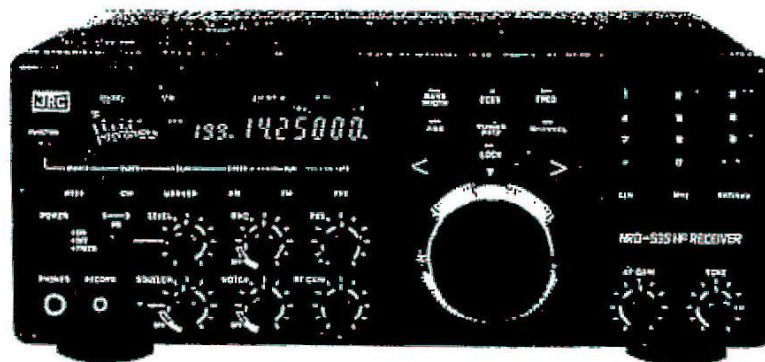


MODEL NRD-535

SERVICE MANUAL

**JRC** *Japan Radio Co., Ltd.*



**HF RECEIVER**



# PREFACE

This document describes required information for the acquisition of the basic principle of operation, the maintenance and the troubleshooting of the Model NRD-535 HF Receiver. For the operation and handling, refer to the Model NRD-535 Instruction Manual attached to the product.

The circuits of the NRD-535 are constituted on the plug-in type printed circuit boards and this facilitates the repair for defective circuit and the replacement of the circuitry. For the removal of the plug-in type printed circuit board, use the board pulling tool furnished to the extension card, NJZ-667 (available at option), for the service use.

To perform an appropriate service and troubleshooting, it is desirable to well know the basic principle of operation about the product. The circuits of the NRD-535 have been designed with taking account that those adjustable parts are possibly lessened, the secular change of which may go into question, so that they may operate stably. Accordingly, unless an abnormal condition is proved otherwise, there is no need for the adjustment.

Upon the order of any unit for the repair, refer to the Blocks and Units List in Table 6-1, always write the name and the type of the unit and then send the order. In addition, upon the order of any parts, refer to Section 10 Parts List, always write the parts number, the type and the code and then send the order.

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# SECTION 1: SPECIFICATIONS

<b>Operating frequency</b>	0.1 to 30 MHz
<b>Modes of operation</b>	AM, USB, LSB, CW, RTTY, FAX and Narrow FM
<b>Frequency stability</b>	±2 ppm or better after 5 to 50 minutes warm-up period (±0.5 ppm with optional CGD-135 High Stability crystal oscillator unit installed)
<b>Tuning increments</b>	Selectable .001, .01 and .1 kHz steps with main tuning dial; .01, .1 and 1 kHz steps with up/down buttons
<b>Memory capacity</b>	200 tunable memories
<b>Receiving system</b>	Triple superheterodyne (double superheterodyne for FM)
<b>Intermediate frequencies</b>	First IF: 70.455 MHz Second IF: 455 kHz Third IF: 97 kHz

**Sensitivity:**

BAND	RTTY/FAX/CW/SSB	AM	FM
0.1-0.5 MHz	14 dBμ (5 μV)	24 dBμ (15.8 μV)	—
0.5-1.6 MHz	6 dBμ (2 μV)	16 dBμ (6.3 μV)	—
1.6-30 MHz	-10 dBμ (0.32 μV)	6 dBμ (2 μV)	-6 dBμ (0.5 μV)

S/N: 10 dB; Bandwidth: INTER; Modulation: 400 Hz, 30 %, AM mode (12 dB SINAD FM)

**Selectivity:**

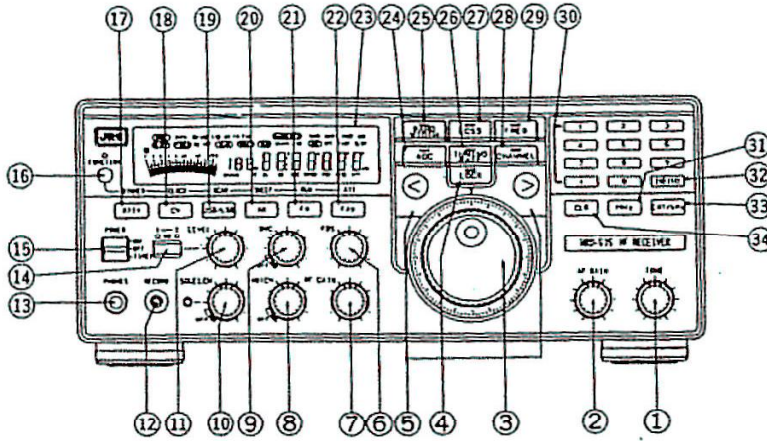
BANDWIDTH	6 dB	60 dB
AUX	12 kHz or more	—
WIDE	4 kHz or more	10 kHz or less
INTER	2 kHz or more	6 kHz or less
NARR	1 kHz or more	3 kHz or less
FM	12 kHz or more	—

**NOTE:** The NARR bandwidth characteristics measured with CFL-233 filter installed.

<b>Dynamic range</b>	105 dB (300 Hz bandwidth)
<b>Image rejection</b>	70 dB or better
<b>IF rejection</b>	70 dB or better
<b>PBS variable range</b>	±1 kHz
<b>NOTCH attenuation</b>	40 dB or more
<b>Antenna impedance</b>	50Ω at Lo-Z terminal 600Ω at Hi-Z terminal
<b>Attenuator</b>	Approx. 20 dB
<b>AGC characteristics</b>	10 dB or less AF output variation for antenna input signal change from 3 μV to 100 mV
<b>AF output</b>	Speaker output: 1 watt or more (at 4Ω load and 10% distortion) Line output: 1 mW or more (at 600Ω load and 10% distortion)
<b>RS-232C interface</b>	4800 baud, 8 data bits, 1 start bit, 1 stop bit, no parity
<b>Power requirements</b>	100/120/220/240 V AC, ±10%, 35 VA or less 12 to 16 V DC (13.8 V standard), 25 W max (approx. 2 A)
<b>Dimensions</b>	Width 330 mm × Height 130 (143) mm × 287 (324) mm. Values in parenthesis include projections
<b>Weight</b>	Approx. 9 kg

**NOTE:** The above ratings are based on standard JAIA measuring standards. All ratings are subject to change to increase performance without notice.

## SECTION 2: FRONT PANEL AND REAR PANEL

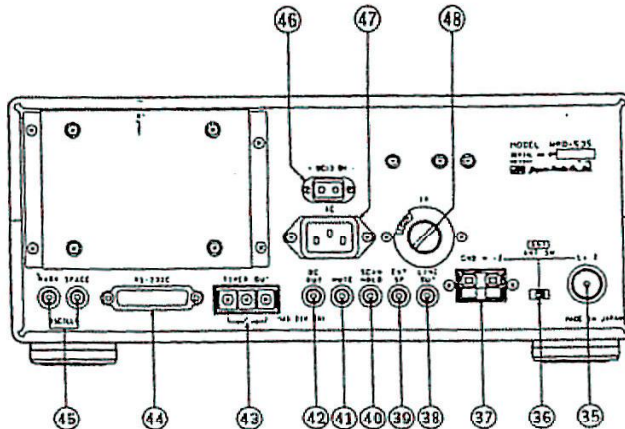


### FRONT PANEL

- ① TONE CONTROL
- ② AF GAIN CONTROL
- ③ MAIN TUNING DIAL
- ④ LOCK BUTTON
- ⑤ UP/DOWN BUTTON
- ⑥ PBS (PASSBAND SHIFT) CONTROL
- ⑦ RF GAIN CONTROL
- ⑧ NOTCH CONTROL
- ⑨ BWC (BANDWIDTH CONTROL)
- ⑩ SQUELCH CONTROL
- ⑪ NB (NOISE BLANKER) LEVEL CONTROL
- ⑫ RECORD (OUTPUT) JACK
- ⑬ PHONES (HEADPHONE) JACK
- ⑭ NB (NOISE BLANKER) BUTTON
- ⑮ POWER/TIMER ON-OFF SWITCH
- ⑯ FUNCTION BUTTON
- ⑰ RTTY MODE (DIMMER) BUTTON
- ⑱ CW MODE (CLOCK) BUTTON
- ⑲ USB/LSB MODE (SCAN) BUTTON
- ⑳ AM MODE (SWEEP) BUTTON
- ㉑ FM MODE (RUN) BUTTON
- ㉒ FAX MODE (ATTENUATOR) BUTTON
- ㉓ FLUORESCENT DISPLAY
- ㉔ AGC (AUTOMATIC GAIN CONTROL) BUTTON
- ㉕ BANDWIDTH BUTTON
- ㉖ TUNING RATE BUTTON
- ㉗ ECSS (EXALTED CARRIER, SELECTABLE SIDEBAND) BUTTON
- ㉘ CHANNEL BUTTON
- ㉙ FREQ (FREQUENCY) BUTTON
- ㉚ NUMERICAL KEYPAD
- ㉛ MHz BUTTON
- ㉜ MEMO BUTTON
- ㉝ ENT/Hz BUTTON
- ㉞ CLR (CLEAR) BUTTON



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### REAR PANEL

- ④⑤ ANT Lo-Z (LOW IMPEDANCE ANTENNA) CONNECTOR
- ④⑥ ANT (ANTENNA) SWITCH
- ④⑦ ANT Hi-Z (HIGH IMPEDANCE ANTENNA) CONNECTOR
- ④⑧ LINE OUT JACK
- ④⑨ EXT SP (EXTERNAL SPEAKER) JACK
- ④⑩ SCAN HOLD JACK
- ④⑪ MUTE JACK
- ④⑫ DC OUTPUT JACK
- ④⑬ TIMER OUT TERMINAL
- ④⑭ RS-232C PORT
- ④⑮ RTTY MARK/SPACE INDICATOR JACKS
- ④⑯ DC13.8V (DC POWER) CONNECTOR
- ④⑰ AC POWER CONNECTOR
- ④⑱ AC FUSE AND VOLTAGE SELECTOR

## SECTION 3: LAYOUT OF UNITS

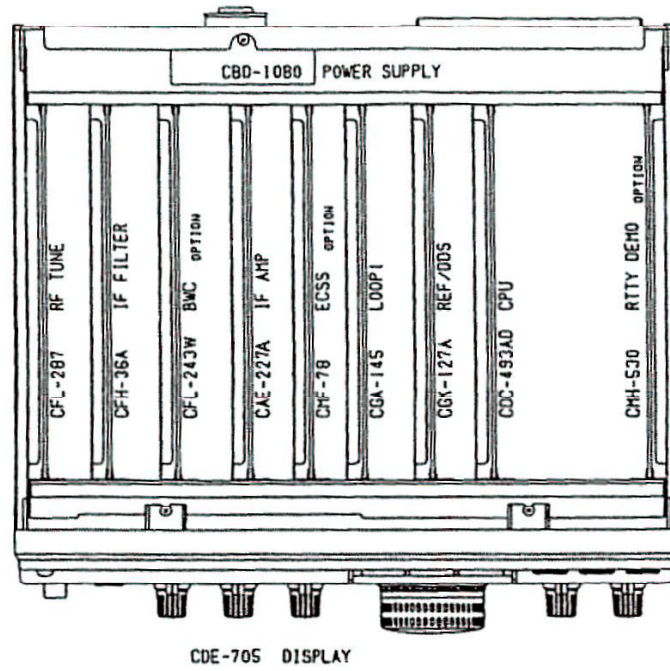


Fig. 3-1 LAYOUT OF UNITS

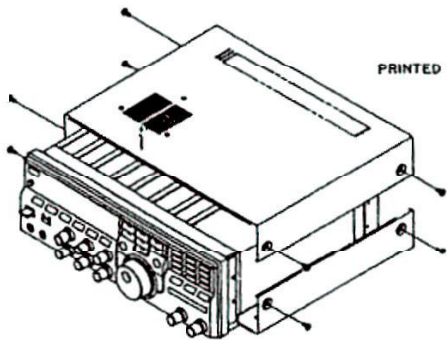


Fig. 3-2 REMOVING THE COVER

PRINTED CIRCUIT BOARD PULLER

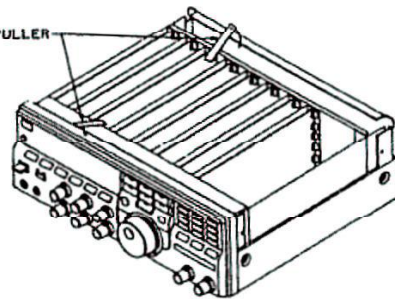
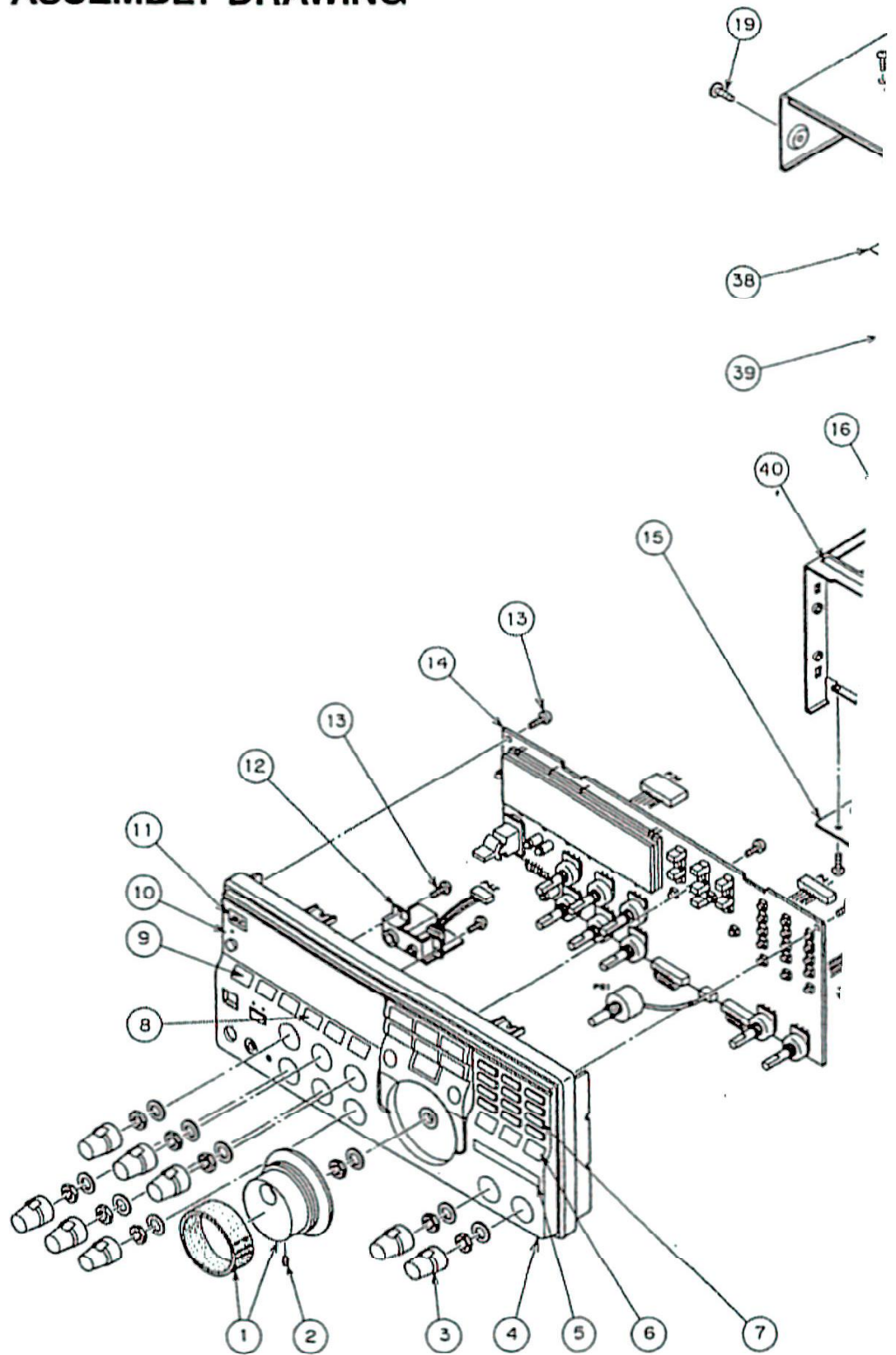
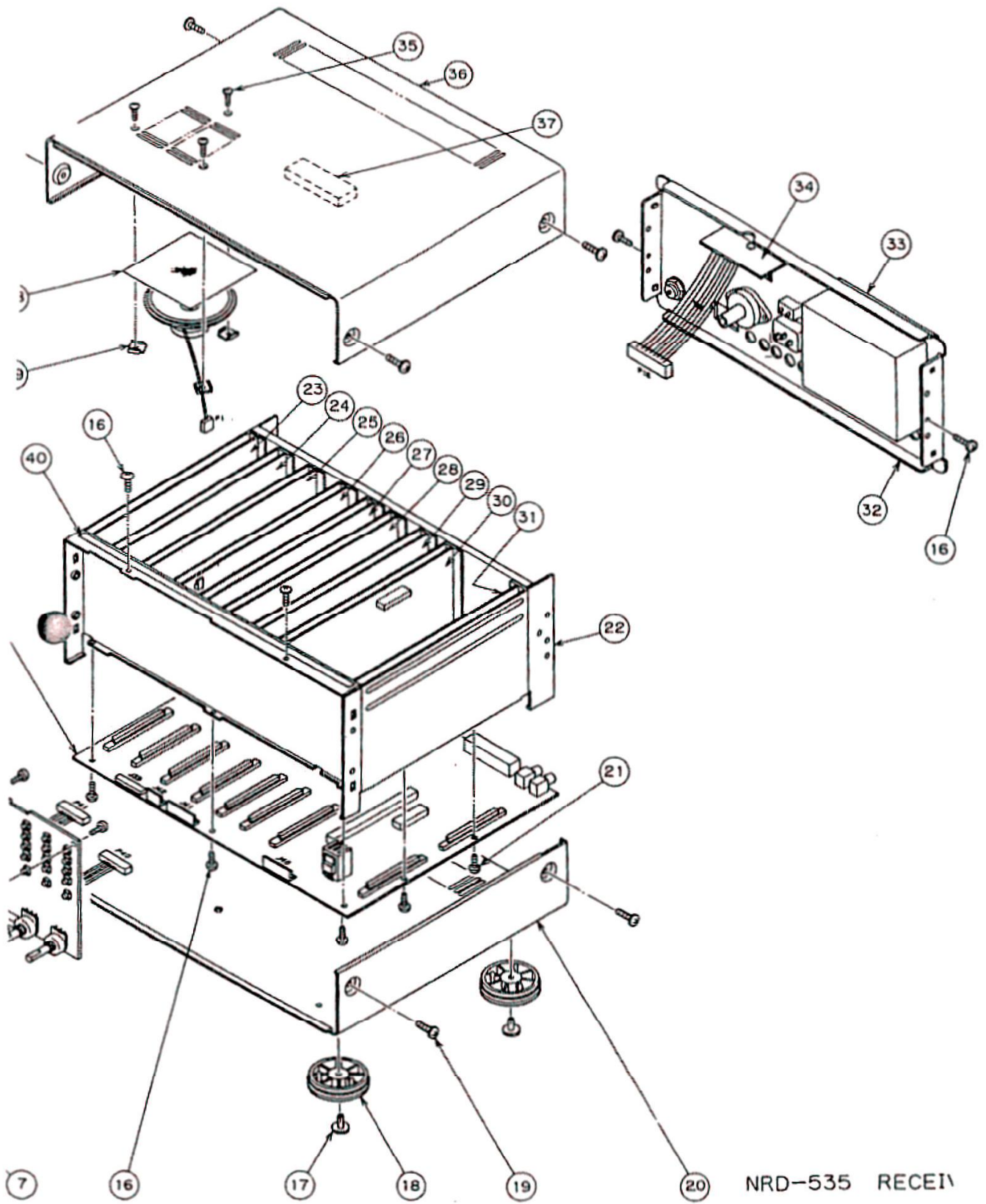


Fig. 3-3 REMOVING THE UNIT

# SECTION 4: ASSEMBLY DRAWING





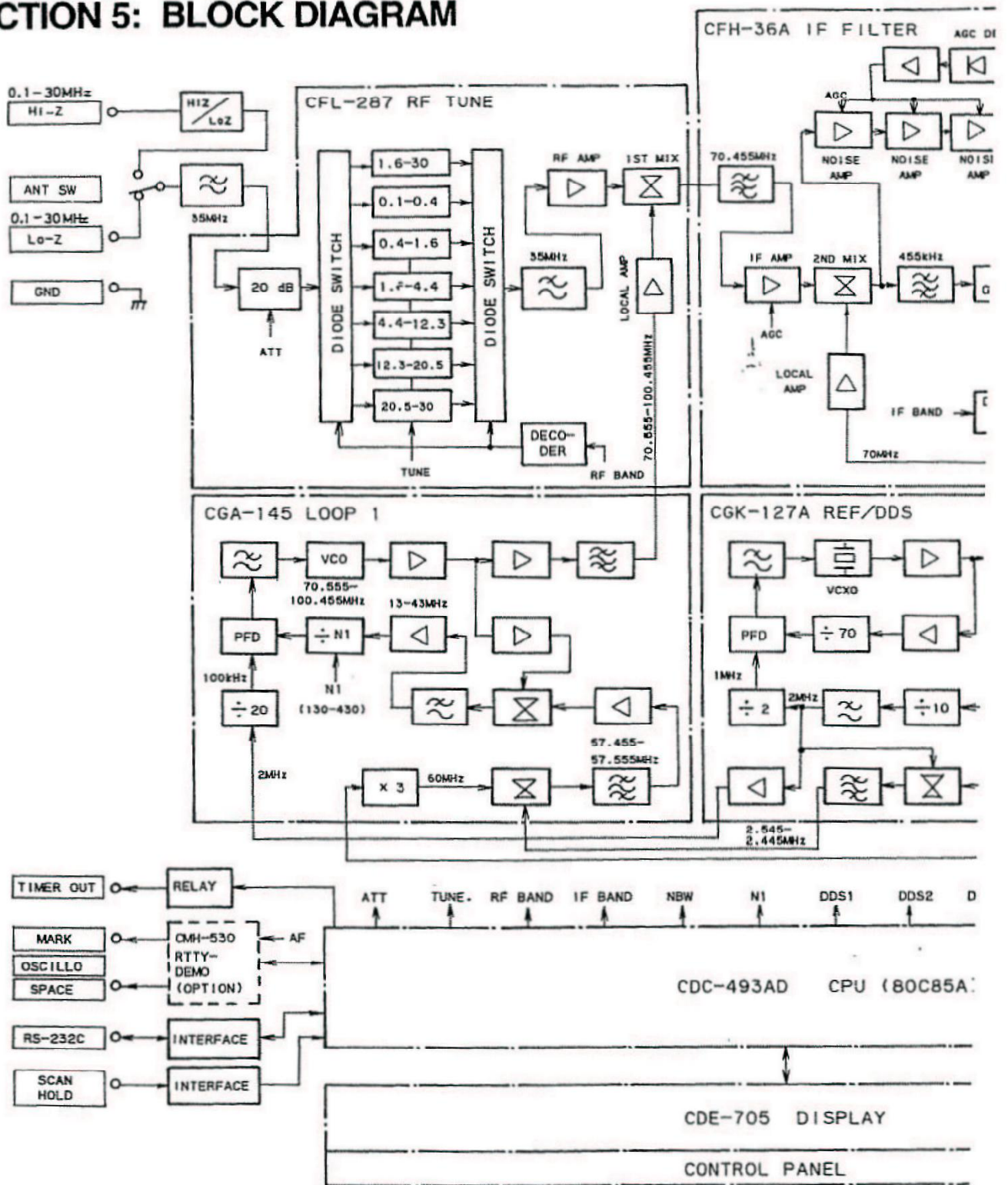


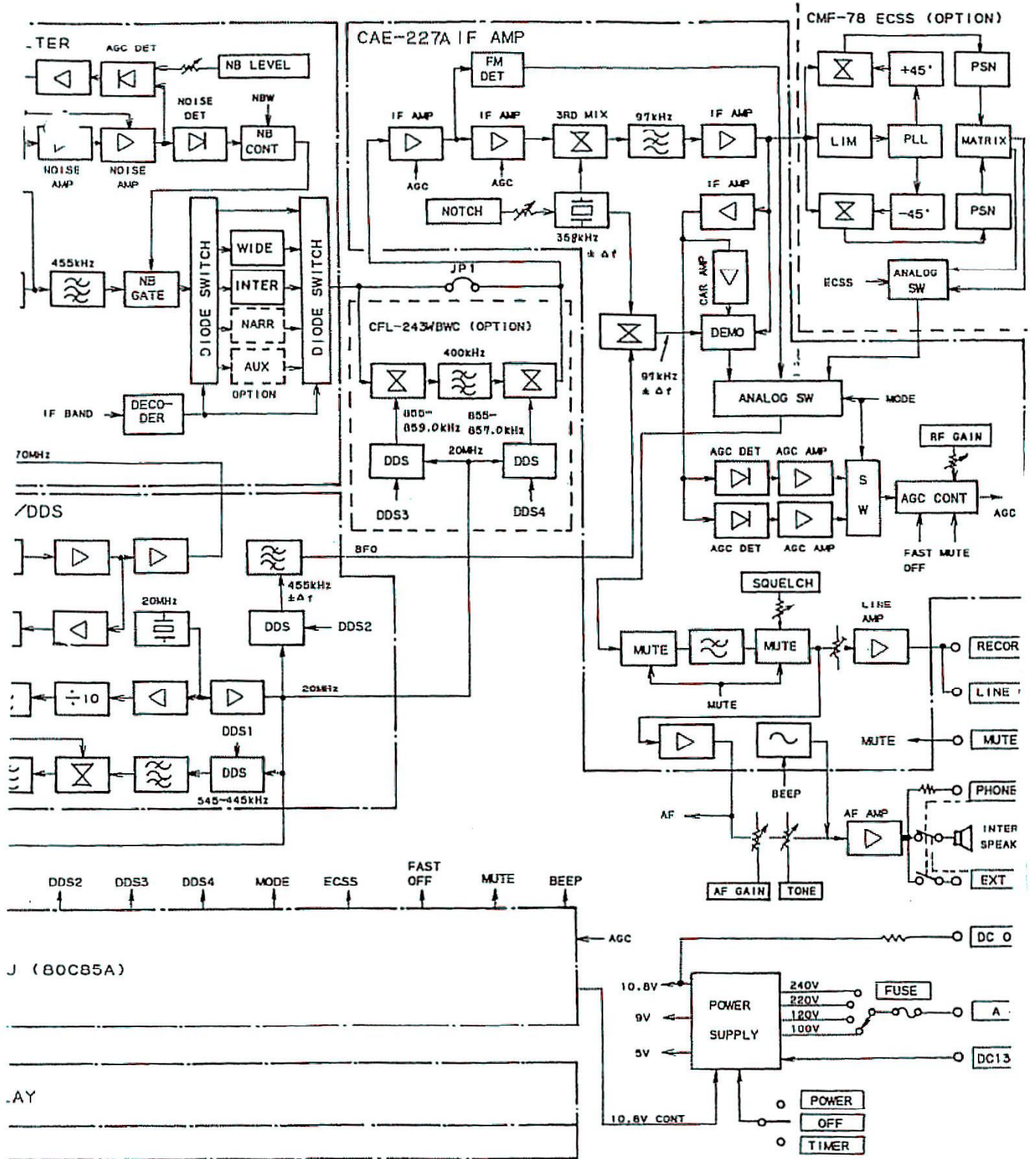
NRD-535 RECEIV

ASSEMBLY PARTS LIST

LOCATION	DESCRIPTION	PART NUMBER	Q' TY	REMARKS
1	DIAL	MPHD01477	1	
2	SET SCREW	BSHT03004S	(1)	3T3×4
3	KNOB	MPHD01478	8	
4	PANEL	MPBC09674	1	
5	NAME PLATE	MPNM15343	1	NRD-535
		MPNL21368	1	NRD-535D
6	KEYTOP	MTV004125	1	
7	KEYTOP	MTV004124	1	
8	KEYTOP	MTV004126	1	
9	KEYTOP	MTV004127	1	
10	FILTER	MPOL01126	1	
11	JRC BADGE	MPNL09514	1	
12	JACK UNIT	CQB-61	1	
13	SCREW	BRTG02970	8	3×8 ZMC
14	DISPLAY UNIT	CDE-705	1	
15	MOTHERBOARD	CFQ-3597	1	
16	SCREW	BRTG01225	17	3×6 ZMC
17	NYLON RIBET	BRTG01468	4	FNRP $\phi$ 4×7 BLK
18	LEG	MPKU00270	4	NRD-535
		MPKU00271	4	NRD-535D
19	SCREW	BRTG03311	8	M3×8BS BNM2
20	BOTTOM COVER	MTD004608	1	1
21	SCREW	BRTG00970	18	2. 6×6 ZMC
22	CHASSIS	MPBC09677	1	
23	RF TUNE UNIT	CFL-287	1	
24	IF FILTER UNIT	CFH-36A	1	
25	BWC UNIT	CFL-243W	1	
26	IF AMP UNIT	CAE-227A	1	
27	ECSS UNIT	CMF-78	1	
28	LOOP1 UNIT	CGA-145	1	
29	REF/DDS UNIT	CGK-127A	1	
30	CPU UNIT	CDC-493AD	1	
31	RTTY DEMO UNIT	CMH-530	1	
32	BACK BOARD	MTD004609A	1	
33	COVER	MTD004430	1	
34	AVR UNIT	CBD-1080	1	
35	SCREW	BRTG02145	3	M3×8BS BLK
36	TOP COVER	MTD004607	1	
37	RUBBER	MTT027856	1	
38	SPEAKER GRILL CLOTH	MTZ003307	1	
39	MOUNTING PLATE	MTB099587	3	
40	LABEL	MPNN25155A	1	

# SECTION 5: BLOCK DIAGRAM





# SECTION 6: DESCRIPTION OF CIRCUITS

## 6.1 OUTLINE OF BLOCKS

The NRD-535 is roughly divided into six blocks: Receiver block, Synthesizer block, Control block, RTTY block, panel block and chassis block. The units involved in these six blocks are listed in Table 6-1, below.

TABLE 6-1 BLOCKS AND UNITS LIST

BLOCK	UNIT	TYPE
Receiver block	RF TUNE unit	CFL-287
	IF FILTER unit	CFH-36A
	BWC unit	CFL-243W
	IF AMP unit	CAE-227A
	ECSS unit	CMF-78
Synthesizer block	LOOP 1 unit	CGA-145
	REF/DDS unit	CGK-127A
Control block	CPU unit	CDC-493AD
RTTY demodulator block	RTTY DEMO unit	CMH-530
Panel block	DISPLAY unit	CDE-705
	JACK unit	CQB-61
Chassis block	Mother board	CFQ-3597
	AVR unit	CBD-1080
	Chassis	NRD-535

The circuit constitution and the frequency relationship of the entire receiver are shown in the block diagram; refer to them.

The receiver adopts a triple superheterodyne system, wherein the first IF is 70.455 MHz, the second IF is 455 kHz and the third IF is 97 kHz. The double tuning circuit at the front end section adopts a variable tuning system (an electronic tuning with use of capacitor diodes), whereby the receiver block is tuned continuously in accordance with the receiving frequency.

The RF amplifier and the first mixer employ each four junction type FETs, which have low noise and excellent cross modulation characteristics, thus widening the dynamic range and improving the sensitivity. In addition, the receiver block is provided with a BWC and an ECSS circuit as a function for the elimination of the RF interference. The BWC unit, CFL-243W, is inserted between the IF FILTER unit, CFH-36A, and the IF AMP unit, CAE-227A. Accordingly, the center fre-

quency for the input/output is 455 kHz. Upon installation of the BWC unit, the jumper wire JP1 on the mother board is cut off. The ECSS unit, CMF-78, receives the third IF signal of 97 kHz as an input signal and performs the synchronous detection of this input signal.

The synthesizer block generates required frequency signals of 70.555 MHz to 100.454999 MHz and 70 MHz for the receiver block as well as the BFO signal, based on a highly stabilized reference frequency of 20 MHz. Among them, the frequency signal of 70.555 MHz to 100.454999 MHz and the BFO signal are generated by the synthesizer and it employs a DDS (direct digital synthesizer), which was developed originally by JRC.

The control block employs CPU's for switching over associated circuits and control of them. Two CPU's are incorporated, a main CPU and sub-CPU's: The main CPU is located in the CPU unit at the main frame side. The main CPU mainly performs the switching-over of the circuits in the receiver block and the frequency control of the synthesizer. The sub-CPU is located in the DISPLAY unit and it performs the display on the fluorescent display tube and the processing of key inputs as well as sending the data of them to the main CPU at the main frame side.

The RTTY demodulator block demodulates the CCITT No. 2 codes at shift widths of 170, 425 and 850 Hz and a baud rate of 37 to 75 bauds. The demodulator output may be displayed on the CRT at the computer side after sending it by way of the RSC-232C line to the computer.

The panel block is provided with switches and controls for operating the receiver. Moreover, a large type custom fluorescent display tube is employed for the display the frequencies, modes, bands, meter readings and others.

The chassis block is constituted with the mother board as a key unit, for the interconnection of associated units. Owing to the use of the mother board, the wire harnesses in the chassis have been lessened as practicable and this improves the reliability and the maintainability as the result.

## 6.2 DESCRIPTION OF UNITS

### 6.2.1 CFL-287 RF TUNE UNIT

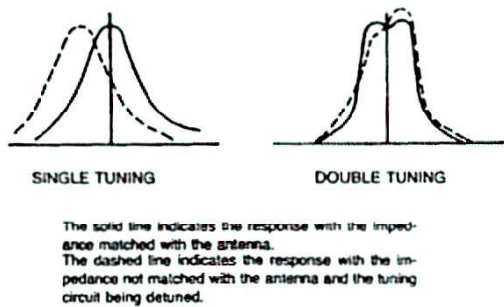
The RF TUNE unit is composed of a double tuning circuit, RF amplifier and first mixer. The received signal entering through the antenna terminal passes through a 20 dB-attenuator switching circuit with K1 to the double tuning circuit. In the double tuning circuit, the frequencies are grouped into six bands in the range from 100 kHz to 30 MHz (refer to Table 6-2, below) and the decoder of IC1 and the transistor TR1 are

operated to select desired band for the reception in response to the band switching signal fed from the CPU.

**TABLE 6-2 DIVISION OF BAND FOR THE DOUBLE TUNED CIRCUIT**

DIVISION	FREQUENCY	REMARKS
1	100 kHz-0.4 kHz	LPF
2	0.4 MHz-1.6 MHz	Double tuning circuit
3	1.6 MHz-4.4 MHz	
4	4.4 MHz-12.3 MHz	
5	12.3 MHz-20.5 MHz	
6	20.5 MHz-30 MHz	

The voltage applied to the variable capacitor in the double tuning circuit is generated in the CPU unit. This applied voltage is controlled every 10 kHz so as to obtain the best tuning characteristics in accordance with the receiving frequency. In addition, the double tuning circuit has such an advantageous point that a sharp resonance characteristic is obtained as well as the change of the impedance of the antenna has only a little influence on the detuning of the tuning circuit, that is, on the resonance characteristics of the circuit; refer to Fig. 6-1. This receiver effectively utilizes this advantageous point such that a high sensitivity will be obtainable with any antenna.



**Fig. 6-1 TUNING CHARACTERISTICS**

The received signal passed through the double tuning circuit is applied to the RF amplifier. The RF amplifier in this receiver employs a high power gain type amplifier composed of four low-noise junction type FET's TR2, TR3, TR4 and TR5 connected in parallel. Compared with an amplifier composed of one FET only, that RF amplifier provides a power gain as high as four times, 6 dB, and hence it realizes a high sensitivity of the receiver block. The received signal amplified in the RF amplifier is mixed with the first local signal in the first mixer composed of transistors TR7 through TR10 and converted into a first IF signal of 70.455 MHz.

The first mixer employs a double balanced type mixer composed of

four low-noise junction type FET. Since the double balanced type mixer suppresses the intermodulation components of the odd numbered orders, it is capable of greatly reducing the intermodulation product distortion (IMD), compared with a single balanced type mixer. Owing to this, the multiple signal characteristic is improved to thereby elevate the receiver performance.

### 6.2.2 CFH-36A IF FILTER UNIT

The IF FILTER unit is composed of a second mixer, a group of IF filters, which determine the pass bandwidth of the receiver, and a noise blanker circuit.

The first IF signal of 70.455 MHz from the RF TUNE unit is fed through a monolithic filter (MCF) FL1 to the first IF amplifier of TR1 and amplified therein. To operate the TR1 as an AGC amplifier, it employs a dual gate type MOS-FET. The signal amplified in the first IF amplifier is applied to the FET balanced mixer composed of TR2 and TR3 and mixed with a second local signal of 70 MHz fed from the synthesizer block, thus converting into a second IF signal of 455 kHz. By the way, the second local signal of 70 MHz is amplified in the transistor TR4 and then supplied to the second mixer.

The noise blanker circuit in the next stage is composed of a gate circuit and a noise amplifier, and the second IF signal of 455 kHz is fed to these two circuits. The signal fed to the gate circuit passes through the filter FL2 and then through a balanced type gate circuit composed of diodes CD1 and CD2. The signal fed to the noise amplifier, on the other hand, is amplified by the noise amplifier composed of TR5, TR6 and TR7. To this noise amplifier an AGC is applied from the AGC circuit composed of CD4, TR8 and TR9. The signal from the output of the noise amplifier is fed to the noise detector (gate control) circuit composed of CD5, CD6, TR10, TR12, and TR13, which detects the noise component only. It switches on and off the above described gate circuit to thereby blank the noise component contained in the second IF signal of 455 kHz. The signal from the output of the gate circuit is fed to filter selected among a group of the IF filters FL3, FL4, FL5 and FL6, which provides required selectivity characteristics. Thereafter, it is sent to the BWC unit, if the BWC unit is incorporated. If the BWC unit is not incorporated, the signal from the IF filter is sent to the IF AMP unit.

### 6.2.3 CFL-243W BWC UNIT

The BWC unit is composed of two mixers for the BWC (bandwidth control), two local oscillators and crystal filter having a center frequency of 400 kHz. The signal applied from the second IF stage of 455 kHz is converted into a signal of 400 kHz by the mixer of IC1 in the first stage. This signal passes through the crystal filter FL1 of 400 kHz and the mixer of IC2 in the latter stage, wherein it is converted again into an original signal of 455 kHz, which is then applied to the IF AMP unit. The local oscillation signals to be fed to both mixers of IC1 and IC2

obtained from the synthesizer of IC3 and IC4 in the DDS system.

When you operate the BWC knob on the panel face, the first local frequency and two local frequencies in the BWC unit change to cause the pass bandwidth to be continuously varied. This is due to the combination of filter characteristics of the filter FL3 or FL4 in the IF FILTER unit with the filter FL1 in the BWC unit.

#### 6.2.4 CAE-227A IF AMP UNIT

The IF AMP unit is composed of a third local oscillator, third mixer, second IF amplifier, third IF amplifier, demodulator, AGC circuit, squelch circuit, line amplifier and others.

