where indicated otherwise. Press the MOX button for all measurements.

(1) 6m Resonant Circuits
Tune the transceiver to 50.5 MHz, FM mode, and set the METER selector to ALC and the DRIVE control to the center of its range. Press the MOX button and adjust T1001 and T1004 for maximum ALC indication.

Retune to 51.8 MHz, press the MOX button and adjust T1002 and T1003 for maximum ALC indication. Now retune to 51.5 MHz, press the MOX button and adjust TC1003 and TC1002 for maximum ALC indication.

(2) 6m Directional CM Coupler Balance
Connect the DC voltmeter to the cathode of D1001 (top end), press the MOX button and adjust TC1001 for minimum voltage.

(3) 6m ALC Level
Tune to 52.0 MHz, FM mode, and set the DRIVE control fully clockwise. Press the MOX button and adjust VR1001 for 12W on the wattmeter. Now remove the dummy load and wattmeter, press the MOX button, and adjust VR1003 for 5W on the transceiver's digital wattmeter.

(4) Digital Wattmeter and SWR Meter
Replace the dummy load and wattmeter at the 6m ANT jack. In the FM mode, press the MOX button and adjust the DRIVE control for 10W on the external wattmeter. Press the RF PWR button and MOX button adjust VR1002 for the same indication on the digital display.

Now connect a 150-ohm dummy load (3 50-ohm loads in series) to the 6m ANT jack. Press the SWR button and the MOX button, and adjust VR1004 for 3.0 on the digital display.

FEX-767-2 2m BAND MODULE

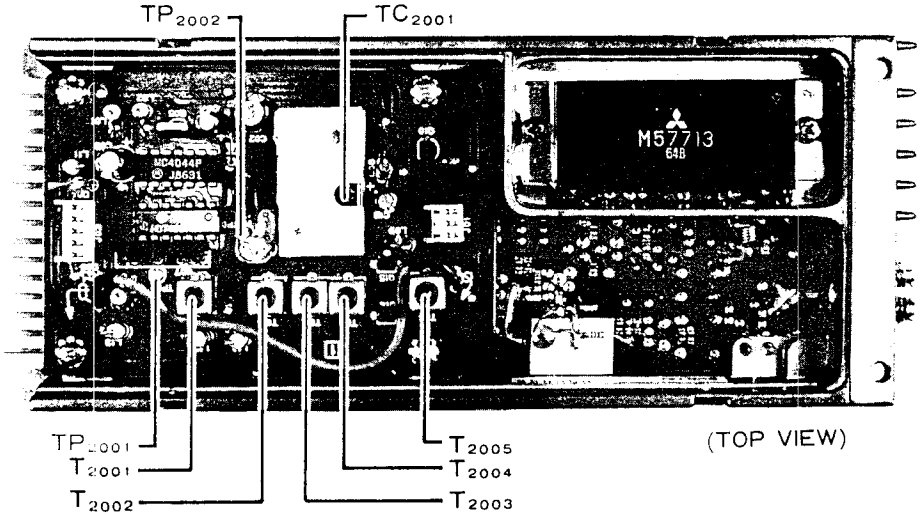
Band center for Version B is 145.0 MHz, and for Version A, 146.0 MHz. The high band edge for for Version B is 146.999 MHz, and for Version A, 147.999 MHz.

2m LOCAL UNIT

All measurements and adjustments are to be made while receiving unless otherwise stated.

(1) VCV (Varactor Control Voltage)
Tune to the high band edge, and connect the high-impedance DC voltmeter to TP2002. Adjust TC2001 for 6.5V (Version A), or 5V (Version B). Retune to 144.0 MHz and confirm 3 to 4V.

(2) 120 MHz Mixer, Loop Amplifier
Tune the transceiver to band center. Connect the oscilloscope or spectrum analyzer to TP2001 and adjust T2001 through T2005 for maximum RF (at least 250 mVrms). Caution: make



FEX-767-2 Alignment Points

sure that the signal tuned is at 120 MHz, and not a spurious mixer product.

2m RECEIVING CONVERTER

Tune the transceiver to band center, USB mode. Inject a 60 dBu carrier at the receiving frequency to the 2m ANT jack and adjust T1013, T1008, T1007, T1006 and T1005 for maximum S-meter deflection.

TRANSMITTING CONVERTER

Connect a 50-ohm dummy load and in-line wattmeter to the 2m ANT jack for all steps, except where indicated otherwise. Press the MOX button for all measurements.

(1) 2m Resonant Circuits

Tune the transceiver to band center, FM mode. Set the METER selector to ALC and DRIVE control to the center of its range. Preset VR1001 and VR1003 to mid-range. Press the MOX button and adjust T1004, T1003, T1002 and T1001 for maximum ALC indication. Perform the following two procedures to align VR1001 and VR1003.

(2) 2m Directional CM Coupler Balance

Connect the DC voltmeter to the cathode of D1001 (top end), press the MOX button and adjust TC1001 for minimum voltage.

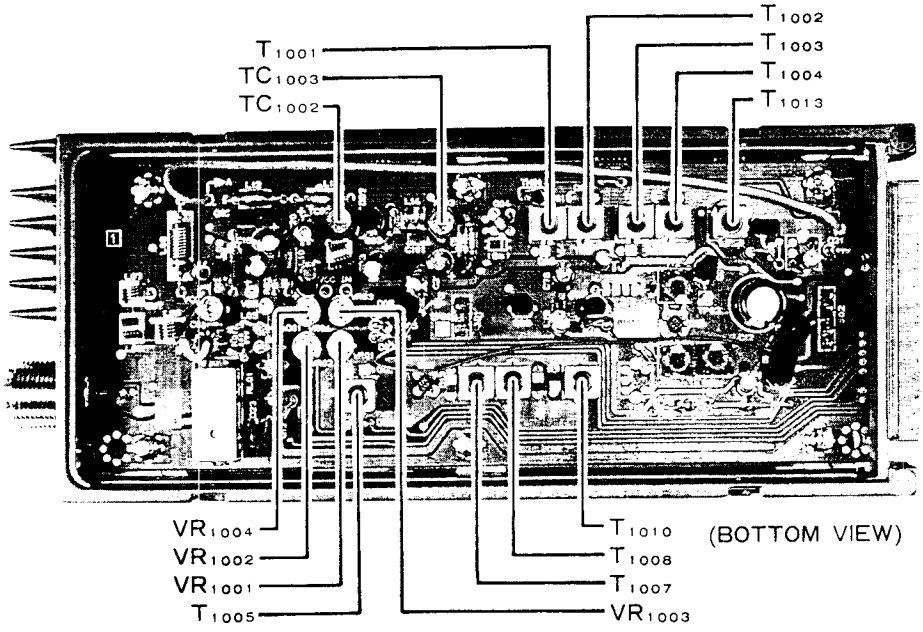
(3) 2m ALC Level

Tune to band center, FM mode, and set the DRIVE control fully clockwise. Press the MOX button and adjust VR1001 for 12W on the wattmeter. Now replace the 50-ohm dummy load with 150 ohms. Press the MOX button and adjust VR1003 to the point where the wattmeter indication just begins to drop.

(4) Digital Wattmeter and SWR Meter

Return the 50-ohm dummy load to the 2m ANT jack. In the FM mode, press the MOX button and adjust the DRIVE control for 10W on the external wattmeter. Press the RF PWR button and adjust VR1002 for the same indication on the digital display.

Remove the dummy load and wattmeter from the 2m ANT jack. Press the SWR button and the MOX button, and adjust VR1004 for a 8 or more on the digital display. Then replace the 50-ohm load again and confirm 1.2 or less SWR on the digital display.



FEX-767-2 Alignment Points

FEX-767-7 70cm BAND MODULE

Band center for Version B is 435.0 MHz, and for Version A, 445.0 MHz. The high band edge for for Version B is 449.999 MHz, and for Version A, 439.999 MHz. The low band edge for Version B is 430.00 MHz, and for Version A, 440.00 MHz.

70cm PLL UNIT

All measurements and adjustments are to be made while receiving unless otherwise stated.

(1) VCV (Varactor Control Voltage)
Tune to the low band edge, and connect the high-impedance DC voltmeter to TP2001. Adjust TC2001 for 2.0V. Retune to the high band edge and confirm 4.5 to 5.5 V.

(2) Local Bandpass
Tune to band center. Connect the RF voltmeter to pin 2 of J01 and adjust both sides of CV2001 and CV2002 for maximum deflection (at least 280 mVrms).

(3) 410 MHz Loop Amplifier
Connect the RF voltmeter to the top end of R2017 and adjust both sides of CV2003 and CV2004 for maximum RF voltage. Now turn the cores 180° clockwise from the maximum position, and confirm at least 80 mVrms remains.

70cm RECEIVING CONVERTER

Tune the transceiver to band center, USB mode. Inject a 60 dBu carrier at the receiving frequency to the 70cm ANT jack and adjust TC1001 and TC1003 for maximum S-meter deflection.

Now tune the transceiver and signal generator to the high band edge and adjust CV1003(b) and CV1004(b) for maximum S-meter deflection.

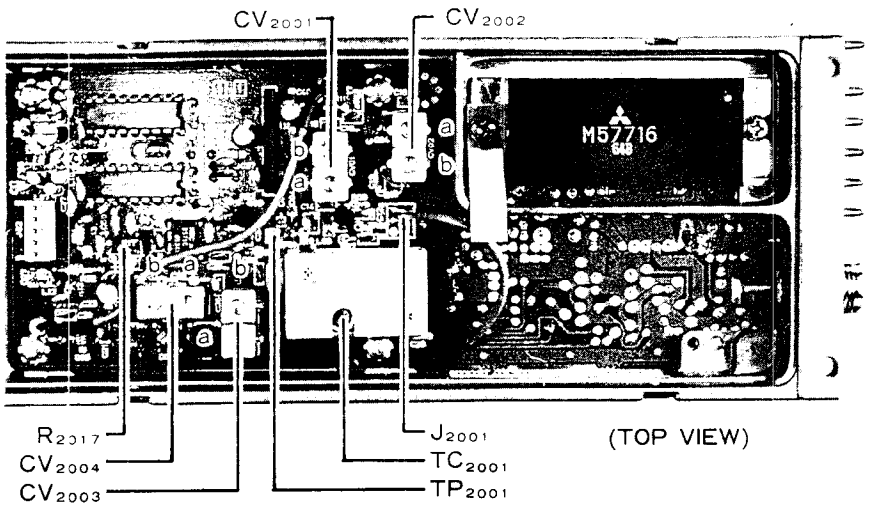
Retune to 500 kHz above the low band edge and adjust CV1003(a) and CV1004(a) for maximum S-meter deflection.

Repeat adjustment of the helical resonators several times.

70cm TRANSMITTING CONVERTER

Connect a 50-ohm dummy load and in-line wattmeter to the 70cm ANT jack for all steps, except where indicated otherwise. Press the MOX button for all measurements.

(1) 70cm Resonant Circuits
Tune the transceiver to band center, FM mode, and set the METER selector to ALC and the DRIVE control to the center of its range. Preset VR1002 fully counterclockwise, and VR1004 to mid-range.



FEX-767-7 Alignment Points

Press the MOX button and adjust both sides of CV1002 and CV1001, and then TC1002 and TC1001 for maximum ALC indication.

Retune to the low band edge, press the MOX button and readjust CV1002(b) for maximum ALC. Then retune to the high band edge, press the MOX button and readjust CV1002(a) for maximum ALC. Repeat at the low and high band edges several times.

Perform the following two procedures to align VR1002 and VR1004.

(2) 70cm Directional CM Coupler Balance

Connect the DC voltmeter to the cathode of D1002 (top end), press the MOX button and adjust VR1001 for minimum voltage (less than 0.5V).

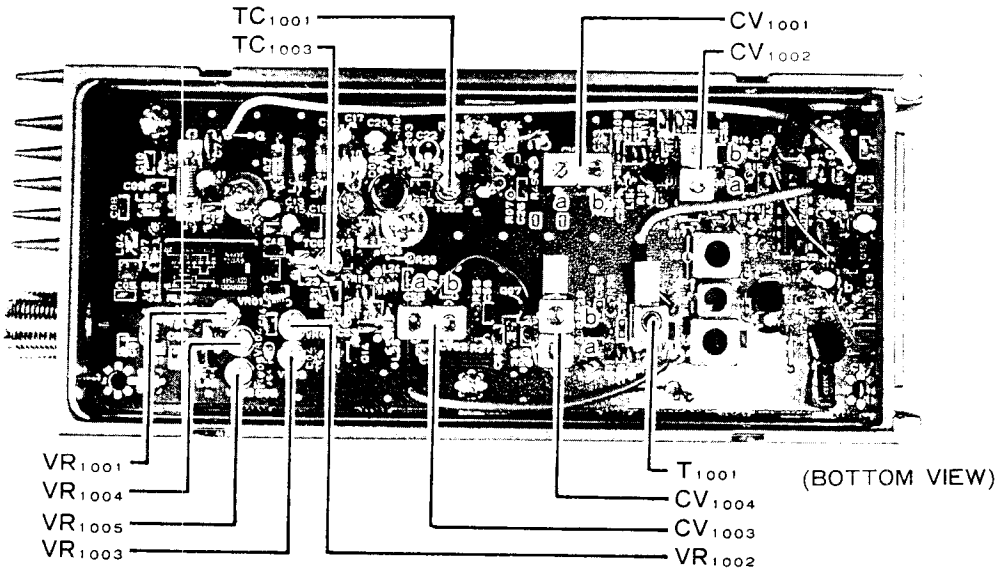
(3) 70cm ALC Level

Tune to band center, FM mode, and set the DRIVE control fully clockwise. Press the MOX button and adjust VR1004 for 12W on the wattmeter. Now replace the 50-ohm dummy load with 150 ohms. Press the MOX button and adjust VR1002 to the point where the wattmeter indication just begins to drop.

(4) Digital Wattmeter and SWR Meter

Return the 50-ohm dummy load to the 70cm ANT jack. In the FM mode, press the MOX button and adjust the DRIVE control for 10W on the external wattmeter. Press the RF PWR button and adjust VR1005 for the same indication on the digital display.

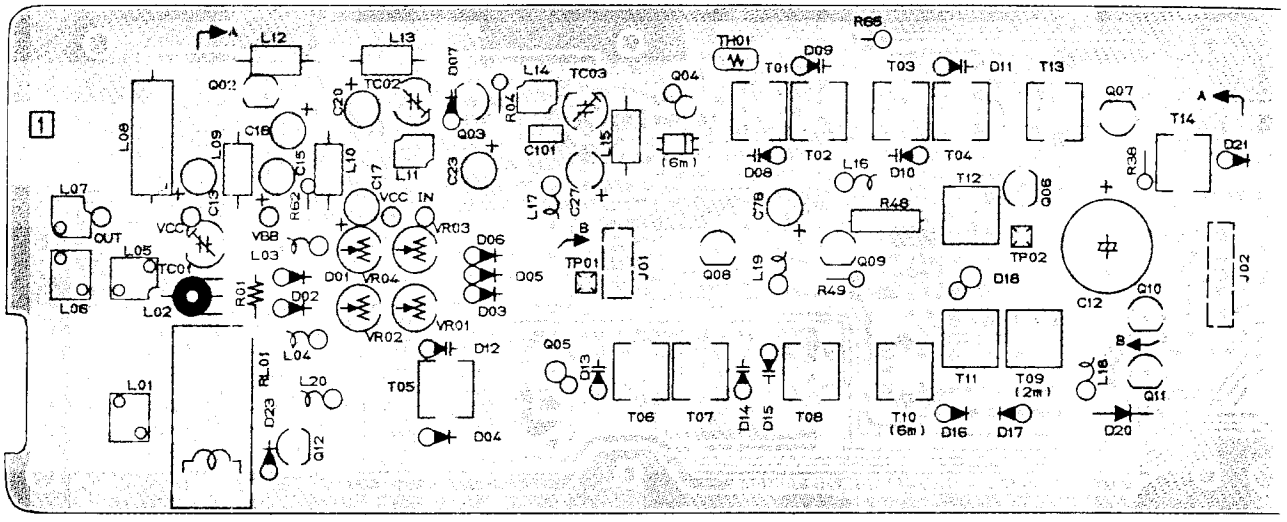
Connect the 150-ohm dummy load in place of the 50-ohm load to the 70cm ANT jack. Press the SWR button and the MOX button, and adjust VR1003 for 3.0 on the digital display.



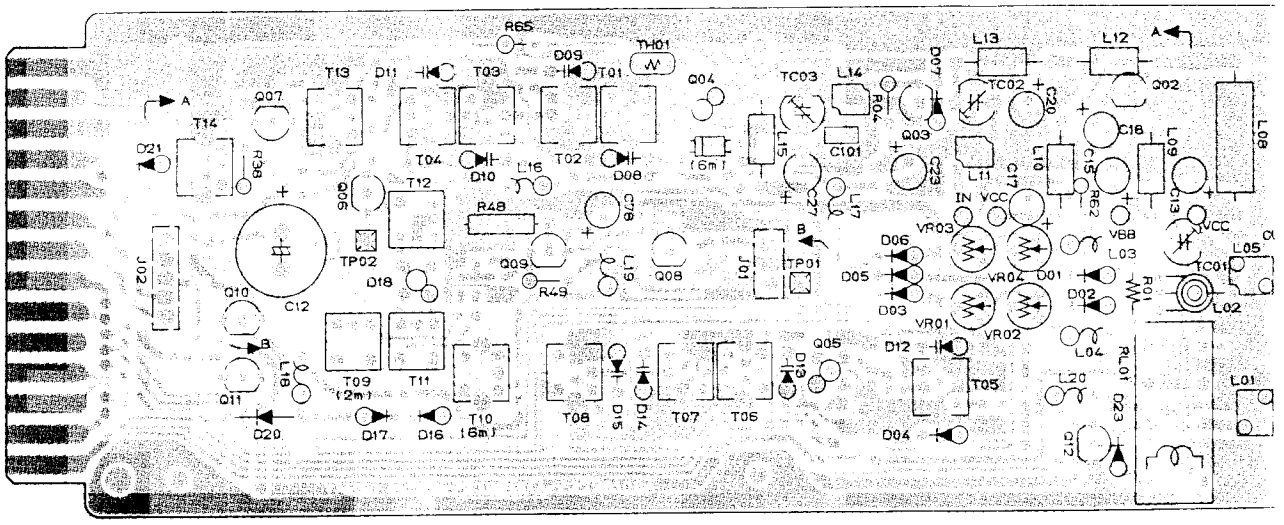
FEX-767-7 Alignment Points

MEMO

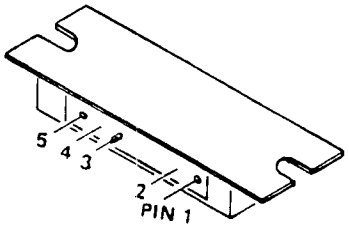
MAIN UNIT



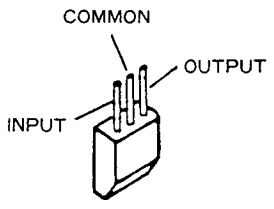
(Obverse view of "component" side)



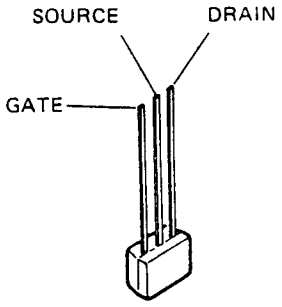
(Reverse view of "component" side)



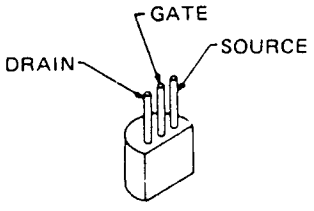
M57735 (Q1001)



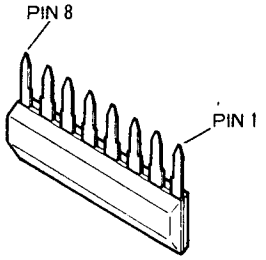
μPC78L08 (Q1002)



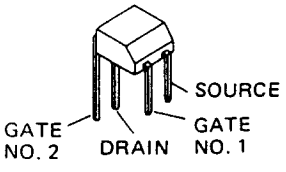
2SK241Y (Q2001,2002)



2SK125 (Q1006)



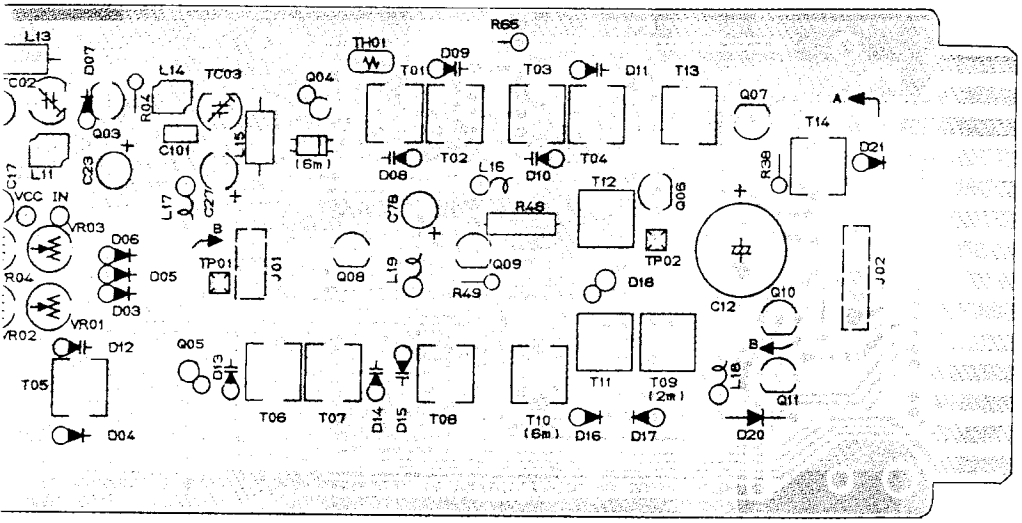
M5218L (Q2006)

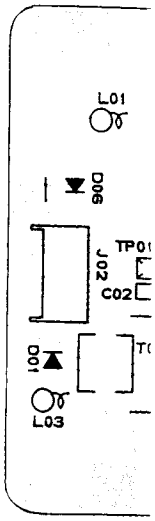


3SK73Y (Q1004)

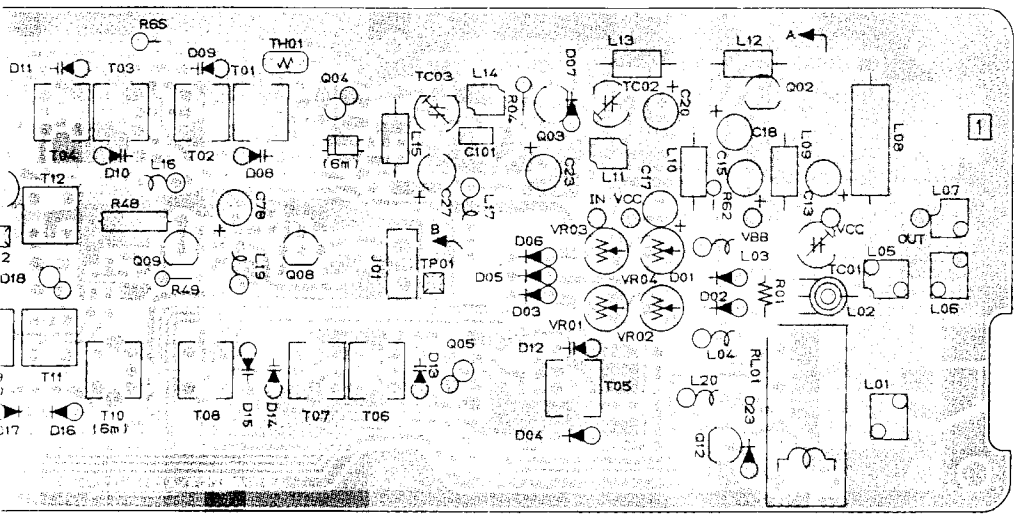
FEX-767-6 PARTS LAYOUT

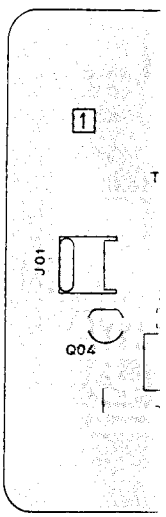
MAIN UNIT



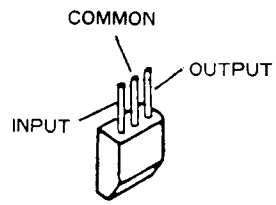


(Obverse view of "component" side)