The third local oscillator is composed of a 358 kHz-oscillator of TR9 and a buffer amplifier of TR10. The 358 kHz-oscillator employs a ceramic oscillator X1. The diodes CD2 and CD28 are variable-capacitance diodes for fine adjustment of the ceramic oscillator X1 and they are controlled with the control voltage fed from TR11. The third local oscillation signal from TR9 passes through the buffer amplifier of TR10 to the gate of the third mixer of TR3 as well as the Pin 2 of IC4. The mixer of IC4 mixes the local oscillation signal of 358 kHz with the BFO signal to provide an output signal, which is used as a carrier signal for the product detection. For the carrier signal frequencies by the modes of operation, refer to Table 6-3, below.

TABLE 6-3 CARRIER FREQUENCIES FOR PRODUCT DETECTION

MODE	BFO FREQUENCY	CARRIER FREQUENCY
RTTY(N)	457.210 kHz	99.210 kHz
RTTY(M)	457.095 kHz	99.095 kHz
RTTY(W)	456.870 kHz	98.870 kHz
CW	455.800 kHz	97.800 kHz
USB	456.500 kHz	98.500 kHz
LSB	453.500 kHz	95.500 kHz
FAX	456.900 kHz	98.900 kHz

The IF amplifier is composed of a second IF amplifier of TR1 and TR2 (455 kHz) and third IF amplifier of TR3 (97 kHz). The second IF signal of 455 kHz is amplified by the TR1 and TR2 and then mixed in the third mixer with the third local oscillation signal of 358 kHz fed from TR10, whereby a third IF signal of 97 kHz is produced. The third IF signal is fed through the NOTCH circuit of TR4, TR5, TR6 and T4 to the third IF amplifier of TR7, which amplifies the IF signal. The TR4 and TR5 in the NOTCH circuit form a change-over switch of the NOTCH, wherein the TR4 turns ON to actuate the fixed T-NOTCH circuit of T4, when the NOTCH is ON, and the TR5 turns ON to allow the NOTCH circuit to pass the signal through, when the NOTCH is OFF. Since the notch frequency is fixed, the filtering frequency is con-

trolled by adjusting the 358 kHz local oscillator frequency.

The IC2 forms a demodulator. When the mode is AM, it operates as a synchronous detector, and when the mode is other than AM, it also operates as a product detector. The carrier for the synchronous detection is fed to the Pin 2 of IC2 from the limiter circuit of TR17. In addition, the carrier for the product detection is fed to the Pin 2 of the IC2 from the Pin 9 of IC4 through the resistor.

The FM signal is demodulated with IC8. This IC is a one-chip type IC, which incorporates a limiter circuit, quadrature detection circuit and others, and it is provided for the use of the FM demodulation only.

The AGC circuit is composed of rectifiers of CD5, CD6, TR19 and TR20, time constant circuit based on a time constant determined by C103 and R105, analog switch of IC5 and IC6, and DC amplifier of IC7. There are two rectifiers: one is a rectifier for the peak detection, which is composed of CD6 and TR19 and operates when the mode is CW or SSB, and the other is a rectifier for the mean value detection, which is composed of CD5, R98, C100 and TR20 and operates, when the mode is AM. Switching over these rectifier is performed by the analog switch of IC5. The IC6 is an analog switch for the switching-over of the time constant.

The AGC voltage is provided from the Pin 7 of IC7 and applied to control the gates 2 of TR1 and TR2. Moreover, the AGC voltage is also fed through R115 to the IF FILTER unit and used for the control of TR17 in this unit.

The squelch circuit is composed of a comparator of IC9 and tuning circuit of TR35. The NRD-535 has been designed so that the squelch may function for all modes of operation. To the Pin 5 of IC9, the AGC voltage is fed from the Pin 7 of IC7. In addition, to the Pin 6 of IC7, the control voltage for the squelch is fed from the panel control. Both two voltages are compared in IC9; when the voltage on the Pin 5 of IC9 is higher than the voltage on the Pin 6 of IC9, that is, when the squelch is closed, this causes TR35 to turn on, whereby it cuts off the AF output.

The line amplifier is an AF amplifier for the external output, which is composed of 1/2 of IC12. This amplifier cuts off the output, when the squelch is closed.

Among other circuits, there is a BEEP tone oscillator of TR41. The BEEP tone oscillator oscillates at approximately 2 kHz, when the key operation on the panel is performed. The output of this oscillator is amplified with an AF amplifier, and beep tone sounds from the speaker.

#### 6.2.5 CMF-78 ECSS UNIT

The ECSS unit is capable of receiving desired signal as an AM wave without suffering from any RF interference upon the receipt of the AM RF wave, when its one side band is suffering from the RF interference wherein the ECSS unit extracts the other side band, without using an narrow band filter.

The ECSS unit is composed of a limiter-amplifier, synchronous car-

rier generator, mixer, phase shifter, adder-subtractor circuit and demodulated signal switch-over circuit.

The IC1 forms a limiter-amplifier, which amplifies the third IF signal of 97 kHz. The amplified signal is fed to the PLL circuit of IC2, wherein a carrier synchronous with the carrier of the AM wave is reproduced. This PLL circuit employs a 90°-type phase comparator, wherein the capture range of the PLL has been set approximately for  $\pm 1$  kHz enough to ensure a good RF interference suppression effect. The reproduced carrier is fed to the phase shifters of +45° and -45°, the outputs of which are then fed to the mixers of IC3 and IC4, respectively.

In the mixers of IC3 and IC4, the carriers are mixed with the third IF signal of 97 kHz, and the outputs of these mixers are fed through the AF phase shifters to the adder-subtractor circuit of IC7. The adder circuit provides a USB component of the input signal while the subtractor circuit provides an LSB component of the signal. The circuits have been designed such that you may hear an AM voice, without suffering from the RF interference, owing to the change-over circuit of IC12, which selects either the USB component or the LSB component in accordance with the RF interference.

#### 6.2.6 CGA-145 LOOP 1 UNIT

This LOOP 1 unit includes a PLL type synthesizer, which generates frequency signals in the steps of 1 Hz in a range between 70.555 MHz and 100.454999 MHz, and it is composed of a frequency converter, VCO and PLL IC.

The TR12 in the frequency converter forms a frequency tripler circuit, which converts a frequency of 20 MHz into a frequency of 60 MHz and feeds the output signal to the Pin 11 of IC6. The IC6 forms a mixer, which converts the signal of 2.545 MHz to 2.445 MHz fed from the DDS, into a signal of 57.455 MHz to 57.555 MHz. Thus converted signal is fed to the SAW filter FL3, which eliminates unwanted components, and then amplified by TR13. The amplified signal is fed to the Pin 11 of IC4.

The VCO shares the frequency signals in the range between 70.555 MHz and 100.454999 MHz with three VCO's, as described below.

TR1, VCO1: 70.555–80.454999 MHz

TR2, VCO2: 80.455–90.454999 MHz

TR3, VCO3: 90.455–100.454999 MHz

The TR9, TR10 and TR11 are transistors for switching over the VCO1, VCO2 and VCO3, and one of the transistors is set on according to the frequency under the control of the CPU. The output signal from each VCO is fed through the buffer amplifier of TR4 to the local oscillation amplifier of IC1 as well as the local oscillation amplifier of IC2. The output signal from IC1 is fed through the bandpass filter to the receiver block as a first local oscillation signal of 70.555–100.454999 MHz.

On the other hand, the output signal from IC2 is to be used for the PLL, and it is converted into a signal of 13 to 43 MHz by the mixer in the next stage and the converted signal is fed through the lowpass filter and the buffer amplifier of IC3 to the PLL IC of IC5. The internal constitution of the PLL IC of IC5 is illustrated in Fig. 6-2, below.

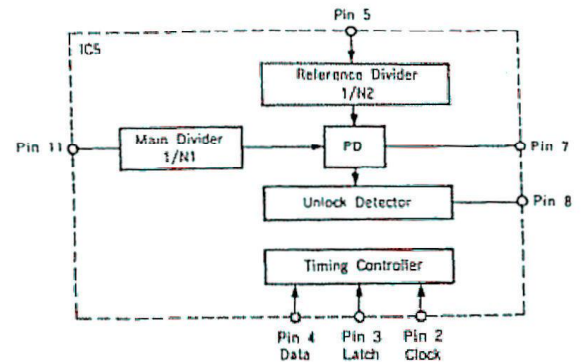


Fig. 6-2 INTERNAL CONSTITUTION OF IC5

The divider of IC5 is set to have frequency division ratios, as follows:

$$N_1 = 130 - 430$$

$$N_2 = 20$$

The setting of the frequency division ratios is performed, based on the serial data fed from the CPU. In addition, the reference frequency of the PLL has been set for 100 kHz. Accordingly, a frequency of 13 MHz has been fed to the Pin 5 of IC5.

The receiving frequency  $f_R$ , the VCO frequency  $f_{VCO}$ , the frequency  $f_F$  on the Pin 11 of IC5, and the frequency division ratio  $N_1$  of the main divider are related to one another, as described below.



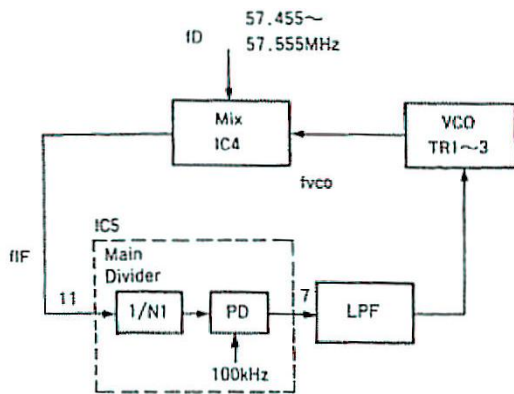


Fig. 6-3 CONSTITUTION OF LOOP 1

It is assumed that a fraction of the receiving frequency  $f_R$  at the 100 kHz-digit and higher-digits is  $F_1$  and the remaining fraction of the receiving frequency at the 10 kHz-digit and lower-digits is  $F_2$ .

In the case of a frequency of 2.154 MHz, for example,  $F_1$  is 2.1 MHz and  $F_2$  is 0.054 MHz.

$$\begin{aligned} f_{VCO} &= 70.455 + f_R \\ f_{VCO} &= f_{IF} + f_D \\ N_1 &= 10 \times (13 + F_1) \\ f_{IF} &= N_1 \times 0.1 \text{ MHz} \\ f_D &= 57.455 \text{ MHz} + F_2 \end{aligned}$$

When  $f_R = 12.354$  MHz, for example, the parameters  $N_1$ ,  $f_{IF}$ ,  $f_D$ , and  $f_{VCO}$  are related, as shown below.

$$\begin{aligned} f_R &= \underbrace{12.3}_{F_1} \underbrace{54}_{F_2} \text{ MHz} \\ f_{VCO} &= 70.455 \text{ MHz} + 12.354 \text{ MHz} \\ &= 82.809 \text{ MHz} \\ N_1 &= 10 \times (13 + 12.3) \\ &= 253 \\ f_{IF} &= 253 \times 0.1 \text{ MHz} \\ &= 25.3 \text{ MHz} \\ f_D &= 57.455 \text{ MHz} + 0.054 \text{ MHz} \\ &= 57.509 \text{ MHz} \end{aligned}$$

### 6.2.7 CGK-127A REF/DDS UNIT

The REF/DDS unit includes an address decoder, 20 MHz-STD OSC part, DDS part, which forms a part of the synthesizer for generating local oscillation signals in the range between 70.555 MHz and

100.454999 MHz, synthesizer for generating the BFO signal and another synthesizer for generating the local oscillation signal of 70 MHz.

The address decoder is composed of a NAND of IC13, addressable latch of IC14, and 3-to-8 line decoder of IC15 and IC16, and it supplies the data from the CPU to the synthesizers.

The 20 MHz-STD OSC is composed of a 20 MHz-crystal oscillator of TR5, buffer amplifier of TR6, TR7 and TR8, and 1/10-frequency divider of IC19. The reference frequencies for the synthesizers are all fed from this oscillator. The output signal of 20 MHz from the TR5 is fed by way of the buffer amplifier of TR6 to the pin 14 of IC19 as well as the pins 16 of IC1 and IC2. The IC19 in the 1/10-frequency divider provides an output signal of 2 MHz. The waveform of this signal is shaped by the lowpass filter, the output of which is then fed to the pin 10 of IC12 and the pin 5 of IC17 as well as TR8. The signal amplified in TR8 is fed to the LOOP 1 unit.

The DDS is composed of a DDS of IC1, level converter of IC3 and IC4, D/A converters of RA1 and RA2, constant-current circuit of IC5 and TR1, comparator of IC7 and flip-flop of IC8. The frequency data is written into IC1 in the form of a serial data fed from the CPU. The data from the CPU is fed to the pin 18 of IC1, while the CLOCK signal is fed to the pin 19 of IC1. When the input data of 24 bits is applied to IC1, the latch signal from the CPU is applied to the pin 17 of IC1. Thus, one cycle of the write of the frequency data is completed. The IC1 converts the serial data into a parallel data and then directly synthesizes the frequency signals, based on the reference signal of 20 MHz being fed to the pin 16 of IC1 in accordance with this parallel data. The output signal from the pin 37 of IC1 has a frequency as high as twice that of the written frequency data. This output signal is a signal involving an error, which is then applied to drive TR2 and cause C11 to be discharged.

The error output data is provided on the pins 38 through 47 of IC1 and fed to the ladder circuit of RA1, which converts the digital data into an analog data. Then, the analog data is fed to the pin 10 of IC7. The operation waveforms of these circuits are illustrated in Fig. 6-3, below.

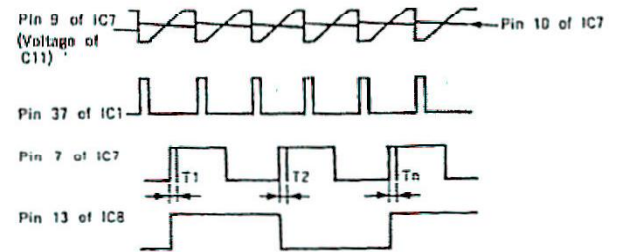


Fig. 6-3 OPERATION WAVEFORMS OF CIRCUITS IN DDS

The widths of  $T_1$  through  $T_n$  vary in a range of 0 to 50 ns in accordance with the magnitude of the error. In addition, the IC1 is provided with a frequency correction circuit for minimizing the error produced, depending on the frequency. The frequency output data is provided on the pins 26 through 35 of IC1 and digital-to-analog-converted with the ladder circuit of RA2, and resulting data is fed to IC5 in the constant-current circuit. Owing to this correction circuit, an output is obtained, the phase jitter of which is a little at any of the output frequencies in the range of 0.545 MHz to 0.445 MHz in the DDS.

The output signal (on the pin 12 of IC3) from the DDS is fed through the bandpass filter of 0.545 MHz to 0.445 MHz to the pin 1 of IC12 in the mixer. In this mixer, the signal is mixed with the signal of 2 MHz fed to the pin 10 of IC12 from the 20 MHz-STD OSC and converted into a signal in the range of 2.545 MHz to 2.445 MHz. Thus converted signal (on the pin 6 of IC12) is fed to the bandpass filter of 2.545 MHz to 2.455 MHz, which eliminates unwanted wave components, and the output signal from the filter is fed to the LOOP 1 unit, CGA-145.

The BFO signal synthesizer is composed of a DDS of IC2, D/A converter of RA3, constant-current circuit of TR3, comparator of IC6 and flip-flop of IC20. This synthesizer has the same circuit constitution as the DDS for generating the frequency signal of 0.545 MHz to 0.445 MHz. The output frequency covers the range between 453.5 kHz and 457.21 kHz in the steps of 1 Hz. The DDS is not corrected with the frequency, since the change width of the output frequency is a little. Accordingly, the pins 26 through 35 of IC2 are not used. The BFO signal (on the pin 13 of IC20) from the DDS is fed to the lowpass filter to shape the waveform of the signal and then it is fed as a BFO signal to the receiver block.

The 70 MHz PLL synthesizer is composed of a VCXO of TR9, buffer amplifier of TR10, TR11 and TR15, PLL IC of IC17, and active lowpass filter of TR12, TR13, and TR14. The output frequency of the VCXO of TR9 is 70 MHz. This signal is fed through the buffer amplifier of TR10 and TR11 to the pin 11 of IC17. The PLL IC of IC17 is the same as the IC5 used in the LOOP 1 unit, CGA-145. For the internal constitution, refer to Fig. 6-2. In this synthesizer the output frequency is fixed to 70 MHz and hence it is set for  $N_1=70$  and  $N_2=2$ .

The reference frequency of the P/D (phase detector) is 1 MHz. To the pin 5 of IC17, a frequency signal of 2 MHz is fed from the 20 MHz-STD OSC and its frequency is divided 1/2 in the interior of IC17, wherein the resultant frequency is used for the reference frequency. For the setting of the  $N_1$  of the main divider and the  $N_2$  of the reference divider, the data, latch and CLOCK signals from the CPU are supplied to the pins 4, 3 and 2 of IC17, respectively, and the settings are performed in the form of serial data. In the phase detector, the phase-compared output signal (on the pin 7 of IC17) is converted into a DC signal by the active lowpass filter composed of TR12, TR13 and TR14, and the DC signal is applied to control the frequency of the VCXO. The

output signal on the pin 8 of IC17 goes to the "H"-level, when the PLL is not locked, whereby it drives the TR17 to thereby illuminate the "UNLOCK" indicator of CD7.

### 6.2.8 CDC-493AD CPU UNIT

The CPU unit is main part for the control of the NRD-535. It employs an 8-bit type CPU of IC1 for the control of associated circuits. The programs of the CPU have been stored in an EP-ROM of 32 kbytes (IC3) and data of the memory channels and others have been stored in a CMOS RAM of 8 kbytes (IC4). This RAM has been backed up with a lithium battery BT1 and owing to this, the CPU unit is capable of holding the once stored data for a long time, even with the power switch set off.

For the control of the analog circuits, the I/O controller of IC5 and IC6 is assigned in use, while for the control of the synthesizer circuit, the IC14 is assigned in use. The IC12 and IC13 are USART's; the IC12 is used for the RS-232C at 4800 bps and the IC13 is used for the data communication at 4800 bps with the CPU in the display unit, wherein each IC operates for the communication in the form of serial data. The IC7, IC17 and TR1 form a voltage generator, which generates a voltage to be applied to the variable capacitor in the double tuning circuit of the RF TUNE unit. It generates a voltage changed in a range of 5.47 V to 20 V in accordance with the receiving frequency.

### 6.2.9 CMH-530 RTTY DEMO UNIT

The RTTY DEMO unit is composed of an AGC circuit, mark filter circuit, space filter circuit, slide back detector circuit, code demodulator circuit, indicator driving circuit, printer dividing circuit and control circuit.

The AF signal fed from the IF AMP unit is fed through the AGC circuit of IC10 to both the mark filter circuit of IC11 and space filter circuit of IC12. The mark filter is an active bandpass filter having a center frequency of 2295 Hz and pass-band width of 30 Hz, approximately. The space filter is also an active bandpass filter having a center frequency selected among 2125 Hz, 1895 Hz and 1145 Hz and pass band width of 30 Hz, approximately. Upon the operation of the space filter, it is switched over the three center frequencies in accordance with the shift width. The output signals from the filters are sent to the slide back detector circuit of IC13 as well as the driving circuit of IC15 for illuminating the mark and space LED lamps on the furnished indicator, CKJ-61. The slide back detector circuit synthesizes the mark signal with the space signal and detects resultant signal. The detected signal is fed through the code-normal and -reverse inversion gate to the USART of IC2 through for the serial-to-parallel conversion of the signal. Thus converted signal is sent by way of the data line to the CPU unit, CDC-493AD. The parallel interface IC of IC3 is provided for driving the printer, however, the NRD-535 is not equipped with any print

output terminal and hence the software does not process the output data of the printer. The clock provides pulses of 727 Hz, 800 Hz, and 900 Hz for the baud rate, such that the frequency of 12 MHz is divided by 10 in the IC5 and further divided by 1650 for the 45.45 bauds, by 1500 for the 50 bauds, or by 1333 for the 75 bauds. The parallel interface IC switches over the clock for the baud rate as well as the center frequency of the space filter (the change over the shift width).

#### **6.2.10 CDE-705 DISPLAY UNIT**

The display unit is composed of a CPU for the processing of the switch data on the display panel, driving of the fluorescent display tube, and data communication with the CPU in the main frame, oscillator for the clock, and controls interlocked with the control knobs on the display panel.

The CPU circuit is, the same as the CPU unit in the main frame, composed of an 8-bit type CPU of IC1, which is the center of this circuit, 32 kbyte type EP-ROM of IC3 and I/O controller of IC5, IC6 and IC8. The IC5 has roles for driving the fluorescent display tube for the display, and taking in the switch data. The IC6 drives the fluorescent display tube on one hand and processes the data sent through the IC7 from the rotary encoder for the tuning dial, on the other hand. The IC8 is a USART, which performs the data communication at 4800 bps with the CPU in the CPU unit, CDC-493AD.

The IC9 is an IC for the clock, which is working and has been backed up with a power voltage of 5 V directly fed from the power supply circuit, even when the power switch is set off. The IC10 is an A/D converter, which takes in the conditions of the controls as well as the data for the S-meter. The IC11 and IC18 are IC's for driving the LED lamps on the display panel. The IC17 is an analog switch, which changes over the AF signal and the FINE TUNE voltage of the RTTY DEMO unit, CMH-530.

#### **6.2.11 CFQ-3597 MOTHER BOARD AND CHASSIS BLOCK**

The mother board is composed of connectors for the interconnection of associated units, AF power amplifier circuit of IC4, IC6 for the RS-232C, and 12 MHz-oscillator of X1 and IC8. The 12 MHz-oscillator oscillates when the mode is set for the FSK, and the RTTY DEMO unit, CMH-530, is incorporated. In addition, the mother board incorporates diodes CD5, CD6, CD7 and CD8 for the rectification of the AC power source, diode CD4 for preventing the DC power current from reversely flowing, relay K1 for the TIMER OUT, input/output connectors for the signals from the rear panel, and connectors for the connection with the panel block.

The chassis block includes the CBD-1080 AVR unit, power connectors J21 and J22 and power transformer T1. The speaker is mounted on the upper cover.

# SECTION 7: ADJUSTMENT

## 7.1 PREPARATION

For the adjustment of the NRD-535, the measuring instruments are required, which will be described in Paragraph 7.1.2. If the required measuring instruments are not prepared, do not adjust unreasonably.

### 7.1.1 PRELIMINARY SETTINGS

The switches and controls on the front panel should be set to avoid erroneously operating them, as listed below. In addition, return these switches and controls to the following positions, whenever adjusting them.

LOCK switch .....	OFF position
RF GAIN control .....	Fully clockwise
NOTCH control .....	Fully counterclockwise
SQUELCH control .....	Fully counterclockwise
PBS control .....	Mid position
TONE control .....	Mid position
BWC control .....	Fully counterclockwise
NB switch .....	OFF position
ATT switch .....	OFF position

### 7.1.2 REQUIRED MEASURING INSTRUMENTS FOR THE ADJUSTMENT

DC (AC) voltmeter .....	Digital voltmeter
Frequency counter .....	10 kHz to 100 MHz
High frequency voltmeter .....	455 kHz to 150 MHz.
(Vacuum tube voltmeter) .....	0.001-3 Vrms
Level meter .....	600 ohms, -50 dBm to 30 dBm
Distortion meter .....	600 ohms, 0.5 to 30%
AF oscillator .....	600 ohms, -70 to 20 dBm
Signal generator .....	50 ohms, -20 to 126 dBμV, 90 kHz to 150 MHz. with AM and FM modulations
Tracking-scope .....	50 ohms, 400 kHz to 100 MHz
Spectrum analyzer .....	50 ohms, 400 kHz to 100 MHz
Auto keyer .....	Capable of switching on the RF signal for 20 mS and off for 100 mS
Oscilloscope .....	Dual display type, DC to 100 MHz
Conversion transformer .....	4 ohms: 600 ohms, 3 watts
Headphone .....	ST-3, etc.
Extension circuit board .....	NJZ-667

### 7.1.3 STANDARD MEASURING CIRCUITS

#### (1) SENSITIVITY MEASUREMENT

Connect the measuring instruments, as shown in Fig. 7-1 below.

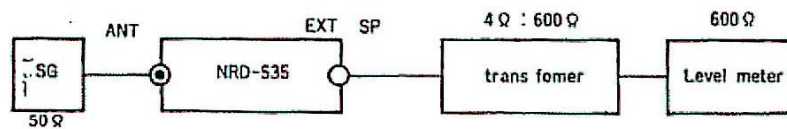
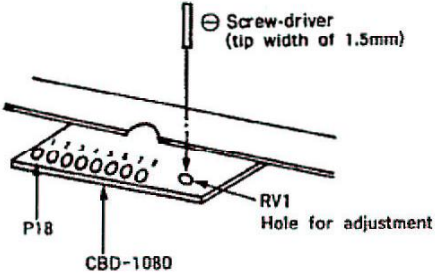


Fig. 7-1 MEASUREMENT OF SENSITIVITY

## 7.2 ADJUSTMENT OF UNITS

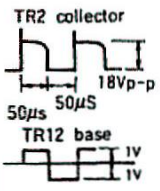
### 7.2.1 CBD-1080 AVR UNIT

NO.	ITEM	ADJUSTING PROCEDURE	RATING (REF. VALUE)
1	Power voltage check	<ol style="list-style-type: none"> <li>① Check the voltages at test points, using the digital voltmeter (DC).</li> <li>② Check the voltage between CBD-1080, P18, No. 1 and chassis (earth).</li> <li>③ Check the voltage between CBD-1080, P18, No. 3 and chassis (earth).</li> <li>④ Check the voltage between CBD-1080, P18, No. 6 and chassis (earth).</li> </ol>	<p>4.8–5.2 Vdc</p> <p>8.7–9.4 Vdc</p> <p>10.7–10.9 Vdc</p>
2	10.8 Vdc adjustment	<ol style="list-style-type: none"> <li>① Adjust the control RV1 of CBD-1080, if the voltage between CBD-1080, P18, No. 6 and chassis (earth) deviates in excess of the range between 10.7 and 10.9 Vdc in the above described power voltage check.</li> </ol> <div style="text-align: center;">  <p>⊖ Screw-driver (tip width of 1.5mm)</p> <p>P18</p> <p>CBD-1080</p> <p>RV1 Hole for adjustment</p> </div>	

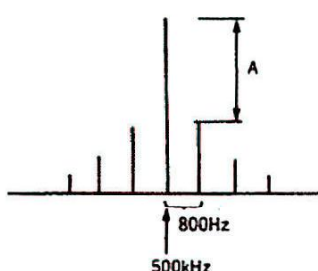
### 7.2.2 CDC-493AD CPU UNIT

NO.	ITEM	ADJUSTING PROCEDURE	RATING (REF. VALUE)
1	TUNE voltage adjustment	<ol style="list-style-type: none"> <li>① Connect the digital voltage (DC) to TP1.</li> <li>② Adjust RV2 for a voltage of 5.74 Vdc on TP1 with the receiving frequency set for 400 kHz.</li> <li>③ Adjust RV1 for a voltage of 20 Vdc on TP1 with the receiving frequency set for 799.9 kHz.</li> <li>④ Repeat steps ② and ③, until both conditions are satisfied.</li> </ol>	<p>5.72–5.76 Vdc</p> <p>19.8–20.2 Vdc</p>

7.2.3 CDE-705 DISPLAY UNIT

NO.	ITEM	ADJUSTING PROCEDURE	RATING (REF. VALUE)
1	Fluorescent display tube	<p>① Connect the oscilloscope to the collector of TR2 and check the waveform. In this check, there should be not any abnormal oscillation.</p>	 <p>TR2 collector 18Vp-p 50µs</p> <p>TR12 base IV IV</p>

7.2.4 CGK-127A REF/DDS UNIT


NO.	ITEM	ADJUSTING PROCEDURE	RATING (REF. VALUE)
1	DDS cancel adjustment	<p>① Connect the spectrum analyzer to TP1. Fcenter=500 kHz, Span=10 kHz and BW=100 Hz.</p> <p>② Settings: Fr=0.4501 MHz and MODE=AM.</p> <p>③ Adjust RV1 so that the side spurious response may be minimum (A may be maximum).</p> 	
2	2 MHz balance adjustment	<p>① Connect the spectrum analyzer to TP5. Fcenter=2.5 MHz, Span=5 MHz, BW=1 kHz.</p> <p>② Settings: Fr=0.4501 MHz, MODE=AM.</p> <p>③ Adjust RV3 so that the 2 MHz component may be minimum.</p>	
3	70 MHz PLL adjustment	<p>① Connect the digital voltmeter (DC) to TP8.</p> <p>② Check the voltage. In this time, the LED CD7 must be illuminating (indicating the locked state).</p> <p>③ Make sure the LED CD7 illuminates when grounding TP8 (unlocked state).</p> <p>④ Connect the vacuum tube voltmeter to TP9 and adjust T1 for a maximum output voltage.</p>	2-7 Vdc
4	Frequency measurement	<p>① Connect the frequency counter to TP9.</p> <p>② Measure the frequency of oscillation.</p>	70 MHz±50 Hz
5	BFO cancel adjustment	<p>① Connect the spectrum analyzer to TP6. Fcenter=455.8 kHz, Span=500 kHz, BW=1 kHz.</p> <p>② Set for MODE=CW and adjust RV2 for a minimum side spurious response.</p>	

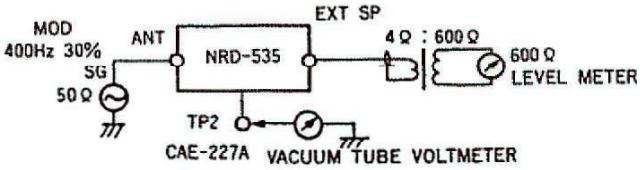
7.2.5 CGA-145 LOOP 1 UNIT

NO.	ITEM	ADJUSTING PROCEDURE	RATING (REF. VALUE)												
1	AVR adjustment	① Connect the digital voltmeter (DC) to TP4. ② Adjust RV1 for a voltage of 8.5 Vdc.	8.4–8.6 Vdc												
2	60 MHz tuning	① Connect the vacuum tube voltmeter to TP5. ② Adjust T1 for a maximum output.													
3	57 MHz tuning	① Connect the vacuum tube voltmeter to TP6. ② Adjust T2 for a maximum output.													
4	VCO adjustment	① Connect the digital voltmeter (DC) to TP1. ② Switching over the receiving frequency as tabulated below, and adjust the control voltage for VCO.													
		<table border="1"> <thead> <tr> <th data-bbox="507 837 810 896">Receiving frequency</th> <th data-bbox="810 837 1230 896">Adjusting trimmer</th> <th data-bbox="1230 837 1428 896">Control voltage</th> </tr> </thead> <tbody> <tr> <td data-bbox="507 896 810 954">9.999 MHz</td> <td data-bbox="810 896 1230 954">CV1</td> <td data-bbox="1230 896 1428 954">7.5±0.1 Vdc</td> </tr> <tr> <td data-bbox="507 954 810 1012">19.999 MHz</td> <td data-bbox="810 954 1230 1012">CV2</td> <td data-bbox="1230 954 1428 1012">7.5±0.1 Vdc</td> </tr> <tr> <td data-bbox="507 1012 810 1066">29.999 MHz</td> <td data-bbox="810 1012 1230 1066">CV3</td> <td data-bbox="1230 1012 1428 1066">7.5±0.1 Vdc</td> </tr> </tbody> </table>	Receiving frequency	Adjusting trimmer	Control voltage	9.999 MHz	CV1	7.5±0.1 Vdc	19.999 MHz	CV2	7.5±0.1 Vdc	29.999 MHz	CV3	7.5±0.1 Vdc	
Receiving frequency	Adjusting trimmer	Control voltage													
9.999 MHz	CV1	7.5±0.1 Vdc													
19.999 MHz	CV2	7.5±0.1 Vdc													
29.999 MHz	CV3	7.5±0.1 Vdc													
		③ Make sure the lock out does not take place at the receiving frequency ranging from 100 kHz to 29.999 MHz. ④ Make sure the LED CD11 illuminates in the unlocked state such as the change-over of the frequency. However, it should turn off immediately.	LED CD11 turns off.												
5	Operating levels check at check points	① Check the operating levels, using the vacuum tube voltmeter.													
		<table border="1"> <tbody> <tr> <td data-bbox="1007 1339 1230 1397">IC5, Pin 11</td> <td data-bbox="1230 1339 1428 1397">0.1 Vrms or more</td> </tr> <tr> <td data-bbox="1007 1397 1230 1451">TP3</td> <td data-bbox="1230 1397 1428 1451">0.12 Vrms or more</td> </tr> </tbody> </table>	IC5, Pin 11	0.1 Vrms or more	TP3	0.12 Vrms or more									
IC5, Pin 11	0.1 Vrms or more														
TP3	0.12 Vrms or more														

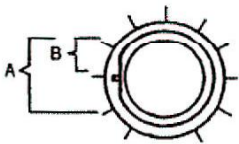


7.2.6 CAE-227A IF AMP UNIT

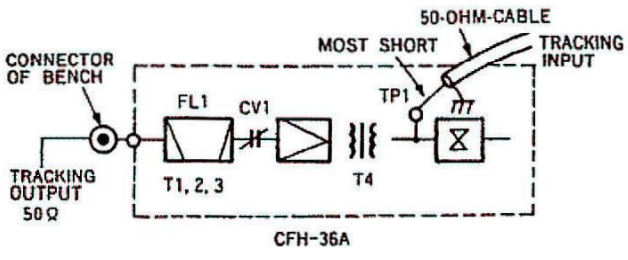
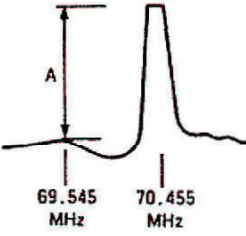
NO.	ITEM	ADJUSTING PROCEDURE	RATING (REF. VALUE)
1	NOTCH frequency adjustment	<ol style="list-style-type: none"> <li>① Connect the frequency counter and vacuum tube voltmeter to TP4.</li> <li>② Set the NOTCH control on the front panel to mid position.</li> <li>③ Adjust RV2 for a frequency of 357 kHz.</li> </ol>	
2	IF AMP tuning	<ol style="list-style-type: none"> <li>① Control settings:            RF GAIN: Fully clockwise            NOTCH: Fully counterclockwise            AGC: OFF            MODE: AM            NOTCH: OFF (LED CD4 turns off)            BANDWIDTH: INTER            ATT: OFF</li> <li>② Connect the vacuum tube voltmeter to TP2.</li> <li>③ Connect the signal generator (50 ohms, CW, 7.1 MHz, 5 dB<math>\mu</math>) to the ANT connector on the rear panel.</li> <li>④ Set the receiving frequency to 7.1 MHz.</li> <li>⑤ Adjust T1, T2, T3 and T5 for a maximum output voltage.</li> </ol>	
3	Notch ON-OFF adjustment	<ol style="list-style-type: none"> <li>① Adjust RV3 so that the LED CD4 may be turns off when the NOTCH control is set to OFF position and illuminated when set to the ON position.</li> </ol> <div style="text-align: center; margin-top: 10px;">  <p>Adjustable position →</p> </div>	
4	Notch adjustment	<ol style="list-style-type: none"> <li>① Connect the same measuring instruments as the above described IF AMP tuning and set in the same receiving conditions as in the IF AMP tuning.</li> <li>② Set the signal generator for an output level of 40 dB<math>\mu</math>.</li> <li>③ Adjust the RF GAIN control for a reading of 10 mV<sub>rms</sub> on the vacuum tube voltmeter.</li> <li>④ Adjust the AF GAIN control for a reading (of the AF output) of 20 dBm on the level meter.</li> <li>⑤ Set the NOTCH control to the mid position.</li> <li>⑥ Adjust T4 and RV1 for a minimum reading on the level meter.</li> </ol>	

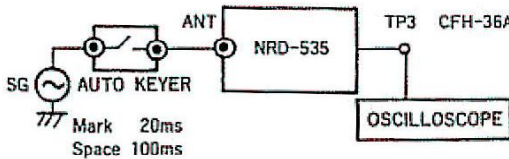
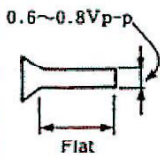
NO.	ITEM	ADJUSTING PROCEDURE	RATING (REF. VALUE)						
5	AGC adjustment	<p>① Control settings:  Receiving frequency: 7.1 MHz  MODE: AM  BANDWIDTH: INTER  AGC: ON  NOTCH: OFF  ATT: OFF</p> <p>② Connect the measuring instruments as shown below.</p>  <p>③ Set the signal generator for an output level of 100 dB<math>\mu</math>.  ④ Adjust RV4 for a reading of 10 mVrms on the vacuum tube voltmeter.  ⑤ Set the MODE to LSB and in the same manner and measure the level on TP2.</p> <p>NOTE: Adjustable resistor: R95</p>	9-11 mVrms						
6	S-meter adjustment	<p>① Set for the condition to measure the sensitivity.</p> <p>② Control settings:  Receiving frequency: 7.1 MHz  AGC: ON  ATT: OFF  MODE: LSB  BANDWIDTH: INTER</p> <p>③ Set the signal generator for a frequency of 7.1 MHz and a level of 40 dB<math>\mu</math>, CW.  ④ Adjust RV5 for a reading of S9 on the S-meter.</p>							
7	Detector circuit carrier level	<p>① Connect and set the measuring instruments in the same receiving conditions as in the AGC adjustment described above.  Set the signal generator for a level of 40 dB<math>\mu</math>.</p> <p>② When setting the MODE to AM and LSB, and check the voltage on TP3.</p> <p>NOTE: Adjustable resistors:  AM: R90  LSB: R67</p> <table border="1" data-bbox="1038 1626 1461 1771"> <thead> <tr> <th>MODE</th> <th>VOLTAGE ON TP3</th> </tr> </thead> <tbody> <tr> <td>AM</td> <td>0.1 - 0.15 Vrms</td> </tr> <tr> <td>LSB</td> <td>0.04 - 0.06 Vrms</td> </tr> </tbody> </table>	MODE	VOLTAGE ON TP3	AM	0.1 - 0.15 Vrms	LSB	0.04 - 0.06 Vrms	
MODE	VOLTAGE ON TP3								
AM	0.1 - 0.15 Vrms								
LSB	0.04 - 0.06 Vrms								

NO.	ITEM	ADJUSTING PROCEDURE	RATING (REF. VALUE)
8	LINE OUT adjustment	① Set for 7.1 MHz and LSB sensitivity receiving condition: AGC: SLOW SG level: 40 dB $\mu$ ② Connect the level meter of 600 ohms to the LINE OUT of the connector J36 on the rear panel. ③ Adjust RV9 for a reading of -2 dBm on the level meter.	
9	FM receiving circuit	① Set for a frequency of 7.1 MHz and FM sensitivity measuring condition: SG level: 40 dB $\mu$ ② Adjust T6 for a maximum AF output, without distortion.	
10	Squelch adjustment	① Control settings: AGC: FAST RF GAIN: Fully clockwise ANT terminal: Opened ② Set the MODE to LSB and rotate the squelch control to check at which position the squelch turns on/off. NOTE: Adjustable resistor: R167 ③ Set the MODE to FM. Adjust RV6 so that the squelch may turn on/off at specified position with rotating the squelch control.	Range A          Range B



7.2.7 CFH-36A IF FILTER UNIT

NO.	ITEM	ADJUSTING PROCEDURE	RATING (REF. VALUE)
1	70.455 MHz MCF adjustment (single unit adjustment)	<p>NOTE: This adjustment have need of an exclusive test bench (not for sale) and hence do not adjust unreasonably.</p> <p>① Connect the tracking-scope as shown below.</p>  <p>② Adjust CV1 and T4 for a maximum output at point of 70.455 MHz.</p> <p>③ Adjust T1, T2 and T3 so that the 6 dB-bandwidth may exceed a range of <math>\pm 7.5</math> kHz. Adjust T1 and T2 so that the response may be flat within the pass band. Adjust T3 for desired bandwidth.</p> <p>④ Adjust T1 and T2 for an attenuation of 70 dB or more at 69.545 MHz.</p>  <p>⑤ Repeat steps ②, ③ and ④ until the specifications are satisfied.</p>	A=70 dB or more
2	Second mixer injection level	<p>① Connect the vacuum tube voltmeter to TP2 and adjust T8 for a maximum reading on the voltmeter.</p>	

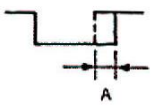
NO.	ITEM	ADJUSTING PROCEDURE	RATING (REF. VALUE)
3	Signal tuning	<ul style="list-style-type: none"> <li>① Set for 7.1 MHz and SSB sensitivity measuring conditions: AGC: OFF</li> <li>② Connect the vacuum tube voltmeter to TP2 of the CAE-227A IF AMP unit.</li> <li>③ Set the signal generator for a level of 5 dB<math>\mu</math> and adjust T4 through T7 for a maximum reading on the vacuum tube voltmeter.</li> </ul>	
4	Noise blanker adjustment  Noise AMP tuning  Noise AMP AGC  Sensitivity adjustment  Balance adjustment    NB-2	<ul style="list-style-type: none"> <li>① Set for 7.1 MHz and AF sensitivity measuring conditions: SG: 10 dB<math>\mu</math>, CW.</li> <li>② Connect the auto keyer and oscilloscope as shown below.</li> </ul>  <ul style="list-style-type: none"> <li>③ Set the NB-1 to ON and the NB control for a maximum level (fully clockwise position).</li> <li>④ Set the auto keyer for mark hold.</li> <li>⑤ Adjust T9, T10 and T11 for a maximum output on TP3. If difficult to take the maximum point, adjust the NB level or SG level.</li> <li>⑥ Operate the auto keyer.</li> <li>⑦ Varying the output level of SG from 10 to 100 dB<math>\mu</math> and check the waveform on TP3.</li> <li>⑧ Rotate RV1 fully clockwise (maximum position)</li> <li>⑨ Set the oscilloscope for dual display mode and connect the channel 1 to TP3 of CFH-36A and the channel 2 to TP2 of CAE-227A.</li> <li>⑩ Operate the auto keyer and adjust RV2 of CFH-36A so that the spike level of the waveform on TP2 of CAE-227A may be minimum.</li> </ul>  <ul style="list-style-type: none"> <li>⑪ Make sure the above described width A enlarges when the NB switch is set to the NB-2 position.</li> </ul>	

7.2.8 CFL-287 RF TUNE UNIT

NO.	ITEM	ADJUSTING PROCEDURE			RATING (REF. VALUE)
1	TUNE adjustment	① Connect the output of the tracking-scope to ANT and the input of the tracking-scope to TP1. ② Adjust the tuning controls as tabulated below.			
		TUNING	RECEIVING FREQUENCY	CONTROL	
		400 kHz LPF	0.4 MHz or less		300 kHz std. attenuation 400 kHz 3 dB or less 600 kHz 30 dB or more
		0.4-1.6 MHz	SUB 0.8-1.599 MHz 0.8 MHz 1.599 MHz	T9, 10 —	
		MAIN 0.4-0.799 MHz		0.799 MHz 0.4 MHz —	CV5, 6 —
		1.6-4.4 MHz	SUB 2.65-4.399 MHz 2.65 MHz 4.399 MHz	T7, 8 —	
		MAIN 1.6-2.649 MHz		2.649 MHz 1.6 MHz —	TUNE deviation 3 dB or less —
		4.4-12.3 MHz	SUB 7.4-12.299 MHz 7.4 MHz 12.299 MHz	T5, 6 —	
		MAIN 4.4-7.399 MHz		7.399 MHz 4.4 MHz —	CV1, 2 —
		12.3-20.5 MHz	12.3 MHz 20.499 MHz —	T3, 4 —	
		20.5-30 MHz	20.5 MHz 29.999 MHz —	T1, 2 —	
		Example: SUB 0.8-1.599 MHz (1) Set for a receiving frequency of 0.8 MHz. (2) Adjust T9 and T10 for a tuning frequency of 0.8 MHz. (3) Check if the receiver is tuned at 1.599 MHz when setting for a receiving frequency of 1.599 MHz. In this step, if the TUNE deviation takes place, return to step ② to readjust for equalizing the TUNE deviation.			