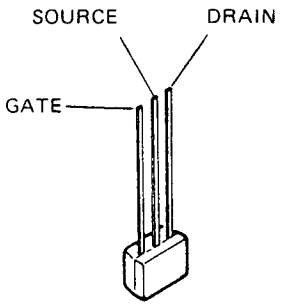




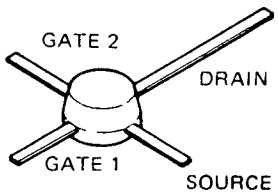
(Reverse view of "component" side)



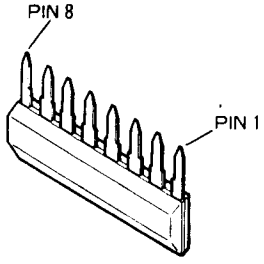
μPC78L08 (Q1002)



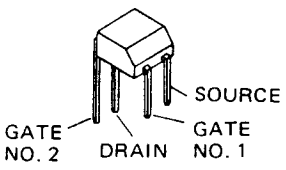
2SK241Y (Q2001,2002)



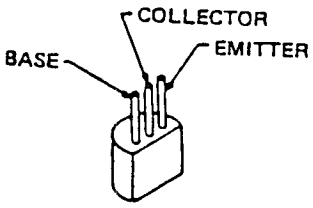
3SK74Y (Q1005)



M5218L (Q2006)



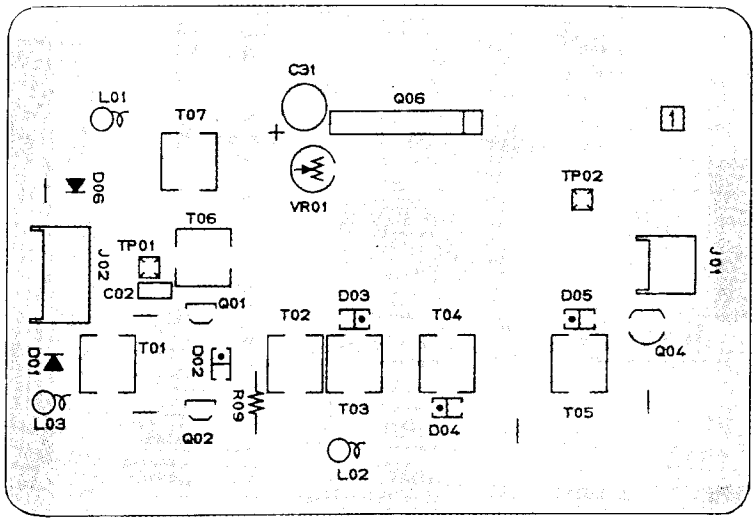
3SK73Y (Q1004)



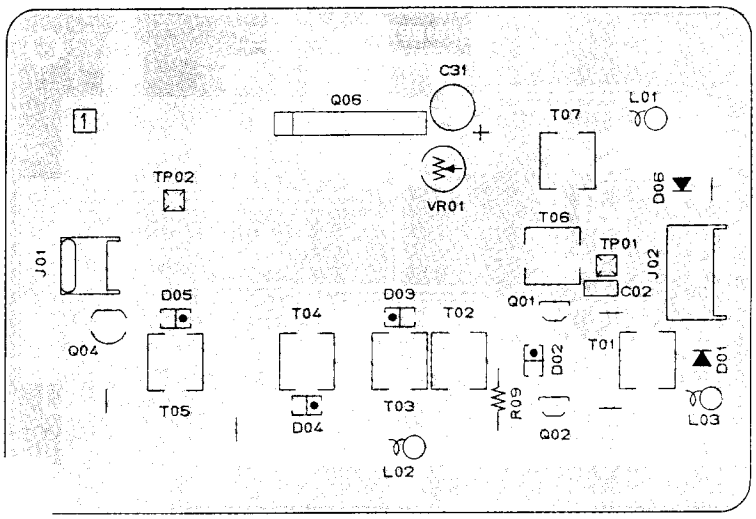
2SA684 (Q1010,Q1011)

6 PARTS LAYOUT

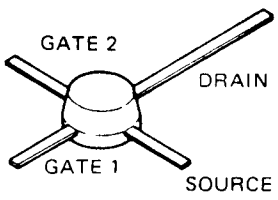
LOCAL UNIT



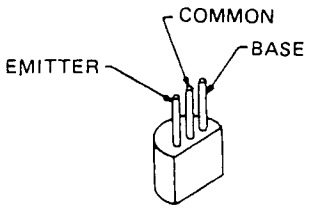
(Obverse view of "component" side)



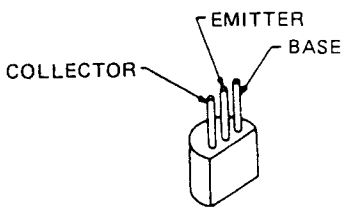
(Reverse view of "component" side)



3SK74Y (Q1005)



2SC2053 (Q1003)



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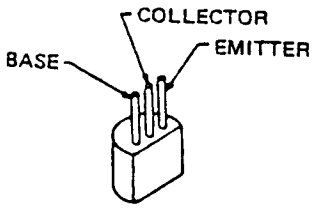
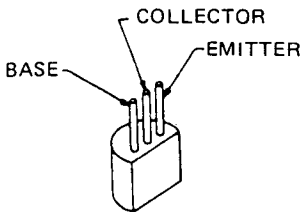
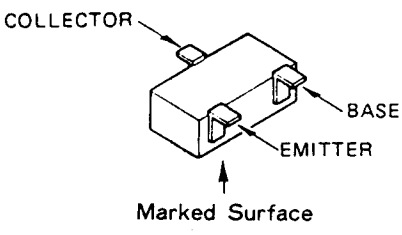
2SC2407A (Q1009)



2SA684 (Q1010,Q1011)

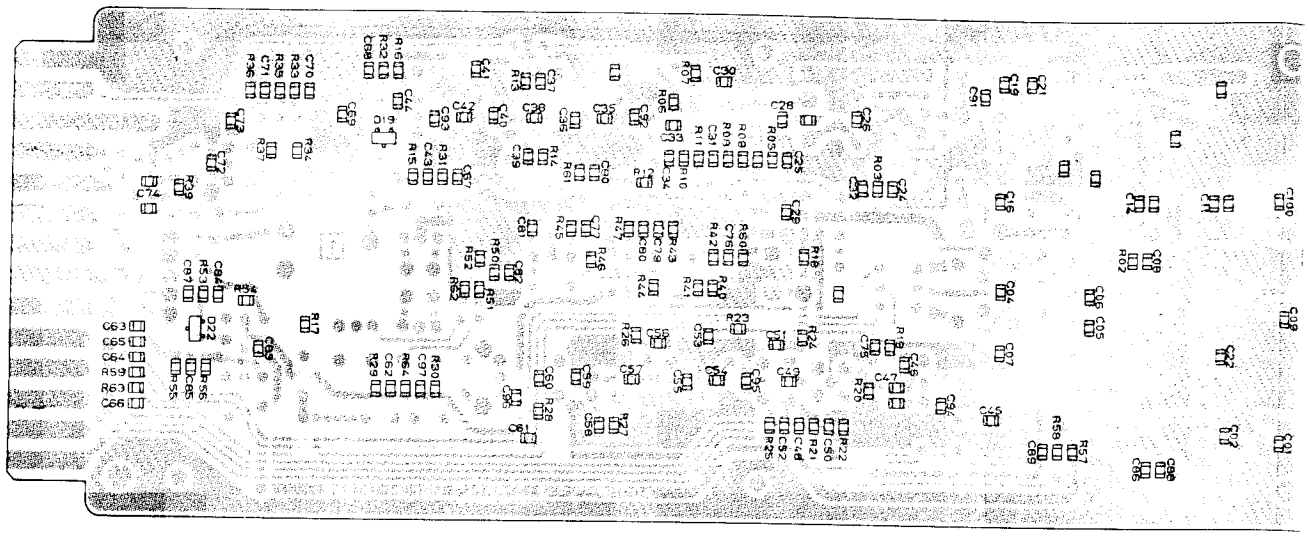


2SC535B (Q1007)
2SC19230 (Q2004)
2SC2001 (Q1012)

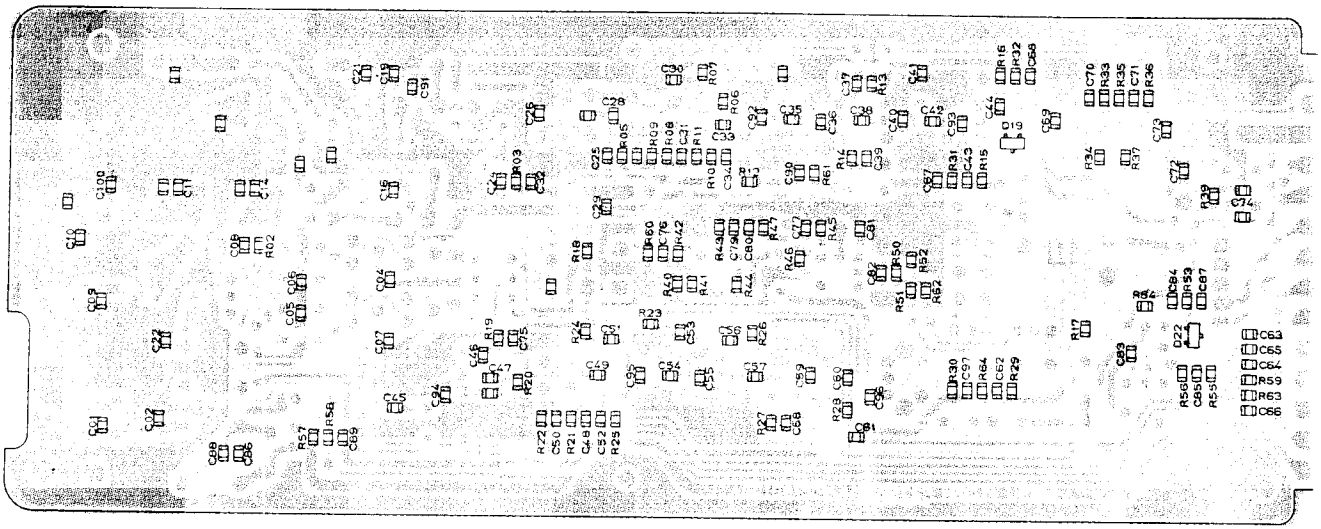


2SC2620QB (Q2003)
2SC1623 (Q2005)

MAIN UNIT



(Obverse view of "chip-only" side)



(Reverse view of "chip-only" side)

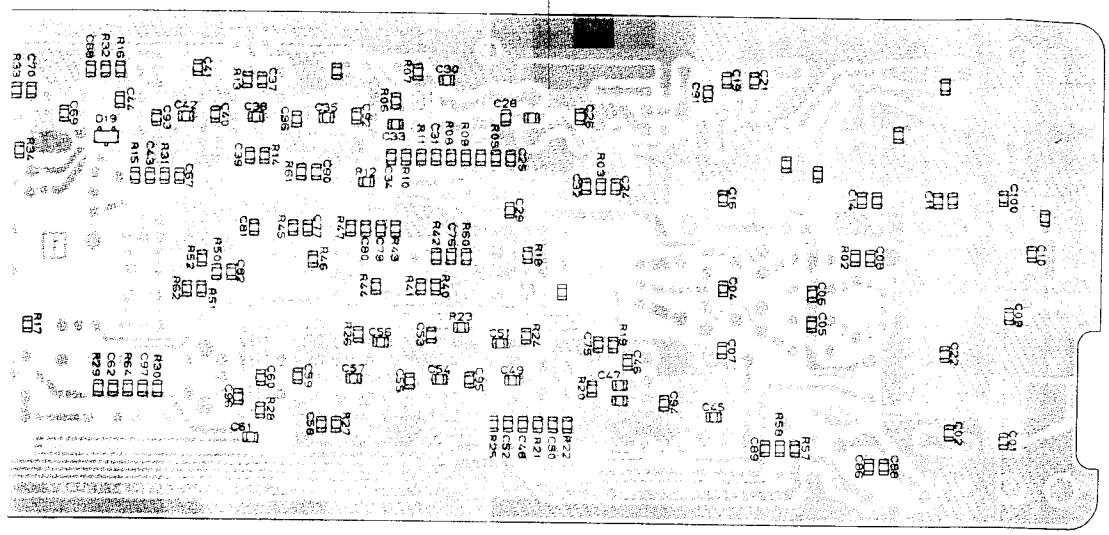
FEX-767-6 VOLTAGE CHART

(DC VOLTS)

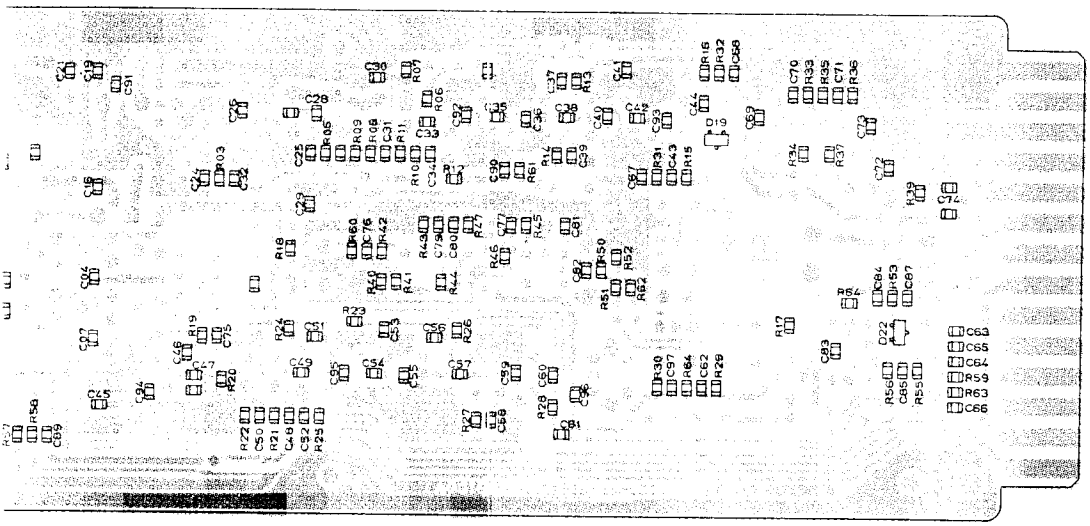
	E	(S)	C	(D)	B	(G_1)	(G_2)		REMARKS
	R	T	R	T	R	T	R	T	
Q1002	IN 0.4	11.3	GND 0	0	OUT 0	8.0			
Q1003	0	0	13.3	13.3	0.7	0.7			
Q1004	0.4	1.1	0	12.2	1.6	1.6	2.5	2.5	
Q1005	1.3	0	12.4	0	1.4	0	2.5	2.5	
Q1006	1.6	1.6	11.5	11.3	0	0			
Q1007	2.3	0	13.0	0	3.1	0			
Q1008	6.5	6.5	11.6	11.6	7.2	7.2			
Q1009	5.5	5.5	10.5	10.5	6.2	6.2			
Q1010	13.1	13.1	13.0	13.0	12.3	12.3			MODE USB
Q1011	9.0	9.0	9.0	9.0	8.3	8.3			
Q1012	0	0	13.0	0	0	0.7			
Q2001	0.6		8.9		0				
Q2002	0.6		8.9		0				
Q2003	2.1		8.7		2.8				
Q2004	2.1		6.4		2.8				
Q2005	1.4		8.6		2.1				

FEX-767-6 PARTS LAYOUT

MAIN UNIT



(Obverse view of "chip-only" side)



(Reverse view of "chip-only" side)

FEX-767-6 VOLTAGE CHART

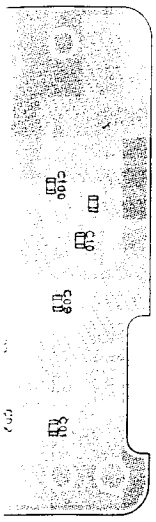
(DC VOLTS)

	E	(S)	C	(D)	B	(G_1)	(G_2)		REMARKS
	R	T	R	T	R	T	R	T	
02	IN 0.4	11.3	GND 0	0	OUT 0	8.0			MODE USB
03	0	0	13.3	13.3	0.7	0.7			
04	0.4	1.1	0	12.2	1.6	1.6	2.5	2.5	
05	1.3	0	12.4	0	1.4	0	2.5	2.5	
06	1.6	1.6	11.5	11.3	0	0			
07	2.3	0	13.0	0	3.1	0			
08	6.5	6.5	11.6	11.6	7.2	7.2			
09	5.5	5.5	10.5	10.5	6.2	6.2			
10	13.1	13.1	13.0	13.0	12.3	12.3			
11	9.0	9.0	9.0	9.0	8.3	8.3			
12	0	0	13.0	0	0	0.7			
01	0.6		8.9		0				
02	0.6		8.9		0				
03	2.1		8.7		2.8				
04	2.1		6.4		2.8				
05	1.4		8.6		2.1				

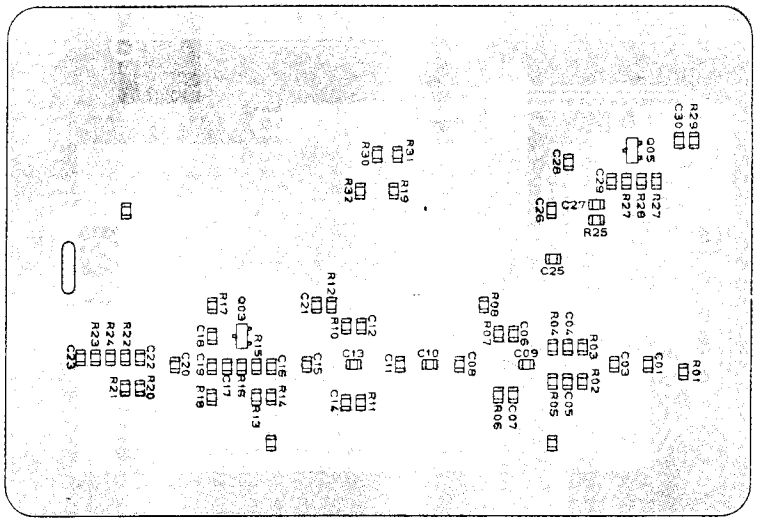
PIN No.	
Q1001	RX
	TX
Q2006	

6 PARTS LAYOUT

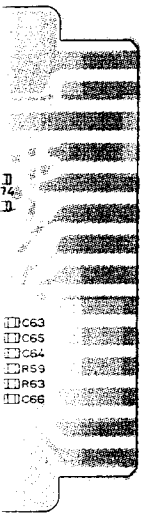
LOCAL UNIT



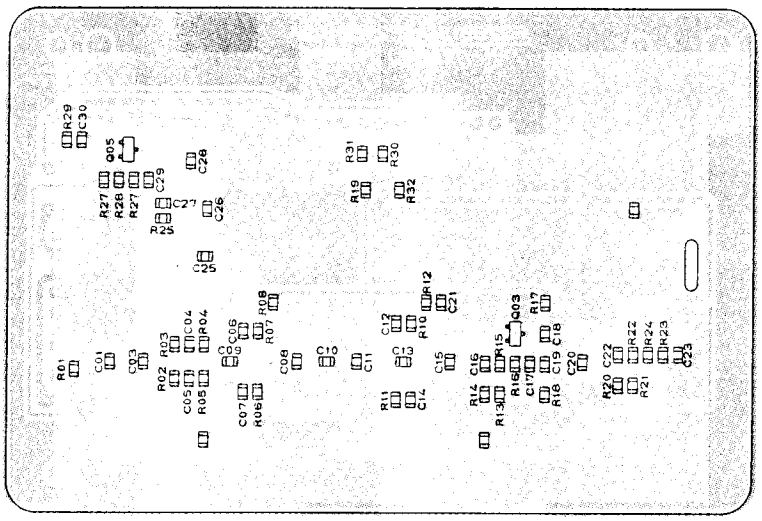
de)



(Obverse view of "chip-only" side)



de)



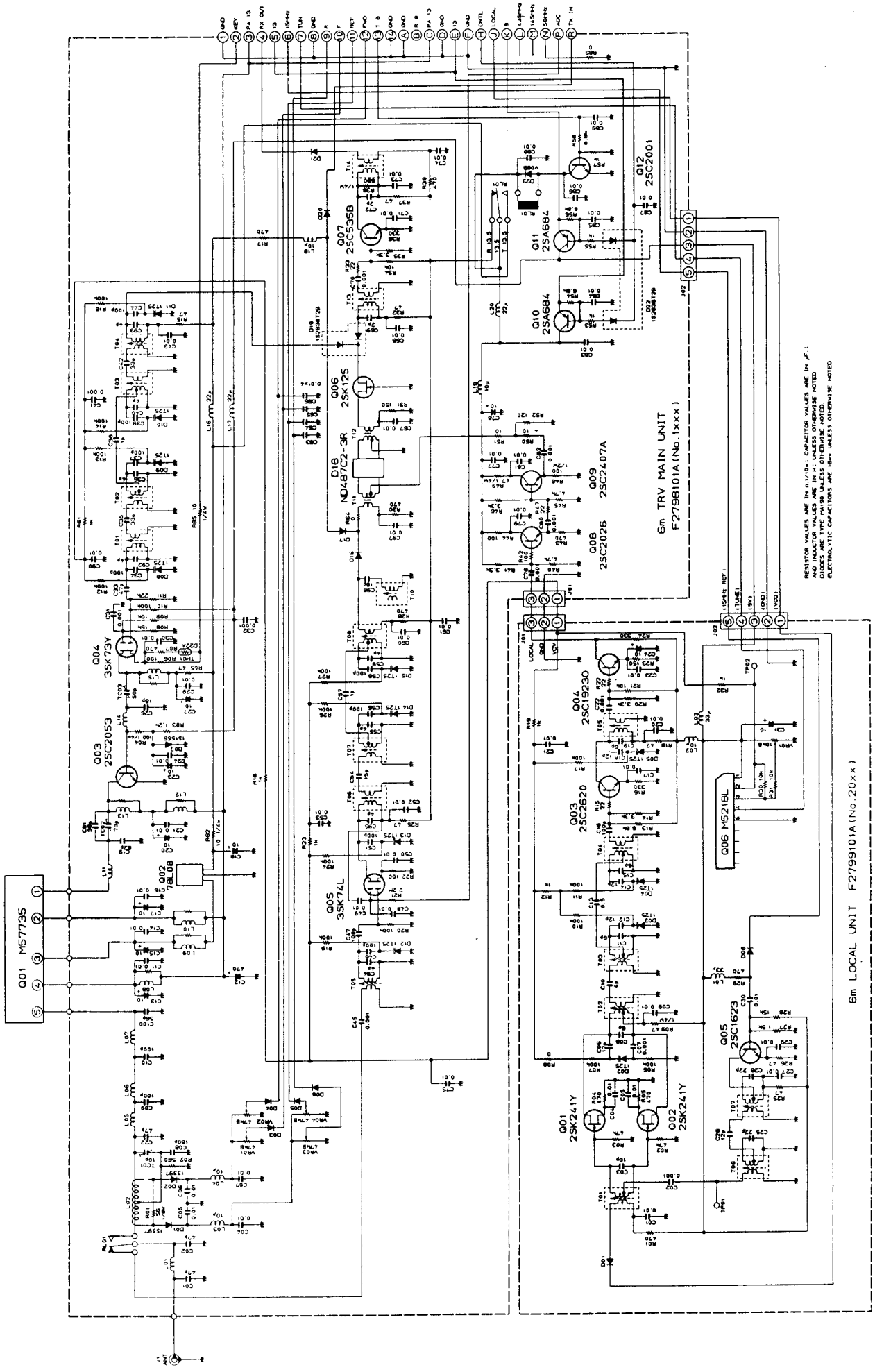
(Reverse view of "chip-only" side)

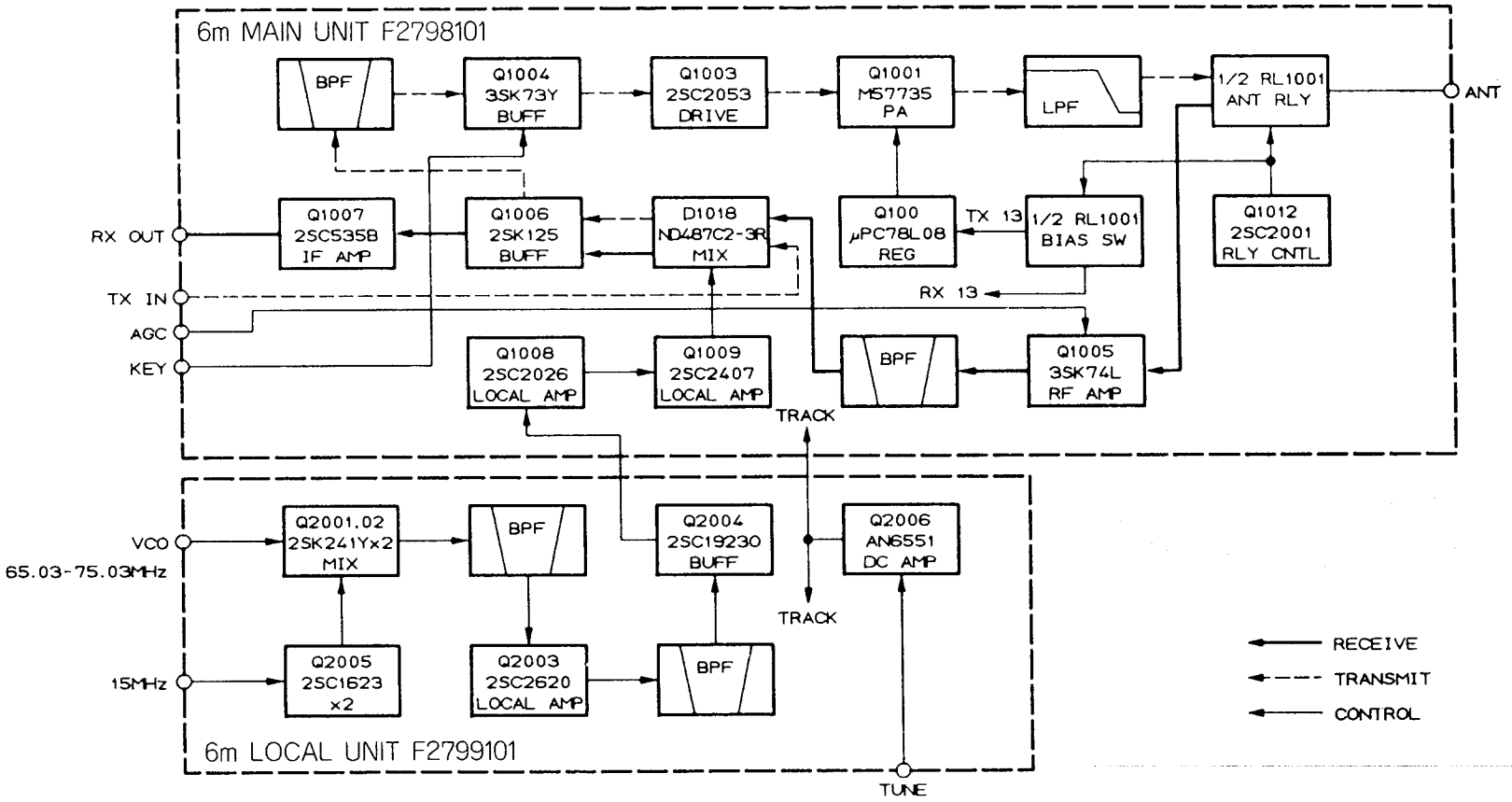
FEX-767-6 IC VOLTAGE CHART

(DC VOLTS)

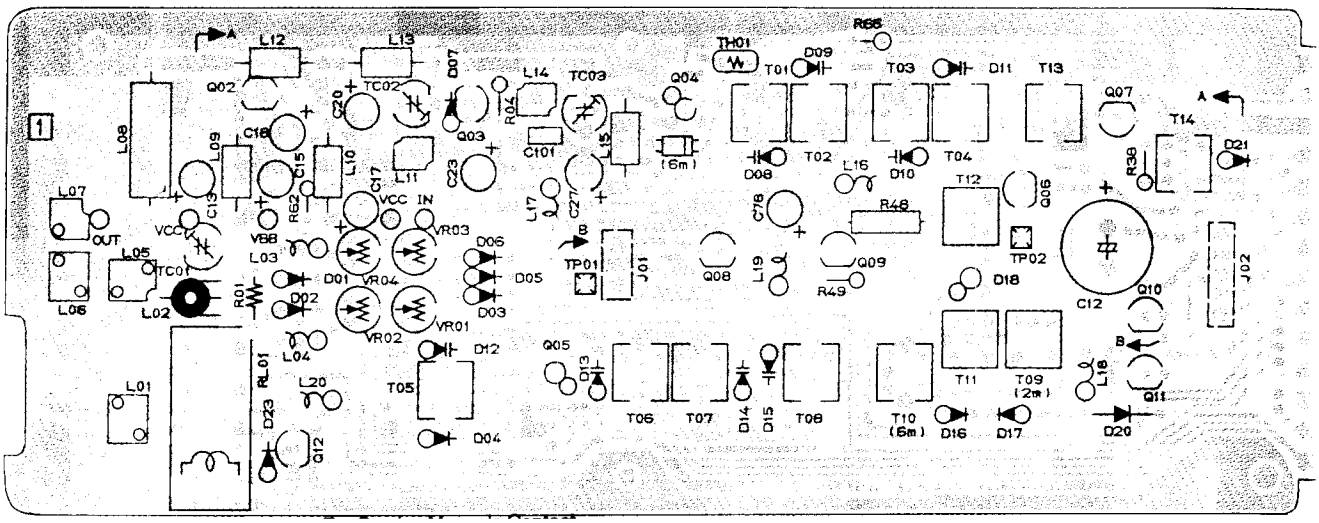
PIN No.		1	2	3	4	5	6	7	8	REMARKS
Q1001	RX	—	13.3	0	13.3	—				MODE USB
	TX	—	13.3	8.0	13.3	—				
Q2006		—	—	—	0	—	—	—	9.0	

FEX-767-6 CIRCUIT DIAGRAM

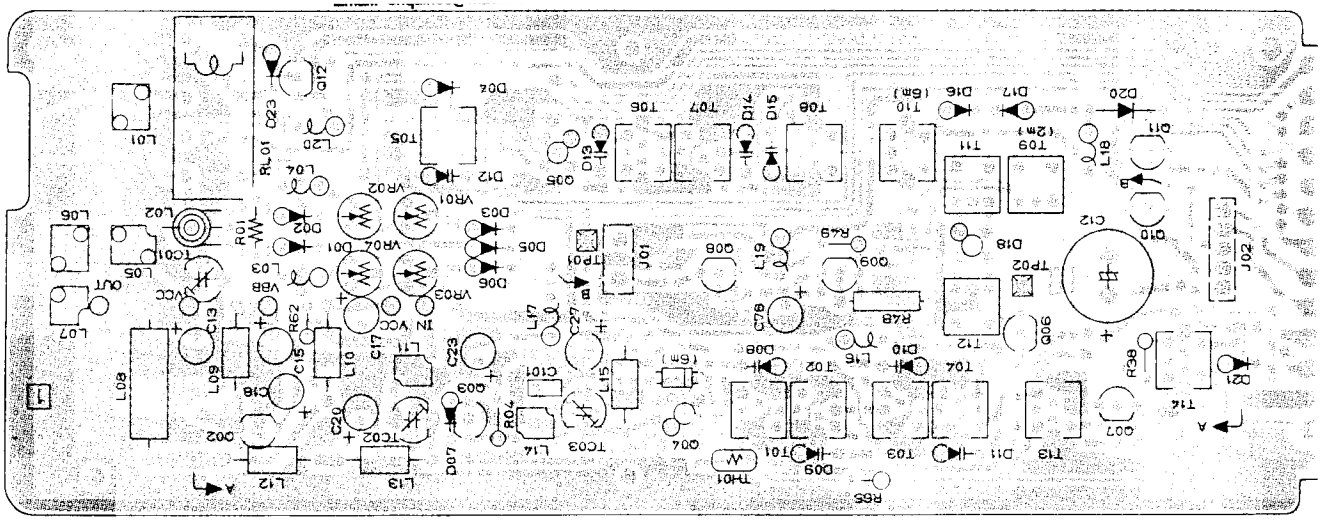



6m MAIN UNIT F2798101
BPF
Q1004
3SK73Y
BUFF
Q1003
2SC2053
DRIVE
Q1001
MS7735
PA
LPF
1/2 RL1001
ANT RLY
ANT
RX OUT
Q1007
2SC535B
IF AMP
Q1006
2SK125
BUFF
D1018
ND487C2-3R
MIX
Q100
μPC78L08
REG
TX 13
1/2 RL1001
BIAS SW
Q1012
2SC2001
RLY CNTL
TX IN
RX 13
AGC
KEY
Q1008
2SC2026
LOCAL AMP
Q1009
2SC2407
LOCAL AMP
BPF
Q1005
3SK74L
RF AMP
TRACK
VCO
65.03-75.03MHz
Q2001.02
2SK241Yx2
MIX
BPF
Q2004
2SC19230
BUFF
Q2006
AN6551
DC AMP
TRACK
15MHz
Q2005
2SC1623
x2
Q2003
2SC2620
LOCAL AMP
BPF
6m LOCAL UNIT F2799101
TUNE
RECEIVE
TRANSMIT
CONTROL

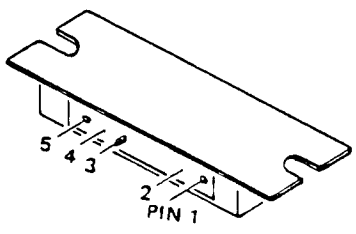
MAIN UNIT



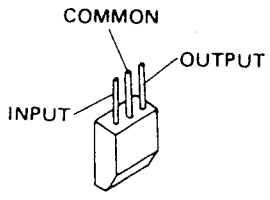
(Obverse view of "component" side)



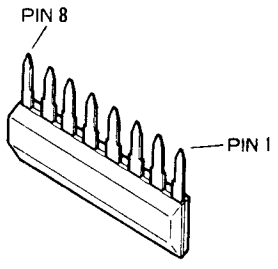
(Reverse view of "component" side)



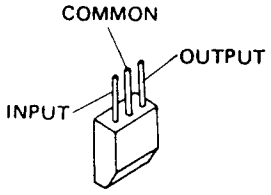
M57713 (Q1001)



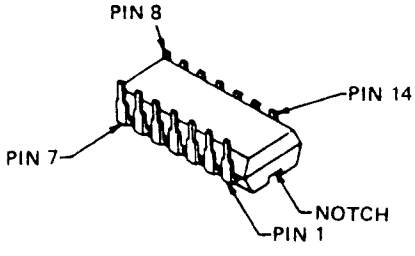
μPC78L05 (Q2005)



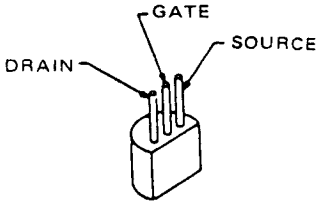
M54455L (Q2007)



μPC78L08 (Q1002)



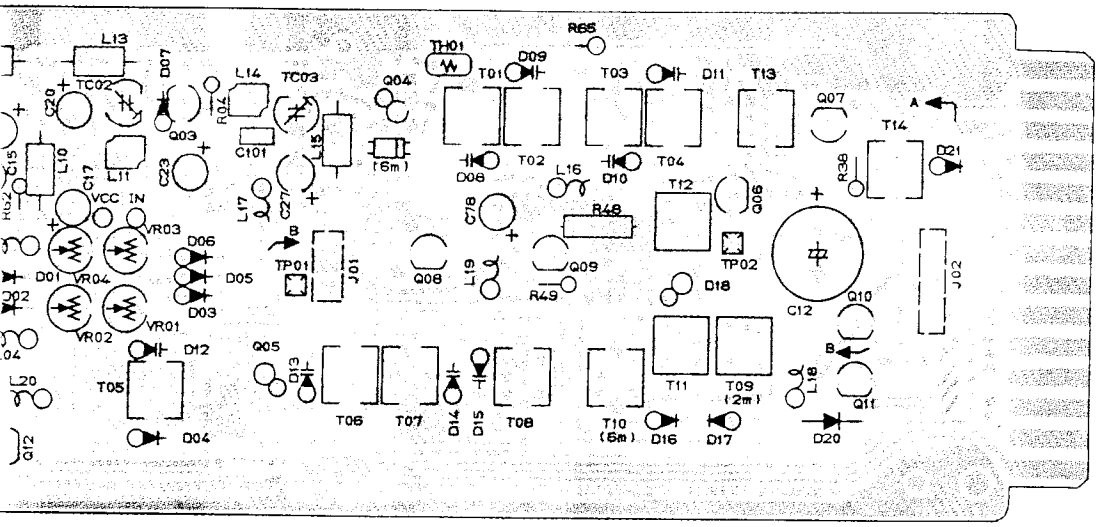
MC4044P (Q2004)
SN74LS73N (Q2006)



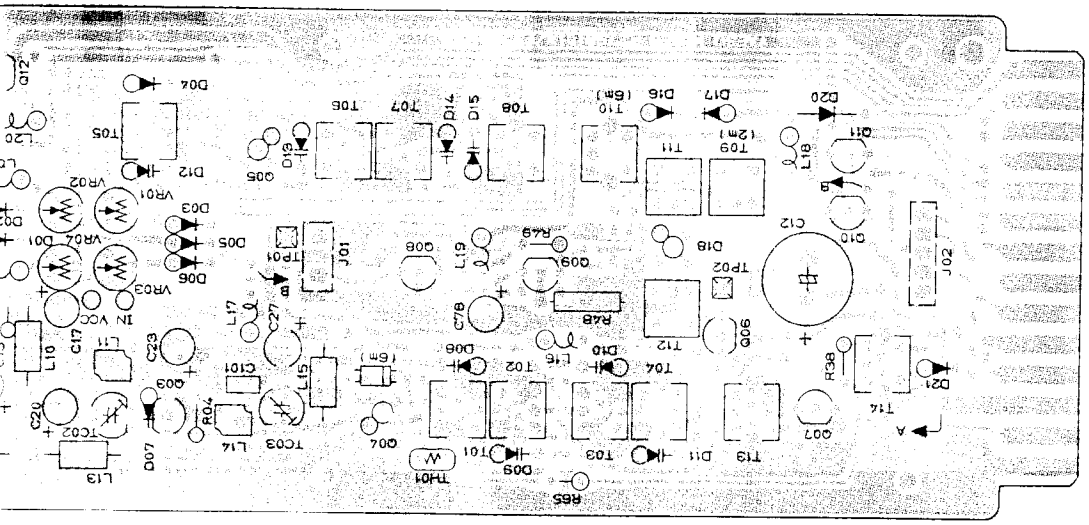
2SK125 (Q1006)

FEX-767-2 PARTS LAYOUT

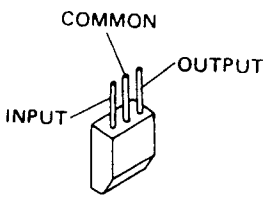
MAIN UNIT



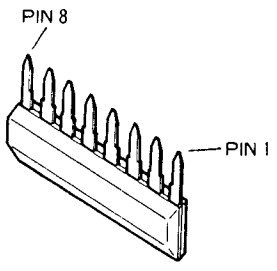
(Obverse view of "component" side)



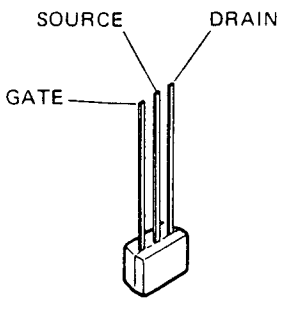
(Reverse view of "component" side)



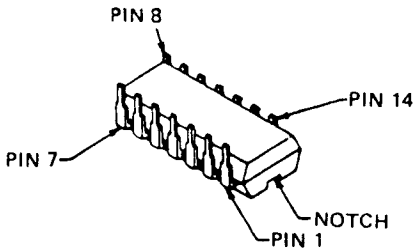
μPC78L05 (Q2005)



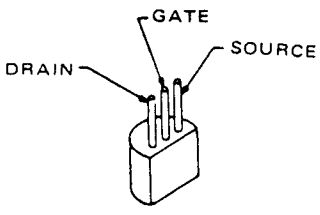
M54455L (Q2007)



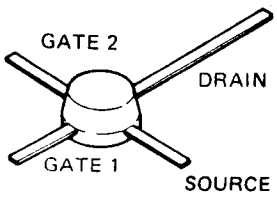
2SK241Y (Q2014,2015)



MC4044P (Q2004)
SN74LS73N (Q2006)



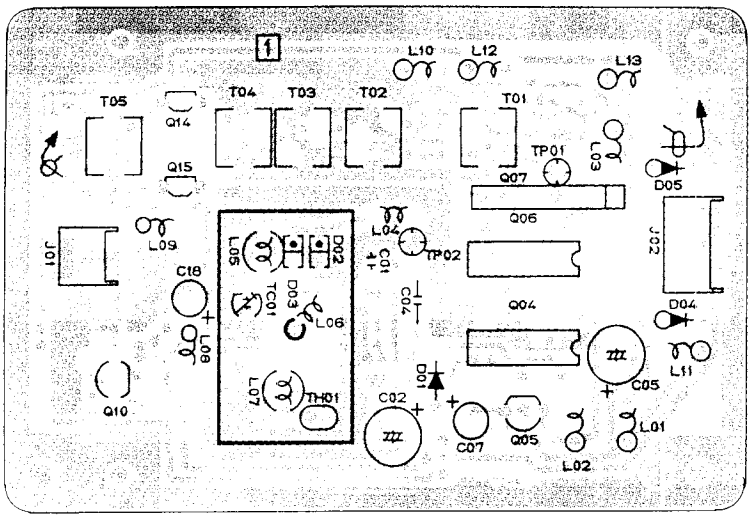
2SK125 (Q1006)



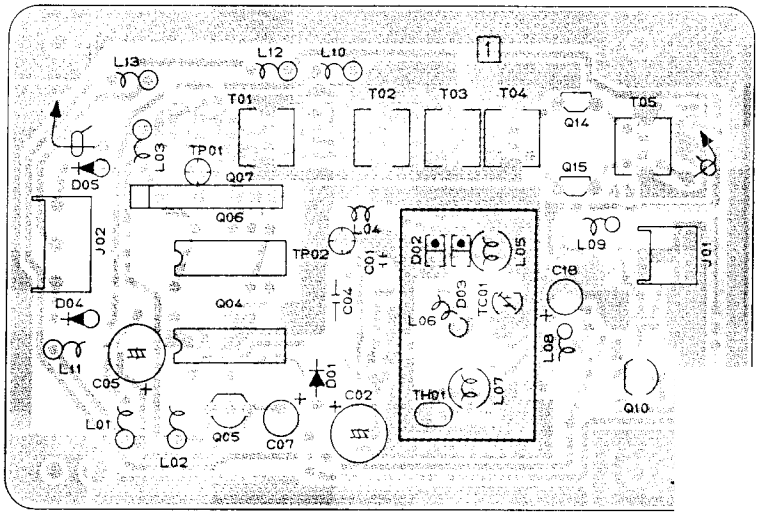
3SK74Y (Q1005)
3SK82 (Q1004)

-2 PARTS LAYOUT

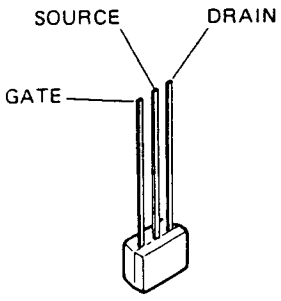
PLL LOCAL UNIT



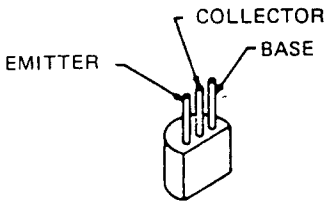
(Obverse view of "component" side)



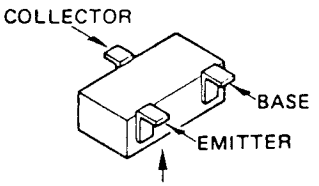
(Reverse view of "component" side)



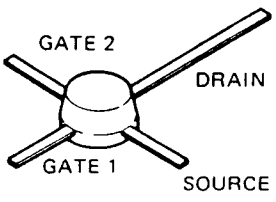
2SK241Y (Q2014,2015)



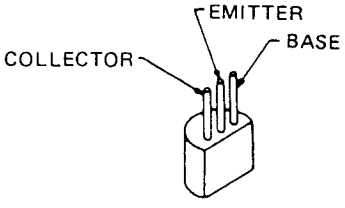
2SA684 (Q1010,1011)
2SC535B (Q1007)
2SC2001 (Q1012)
2SC2407A (Q1009)



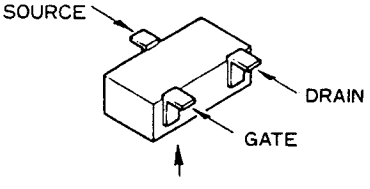
Marked Surface
2SC2620QB (Q2012,2013,2016)
2SC2712GR (Q2001-2003)



3SK74Y (Q1005)
3SK82 (Q1004)

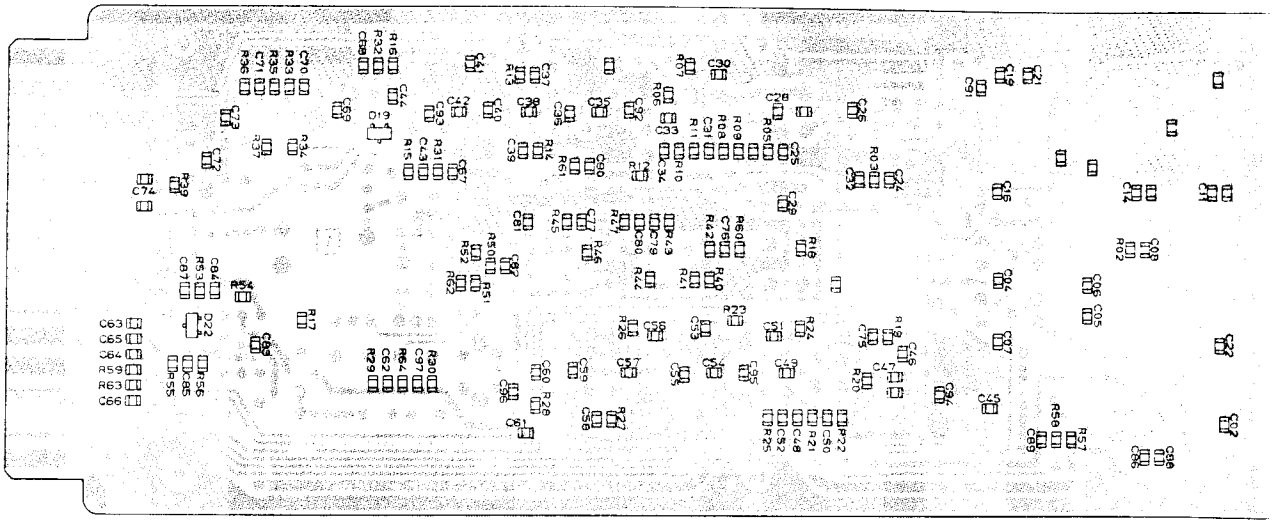


2SC2026 (Q1008)
2SC2538 (Q1003)

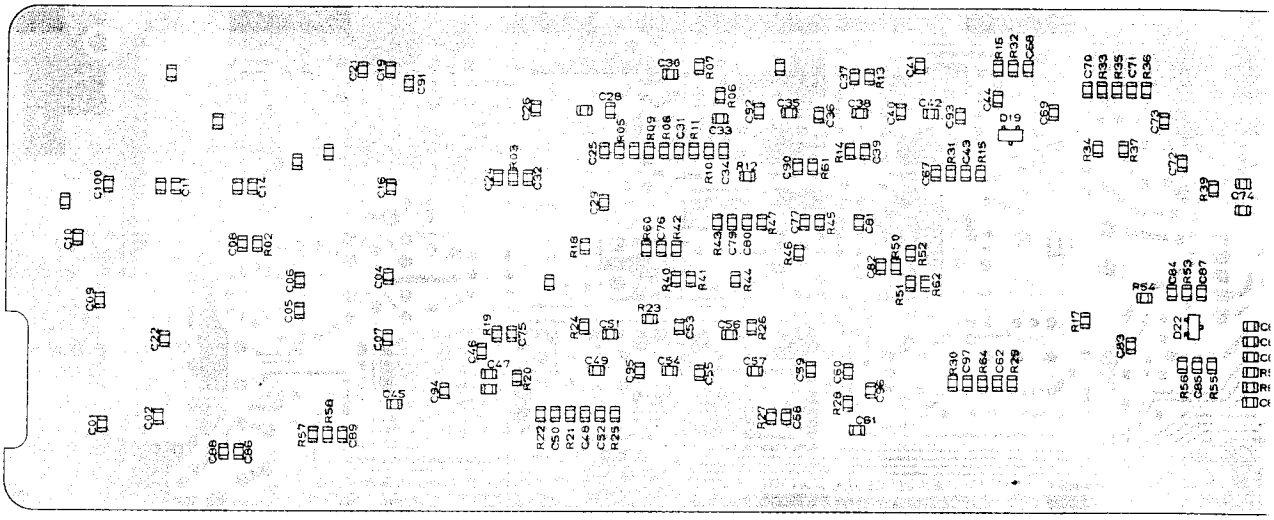


Marked Surface
2SK302Y (Q2008,2009,2011)