NO.	ITEM	ADJUSTING PROCEDURE	RATING (REF. VALUE)
2	1st mixer injection level	① Set RV1 to mid position. ② Connect the vacuum tube voltmeter to TP2. ③ Switch the receiving frequency over the range from 100 kHz to 29.999 MHz in steps of 1 MHz and check the level.	0.5 Vrms or more
3	Signal tuning	① Set for 7.1 MHz and SSB sensitivity measuring condition: AGC: OFF ② Connect the vacuum tube voltmeter to TP2 of CAE-227A. ③ Set the SG for a level of 5 dB $\mu$ and adjust T12 for a maximum reading on the voltmeter.	
4	1st mixer balance	① Set for a receiving frequency of 100 kHz and the MODE to CW. ② Adjust RV1 for a minimum spurious beat.	

7.2.9 CFL-243W BWC UNIT

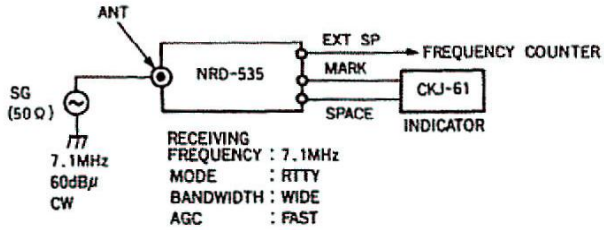
NO.	ITEM	ADJUSTING PROCEDURE	RATING (REF. VALUE)
1	20 MHz level	<ol style="list-style-type: none"> <li>① Fully counterclockwise rotate the BWC control on the front panel of NRD-535.</li> <li>② Check the level on TP5, using the oscilloscope.</li> </ol>	2 V <sub>p-p</sub> or more
2	DDS cancel	<ol style="list-style-type: none"> <li>① Connect the oscilloscope to TP6 and adjust RV1 so that the jitter A of the waveform shown in the right diagram may be minimum.</li> <li>Connect the oscilloscope to TP7 and adjust RV2 in the same manner.</li> </ol>	
3	Local level and frequency	<ol style="list-style-type: none"> <li>① Check the levels on TP2 and TP3, using the vacuum tube voltmeter.</li> <li>② Check the frequencies on TP2 and TP3, using the frequency counter.</li> </ol>	0.1 V <sub>rms</sub> or more
		BWC control fully counterclockwise	
	TP2	855 kHz	
	TP3	855 kHz	

7.2.10 CMF-78 ECSS UNIT

NO.	ITEM	ADJUSTING PROCEDURE	RATING (REF. VALUE)
1	VCO adjustment	<ol style="list-style-type: none"> <li>① Set the receiving frequency to 7.1 MHz and the mode to AM.</li> <li>② Connect the signal generator to the antenna and set for a frequency of 7.1 MHz and output level of 40 dB<math>\mu</math>.</li> <li>③ Connect the digital voltmeter to TP4 of CMF-78.</li> <li>④ Set the ECSS to ON and adjust RV1 for a voltage of 4.5 V on TP4.</li> </ol>	4.3–4.7 V <sub>dc</sub>

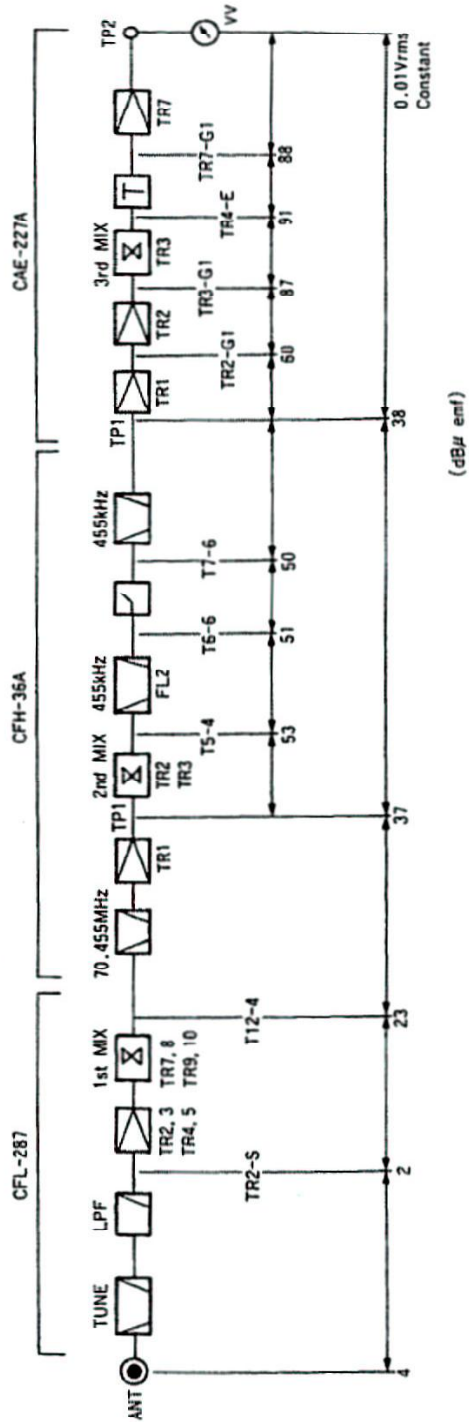


7.2.11 CMH-530 RTTY DEMO UNIT

NO.	ITEM	ADJUSTING PROCEDURE	RATING (REF. VALUE)									
1	Filter adjustment	<p>① Connect the signal generator, frequency counter, and CKJ-61 indicator as shown below.</p>  <p>RECEIVING FREQUENCY: 7.1 MHz MODE: RTTY BANDWIDTH: WIDE AGC: FAST</p> <p>② Rotate RV2 and RV3 fully clockwise.</p> <p>③ Connect the channel 1 of the oscilloscope to TP4 and the channel 2 to TP5.</p> <p>④ Finely adjust the signal generator frequency or the receiving frequency so that the output frequency of the EXT SP may be 2295 Hz.</p> <p>⑤ Adjust RV4 for a maximum output level on TP4. In this time, the output level is saturated, and hence clockwise rotate RV1, until the output level is not saturated.</p> <p>⑥ Set for a shift width of 170 Hz (<math>\pm 85</math> Hz).</p> <p>⑦ Finely adjust the signal generator frequency or the receiving frequency so that the output frequency of the EXT SP may be 2125 Hz.</p> <p>⑧ Adjust RV5 for a maximum output level on TP5.</p> <p>⑨ Adjust the space filters for 1895 Hz and 1445 Hz in the same manner as steps ⑤ through ⑧.</p> <table border="1" data-bbox="512 1462 1273 1608"> <thead> <tr> <th>SPACE FILTER</th> <th>SHIFT WIDTH</th> <th>CONTROL</th> </tr> </thead> <tbody> <tr> <td>1895 Hz</td> <td>400 Hz</td> <td>RV6</td> </tr> <tr> <td>1445 Hz</td> <td>850 Hz</td> <td>RV7</td> </tr> </tbody> </table>	SPACE FILTER	SHIFT WIDTH	CONTROL	1895 Hz	400 Hz	RV6	1445 Hz	850 Hz	RV7	
SPACE FILTER	SHIFT WIDTH	CONTROL										
1895 Hz	400 Hz	RV6										
1445 Hz	850 Hz	RV7										
2	Output level adjustment	<p>① Set for a shift width of 425 Hz (<math>\pm 212.5</math> Hz).</p> <p>② Finely adjust the signal generator frequency or the receiving frequency so that the output frequency of the EXT SP may be 2295 Hz or 1895 Hz.</p> <p>③ Adjust RV2 or RV3 so that the output levels on TP4 and TP5 may be equal.</p> <p>④ Adjust RV1 so that the output levels on TP4 and TP5 may be equal to 8 Vp-p.</p>										

7.3 LEVEL DIAGRAM

Fr = 7.1MHz  
 MODE : LSB  
 AGC : OFF



# SECTION 8: TROUBLESHOOTING

## 8.1 OUTLINE OF TROUBLESHOOTING

The trouble of the receiver includes only those caused by the failures of the receiver itself but also those caused by the misunderstandings in view of the operation as well as the causes originating from other than the receiver, which results may appear on the receiver. It is, hence, essential to calmly investigate which causes the trouble between a failure of the receiver itself and any external problem.

In this section, the procedure is given for finding possible troubles of the receiver itself. Once the trouble is located, replace associated unit involving the location of the trouble, or procure new parts according to the Section 10 Parts List and replace them.

### 8.1.1 CHECK OF POWER CIRCUIT

Upon the investigation of the trouble in the receiver, the voltages of the power supply should be checked at first.

The power supply unit CBD-1080 locates at the rear panel of the main frame. The power voltages of 10.8 V, 9 V and 5 Vdc of this unit should be checked. If any abnormal condition is found, pull off all the plug-in units. In addition, pull off all the connectors on the panel block, except the connector P39. If the abnormal condition still exists in the power supply unit this time, then it may conclude that the power supply unit is defective. If, however, the voltage of 10.8 V can be adjusted again, adjust it and verify the operation.

In the case of the 5 V being abnormal, make sure there is no failure in the panel block, since this power voltage is supplied to the panel block through the connector P37. If each power voltage is not abnormal, when the plug-in units are disconnected, then return the units to the original places one after another, whereby any defective unit is found. If the substitute units are presented at hand, replace them and make sure they operate normally. For any defective unit, if any, check at first whether or not any short circuit exists in the power supply and parts due to the solder bridge or impurities. In addition, for the C-MOS IC's or the like, check whether or not they have heated abnormally. This is the measure for the check.

If any defective parts is found, replace them with new parts and check the operation.

### 8.1.2 RECEIVER SENSITIVITY POOR

The case where the sensitivity lowers will be described below.

If there are the substitutive units at hand, then try to replace the RF TUNE unit, CFL-287, at first. Successively, try to replace the IF FILTER unit, CFH-36A, IF AMP unit, CAE-227A, and CPU unit, CDC-493AD in this order, and find any defective unit. If the sensitivity still

remains poor after replacing all these units, then check the mother board, CFQ-3597, which connects associated units to the antenna.

In the case of no substitutive unit, you must find which unit is defective. The procedure for finding this will be described below.

Check whether the sensitivity is poor in all the bands (for the bands, refer to the description of the operation in the receiver block) or in a specific band only. The checking method is as follows: If the signal generator or the like is present at your hand, measure the sensitivity at each band and compare the measured value with specified value. If the signal generator or the like is not obtainable, try to receive the broadcast wave in each band, then operate the controls to pass the received signal through the tuning circuit at one hand and take the pass operation to pass the signal through the bypass filter of 1.6 MHz on the other hand. Thus, determine in which band the sensitivity is poor, based on the difference of the sensitivity between both operations.

#### (1) Sensitivity poor at specified band

In the case where the sensitivity is poor at specific band, the following three points are considerable for a defective part.

##### a) Band change-over of the tuning circuit

Some parts may be defective. Check IC1 and CD5 through CD10 in the CFL-287 unit and IC6 in the CDC-493AD unit.

##### b) Tuning circuit

Some parts may be defective and poor adjustment is possible. At first adjust again according to the adjusting procedure. If this readjustment is not effective, some parts may be defective. Check the tuning transformers in the CFL-287 unit as well as the trimmer capacitors and SUB band change-over relay.

##### c) Tuning voltage generator circuit

Some parts may be defective and poor adjustment is possible. At first adjust again according to the adjusting procedure. If this readjustment is not effective, some parts may be defective. Check the tuning voltage generator circuit in the CDC-493AD unit.

#### (2) Sensitivity in all the bands

In the case where the sensitivity is poor over all bands, a defective circuit will be found by checking the levels at some points on the route of the received signal. To do the checks, the levels at the check points are measured, with referring to the level diagrams in Paragraph 7.3. Search the circuits for a point, where the measured value is greatly different from the standard value on the

level diagram. It is noted that the standard values on the level diagram are somewhat different from the measured values.

If the defective circuit involves some adjustable points, readjust them according to the adjusting procedure. If this readjustment is not effective, some parts may be defective. Check possible parts belonging to the defective circuit.

### 8.1.3 NO SOUND FROM SPEAKER

As for the case where no sound is produced at all from the speaker, the procedure for locating a defective circuit will be described below.

At first, check whether the connecting line of the speaker is broken or not and whether the MUTE terminal on the rear panel is used or not.

Next, make sure the PLL loop in the synthesizer block is not locked out. The lock out state can be checked with the UNLOCK LED of CD10 in the CGA-145 unit and the UNLOCK LED of CD8 in the CGK-127A unit.

If the synthesizer block is operation normally, then check the squelch circuit. Try to rotate the SQUELCH control on the front panel and see the SQUELCH LED on the front panel. If this LED remains illuminated, the squelch circuit may be defective. The squelch circuit actuates different circuits between when the FM mode is selected and when other mode is selected, as explained in the Description of Operation. If, accordingly, the squelch circuit is abnormal, irrespective of the mode, then check IC9, IC10 and IC11 in the CAE-227A unit as well as the SQUELCH control RV5 on the front panel. If abnormal with the FM mode only, then check the FM detector circuit, above all, IC8 in the CAE-227A. If abnormal with other mode than the FM mode, then check the AGC circuit in the CAE-227A.

### 8.1.4 THE OPERATION NOT POSSIBLE

In the case where a failure exists in the control system, i.e., the control block and the panel block, the NRD-535 may be no more operable. The control block and the panel block in the NRD-535 incorporates their respective microcomputers. If the microcomputer faults or its peripheral IC is defective, the operation of the receiver may be also not possible. By the way, to search the control system for either defective microcomputer or any defective IC, you must be familiar with the basic performance of each IC and as well as in what way the IC is used from the viewpoint of the constitution of the circuit, and then check the IC's one after another.

In this paragraph, for occurred troubles, only clearly considerable causes will be described below.

#### a) No display with power-on

Is the power circuit for the fluorescent display tube normally operating? Check the choke coil L1, transformer T1 and transistors TR1 and TR2 with respect to the damage or the like. Is the

heater for the fluorescent display tube not broken? Visually check the heater.

#### b) No operation with the switch pressed; the display satisfactory

If one switch does not operate, check the switch itself. If several switches become defective at once, check IC5 and IC6 in the CDE-705 unit.

#### c) The receiving frequency not changeable by rotating the tuning dial; the key switches satisfactory

Check PG1 and IC7 in the CDE-705 unit.

#### d) PBS or BWC not operative

If the PBS or BWC is not operative, check the PBS control RV1 or the BWC control RV2 in the CDE-705 unit, respectively.

#### e) The internal clock deviating

If the time deviation of the internal clock is great, then connect the frequency counter to TP1 of the CDE-705 DISPLAY unit and adjust the trimmer capacitor CV1 so that the frequency of oscillation may be 64 Hz.

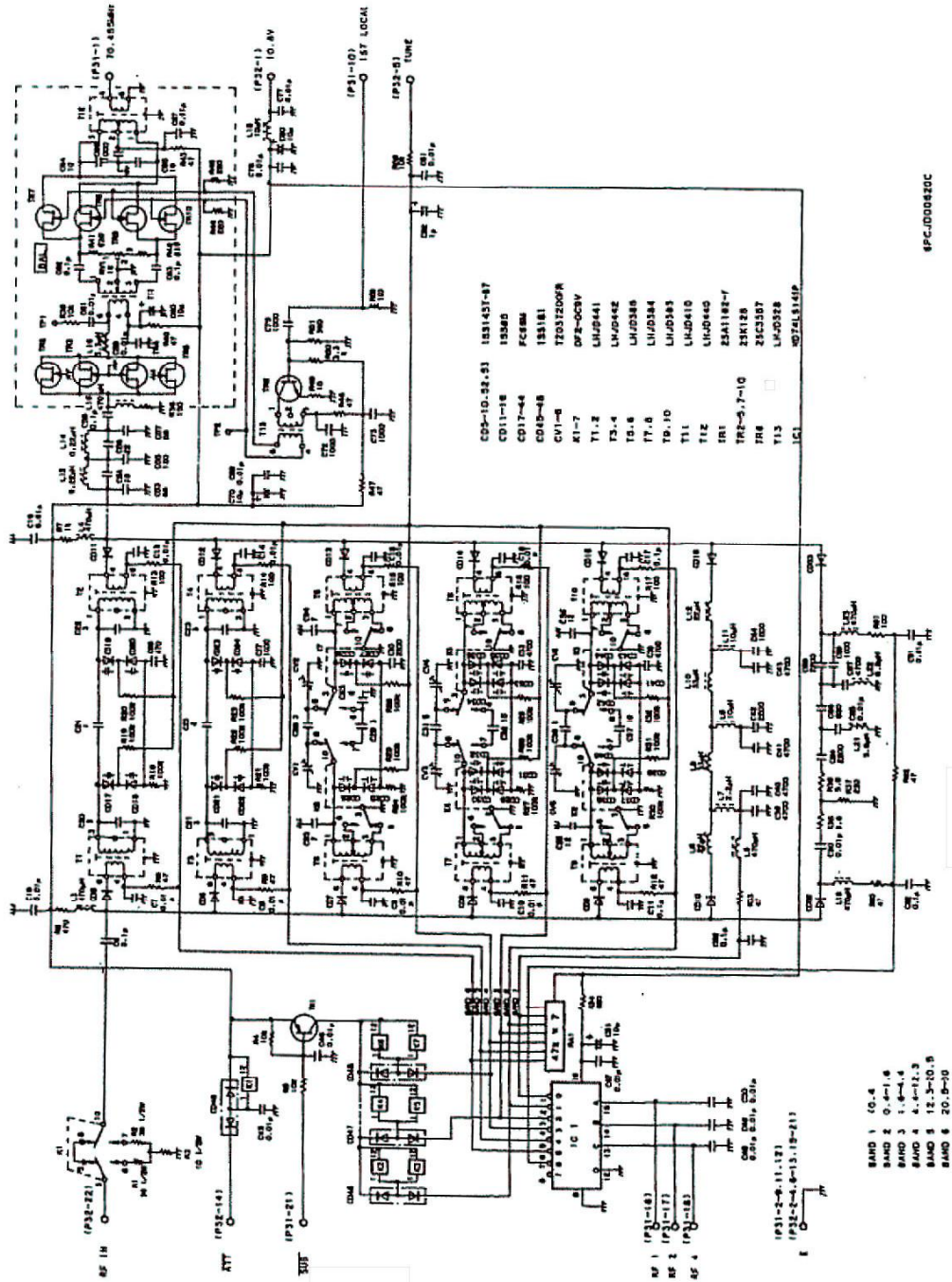
### 8.1.5 NOTCH NOT TURNING OFF

In the case where the NOTCH circuit remains operating even when the NOTCH control is set to OFF, readjust according to No. 3 for the CAE-227A IF AMP unit in Paragraph 7.2.6.

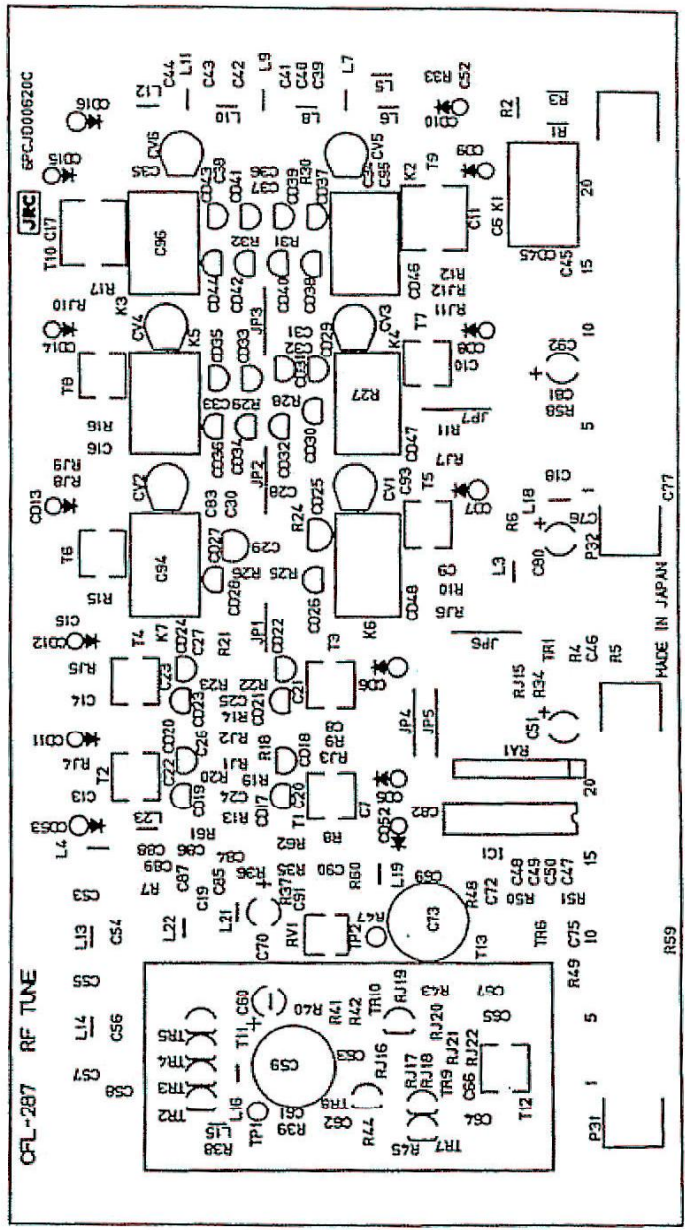
## SECTION 9: CIRCUIT DIAGRAM AND COMPONENT LAYOUT

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CFL-287 RF TUNE UNIT



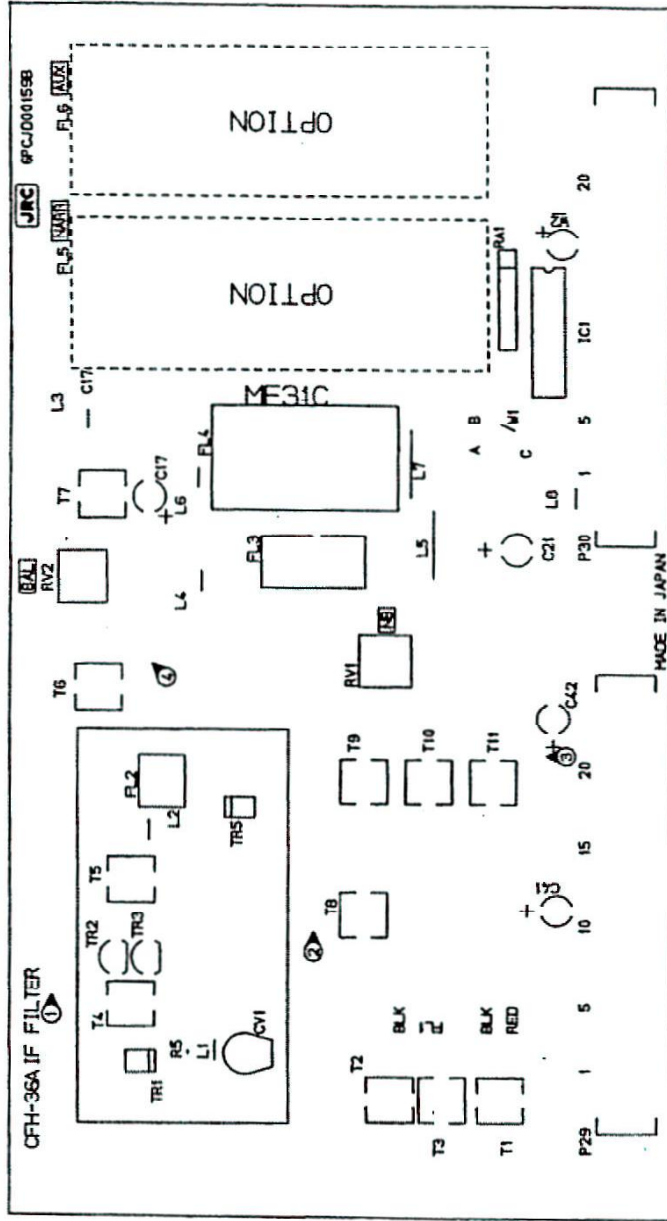
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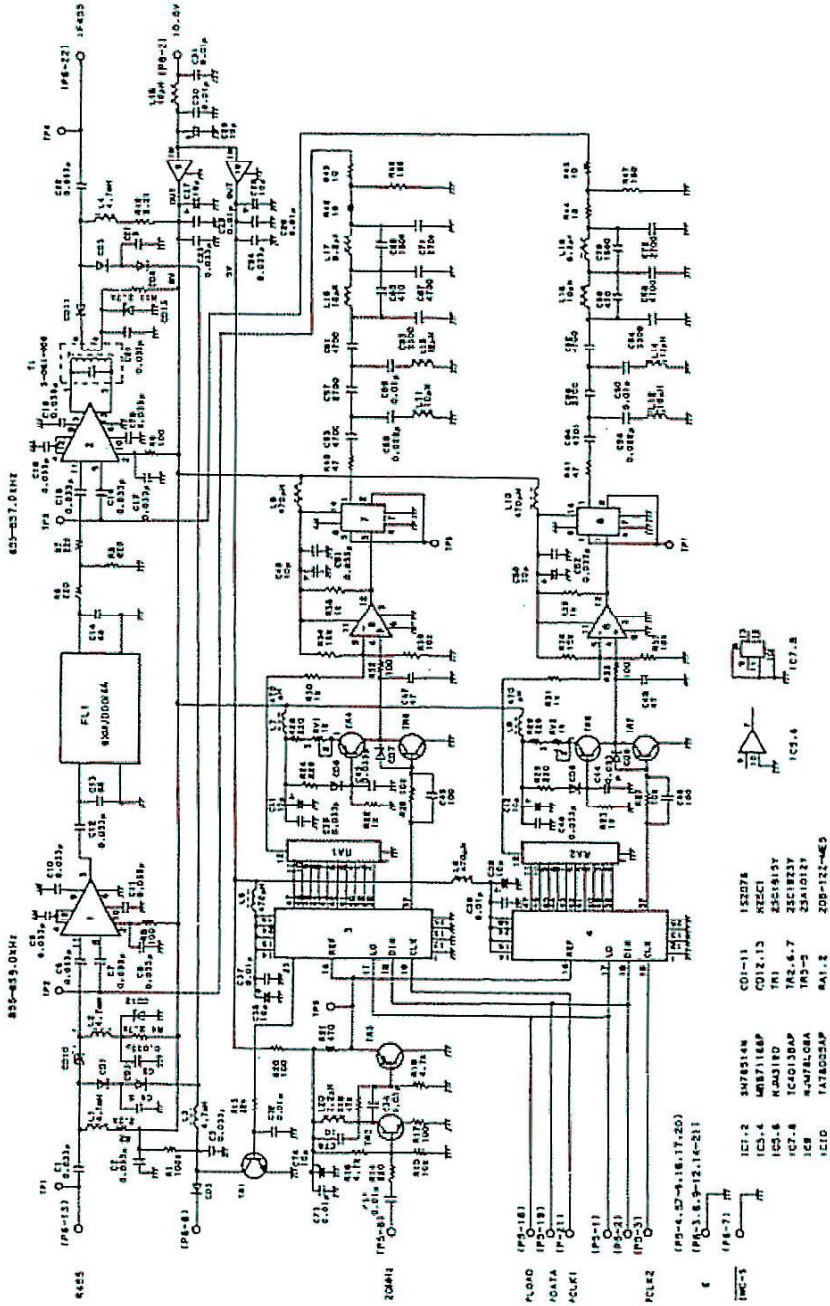




CFH-36A IF FILTER UNIT



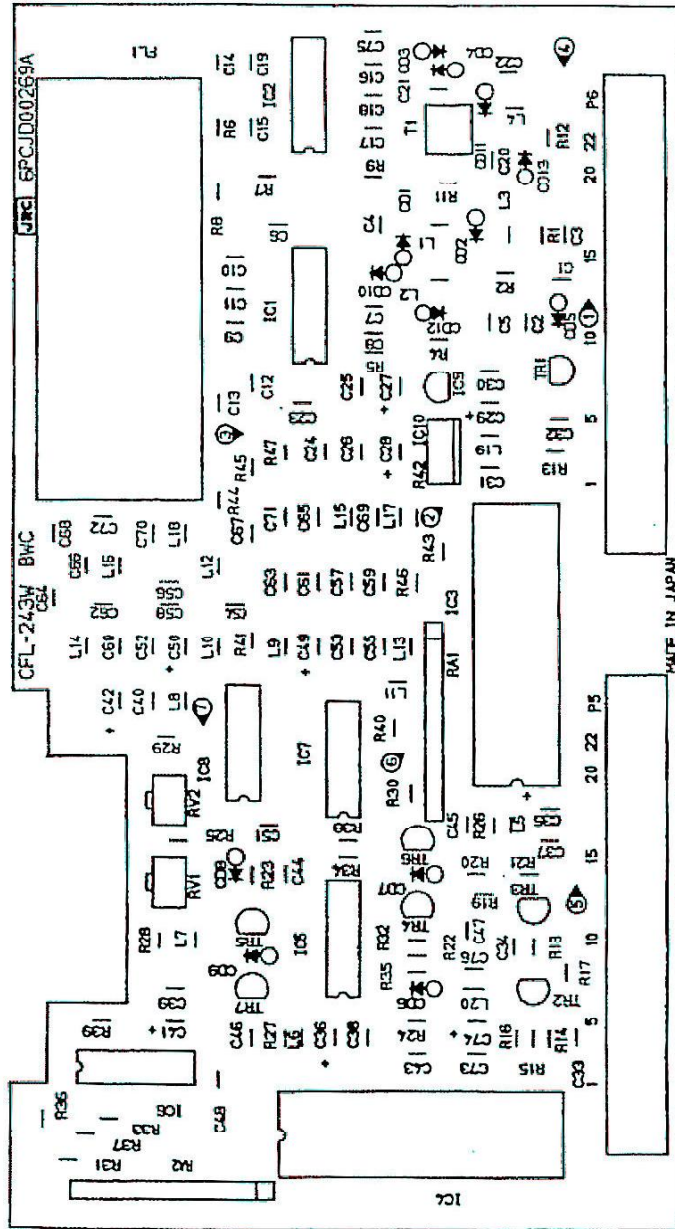
CFL-243W BWC UNIT (OPTION)



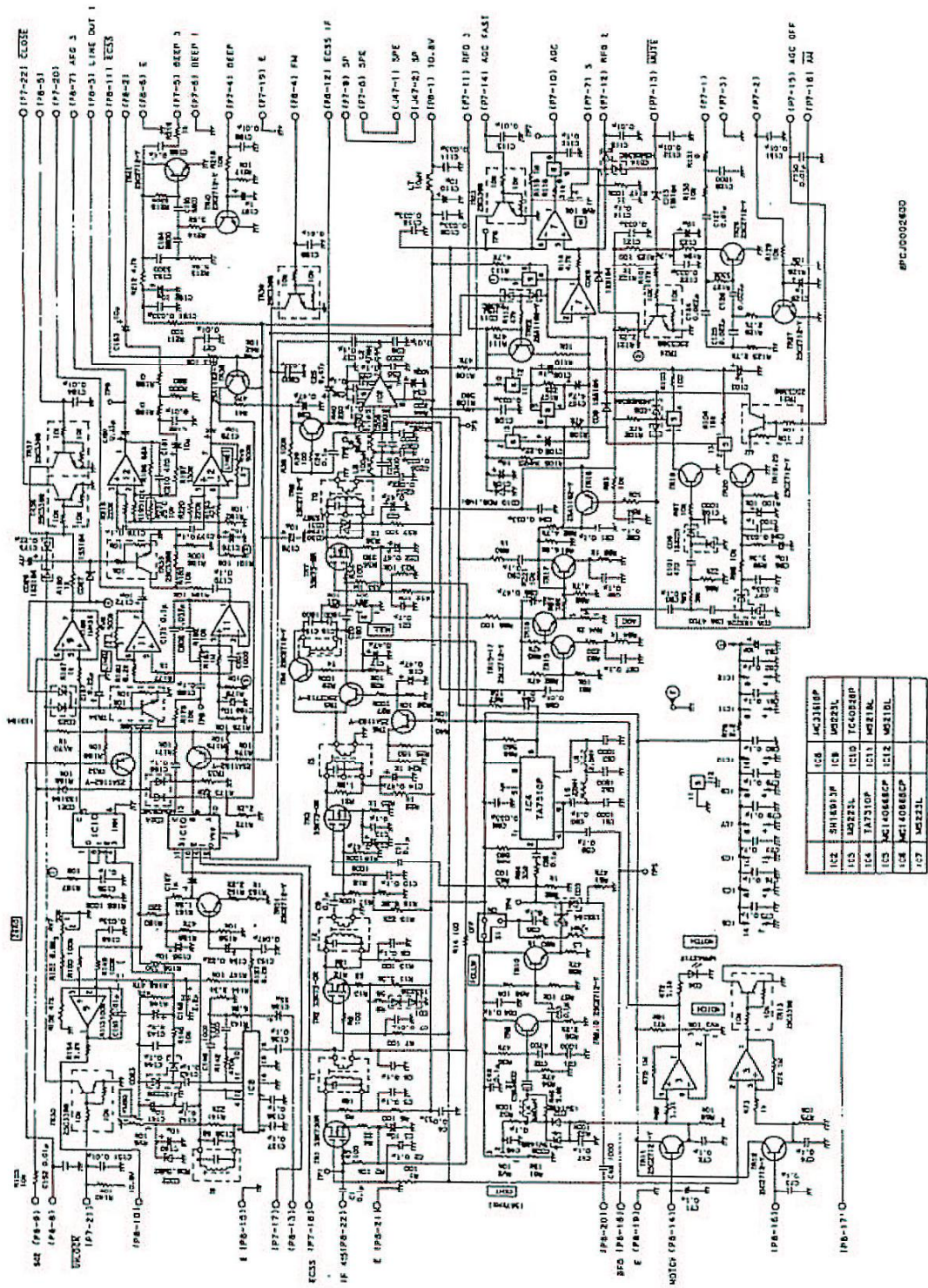
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- IC7-8 54785
- IC9 54785
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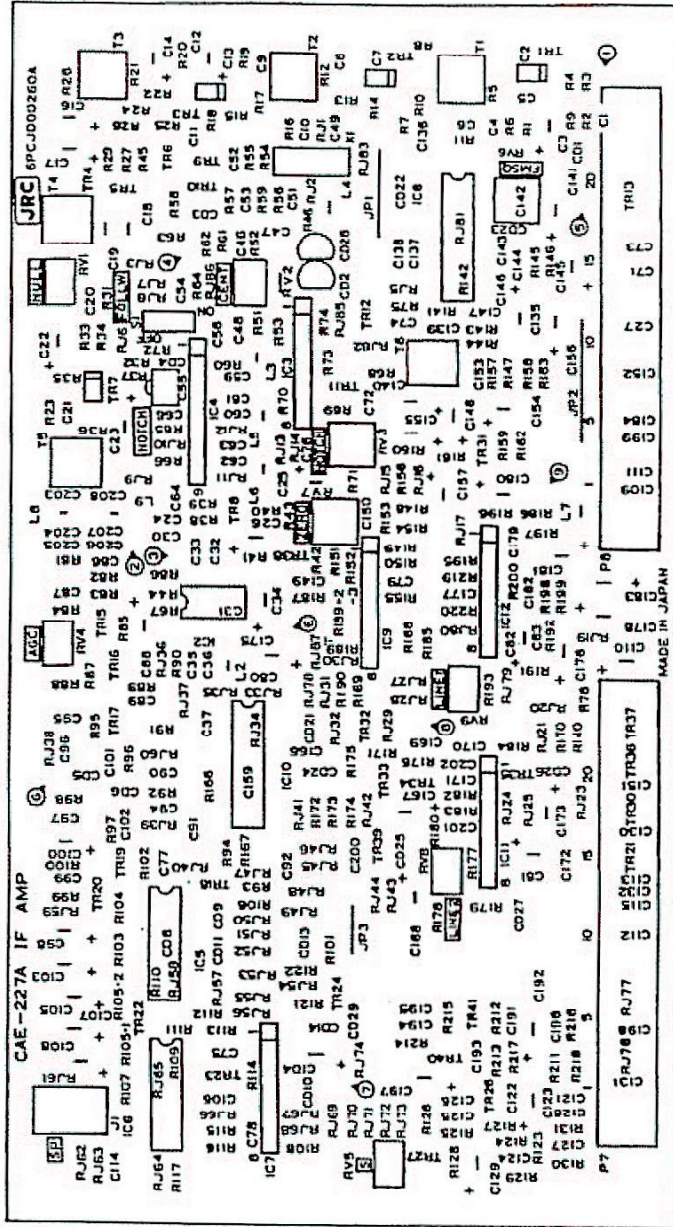
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CFL-243W BWC UNIT (OPTION)