MAIN UNIT



(Obverse view of "chip-only" side)



(Reverse view of "chip-only" side)

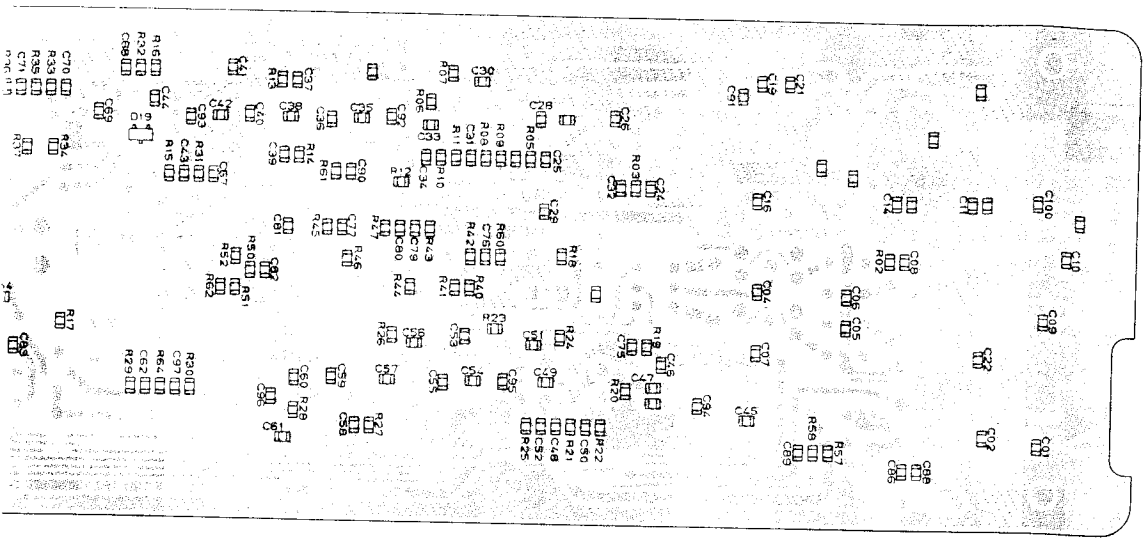
FEX-767-2 VOLTAGE CHART

(DC VOLTS)

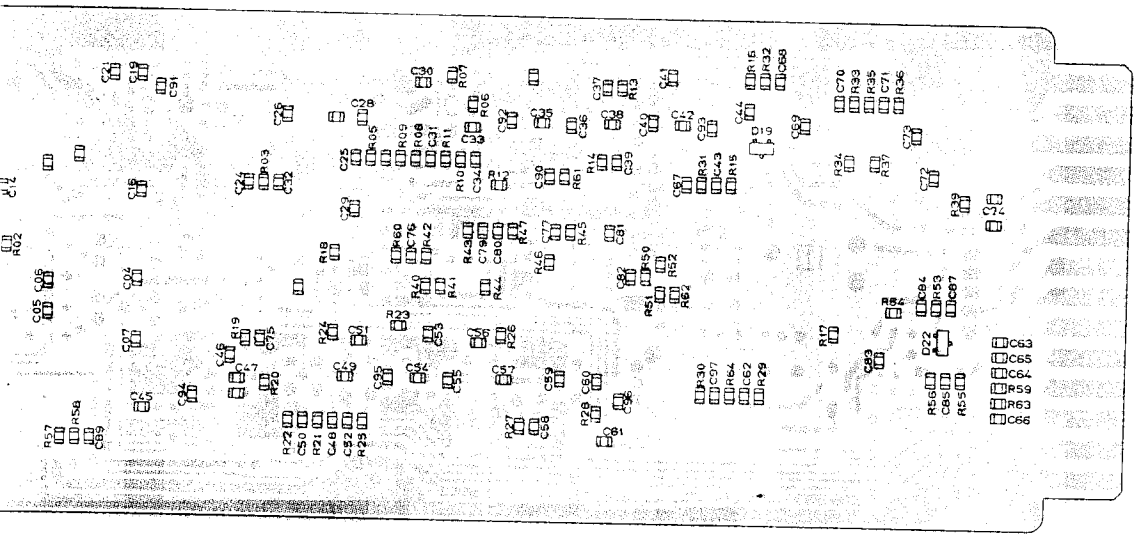
	E	(S)	C	(D)	B	(G_1)	(G_2)		REMARKS
	R	T	R	T	R	T	R	T	
Q1002	IN 0.4	11.8	GND 0	0	OUT 0	8.0			MODE USB
Q1003	0	0	13.3	13.3	0.7	0.7			
Q1004	0.4	1.2	0	10.0	1.6	1.6	4.5	4.5	
Q1005	1.3	0	12.4	0	1.5	0	2.5	2.5	
Q1006	1.6	1.6	11.5	11.3	0	0			
Q1007	2.3	0	13.0	0	3.1	0			
Q1008	6.5	6.5	11.6	11.6	7.2	7.2			
Q1009	5.5	5.5	10.5	10.5	6.2	6.2			
Q1010	13.1	13.1	13.0	13.0	12.3	12.3			
Q1011	9.0	9.0	9.0	9.0	8.3	8.3			
Q1012	0	0	13.0	0	0	0.7			
Q2003	—		8.1		—				
Q2008	0.3		8.4		0				
Q2009	0.2		8.6		0				
Q2010	1.4		5.6		1.9				
Q2011	0		8.6		0				
Q2012	2.7		8.5		3.4				
Q2013	1.3		8.5		2.0				
Q2014	0.6		8.7		0				
Q2015	0.6		8.7		0				

FEX-767-2 PARTS LAYOUT

MAIN UNIT



(Obverse view of "chip-only" side)



(Reverse view of "chip-only" side)

FEX-767-2 VOLTAGE CHART

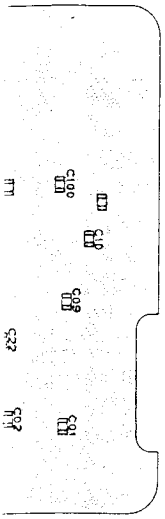
(DC VOLTS)

	E	(S)	C	(D)	B	(G_1)	(G_2)		REMARKS
	R	T	R	T	R	T	R	T	
002	IN 0.4	11.8	GND 0	0	OUT 0	8.0			MODE USB
003	0	0	13.3	13.3	0.7	0.7			
004	0.4	1.2	0	10.0	1.6	1.6	4.5	4.5	
005	1.3	0	12.4	0	1.5	0	2.5	2.5	
006	1.6	1.6	11.5	11.3	0	0			
007	2.3	0	13.0	0	3.1	0			
008	6.5	6.5	11.6	11.6	7.2	7.2			
009	5.5	5.5	10.5	10.5	6.2	6.2			
010	13.1	13.1	13.0	13.0	12.3	12.3			
011	9.0	9.0	9.0	9.0	8.3	8.3			
012	0	0	13.0	0	0	0.7			
003	—		8.1		—				
008	0.3		8.4		0				
09	0.2		8.6		0				
10	1.4		5.6		1.9				
11	0		8.6		0				
12	2.7		8.5		3.4				
13	1.3		8.5		2.0				
14	0.6		8.7		0				
15	0.6		8.7		0				

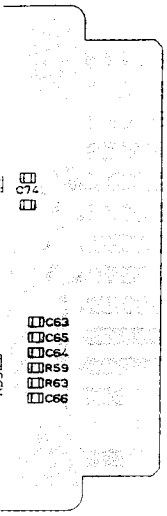
FE

PIN No.		1
Q1001	RX	—
	TX	—
Q2004		—
Q2006		—
Q2007		0

7-2 PARTS LAYOUT

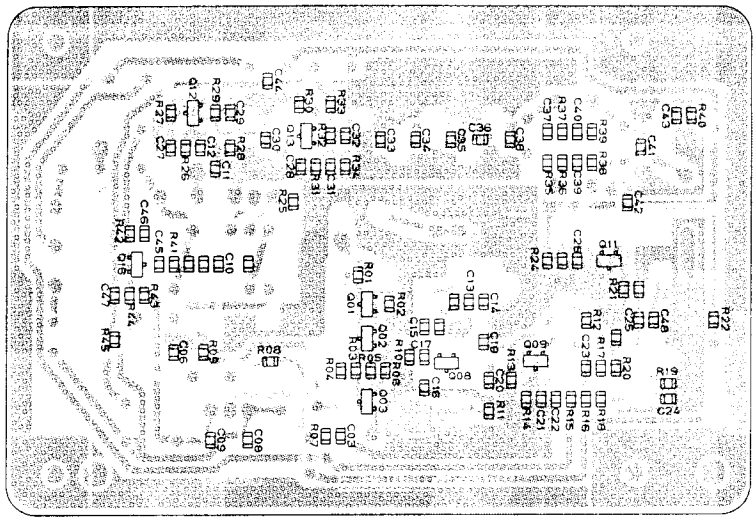


e)

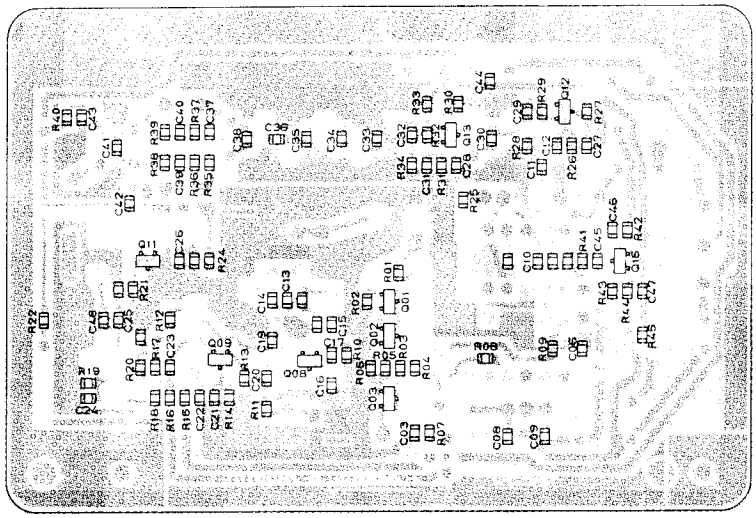


le)

PLL LOCAL UNIT



(Obverse view of "chip-only" side)



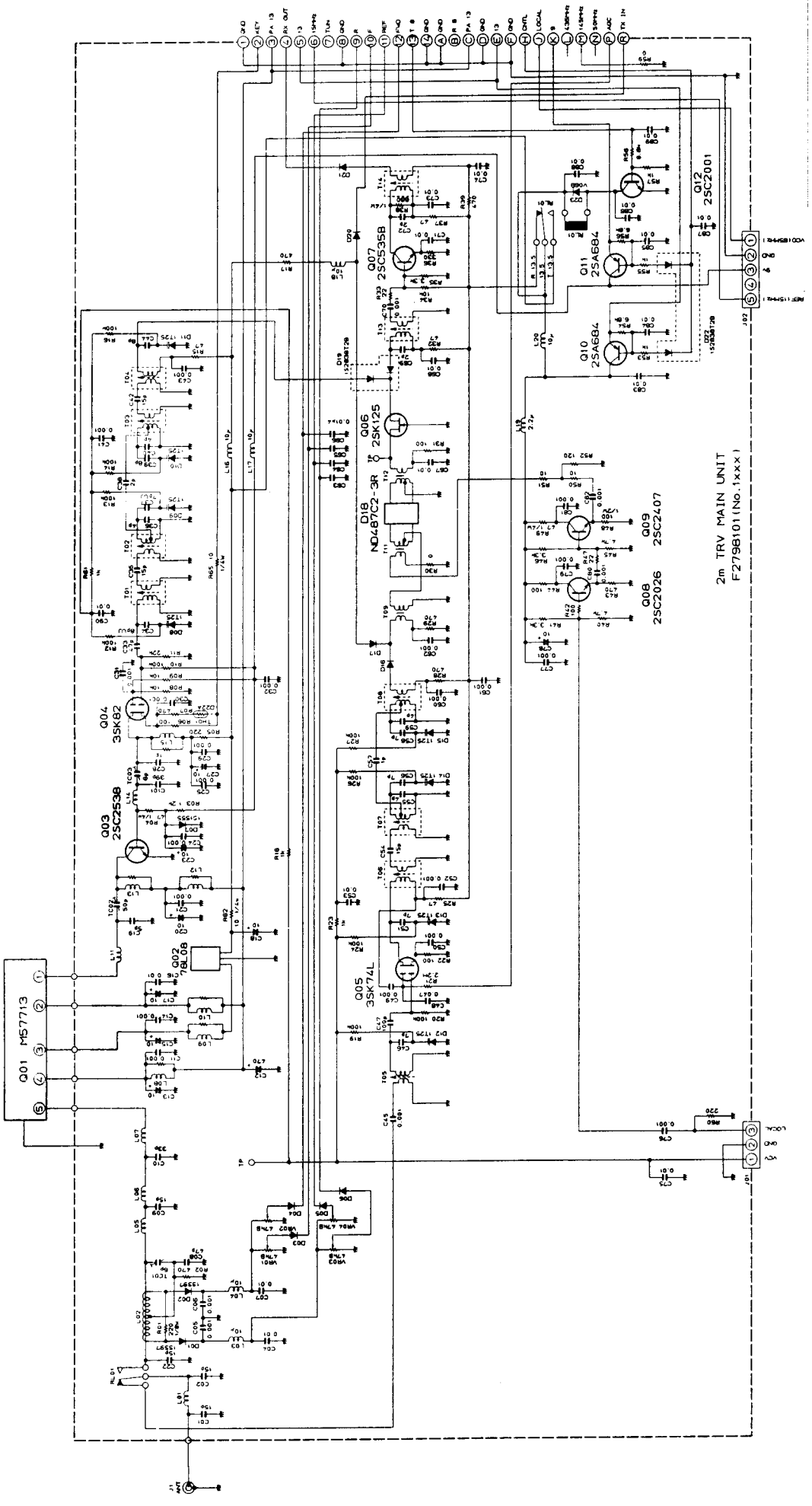
(Reverse view of "chip-only" side)

FEX-767-2 IC VOLTAGE CHART

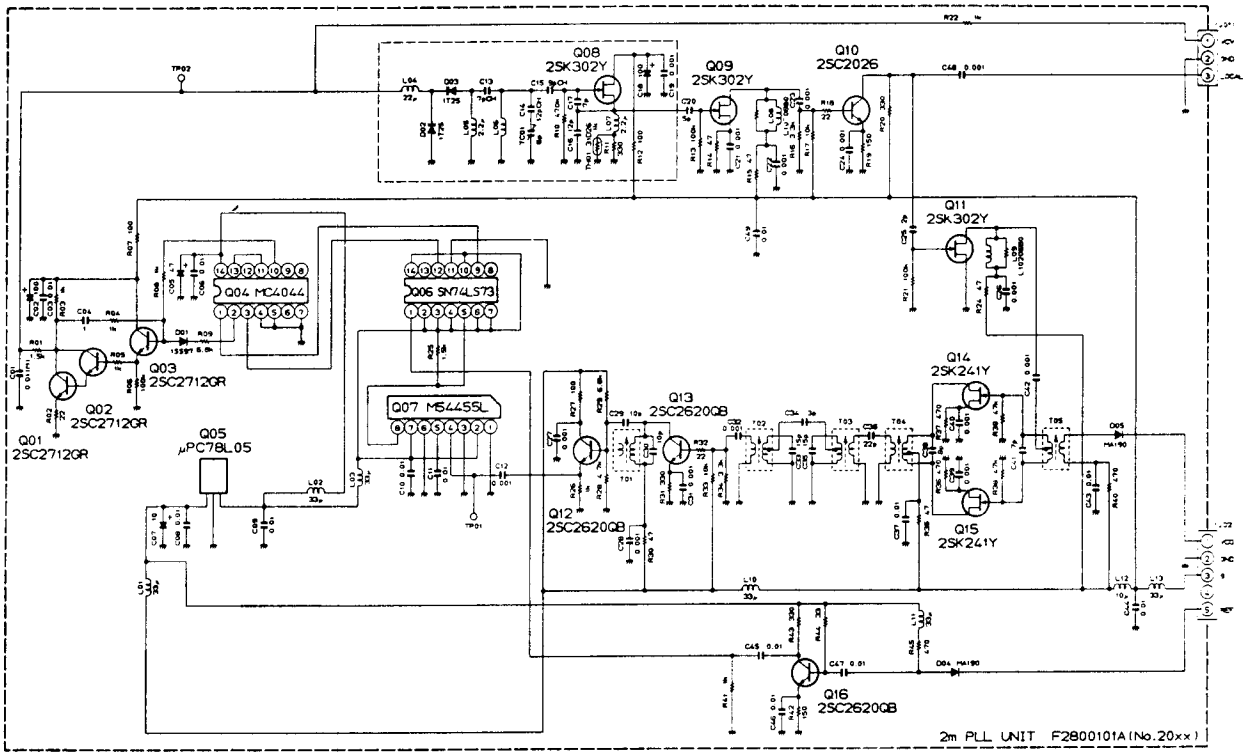
(DC VOLTS)

PIN No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	REMARKS
Q1001	RX	—	13.3	0	13.3	—										
	TX	—	13.3	8.0	13.3	—										
Q2004		—	—	—	0	0	—	0	—	—	—	—	—	—	5.0	MODE USB
Q2006		—	—	—	—	—	—	—	—	—	—	0	—	—	5.0	
Q2007		0	—	0	—	0	—	5.0								

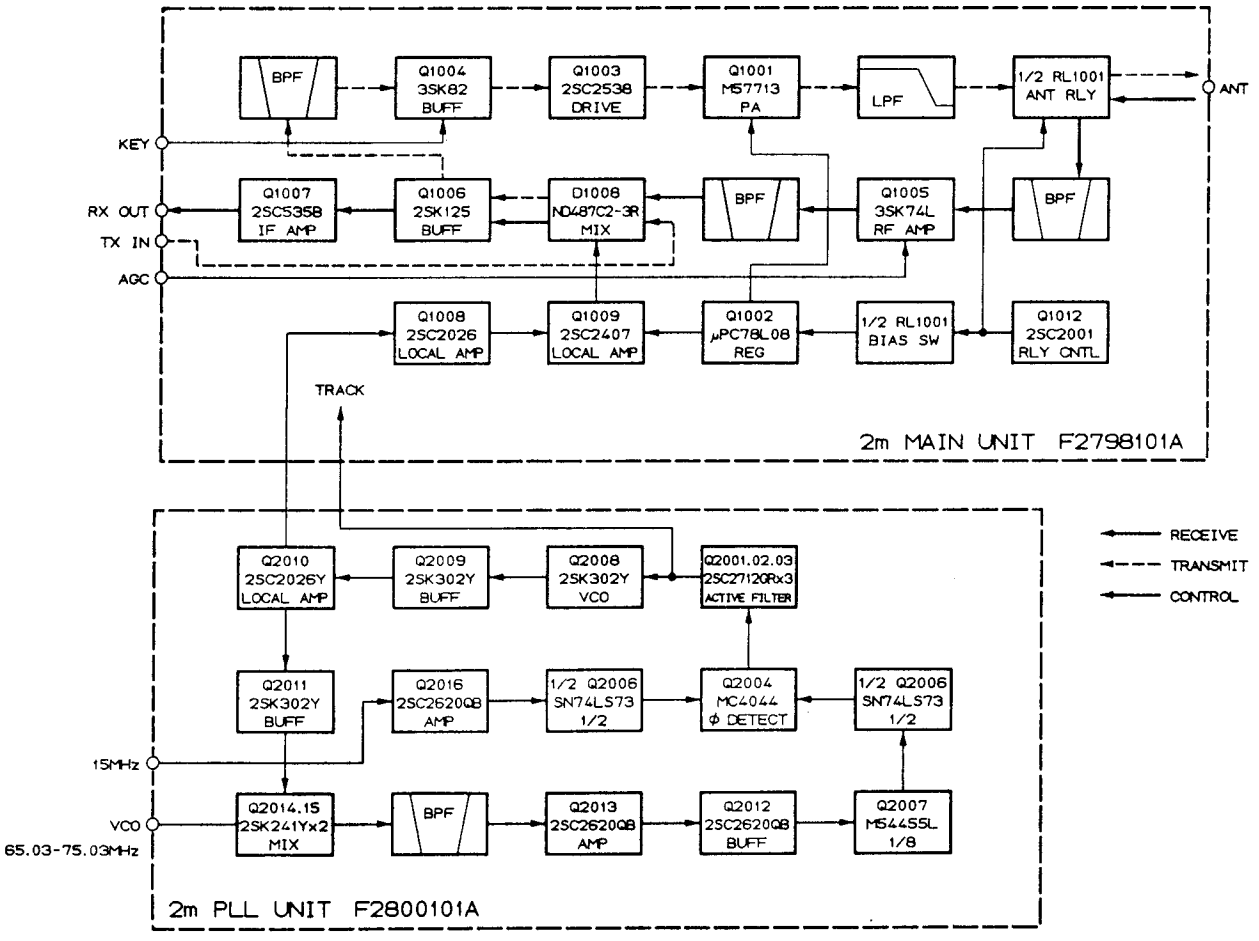
FEX-767-2 CIRCUIT DIAGRAM



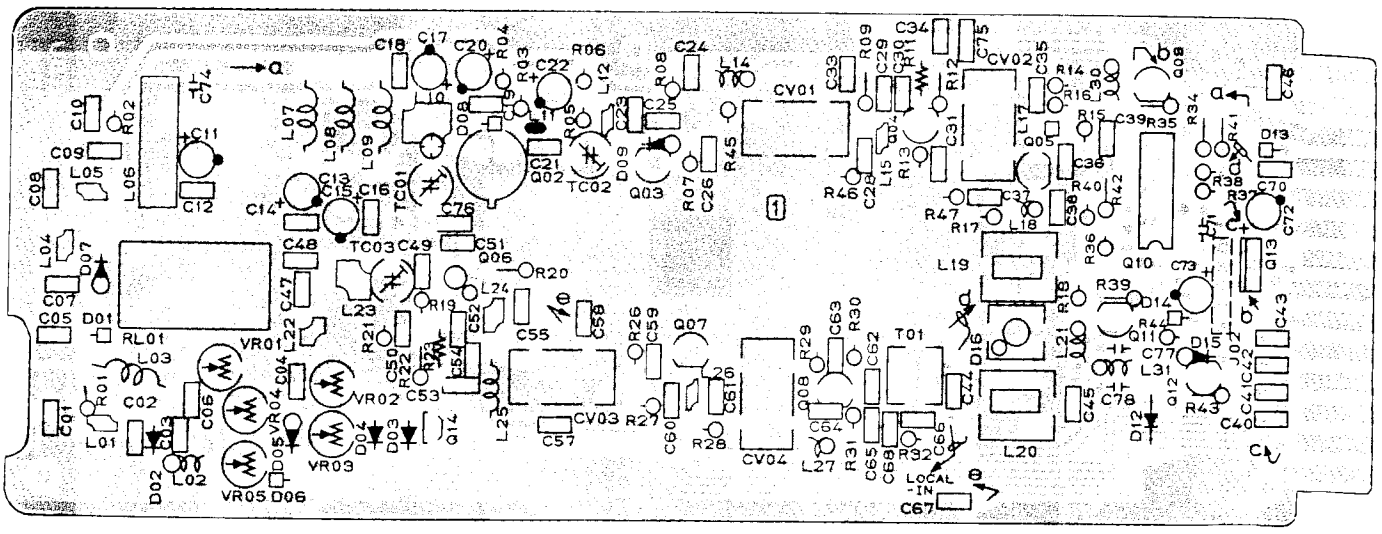
FEX-767-2 CIRCUIT DIAGRAM



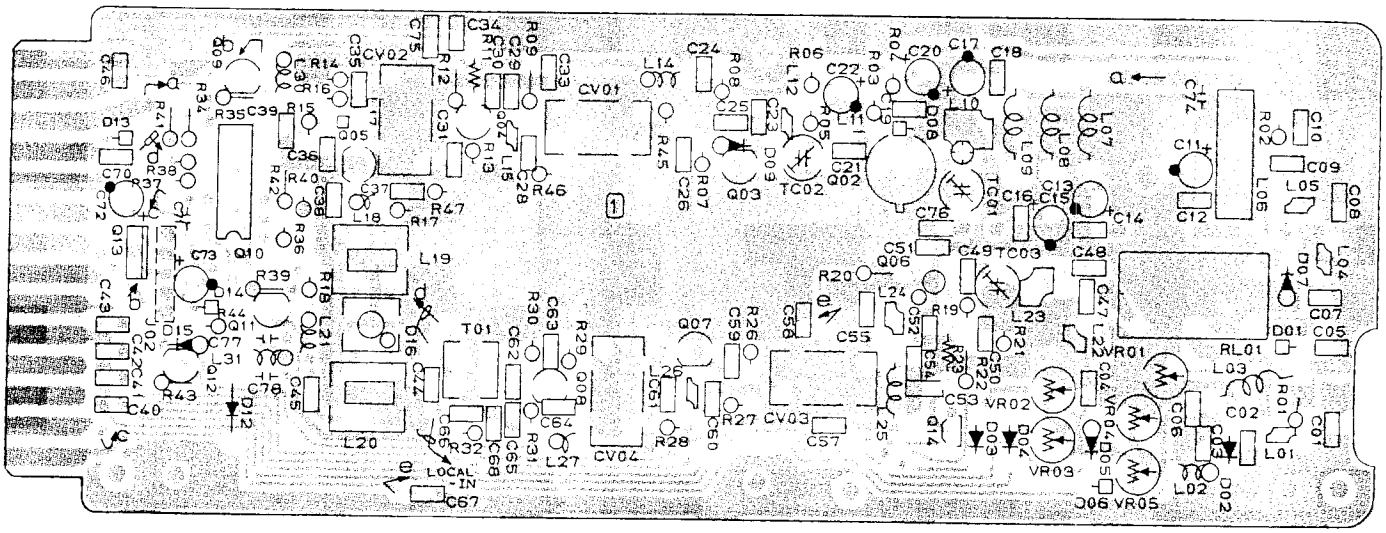
RESISTOR VALUES ARE IN Ω 1/4W; CAPACITOR VALUES ARE IN μF;
AND INDUCTOR VALUES ARE IN H; UNLESS OTHERWISE NOTED.
(M) CAPACITORS ARE POLYESTER FILM 50WV.



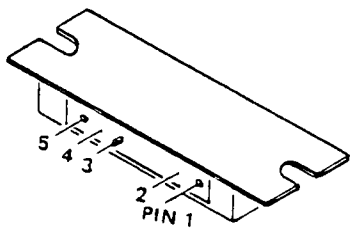
MAIN UNIT



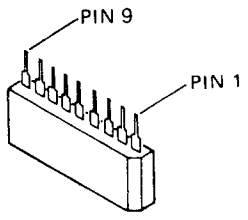
(Viewed from Component side)



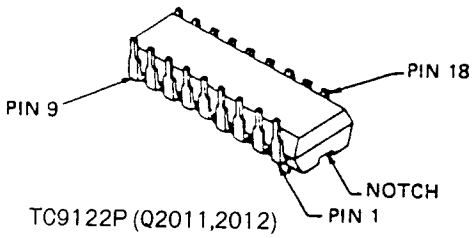
(Viewed from Solder side)



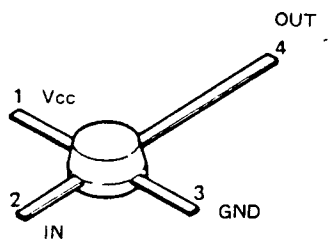
M57716 (Q1001)



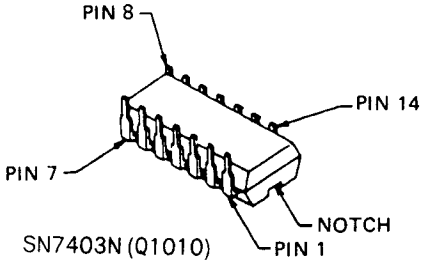
TC5081AP (Q2010)



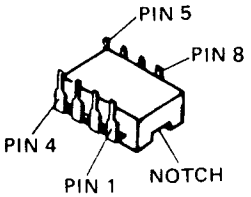
TC9122P (Q2011,2012)



μPC1651G (Q2004-2006)



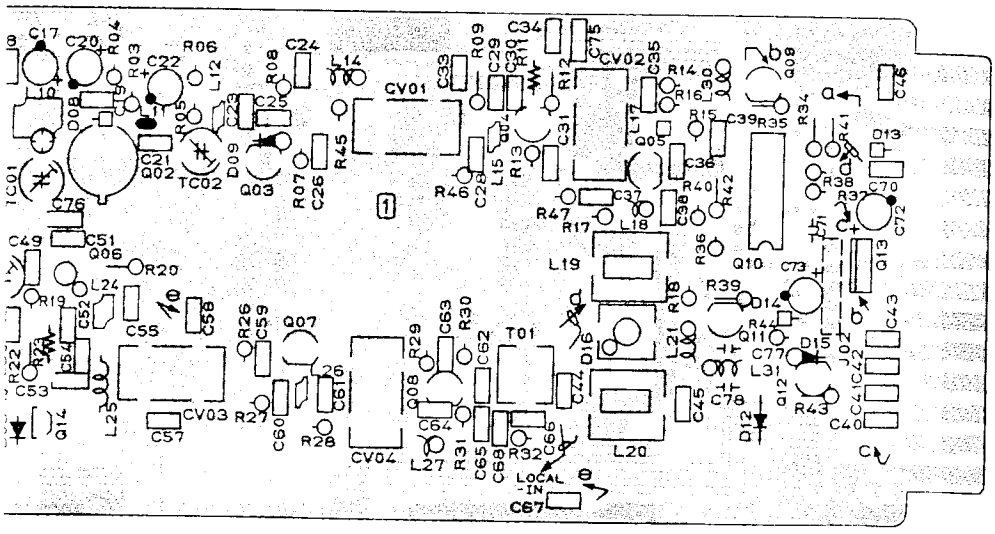
SN7403N (Q1010)



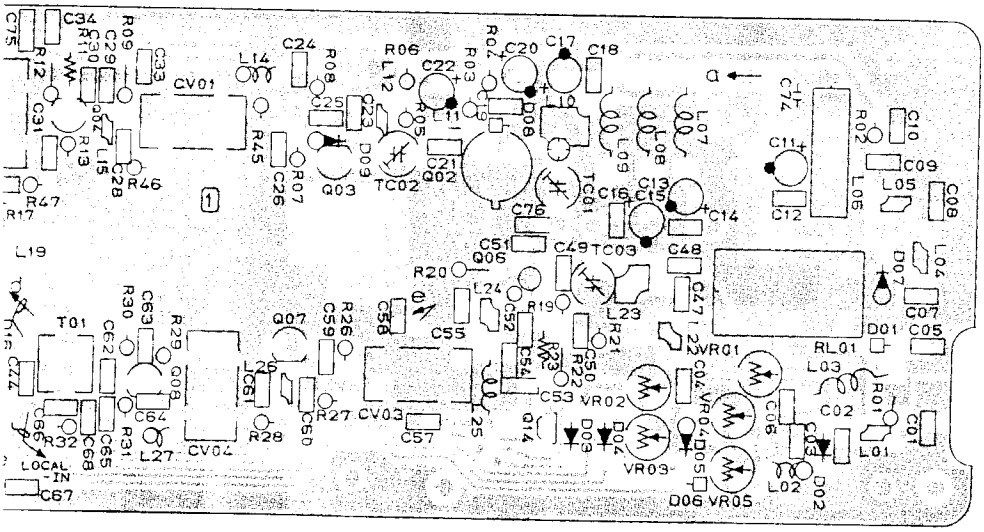
μPB571C (Q2008)

FEX-767-7 PARTS LAYOUT

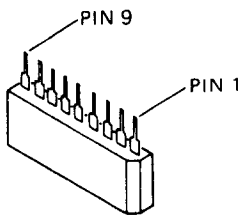
MAIN UNIT



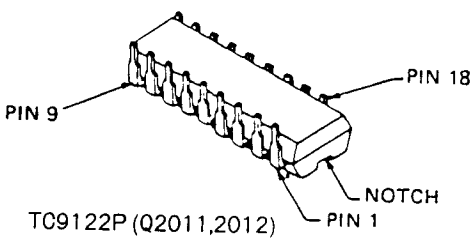
(Viewed from Component side)



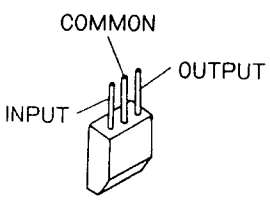
(Viewed from Solder side)



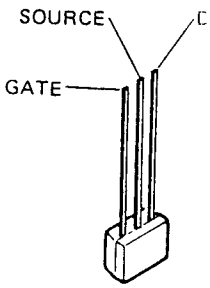
TC5081AP (Q2010)



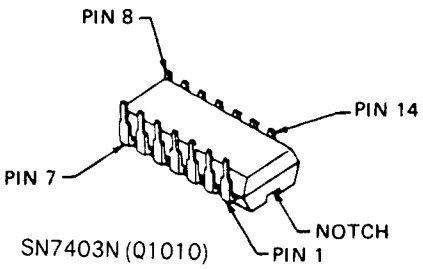
TC9122P (Q2011,2012)



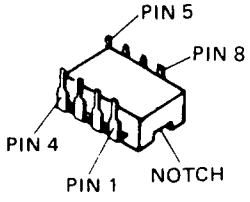
μPC78L05 (Q1013)



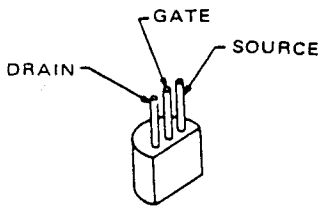
2SK241Y (Q100



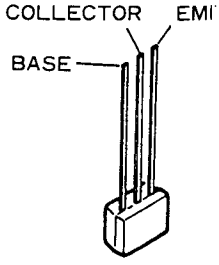
SN7403N (Q1010)



μPB571C (Q2008)



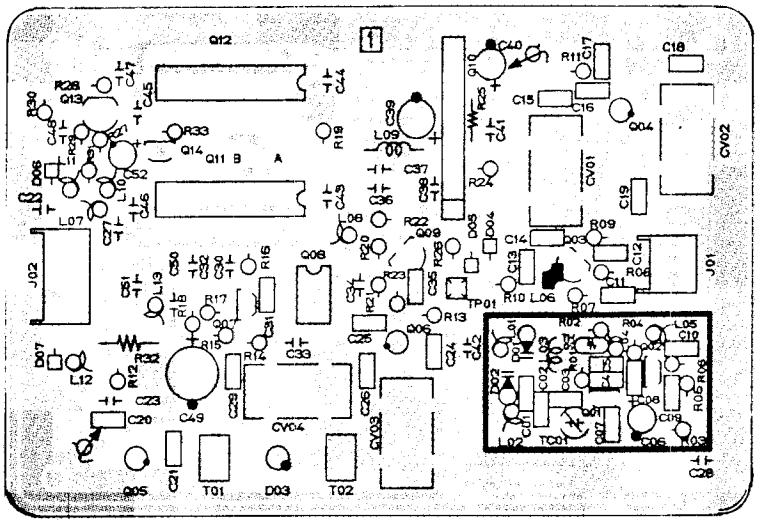
2SK125 (Q1005,1007)



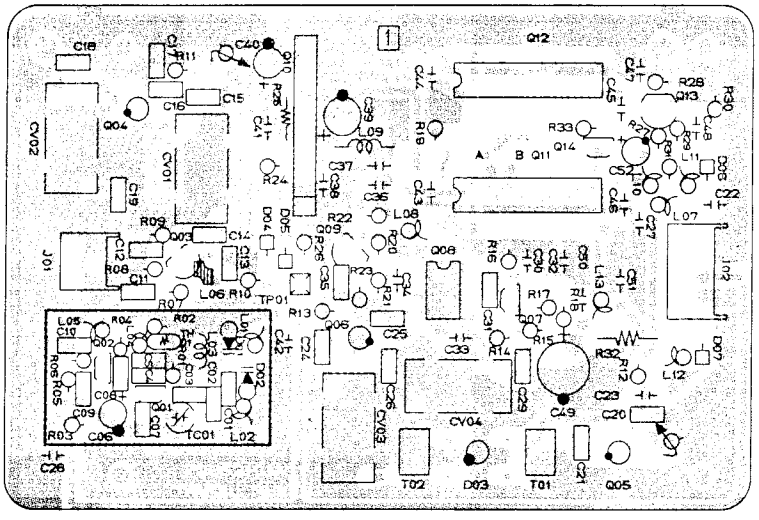
BA1L4L (Q101

7-7 PARTS LAYOUT

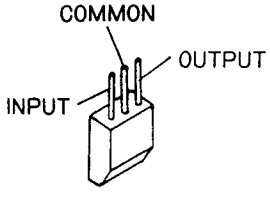
PLL LOCAL UNIT



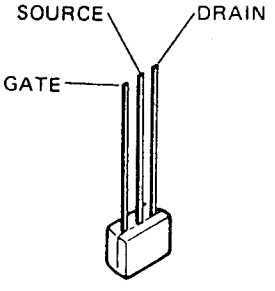
(Viewed from Component side)



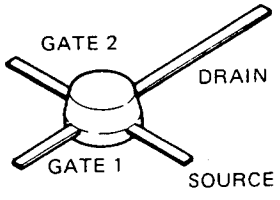
(Viewed from Solder side)



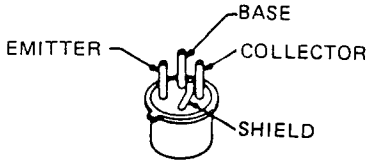
μPC78L05 (Q1013)



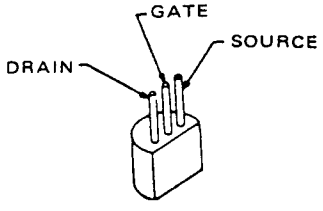
2SK241Y (Q1008)



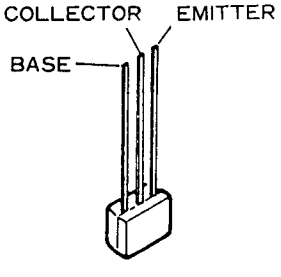
3SK121GR (Q1006)



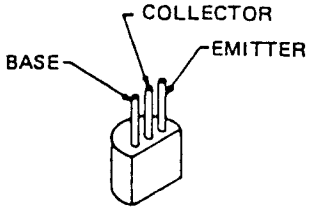
2SC1426 (Q1002)



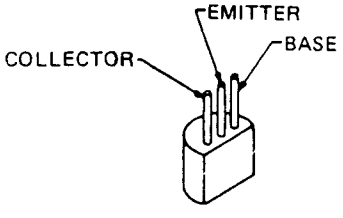
2SK125 (Q1005,1007)



BA1L4L (Q1014)



2SA684 (Q1009,1011,1012)
2SC945P (Q2009,2013)
2SC3354T (Q2007)

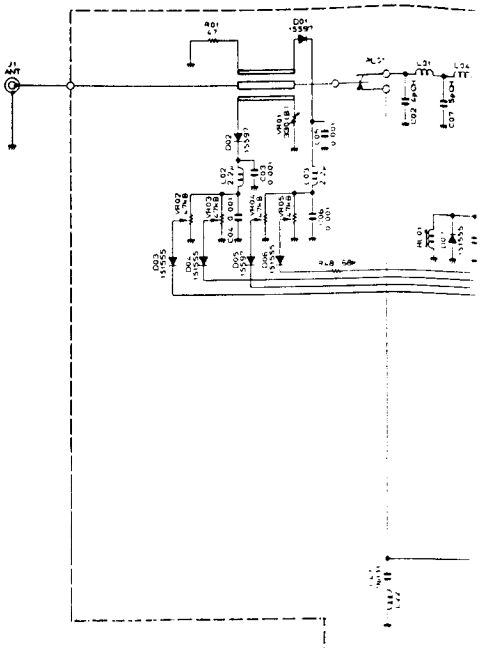


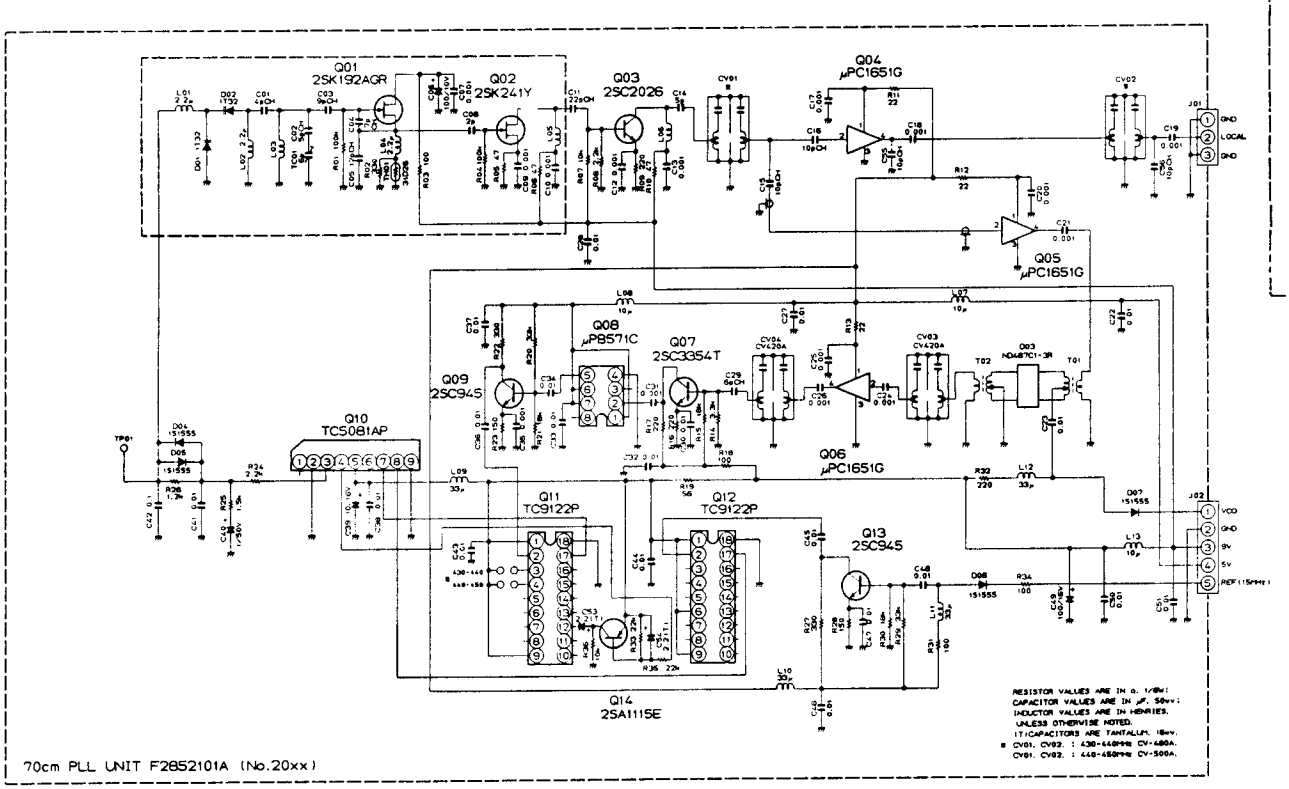
2SC2026 (Q2003)
2SC2407A (Q1003)
2SC3355 (Q1004)

FEX-767-7 VOLTAGE CHART

(DC VOLTS)

	E	(S)	C	(D)	B	(G_1)	(G_2)		REMARKS
	R	T	R	T	R	T	R	T	
Q1002	0	0	13.3	13.3	0	0.7			MODE USB
Q1003	0	0	0	8.3	0	0.8			
Q1004	0	1.9	0	7.9	0	2.6			
Q1005	0	1.6	0	8.1	0	0			
Q1006	2.9	4.7	9.0	9.0	1.6	1.6	3.0	3.0	
Q1007	1.5	0	11.5	0	0	0			
Q1008	0.9	0	13.0	0	0	0			
Q1009	9.0	9.0	0	8.8	9.0	8.2			
Q1011	13.1	13.1	13.0	0	12.3	13.1			
Q1012	9.1	9.1	9.0	9.0	8.3	8.3			
Q1013	IN 9.0	9.0	GND 0	0	OUT 5.0	5.0			
Q2001	1.0		8.4		0				
Q2002	0.1		8.8		0				
Q2003	0.9		8.8		1.5				
Q2007	0.8		7.7		1.3				
Q2009	0.9		3.0		1.5				
Q2013	0.9		3.1		1.5				
Q2014	8.0		0		8.0				





FEX-767-7 IC VOLTAGE CHART

(DC VOLTS)

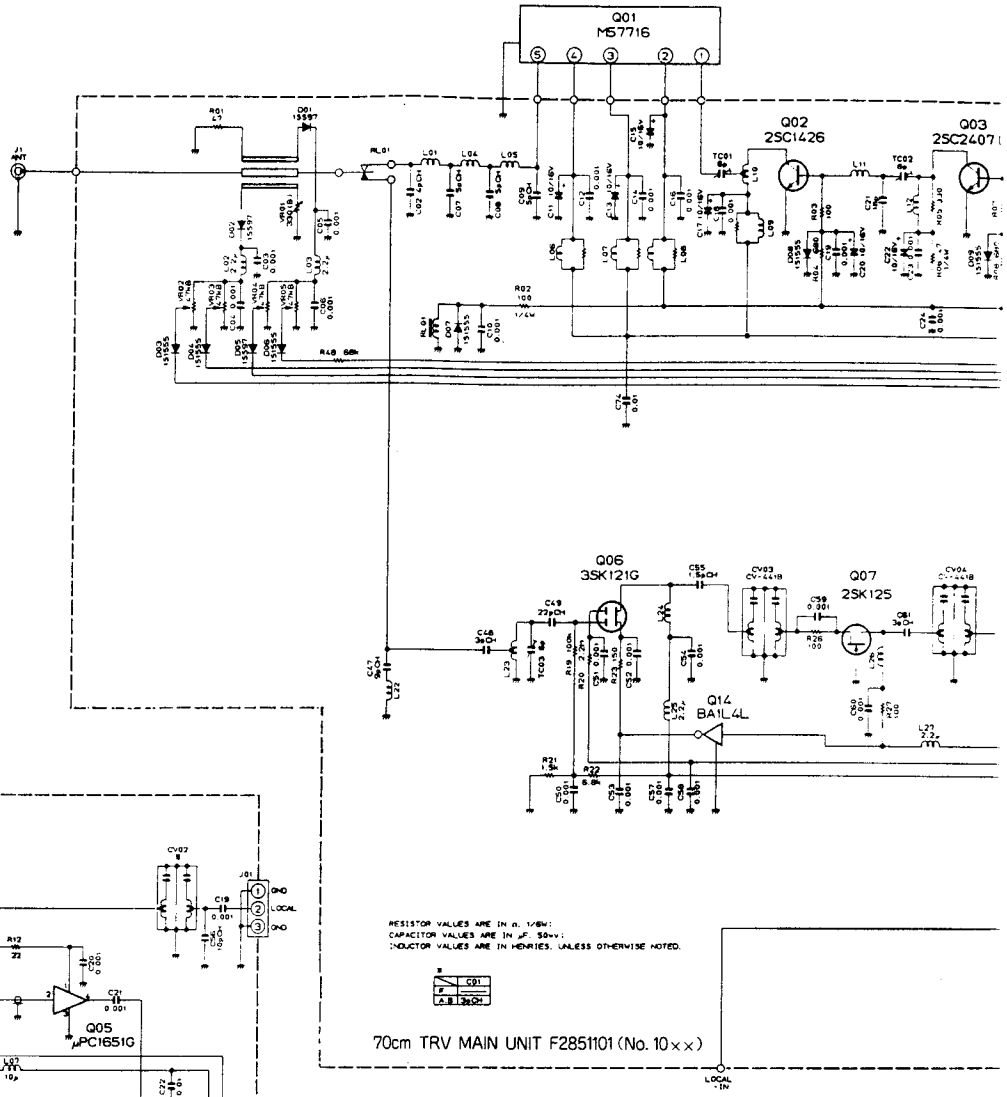
PIN No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	REMARKS
Q1001	RX	—	0	0	0	—														MODE USB
	TX	—	8.6	13.3	13.3	—														
Q1010		—	—	—	—	—	—	0	—	—	—	—	—	—	5.0					
Q2004		4.6	0.9	0	3.1															
Q2005		4.6	0.9	0	3.4															
Q2006		4.6	0.9	0	3.0															
Q2008		5.0	—	—	0	—	5.0	5.0	—											
Q2010		—	0	—	—	8.0	—	—	—	0										
Q2011		8.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	
Q2012		8.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	