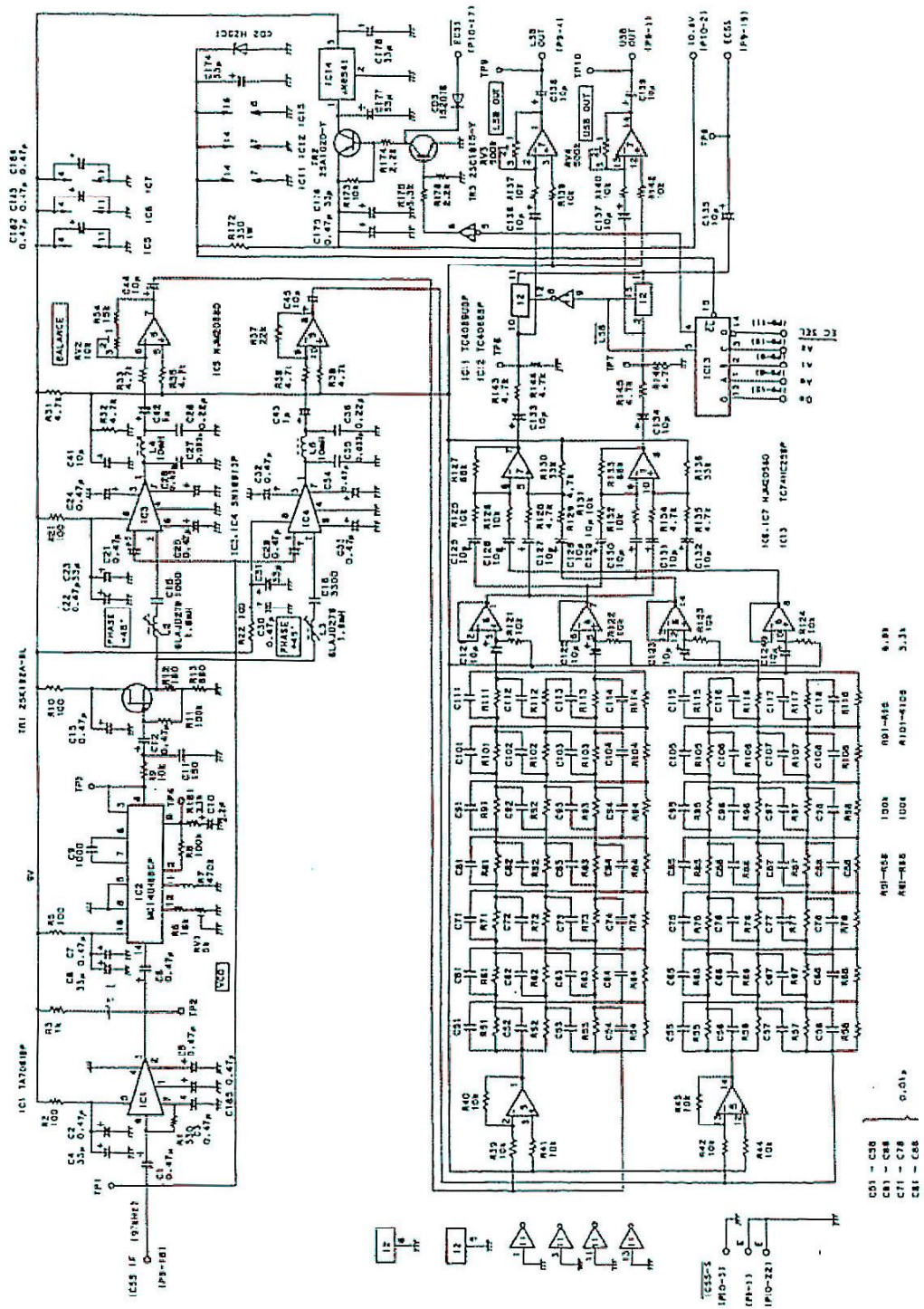


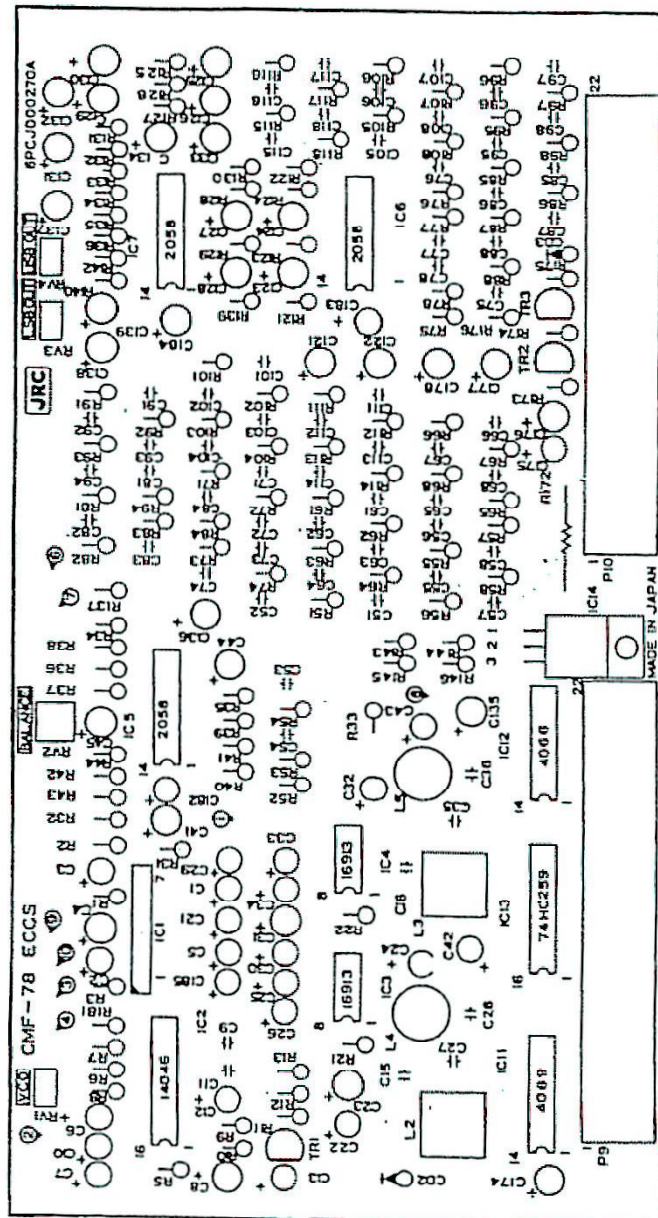
CAE-227A IF AMP UNIT



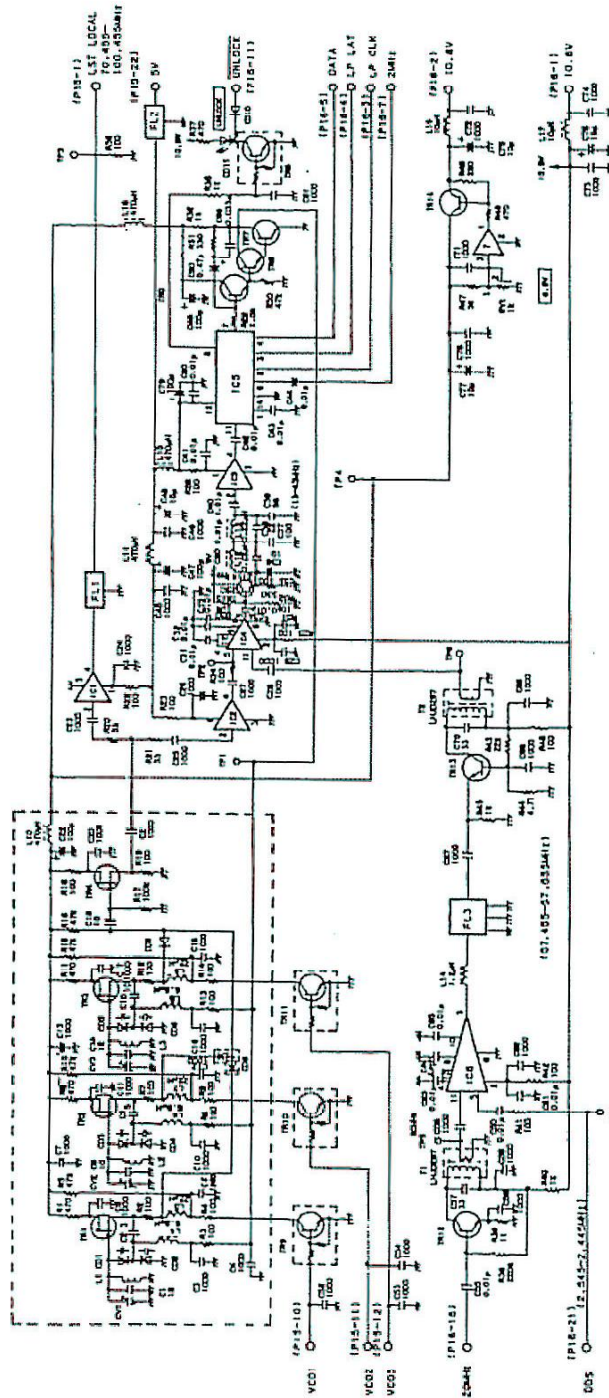


CMF-78 ECSS UNIT (OPTION)





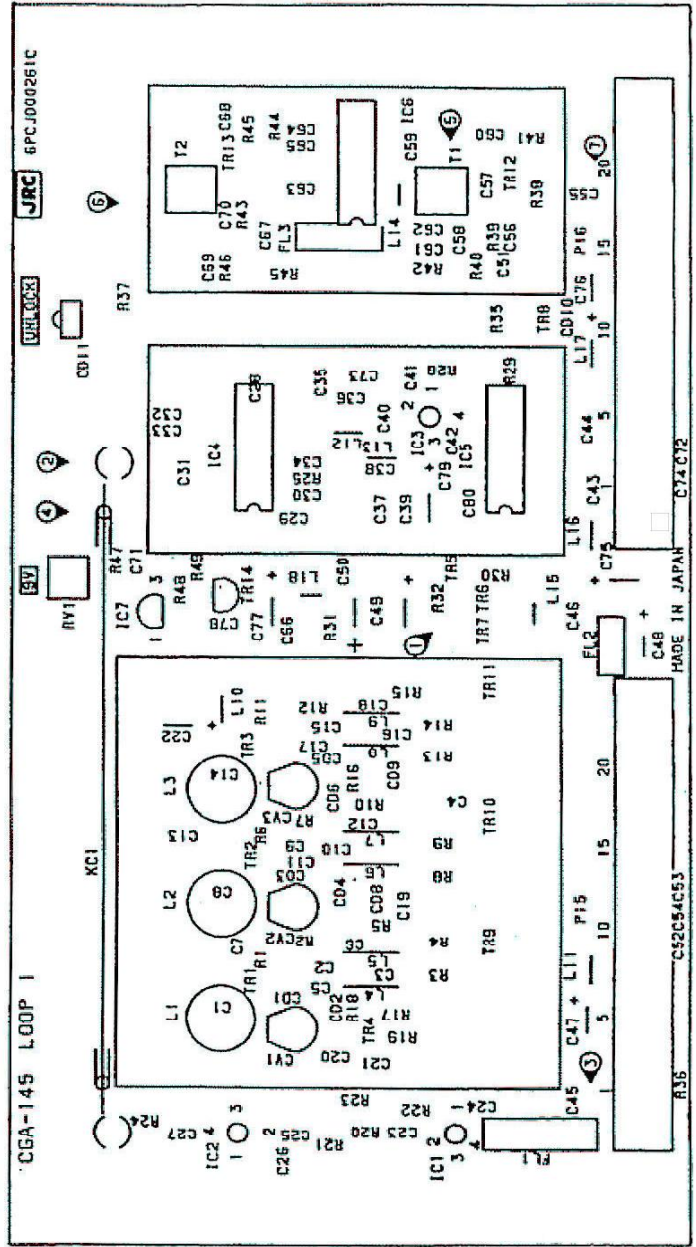
CGA-145 LOOP1 UNIT



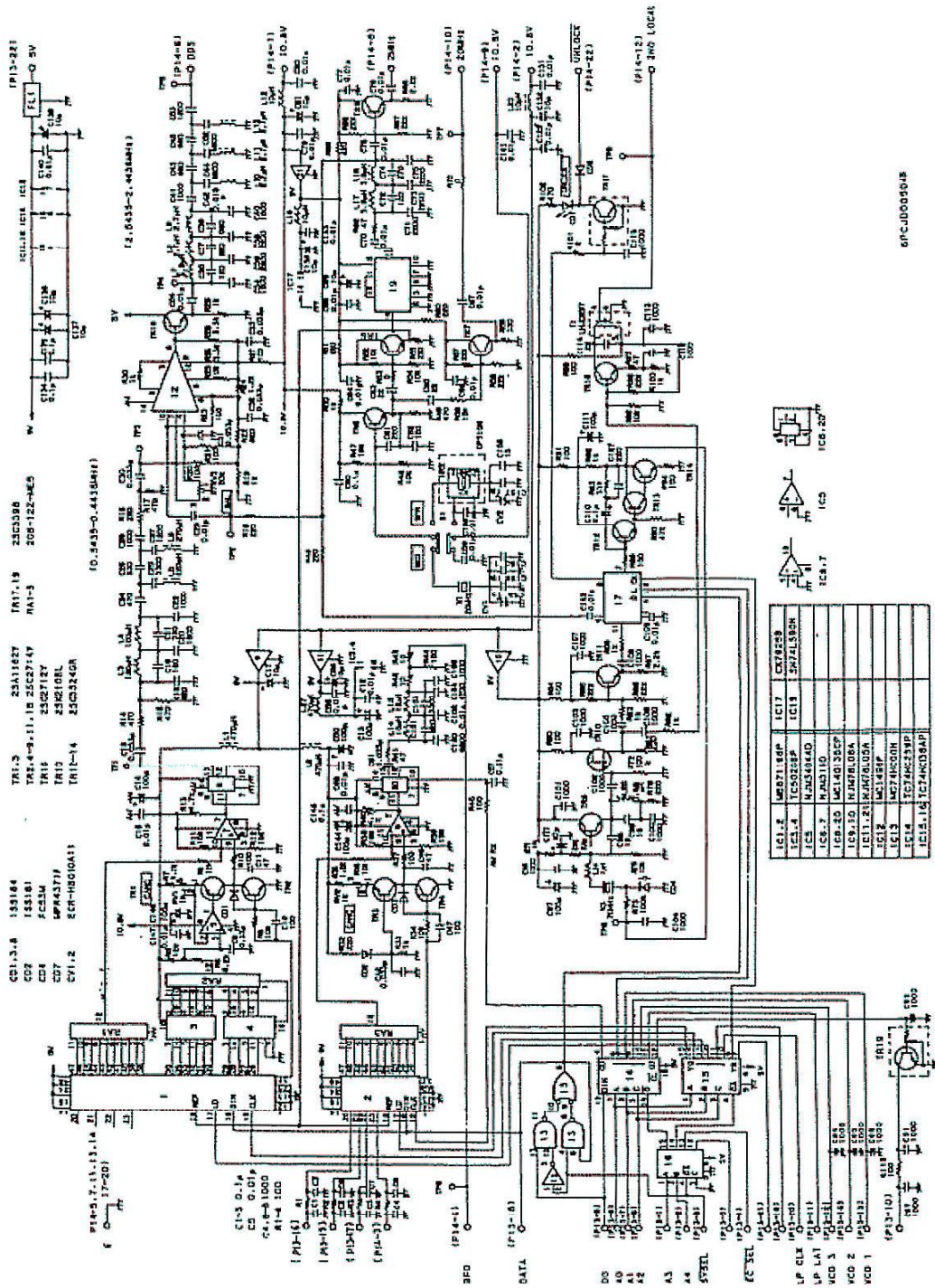
IC1 - 5	74LS125	IC1	74LS125
IC2 - 6	74LS125	IC2	74LS125
IC3 - 7	74LS125	IC3	74LS125
IC4 - 8	74LS125	IC4	74LS125
IC5 - 9	74LS125	IC5	74LS125
IC6 - 10	74LS125	IC6	74LS125
IC7 - 11	74LS125	IC7	74LS125
IC8 - 12	74LS125	IC8	74LS125
IC9 - 13	74LS125	IC9	74LS125
IC10 - 14	74LS125	IC10	74LS125
IC11 - 15	74LS125	IC11	74LS125
IC12 - 16	74LS125	IC12	74LS125
IC13 - 17	74LS125	IC13	74LS125
IC14 - 18	74LS125	IC14	74LS125
IC15 - 19	74LS125	IC15	74LS125
IC16 - 20	74LS125	IC16	74LS125
IC17 - 21	74LS125	IC17	74LS125
IC18 - 22	74LS125	IC18	74LS125
IC19 - 23	74LS125	IC19	74LS125
IC20 - 24	74LS125	IC20	74LS125
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IC22 - 26	74LS125	IC22	74LS125
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IC26 - 30	74LS125	IC26	74LS125
IC27 - 31	74LS125	IC27	74LS125
IC28 - 32	74LS125	IC28	74LS125
IC29 - 33	74LS125	IC29	74LS125
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IC34 - 38	74LS125	IC34	74LS125
IC35 - 39	74LS125	IC35	74LS125
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IC37 - 41	74LS125	IC37	74LS125
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IC40 - 44	74LS125	IC40	74LS125
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IC42 - 46	74LS125	IC42	74LS125
IC43 - 47	74LS125	IC43	74LS125
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IC50 - 54	74LS125	IC50	74LS125
IC51 - 55	74LS125	IC51	74LS125
IC52 - 56	74LS125	IC52	74LS125
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IC57 - 61	74LS125	IC57	74LS125
IC58 - 62	74LS125	IC58	74LS125
IC59 - 63	74LS125	IC59	74LS125
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IC61 - 65	74LS125	IC61	74LS125
IC62 - 66	74LS125	IC62	74LS125
IC63 - 67	74LS125	IC63	74LS125
IC64 - 68	74LS125	IC64	74LS125
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IC69 - 73	74LS125	IC69	74LS125
IC70 - 74	74LS125	IC70	74LS125
IC71 - 75	74LS125	IC71	74LS125
IC72 - 76	74LS125	IC72	74LS125
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IC75 - 79	74LS125	IC75	74LS125
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IC78 - 82	74LS125	IC78	74LS125
IC79 - 83	74LS125	IC79	74LS125
IC80 - 84	74LS125	IC80	74LS125
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IC86 - 90	74LS125	IC86	74LS125
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IC91 - 95	74LS125	IC91	74LS125
IC92 - 96	74LS125	IC92	74LS125
IC93 - 97	74LS125	IC93	74LS125
IC94 - 98	74LS125	IC94	74LS125
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IC96 - 100	74LS125	IC96	74LS125

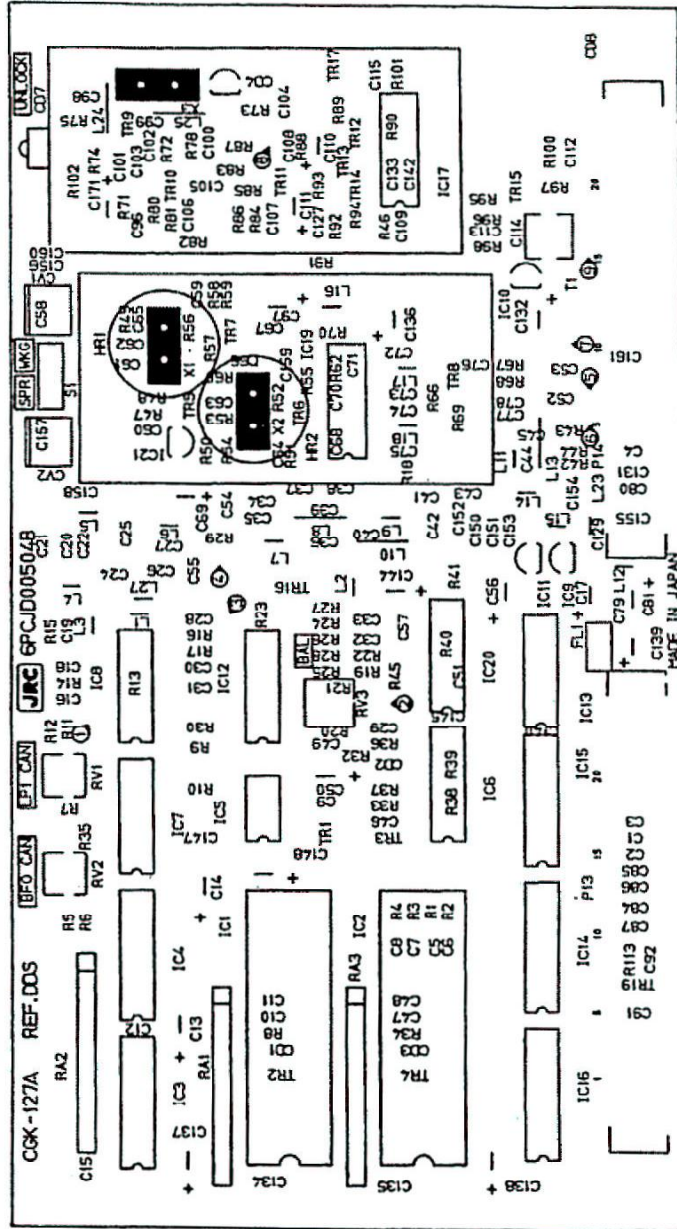
9PC J0102 61C

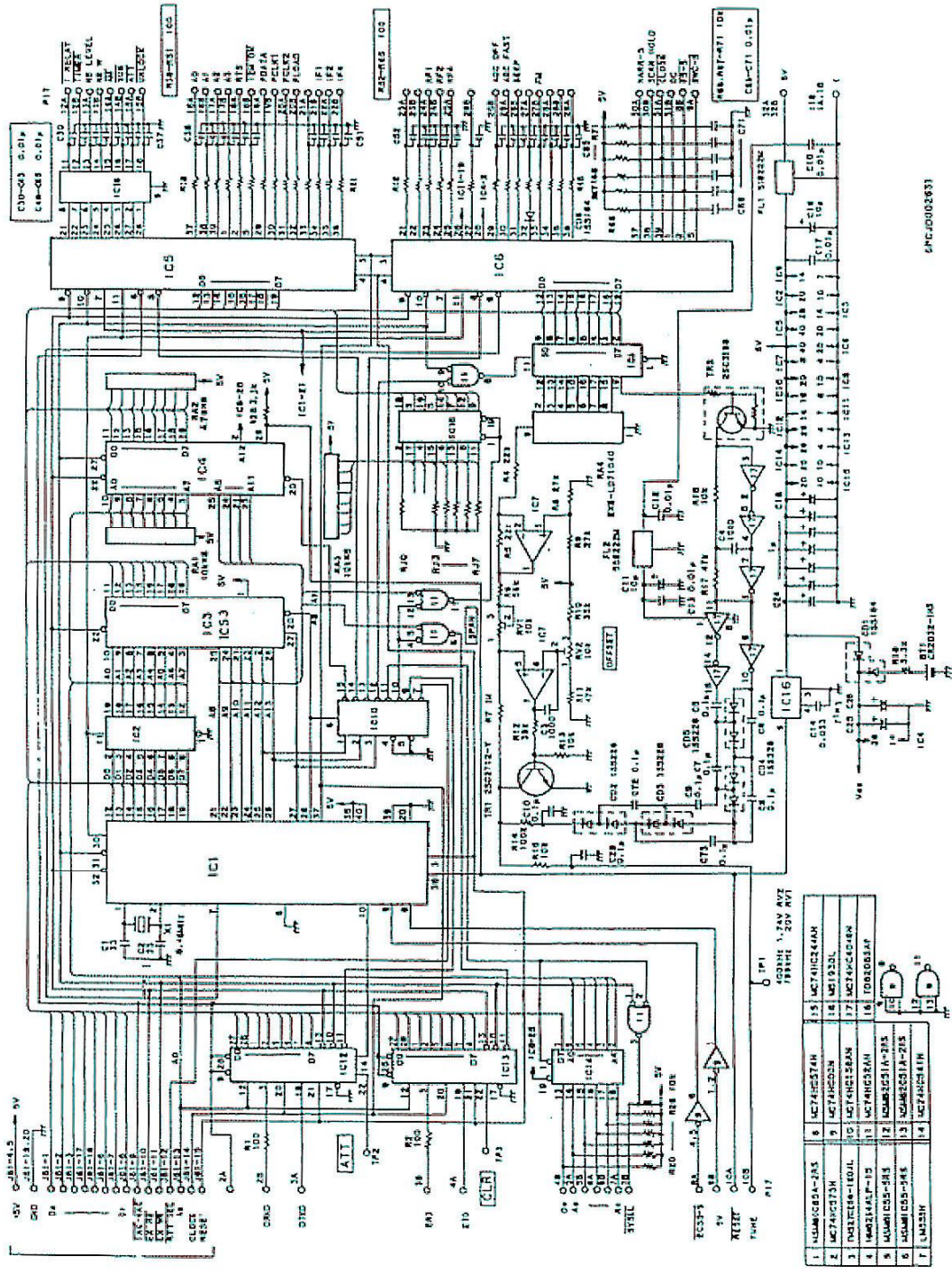




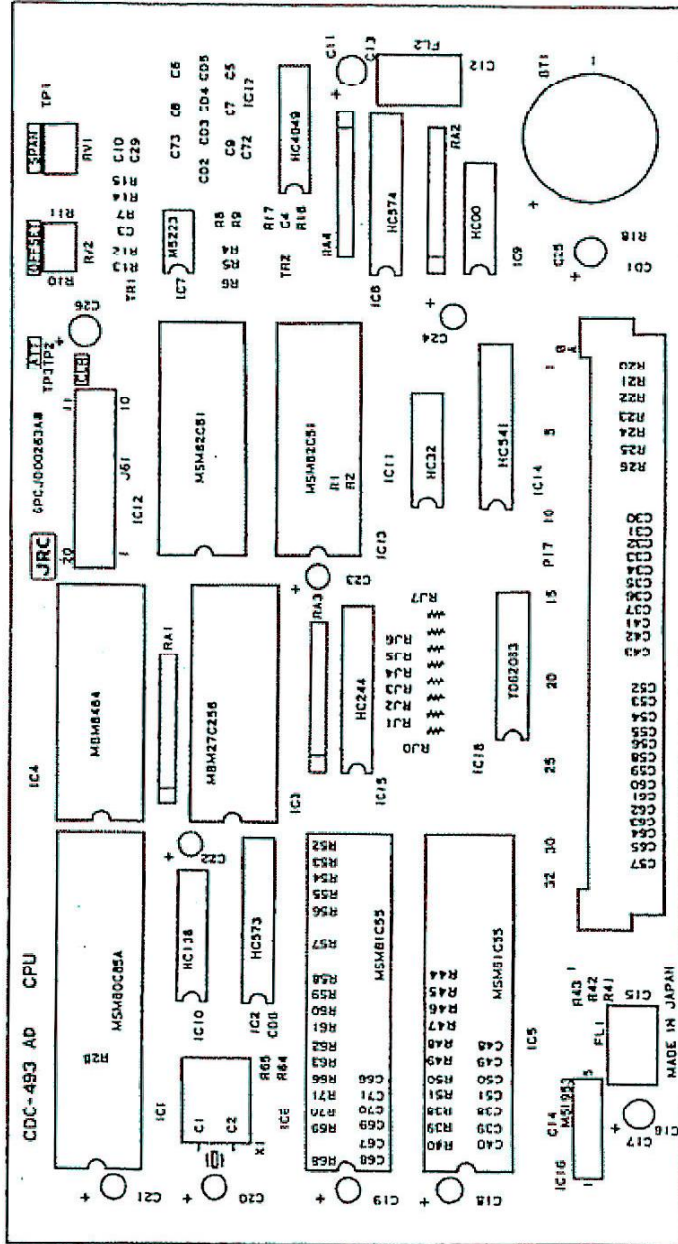
CGK-127A REF/DDS UNIT

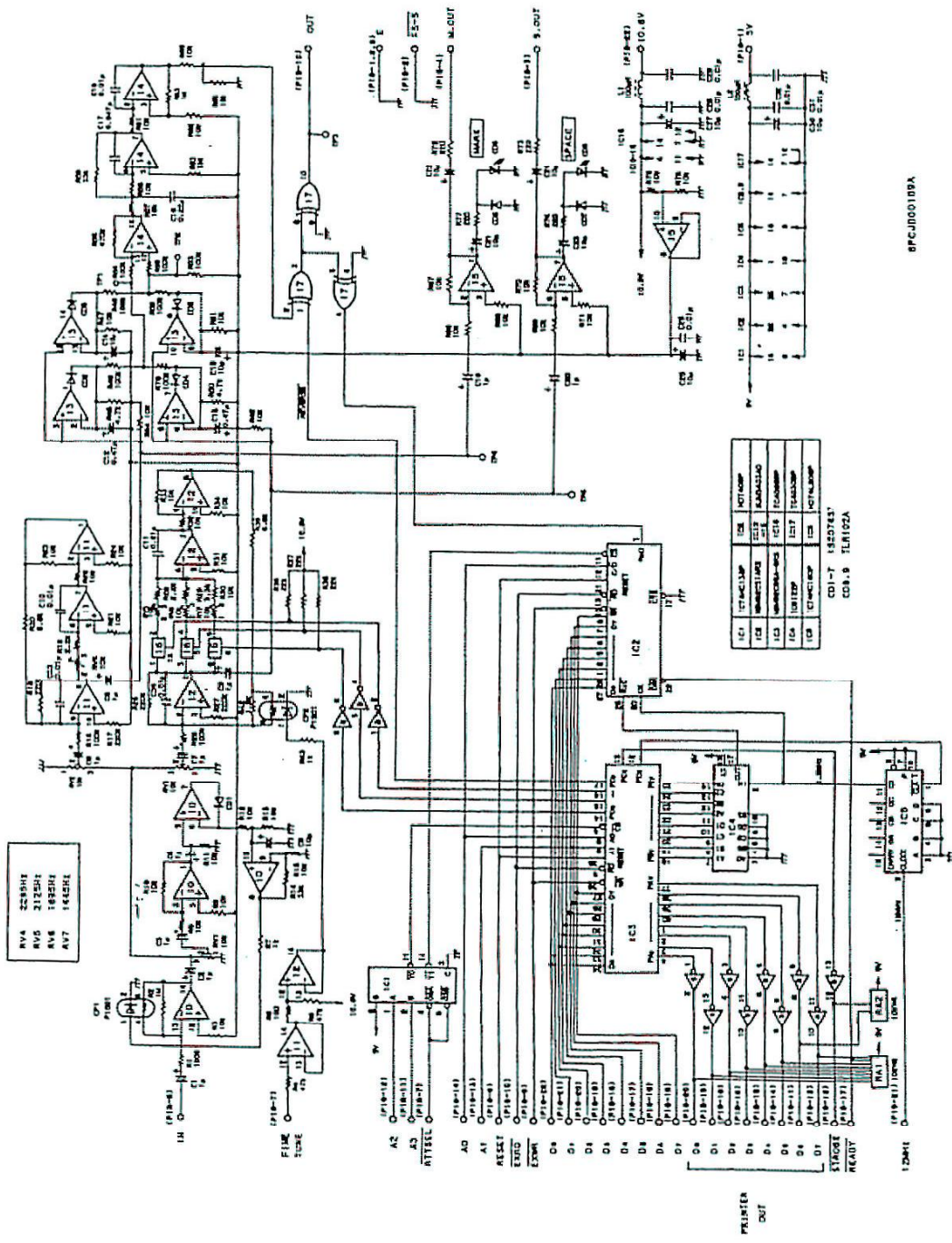






CDC-493AD CPU UNIT

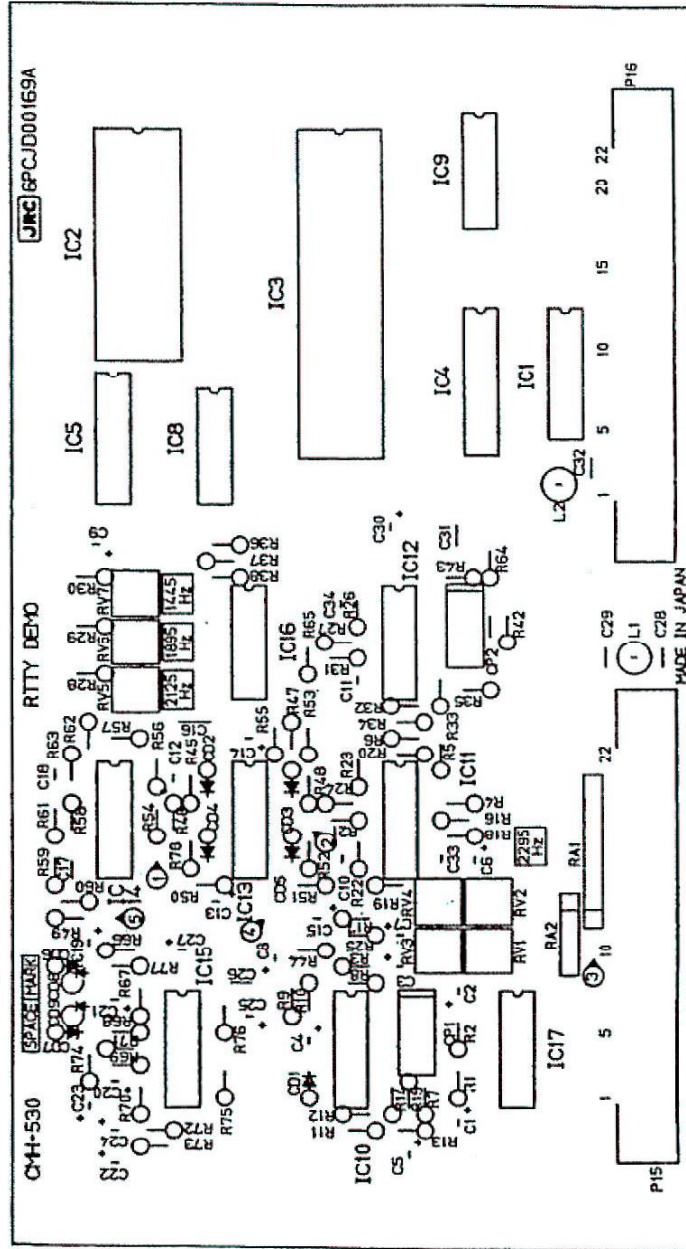




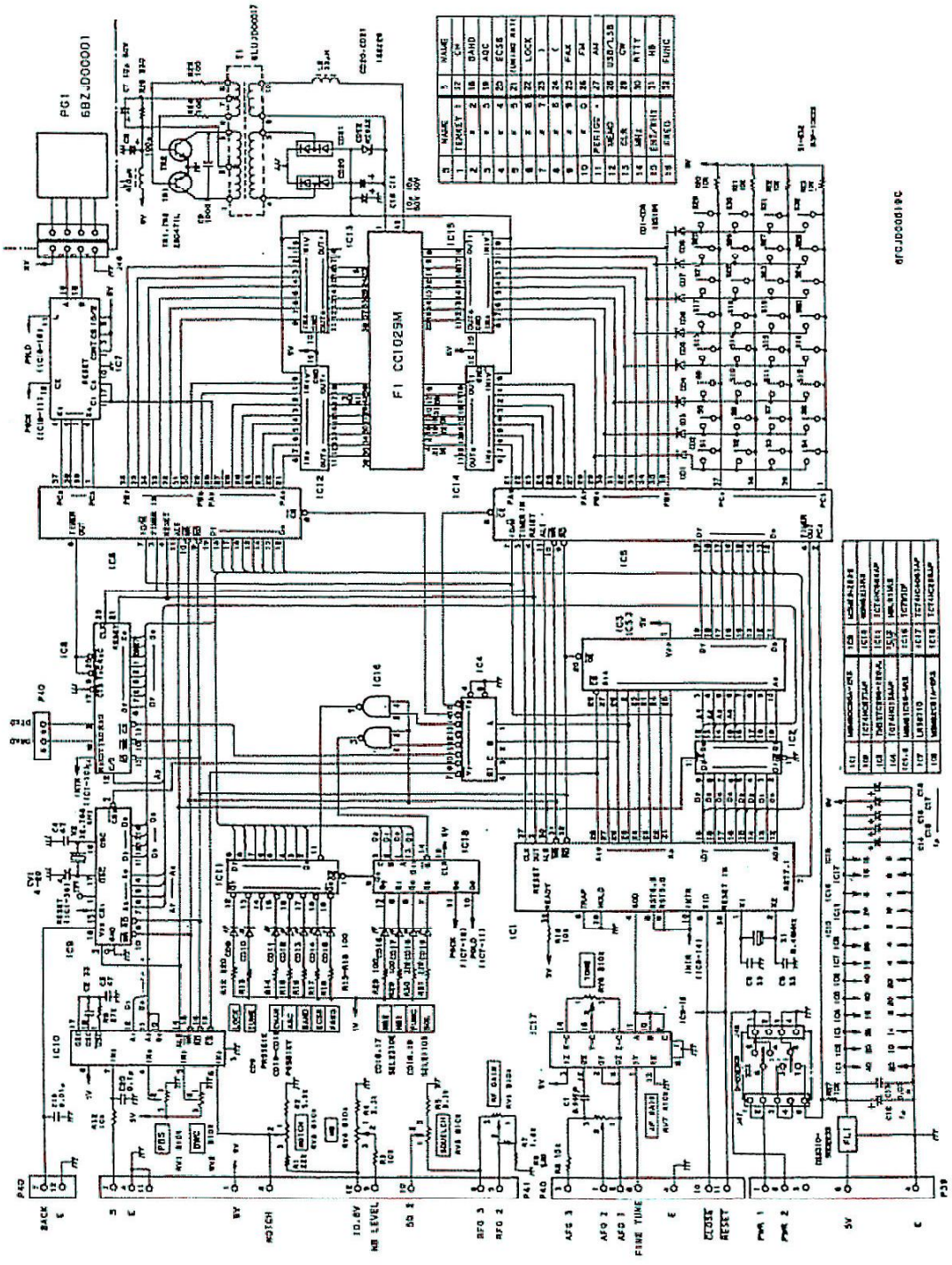
SPCJ00109A

PRINTER  
OUT

CMH-530 RTTY DEMO UNIT (OPTION)



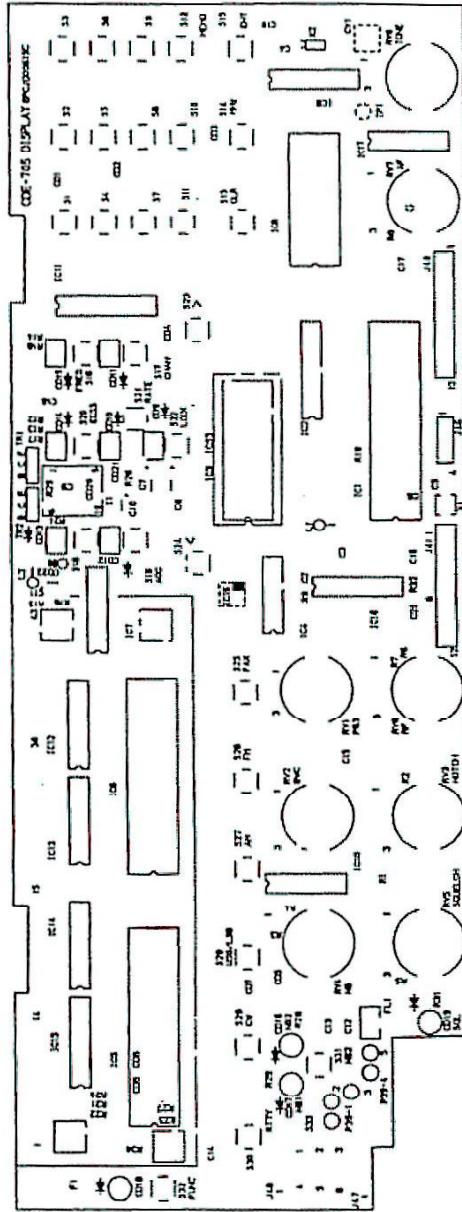
CDE-705 DISPLAY UNIT

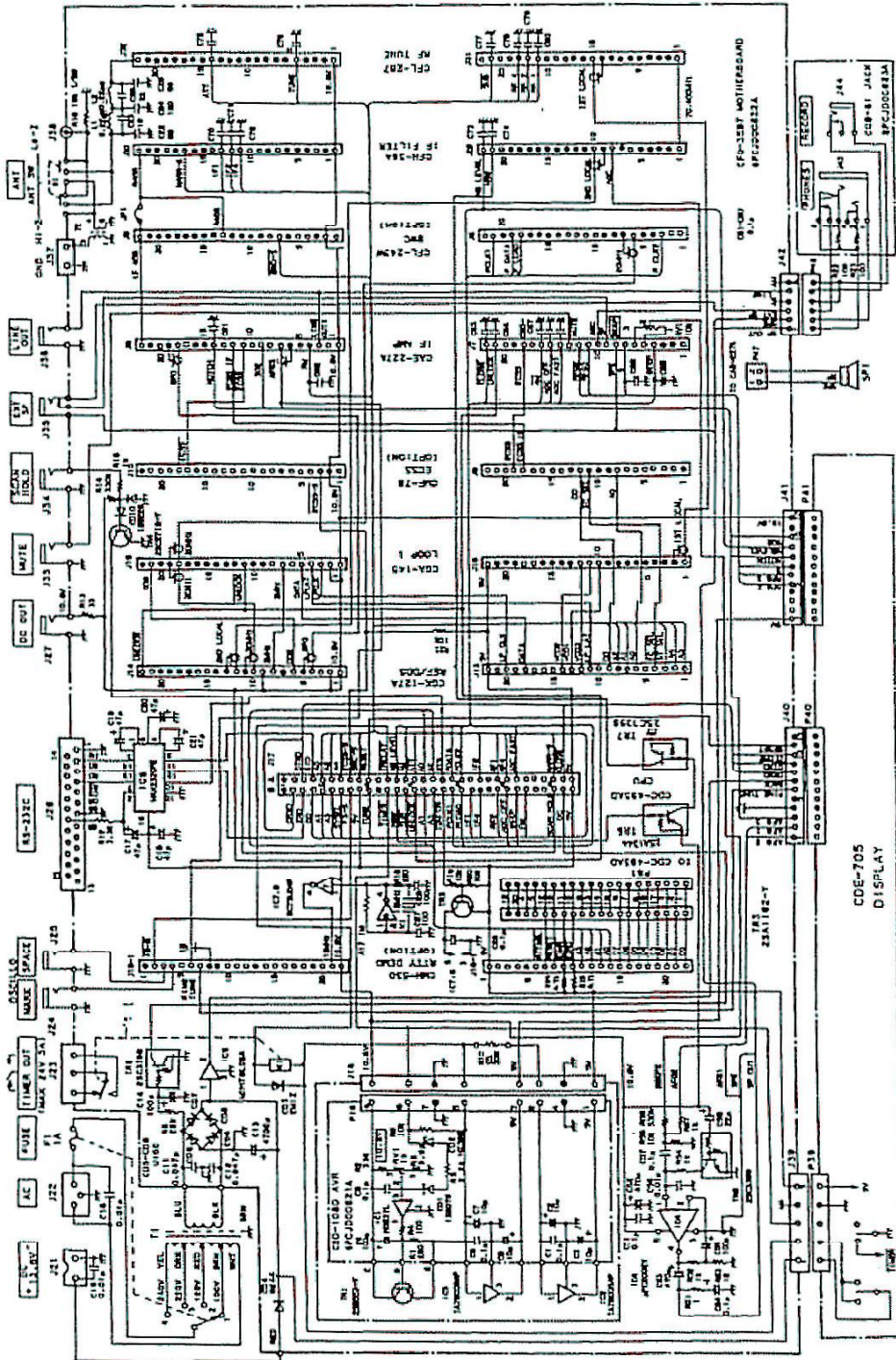


8FCJ00019C



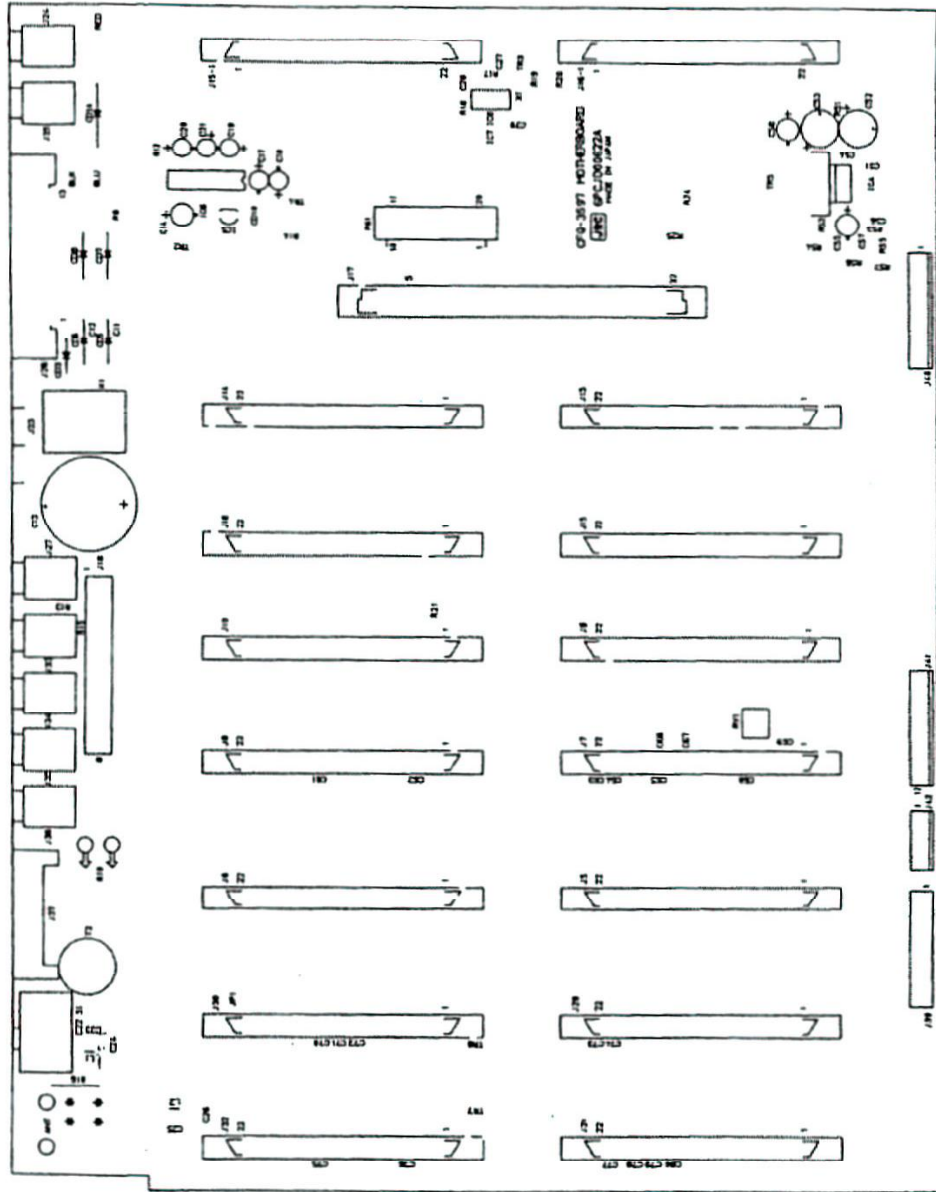
CDE-705 DISPLAY UNIT



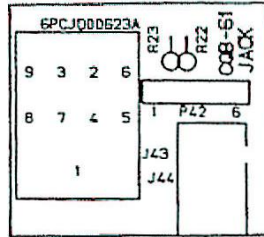


CHASSIS

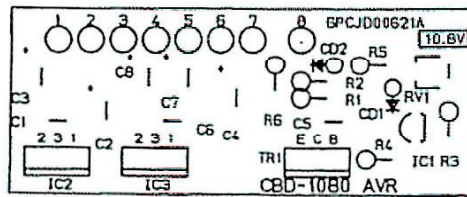
CFQ-3597 MOTHERBOARD



CQB-61 JACK UNIT



CBD-1080 AVR UNIT



## SECTION 10: PARTS LIST

1. RF TUNE	CFL-287 .....	56
2. IF FILTER	CFH-36A .....	60
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14. ACCESSORY	NRD-535FUZOKU .....	99

## PARTS LIST

RF TUNE		TITLE		SHEET NO.	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
C6	CAP,FXD C CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268	
C7	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C8	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C9	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C10	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C11	CAP,FXD C CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268	
C13	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C14	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C15	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C16	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C17	CAP,FXD C CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268	
C18	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C19	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C20	CAP,FXD C CER	C3216CH1H030C-E-TP	50V 3PF	SCAAD00796	
C21	CAP,FXD C CER	C3216CH1H030C-E-TP	50V 3PF	SCAAD00796	
C22	CAP,FXD C CER	C3216CH1H030C-E-TP	50V 3PF	SCAAD00796	
C23	CAP,FXD C CER	C3216CH1H030C-E-TP	50V 3PF	SCAAD00796	
C24	CAP,FXD CER	C3216CH1H010C-E-TP	50V 1PF	SCAAD00795	
C25	CAP,FXD C CER	C3216CH1H020C-E-TP	50V 2PF	SCAAD00798	
C26	CAP,FXD CER	C3216CH1H471J-E-TP	470PF	SCAAD00797	
C27	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C28	CAP,FXD C CER	C3216CH1H030C-E-TP	50V 3PF	SCAAD00796	
C29	CAP,FXD C CER	C3216CH1H030C-E-TP	50V 3PF	SCAAD00796	
C30	CAP,FXD CER	C3216SL1H222J-E-TP	2200PF	SCAAD00792	
C31	CAP,FXD C CER	C3216CH1H050C-E-TP	50V 5PF	SCAAD00800	
C32	CAP,FXD CER	C3216CH1H100D-E-TP	10PF	SCAAD00785	
C33	CAP,FXD CER	C3216JB1H472K-E-TP	4700PF	SCAAD01138	
C36	CAP,FXD C CER	C3216CH1H050C-E-TP	50V 5PF	SCAAD00800	
C37	CAP,FXD CER	C3216CH1H100D-E-TP	10PF	SCAAD00785	
C38	CAP,FXD CER	C3216JB1H472K-E-TP	4700PF	SCAAD01138	
C39	CAP,FXD CER	C3216JB1H472K-E-TP	4700PF	SCAAD01138	
C40	CAP,FXD CER	C3216JB1H472K-E-TP	4700PF	SCAAD01138	
C41	CAP,FXD CER	C3216JB1H472K-E-TP	4700PF	SCAAD01138	
C42	CAP,FXD CER	C3216SL1H222J-E-TP	2200PF	SCAAD00792	
C43	CAP,FXD CER	C3216JB1H472K-E-TP	4700PF	SCAAD01138	

## PARTS LIST

RF TUNE		TITLE		SHEET NO.	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
C44	CAP,FXD CER	C3216SL1H152J-E-TP	1500PF	SCAAD00791	
C45	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C46	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C47	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C48	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C49	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C50	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C51	CAP,FXD ELCTLT	ECE-A1EU100B		5CEAA01864	
C52	CAP,FXD C CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268	
C53	CAP,FXD CER	C3216CH1H80J-E-TP	68PF	SCAAD00929	
C54	CAP,FXD CER	C3216CH1H100D-E-TP	10PF	SCAAD00785	
C55	CAP,FXD CER	C3216CH1H121J-E-TP	120PF	SCAAD00931	
C56	CAP,FXD CER	C3216CH1H220J-E-TP	22PF	SCAAD00869	
C57	CAP,FXD CER	C3216CH1H560J-E-TP		SCAAD00861	
C58	CAP,FXD C CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268	
C59	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C60	CAP,FXD ELCTLT	ECE-A1EU100B		5CEAA01864	
C61	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C62	CAP,FXD C CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268	
C63	CAP,FXD C CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268	
C64	CAP,FXD CER	C3216CH1H100D-E-TP	10PF	SCAAD00785	
C65	CAP,FXD CER	C3216CH1H100D-E-TP	10PF	SCAAD00785	
C66	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C67	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C69	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C70	CAP,FXD ELCTLT	ECE-A1EU100B		5CEAA01864	
C72	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C73	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C75	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C76	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C77	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C80	CAP,FXD ELCTLT	ECE-A1EU100B		5CEAA01864	
C81	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C82	CAP,FXD C CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268	
C83	CAP,FXD C CER	C3216CH1H050C-E-TP	50V 5PF	SCAAD00800	

PARTS LIST

RF TUNE TITLE CFL-287 SHEET NO. 4

PART NO	PART NAME	TYPE	DESCRIPTION	CODE
C84	CAP.FXD CER	C3216SL1H222J-E-TP	2200PF	SCAAD00792
C85	CAP.FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789
C86	CAP.FXD CER	C3216SL1H821J-E-TP		SCAAD01048
C87	CAP.FXD CER	C3216JB1H472K-E-TP	4700PF	SCAAD01138
C88	CAP.FXD CER	C3216SL1H222J-E-TP	2200PF	SCAAD00792
C89	CAP.FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782
C90	CAP.FXD C CER	C3216JD1H103K-E-TP	50V 0.01UF	SCAAD00789
C91	CAP.FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789
C92	CAP.FXD TANTAL	202L3502 105KB	35V 1UF	SCSAC00982
C93	CAP.FXD CER	C3216CH1H070D-E-TP	7PF	SCAAD00977
C94	CAP.FXD CER	C3216CH1H070D-E-TP	7PF	SCAAD00977
C95	CAP.FXD CER	C3216CH1H120J-E-TP	12P	SCAAD00784
C96	CAP.FXD CER	C3216CH1H120J-E-TP	12P	SCAAD00784
C97	DIODE	1S5143T-87		STXCW00021
C98	DIODE	1S5143T-87		STXCW00021
C99	DIODE	1S5143T-87		STXCW00021
C100	DIODE	1S5143T-87		STXCW00021
C101	DIODE	1S585RE		STXAE00590
C102	DIODE	1S585RE		STXAE00590
C103	DIODE	1S585RE		STXAE00590
C104	DIODE	1S585RE		STXAE00590
C105	DIODE	1S585RE		STXAE00590
C106	DIODE	1S585RE		STXAE00590
C107	DIODE	FC66M-010		STXAB00035
C108	DIODE	FC66M-010		STXAB00035
C109	DIODE	FC66M-010		STXAB00035
C120	DIODE	FC66M-010		STXAB00035
C121	DIODE	FC66M-010		STXAB00035
C122	DIODE	FC66M-010		STXAB00035
C123	DIODE	FC66M-010		STXAB00035
C124	DIODE	FC66M-010		STXAB00035
C125	DIODE	FC66M-010		STXAB00035
C126	DIODE	FC66M-010		STXAB00035

PARTS LIST

RF TUNE TITLE CFL-287 SHEET NO. 5

PART NO	PART NAME	TYPE	DESCRIPTION	CODE
CD27	DIODE	FC66M-010		STXAB00035
CD28	DIODE	FC66M-010		STXAB00035
CD29	DIODE	FC66M-010		STXAB00035
CD30	DIODE	FC66M-010		STXAB00035
CD31	DIODE	FC66M-010		STXAB00035
CD32	DIODE	FC66M-010		STXAB00035
CD33	DIODE	FC66M-010		STXAB00035
CD34	DIODE	FC66M-010		STXAB00035
CD35	DIODE	FC66M-010		STXAB00035
CD36	DIODE	FC66M-010		STXAB00035
CD37	DIODE	FC66M-010		STXAB00035
CD38	DIODE	FC66M-010		STXAB00035
CD39	DIODE	FC66M-010		STXAB00035
CD40	DIODE	FC66M-010		STXAB00035
CD41	DIODE	FC66M-010		STXAB00035
CD42	DIODE	FC66M-010		STXAB00035
CD43	DIODE	FC66M-010		STXAB00035
CD44	DIODE	FC66M-010		STXAB00035
CD45	DIODE	1S5181 TE85L		STXAD00356
CD46	DIODE	1S5181 TE85L		STXAD00356
CD47	DIODE	1S5181 TE85L		STXAD00356
CD48	DIODE	1S5181 TE85L		STXAD00356
CD52	DIODE	1S5143T-87		STXCW00021
CD53	DIODE	1S5143T-87		STXCW00021
CV1	CAPACITOR VAR	TZ03T200FR		SCVAA00166
CV2	CAPACITOR VAR	TZ03T200FR		SCVAA00166
CV3	CAPACITOR VAR	TZ03T200FR		SCVAA00166
CV4	CAPACITOR VAR	TZ03T200FR		SCVAA00166
CV5	CAPACITOR VAR	TZ03T200FR		SCVAA00166
CV6	CAPACITOR VAR	TZ03T200FR		SCVAA00166
IC1	IC	SN74LS145N		50DA500138
JP1	TIN COATED WIRE	TA-0.6P		2717100001
JP2	TIN COATED WIRE	TA-0.6P		2717100001
JP3	TIN COATED WIRE	TA-0.6P		2717100001
JP4	TIN COATED WIRE	TA-0.6P		2717100001

PARTS LIST		TITLE		PARTS LIST		TITLE	
RF TUNE		CFL-2B7		RF TUNE		CFL-2B7	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	PART NO	PART NAME	TYPE
JP5	TIN COATED WIRE TA-0.6P			2717100001	R4	RESISTOR FXD ERJ-8GEYJ103V	1/8W 10K OHM
JP6	TIN COATED WIRE TA-0.6P			2717100001	R5	RESISTOR FXD ERJ-8GEYJ103V	1/8W 10K OHM
JP7	TIN COATED WIRE TA-0.6P			2717100001	R6	RESISTOR FXD ERJ-8GEYJ471V	1/8W 470 OHM
K1	RELAY DF2-DC9V			SKLAB00378	R7	RESISTOR FXD ERJ-8GEYJ102V	1/8W 1K OHM
K2	RELAY DF2-DC9V			SKLAB00378	R8	RESISTOR FXD ERJ-8GEYJ470V	1/8W 47 OHM
K3	RELAY DF2-DC9V			SKLAB00378	R9	RESISTOR FXD ERJ-8GEYJ470V	1/8W 47 OHM
K4	RELAY DF2-DC9V			SKLAB00378	R10	RESISTOR FXD ERJ-8GEYJ470V	1/8W 47 OHM
K5	RELAY DF2-DC9V			SKLAB00378	R11	RESISTOR FXD ERJ-8GEYJ470V	1/8W 47 OHM
K6	RELAY DF2-DC9V			SKLAB00378	R12	RESISTOR FXD ERJ-8GEYJ470V	1/8W 47 OHM
K7	RELAY DF2-DC9V			SKLAB00378	R13	RESISTOR CFXD ERJ-8GEYJ101V	1/8W 100 OHM
L3	COIL LAL03VB471K		470UH	5LCAA00270	R14	RESISTOR CFXD ERJ-8GEYJ101V	1/8W 100 OHM
L4	COIL LAL03VB471K		470UH	5LCAA00270	R15	RESISTOR CFXD ERJ-8GEYJ101V	1/8W 100 OHM
L5	COIL LAL03VB471K		470UH	5LCAA00270	R16	RESISTOR CFXD ERJ-8GEYJ101V	1/8W 100 OHM
L6	COIL LAL03VB220K		22UH	5LCAA00277	R17	RESISTOR CFXD ERJ-8GEYJ101V	1/8W 100 OHM
L7	COIL LAL03VB2R2M		2.2UH	5LCAA00278	R18	RESISTOR CFXD ERJ-8GEYJ104V	1/8W 100K OHM
L8	COIL LAL03VB330K		33UH	5LCAA00279	R19	RESISTOR CFXD ERJ-8GEYJ104V	1/8W 100K OHM
L9	COIL LAL03VB100K		10UH	5LCAA00273	R20	RESISTOR CFXD ERJ-8GEYJ104V	1/8W 100K OHM
L10	COIL LAL03VB330K		33UH	5LCAA00279	R21	RESISTOR CFXD ERJ-8GEYJ104V	1/8W 100K OHM
L11	COIL LAL03VB100K		10UH	5LCAA00273	R22	RESISTOR CFXD ERJ-8GEYJ104V	1/8W 100K OHM
L12	COIL LAL03VB220K		22UH	5LCAA00277	R23	RESISTOR CFXD ERJ-8GEYJ104V	1/8W 100K OHM
L13	COIL LAL03VB2R2M		0.22UH	5LCAA00280	R24	RESISTOR CFXD ERJ-8GEYJ104V	1/8W 100K OHM
L14	COIL LAL03VB2R2M		0.22UH	5LCAA00280	R25	RESISTOR CFXD ERJ-8GEYJ104V	1/8W 100K OHM
L15	COIL LAL03VB471K		470UH	5LCAA00270	R26	RESISTOR CFXD ERJ-8GEYJ104V	1/8W 100K OHM
L16	COIL LAL03VB3R3K		3.3UH	5LCAA00281	R27	RESISTOR CFXD ERJ-8GEYJ104V	1/8W 100K OHM
L18	COIL LAL03VB100K		10UH	5LCAA00273	R28	RESISTOR CFXD ERJ-8GEYJ104V	1/8W 100K OHM
L19	COIL LAL03VB471K		470UH	5LCAA00270	R29	RESISTOR CFXD ERJ-8GEYJ104V	1/8W 100K OHM
L21	COIL LAL03VB5R6K		5.6UH	5LCAA00275	R30	RESISTOR CFXD ERJ-8GEYJ104V	1/8W 100K OHM
L22	COIL LAL03VB6R8K		6.8UH	5LCAA00276	R31	RESISTOR CFXD ERJ-8GEYJ104V	1/8W 100K OHM
L23	COIL LAL03VB471K		470UH	5LCAA00270	R32	RESISTOR CFXD ERJ-8GEYJ104V	1/8W 100K OHM
P31	CONNECTOR EC1C-22P-2.50SA		22P	5JWB500070	R33	RESISTOR FXD ERJ-8GEYJ470V	1/8W 47 OHM
P32	CONNECTOR EC1C-22P-2.50SA		22P	5JWB500070	R34	RESISTOR FXD ERJ-8GEYJ821V	1/8W 820 OHM
PC1	PCB H-8PCJ000620B			6PCJ000620	R35	RESISTOR FXD ERJ-8GEYK5R6V	5REAG02207
R1	RESISTOR FXD ERD-S1VJ390T			5RDA00590	R36	RESISTOR FXD ERJ-8GEYK5R6V	5REAG02207
R2	RESISTOR FXD ERD-S1VJ390T			5RDA00590	R37	RESISTOR FXD ERJ-8GEYJ221V	1/8W 220 OHM
R3	RESISTOR FXD ERD-S1VJ100T			5RDA01112	R38	RESISTOR CFXD ERJ-8GEYJ151V	1/8W 150 OHM



PART LIST

PART NO		PART NAME		TYPE		DESCRIPTION		CODE	
R39	RESISTOR	FXD	ERJ-8GEYJ103V	1/8W	10K	0HM	SREAG01750		
R40	RESISTOR	FXD	ERJ-8GEYJ470V	1/8W	47	0HM	SREAG01722		
R41	RESISTOR	FXD	ERJ-8GEYJ821V	1/8W	820	0HM	SREAG01737		
R42	RESISTOR	FXD	ERJ-8GEYJ821V	1/8W	820	0HM	SREAG01737		
R43	RESISTOR	FXD	ERJ-8GEYJ470V	1/8W	47	0HM	SREAG01722		
R44	RESISTOR	FXD	ERJ-8GEYJ221V	1/8W	220	0HM	SREAG01730		
R45	RESISTOR	FXD	ERJ-8GEYJ221V	1/8W	220	0HM	SREAG01730		
R47	RESISTOR	FXD	ERJ-8GEYJ470V	1/8W	47	0HM	SREAG01722		
R48	RESISTOR	FXD	ERJ-8GEYJ470V	1/8W	47	0HM	SREAG01722		
R49	RESISTOR	FXD	ERJ-8GEYJ150V	1/8W	15	0HM	SREAG01716		
R50	RESISTOR	FXD	ERJ-8GEYJ332V	1/8W	3.3K	0HM	SREAG01744		
R51	RESISTOR	FXD	ERJ-8GEYJ391V	1/8W	390	0HM	SREAG01733		
R58	RESISTOR	FXD	ERJ-8GEYJ103V	1/8W	10K	0HM	SREAG01750		
R59	RESISTOR	CFXD	ERJ-8GEYJ101V	1/8W	100	0HM	SREAG01726		
R60	RESISTOR	FXD	ERJ-8GEYJ470V	1/8W	47	0HM	SREAG01722		
R61	RESISTOR	CFXD	ERJ-8GEYJ101V	1/8W	100	0HM	SREAG01726		
R62	RESISTOR	FXD	ERJ-8GEYJ470V	1/8W	47	0HM	SREAG01722		
R61	RESISTOR	FXD	EXB-F8E-473J	47K	0HM	X8	SRZA00181		
R71	RESISTOR	FXD	ERJ-8GEYR00V	0	0HM		SREAG01775		
R72	RESISTOR	FXD	ERJ-8GEYR00V	0	0HM		SREAG01775		
R73	RESISTOR	FXD	ERJ-8GEYR00V	0	0HM		SREAG01775		
R74	RESISTOR	FXD	ERJ-8GEYR00V	0	0HM		SREAG01775		
R75	RESISTOR	FXD	ERJ-8GEYR00V	0	0HM		SREAG01775		
R76	RESISTOR	FXD	ERJ-8GEYR00V	0	0HM		SREAG01775		
R77	RESISTOR	FXD	ERJ-8GEYR00V	0	0HM		SREAG01775		
R78	RESISTOR	FXD	ERJ-8GEYR00V	0	0HM		SREAG01775		
R79	RESISTOR	FXD	ERJ-8GEYR00V	0	0HM		SREAG01775		
R710	RESISTOR	FXD	ERJ-8GEYR00V	0	0HM		SREAG01775		
R711	RESISTOR	FXD	ERJ-8GEYR00V	0	0HM		SREAG01775		
R712	RESISTOR	FXD	ERJ-8GEYR00V	0	0HM		SREAG01775		
R715	RESISTOR	FXD	ERJ-8GEYR00V	0	0HM		SREAG01775		
R716	RESISTOR	FXD	ERJ-8GEYR00V	0	0HM		SREAG01775		
R717	RESISTOR	FXD	ERJ-8GEYR00V	0	0HM		SREAG01775		
R718	RESISTOR	FXD	ERJ-8GEYR00V	0	0HM		SREAG01775		
R719	RESISTOR	FXD	ERJ-8GEYR00V	0	0HM		SREAG01775		

PART LIST

PART NO		PART NAME		TYPE		DESCRIPTION		CODE	
RJ20	RESISTOR	FXD	ERJ-8GEYR00V	0	0HM		SREAG01775		
RJ21	RESISTOR	FXD	ERJ-8GEYR00V	0	0HM		SREAG01775		
RJ22	RESISTOR	FXD	ERJ-8GEYR00V	0	0HM		SREAG01775		
RV1	RESISTOR	VAR	EVN-D2A0J813				SRVAB00422		
T1	RF XFMR		H-6LHJD00441				6LHJD00441		
T2	RF XFMR		H-6LHJD00441				6LHJD00441		
T3	RF XFMR		H-6LHJD00442				6LHJD00442		
T4	RF XFMR		H-6LHJD00442				6LHJD00442		
T5	RF XFMR		H-6LHJD00385				6LHJD00385		
T6	RF XFMR		H-6LHJD00385				6LHJD00385		
T7	RF XFMR		H-6LHJD00384				6LHJD00384		
T8	RF XFMR		H-6LHJD00384				6LHJD00384		
T9	RF XFMR		H-6LHJD00383				6LHJD00383		
T10	RF XFMR		H-6LHJD00383				6LHJD00383		
T11	RF XFMR		H-6LHJD00410				6LHJD00410		
T12	RF XFMR		H-6LHJD00440				6LHJD00440		
T13	RF XFMR		H-6LHJD00328				6LHJD00328		
TP1	TEST TERMINAL		PCN6-PEA				SJDA00364		
TP2	TEST TERMINAL		PCN6-PEA				SJDA00364		
TR1	TRANSISTOR		2SA1162-YTE85L				STAAG00182		
TR2	TRANSISTOR		2SK125				5TKAH0002		
TR3	TRANSISTOR		2SK125				5TKAH0002		
TR4	TRANSISTOR		2SK125				5TKAH0002		
TR5	TRANSISTOR		2SK125				5TKAH0002		
TR6	TRANSISTOR		2SC3557-T1				5TCAB00287		
TR7	TRANSISTOR		2SK125				5TKAH0002		
TR8	TRANSISTOR		2SK125				5TKAH0002		
TR9	TRANSISTOR		2SK125				5TKAH0002		
TR10	TRANSISTOR		2SK125				5TKAH0002		

## PARTS LIST

PART NO		PART NAME		TYPE		DESCRIPTION		CODE	
C1	CAP,FXD	CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782				
C2	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C3	CAP,FXD	CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782				
C4	CAP,FXD	CER	C3216CH1H02B5-E-TP	50V 2PF	SCAAD00798				
C5	CAP,FXD	CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782				
C6	CAP,FXD	CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782				
C7	CAP,FXD	CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782				
C8	CAP,FXD	CER	C3216CH1H220J-E-TP	22PF	SCAAD00869				
C9	CAP,FXD	CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782				
C10	CAP,FXD	CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782				
C11	CAP,FXD	CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782				
C12	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C13	CAP,FXD	CER	C3216CH1H470J-E-TP	47PF	SCAAD00864				
C14	CAP,FXD	CER	C3216CH1H470J-E-TP	47PF	SCAAD00864				
C15	CAP,FXD	CER	C3216CH1H680J-E-TP	68PF	SCAAD00929				
C16	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C17	CAP,FXD	ELCTLT	ECE-A1EU100B		5CEAA01864				
C18	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C19	CAP,FXD	CER	C3216CH1H151J-E-TP	150PF	SCAAD00870				
C20	CAP,FXD	CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789				
C21	CAP,FXD	ELCTLT	ECE-A1EU100B		5CEAA01864				
C22	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C23	CAP,FXD	CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782				
C24	CAP,FXD	CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782				
C25	CAP,FXD	CER	C3216CH1H220J-E-TP	22PF	SCAAD00869				
C26	CAP,FXD	CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782				
C27	CAP,FXD	CER	C3216CH1H101J-E-TP	50V 100PF	SCAAD00780				
C28	CAP,FXD	CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789				
C29	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C30	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C31	CAP,FXD	CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789				
C32	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C33	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C34	CAP,FXD	CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789				
C35	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				

## PARTS LIST

PART NO		PART NAME		TYPE		DESCRIPTION		CODE	
C36	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C37	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C38	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C39	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C40	CAP,FXD	CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789				
C41	CAP,FXD	TANTAL	202LS502 105KB	35V 1UF	5CSAC00982				
C42	CAP,FXD	ELCTLT	ECE-A1EU100B		5CEAA01864				
C43	CAP,FXD	CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782				
C44	CAP,FXD	CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789				
C45	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C46	CAP,FXD	CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789				
C47	CAP,FXD	CER	C3216CH1H271J-E-TP	50V 270PF	SCAR00883				
C48	CAP,FXD	CER	C3216CH1H271J-E-TP	50V 270PF	SCAAD00883				
C49	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C50	CAP,FXD	CER	C3216CH1H271J-E-TP	50V 270PF	SCAR00883				
C51	CAP,FXD	CER	C3216CH1H271J-E-TP	50V 270PF	SCAR00883				
C52	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C53	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C54	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C55	CAP,FXD	CER	C3216CH1H680J-E-TP	68PF	SCAAD00929				
C56	CAP,FXD	CER	C3216CH1H680J-E-TP	68PF	SCAAD00929				
C57	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C58	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C59	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C60	CAP,FXD	CER	C3216CH1H680J-E-TP	68PF	SCAAD00929				
C61	CAP,FXD	CER	C3216CH1H680J-E-TP	68PF	SCAAD00929				
C62	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C63	CAP,FXD	CER	C3216CH1H050C-E-TP	50V 5PF	SCAAD00800				
C64	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C65	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C66	CAP,FXD	CER	C3216JF1H104Z-E-TP	50V 0.1UF	SCAAD01268				
C67	CAP,FXD	ELCTLT	ECE-A1EU100B		5CEAA01864				
C68	CAP,FXD	CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789				
C69	CAP,FXD	CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789				
C70	CAP,FXD	CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789				

SHEET NO 2

CFH-36A

IF FILTER

TITL

## PARTS LIST

IF FILTER				TITLE CFH-36A		SHEET NO. 3	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE			
C71	CAP, FXD CER	C3216SL1H102J-E-TP	100PF	5CAAD00782			
C72	CAP, FXD C CER	C3216J1H104Z-E-TP	50V 0.1UF	5CAAD01268			
C73	CAP, FXD C CER	C3216CH1050C-E-TP	50V 5PF	5CAAD00800			
C74	CAP, FXD C CER	C3216J81H103K-E-TP	50V 0.01UF	5CAAD00789			
C75	CAP, FXD C CER	C3216J81H103K-E-TP	50V 0.01UF	5CAAD00789			
C76	CAP, FXD C CER	C3216J1H104Z-E-TP	50V 0.1UF	5CAAD01268			
C77	CAP, FXD C CER	C3216J1H104Z-E-TP	50V 0.1UF	5CAAD01268			
C78	CAP, FXD C CER	C3216J1H104Z-E-TP	50V 0.1UF	5CAAD01268			
C79	CAP, FXD C CER	C3216J1H104Z-E-TP	50V 0.1UF	5CAAD01268			
C80	CAP, FXD CER	C3216CH1000-E-TP	10PF	5CAAD00785			
C81	CAP, FXD CER	C3216CH1000-E-TP	10PF	5CAAD00785			
C01	DIODE	1S5226 TE85L		5TXAD00320			
C02	DIODE	1S5226 TE85L		5TXAD00320			
C03	DIODE	RD5.1M-T1B B1		5TXAD00832			
C04	DIODE	1S5226 TE85L		5TXAD00320			
C05	DIODE	1S5181 TE85L		5TXAD00356			
C06	DIODE	1S5181 TE85L		5TXAD00356			
C07	DIODE	1S5181 TE85L		5TXAD00356			
C08	DIODE	1S5181 TE85L		5TXAD00356			
C09	DIODE	1S5226 TE85L		5TXAD00320			
C010	DIODE	1S5181 TE85L		5TXAD00356			
C011	DIODE	1S5181 TE85L		5TXAD00356			
C012	DIODE	1S5226 TE85L		5TXAD00320			
C013	DIODE	1S5181 TE85L		5TXAD00356			
C015	DIODE	1S5184 TE85L		5TXAD00290			
CV1	CAPACITOR VAR	TZ03T200FR		5CVAA00166			
FL1	CRYSTAL CKT	H-6XKJ900114	70.455MHZ	6XWJ00114			
FL2	COIL	LF-B12		5LFAE00009			
FL3	FILTER	CLF-D65	8M-6KHZ	5MRA00001			
FL4	FILTER	MF-31C		5MHA00019			
LC1	LC	SN74LS145H		5DPA00136			
L1	COIL	LALD3VBR33M	0.33UH	5LCAAD0274			
L2	COIL	LALD3VB471K	470UH	5LCAAD0270			
L3	COIL	LALD3VB471K	470UH	5LCAAD0270			
L4	COIL	LALD3VB331K	330UH	5LCAAD0271			