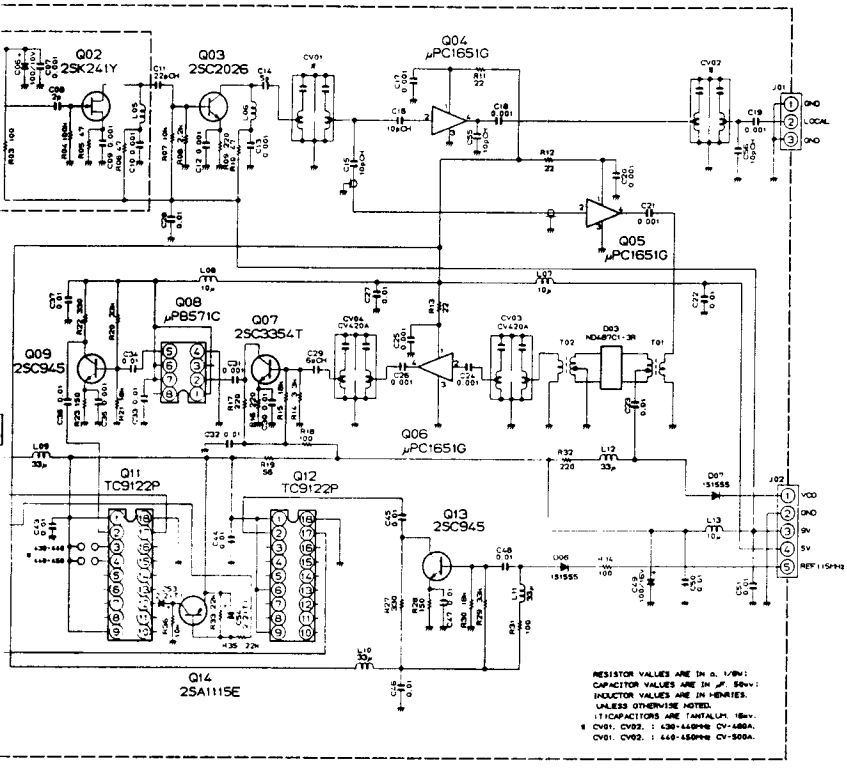
FEX-767-7 CIRCUIT

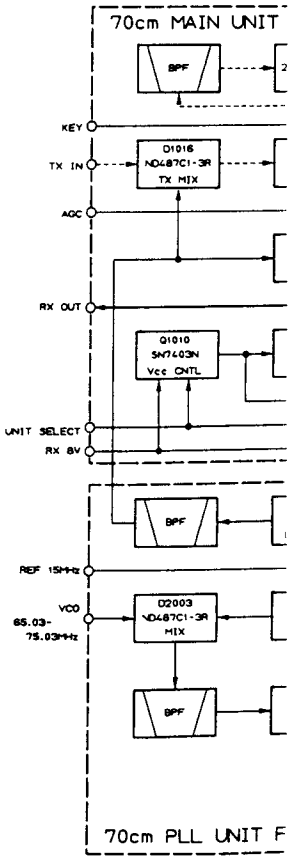
OLTAGE CHART

(DC VOLTS)

)	B	(G_1)	(G_2)		REMARKS
Γ	R	T	R	T	
3.3	0	0.7			
8.3	0	0.8			
7.9	0	2.6			
8.1	0	0			
9.0	1.6	1.6	3.0	3.0	
0	0	0			
0	0	0			
8.8	9.0	8.2			
0	12.3	13.1			
9.0	8.3	8.3			MODE USB
0	OUT 5.0	5.0			
	0				
	0				
	1.5				
	1.3				
	1.5				
	1.5				
	8.0				





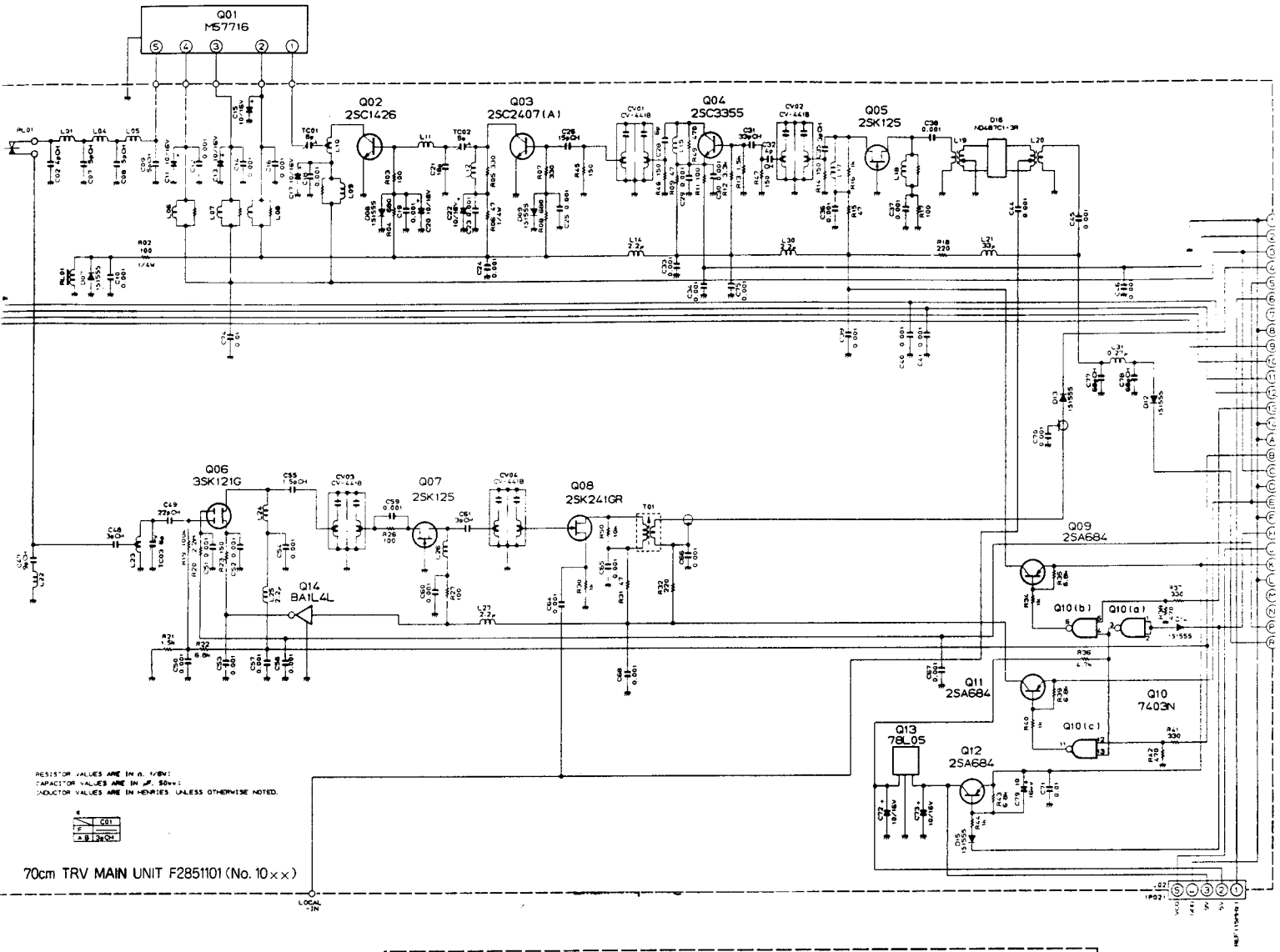


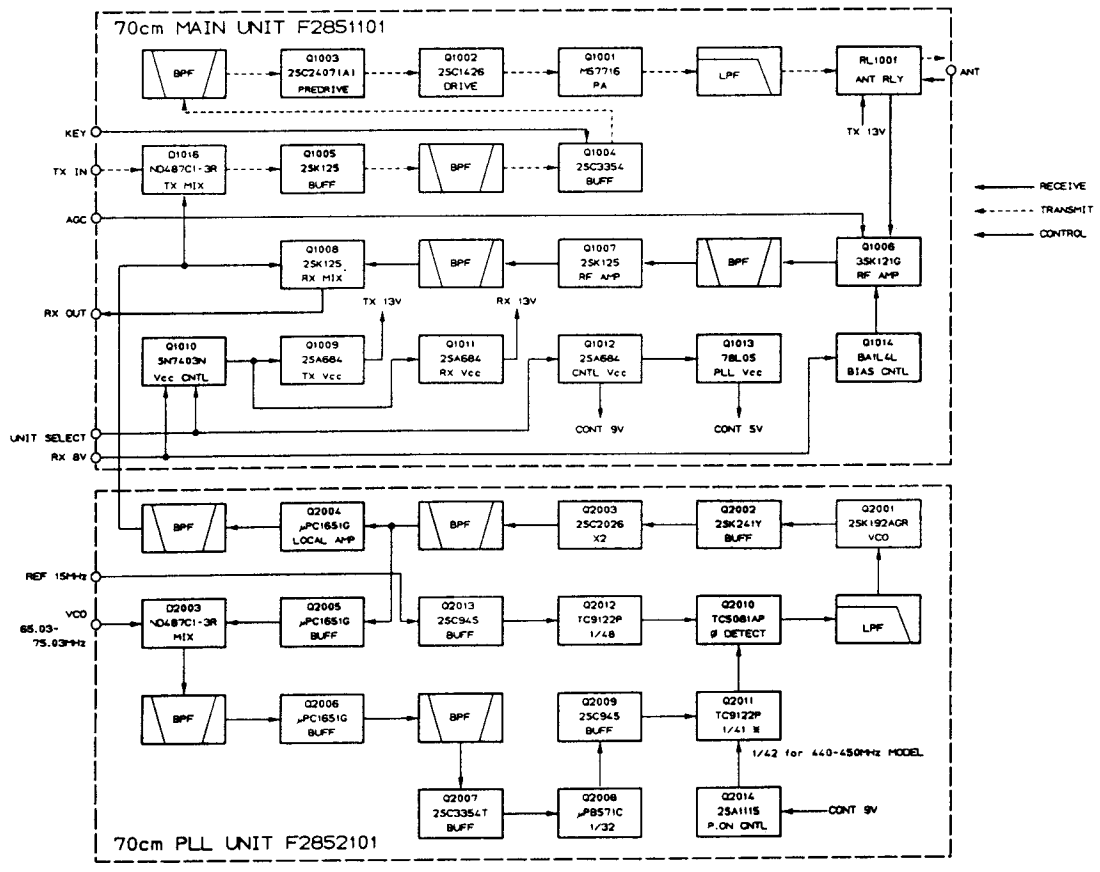
-767-7 IC VOLTAGE CHART

(DC VOLTS)

6	7	8	9	10	11	12	13	14	15	16	17	18	REMARKS
-	0	—	—	—	—	—	—	5.0					
													MODE USB
.0	5.0	—											
-	—	—	0										
	—	—	—	—	—	—	—	—	—	—	—	0	
	—	—	—	—	—	—	—	—	—	—	—	0	

FEX-767-7 CIRCUIT DIAGRAM





MAIN CHASSIS		
Symbol No.	Part No.	Name & Description
		RECEPTACLE
J1	P1090352	FM-MDR-MI (Antenna)

MAIN UNIT		
Symbol No.	Part No.	Name & Description
	F2798101B	Printed Circuit Board
	C027980A	PCB with Components
		ICs
Q1001	G1090475	M57735
Q1002	G1090080	μPC 78L08
		FETs
Q1004	G4800730Y	3SK73Y
Q1005	G4800740L	3SK74Y
Q1006	G3801250	2SK125
		TRANSISTORS
Q1003	G3320530	2SC2053
Q1007	G3305350B	2SC535B
Q1008	G3320260	2SC2026
Q1009	G3324071	2SC2407A
Q1010, 1011	G3106840	2SA684
Q1012	G3320010	2SC2001
		DIODES
D1001-1006, 1020	G2090118	1SS97 Schottky
D1016, 1017, 1021	G2090237	MA190 Si
D1007	G2015550	1S1555 〃
D1008-1015	G2090107	1T25 Varactor
D1018	G2090135	ND487C2-3R Schottky Ring
D1019, 1022	G2070018	MC2838T2B
D1023	G2090003	V06B
		THERMISTOR
TH1001	G9090002	D22A
		RESISTORS
R1062, 1065	J02245100	Carbon film 1/4W 10Ω SJ
R1049	J02245470	〃 〃 〃 47Ω 〃
R1001	J01215560	〃 〃 1/8W 56Ω TJ
R1004	J02245101	〃 〃 1/4W 100Ω SJ
R1048	J01275101	〃 〃 1/2W 100Ω TJ
	J02245681	〃 〃 1/4W 680Ω SJ
	J01215332	〃 〃 1/8W 3.3kΩTJ
R1063, 1064	J24205000	Chip RMC1/10-000J 0Ω
R1050, 1051, 1066	J24205100	〃 〃 -100J 10Ω
R1047	J24205220	〃 〃 -220J 22Ω
R1005, 1015, 1025, 1032	J24205470	〃 〃 -470J 47Ω
R1006, 1022, 1031, 1033, 1042, 1044, 1071	J24205101	〃 〃 -101J 100Ω
R1052	J24205121	〃 〃 -121J 120Ω
	J24205151	〃 〃 -151J 150Ω
R1036	J24205331	〃 〃 -331J 330Ω
R1007, 1017, 1028, 1030, 1039, 1043	J24205471	〃 〃 -471J 470Ω
R1002	J24205561	〃 〃 -561J 560Ω
R1018, 1023, 1057, 1061	J24205102	〃 〃 -102J 1kΩ
R1003	J24205122	〃 〃 -122J 1.2kΩ
R1055	J24205222	〃 〃 -222J 2.2kΩ
R1035, 1041, 1046, 1053, 1068	J24205332	〃 〃 -332J 3.3kΩ 〃 〃 -472J 4.7kΩ
R1040, 1045	J24205472	〃 〃 -682J 6.8kΩ
R1054, 1056, 1058	J24205682	
R1008, 1034	J24205103	〃 〃 -103J 10kΩ
R1020	J24205153	〃 〃 -153J 15kΩ
R1011	J24205223	〃 〃 -223J 22kΩ
R1009	J24205273	〃 〃 -273J 27kΩ
R1069	J24205333	〃 〃 -333J 33kΩ
R1010, 1012-1014, 1016, 1019, 1024, 1026, 1027	J24205104	〃 〃 -104J 100kΩ
R1067	J24205124	〃 〃 -124J 120kΩ
R1021	J24205225	〃 〃 -225J 2.2MΩ
		POTENTIOMETERS
VR1001-1004	J51745473	H0651A017-47KB 47kΩ B
		CAPACITORS
C1038	K22170202	Chip Ceramic 50WV 1pF CH (C2012 CH1H 010CFA)
C1057	K22170204	〃 〃 〃 3pF 〃 (C2012 CH1H 030CFA)
C1036, 1040, 1055, 1059, 1092-1095	K22170205	〃 〃 〃 4pF 〃 (C2012 CH1H 040CFA)
C1054	K22170215	〃 〃 〃 15pF 〃 (C2012 CH1H 150JFA)
C1026, 1096	K22170217	〃 〃 〃 18pF 〃 (C2012 CH1H 180JFA)
C1035, 1042	K22170223	〃 〃 〃 33pF 〃 (C2012 CH1H 330JFA)
C1091	K22170225	〃 〃 〃 39pF 〃 (C2012 CH1H 390JFA)
C1033, 1104	K22170227	〃 〃 〃 47pF 〃 (C2012 CH1H 470JFA)
C1100	K22170229	〃 〃 〃 56pF 〃 (C2012 CH1H 560JFA)
C1019	K22170233	〃 〃 〃 82pF 〃 (C2012 CH1H 820JFA)
C1009, 1010, 1034, 1037, 1039, 1044, 1046, 1047, 1051, 1056, 1058, 1105	K22170235	〃 〃 〃 100pF 〃 (C2012 CH1H 101JFA)
C1008	K22170241	〃 〃 〃 180pF 〃 (C2012 CH1H 181JFA)
C1032, 1041, 1045, 1070, 1076, 1080, 1082, 1103, 1107	K22170805	〃 〃 〃 0.001μF B (C2012 B1H 102MFA)
C1004-1007, 1011, 1014, 1016, 1021, 1024, 1029, 1030, 1043, 1048, 1050, 1052, 1053, 1060, 1061, 1064, 1066-1068, 1074, 1075, 1077, 1079, 1081, 1083-1090, 1097, 1102, 1108	K22170817	〃 〃 〃 0.01μF B (C2012 B1H 103MFA)
	K02175470	Ceramic disc 50WV 47pF CH (DD106CH470J50)
	K02175101	〃 〃 〃 100pF 〃 (DD107CH101J50)
C1013, 1015, 1017, 1018, 1020, 1023, 1027, 1078	K40129004	Electrolytic 16WV 10μF (RE-16V 100M)
C1012	K40129049	〃 〃 470μF
		(RE2-16V 471M)
		TRIMMER CAPACITORS
TC1001	K91000085	CTZ51C 10pF
TC1002	K91000117	CTZ51H 70pF
TC1003	K91000089	CTZ51G 50pF

		INDUCTORS
L1005-1007, 1022	L0020824	
L1002	L0021631	
L1003, 1004, 1018, 1019	L1190138	LAL04NA100K 10μH
L1008	L1020663	
L1009, 1010, 1012	L1020673	
L1011	L0020724	
L1013	L1020683	
L1014	L0020340	
L1015	L1020680	LAL04NA 220K 22μH
L1016, 1017, 1020, 1021	L1190327	
		TRANSFORMERS
	L0020825	
T1001-1008, 1010	L0021462	
T1011, 1012	L0020857	
T1013		
		RELAY
	M1190052	MR-62-12S
RL1001		
		MINI CONNECTORS
	P0090520	3022-03B
J1001	P0090594	3022-05B
J1002		
		TERMINAL POSTS
	Q5000050	TP-K

LOCAL UNIT

Symbol No.	Part No.	Name & Description
	F2799101A	Printed Circuit Board
	C027990A	PCB with Components
		IC
Q2006	G1090649	M5218L
		FETs
Q2001, 2002	G3802410Y	2SK241Y
		TRANSISTORS
Q2003	G3326207B	2SC2620QB
Q2004	G3319230O	2SC1923O
Q2005	G3316237E	2SC1623-T2BL5
		DIODES
D2001, 2006	G2090237	MA190 Si
D2002-2005	G2090107	1T25 Varactor
		RESISTORS
R2009	J01245470	Carbon film 1/4W 47Ω TJ
R2008	J24205000	Chip RMC 1/10T-000J 0Ω
R2015, 2022	J24205220	〃 〃 -220J 22Ω
R2018, 2025, 2026	J24205470	〃 〃 -470J 47Ω
R2033	J24205680	〃 〃 -680J 68Ω
R2023, 2035	J24205151	〃 〃 -151J 150Ω
R2016, 2024	J24205331	〃 〃 -331J 330Ω
R2001, 2004, 2005, 2027, 2029	J24205471	〃 〃 -471J 470Ω
R2012, 2019, 2032	J24205102	〃 〃 -102J 1kΩ
R2028	J24205152	〃 〃 -152J 1.5kΩ
R2014, 2020	J24205332	〃 〃 -332J 3.3kΩ
R2013	J24205682	〃 〃 -682J 6.8kΩ
R2021, 2030, 2031	J24205103	〃 〃 -103J 10kΩ
	J24205153	〃 〃 -153J 15kΩ
	J24205223	〃 〃 -223J 22kΩ
R2002, 2003	J24205473	〃 〃 -473J 47kΩ
R2006, 2007, 2010, 2011, 2017	J24205104	〃 〃 -104J 100kΩ

		POTEMTIOMETER
VR2001	J51745103	H0651A013-10KB 10kΩB
		CAPACITORS
C2013	K22170201	Chip Ceramic 50WV 0.5pF CH (C2012 CH1H 0R5CFA)
C2026	K22170202	〃 〃 〃 1pF 〃 (C2012 CH1H 010CFA)
C2010	K22170205	〃 〃 〃 4pF 〃 (C2012 CH1H 040CFA)
C2008, 2011, 2015, 2019	K22170207	〃 〃 〃 6pF 〃 (C2012 CH1H 060DFA)
C2003	K22170211	〃 〃 〃 10pF 〃 (C2012 CH1H 100DFA)
C2006, 2012, 2014, 2018	K22170213	〃 〃 〃 12pF 〃 (C2012 CH1H 120JFA)
C2025, 2028	K22170219	〃 〃 〃 22pF 〃 (C2012 CH1H 220JFA)
C2016	K22170235	〃 〃 〃 100pF 〃 (C2012 CH1H 101JFA)
C2007, 2022	K22170805	〃 〃 〃 0.001μF B (C2012 B1H 102MFA)
C2001, 2004, 2005, 2009, 2017, 2020, 2021, 2023, 2027, 2029, 2030	K22170817	〃 〃 〃 0.01μF 〃 (C2012 B1H 103MFA)
C2032	K02173070	Ceramic disc 50WV 7pF CH (DD104CH 070D50)
C2002	K10176102	〃 〃 〃 0.001μF B (DD104B102K50)
C2031	K40129004	Electrolytic 16WV 10μF (RE-16V 100M)
		INDUCTORS
L2001, 2003	L1190329	LAL04NA 330K 33μH
L2002	L1190138	LAL04NA 100K 10μH
L2004	L1190131	LAL04NA 1R8M 1.8μH
		TRANSFORMERS
T2001	L0020825	
T2002-2005	L0021632	
T2006, 2007	L0021633	
		MINI CONNECTORS
J2001	P1090425	5124-03BH
J2002	P1090427	5124-05BH
		TERMINAL POSTS
	Q5000050	TP-K

FEX-767-2

MAIN CHASSIS		
Symbol No.	Part No.	Name & Description
		RECEPTACLE
J1	P1090352	FM-MDR-MI (Antenna)