## PARTS LIST

IF FILTER				TITLE CFH-35A		SHEET NO. 4	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE			
L5	COIL	LALD4HA331K		5LCAAD0136			
L6	COIL	LALD3VB221K	220UH	5LCAAD0272			
L7	COIL	LALD4NA221K		5LCAAD0206			
L8	COIL	LALD3VB471K	470UH	5LCAAD0270			
P29	CONNECTOR	EC1C-22P-2.50SA	22P	5JWBS00570			
P30	CONNECTOR	EC1C-22P-2.50SA	22P	5JWBS00570			
PC1	PCB	H-6PCJ000159B		6PCJ000159			
R1	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	5REAG01738			
R2	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	5REAG01738			
R3	RESISTOR FXD	ERJ-8GEYJ330V	1/8W 33 OHM	5REAG01720			
R4	RESISTOR FXD	ERJ-8GEYJ330V	1/8W 33 OHM	5REAG01720			
R5	RESISTOR FXD	ERD-25UJ221	1/4W 220 OHM	5RDAAD1329			
R6	RESISTOR CFXD	ERJ-8GEYJ881V	1/8W 80 OHM	5REAG01736			
R7	RESISTOR FXD	ERJ-8GEYJ332V	1/8W 3.3K OHM	5REAG01744			
R8	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726			
R9	RESISTOR FXD	ERJ-8GEYJ222V	1/8W 2.2K OHM	5REAG01742			
R10	RESISTOR FXD	ERJ-8GEYJ222V	1/8W 2.2K OHM	5REAG01742			
R11	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726			
R12	RESISTOR FXD	ERJ-8GCSJ123T	1/8W 2K OHM	5REAG00681			
R13	RESISTOR FXD	ERJ-8GCSJ123T	1/8W 2K OHM	5REAG00681			
R14	RESISTOR CFXD	ERJ-8GEYJ881V	1/8W 80 OHM	5REAG01736			
R15	RESISTOR FXD	ERJ-8GEYJ170V	1/8W 17 OHM	5REAG01722			
R16	RESISTOR FXD	ERJ-8GEYJ222V	1/8W 2.2K OHM	5REAG01742			
R17	RESISTOR FXD	ERJ-8GEYJ122V	1/8W 1.2K OHM	5REAG01739			
R18	RESISTOR FXD	ERJ-8GEYJ171V	1/8W 170 OHM	5REAG01734			
R19	RESISTOR FXD	ERJ-8GEYJ170V	1/8W 17 OHM	5REAG01722			
R20	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	5REAG01738			
R21	RESISTOR FXD	ERJ-8GEYJ172V	1/8W 1.7K OHM	5REAG01746			
R22	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726			
R23	RESISTOR FXD	ERJ-8GEYJ332V	1/8W 3.3K OHM	5REAG01744			
R24	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726			
R25	RESISTOR CFXD	ERJ-8GEYJ104V	1/8W 100K OHM	5REAG01762			
R26	RESISTOR FXD	ERJ-8GEYJ221V	1/8W 220 OHM	5REAG01730			
R27	RESISTOR FXD	ERJ-8GEYJ333V	1/8W 33K OHM	5REAG01756			
R28	RESISTOR FXD	ERJ-8GEYJ122V	1/8W 1.2K OHM	5REAG01739			

PARTS LIST				TITLE		CFH-36A		SHEET NO	
				IF FILTER				6	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE					
R65	RESISTOR FXD	ERJ-8GEYJ122V	1/8W 1.2K OHM	SREAG01739					
R66	RESISTOR FXD	ERJ-8GEYJ122V	1/8W 1.2K OHM	SREAG01739					
R67	RESISTOR FXD	ERJ-8GEYJ122V	1/8W 1.2K OHM	SREAG01739					
R68	RESISTOR FXD	ERJ-8GEYJ122V	1/8W 1.2K OHM	SREAG01739					
R69	RESISTOR CFXD	ERJ-8GEYJ481V	1/8W 480 OHM	SREAG01736					
R70	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	SREAG01726					
R71	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	SREAG01726					
R72	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	SREAG01726					
R73	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	SREAG01726					
R74	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	SREAG01726					
R75	RESISTOR FXD	ERJ-8GEYJ480V	1/8W 48 OHM	SREAG01724					
RA1	RESISTOR FXD	EXB-F6E473J		SRDAA01920					
RJ1	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ2	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ3	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ5	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ6	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ7	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ8	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ9	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ10	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ11	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ12	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ13	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ14	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ15	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ16	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ17	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ18	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ19	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ20	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ21	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ22	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ23	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					
RJ24	RESISTOR FXD	ERJ-8GEYOR00V	0 OHM	SREAG01775					

PARTS LIST				TITLE		CFH-36A		SHEET NO	
				IF FILTER				5	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE					
R29	RESISTOR FXD	ERJ-8GEYJ332V	1/8W 3.3K OHM	SREAG01744					
R30	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	SREAG01738					
R31	RESISTOR FXD	ERJ-8GEYJ472V	1/8W 4.7K OHM	SREAG01746					
R32	RESISTOR FXD	ERJ-8GEYJ332V	1/8W 3.3K OHM	SREAG01744					
R33	RESISTOR CFXD	ERJ-8GEYJ151V	1/8W 150 OHM	SREAG01728					
R34	RESISTOR FXD	ERJ-8GEYJ222V	1/8W 2.2K OHM	SREAG01742					
R35	RESISTOR FXD	ERJ-8GEYJ333V	1/8W 33K OHM	SREAG01756					
R36	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	SREAG01738					
R37	RESISTOR FXD	ERJ-8GEYJ472V	1/8W 4.7K OHM	SREAG01746					
R38	RESISTOR FXD	ERJ-8GEYJ332V	1/8W 3.3K OHM	SREAG01744					
R39	RESISTOR CFXD	ERJ-8GEYJ151V	1/8W 150 OHM	SREAG01728					
R40	RESISTOR FXD	ERJ-8GEYJ222V	1/8W 2.2K OHM	SREAG01742					
R41	RESISTOR FXD	ERJ-8GEYJ333V	1/8W 33K OHM	SREAG01756					
R42	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	SREAG01738					
R43	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750					
R44	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	SREAG01738					
R45	RESISTOR FXD	ERJ-8GEYJ153V	1/8W 15K OHM	SREAG01752					
R46	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750					
R47	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750					
R48	RESISTOR FXD	ERJ-8GEYJ332V	1/8W 3.3K OHM	SREAG01744					
R49	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750					
R51	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750					
R52	RESISTOR FXD	ERJ-8GEYJ334V	1/8W 330K OHM	SREAG01768					
R53	RESISTOR FXD	ERJ-8GCSJ223T	1/8W 22K OHM	SREAG00581					
R54	RESISTOR FXD	ERJ-8GEYJ472V	1/8W 4.7K OHM	SREAG01746					
R55	RESISTOR FXD	ERJ-8GEYJ472V	1/8W 4.7K OHM	SREAG01746					
R56	RESISTOR FXD	ERJ-8GEYJ222V	1/8W 2.2K OHM	SREAG01742					
R57	RESISTOR FXD	ERJ-8GCSJ223T	1/8W 22K OHM	SREAG00581					
R58	RESISTOR FXD	ERJ-8GCSJ223T	1/8W 22K OHM	SREAG00581					
R59	RESISTOR FXD	ERJ-8GEYJ122V	1/8W 1.2K OHM	SREAG01739					
R60	RESISTOR FXD	ERJ-8GEYJ122V	1/8W 1.2K OHM	SREAG01739					
R61	RESISTOR FXD	ERJ-8GEYJ122V	1/8W 1.2K OHM	SREAG01739					
R62	RESISTOR FXD	ERJ-8GEYJ122V	1/8W 1.2K OHM	SREAG01739					
R63	RESISTOR FXD	ERJ-8GEYJ122V	1/8W 1.2K OHM	SREAG01739					
R64	RESISTOR FXD	ERJ-8GEYJ122V	1/8W 1.2K OHM	SREAG01739					

## PARTS LIST

		IF FILTER		TITLE CFH-30A		SHEET NO. 7	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE			
RJ25	RESISTOR FXD	ERJ-8GETOR00V	0 OHM	SREAG01775			
RV1	RESISTOR VAR	EVN-08AA03854		SRVAB00419			
RV2	RESISTOR VAR	EVN-02AA03822		SRVAB00414			
T1	RF XFMR	H-6LHJ000415	70.455MHZ	6LHJ000413			
T2	RF XFMR	H-6LHJ000415: 1	70.455MHZ	6LHJ000415			
T3	RF XFMR	H-6LHJ000416	0.95UH	6LHJ000416			
T4	RF XFMR	H-6LHJ000456		6LHJ000456			
T5	RF XFMR	H-6LHJ000389		6LHJ000389			
T6	RF XFMR	H-6LHJ000390A		6LHJ000390			
T7	RF XFMR	H-6LHJ000390A		6LHJ000390			
T8	RF XFMR	H-6LHJ000297		6LHJ000297			
T9	RF XFMR	S-061-006		5LJAA00006			
T10	RF XFMR	S-061-006		5LJAA00006			
T11	RF XFMR	H-6LJ000037A	4.55KHZ	6LJ000037			
TP1	TEST TERMINAL	PCN6-PEA		SJDA000364			
TP2	TEST TERMINAL	PCN6-PEA		SJDA000364			
TP3	TEST TERMINAL	PCN6-PEA		SJDA000364			
TP4	TEST TERMINAL	PCN6-PEA		SJDA000364			
TR1	TRANSISTOR	3SK73-GR-2		S1KAA00204			
TR2	TRANSISTOR	2SK125		S1KAA00002			
TR3	TRANSISTOR	2SK125		S1KAA00002			
TR4	TRANSISTOR	2SC2714-YE85L		S1CAF00436			
TR5	TRANSISTOR	3SK73-GR-2		S1KAA00204			
TR6	TRANSISTOR	2SC2712Y TE85L		S1AAG00186			
TR7	TRANSISTOR	2SC2712Y TE85L		S1AAG00186			
TR8	TRANSISTOR	2SC2712Y TE85L		S1AAG00186			
TR9	TRANSISTOR	2SC2712Y TE85L		S1AAG00186			
TR10	TRANSISTOR	2SC2712Y TE85L		S1AAG00186			
TR11	TRANSISTOR	2SC2712Y TE85L		S1AAG00186			
TR12	TRANSISTOR	2SC2712Y TE85L		S1AAG00186			
TR13	TRANSISTOR	2SA1162-YE85L		S1AAG00182			
W1	TIN COATED WIRE	TA-0.8P		2717100002			
W2	TIN COATED WIRE	TA-0.8P		2717100002			

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## PARTS LIST

PARTS LIST		TITLE		SHEET NO.	
BWC		CFL-243W		2	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
C1	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C2	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C3	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C4	CAP,FXD	CER	DD104-979CH050C50	SCAA02688	
C5	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C6	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C7	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C8	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C9	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C10	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C11	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C12	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C13	CAP,FXD	CER	DD107-979CH80J50 68PF	SCAA02599	
C14	CAP,FXD	CER	DD107-979CH80J50 68PF	SCAA02599	
C15	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C16	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C17	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C18	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C19	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C20	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C21	CAP,FXD	CER	DD104-979CH050C50	SCAA02688	
C22	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C23	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C24	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C25	CAP,FXD	CER	D0806-979F103Z50	SCAA02929	
C26	CAP,FXD	CER	D0806-979F103Z50	SCAA02929	
C27	CAP,FXD	ELCTL	ECE-A1EU100B	SCAA01864	
C28	CAP,FXD	ELCTL	ECE-A1EU100B	SCAA01864	
C29	CAP,FXD	ELCTL	ECE-A1EU100B	SCAA01864	
C30	CAP,FXD	CER	D0806-979F103Z50	SCAA02929	
C31	CAP,FXD	CER	D0806-979F103Z50	SCAA02929	
C32	CAP,FXD	CER	D0806-979F103Z50	SCAA02929	
C33	CAP,FXD	CER	D0806-979F103Z50	SCAA02929	
C34	CAP,FXD	CER	D0806-979F103Z50	SCAA02929	
C35	CAP,FXD	ELCTL	ECE-A1EU100B	SCAA01864	

## PARTS LIST

PARTS LIST		TITLE		SHEET NO.	
BWC		CFL-243W		2	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
C36	CAP,FXD	ELCTL	ECE-A1EU100B	SCAA01864	
C37	CAP,FXD	CER	D0806-979F103Z50	SCAA02929	
C38	CAP,FXD	CER	D0806-979F103Z50	SCAA02929	
C39	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C40	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C41	CAP,FXD	ELCTL	ECE-A1EU100B	SCAA01864	
C42	CAP,FXD	ELCTL	ECE-A1EU100B	SCAA01864	
C43	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C44	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C45	CAP,FXD	CER	DD107-979CH101J50 100PF,50V	SCAA02783	
C46	CAP,FXD	CER	DD107-979CH101J50 100PF,50V	SCAA02783	
C47	CAP,FXD	CER	DD106-979CH470J50	SCAA02754	
C48	CAP,FXD	CER	DD106-979CH470J50	SCAA02754	
C49	CAP,FXD	ELCTL	ECE-A1EU100B	SCAA01864	
C50	CAP,FXD	ELCTL	ECE-A1EU100B	SCAA01864	
C51	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C52	CAP,FXD	PLSTC	ECQ-V1H333JZ3	SCRAA00804	
C53	CAP,FXD	PLSTC	ECQ-B1H472JZ3	SCRAA00833	
C54	CAP,FXD	PLSTC	ECQ-B1H472JZ3	SCRAA00833	
C55	CAP,FXD	PLSTC	ECQ-B1H223JZ3	SCRAA00834	
C56	CAP,FXD	PLSTC	ECQ-B1H223JZ3	SCRAA00834	
C57	CAP,FXD	PLSTC	ECQ-B1H272JZ3	SCRAA00835	
C58	CAP,FXD	PLSTC	ECQ-B1H272JZ3	SCRAA00835	
C59	CAP,FXD	PLSTC	ECQ-B1H103JZ3	SCRAA00587	
C60	CAP,FXD	PLSTC	ECQ-B1H103JZ3	SCRAA00587	
C61	CAP,FXD	PLSTC	ECQ-B1H472JZ3	SCRAA00833	
C62	CAP,FXD	PLSTC	ECQ-B1H472JZ3	SCRAA00833	
C63	CAP,FXD	PLSTC	ECQ-B1H332JZ3 3300PF 50V	SCRAA00586	
C64	CAP,FXD	PLSTC	ECQ-B1H332JZ3 3300PF 50V	SCRAA00586	
C65	CAP,FXD	CER	DD109-979SL471J50	SCAA02755	
C66	CAP,FXD	CER	DD109-979SL471J50	SCAA02755	
C67	CAP,FXD	PLSTC	ECQ-B1H472JZ3	SCRAA00833	
C68	CAP,FXD	PLSTC	ECQ-B1H472JZ3	SCRAA00833	
C69	CAP,FXD	PLSTC	ECQ-B1H152JZ3	SCRAA00727	
C70	CAP,FXD	PLSTC	ECQ-B1H152JZ3	SCRAA00727	

PARTS LIST

BMC		TITLE CFL-243W		SHEET NO. 3	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
C71	CAP,FXD	PLSTC	EQ-01H272JZ3	SCRAA00835	
C72	CAP,FXD	PLSTC	EQ-B1H272JZ3	SCRAA00835	
C73	CAP,FXD	CER	D0806-979F103Z30	SCAAA02929	
C74	CAP,FXD	ELECTL	ECE-A1EU100B	SCEAA01864	
C75	CAP,FXD	PLSTC	EQ-01H333JZ3	SCRAA00804	
C76	CAP,FXD	CER	D0104-979CH100B50	SCAAA02689	
D01	DIODE		1S2076RE	STXAE00588	
D02	DIODE		1S2076RE	STXAE00588	
D03	DIODE		1S2076RE	STXAE00588	
D04	DIODE		1S2076RE	STXAE00588	
D05	DIODE		1S2076RE	STXAE00588	
D06	DIODE		1S2076RE	STXAE00588	
D07	DIODE		1S2076RE	STXAE00588	
D08	DIODE		1S2076RE	STXAE00588	
D09	DIODE		1S2076RE	STXAE00588	
D10	DIODE		1S2076RE	STXAE00588	
D11	DIODE		1S2076RE	STXAE00588	
D12	DIODE	HZ5C1	5V 1/2W	STXAE00130	
D13	DIODE	HZ5C1	5V 1/2W	STXAE00130	
FL1	CRYSTAL	CKT	H-6XHXJ00144	6XHXJ00144	
IC1	IC	SN76514N		5DDAL00251	
IC2	IC	SN76514N		5DDAL00251	
IC3	IC	H-6DDJ000018	MB67116	6DDJ000018	
IC4	IC	H-6DDJ000018	MB67116	6DDJ000018	
IC5	IC	NJM319D		5DAAN00206	
IC6	IC	NJM319D		5DAAN00206	
IC7	IC	TC60138AP		5DDAE00817	
IC8	IC	TC60138AP		5DDAE00817	
IC9	IC	NJM78L08A	8V 100MA	5DAAN00079	
IC10	IC	TA78005AP		5DAAN00082	
L1	COIL	FL-7H472J-H	4.7MH	5LCAA00635	
L2	COIL	FL-7H472J-H	4.7MH	5LCAA00635	
L3	COIL	FL-7H472J-H	4.7MH	5LCAA00635	
L4	COIL	FL-7H472J-H	4.7MH	5LCAA00635	
L5	COIL	LAL03VB471K	470UH	5LCAA00270	

PARTS LIST

BMC		TITLE CFL-243W		SHEET NO. 4	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
L6	COIL	LAL03VB471K	470UH	5LCAA00270	
L7	COIL	LAL03VB471K	470UH	5LCAA00270	
L8	COIL	LAL03VB471K	470UH	5LCAA00270	
L9	COIL	LAL03VB471K	470UH	5LCAA00270	
L10	COIL	LAL03VB471K	470UH	5LCAA00270	
L11	COIL	LAL03VB100K	10UH	5LCAA00273	
L12	COIL	LAL03VB100K	10UH	5LCAA00273	
L13	COIL	LAL03VB120K		5LCAA00386	
L14	COIL	LAL03VB120K		5LCAA00386	
L15	COIL	LAL03VB100K	10UH	5LCAA00273	
L16	COIL	LAL03VB100K	10UH	5LCAA00273	
L17	COIL	LAL03VB8R2K		5LCAA00335	
L18	COIL	LAL03VB8R2K		5LCAA00335	
L19	COIL	LAL03VB100K	10UH	5LCAA00273	
L20	COIL	LAL03VB2R2M	2.2UH	5LCAA00278	
P5	CONNECTOR	EC1C-22P-2.50SA	22P	5JHBS00070	
P6	CONNECTOR	EC1C-22P-2.50SA	22P	5JHBS00070	
PC1	PCB	H-6PCJ000269A		6PCJ000269	
R1	RESISTOR	FXD	ERD-25UJ104T	100K OHM 1/4W	5RDAAD1623
R2	RESISTOR	FXD	ERD-25UJ222T	2.2K OHM 1/4W	5RDAAD1548
R4	RESISTOR	FXD	ERD-25UJ272T	2.7K OHM 1/4W	5RDAAD1546
R5	RESISTOR	FXD	ERD-25UJ101T	1/4W 100 OHM	5RDAAD1599
R6	RESISTOR	FXD	ERD-25UJ221T	220 OHM 1/4	5RDAAD1543
R7	RESISTOR	FXD	ERD-25UJ221T	220 OHM 1/4	5RDAAD1543
R8	RESISTOR	FXD	ERD-25UJ821T	820 OHM 1/4W	5RDAAD1604
R9	RESISTOR	FXD	ERD-25UJ101T	1/4W 100 OHM	5RDAAD1599
R11	RESISTOR	FXD	ERD-25UJ272T	2.7K OHM 1/4W	5RDAAD1546
R12	RESISTOR	FXD	ERD-25UJ222T	2.2K OHM 1/4W	5RDAAD1548
R13	RESISTOR	FXD	ERD-25UJ223T	22K OHM 1/4W	5RDAAD1545
R14	RESISTOR	FXD	ERD-25UJ221T	220 OHM 1/4	5RDAAD1543
R15	RESISTOR	FXD	ERD-25UJ103T	10K OHM 1/4W	5RDAAD1547
R16	RESISTOR	FXD	ERD-25UJ472T	4.7K OHM 1/4W	5RDAAD1549
R17	RESISTOR	FXD	ERD-25UJ101T	1/4W 100 OHM	5RDAAD1599
R18	RESISTOR	FXD	ERD-25UJ473T	1/4W 47K OHM	5RDAAD1618
R19	RESISTOR	FXD	ERD-25UJ472T	4.7K OHM 1/4W	5RDAAD1549

PARTS LIST		BWC		LITLOR		CFE-243W		SUBKIT NO. 5	
PART NO	PART NAME	TYPK	DESCRIPTION	CODE	PART NO	PART NAME	TYPK	DESCRIPTION	CODE
R20	RESISTOR FXD	ERD-25UJ101T	1/4W 100 OHM	SRDAA01599	TP3	TEST TERMINAL	PCN6-PEA		SJDAAD00364
R21	RESISTOR FXD	ERD-25UJ471T	470 OHM 1/4W	SRDAA01541	TP4	TEST TERMINAL	PCN6-PEA		SJDAAD00364
R22	RESISTOR FXD	ERD-25UJ102T	1K OHM 1/4	SRDAA01542	TP5	TEST TERMINAL	PCN6-PEA		SJDAAD00364
R23	RESISTOR FXD	ERD-25UJ102T	1K OHM 1/4	SRDAA01542	TP6	TEST TERMINAL	PCN6-PEA		SJDAAD00364
R24	RESISTOR FXD	ERD-25UJ221T	220 OHM 1/4	SRDAA01543	TP7	TEST TERMINAL	PCN6-PEA		SJDAAD00364
R25	RESISTOR FXD	ERD-25UJ221T	220 OHM 1/4	SRDAA01543	TR1	TRANSISTOR	2SC1815-Y		STCAF00219
R26	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAA01547	TR2	TRANSISTOR	2SC1923Y		STCAF00386
R27	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAA01547	TR3	TRANSISTOR	2SA1015-Y		STAAAG00070
R28	RESISTOR FXD	ERD-25UJ221T	220 OHM 1/4	SRDAA01543	TR4	TRANSISTOR	2SA1015-Y		STAAAG00070
R29	RESISTOR FXD	ERD-25UJ221T	220 OHM 1/4	SRDAA01543	TR5	TRANSISTOR	2SA1015-Y		STAAAG00070
R30	RESISTOR FXD	ERD-25UJ102T	1K OHM 1/4	SRDAA01542	TR6	TRANSISTOR	2SC1923Y		STCAF00386
R31	RESISTOR FXD	ERD-25UJ102T	1K OHM 1/4	SRDAA01542	TR7	TRANSISTOR	2SC1923Y		STCAF00386
R32	RESISTOR FXD	ERD-25UJ101T	1/4W 100 OHM	SRDAA01599					
R33	RESISTOR FXD	ERD-25UJ101T	1/4W 100 OHM	SRDAA01599					
R34	RESISTOR FXD	ERD-25UJ153T	1/4W 15K OHM	SRDAA01594					
R35	RESISTOR FXD	ERD-25UJ153T	1/4W 15K OHM	SRDAA01594					
R36	RESISTOR FXD	ERD-25UJ153T	1/4W 15K OHM	SRDAA01594					
R37	RESISTOR FXD	ERD-25UJ153T	1/4W 15K OHM	SRDAA01594					
R38	RESISTOR FXD	ERD-25UJ102T	1K OHM 1/4	SRDAA01542					
R39	RESISTOR FXD	ERD-25UJ102T	1K OHM 1/4	SRDAA01542					
R40	RESISTOR FXD	ERD-25UJ470T		SRDAA01551					
R41	RESISTOR FXD	ERD-25UJ470T		SRDAA01551					
R42	RESISTOR FXD	ERD-25UJ100T	1/4W 10 OHM	SRDAA01576					
R43	RESISTOR FXD	ERD-25UJ100T	1/4W 10 OHM	SRDAA01576					
R44	RESISTOR FXD	ERD-25UJ100T	1/4W 10 OHM	SRDAA01576					
R45	RESISTOR FXD	ERD-25UJ100T	1/4W 10 OHM	SRDAA01576					
R46	RESISTOR FXD	ERD-25UJ151T	150 OHM 1/4W	SRDAA01601					
R47	RESISTOR FXD	ERD-25UJ151T	150 OHM 1/4W	SRDAA01601					
RA1	RESISTOR FXD	208-12Z-ME5		SREA000836					
RA2	RESISTOR FXD	208-12Z-ME5		SREA000836					
RV1	RESISTOR VAR	EVH-02AA03013		SRVAB00422					
RV2	RESISTOR VAR	EVH-02AA03013		SRVAB00422					
T1	RF XFMR	S-061-006		SLJAA00006					
TP1	TEST TERMINAL	PCN6-PEA		SJDAAD00364					
TP2	TEST TERMINAL	PCN6-PEA		SJDAAD00364					

PARTS LIST		BWC		LITLOR		CFE-243W		SUBKIT NO. 6	
PART NO	PART NAME	TYPK	DESCRIPTION	CODE	PART NO	PART NAME	TYPK	DESCRIPTION	CODE
TP3	TEST TERMINAL	PCN6-PEA		SJDAAD00364					
TP4	TEST TERMINAL	PCN6-PEA		SJDAAD00364					
TP5	TEST TERMINAL	PCN6-PEA		SJDAAD00364					
TP6	TEST TERMINAL	PCN6-PEA		SJDAAD00364					
TP7	TEST TERMINAL	PCN6-PEA		SJDAAD00364					
TR1	TRANSISTOR	2SC1815-Y		STCAF00219					
TR2	TRANSISTOR	2SC1923Y		STCAF00386					
TR3	TRANSISTOR	2SA1015-Y		STAAAG00070					
TR4	TRANSISTOR	2SA1015-Y		STAAAG00070					
TR5	TRANSISTOR	2SA1015-Y		STAAAG00070					
TR6	TRANSISTOR	2SC1923Y		STCAF00386					
TR7	TRANSISTOR	2SC1923Y		STCAF00386					



## PARTS LIST

IF AMP

TITLE CAE-227A

SHEET NO. 1

PART NO	PART NAME	TYPE	DESCRIPTION	CODE
C1	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C2	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C3	CAP,FXD ELCTLT	ECE-A1EU1008		5CEAA01864
C4	CAP,FXD CER	C3216X7R1E333K-E-TP	0.033U	SCAAD01203
C5	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C6	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C7	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00709
C8	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C9	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C10	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C11	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C12	CAP,FXD TANTAL	202L3502 474KB		5CSAC01065
C13	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C14	CAP,FXD TANTAL	202L3502 474KB		5CSAC01065
C16	CAP,FXD TANTAL	202L3502 474KB		5CSAC01065
C17	CAP,FXD TANTAL	202L3502 474KB		5CSAC01065
C18	CAP,FXD PLSTC	EC0-B1H182JZ3		5CRAA00875
C19	CAP,FXD PLSTC	EC0-B1H182JZ3		5CRAA00875
C20	CAP,FXD CER	C3216CH1H151J-E-TP	150PF	SCAAD00870
C21	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C22	CAP,FXD TANTAL	202L3502 474KB		5CSAC01065
C23	CAP,FXD TANTAL	202L3502 474KB		5CSAC01065
C24	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C25	CAP,FXD TANTAL	202L3502 474KB		5CSAC01065
C26	CAP,FXD TANTAL	202L3502 474KB		5CSAC01065
C27	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789
C30	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C31	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C32	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C33	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C34	CAP,FXD ELCTLT	ECE-A1EU1010		5CEAA01813
C35	CAP,FXD CER	C3216SL1H222J-E-TP	2200PF	5CAAD00792
C36	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789
C37	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C46	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237

## PARTS LIST

IF AMP

TITLE CAE-227A

SHEET NO. 2

PART NO	PART NAME	TYPE	DESCRIPTION	CODE
C47	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C48	CAP,FXD CER	C3216SL1H102K-E-TP		5CAAD00878
C49	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C51	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782
C52	CAP,FXD CER	C3216JB1H472K-E-TP	4700PF	5CAAD01138
C53	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C54	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C55	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C56	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C59	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C60	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C61	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782
C62	CAP,FXD CER	C3216SL1H182J-E-TP		5CAAD01070
C63	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782
C64	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C66	CAP,FXD CER	C3216X7R1E333K-E-TP	0.033U	SCAAD01203
C71	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C72	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C73	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C74	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C75	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C76	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C77	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C78	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C79	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C80	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C81	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C82	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C83	CAP,FXD ELCTLT	ECE-A1EU1008		5CEAA01864
C86	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789
C87	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C88	CAP,FXD TANTAL	202L3502 474KB		5CSAC01065
C89	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C90	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C91	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237

## PARTS LIST

TITLE CAE-227A

SHEET NO. 3

IT AMP

PART NO	PART NAME	TYPE	DESCRIPTION	CODE
C92	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C94	CAP,FXD CER	C3216X7R1E333K-E-TP	0.033U	SCAAD01203
C95	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C96	CAP,FXD CER	C3216J81H472K-E-TP	4700PF	SCAAD01138
C97	CAP,FXD CER	C3216X7R1E333K-E-TP	0.033U	SCAAD01203
C98	CAP,FXD ELCTLT	ECE-A1EU100B		SCAAA01864
C99	CAP,FXD CER	C3216X7R1E333K-E-TP	0.033U	SCAAD01203
C100	CAP,FXD TANTAL	202L3502 105KB	35V 1UF	SCSAC00982
C101	CAP,FXD CER	C3216CH1H671J-E-TP	470PF	SCAAD00797
C102	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782
C103	CAP,FXD TANTAL	202L3502 105KB	35V 1UF	SCSAC00982
C104	CAP,FXD ELCTLT	ECE-A1EU100B		SCAAA01864
C105	CAP,FXD TANTAL	202L3502 224KB	0.22UF 35V	SCSAC00988
C106	CAP,FXD CER	C3216X7R1E333K-E-TP	0.033U	SCAAD01203
C107	CAP,FXD TANTAL	202L2502 475KB		SCSAC00934
C108	CAP,FXD TANTAL	202L3502 105KB	35V 1UF	SCSAC00982
C109	CAP,FXD CER	C3216X7R1E333K-E-TP	0.033U	SCAAD01203
C110	CAP,FXD ELCTLT	ECE-A1EU100B		SCAAA01864
C111	CAP,FXD CER	C3216X7R1E333K-E-TP	0.033U	SCAAD01203
C112	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C113	CAP,FXD C CER	C3216J81H103K-E-TP	50V 0.01UF	SCAAD00789
C114	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C115	CAP,FXD C CER	C3216J81H103K-E-TP	50V 0.01UF	SCAAD00789
C116	CAP,FXD CER	C3216X7R1E333K-E-TP	0.033U	SCAAD01203
C121	CAP,FXD CER	C3216X7R1E333K-E-TP	0.033U	SCAAD01203
C122	CAP,FXD* CER	C3216X7R1E333K-E-TP	0.033U	SCAAD01203
C123	CAP,FXD ELCTLT	ECE-A1EU100B		SCAAA01864
C124	CAP,FXD CER	C3216J81H223K-E-TP		SCAAD01645
C125	CAP,FXD CER	C3216J81H223K-E-TP		SCAAD01645
C126	CAP,FXD CER	C3216J81H223K-E-TP		SCAAD01645
C127	CAP,FXD C CER	C3216J81H103K-E-TP	50V 0.01UF	SCAAD00789
C128	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782
C129	CAP,FXD TANTAL	202L3502 105KB	35V 1UF	SCSAC00982
C130	CAP,FXD C CER	C3216J81H103K-E-TP	50V 0.01UF	SCAAD00789
C131	CAP,FXD C CER	C3216J81H103K-E-TP	50V 0.01UF	SCAAD00789

## PARTS LIST

TITLE CAE-227A

SHEET NO. 4

IT AMP

PART NO	PART NAME	TYPE	DESCRIPTION	CODE
C132	CAP,FXD C CER	C3216J81H103K-E-TP	50V 0.01UF	SCAAD00789
C135	CAP,FXD ELCTLT	ECE-A1EU330B		SCAAA01822
C136	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C137	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C138	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C139	CAP,FXD CER	C3216CH1H680J-E-TP	68PF	SCAAA00929
C140	CAP,FXD ELCTLT	ECE-A1EU100B		SCAAA01864
C141	CAP,FXD ELCTLT	ECE-A1EU100B		SCAAA01864
C142	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C143	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C144	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C145	CAP,FXD TANTAL	202L2502 225KB	2.2UF 25V	SCSAC01129
C146	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782
C147	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782
C148	CAP,FXD TANTAL	202L3502 225KB		SCSAC01069
C149	CAP,FXD CER	C3216X7R1E333K-E-TP	0.033U	SCAAD01203
C150	CAP,FXD C CER	C3216J81H103K-E-TP	50V 0.01UF	SCAAD00789
C151	CAP,FXD C CER	C3216J81H103K-E-TP	50V 0.01UF	SCAAD00789
C152	CAP,FXD C CER	C3216J81H103K-E-TP	50V 0.01UF	SCAAD00789
C153	CAP,FXD CER	C3216J81E473K-E-TP		SCAAD01131
C154	CAP,FXD TANTAL	202L3502 224KB	0.22UF 35V	SCSAC00988
C155	CAP,FXD ELCTLT	ECE-A1EU100B		SCAAA01864
C157	CAP,FXD TANTAL	202L3502 105KB	35V 1UF	SCSAC00982
C159	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C166	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C167	CAP,FXD TANTAL	202L3502 224KB	0.22UF 35V	SCSAC00988
C168	CAP,FXD ELCTLT	ECE-A1EU100B		SCAAA01864
C169	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C170	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C171	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237
C172	CAP,FXD ELCTLT	ECE-A1EU100B		SCAAA01864
C173	CAP,FXD TANTAL	202L3502 224KB	0.22UF 35V	SCSAC00988
C175	CAP,FXD ELCTLT	ECE-A1EU100B		SCAAA01864
C176	CAP,FXD ELCTLT	ECE-A1EU100B		SCAAA01864
C177	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237

## PARTS LIST

PART NO		PART NAME		TYPE		DESCRIPTION		CODES	
C178	CAP,FXD	ELCLTL	ECE-A1EU100B					5CEAA01864	
C179	CAP,FXD	CER	C3216X7R1E104K-E-TP	0.1UF				5CAAD00237	
C180	CAP,FXD	TANTAL	202L3502 334KB	35V 0.33U				5ESAC01151	
C181	CAP,FXD	ELCLTL	ECE-A1EU100B					5CEAA01864	
C182	CAP,FXD	C	CER	C3216J81H103K-E-TP	50V 0.01UF			5CAAD00789	
C183	CAP,FXD	ELCLTL	ECE-A1EU100B					5CEAA01864	
C184	CAP,FXD	C	CER	C3216J81H103K-E-TP	50V 0.01UF			5CAAD00789	
C191	CAP,FXD	CER	C3216X7R1E333K-E-TP	0.033U				5CAAD01203	
C192	CAP,FXD	ELCLTL	ECE-A1EU100B					5CEAA01864	
C193	CAP,FXD	CER	C3216J81H332K-E-TP	50V 3300PF				5CAAD01599	
C194	CAP,FXD	CER	C3216J81H682K-E-TP					5CAAD01137	
C195	CAP,FXD	CER	C3216J81H682K-E-TP					5CAAD01137	
C196	CAP,FXD	CER	C3216X7R1E104K-E-TP	0.1UF				5CAAD01237	
C197	CAP,FXD	TANTAL	202L3502 105KB	35V 1UF				5CSAC00982	
C198	CAP,FXD	C	CER	C3216J81H103K-E-TP	50V 0.01UF			5CAAD00789	
C199	CAP,FXD	C	CER	C3216J81H103K-E-TP	50V 0.01UF			5CAAD00789	
C200	CAP,FXD	CER	C3216X7R1E333K-E-TP	0.033U				5CAAD01203	
C201	CAP,FXD	CER	C3216S1H102J-E-TP	1000PF				5CAAD00782	
C202	CAP,FXD	CER	C3216X7R1E333K-E-TP	0.033U				5CAAD01203	
C203	CAP,FXD	CER	C3216J81H223K-E-TP					5CAAD01645	
C204	CAP,FXD	CER	C3216J81H332K-E-TP	50V 3300PF				5CAAD01599	
C205	CAP,FXD	CER	C3216X7R1E333K-E-TP	0.033U				5CAAD01203	
C206	CAP,FXD	CER	C3216J81H682K-E-TP					5CAAD01137	
C207	CAP,FXD	CER	C3216S1H222J-E-TP	2200PF				5CAAD00792	
C208	CAP,FXD	CER	C3216J81H223K-E-TP					5CAAD01645	
C210	CAP,FXD	CER	C3216S1H471J-E-TP	470PF				5CAAD00797	
C01	DIODE		1S5226 TE85L					5TXAD00320	
C02	DIODE		1S5149B					5TXAD00332	
C03	DIODE		1S5184 TE85L					5TXAD00290	
C04	DIODE		MPR4371F					51XBG00037	
C05	DIODE		1S5226 TE85L					5TXAD00320	
C06	DIODE		1S5226 TE85L					5TXAD00320	
C08	DIODE		HSZ836CTL					5TXAE00765	
C09	DIODE		1S5184 TE85L					5TXAD00290	
C010	DIODE		R05-1M-110 B1					5TXAA00632	

## PARTS LIST

PART NO		PART NAME		TYPE		DESCRIPTION		CODES	
C011	DIODE		HSZ836CTL					5TXAE00765	
C013	DIODE		1S5184 TE85L					5TXAD00290	
C014	DIODE		HSZ836CTL					5TXAE00765	
C021	DIODE		1S5184 TE85L					5TXAD00290	
C022	DIODE		R06-2M-110 B2					5TXAD00674	
C023	DIODE		1S5226 TE85L					5TXAD00320	
C024	DIODE		HSZ836CTL					5TXAE00765	
C025	DIODE		1S5184 TE85L					5TXAD00290	
C026	DIODE		1S5184 TE85L					5TXAD00290	
C027	DIODE		1S5184 TE85L					5TXAD00290	
C028	DIODE		1S5149B					5TXAD00332	
C029	DIODE		1S5184 TE85L					5TXAD00290	
C030	DIODE		1S5597					5TXAA00326	
C031	DIODE		1S5597					5TXAA00326	
C032	IC		SN16913P					500AL00301	
C033	IC		MS223L					500AB00164	
C034	IC		TA7310P					50AA00091	
C035	IC		MC1406B0CP					50AAJ00359	
C036	IC		MC1406B0CP					50AAJ00359	
C037	IC		MS223L					500AB00164	
C038	IC		MC3361BP					50BA500206	
C039	IC		MS223L					500AB00164	
C040	IC		TC4052DP					50BAE00208	
C041	IC		MS218L					50PAB00158	
C042	IC		MS218L					500AB00158	
J1	CONNECTOR		IL-G-2P-S3L2-E					5JWA000094	
L2	COIL		FL-7H572J-H	4.7MH				5LCA000635	
L3	COIL		FL-7H472J-H	4.7MH				5LCA000635	
L4	COIL		LAL03V8681K					5LCA000442	
L5	COIL		FL-7H222J-H	2.2MH WITH TUBE				5LCA000631	
L6	COIL		FL-7H222J-H	2.2MH WITH TUBE				5LCA000631	
L7	COIL		LAL03V8100K	10UH				5LCA000273	
L8	COIL		LAL03V8101K					5LCA000333	
L9	COIL		LAL03V8820K					5LCA000388	
P7	CONNECTOR		EC1C-22P-2.50SA	22P				5JWB000070	

TITLE: CKE-227A

SUBJECT NO: 6

PARTS LIST

PART NO		PART NAME		TYPE	DESCRIPTION	CODE
IF AMP		TITLE CAE-227A		SHEET NO. 7		
P8	CONNECTOR	EC1C-22P-2-50SA	22P		5JMS000070	
P8	PCB	H-6PCJ0002600			6PCJ000260	
R1	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM		SREAG01726	
R2	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM		SREAG01750	
R3	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM		SREAG01726	
R4	RESISTOR FXD	ERJ-8GEYJ220V	1/8W 22 OHM		SREAG01718	
R5	RESISTOR FXD	ERJ-8GEYJ183V	1/8W 18K OHM		SREAG01753	
R6	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM		SREAG01726	
R7	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM		SREAG01726	
R8	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM		SREAG01726	
R9	RESISTOR FXD	ERJ-8GEYJ560V	1/8W 56 OHM		SREAG01723	
R10	RESISTOR FXD	ERJ-8GEYJ680V	1/8W 68 OHM		SREAG01724	
R11	RESISTOR FXD	ERJ-8GEYJ332V	1/8W 3.3K OHM		SREAG01744	
R12	RESISTOR FXD	ERJ-8GEYJ183V	1/8W 18K OHM		SREAG01753	
R13	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM		SREAG01726	
R14	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM		SREAG01726	
R15	RESISTOR FXD	ERJ-8GEYJ223V	1/8W 22K OHM		SREAG01754	
R16	RESISTOR FXD	ERJ-8GEYJ82V	1/8W 6.8K OHM		SREAG01748	
R17	RESISTOR CFXD	ERJ-8GEYJ104V	1/8W 100K OHM		SREAG01762	
R18	RESISTOR CFXD	ERJ-8GEYJ104V	1/8W 100K OHM		SREAG01762	
R19	RESISTOR FXD	ERJ-8GEYJ154V	1/8W 150K OHM		SREAG01764	
R20	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM		SREAG01738	
R21	RESISTOR CFXD	ERJ-8GEYJ182V	1/8W 1.8K OHM		SREAG01741	
R22	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM		SREAG01738	
R23	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM		SREAG01750	
R24	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM		SREAG01738	
R25	RESISTOR CFXD	ERJ-8GEYJ151V	1/8W 150 OHM		SREAG01728	
R26	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM		SREAG01750	
R27	RESISTOR CFXD	ERJ-8GEYJ104V	1/8W 100K OHM		SREAG01762	
R28	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM		SREAG01750	
R29	RESISTOR CFXD	ERJ-8GEYJ104V	1/8W 100K OHM		SREAG01762	
R31	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM		SREAG01750	
R32	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM		SREAG01750	
R33	RESISTOR FXD	ERJ-8GEYJ105V	1/8W 18 OHM		SREAG01774	
R34	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM		SREAG01726	

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PARTS LIST

PART NO		PART NAME		TYPE	DESCRIPTION	CODE
IF AMP		TITLE CAE-227A		SHEET NO. 8		
R35	RESISTOR FXD	ERJ-8GEYJ331V	330 OHM 1/8W		SREAG01732	
R36	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM		SREAG01738	
R37	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM		SREAG01726	
R38	RESISTOR CFXD	ERJ-8GEYJ104V	1/8W 100K OHM		SREAG01762	
R39	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM		SREAG01726	
R40	RESISTOR FXD	ERJ-8GEYJ221V	1/8W 220 OHM		SREAG01730	
R41	RESISTOR FXD	ERJ-8GEYJ471V	1/8W 470 OHM		SREAG01734	
R42	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM		SREAG01750	
R43	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM		SREAG01750	
R44	RESISTOR FXD	ERJ-8GEYJ221V	1/8W 220 OHM		SREAG01730	
R45	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM		SREAG01750	
R46	RESISTOR FXD	ERJ-8GEYJ562V	1/8W 5.6K OHM		SREAG01747	
R51	RESISTOR FXD	ERJ-8GEYJ153V	1/8W 15K OHM		SREAG01752	
R52	RESISTOR CFXD	ERJ-8GEYJ104V	1/8W 100K OHM		SREAG01762	
R53	RESISTOR CFXD	ERJ-8GEYJ104V	1/8W 100K OHM		SREAG01762	
R54	RESISTOR FXD	ERJ-8GEYJ473V	1/8W 47K OHM		SREAG01758	
R55	RESISTOR FXD	ERJ-8GEYJ473V	1/8W 47K OHM		SREAG01758	
R56	RESISTOR FXD	ERJ-8GEYJ222V	1/8W 2.2K OHM		SREAG01742	
R57	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM		SREAG01750	
R58	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM		SREAG01750	
R59	RESISTOR FXD	ERJ-8GEYJ473V	1/8W 47K OHM		SREAG01758	
R60	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM		SREAG01738	
R61	RESISTOR FXD	ERJ-8GEYJ473V	1/8W 47K OHM		SREAG01758	
R62	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM		SREAG01738	
R63	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM		SREAG01726	
R64	RESISTOR FXD	ERJ-8GEYJ331V	330 OHM 1/8W		SREAG01732	
R65	RESISTOR FXD	ERJ-8GEYJ561V	1/8W 560 OHM		SREAG01735	
R66	RESISTOR FXD	ERJ-8GEYJ561V	1/8W 560 OHM		SREAG01735	
R67	RESISTOR FXD	ERJ-8GEYJ153V	1/8W 15K OHM		SREAG01752	
R68	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM		SREAG01750	
R69	RESISTOR FXD	ERJ-8GEYJ332V	1/8W 3.3K OHM		SREAG01744	
R70	RESISTOR FXD	ERJ-8GEYJ105V	1/8W 18 OHM		SREAG01774	
R71	RESISTOR FXD	ERJ-8GEYJ183V	1/8W 18K OHM		SREAG01753	
R72	RESISTOR FXD	ERJ-8GEYJ332V	1/8W 3.3K OHM		SREAG01744	
R73	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM		SREAG01738	

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PARTS LIST

IF AMP		TITLE CAE-227A		SUBST NO. 9	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
R74	RESISTOR FXD	ERJ-8GEYJ105V	1/8W 1M OHM	SREAG01774	
R75	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R76	RESISTOR FXD	ERJ-8GEYK2R2V		SREAG02210	
R81	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R82	RESISTOR FXD	ERJ-8GEYJ473V	1/8W 47K OHM	SREAG01758	
R83	RESISTOR FXD	ERJ-8GEYR00V	0 OHM	SREAG01775	
R84	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	SREAG01738	
R85	RESISTOR FXD	ERJ-8GEYJ472V	1/8W 4.7K OHM	SREAG01746	
R86	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	SREAG01726	
R87	RESISTOR FXD	ERJ-8GEYJ393V	1/8W 39K OHM	SREAG01757	
R88	RESISTOR FXD	ERJ-8GEYJ472V	1/8W 4.7K OHM	SREAG01746	
R89	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	SREAG01738	
R90	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	SREAG01738	
R91	RESISTOR FXD	ERJ-8GEYJ682V	1/8W 6.8K OHM	SREAG01748	
R92	RESISTOR FXD	ERJ-8GEYJ472V	1/8W 4.7K OHM	SREAG01746	
R93	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R94	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R95	RESISTOR FXD	ERJ-8GEYJ393V	1/8W 39K OHM	SREAG01757	
R96	RESISTOR FXD	ERJ-8GEYJ223V	1/8W 22K OHM	SREAG01754	
R97	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R98	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R99	RESISTOR FXD	ERJ-8GEYJ332V	1/8W 3.3K OHM	SREAG01744	
R100	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R101	RESISTOR FXD	ERJ-8GEYJ473V	1/8W 47K OHM	SREAG01758	
R102	RESISTOR FXD	ERJ-8GEYJ473V	1/8W 47K OHM	SREAG01758	
R103	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	SREAG01726	
R104	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R105-1	RESISTOR FXD	ERJ-8GEYJ105V	1/8W 1M OHM	SREAG01774	
R105-2	RESISTOR FXD	ERJ-8GEYJ105V	1/8W 1M OHM	SREAG01774	
R106	RESISTOR FXD	ERJ-8GEYJ473V	1/8W 47K OHM	SREAG01758	
R107	RESISTOR FXD	ERJ-8GEYJ223V	1/8W 22K OHM	SREAG01754	
R108	RESISTOR FXD	ERJ-8GEYJ561V	1/8W 560 OHM	SREAG01735	
R109	RESISTOR FXD	ERJ-8GEYJ473V	1/8W 47K OHM	SREAG01758	
R110	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R111	RESISTOR FXD	ERJ-8GEYJ473V	1/8W 47K OHM	SREAG01758	

PARTS LIST

IF AMP		TITLE CAE-227A		SUBST NO. 10	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
R112	RESISTOR FXD	ERJ-8GEYJ473V	1/8W 47K OHM	SREAG01758	
R113	RESISTOR FXD	ERJ-8GEYJ472V	1/8W 4.7K OHM	SREAG01746	
R114	RESISTOR FXD	ERJ-8GEYJ472V	1/8W 4.7K OHM	SREAG01746	
R115	RESISTOR FXD	ERJ-8GEYJ105V	1/8W 1M OHM	SREAG01774	
R116	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	SREAG01738	
R117	RESISTOR CFXD	ERJ-8GEYJ104V	1/8W 100K OHM	SREAG01762	
R121	RESISTOR FXD	ERJ-8GEYJ222V	1/8W 2.2K OHM	SREAG01742	
R122	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	SREAG01738	
R123	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	SREAG01726	
R124	RESISTOR FXD	ERJ-8GEYJ472V	1/8W 4.7K OHM	SREAG01746	
R125	RESISTOR FXD	ERJ-8GEYJ272V	1/8W 2.7K OHM	SREAG01743	
R126	RESISTOR FXD	ERJ-8GEYJ272V	1/8W 2.7K OHM	SREAG01743	
R127	RESISTOR FXD	ERJ-8GEYJ334V	1/8W 330K OHM	SREAG01768	
R128	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R129	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R130	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R131	RESISTOR FXD	ERJ-8GEYR00V	0 OHM	SREAG01775	
R140	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R141	RESISTOR FXD	ERJ-8GEYJ223V	1/8W 22K OHM	SREAG01754	
R142	RESISTOR FXD	ERJ-8GEYJ474V	1/8W 470K OHM	SREAG01770	
R143	RESISTOR FXD	ERJ-8GEYJ682V	1/8W 6.8K OHM	SREAG01748	
R144	RESISTOR FXD	ERJ-8GEYJ332V	1/8W 3.3K OHM	SREAG01744	
R145	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R146	RESISTOR FXD	ERJ-8GEYJ473V	1/8W 47K OHM	SREAG01758	
R147	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R148	RESISTOR FXD	ERJ-8GEYJ473V	1/8W 47K OHM	SREAG01758	
R149	RESISTOR CFXD	ERJ-8GEYJ104V	1/8W 100K OHM	SREAG01762	
R150	RESISTOR CFXD	ERJ-8GEYJ104V	1/8W 100K OHM	SREAG01762	
R151	RESISTOR FXD	ERJ-8GEYJ682V	1/8W 6.8K OHM	SREAG01748	
R152	RESISTOR FXD	ERJ-8GEYJ473V	1/8W 47K OHM	SREAG01758	
R153	RESISTOR CFXD	ERJ-8GEYJ104V	1/8W 100K OHM	SREAG01762	
R154	RESISTOR FXD	ERJ-8GEYJ222V	1/8W 2.2K OHM	SREAG01742	
R155	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R156	RESISTOR FXD	ERJ-8GEYJ331V	330 OHM 1/8W	SREAG01752	
R157	RESISTOR FXD	ERJ-8GEYJ822V		SREAG01749	

## PARTS LIST

PART NO		PART NAME		TYPE		DESCRIPTION		CODE	
R158	RESISTOR	FXD	ERJ-8GEYJ103V	1/8W	10K	OHM	SREAG01750		
R159	RESISTOR	FXD	ERJ-8GEYJ473V	1/8W	47K	OHM	SREAG01758		
R160	RESISTOR	FXD	ERJ-8GEYJ221V	1/8W	220	OHM	SREAG01730		
R161	RESISTOR	FXD	ERJ-8GEYJ152V	1/8W	1.5K	OHM	SREAG01740		
R162	RESISTOR	FXD	ERJ-8GEYJ222V	1/8W	2.2K	OHM	SREAG01742		
R163	RESISTOR	FXD	ERJ-8GEYJ102V	1/8W	1K	OHM	SREAG01738		
R166	RESISTOR	CFXD	ERJ-8GEYJ104V	1/8W	100K	OHM	SREAG01762		
R167	RESISTOR	FXD	ERJ-8GEYJ103V	1/8W	10K	OHM	SREAG01750		
R168	RESISTOR	FXD	ERJ-8GEYJ103V	1/8W	10K	OHM	SREAG01750		
R169	RESISTOR	FXD	ERJ-8GEYJ103V	1/8W	10K	OHM	SREAG01750		
R170	RESISTOR	FXD	ERJ-8GEYJ102V	1/8W	1K	OHM	SREAG01738		
R171	RESISTOR	FXD	ERJ-8GEYJ103V	1/8W	10K	OHM	SREAG01750		
R172	RESISTOR	FXD	ERJ-8GEYJ222V	1/8W	2.2K	OHM	SREAG01742		
R173	RESISTOR	FXD	ERJ-8GEYJ222V	1/8W	2.2K	OHM	SREAG01742		
R174	RESISTOR	FXD	ERJ-8GEYJ103V	1/8W	10K	OHM	SREAG01750		
R175	RESISTOR	FXD	ERJ-8GEYJ103V	1/8W	10K	OHM	SREAG01750		
R176	RESISTOR	FXD	ERJ-8GEYJ103V	1/8W	10K	OHM	SREAG01750		
R177	RESISTOR	FXD	ERJ-8GEYJ102V	1/8W	1K	OHM	SREAG01738		
R178	RESISTOR	FXD	ERJ-8GEYJ103V	1/8W	10K	OHM	SREAG01750		
R179	RESISTOR	FXD	ERJ-8GEYJ103V	1/8W	10K	OHM	SREAG01750		
R180	RESISTOR	FXD	ERJ-8GEYJ822V	1/8W	82K	OHM	SREAG01749		
R182	RESISTOR	FXD	ERJ-8GEYJ103V	1/8W	10K	OHM	SREAG01750		
R183	RESISTOR	FXD	ERJ-8GEYJ105V	1/8W	1M	OHM	SREAG01774		
R184	RESISTOR	FXD	ERJ-8GEYJ103V	1/8W	10K	OHM	SREAG01750		
R185	RESISTOR	FXD	ERJ-8GEYJ103V	1/8W	10K	OHM	SREAG01750		
R186	RESISTOR	CFXD	ERJ-8GEYJ104V	1/8W	100K	OHM	SREAG01762		
R187	RESISTOR	FXD	ERJ-8GEYJ102V	1/8W	1K	OHM	SREAG01738		
R189-1	RESISTOR	FXD	ERJ-8GEYJ105V	1/8W	1M	OHM	SREAG01774		
R189-2	RESISTOR	FXD	ERJ-8GEYJ105V	1/8W	1M	OHM	SREAG01774		
R189-3	RESISTOR	FXD	ERJ-8GEYJ105V	1/8W	1M	OHM	SREAG01774		
R190	RESISTOR	FXD	ERJ-8GEYJ102V	1/8W	1K	OHM	SREAG01738		
R191	RESISTOR	FXD	ERJ-8GEYJ103V	1/8W	10K	OHM	SREAG01750		
R192	RESISTOR	FXD	ERJ-8GEYJ103V	1/8W	10K	OHM	SREAG01750		
R193	RESISTOR	FXD	ERJ-8GEYJ472V	1/8W	4.7K	OHM	SREAG01746		
R195	RESISTOR	FXD	ERJ-8GEYJ103V	1/8W	10K	OHM	SREAG01750		

## PARTS LIST

PART NO		PART NAME		TYPE		DESCRIPTION		CODE	
R196	RESISTOR	FXD	ERJ-8GEYJ683V	1/8W	68K	OHM	SREAG01740		
R197	RESISTOR	FXD	ERJ-8GEYJ334V	1/8W	330K	OHM	SREAG01748		
R198	RESISTOR	FXD	ERJ-8GEYOR00V	0	OHM		SREAG01775		
R199	RESISTOR	FXD	ERJ-8GEYOR00V	0	OHM		SREAG01775		
R200	RESISTOR	CFXD	ERJ-8GEYJ681V	1/8W	680	OHM	SREAG01736		
R211	RESISTOR	CFXD	ERJ-8GEYJ101V	1/8W	100	OHM	SREAG01726		
R212	RESISTOR	FXD	ERJ-8GEYJ472V	1/8W	4.7K	OHM	SREAG01746		
R213	RESISTOR	FXD	ERJ-8GEYJ562V	1/8W	5.6K	OHM	SREAG01747		
R214	RESISTOR	FXD	ERJ-8GEYJ562V	1/8W	5.6K	OHM	SREAG01747		
R215	RESISTOR	FXD	ERJ-8GEYJ334V	1/8W	330K	OHM	SREAG01748		
R216	RESISTOR	FXD	ERJ-8GEYJ102V	1/8W	1K	OHM	SREAG01738		
R217	RESISTOR	FXD	ERJ-8GEYJ103V	1/8W	10K	OHM	SREAG01750		
R218	RESISTOR	FXD	ERJ-8GEYJ103V	1/8W	10K	OHM	SREAG01750		
R219	RESISTOR	FXD	ERJ-8GEYJ224V	1/8W	220K	OHM	SREAG01766		
R220	RESISTOR	FXD	ERJ-8GEYJ224V	1/8W	220K	OHM	SREAG01766		
R221	RESISTOR	FXD	ERJ-8GEYJ103V	1/8W	10K	OHM	SREAG01750		
R231	TRIMMISTOR		P8M-42H-52				SRK800007		
RJ1	RESISTOR	FXD	ERJ-8GEYOR00V	0	OHM		SREAG01775		
RJ2	RESISTOR	FXD	ERJ-8GEYOR00V	0	OHM		SREAG01775		
RJ3	RESISTOR	FXD	ERJ-8GEYOR00V	0	OHM		SREAG01775		
RJ5	RESISTOR	FXD	ERJ-8GEYOR00V	0	OHM		SREAG01775		
RJ6	RESISTOR	FXD	ERJ-8GEYOR00V	0	OHM		SREAG01775		
RJ7	RESISTOR	FXD	ERJ-8GEYOR00V	0	OHM		SREAG01775		
RJ8	RESISTOR	FXD	ERJ-8GEYOR00V	0	OHM		SREAG01775		
RJ9	RESISTOR	FXD	ERJ-8GEYOR00V	0	OHM		SREAG01775		
RJ10	RESISTOR	FXD	ERJ-8GEYOR00V	0	OHM		SREAG01775		
RJ11	RESISTOR	FXD	ERJ-8GEYOR00V	0	OHM		SREAG01775		
RJ12	RESISTOR	FXD	ERJ-8GEYOR00V	0	OHM		SREAG01775		
RJ13	RESISTOR	FXD	ERJ-8GEYOR00V	0	OHM		SREAG01775		
RJ14	RESISTOR	FXD	ERJ-8GEYOR00V	0	OHM		SREAG01775		
RJ15	RESISTOR	FXD	ERJ-8GEYOR00V	0	OHM		SREAG01775		
RJ16	RESISTOR	FXD	ERJ-8GEYOR00V	0	OHM		SREAG01775		
RJ19	RESISTOR	FXD	ERJ-8GEYOR00V	0	OHM		SREAG01775		
RJ20	RESISTOR	FXD	ERJ-8GEYOR00V	0	OHM		SREAG01775		
RJ21	RESISTOR	FXD	ERJ-8GEYOR00V	0	OHM		SREAG01775		

SHEET NO. 12

TITLE CAE-227A

IF AMP

PARTS LIST

IF AMP		TITLE CAE-227A		SHEET NO. 13	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
RJ23	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ24	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ25	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ27	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ28	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ29	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ30	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ31	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ32	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ33	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ34	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ35	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ36	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ37	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ38	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ39	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ40	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ41	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ42	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ43	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ44	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ45	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ46	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ47	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ48	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ49	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ50	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ51	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ52	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ53	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ54	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ55	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ56	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ57	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ58	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	

PARTS LIST

IF AMP		TITLE CAE-227A		SHEET NO. 14	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
RJ59	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ60	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ61	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ62	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ63	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ64	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ65	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ66	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ67	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ68	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ69	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ70	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ71	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ72	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ74	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ76	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ77	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ78	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ79	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ80	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ81	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ82	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ83	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ85	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ86	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RJ87	RESISTOR FXD	ERJ-8GEY0R00V	0 OHM	SREAG01775	
RV1	RESISTOR VAR	EVN-D2AA03B54	10K OHM	SRA800439	
RV2	RESISTOR VAR	EVN-CBAA03B14	10K OHM	SRA800428	
RV3	RESISTOR VAR	EVN-CBAA03B14	10K OHM	SRA800428	
RV4	RESISTOR VAR	EVN-D2AA03B23		SRA8000429	
RV5	RESISTOR VAR	EVN-D2AA03B14		SRA8000430	
RV6	RESISTOR VAR	EVN-DBAA03B14	10K OHM	SRA800428	
RV7	RESISTOR VAR	EVN-DBAA03B54		SRA800419	
RV8	RESISTOR VAR	EVN-D2AA03B55		SRA8000440	
RV9	RESISTOR VAR	EVN-D2AA03B55		SRA8000440	

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PARTS LIST				TITLE: CAE-227A		SHEET NO. 16	
IF AMP				IF AMP		DESCRIPTION	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE			
S1	TERMINAL	A2-3PA-2.540SA(01)		5JTB00010			
S1P	CONNECTOR	WIF3GA-2.54SP		5JFA01151			
T1	RF XFMR	S-061-006		5LJA00006			
T2	RF XFMR	S-061-006		5LJA00006			
T3	RF XFMR	H-6LHJ000489	100KHZ	6LHJ000489			
T4	RF XFMR	H-6LHJ000490	100KHZ	6LHJ000490			
T5	RF XFMR	H-6LHJ000489	100KHZ	6LHJ000489			
T6	COIL	5D-ELD19A-41		6LAF00018			
TP	TEST TERMINAL	PCM6-PEA		5JDA00364			
TR1	TRANSISTOR	3SK73-GR-2		5TKA00204			
TR2	TRANSISTOR	3SK73-GR-2		5TKA00204			
TR3	TRANSISTOR	3SK73-GR-2		5TKA00204			
TR4	TRANSISTOR	25C2712Y TE85L		5TAA00186			
TR5	TRANSISTOR	25C2712Y TE85L		5TAA00186			
TR6	TRANSISTOR	25A1162-YTE85L		5TAA00182			
TR7	TRANSISTOR	3SK73-GR-2		5TKA00204			
TR8	TRANSISTOR	25C2712Y TE85L		5TAA00186			
TR9	TRANSISTOR	25C2712Y TE85L		5TAA00186			
TR10	TRANSISTOR	25C2712Y TE85L		5TAA00186			
TR11	TRANSISTOR	25C2712Y TE85L		5TAA00186			
TR12	TRANSISTOR	25C2712Y TE85L		5TAA00186			
TR13	TRANSISTOR	25C3398-T8		5TCAZ00011			
TR15	TRANSISTOR	25C2712Y TE85L		5TAA00186			
TR16	TRANSISTOR	25C2712Y TE85L		5TAA00186			
TR17	TRANSISTOR	25C2712Y TE85L		5TAA00186			
TR18	TRANSISTOR	25A1162-YTE85L		5TAA00182			
TR19	TRANSISTOR	25C2712Y TE85L		5TAA00186			
TR20	TRANSISTOR	25C2712Y TE85L		5TAA00186			
TR21	TRANSISTOR	25C3398-T8		5TCAZ00011			
TR22	TRANSISTOR	25A1162-YTE85L		5TAA00182			
TR23	TRANSISTOR	25C3398-T8		5TCAZ00011			
TR24	TRANSISTOR	25C3398-T8		5TCAZ00011			
TR26	TRANSISTOR	25C2712Y TE85L		5TAA00186			
TR27	TRANSISTOR	25C2712Y TE85L		5TAA00186			
TR30	TRANSISTOR	25C3398-T8		5TCAZ00011			

PARTS LIST				TITLE: CAE-227A		SHEET NO. 16	
IF AMP				IF AMP		DESCRIPTION	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE			
TR31	TRANSISTOR	25C2712Y TE85L		5TAA00186			
TR32	TRANSISTOR	25A1162-YTE85L		5TAA00182			
TR33	TRANSISTOR	25A1162-YTE85L		5TAA00182			
TR34	TRANSISTOR	25C3398-T8		5TCAZ00011			
TR35	TRANSISTOR	25C3398-T8		5TCAZ00011			
TR36	TRANSISTOR	25C3398-T8		5TCAZ00011			
TR37	TRANSISTOR	25C3398-T8		5TCAZ00011			
TR38	TRANSISTOR	25A1162-YTE85L		5TAA00182			
TR39	TRANSISTOR	25C3398-T8		5TCAZ00011			
TR40	TRANSISTOR	25C2712Y TE85L		5TAA00186			
TR41	TRANSISTOR	25C2712Y TE85L		5TAA00186			
X1	RESONATOR	CS03600		5HRA00198			



PARTS LIST

ECSS				TITLE		CHP-78		SHEET NO. 1	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE					
C1	CAP,FXD TANTAL	202L3502 474XB		SCSAC01065					
C2	CAP,FXD TANTAL	202L3502 474XB		SCSAC01065					
C3	CAP,FXD TANTAL	202L3502 474XB		SCSAC01065					
C4	CAP,FXD ELCTLT	ECE-A1EU330B		SCSAC01822					
C5	CAP,FXD TANTAL	202L3502 474XB		SCSAC01065					
C6	CAP,FXD TANTAL	202L3502 474XB		SCSAC01065					
C7	CAP,FXD TANTAL	202L3502 474XB		SCSAC01065					
C8	CAP,FXD ELCTLT	ECE-A1EU330B		SCSAC01822					
C9	CAP,FXD CER	C3216SH1H102J-E-1P	50V 1000PF	SCRAAD01479					
C10	CAP,FXD TANTAL	202L3502 225XB		SCSAC01069					
C11	CAP,FXD CER	D0109-979CH151J50		SCAA03148					
C12	CAP,FXD TANTAL	202L3502 474XB		SCSAC01065					
C13	CAP,FXD TANTAL	202L3502 474XB		SCSAC01065					
C15	CAP,FXD PLSTC	ECQ-B1H102K23	50V 1000P	SCRAAD0811					
C16	CAP,FXD PLSTC	ECQ-B1H332K23	50V 0.0033U	SCRAAD0815					
C21	CAP,FXD TANTAL	202L3502 474XB		SCSAC01065					
C22	CAP,FXD TANTAL	202L3502 474XB		SCSAC01065					
C23	CAP,FXD ELCTLT	ECE-A1EU330B		SCSAC01822					
C24	CAP,FXD TANTAL	202L3502 474XB		SCSAC01065					
C25	CAP,FXD TANTAL	202L3502 474XB		SCSAC01065					
C26	CAP,FXD TANTAL	202L3502 474XB		SCSAC01065					
C27	CAP,FXD PLSTC	ECQ-V1H333J23		SCRAA00804					
C28	CAP,FXD PLSTC	ECQ-V1H224J23	0.22UF 50V	SCRAA00482					
C29	CAP,FXD TANTAL	202L3502 474XB		SCSAC01065					
C30	CAP,FXD TANTAL	202L3502 474XB		SCSAC01065					
C31	CAP,FXD ELCTLT	ECE-A1EU330B		SCSAC01822					
C32	CAP,FXD TANTAL	202L3502 474XB		SCSAC01065					
C33	CAP,FXD TANTAL	202L3502 474XB		SCSAC01065					
C34	CAP,FXD TANTAL	202L3502 474XB		SCSAC01065					
C35	CAP,FXD PLSTC	ECQ-V1H333J23		SCRAA00804					
C36	CAP,FXD PLSTC	ECQ-V1H224J23	0.22UF 50V	SCRAA00482					
C41	CAP,FXD ELCTLT	ECE-A1EU100B		SCSAC01864					
C42	CAP,FXD TANTAL	202L3502 105XB	35V 1UF	SCSAC00982					
C43	CAP,FXD TANTAL	202L3502 105XB	35V 1UF	SCSAC00982					
C44	CAP,FXD ELCTLT	ECE-A1EU100B		SCSAC01864					

PARTS LIST

ECSS				TITLE		CHP-78		SHEET NO. 2	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE					
C45	CAP,FXD ELCTLT	ECE-A1EU100B		SCSAC01864					
C51	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C52	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C53	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C54	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C55	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C56	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C57	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C58	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C61	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C62	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C63	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C64	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C65	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C66	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C67	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C68	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C71	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C72	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C73	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C74	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C75	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C76	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C77	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C78	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C81	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C82	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C83	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C84	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C85	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C86	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C87	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C88	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C91	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					
C92	CAP,FXD PLSTC	ECQ-B1H103J23		SCRAA00587					

PARTS LIST

PARTS LIST		TITLE		SHEET NO.	
ECS		CMF-78		3	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
C93	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C94	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C95	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C96	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C97	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C98	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C101	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C102	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C103	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C104	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C105	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C106	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C107	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C100	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C111	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C112	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C113	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C114	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C115	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C116	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C117	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C118	CAP,FXD	PLSTC	EC0-B1H103JZ3	SCRAA00587	
C121	CAP,FXD	ELCTLT	ECE-A1EU100B	SCEAA01864	
C122	CAP,FXD	ELCTLT	ECE-A1EU100B	SCEAA01864	
C123	CAP,FXD	ELCTLT	ECE-A1EU100B	SCEAA01864	
C124	CAP,FXD	ELCTLT	ECE-A1EU100B	SCEAA01864	
C125	CAP,FXD	ELCTLT	ECE-A1EU100B	SCEAA01864	
C126	CAP,FXD	ELCTLT	ECE-A1EU100B	SCEAA01864	
C127	CAP,FXD	ELCTLT	ECE-A1EU100B	SCEAA01864	
C123	CAP,FXD	ELCTLT	ECE-A1EU100B	SCEAA01864	
C129	CAP,FXD	ELCTLT	ECE-A1EU100B	SCEAA01864	
C130	CAP,FXD	ELCTLT	ECE-A1EU100B	SCEAA01864	
C131	CAP,FXD	ELCTLT	ECE-A1EU100B	SCEAA01864	
C132	CAP,FXD	ELCTLT	ECE-A1EU100B	SCEAA01864	
C133	CAP,FXD	ELCTLT	ECE-A1EU100B	SCEAA01864	

PARTS LIST

PARTS LIST		TITLE		SHEET NO.	
ECS		CMF-78		4	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
C134	CAP,FXD	ELCTLT	ECE-A1EU100B	SCEAA01864	
C135	CAP,FXD	ELCTLT	ECE-A1EU100B	SCEAA01864	
C136	CAP,FXD	ELCTLT	ECE-A1EU100B	SCEAA01864	
C137	CAP,FXD	ELCTLT	ECE-A1EU100B	SCEAA01864	
C138	CAP,FXD	ELCTLT	ECE-A1EU100B	SCEAA01864	
C139	CAP,FXD	ELCTLT	ECE-A1EU100B	SCEAA01864	
C174	CAP,FXD	ELCTLT	ECE-A1EU330B	SCEAA01822	
C175	CAP,FXD	TANTAL	202L3502 474KB	SCSAC01065	
C176	CAP,FXD	ELCTLT	ECE-A1EU330B	SCEAA01822	
C177	CAP,FXD	ELCTLT	ECE-A1EU330B	SCEAA01822	
C178	CAP,FXD	ELCTLT	ECE-A1EU330B	SCEAA01822	
C182	CAP,FXD	TANTAL	202L3502 474KB	SCSAC01065	
C183	CAP,FXD	TANTAL	202L3502 474KB	SCSAC01065	
C184	CAP,FXD	TANTAL	202L3502 474KB	SCSAC01065	
C185	CAP,FXD	TANTAL	202L3502 474KB	SCSAC01065	
C02	DIODE	HZ5C1RE	1/2W 5V	5TXAE00568	
C03	DIODE	1S2078RE		5TXAE00588	
IC1	IC	TA7061BP		5DAA000536	
IC2	IC	MC14046BCP		5DDAS00038	
IC3	IC	SM16913P		5DDAL00301	
IC4	IC	SM16913P		5DDAL00301	
IC5	IC	NJM2058D		5DAAH00240	
IC6	IC	HJM2058D		5DAAH00240	
IC7	IC	HJM2058D		5DAAH00240	
IC11	IC	TC4069UBP	MOS	50DAE00045	
IC12	IC	TC4068BP		50DAE00078	
IC13	IC	MCZ4HCZ59AP		5DAAJ00975	
IC14	IC	AN6541		5DAAK00021	
L2	COIL	W-6LAJ000279	1.6MH	6LAJ000279	
L3	COIL	W-6LAJ000279	1.6MH	6LAJ000279	
L4	COIL	FL-9H1031-H	10MH	5LCAA00657	
L5	COIL	FL-9H1031-H	10MH	5LCAA00657	
P9	CONNECTOR	EC1C-22P-2.50SA	22P	5JWB500070	
P10	CONNECTOR	EC1C-22P-2.50SA	22P	5JWB500070	
PC1	PCB	H-6PCJ000270A		6PCJ000270	

PARTS LIST

ECSS TITLE CHF-78 SHEET NO. 5

PART NO	PART NAME	TYPE	DESCRIPTION	CODE
R1	RESISTOR FXD	ERD-25UJ331T	1/4W 330 OHM	SRDAAD1480
R2	RESISTOR FXD	ERD-25UJ101T	1/4W 100 OHM	SRDAAD1599
R3	RESISTOR FXD	ERD-25UJ102T	1K OHM 1/4	SRDAAD1542
R5	RESISTOR FXD	ERD-25UJ101T	1/4W 100 OHM	SRDAAD1599
R6	RESISTOR FXD	ERD-25UJ183T	18K OHM 1/4W	SRDAAD1605
R7	RESISTOR FXD	ERD-25UJ474T	1/4W 470K OHM	SRDAAD1634
R8	RESISTOR FXD	ERD-25UJ104T	100K OHM 1/4W	SRDAAD1623
R9	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAAD1547
R10	RESISTOR FXD	ERD-25UJ101T	1/4W 100 OHM	SRDAAD1599
R11	RESISTOR FXD	ERD-25UJ154T	1/4W 150K	SRDAAD1807
R12	RESISTOR FXD	ERD-25UJ181T	180 OHM	SRDAAD1628
R13	RESISTOR FXD	ERD-25UJ681T	1/4W 680 OHM	SRDAAD1627
R21	RESISTOR FXD	ERD-25UJ101T	1/4W 100 OHM	SRDAAD1599
R22	RESISTOR FXD	ERD-25UJ101T	1/4W 100 OHM	SRDAAD1599
R31	RESISTOR FXD	ERD-25UJ472T	4.7K OHM 1/4W	SRDAAD1549
R32	RESISTOR FXD	ERD-25UJ472T	4.7K OHM 1/4W	SRDAAD1549
R33	RESISTOR FXD	ERD-25UJ472T	4.7K OHM 1/4W	SRDAAD1549
R34	RESISTOR FXD	ERD-25UJ153T	1/4W 15K OHM	SRDAAD1594
R35	RESISTOR FXD	ERD-25UJ472T	4.7K OHM 1/4W	SRDAAD1549
R36	RESISTOR FXD	ERD-25UJ472T	4.7K OHM 1/4W	SRDAAD1549
R37	RESISTOR FXD	ERD-25UJ223T	22K OHM 1/4W	SRDAAD1545
R38	RESISTOR FXD	ERD-25UJ472T	4.7K OHM 1/4W	SRDAAD1549
R39	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAAD1547
R40	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAAD1547
R41	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAAD1547
R42	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAAD1547
R43	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAAD1547
R44	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAAD1547
R51	RESISTOR FXD	ERD-25UJ154T	1/4W 150K	SRDAAD1807
R52	RESISTOR FXD	ERD-25UJ154T	1/4W 150K	SRDAAD1807
R53	RESISTOR FXD	ERD-25UJ154T	1/4W 150K	SRDAAD1807
R54	RESISTOR FXD	ERD-25UJ154T	1/4W 150K	SRDAAD1807
R55	RESISTOR FXD	ERD-25UJ154T	1/4W 150K	SRDAAD1807
R56	RESISTOR FXD	ERD-25UJ154T	1/4W 150K	SRDAAD1807
R57	RESISTOR FXD	ERD-25UJ154T	1/4W 150K	SRDAAD1807

PARTS LIST

ECSS TITLE CHF-78 SHEET NO. 6

PART NO	PART NAME	TYPE	DESCRIPTION	CODE
R58	RESISTOR FXD	ERD-25UJ154T	1/4W 150K	SRDAAD1807
R61	RESISTOR FXD	ERD-25UJ104T	100K OHM 1/4W	SRDAAD1623
R62	RESISTOR FXD	ERD-25UJ104T	100K OHM 1/4W	SRDAAD1623
R63	RESISTOR FXD	ERD-25UJ104T	100K OHM 1/4W	SRDAAD1623
R64	RESISTOR FXD	ERD-25UJ104T	100K OHM 1/4W	SRDAAD1623
R65	RESISTOR FXD	ERD-25UJ104T	100K OHM 1/4W	SRDAAD1623
R66	RESISTOR FXD	ERD-25UJ104T	100K OHM 1/4W	SRDAAD1623
R67	RESISTOR FXD	ERD-25UJ104T	100K OHM 1/4W	SRDAAD1623
R68	RESISTOR FXD	ERD-25UJ104T	100K OHM 1/4W	SRDAAD1623
R71	RESISTOR FXD	ERD-25UJ473T	1/4W 47K OHM	SRDAAD1618
R72	RESISTOR FXD	ERD-25UJ473T	1/4W 47K OHM	SRDAAD1618
R73	RESISTOR FXD	ERD-25UJ473T	1/4W 47K OHM	SRDAAD1618
R74	RESISTOR FXD	ERD-25UJ473T	1/4W 47K OHM	SRDAAD1618
R75	RESISTOR FXD	ERD-25UJ473T	1/4W 47K OHM	SRDAAD1618
R76	RESISTOR FXD	ERD-25UJ473T	1/4W 47K OHM	SRDAAD1618
R77	RESISTOR FXD	ERD-25UJ473T	1/4W 47K OHM	SRDAAD1618
R78	RESISTOR FXD	ERD-25UJ473T	1/4W 47K OHM	SRDAAD1618
R81	RESISTOR FXD	ERD-25UJ183T	18K OHM 1/4W	SRDAAD1605
R82	RESISTOR FXD	ERD-25UJ183T	18K OHM 1/4W	SRDAAD1605
R83	RESISTOR FXD	ERD-25UJ183T	18K OHM 1/4W	SRDAAD1605
R84	RESISTOR FXD	ERD-25UJ183T	18K OHM 1/4W	SRDAAD1605
R85	RESISTOR FXD	ERD-25UJ183T	18K OHM 1/4W	SRDAAD1605
R86	RESISTOR FXD	ERD-25UJ183T	18K OHM 1/4W	SRDAAD1605
R87	RESISTOR FXD	ERD-25UJ183T	18K OHM 1/4W	SRDAAD1605
R88	RESISTOR FXD	ERD-25UJ183T	18K OHM 1/4W	SRDAAD1605
R91	RESISTOR FXD	ERD-25UJ682T	680 OHM	SRDAAD1713
R92	RESISTOR FXD	ERD-25UJ682T	680 OHM	SRDAAD1713
R93	RESISTOR FXD	ERD-25UJ682T	680 OHM	SRDAAD1713
R94	RESISTOR FXD	ERD-25UJ682T	680 OHM	SRDAAD1713
R95	RESISTOR FXD	ERD-25UJ682T	680 OHM	SRDAAD1713
R96	RESISTOR FXD	ERD-25UJ682T	680 OHM	SRDAAD1713
R97	RESISTOR FXD	ERD-25UJ682T	680 OHM	SRDAAD1713
R98	RESISTOR FXD	ERD-25UJ682T	680 OHM	SRDAAD1713
R101	RESISTOR FXD	ERD-25UJ332T	3.3K OHM 1/4W	SRDAAD1544
R102	RESISTOR FXD	ERD-25UJ332T	3.3K OHM 1/4W	SRDAAD1544