MAIN UNIT		
Symbol No.	Part No.	Name & Description
	F2798101B	Printed Circuit Board
	C027981A	PCB with Components
		ICs
Q1001	G1090295	M57713
Q1002	G1090080	μPC78L08
		FETs
Q1004	G4800820	3SK82
Q1005	G4800740L	3SK74Y
Q1006	G3801250	2SK125
		TRANSISTORS
Q1003	G3325380	2SC2538
Q1007	G3305350B	2SC535B
Q1008	G3320260	2SC2026
Q1009	G3324071	2SC2407A
Q1010, 1011	G3106840	2SA684
Q1012	G3320010	2SC2001
		DIODES
D1001-1004	G2090118	1SS97 Schottky
D1005, 1006, 1016, 1017, 1020, 1021	G2090237	MA190 Si
D1007	G2015550	1S1555 〃
D1008-1015	G2090107	1T25 Varactor
D1018	G2090135	ND487C2-3R Schottky Ring
D1019, 1022	G2070018	MC2838T2B Si
D1023	G2090003	V06B 〃
D1024	G2090340	1SS83 〃
		THERMISTOR
TH1001	G9090002	D22A
		RESISTORS
R1062, 1065	J02245100	Carbon film 1/4W 10Ω SJ
R1004, 1049	J02245470	〃 〃 〃 47Ω 〃
R1048	J01275101	〃 〃 1/2W 100Ω TJ
R1001	J01215221	〃 〃 1/8W 220Ω 〃
	J02245681	〃 〃 1/4W 680Ω SJ
	J01215102	〃 〃 1/8W 1kΩ TJ
	J01215332	〃 〃 〃 3.3kΩ 〃
	J01215473	〃 〃 〃 47kΩ 〃
R1030, 1059	J24205000	Chip RMC1/10-000J 0Ω
R1050, 1051, 1066	J24205100	〃 〃 -100J 10Ω
R1047	J24205220	〃 〃 -220J 22Ω
R1015, 1025, 1032	J24205470	〃 〃 -470J 47Ω
R1006, 1022, 1031, 1033, 1042, 1044, 1071	J24205101	〃 〃 -101J 100Ω
R1052	J24205121	〃 〃 -121J 120Ω
R1005, 1060, 1070	J24205221	〃 〃 -221J 220Ω
R1036	J24205331	〃 〃 -331J 330Ω
R1002, 1007, 1017, 1028, 1029, 1039, 1043	J24205471	〃 〃 -471J 470Ω
R1018, 1023, 1057, 1061, 1072	J24205102	〃 〃 -102J 1kΩ
R1003	J24205122	〃 〃 -122J 1.2kΩ
R1055	J24205222	〃 〃 -222J 2.2kΩ
R1035, 1041, 1046, 1053, 1068	J24205332	〃 〃 -332J 3.3kΩ
R1040, 1045	J24205472	〃 〃 -472J 4.7kΩ
R1054, 1056, 1058	J24205682	〃 〃 -682J 6.8kΩ
R1008, 1009, 1034	J24205103	〃 〃 -103J 10kΩ
R1020	J24205153	〃 〃 -153J 15kΩ
R1011	J24205223	〃 〃 -223J 22kΩ
R1069	J24205473	〃 〃 -473J 47kΩ
R1010, 1012-1014, 1016, 1019, 1024, 1026, 1027	J24205104	〃 〃 -104J 100kΩ
R1067	J24205124	〃 〃 -124J 120kΩ
R1021	J24205225	〃 〃 -225J 2.2MΩ
		POTENTIOMETERS
VR1001-1004	J51745473	H0651A017-47KB 47kΩ B
		CAPACITORS
C1028	K22170202	Chip Ceramic 50WV 1pF CH (C2012 CH1H 010CFA)
C1038	K22170203	〃 〃 〃 2pF 〃 (C2012 CH1H 020CFA)
C1036, 1040, 1055, 1059	K22170205	〃 〃 〃 4pF 〃 (C2012 CH1H 040CFA)
C1019	K22170206	〃 〃 〃 5pF 〃 (C2012 CH1H 050CFA)
C1046, 1051, 1056, 1058	K22170208	〃 〃 〃 7pF 〃 (C2012 CH1H 070DFA)
C1034, 1037	K22170309	〃 〃 〃 8pF UJ (C2012 UJ1H 080DFA)
C1039, 1109	K22170209	〃 〃 〃 8pF CH (C2012 CH1H 080DFA)
C1044	K22170211	〃 〃 〃 10pF 〃 (C2012 CH1H 100DFA)
C1035, 1042, 1054, 1104	K22170215	〃 〃 〃 15pF 〃 (C2012 CH1H 150JFA)
C1009, 1010, 1045, 1105	K22170223	〃 〃 〃 33pF 〃 (C2012 CH1H 330JFA)
C1101	K22170225	〃 〃 〃 39pF 〃 (C2012 CH1H 390JFA)
C1008, 1033	K22170227	〃 〃 〃 47pF 〃 (C2012 CH1H 470JFA)
C1106	K22170231	〃 〃 〃 68pF 〃 (C2012 CH1H 680JFA)
C1047	K22170235	〃 〃 〃 100pF 〃 (C2012 CH1H 101JFA)
C1005, 1006, 1011, 1014, 1016, 1021, 1024, 1025, 1030-1032, 1041, 1043, 1049, 1050, 1052, 1060-1062, 1070, 1076, 1077, 1079-1082, 1103	K22170805	〃 〃 〃 0.001μF B (C2012 B1H 102MFA)
C1004, 1007, 1053, 1064, 1066-1068, 1074, 1075, 1083-1090, 1102, 1110		〃 〃 〃 0.01μF 〃
C1048	K22171008	〃 〃 〃 0.047μF F (C2012 F1H 473ZFA)
	K02175150	Ceramic disc 50WV 15pF CH (DD104CH 150J50)
	K02175330	〃 〃 〃 33pF 〃 (DD105CH 330J50)
	K13179008	〃 〃 〃 0.01μF F (DD106F 103Z50)

C1013, 1015, 1017, 1018, 1020, 1023, 1027, 1078	K40129004	Electrolytic 16WV 10µF (RE-16V 100M)
C1012	K40129049	〃 〃 470µF (RE2-16V 471M)
		TRIMMER CAPACITORS
TC1001, 1003	K91000108	CTZ51A 6pF
TC1002	K91000089	CTZ51G 50pF
		INDUCTORS
L1005, 1006, 1011, 1022	L0020679	
L1002	L0021631	
L1003, 1004, 1016-1018, 1020, 1023	L1190138	LAL04NA 100K 10µH
L1007	L0020678	
L1008	L1020663	
L1009, 1010, 1012	L1020673	
L1013	L1020692A	
L1014	L0021356	
L1015	L1020688	
L1019	L1190319	LAL04NA 2R2M 2.2µH
L1021	L1190327	
		TRANSFORMERS
T1001-1008	L0020907	
T1009, 1011, 1012	L0021462	
T1013	L0020857	
		RELAY
RL1001	M1190052	MR-62-12S
		MINI CONNECTORS
J1001	P0090520	3022-03B
J1002	P0090594	3022-05B
		TERMINAL POSTS
	Q5000050	TP-K

PLL LOCAL UNIT

Symbol No.	Part No.	Name & Description
	F2800101	Printed Circuit Board
	C028000A	PCB with Components
		ICs
Q2004	G1090087	MC4044P
Q2005	G1090084	µPC 78L05
Q2006	G1090195	SN74LS73N
Q2007	G1090697	M54455L
		TRANSISTORS
Q2001-2003	G3327127G	2SC2712 GRTE85R
Q2010	G3320260	2SC2026
Q2012, 2013, 2016	G3326207B	2SC2620 QB
		FETs
Q2008, 2009, 2011	G3803027Y	2SK302Y
Q2014, 2015	G3802410Y	2SK241Y
		DIODES
D2001	G2090118	1SS97 Schottky
D2002, 2003	G2090107	1T25 Varactor
D2004, 2005	G2090237	MA190 Si

		THERMISTOR
TH2001	G9090008	31D26
		RESISTORS
R2002, 2018, 2032	J24205220	Chip RMC 1/10 -220J 22Ω
R2014, 2015, 2024, 2030, 2035	J24205470	〃 〃 -470J 47Ω
R2007, 2012, 2027	J24205101	〃 〃 -101J 100Ω
R2019, 2042, 2048	J24205151	〃 〃 -151J 150Ω
R2011, 2020, 2031, 2043	J24205331	〃 〃 -331J 330Ω
R2036, 2037, 2040, 2045	J24205471	〃 〃 -471J 470Ω
R2003-2005, 2008, 2022, 2026	J24205102	〃 〃 -102J 1kΩ
R2001, 2025	J24205152	〃 〃 -152J 1.5kΩ
R2049	J2420222	〃 〃 -222J 2.2kΩ
R2016, 2034	J24205332	〃 〃 -332J 3.3kΩ
R2028, 2041	J24205472	〃 〃 -472J 4.7kΩ
R2009, 2029	J24205682	〃 〃 -682J 6.8kΩ
R2017, 2033	J24205103	〃 〃 -103J 10kΩ
R2044	J24205333	〃 〃 -333J 33kΩ
R2038, 2039	J24205473	〃 〃 -473J 47kΩ
R2006, 2013, 2021	J24205104	〃 〃 -104J 100kΩ
R2010	J24205474	〃 〃 -474J 470kΩ
R2047	J01215221	Carbon Film 1/8W 220Ω TJ
R2050	J01215222	〃 〃 〃 2.2kΩ 〃
		CAPACITORS
C2025	K22170201	Chip Ceramic 50WV 0.5pFCH (C2012 CH1H 0R5CFA)
C2034	K22170204	〃 〃 〃 3pF 〃 (C2012 CH1H 030CFA)
C2020	K22170206	〃 〃 〃 5pF 〃 (C2012 CH1H 050CFA)
C2013	K22170208	〃 〃 〃 7pF 〃 (C2012 CH1H 070DFA)
C2038	K22170209	〃 〃 〃 8pF 〃 (C2012 CH1H 080DFA)
C2015	K22170210	〃 〃 〃 9pF 〃 (C2012 CH1H 090DFA)
C2029, 2030	K22170211	〃 〃 〃 10pF 〃 (C2012 CH1H 100DFA)
C2014, 2016	K22170213	〃 〃 〃 12pF 〃 (C2012 CH1H 120JFA)
C2033, 2035	K22170215	〃 〃 〃 15pF 〃 (C2012 CH1H 150JFA)
C2036	K22170219	〃 〃 〃 22pF 〃 (C2012 CH1H 220JFA)
C2042	K22170229	〃 〃 〃 56pF 〃 (C2012 CH1H 560CFA)
C2012, 2019, 2021-2024, 2026-2028, 2031, 2032, 2037, 2039, 2040, 2042, 2048	K22170805	〃 〃 〃 0.001µF B (C2012 B1H 102MFA)
C2003, 2006, 2008-2011, 2043-2047	K22170817	〃 〃 〃 0.01µF B (C2012 B1H 103MFA)
C2049	K02173070	Ceramic disc 50WV 7pF CH (DD104CH 070D50)
C2004	K52170002	Metallized Film 100WV 1µF (ECQ-V1H105JZ)
C2001	K50170019	Mylar 〃 0.1µF (50F2D 104M)
C2007, 2018	K40129004	Electrolytic 16WV 10µF (RE-16V 100M)

C2005	K40129002	Electrolytic 16WV 47μF (RE-16V 470M)			
C2002	K40129007	〃 〃 100μF (RE-16V 101M)			
		TRIMMER CAPACITOR			
TC2001	91000147	CT35A 6pF			
		INDUCTORS			
L2001-2003, 2010, 2011, 2013	L1190329	LAL04NA330K 33μH			
L2004, 2005, 2007	L1190236	LAL04NA2R2K 2.2μH			
L2006	L0021634	FEM85-4F			
L2008, 2009	L1020680				
L2012	L1190138	LAL04NA100K 10μH			
L2014	L1190131	LAL04NA1R8M 1.8μH			
L2015	L1190188	LAL04NAR22H 0.22μH			
		TRANSFORMERS			
T2001-2004	L0020907				
T2005	L0020825				
		MINI CONNECTORS			
J2001	P1090425	5124-03BH			
J2002	P1090427	5124-05BH			
		TERMINAL POSTS			
	Q5000050	TP-K			
	R0115290	Shield Case			
	R0115300	Shield Top			

FEX-767-7

MAIN CHASSIS		
Symbol No.	Part No.	Name & Description
		RECEPTACLE
J1 (A, B)	P1090547	N-RDS 020-0291 (N)
J1 (F)	P1090352	NR-S FM-MDR-MI (M)
		MAIN UNIT
	F2851101B	Printed Circuit Board
	C028511A	PCB with components
		ICs
Q1001	G1090341	M57716
Q1010	G1090002	SN7403N
Q1013	G1090084	μPC78L05
		FETs
Q1005, 1007	G3801250	2SK125
Q1006	G4801210G	3SK121GR
Q1008	G3802410G	2SK241GR
		TRANSISTORS
Q1002	G3314260	2SC1426
Q1003	G3324071	2SC2407(A)
Q1004	G3333550	2SC3355
Q1009, 1011, 1012	G3106840	2SA684
Q1014	G3090076	BA1L4L
		DIODES
D1001, 1002, 1005, 1006	G2090118	1SS97 Schottky
D1003, 1004, 1007-1009, 1012-1015	G2015550	1S1555 Si
	G2090044	MC301 〃
D1016	G2090247	ND487C1-3R Schottky Ring
		RESISTORS
R1001, 1015, 1031	J02225470	Carbon film 1/6W 47Ω UJ
R1009	J01225470	〃 〃 〃 47Ω PJ
R1006	J02245470	〃 〃 1/4W 47Ω SJ
R1002	J02245101	〃 〃 〃 100Ω 〃
R1003, 1017, 1026, 1027	J02225101	〃 〃 1/6W 100Ω UJ
R1011	J01225101	〃 〃 〃 100Ω PJ
R1014, 1045-1047	J02225151	〃 〃 〃 150Ω UJ
R1023	J01225151	〃 〃 〃 150Ω PJ
R1018, 1032	J02225221	〃 〃 〃 220Ω 〃
R1008	J01245270	〃 〃 1/4W 270Ω TJ
R1037	J02225331	〃 〃 1/6W 330Ω UJ
R1041	J01225331	〃 〃 〃 330Ω PJ
R1038	J02225471	〃 〃 〃 470Ω UJ
R1004, 1005, 1010, 1042	J01225471	〃 〃 〃 470Ω PJ
R1016, 1030, 1040, 1044	J02225102	〃 〃 〃 1kΩ UJ
R1034	J01225102	〃 〃 〃 1kΩ PJ
R1013, 1021	J02225152	〃 〃 〃 1.5kΩ UJ
R1012	J02225332	〃 〃 〃 3.3kΩ 〃
R1036	J02225472	〃 〃 〃 4.7kΩ 〃
R1022, 1035, 1039, 1043	J01225682	〃 〃 〃 6.8kΩ PJ
	J02225103	〃 〃 〃 10kΩ UJ
R1050, 1052, 1053	J01225473	〃 〃 〃 47kΩ PJ
R1019	J02225104	〃 〃 〃 100kΩ UJ
R1049	J01225154	〃 〃 〃 150kΩ PJ
R1051	J01225224	〃 〃 〃 220kΩ 〃
R1020	J01225225	〃 〃 〃 2.2MΩ 〃
R1007	J24205331	Chip RMC-1/10-331J 330Ω
VR1001	J51745331	POTENTIOMETERS H0651A004-330B 330ΩB
VR1002-1005	J51745473	H0651A017-47KB 47kΩB
		CAPACITORS
C1055	K02172159	Ceramic disc 50WV 1.5pF CH (D104CK1R5C50)
C1035, 1048, 1061	K02172030	〃 〃 〃 3pF 〃 (DD104CK030C50)
C1002	K02172040	〃 〃 〃 4pF 〃 (DD104CH040C50)
C1007-1009	K02172050	〃 〃 〃 5pF 〃 (DD104CH050C50)
C1028	K02173060	〃 〃 〃 6pF 〃 (DD104CH060D50)
C1047	K02173090	〃 〃 〃 9pF 〃 (DD104CH090D50)
C1026	K02175150	〃 〃 〃 15pF 〃 (DD104CH150J50)
C1021	K02175180	〃 〃 〃 18pF 〃 (DD104CH180D50)
C1049	K02179009	〃 〃 〃 22pF 〃 (DD104CH220J50)
C1031	K02175330	〃 〃 〃 33pF 〃 (DD105CH330J50)
C1077, 1078	K02175680	〃 〃 〃 68pF 〃 (DD107CH680J50)
C1003-1006, 1010, 1012, 1014, 1016, 1018, 1019, 1023, 1024, 1029, 1030, 1033, 1034, 1036-1041, 1044-1046, 1050, 1052-1054, 1057-1060, 1064-1068, 1070, 1075	K10176102	〃 〃 〃 0.001μF B (DD104B102K50)
C1071, 1074	K13179008	〃 〃 〃 0.01μF F (DD106F103Z50)
C1025, 1051	K22170805	Chip Ceramic 50WV0.001μFB (C2012B1H102MFA)
C1011, 1013, 1015, 1017, 1020, 1022, 1072, 1073, 1079	K40129004	Electrolytic 16WV 10μF (RE-16V100M)
		TRIMMER CAPACITORS
TC1001-1003	K91000108	VCT51A 6pF
		INDUCTORS
L1004, 1005, 1015, 1026	L0021273	
L1002, 1003, 1014, 1025, 1027, 1030	L1190199	LAL03NA 2R2M
L1007-1009, 1018	L1020673	
L1006	L1020663	
L1010	L0020900	
L1011	L0020474	
L1012, 1017	L0021359	
L1001	L0021590	
L1019, 1020	L0190007	
L1021	L1190264	L-C3A 330MA 33μH
L1022	L0020342	
L1023	L0020472	
L1024	L0020678	
L1031	L1190190	0.27μH
	L1190258	L-C3A 100KA

L1032, 1033	L1190295	LAL02NA100K
		TRANSFORMER
T1001	L0021546	
		CAVITIES
CV1001-1004	L4020026	CV-441B
		RELAY
RL1001	M1190063	G5Y-154P-DC6V
		CONNECTOR
	P0090520	3022-03B
P1002	P0090594	3022-05B
		TERMINAL POSTS
		COIL CASE
	L9190016	7×7
	L9190019	10×10
PLL LOCAL UNIT		
	F2852101A	Printed Circuit Board
	C028521A	PCB with components
		ICs
Q2004-2006	G1090653	μPC 1651G
Q2008	G1090498	μPB 571C
Q2010	G1090473	TC5081AP
Q2011, 2012	G1090247	TC9122P
		FETs
Q2001	G3801921G	2SK192AGR
Q2002	G3802410Y	2SK241Y
		TRANSISTORS
Q2003	G3320260	2SC2026
Q2007	G3333540T	2SC3354T
Q2009, 2013	G3309450P	2SC945P
Q2014	G3111150E	2SA1115E
		DIODES
D2001, 2002	G2090248	1T32 Varactor
D2003	G2090247	ND487C1-3R Schottky Ring
D2004-2007	G2015550	1S1555 Si
		RESISTORS
R2011-2013	J02225220	Carbon film 1/6W 22Ω UJ
R2002	J02225390	〃 〃 〃 39Ω 〃
R2005, 2006, 2010	J02225470	〃 〃 〃 47Ω 〃
R2019	J02225560	〃 〃 〃 56Ω 〃
R2003, 2018, 2031, 2037	J02225101	〃 〃 〃 100Ω 〃
R2034	J01225101	〃 〃 〃 100Ω PJ
R2023, 2028	J02225151	〃 〃 〃 150Ω UJ
R2009, 2016	J02225221	〃 〃 〃 220Ω 〃
R2017, 2032	J01225221	〃 〃 〃 220Ω PJ
R2022, 2027	J02225331	〃 〃 〃 330Ω UJ
R2026	J02225122	〃 〃 〃 1.2kΩ 〃
R2025	J01225152	〃 〃 〃 1.5kΩ PJ
R2008, 2024	J02225222	〃 〃 〃 2.2kΩ UJ
R2014	J02225332	〃 〃 〃 3.3kΩ 〃
R2036	J01225103	〃 〃 〃 10kΩ PJ
R2007	J02225103	〃 〃 〃 10kΩ UJ
R2015, 2021, 2030	J02225183	〃 〃 〃 18kΩ 〃
R2033, 2035	J01225223	〃 〃 〃 22kΩ PJ
R2020, 2029	J02225333	〃 〃 〃 33kΩ UJ
R2001, 2004	J02225104	〃 〃 〃 100kΩUJ
		CAPACITORS
C2008	K02172020	Ceramic disc 50WV 2pFCH (DD104CK020C50)
C2002(A)	K02172030	〃 〃 〃 3pF 〃 (DD104CJ030C50)
C2001	K02172040	〃 〃 〃 4pF 〃 (DD104CH040C50)
C2002(B,F), 2014	K02172050	〃 〃 〃 5pF 〃 (DD104CH050C50)
C2029	K02173060	〃 〃 〃 6pF 〃 (DD104CH060D50)
C2004	K02173070	〃 〃 〃 7pF 〃 (DD104CH070D50)
C2003	K02173090	〃 〃 〃 9pF 〃 (DD104CH090D50)
C2015, 2016, 2055(B,F), 2056(B,F)	K02173100	〃 〃 〃 10pF 〃 (DD104CH100D50)
C2005	K02175120	〃 〃 〃 12pF 〃 (DD104CH120J50)
C2011	K02179009	〃 〃 〃 22pF 〃 (DD104CH220J50)
C2007, 2009, 2010, 2012, 2013, 2017-2021, 2024, 2025, 2026, 2031, 2035	K10176102	〃 〃 〃 0.001μF B (DD104B102K50)
C2022, 2023, 2027, 2028, 2030, 2032-2034 2036-2038, 2041, 2043-2048, 2050, 2051	K13179008	〃 〃 〃 0.01μF F (DD106F103Z50)
C2042	K50170019	Mylar 50WV 0.1μF (50F2D 104M)
C2040	K40179013	Electrolytic 〃 1μF (RE-50V 010M)
C2039	K40129004	〃 〃 10μF (RE-16V 100M)
C2049	K40129042	〃 〃 100μF (RE2-16V 101M)
C2006	K40109024	〃 10WV 100μF (RE2-10V101M)
C2053, 2054	K70127225	Tantalum 16WV 2.2μF (DN1C2R2MIS)
		TRIMMER CAPACITOR
TC2001	K91000148	VCT31A 157A 6pF
		CAVITIES
CV2001, 2002 (A)	L4020014	CV500A
CV2001, 2002(B,F)	L4020015	CV480A
CV2003, 2004	L4020018	CV420A
		INDUCTORS
L2001, 2002, 2004	L1190199	LAL03NA2R2M 2.2μH
L2003	L0021688	
L2005	L1020680	
L2006	L0020903	
L2007, 2008, 2013	L1190148	LAL03NA100K 10μH
L2009-2012	L1190212	LAL03NA330K 33μH
		TRANSFORMERS
T2001, 2002	L0190007	
		THERMISTOR
TH2001	G9090008	31D26
		CONNECTORS
J2001	P0090192	B03B-XH-A
J2002	P1090427	5124-05BH
		TERMINAL POSTS
TP2001	Q5000050	TP-K
	R0115290	Shield case
	R0115300	〃 Top

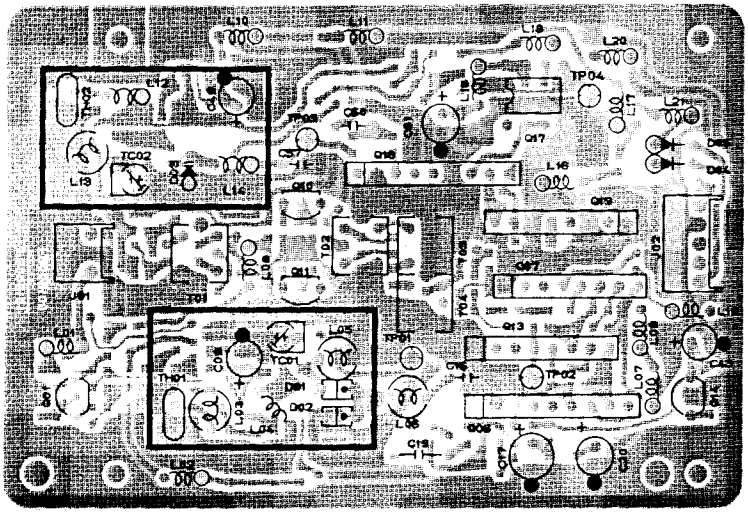
LATE PRODUCTION LOT ADDENDUM
FOR
FT-767GX
TECHNICAL SUPPLEMENT

LOCAL UNIT (PROD. LOT 18+)

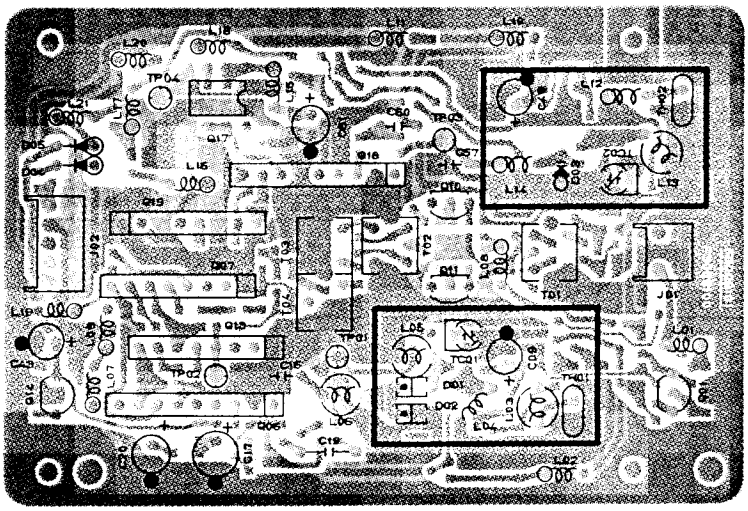
FEX-767-2 PLL UNIT (PROD. LOT 18+)

YAESU MUSEN CO., LTD.
C.P.O. BOX 1500
TOKYO, JAPAN

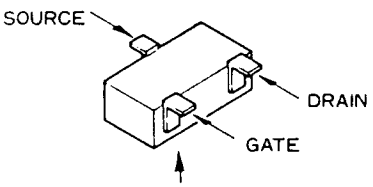
FEX-767-2 PLL UNIT PARTS LAYOUT



(Obverse view of "component" side)

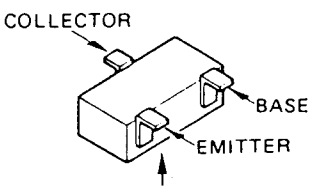


(Reverse view of "component" side)



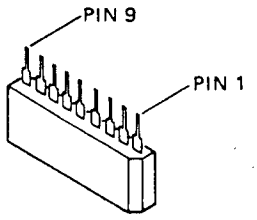
Marked Surface

2SK210GR (YG)
(Q2002,2003,2008,
2015,2016)

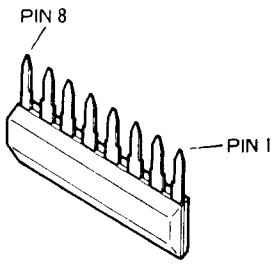


Marked Surface

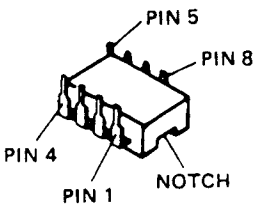
2SC2620 (QB)
(Q2009,2012)
2SC2712GR (LG)
(Q2004,2005)



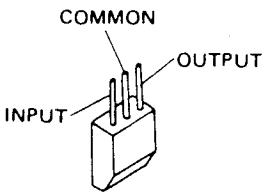
TC5081AP (Q2006,2018)



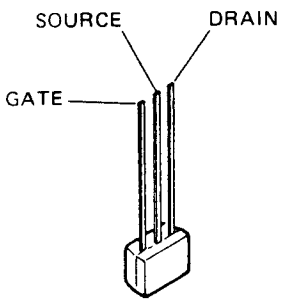
M54455L (Q2019)
M54459L (Q2007,2013)



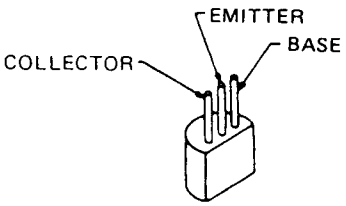
MC12017P (Q2017)



μPC78L05J (Q2014)

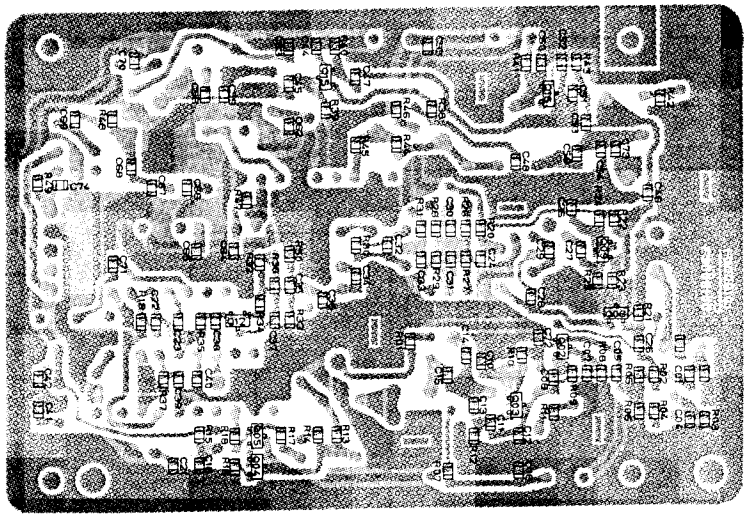


2SK241Y (Q2010,2011)

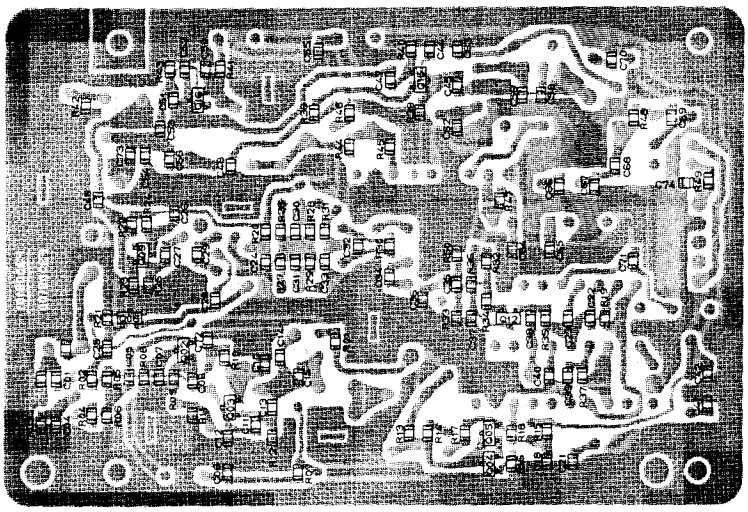


2SC2026 (Q2001)

FEX-767-2 PLL UNIT PARTS LAYOUT



(Obverse view of "chip" side)

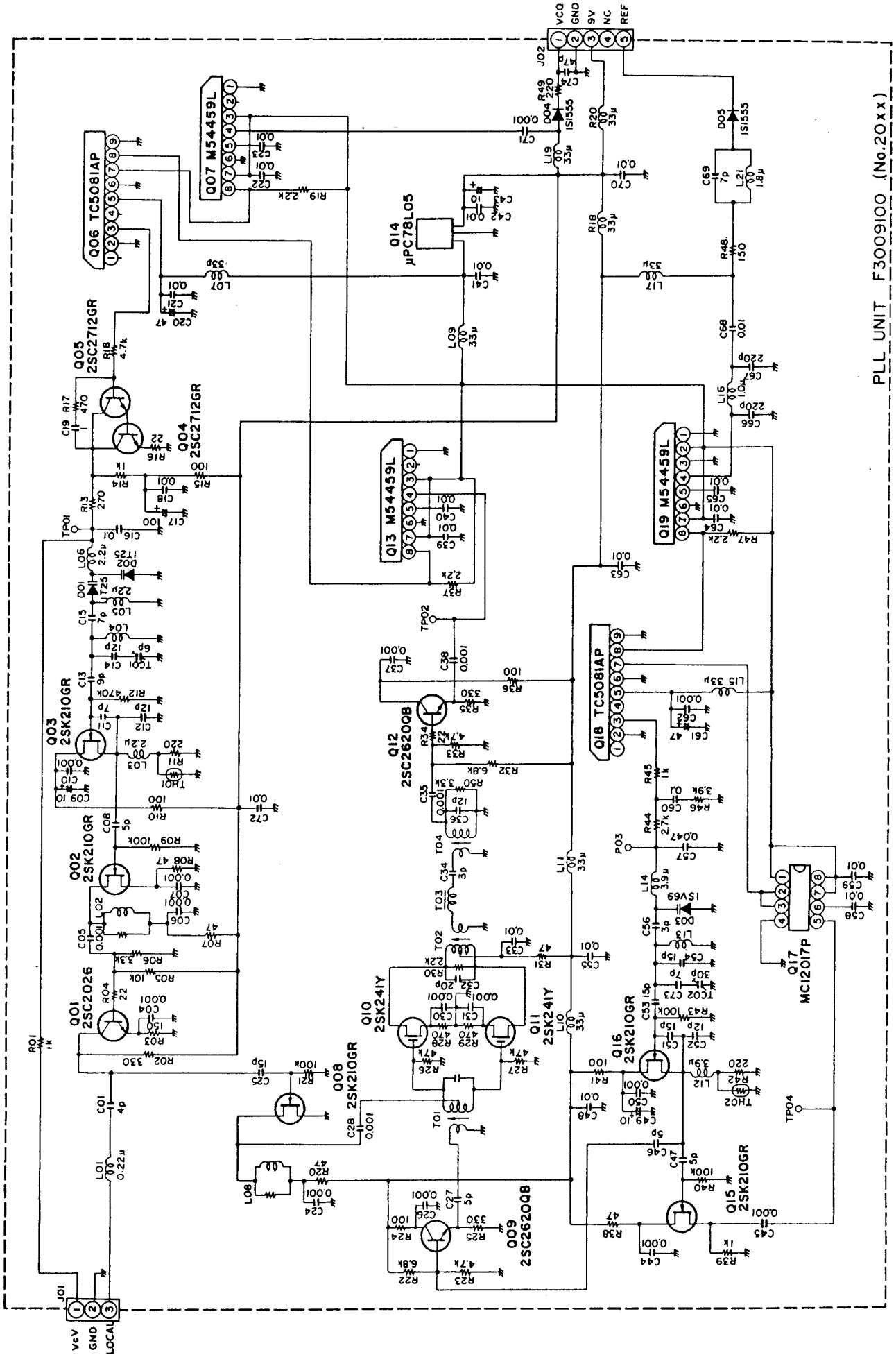


(Reverse view of "chip" side)

FEX-767-2 PLL UNIT VOLTAGE CHART (DC VOLT)

	E (S)	C (D)	B (G)	REMARKS
Q2001	5.05	1.11	1.84	
Q2002	0.25	8.52	0	
Q2003	0.82	8.29	0	
Q2004	0	5.03	0.10	
Q2005	0.21	5.03	0.10	
Q2008	0	8.30	-0.30	
Q2009	2.47	7.96	3.24	
Q2010	0.99	8.54	0	
Q2011	1.00	8.50	0	
Q2012	2.48	8.02	3.26	
Q2015	2.12	8.63	0	
Q2016	0.89	8.16	0	

FEX-767-2 PLL UNIT CIRCUIT DIAGRAM



FEX-767-2 PLL UNIT ALIGNMENT

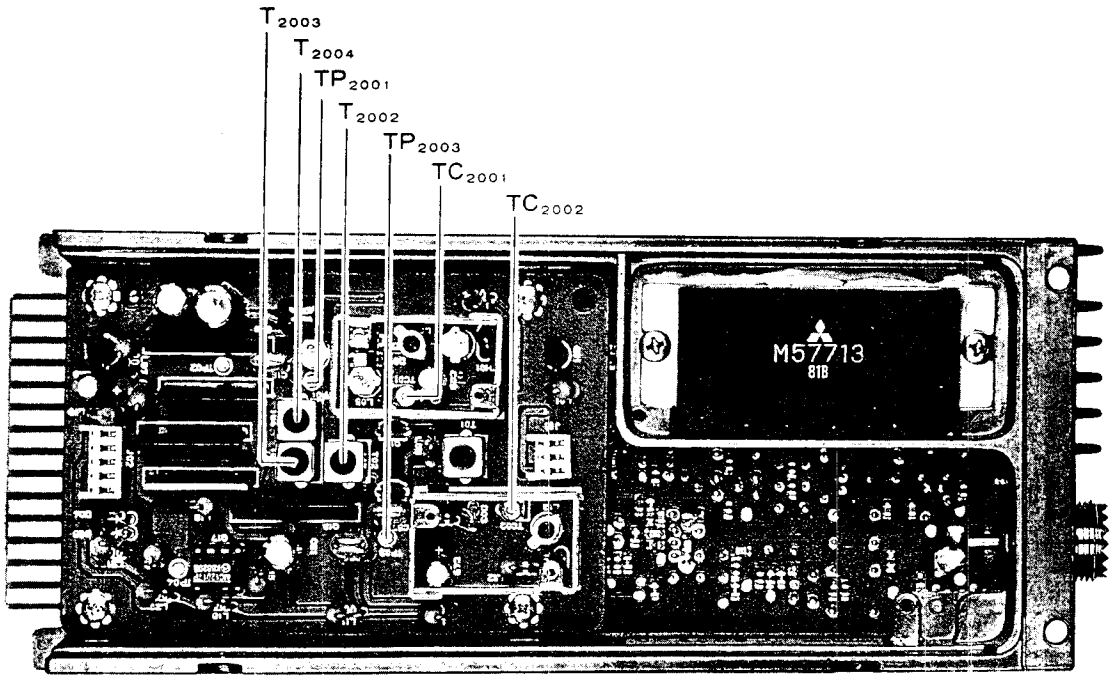
(1) Sub Loop VCV (Varactor Control Voltage)
Connect the high-impedance DC voltmeter to TP2003, and the frequency counter to TP2004. Adjust TC2002 for 2.0 ±0.1V, and confirm 120 MHz ±1 kHz on the counter.

(2) Main Loop VCV
Tune to the high edge of the band and connect the high impedance DC voltmeter to TP2001. Adjust TC2001 for 8.2 ±0.1V on the meter. Retune to the low edge of the band and confirm 1 to 2V.

(3) PLL Output Level
Connect the RF millivoltmeter to TP2002. Tune to the center of the band and adjust T2001 for maximum RF. Then retune as indicated below, adjusting each transformer for maximum RF above the levels indicated.

Frequency	Transformer	Min. Level
Low Edge	T2003	100 mVrms
Band Center	T2002	100 mVrms
High Edge	T2004	80 mVrms

Repeat the adjustments at each frequency several times.



FEX-767-2 PLL UNIT ALIGNMENT POINTS

Q 2001	G3320260	Transistor	2SC2026
Q 2002	G3802107G	FET	2SK210GR TE85R
Q 2003	G3802107G	FET	2SK210GR TE85R
Q 2004	G3327127G	Transistor	2SC2712GR TE85R
Q 2005	G3327127G	Transistor	2SC2712GR TE85R
Q 2006	G1090473	IC	TC5081AP
Q 2007	G1090838	IC	M54459L
Q 2008	G3802107G	FET	2SK210GR TE85R
Q 2009	G3326207B	Transistor	2SC2620 QBTR
Q 2010	G3802410Y	FET	2SK241Y
Q 2011	G3802410Y	FET	2SK241Y
Q 2012	G3326207B	Transistor	2SC2620 QBTR
Q 2013	G1090838	IC	M54459L
Q 2014	G1090848	IC	uPC78L05J
Q 2015	G3802107G	FET	2SK210GR TE85R
Q 2016	G3802107G	FET	2SK210GR TE85R
Q 2017	G1090725	IC	MC12017P
Q 2018	G1090473	IC	TC5081AP
Q 2019	G1090697	IC	M54455L
D 2001	G2090107	Diode	1T25
D 2002	G2090107	Diode	1T25
D 2003	G2090109	Diode	1SV69
D 2004	G2015550	Diode	1S1555
D 2005	G2015550	Diode	1S1555
TH 2001	G9090008	Thermistor	112102-2
TH 2002	G9090008	Thermistor	112102-2
R 2001	J24205102	RES. Chip	1k Ohm 1/10W
R 2002	J24205331	RES. Chip	330 Ohm 1/10W
R 2003	J24205151	RES. Chip	150 Ohm 1/10W
R 2004	J24205220	RES. Chip	22 Ohm 1/10W
R 2005	J24205103	RES. Chip	10k Ohm 1/10W
R 2006	J24205332	RES. Chip	3.3k Ohm 1/10W
R 2007	J24205470	RES. Chip	47 Ohm 1/10W
R 2008	J24205470	RES. Chip	47 Ohm 1/10W
R 2009	J24205104	RES. Chip	100k Ohm 1/10W
R 2010	J24205101	RES. Chip	100 Ohm 1/10W
R 2011	J24205221	RES. Chip	220 Ohm 1/10W
R 2012	J24205474	RES. Chip	470k Ohm 1/10W
R 2013	J24205271	RES. Chip	270 Ohm 1/10W
R 2014	J24205102	RES. Chip	1k Ohm 1/10W
R 2015	J24205101	RES. Chip	100 Ohm 1/10W
R 2016	J24205220	RES. Chip	22 Ohm 1/10W
R 2017	J24205471	RES. Chip	470 Ohm 1/10W
R 2018	J24205472	RES. Chip	4.7k Ohm 1/10W
R 2019	J24205222	RES. Chip	2.2k Ohm 1/10W
R 2020	J24205470	RES. Chip	47 Ohm 1/10W
R 2021	J24205104	RES. Chip	100k Ohm 1/10W
R 2022	J24205682	RES. Chip	6.8k Ohm 1/10W
R 2023	J24205472	RES. Chip	4.7k Ohm 1/10W
R 2024	J24205101	RES. Chip	100 Ohm 1/10W
R 2025	J24205331	RES. Chip	330 Ohm 1/10W
R 2026	J24205473	RES. Chip	47k Ohm 1/10W
R 2027	J24205473	RES. Chip	47k Ohm 1/10W
R 2028	J24205471	RES. Chip	470 Ohm 1/10W
R 2029	J24205471	RES. Chip	470 Ohm 1/10W
R 2030	J24205222	RES. Chip	2.2k Ohm 1/10W
R 2031	J24205470	RES. Chip	47 Ohm 1/10W
R 2032	J24205682	RES. Chip	6.8k Ohm 1/10W
R 2033	J24205472	RES. Chip	4.7k Ohm 1/10W
R 2034	J24205220	RES. Chip	22 Ohm 1/10W
R 2035	J24205331	RES. Chip	330 Ohm 1/10W
R 2036	J24205101	RES. Chip	100 Ohm 1/10W
R 2037	J24205222	RES. Chip	2.2k Ohm 1/10W
R 2038	J24205470	RES. Chip	47 Ohm 1/10W
R 2039	J24205102	RES. Chip	1k Ohm 1/10W
R 2040	J24205104	RES. Chip	100k Ohm 1/10W
R 2041	J24205101	RES. Chip	100 Ohm 1/10W
R 2042	J24205221	RES. Chip	2.2k Ohm 1/10W
R 2043	J24205104	RES. Chip	100k Ohm 1/10W
R 2044	J24205272	RES. Chip	2.7k Ohm 1/10W
R 2045	J24205102	RES. Chip	1k Ohm 1/10W
R 2046	J24205392	RES. Chip	3.9k Ohm 1/10W
R 2047	J24205222	RES. Chip	2.2k Ohm 1/10W
R 2048	J24205151	RES. Chip	150 Ohm 1/10W
R 2049	J24205221	RES. Chip	220 Ohm 1/10W
R 2050	J24205332	RES. Chip	3.3k Ohm 1/10W
C 2001	K22170205	CAP. Chip	4pF 50V CH
C 2004	K22170805	CAP. Chip	0.001uF 50V B
C 2005	K22170805	CAP. Chip	0.001uF 50V B
C 2006	K22170805	CAP. Chip	0.001uF 50V B
C 2007	K22170805	CAP. Chip	0.001uF 50V B
C 2008	K22170206	CAP. Chip	5pF 50V CH
C 2009	K40129004	AL.Electro CAP.	10uF 16V
C 2010	K22170805	CAP. Chip	0.001uF 50V B
C 2011	K22170208	CAP. Chip	7pF 50V CH
C 2012	K22170213	CAP. Chip	12pF 50V CH
C 2013	K22170210	CAP. Chip	9pF 50V CH
C 2014	K22170213	CAP. Chip	12pF 50V CH
C 2015	K22170208	CAP. Chip	7pF 50V CH
C 2016	K50170017	Mylar CAP.	0.047uF 50V
C 2017	K40129007	AL.Electro CAP.	100uF 16V
C 2018	K22170817	CAP. Chip	0.01uF 50V B
C 2019	K52170002	Mylar CAP.	1uF 50V
C 2020	K40129002	AL.Electro CAP.	47uF 16V
C 2021	K22170817	CAP. Chip	0.01uF 50V B
C 2022	K22170817	CAP. Chip	0.01uF 50V B
C 2023	K22170817	CAP. Chip	0.01uF 50V B
C 2024	K22170805	CAP. Chip	0.001uF 50V B
C 2025	K22170215	CAP. Chip	15pF 50V CH
C 2026	K22170805	CAP. Chip	0.001uF 50V B
C 2027	K22170206	CAP. Chip	5pF 50V CH
C 2028	K22170805	CAP. Chip	0.001uF 50V B
C 2029	K22170209	CAP. Chip	8pF 50V CH
C 2030	K22170805	CAP. Chip	0.001uF 50V B
C 2031	K22170805	CAP. Chip	0.001uF 50V B
C 2032	K22170219	CAP. Chip	22pF 50V CH
C 2033	K22170817	CAP. Chip	0.01uF 50V B
C 2034	K22170204	CAP. Chip	3pF 50V CH
C 2035	K22170805	CAP. Chip	0.001uF 50V B
C 2036	K22170219	CAP. Chip	22pF 50V CH
C 2037	K22170805	CAP. Chip	0.001uF 50V B
C 2038	K22170805	CAP. Chip	0.001uF 50V B
C 2039	K22170817	CAP. Chip	0.01uF 50V B

C 2040	K22170817	CAP. Chip	0.01uF	50V	B
C 2041	K22170817	CAP. Chip	0.01uF	50V	B
C 2042	K22170817	CAP. Chip	0.01uF	50V	B
C 2043	K40129004	AL.Electro CAP.	10uF	16V	
C 2044	K22170805	CAP. Chip	0.001uF	50V	B
C 2045	K22170805	CAP. Chip	0.001uF	50V	B
C 2046	K22170206	CAP. Chip	5pF	50V	CH
C 2047	K22170206	CAP. Chip	5pF	50V	CH
C 2048	K22170817	CAP. Chip	0.01uF	50V	B
C 2049	K40129004	AL.Electro CAP.	10uF	16V	
C 2050	K22170805	CAP. Chip	0.001uF	50V	B
C 2051	K22170215	CAP. Chip	15pF	50V	CH
C 2052	K22170213	CAP. Chip	12pF	50V	CH
C 2053	K22170215	CAP. Chip	15pF	50V	CH
C 2054	K22170213	CAP. Chip	12pF	50V	CH
C 2055	K22170817	CAP. Chip	0.01uF	50V	B
C 2056	K22170204	CAP. Chip	3pF	50V	CH
C 2057	K50170017	Mylar CAP.	0.01uF	50V	B
C 2058	K22170817	CAP. Chip	0.01uF	50V	B
C 2059	K22170817	CAP. Chip	0.01uF	50V	B
C 2060	K50170019	Mylar CAP.	0.1uF	50V	
C 2061	K40129002	AL.Electro CAP.	47uF	16V	
C 2062	K22170805	CAP. Chip	0.001uF	50V	B
C 2063	K22170817	CAP. Chip	0.01uF	50V	B
C 2064	K22170817	CAP. Chip	0.01uF	50V	B
C 2065	K22170817	CAP. Chip	0.01uF	50V	B
C 2066	K22170243	CAP. Chip	220pF	50V	CH
C 2067	K22170243	CAP. Chip	220pF	50V	CH
C 2068	K22170817	CAP. Chip	0.01uF	50V	B
C 2069	K22170208	CAP. Chip	7pF	50V	CH
C 2070	K22170817	CAP. Chip	0.01uF	50V	B
C 2071	K22170805	CAP. Chip	0.001uF	50V	B
C 2072	K22170817	CAP. Chip	0.01uF	50V	B
TC 2001	K91000147	Trimmer CAP.	6pF		
TC 2002	K91000147	Trimmer CAP.	6pF		
L 2001	L1190312	M.RFC	0.22uH		
L 2002	L1020680	RFC			
L 2003	L1190236	M.RFC	2.2uH		
L 2004	L0021634	Coil			
L 2005	L1190236	M.RFC	2.2uH		
L 2006	L1190236	M.RFC	2.2uH		
L 2007	L1190329	M.RFC	33uH		
L 2008	L1020680	RFC			
L 2009	L1190329	M.RFC	33uH		
L 2010	L1190329	M.RFC	33uH		
L 2011	L1190329	M.RFC	33uH		
L 2012	L1190322	M.RFC	3.9uH		
L 2013	L0021634	Coil			
L 2014	L1190322	M.RFC	3.9uH		
L 2015	L1190329	M.RFC	33uH		
L 2016	L1190089	M.RFC	1.0uH		
L 2017	L1190329	M.RFC	33uH		
L 2018	L1190329	M.RFC	33uH		
L 2019	L1190329	M.RFC	33uH		
L 2020	L1190329	M.RFC	33uH		
L 2021	L1190131	M.RFC	1.8uH		
T 2001	L0020907	Coil		145MHz	
T 2002	L0021646	Coil		132MHz	
T 2003	L0020963	Coil		145MHz	
T 2004	L0021646	Coil		132MHz	
J 2001	P1090425	Connector	5124-03BHPB		
J 2002	P1090427	Connector	5124-05BHPB		
	Q5000050	Terminal Posts	TP-K		
	R0115290	Shield Case			
	R0115300	Shield Case Lid			

NOTE