PARTS LIST		TITLE CHF-7B		SHEET NO. 7	
ECSS		TITLE CHF-7B		SHEET NO. 8	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
R103	RESISTOR FXD	ERD-25UJ332T	3.3K OHM 1/4W	SRDAAD1544	
R104	RESISTOR FXD	ERD-25UJ332T	3.3K OHM 1/4W	SRDAAD1544	
R105	RESISTOR FXD	ERD-25UJ332T	3.3K OHM 1/4W	SRDAAD1544	
R106	RESISTOR FXD	ERD-25UJ332T	3.3K OHM 1/4W	SRDAAD1544	
R107	RESISTOR FXD	ERD-25UJ332T	3.3K OHM 1/4W	SRDAAD1544	
R108	RESISTOR FXD	ERD-25UJ332T	3.3K OHM 1/4W	SRDAAD1544	
R111	RESISTOR FXD	ERD-25UJ182T	1/4W 1.8K OHM	SRDAAD1617	
R112	RESISTOR FXD	ERD-25UJ182T	1/4W 1.8K OHM	SRDAAD1617	
R113	RESISTOR FXD	ERD-25UJ182T	1/4W 1.8K OHM	SRDAAD1617	
R114	RESISTOR FXD	ERD-25UJ182T	1/4W 1.8K OHM	SRDAAD1617	
R115	RESISTOR FXD	ERD-25UJ182T	1/4W 1.8K OHM	SRDAAD1617	
R116	RESISTOR FXD	ERD-25UJ182T	1/4W 1.8K OHM	SRDAAD1617	
R117	RESISTOR FXD	ERD-25UJ182T	1/4W 1.8K OHM	SRDAAD1617	
R118	RESISTOR FXD	ERD-25UJ182T	1/4W 1.8K OHM	SRDAAD1617	
R121	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAAD1547	
R122	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAAD1547	
R123	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAAD1547	
R124	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAAD1547	
R125	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAAD1547	
R126	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAAD1547	
R127	RESISTOR FXD	ERD-25UJ683T	68K OHM 1/4W	SRDAAD1705	
R128	RESISTOR FXD	ERD-25UJ472T	4.7K OHM 1/4W	SRDAAD1549	
R129	RESISTOR FXD	ERD-25UJ472T	4.7K OHM 1/4W	SRDAAD1549	
R130	RESISTOR FXD	ERD-25UJ333T	1/4W 33K OHM	SRDAAD1591	
R131	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAAD1547	
R132	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAAD1547	
R133	RESISTOR FXD	ERD-25UJ683T	68K OHM 1/4W	SRDAAD1705	
R134	RESISTOR FXD	ERD-25UJ472T	4.7K OHM 1/4W	SRDAAD1549	
R135	RESISTOR FXD	ERD-25UJ472T	4.7K OHM 1/4W	SRDAAD1549	
R136	RESISTOR FXD	ERD-25UJ333T	1/4W 33K OHM	SRDAAD1591	
R137	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAAD1547	
R139	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAAD1547	
R140	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAAD1547	
R142	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAAD1547	
R143	RESISTOR FXD	ERD-25UJ472T	4.7K OHM 1/4W	SRDAAD1549	
R144	RESISTOR FXD	ERD-25UJ472T	4.7K OHM 1/4W	SRDAAD1549	
R145	RESISTOR FXD	ERD-25UJ472T	4.7K OHM 1/4W	SRDAAD1549	
R146	RESISTOR FXD	ERD-25UJ472T	4.7K OHM 1/4W	SRDAAD1549	
R172	RESISTOR FXD	ERG-1ANJ331	330 OHM 1W	SREAG00031	
R173	RESISTOR FXD	ERD-25UJ103T	10K OHM 1/4W	SRDAAD1547	
R174	RESISTOR FXD	ERD-25UJ222T	2.2K OHM 1/4W	SRDAAD1548	
R175	RESISTOR FXD	ERD-25UJ332T	3.3K OHM 1/4W	SRDAAD1544	
R176	RESISTOR FXD	ERD-25UJ222T	2.2K OHM 1/4W	SRDAAD1548	
R181	RESISTOR FXD	ERD-25UJ332T	3.3K OHM 1/4W	SRDAAD1544	
RV1	RESISTOR VAR	EVN-D2AAD3B53		SRVAB00435	
RV2	RESISTOR VAR	EVN-D8AAD3B14	10K OHM	SRVAB00428	
RV3	RESISTOR VAR	EVN-D2AAD3B55		SRVAB00440	
RV4	RESISTOR VAR	EVN-D2AAD3B55		SRVAB00440	
TP1	TEST TERMINAL	PCN6-PEA		SJDAAD0364	
TP2	TEST TERMINAL	PCN6-PEA		SJDAAD0364	
TP3	TEST TERMINAL	PCN6-PEA		SJDAAD0364	
TP4	TEST TERMINAL	PCN6-PEA		SJDAAD0364	
TP6	TEST TERMINAL	PCN6-PEA		SJDAAD0364	
TP7	TEST TERMINAL	PCN6-PEA		SJDAAD0364	
TP8	TEST TERMINAL	PCN6-PEA		SJDAAD0364	
TP9	TEST TERMINAL	PCN6-PEA		SJDAAD0364	
TP10	TEST TERMINAL	PCN6-PEA		SJDAAD0364	
TR1	TRANSISTOR	2SK192A-BL		5TKAA00080	
TR2	TRANSISTOR	2SA1020-Y		5TAA600093	
TR3	TRANSISTOR	2SC1815-Y		51CAF00219	

PARTS LIST

TITLE CGA-145				SHEET NO. 2	
LOOP1					
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
C36	CAP,FXD CER	C3216CH1H100D-E-TP	10PF	SCAAD00785	
C37	CAP,FXD C CER	C3216CH1H101J-E-TP	50V 100PF	SCAAD00780	
C38	CAP,FXD CER	C3216CH1H220J-E-TP	22PF	SCAAD00869	
C39	CAP,FXD CER	C3216CH1H560J-E-TP		SCAAD00863	
C40	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C41	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C42	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C43	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C44	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C45	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C46	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C47	CAP,FXD ELCTLT	ECE-A1EU101B		SCERA01813	
C48	CAP,FXD ELCTLT	ECE-A1EU100B		SCERA01864	
C49	CAP,FXD ELCTLT	ECE-A1EU101B		SCERA01813	
C50	CAP,FXD TANTAL	202L3502 474KB		SCSACG1065	
C51	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C52	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C53	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C54	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C55	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C56	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C57	CAP,FXD CER	C3216CH1H330J-E-TP	33PF	SCAAD00794	
C58	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C59	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C60	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C61	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C62	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C63	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C64	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C65	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C66	CAP,FXD CER	C3216X7R1E333K-E-TP	0.033U	SCAAD01203	
C67	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C68	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C69	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C70	CAP,FXD CER	C3216CH1H330J-E-TP	33PF	SCAAD00794	

PARTS LIST

TITLE CGA-145				SHEET NO. 1	
LOOP1					
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
C1	CAP,FXD CER	C3216CH1H150J-E-TP	15PF	SCAAD00787	
C2	CAP,FXD C CER	C3216CH1H30C-E-TP	50V 3PF	SCAAD00796	
C3	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C4	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C5	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C6	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C7	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C8	CAP,FXD CER	C3216CH1H100D-E-TP	10PF	SCAAD00785	
C9	CAP,FXD C CER	C3216CH1H50C-E-TP	50V 5PF	SCAAD00800	
C10	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C11	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C12	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C13	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C14	CAP,FXD CER	C3216CH1H120J-E-TP	12P	SCAAD00784	
C15	CAP,FXD CER	C3216CH1H100D-E-TP	10PF	SCAAD00785	
C16	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C17	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C18	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C19	CAP,FXD CER	C3216CH1H100D-E-TP	10PF	SCAAD00785	
C20	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C21	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C22	CAP,FXD ELCTLT	ECE-A1EU101B		SCERA01813	
C23	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C24	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C25	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C26	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C27	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C28	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C29	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C30	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C31	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C32	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C33	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C34	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C35	CAP,FXD CER	C3216CH1H600J-E-TP	68PF	SCAAD00929	

PARTS LIST

LOOP1		TITLE CGA-145		SHEET NO. 3	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
C71	CAP, FID CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C72	CAP, FID CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C73	CAP, FID CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C74	CAP, FID CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C75	CAP, FID ELCT, T	ECE-A1EU100B		SCAA01864	
C76	CAP, FID ELCT, T	ECE-A1EU100B		SCAA01864	
C77	CAP, FID TANTAL	202L1602 106KB		SCSAC0932	
C78	CAP, FID CER	C3216SL1H102J-E-TP	1000PF	SCAAD00782	
C79	CAP, FID ELCT, T	ECE-A1EU101B		SCAA01813	
C80	CAP, FID C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C90	CAP, FID C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C01	DIODE	1SV203-7TLC		STXAE00678	
C02	DIODE	1SV203-7TLC		STXAE00678	
C03	DIODE	1SV203-7TLC		STXAE00678	
C04	DIODE	1SV203-7TLC		STXAE00678	
C05	DIODE	1SV203-7TLC		STXAE00678	
C06	DIODE	1SV203-7TLC		STXAE00678	
C08	DIODE	HSW2694TLC		STXAE00627	
C09	DIODE	HSW2694TLC		STXAE00627	
C010	DIODE	1SS226 1E85L		STXAD00320	
C011	DIODE	MPR4371F		STXB600037	
CV1	CAPACITOR VAR	TZ03Z100FR	10PF	SCVAL00190	
CV2	CAPACITOR VAR	TZ03Z100FR	10PF	SCVAL00190	
CV3	CAPACITOR VAR	TZ03Z100FR	10PF	SCVAL00190	
FL1	FILTER	BPEB1		SNBAG00011	
FL2	FILTER	DS31D-55B22M	100V 0.0022UF	SNXAD0002	
FL3	FILTER	SF58HR70Z		SNRA00191	
IC1	IC	UPC1651G		SDAAA00171	
IC2	IC	UPC1651G		SDAAA00171	
IC3	IC	UPC1651G		SDAAA00171	
IC4	IC	SN76514W		SDPAL00251	
IC5	IC	CK7925B		SDICJ00008	
IC6	IC	SN76514W		SDPAL00251	
IC7	IC	M5237L		SDDAB00346	
KC1	CABLE	H-67CJ035003		62CJ035003	

PARTS LIST

LOOP1		TITLE CGA-145		SHEET NO. 4	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
L1	COIL	SC2-55T		SLZML00001	
L2	COIL	SC2-45T		SLZML00002	
L3	COIL	SC2-35T		SLZML00003	
L4	COIL	LAL03KH6RBK		SLCAA00437	
L5	COIL	LAL03KH2R2M	2.2UH	SLCAA00326	
L6	COIL	LAL03KH6RBK		SLCAA00437	
L7	COIL	LAL03KH2R2M	2.2UH	SLCAA00326	
L8	COIL	LAL03KH6RBK		SLCAA00437	
L9	COIL	LAL03KH2R2M	2.2UH	SLCAA00326	
L10	COIL	LAL03VB471K	470UH	SLCAA00270	
L11	COIL	LAL03VB471K	470UH	SLCAA00270	
L12	COIL	LAL03VBR22M	0.22UH	SLCAA00280	
L13	COIL	LAL03VBR22M	0.22UH	SLCAA00280	
L14	COIL	LAL03VB1R2M		SLCAA00334	
L15	COIL	LAL03VB471K	470UH	SLCAA00270	
L16	COIL	LAL03VB100K	10UH	SLCAA00273	
L17	COIL	LAL03VB100K	10UH	SLCAA00273	
L18	COIL	LAL03VB471K	470UH	SLCAA00270	
P15	CONNECTOR	EC1C-22P-2.5DSA	22P	5JWB500070	
P16	CONNECTOR	EC1C-22P-2.5DSA	22P	5JWB500070	
PC1	PCB	H-6PCJ000261C		6PCJ000261	
R1	RESISTOR FXD	ERJ-86EYJ471V	1/8W 47K OHM	5REAG01734	
R2	RESISTOR CFXD	ERJ-86EYJ101V	1/8W 100 OHM	5REAG01726	
R3	RESISTOR CFXD	ERJ-86EYJ101V	1/8W 100 OHM	5REAG01726	
R4	RESISTOR CFXD	ERJ-86EYJ101V	1/8W 100 OHM	5REAG01726	
R5	RESISTOR FXD	ERJ-86EYJ473V	1/8W 47K OHM	5REAG01758	
R6	RESISTOR FXD	ERJ-86EYJ471V	1/8W 47K OHM	5REAG01734	
R7	RESISTOR CFXD	ERJ-86EYJ101V	1/8W 100 OHM	5REAG01726	
R8	RESISTOR CFXD	ERJ-86EYJ101V	1/8W 100 OHM	5REAG01726	
R9	RESISTOR CFXD	ERJ-86EYJ101V	1/8W 100 OHM	5REAG01726	
R10	RESISTOR FXD	ERJ-86EYJ473V	1/8W 47K OHM	5REAG01758	
R11	RESISTOR FXD	ERJ-86EYJ471V	1/8W 47K OHM	5REAG01734	
R12	RESISTOR CFXD	ERJ-86EYJ101V	1/8W 100 OHM	5REAG01726	
R13	RESISTOR CFXD	ERJ-86EYJ101V	1/8W 100 OHM	5REAG01726	
R14	RESISTOR CFXD	ERJ-86EYJ101V	1/8W 100 OHM	5REAG01726	

PARTS LIST

PART NO		PART NAME		TYPE	DESCRIPTION	CODE
R15	RESISTOR	FXD	ERJ-8GEYJ473V		1/8W 47K OHM	SREAG01758
R16	RESISTOR	FXD	ERJ-8GEYJ473V		1/8W 47K OHM	SREAG01758
R17	RESISTOR	CFXD	ERJ-8GEYJ104V		1/8W 100K OHM	SREAG01762
R18	RESISTOR	CFXD	ERJ-8GEYJ101V		1/8W 100 OHM	SREAG01726
R19	RESISTOR	CFXD	ERJ-8GEYJ101V		1/8W 100 OHM	SREAG01726
R20	RESISTOR	FXD	ERJ-8GEYJ330V		1/8W 33 OHM	SREAG01720
R21	RESISTOR	FXD	ERJ-8GEYJ330V		1/8W 33 OHM	SREAG01720
R22	RESISTOR	CFXD	ERJ-8GEYJ101V		1/8W 100 OHM	SREAG01726
R23	RESISTOR	CFXD	ERJ-8GEYJ101V		1/8W 100 OHM	SREAG01726
R24	RESISTOR	CFXD	ERJ-8GEYJ101V		1/8W 100 OHM	SREAG01726
R25	RESISTOR	CFXD	ERJ-8GEYJ101V		1/8W 100 OHM	SREAG01726
R28	RESISTOR	CFXD	ERJ-8GEYJ101V		1/8W 100 OHM	SREAG01726
R29	RESISTOR	FXD	ERJ-8GEYJ152V		1/8W 1.5K OHM	SREAG01740
R30	RESISTOR	FXD	ERJ-8GEYJ473V		1/8W 47K OHM	SREAG01758
R31	RESISTOR	FXD	ERJ-8GEYJ331V		330 OHM 1/8W	SREAG01732
R32	RESISTOR	FXD	ERJ-8GEYJ102V		1/8W 1K OHM	SREAG01738
R35	RESISTOR	FXD	ERJ-8GEYJ102V		1/8W 1K OHM	SREAG01738
R36	RESISTOR	CFXD	ERJ-8GEYJ101V		1/8W 100 OHM	SREAG01726
R37	RESISTOR	FXD	ERJ-8GEYJ471V		1/8W 470 OHM	SREAG01734
R38	RESISTOR	FXD	ERJ-8GEYJ224V		1/8W 220K OHM	SREAG01766
R39	RESISTOR	FXD	ERJ-8GEYJ102V		1/8W 1K OHM	SREAG01738
R40	RESISTOR	FXD	ERJ-8GEYJ102V		1/8W 1K OHM	SREAG01738
R41	RESISTOR	CFXD	ERJ-8GEYJ101V		1/8W 100 OHM	SREAG01726
R42	RESISTOR	CFXD	ERJ-8GEYJ101V		1/8W 100 OHM	SREAG01726
R43	RESISTOR	FXD	ERJ-8GEYJ223V		1/8W 22K OHM	SREAG01754
R44	RESISTOR	FXD	ERJ-8GEYJ472V		1/8W 4.7K OHM	SREAG01746
R45	RESISTOR	FXD	ERJ-8GEYJ102V		1/8W 1K OHM	SREAG01738
R46	RESISTOR	CFXD	ERJ-8GEYJ101V		1/8W 100 OHM	SREAG01726
R47	RESISTOR	FXD	ERJ-8GEYJ302V		1/8W 3K OHM	SREAG02211
R48	RESISTOR	FXD	ERJ-8GEYJ471V		1/8W 470 OHM	SREAG01734
R49	RESISTOR	FXD	ERJ-8GEYJ221V		1/8W 220 OHM	SREAG01730
R50	RESISTOR	FXD	ERJ-8GEYJ103V		1/8W 10K OHM	SREAG01750
R51	RESISTOR	FXD	ERJ-8GEYJ103V		1/8W 10K OHM	SREAG01750
R52	RESISTOR	FXD	ERJ-8GEYJ331V		330 OHM 1/8W	SREAG01732
RV1	RESISTOR	VAR	EVN-DEA003013			SVR000422

PARTS LIST

PART NO		PART NAME		TYPE	DESCRIPTION	CODE
T1	RF XFMR		H-6LHJD00297			6LHJD00297
T2	RF XFMR		H-6LHJD00297			6LHJD00297
TP1	TEST TERMINAL		PCN6-PEA			SJDAAD00364
TP2	TEST TERMINAL		PCN6-PEA			SJDAAD00364
TP3	TEST TERMINAL		PCN6-PEA			SJDAAD00364
TP4	TEST TERMINAL		PCN6-PEA			SJDAAD00364
TP5	TEST TERMINAL		PCN6-PEA			SJDAAD00364
TP6	TEST TERMINAL		PCN6-PEA			SJDAAD00364
TP7	TEST TERMINAL		PCN6-PEA			SJDAAD00364
TR1	TRANSISTOR		2SK210-BL1E85L			5TKAAD0189
TR2	TRANSISTOR		2SK210-BL1E85L			5TKAAD0189
TR3	TRANSISTOR		2SK210-BL1E85L			5TKAAD0189
TR4	TRANSISTOR		2SK210-BL1E85L			5TKAAD0189
TR5	TRANSISTOR		2SC3324GR 1E85L			51CAFD00711
TR6	TRANSISTOR		2SC3324GR 1E85L			51CAFD00711
TR7	TRANSISTOR		2SC3324GR 1E85L			51CAFD00711
TR8	TRANSISTOR		2SC3398-1B			51CAZD00011
TR9	TRANSISTOR		2SC3398-1B			51CAZD00011
TR10	TRANSISTOR		2SC3398-1B			51CAZD00011
TR11	TRANSISTOR		2SC3398-1B			51CAZD00011
TR12	TRANSISTOR		2SC2714-Y1E85L			51CAFD00436
TR13	TRANSISTOR		2SC2714-Y1E85L			51CAFD00436
TR14	TRANSISTOR		2SA1015-Y			51AAGD00070
TR15	TRANSISTOR		2SC2714-Y1E85L			51CAFD00436

## PARTS LIST

REF/DOS		TITLE		SHEET NO.	
CGK-127A		CGK-127A		1	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
C1	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237	
C2	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237	
C3	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	SCAAD01237	
C4	CAP,FXD CER	C3216S1H102J-E-TP	1000PF	SCAAD00782	
C5	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C6	CAP,FXD CER	C3216S1H102J-E-TP	1000PF	SCAAD00782	
C7	CAP,FXD CER	C3216S1H102J-E-TP	1000PF	SCAAD00782	
C8	CAP,FXD CER	C3216S1H102J-E-TP	1000PF	SCAAD00782	
C9	CAP,FXD CER	C3216X7R1E333K-E-TP	0.033U	SCAAD01203	
C10	CAP,FXD C CER	C3216CH1H101J-E-TP	50V 100PF	SCAAD00780	
C11	CAP,FXD CER	C3216CH1H470J-E-TP	47PF	SCAAD00864	
C12	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C13	CAP,FXD ELCTLT	ECE-A1EU100B		SCAAD01813	
C14	CAP,FXD ELCTLT	ECE-A1EU101B		SCAAD01813	
C15	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C16	CAP,FXD CER	C3216X7R1E333K-E-TP	0.033U	SCAAD01203	
C17	CAP,FXD ELCTLT	ECE-A1EU100B		SCAAD01864	
C18	CAP,FXD CER	C3216S1H821J-E-TP		SCAAD01068	
C19	CAP,FXD CER	C3216CH1H121J-E-TP	120PF	SCAAD00931	
C20	CAP,FXD CER	C3216S1H152J-E-TP	1500PF	SCAAD00791	
C21	CAP,FXD CER	C3216CH1H331J-E-TP	330PF	SCAAD01066	
C22	CAP,FXD CER	C3216S1H102J-E-TP	1000PF	SCAAD00782	
C24	CAP,FXD CER	C3216CH1H471J-E-TP	470PF	SCAAD00797	
C25	CAP,FXD CER	C3216JB1H332K-E-TP	50V 3300PF	SCAAD01599	
C26	CAP,FXD CER	C3216CH1H331J-E-TP	330PF	SCAAD01066	
C27	CAP,FXD CER	C3216S1H122J-E-TP		SCAAD01069	
C28	CAP,FXD CER	C3216S1H102J-E-TP	1000PF	SCAAD00782	
C29	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C30	CAP,FXD CER	C3216X7R1E333K-E-TP	0.033U	SCAAD01203	
C31	CAP,FXD CER	C3216X7R1E333K-E-TP	0.033U	SCAAD01203	
C32	CAP,FXD CER	C3216X7R1E333K-E-TP	0.033U	SCAAD01203	
C33	CAP,FXD CER	C3216X7R1E333K-E-TP	0.033U	SCAAD01203	
C34	CAP,FXD CER	C3216S1H152J-E-TP	1500PF	SCAAD00791	
C35	CAP,FXD CER	C3216CH1H121J-E-TP	120PF	SCAAD00931	
C36	CAP,FXD CER	C3216S1H222J-E-TP	2200PF	SCAAD00792	

## PARTS LIST

REF/DOS		TITLE		SHEET NO.	
CGK-127A		CGK-127A		2	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
C37	CAP,FXD CER	C3216S1H821J-E-TP		SCAAD01068	
C38	CAP,FXD CER	C3216S1H222J-E-TP	2200PF	SCAAD00792	
C39	CAP,FXD CER	C3216CH1H561J-E-TP		SCAAD01067	
C40	CAP,FXD CER	C3216S1H152J-E-TP	1500PF	SCAAD00791	
C41	CAP,FXD CER	C3216S1H102J-E-TP	1000PF	SCAAD00782	
C42	CAP,FXD CER	C3216JB1H153K-E-TP		SCAAD01600	
C43	CAP,FXD CER	C3216CH1H581J-E-TP	680P	SCAAD00788	
C44	CAP,FXD CER	C3216JB1H582K-E-TP		SCAAD01137	
C45	CAP,FXD CER	C3216CH1H581J-E-TP	680P	SCAAD00788	
C46	CAP,FXD CER	C3216X7R1E333K-E-TP	0.033U	SCAAD01203	
C47	CAP,FXD C CER	C3216CH1H101J-E-TP	50V 100PF	SCAAD00780	
C48	CAP,FXD CER	C3216CH1H70J-E-TP	47PF	SCAAD00864	
C49	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C50	CAP,FXD ELCTLT	ECE-A1EU101B		SCAAD01813	
C51	CAP,FXD CER	C3216X7R1E333K-E-TP	0.033U	SCAAD01203	
C52	CAP,FXD CER	C3216JB1H82K-E-TP		SCAAD01137	
C53	CAP,FXD CER	C3216S1H122J-E-TP		SCAAD01069	
C54	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C55	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C56	CAP,FXD ELCTLT	ECE-A1EU100B		SCAAD01864	
C57	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C58	CAP,FXD CER	C3216JU1H150J-E-TP	15PF	SCAAD01299	
C59	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C60	CAP,FXD CER	C3216X7R11104K-E-TP	0.1UF	SCAAD01237	
C61	CAP,FXD CER	C3216CH1H221J-E-TP	220PF	SCAAD00790	
C62	CAP,FXD CER	C3216CH1H151J-E-TP	150PF	SCAAD00870	
C63	CAP,FXD CER	C3216CH1H220J-E-TP	22PF	SCAAD00869	
C64	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C65	CAP,FXD CER	C3216CH1H220J-E-TP	22PF	SCAAD00869	
C66	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C67	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C68	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C69	CAP,FXD ELCTLT	ECE-A1EU100B		SCAAD01864	
C70	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	SCAAD00789	
C71	CAP,FXD CER	C3216S1H222J-E-TP	2200PF	SCAAD00792	



PARTS LIST

SHEET NO 3

TITLE CGK-127A

REF/DOS

DESCRIPTION

CODE

PART NO	PART NAME	TYPE	DESCRIPTION	CODE
C72	CAP,FXD CER	C3216CH1H21J-E-TP	120PF	5CAAD00931
C73	CAP,FXD CER	C3216SL1H222J-E-TP	2200PF	5CAAD00792
C74	CAP,FXD CER	C3216CH1H21J-E-TP	50V 270PF	5CAAD00883
C75	CAP,FXD CER	C3216SL1H222J-E-TP	2200PF	5CAAD00792
C76	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789
C77	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789
C78	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789
C79	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789
C80	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789
C81	CAP,FXD ELCTLT	ECE-A1EU100B		5CEAA01864
C84	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782
C85	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782
C86	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782
C87	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237
C91	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789
C92	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782
C96	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782
C97	CAP,FXD ELCTLT	ECE-A1EU101B		5CEAA01813
C98	CAP,FXD CER	C3216CH1H150J-E-TP	15PF	5CAAD00787
C99	CAP,FXD CER	C3216CH1H150J-E-TP	15PF	5CAAD00787
C100	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782
C101	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782
C102	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782
C103	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782
C104	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782
C105	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782
C106	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782
C107	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782
C108	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782
C109	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789
C110	CAP,FXD TANTAL	202L3502 104KB		5CSAC01068
C111	CAP,FXD ELCTLT	ECE-A1EU101B		5CEAA01813
C112	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782
C113	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782
C114	CAP,FXD CER	C3216CH1H220J-E-TP	22PF	5CAAD00869

PARTS LIST

SHEET NO 4

TITLE CGK-127B

REF/DOS

DESCRIPTION

CODE

PART NO	PART NAME	TYPE	DESCRIPTION	CODE
C115	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782
C127	CAP,FXD CER	C3216CH1H221J-E-TP	220PF	5CAAD00790
C129	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789
C131	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789
C132	CAP,FXD ELCTLT	ECE-A1EU100B		5CEAA01864
C133	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789
C134	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237
C135	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237
C136	CAP,FXD ELCTLT	ECE-A1EU100B		5CEAA01864
C137	CAP,FXD ELCTLT	ECE-A1EU100B		5CEAA01864
C138	CAP,FXD ELCTLT	ECE-A1EU100B		5CEAA01864
C139	CAP,FXD ELCTLT	ECE-A1EU100B		5CEAA01864
C140	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789
C142	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789
C144	CAP,FXD ELCTLT	ECE-A1EU101B		5CEAA01813
C145	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237
C147	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789
C148	CAP,FXD ELCTLT	ECE-A1EU101B		5CEAA01813
C150	CAP,FXD CER	C3216JB1H082K-E-TP		5CAAD01137
C151	CAP,FXD CER	C3216SL1H821J-E-TP		5CAAD01068
C152	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789
C153	CAP,FXD CER	C3216JB1H332K-E-TP	50V 3300PF	5CAAD01599
C154	CAP,FXD CER	C3216JB1H472K-E-TP	4700PF	5CAAD01138
C155	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782
C156	CAP,FXD CER	C3216CH1H80J-E-TP	18PF	5CAAD00868
C157	CAP,FXD CER	C3216CH1H80J-E-TP	18PF	5CAAD00868
C158	CAP,FXD CER	C3216UJ1H150J-E-TP	15PF	5CAAD01299
C159	CAP,FXD C CER	C3216J01H103K-E-TP	50V 0.01UF	5CAAD00789
C160	CAP,FXD CER	C3216CH1H1010C-E-TP	50V 1PF	5CAAD00795
C161	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789
C171	CAP,FXD ELCTLT	ECE-A1EU100B		5CEAA01864
CD1	DIODE	1SS184 TE85L		5TXAD00290
CD2	DIODE	1SS181 TE85L		5TXAD00356
CD3	DIODE	1SS184 TE85L		5TXAD00290
CD4	DIODE	FC53H		5TXAD00022

PARTS LIST

REF/DOS		TITLE		SHEET NO.	
COR-127A		COR-127A		5	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
CD7	DIODE	MPR4371F		5TXB600037	
CD8	DIODE	1SS184	TE85L	5TXAD00290	
CV1	CAPACITOR VAR	ECR-HB010A11		5CVAC00134	
CV2	CAPACITOR VAR	ECR-HB010A11		5CVAC00134	
FL1	FILTER	D5310-558222M	100V 0.0022UF	5NAAA00002	
IC1	IC	H-6DDJD00018	MB67116	6DDJD00018	
IC2	IC	H-6DDJD00018	MB67116	6DDJD00018	
IC3	IC	TC5020BP		5DDAE00235	
IC4	IC	TC5020BP		5DDAE00235	
IC5	IC	NJM3404AD		5DAAN00161	
IC6	IC	NJM319D		5DAAN00206	
IC7	IC	NJM319D		5DAAN00206	
IC8	IC	MC14013BCP		5DDAS00142	
IC9	IC	NJM78L08A	8V 100MA	5DAAN00079	
IC10	IC	NJM78L08A	8V 100MA	5DAAN00079	
IC11	IC	NJM78L05A	5V 0.1A	5DAAN00046	
IC12	IC	MC1496P		5DAAJ00083	
IC13	IC	MC74HC00N		5DAAJ00142	
IC14	IC	MC74HC259H		5DAAJ00207	
IC15	IC	TC74HC138AP		5DDAE01239	
IC16	IC	TC74HC138AP		5DDAE01239	
IC17	IC	CX7925B		5DZCJ00008	
IC19	IC	SN74LS90N		5DDAS00150	
IC20	IC	MC14013BCP		5DDAS00142	
IC21	IC	NJM78L05A	5V 0.1A	5DAAN00046	
L1	COIL	LAL03VB471K	470UH	5LCAA00270	
L2	COIL	LAL03VB471K	470UH	5LCAA00270	
L3	COIL	LAL03VB121K		5LCAA00440	
L4	COIL	LAL03VB101K		5LCAA00333	
L5	COIL	LAL03VB221K	220UH	5LCAA00272	
L6	COIL	LAL03VB271K		5LCAA00438	
L7	COIL	LAL03VB399K		5LCAA00338	
L8	COIL	LAL03KH2R7M		5LCAA00439	
L9	COIL	LAL03VB2R7M		5LCAA00329	
L10	COIL	LAL03KH2R7M		5LCAA00439	

PARTS LIST

REF/DOS		TITLE		SHEET NO.	
COR-127A		COR-127A		6	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
L11	COIL	LAL03VB2R7M		5LCAA00329	
L12	COIL	LAL03VB100K	100UH	5LCAA00273	
L13	COIL	LAL03KH2R7M		5LCAA00439	
L14	COIL	LAL03VB150K		5LCAA00324	
L15	COIL	LAL03VB120K		5LCAA00386	
L16	COIL	LAL03VB100K	100UH	5LCAA00273	
L17	COIL	LAL03VB399K		5LCAA00338	
L18	COIL	LAL03VB399K		5LCAA00338	
L23	COIL	LAL03VB100K	100UH	5LCAA00273	
L24	COIL	LAL03VB100M	1UH	5LCAA00282	
L25	COIL	LAL03VBR58M		5LCAA00339	
L27	COIL	LAL03VB471K	470UH	5LCAA00270	
P13	CONNECTOR	ECTC-22P-2.5D5A	22P	5JWBS00070	
P14	CONNECTOR	ECTC-22P-2.5D5A	22P	5JWBS00070	
PC1	PCB	H-6PCJD00504B		6PCJ000504	
R1	RESISTOR	CFXD	ERJ-8GEY101V	1/8W 100 OHM	5REAG01726
R2	RESISTOR	CFXD	ERJ-8GEY101V	1/8W 100 OHM	5REAG01726
R3	RESISTOR	CFXD	ERJ-8GEY101V	1/8W 100 OHM	5REAG01726
R4	RESISTOR	CFXD	ERJ-8GEY101V	1/8W 100 OHM	5REAG01726
R5	RESISTOR	FXD	ERJ-8GEY123V	1/8W 12K OHM	5REAG01751
R6	RESISTOR	FXD	ERJ-8GEY1022V		5REAG01749
R7	RESISTOR	FXD	ERJ-8GEY1122V	1/8W 1.2K OHM	5REAG01739
R8	RESISTOR	FXD	ERJ-8GEY1103V	1/8W 10K OHM	5REAG01750
R9	RESISTOR	FXD	ERJ-8GEY1123V	1/8W 12K OHM	5REAG01751
R10	RESISTOR	CFXD	ERJ-8GEY101V	1/8W 100 OHM	5REAG01726
R11	RESISTOR	FXD	ERJ-8GEY1153V	1/8W 15K OHM	5REAG01752
R12	RESISTOR	FXD	BRJ-8GEY1153V	1/8W 15K OHM	5REAG01752
R13	RESISTOR	FXD	ERJ-8GEY1472V	1/8W 4.7K OHM	5REAG01746
R14	RESISTOR	FXD	ERJ-8GEY1471V	1/8W 4.70 OHM	5REAG01734
R15	RESISTOR	FXD	ERJ-8GEY1471V	1/8W 4.70 OHM	5REAG01734
R16	RESISTOR	FXD	ERJ-8GEY1221V	1/8W 220 OHM	5REAG01730
R17	RESISTOR	FXD	ERJ-8GEY1471V	1/8W 4.70 OHM	5REAG01734
R18	RESISTOR	FXD	ERJ-8GEY1221V	1/8W 220 OHM	5REAG01730
R19	RESISTOR	FXD	ERJ-8GEY102V	1/8W 1K OHM	5REAG01738
R20	RESISTOR	CFXD	ERJ-8GEY101V	1/8W 100 OHM	5REAG01726

## PARTS LIST

REF'DDS		TITLE		SURFT. NO.	
		CGK-127A		8	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
R21	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	SREAG01726	
R22	RESISTOR FXD	ERJ-8GEYJ821V	1/8W 820 OHM	SREAG01737	
R23	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	SREAG01726	
R24	RESISTOR FXD	ERJ-8GEYJ122V	1/8W 1.2K OHM	SREAG01739	
R25	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R26	RESISTOR FXD	ERJ-8GEYJ332V	1/8W 3.3K OHM	SREAG01744	
R27	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	SREAG01726	
R28	RESISTOR FXD	ERJ-8GEYJ332V	1/8W 3.3K OHM	SREAG01744	
R29	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	SREAG01738	
R30	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	SREAG01738	
R32	RESISTOR FXD	ERJ-8GEYJ221V	1/8W 220 OHM	SREAG01730	
R33	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	SREAG01738	
R34	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R35	RESISTOR FXD	ERJ-8GEYJ122V	1/8W 1.2K OHM	SREAG01739	
R36	RESISTOR FXD	ERJ-8GEYJ123V	1/8W 12K OHM	SREAG01751	
R37	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	SREAG01726	
R38	RESISTOR FXD	ERJ-8GEYJ153V	1/8W 15K OHM	SREAG01752	
R39	RESISTOR FXD	ERJ-8GEYJ153V	1/8W 15K OHM	SREAG01752	
R40	RESISTOR FXD	ERJ-8GEYJ472V	1/8W 4.7K OHM	SREAG01746	
R41	RESISTOR FXD	ERJ-8GEYJ470V	1/8W 47 OHM	SREAG01722	
R42	RESISTOR FXD	ERJ-8GEYJ100V	1/8W 10 OHM	SREAG01714	
R43	RESISTOR FXD	ERJ-8GEYJ100V	1/8W 10 OHM	SREAG01714	
R44	RESISTOR CFXD	ERJ-8GEYJ151V	1/8W 150 OHM	SREAG01728	
R45	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	SREAG01726	
R46	RESISTOR FXD	ERJ-8GEYJ221V	1/8W 220 OHM	SREAG01730	
R47	RESISTOR FXD	ERJ-8GEYJ183V	1/8W 18K OHM	SREAG01753	
R48	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R49	RESISTOR FXD	ERJ-8GEYJ471V	1/8W 470 OHM	SREAG01734	
R50	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	SREAG01738	
R51	RESISTOR FXD	ERJ-8GEYJ221V	1/8W 220 OHM	SREAG01730	
R52	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R53	RESISTOR FXD	ERJ-8GEYD00V	0 OHM	SREAG01775	
R54	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R55	RESISTOR FXD	ERJ-8GEYJ221V	1/8W 220 OHM	SREAG01730	
R56	RESISTOR FXD	ERJ-8GEYJ153V	1/8W 15K OHM	SREAG01752	

## PARTS LIST

REF'DDS		TITLE		SURFT. NO.	
		CGK-127A		8	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
R57	RESISTOR FXD	ERJ-8GEYJ223V	1/8W 22K OHM	SREAG01754	
R58	RESISTOR FXD	ERJ-8GEYJ223V	1/8W 22K OHM	SREAG01754	
R59	RESISTOR FXD	ERJ-8GEYJ331V	330 OHM 1/8W	SREAG01732	
R60	RESISTOR FXD	ERJ-8GEYJ221V	1/8W 220 OHM	SREAG01730	
R62	RESISTOR FXD	ERJ-8GEYJ470V	1/8W 47 OHM	SREAG01722	
R66	RESISTOR FXD	ERJ-8GEYJ223V	1/8W 22K OHM	SREAG01754	
R67	RESISTOR FXD	ERJ-8GEYJ223V	1/8W 22K OHM	SREAG01754	
R68	RESISTOR FXD	ERJ-8GEYJ222V	1/8W 2.2K OHM	SREAG01742	
R69	RESISTOR FXD	ERJ-8GEYJ221V	1/8W 220 OHM	SREAG01730	
R70	RESISTOR FXD	ERJ-8GEYD00V	0 OHM	SREAG01775	
R71	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	SREAG01738	
R72	RESISTOR CFXD	ERJ-8GEYJ104V	1/8W 100K OHM	SREAG01762	
R73	RESISTOR CFXD	ERJ-8GEYJ104V	1/8W 100K OHM	SREAG01762	
R74	RESISTOR FXD	ERJ-8GEYJ223V	1/8W 22K OHM	SREAG01754	
R75	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R78	RESISTOR FXD	ERJ-8GEYJ221V	1/8W 220 OHM	SREAG01730	
R80	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	SREAG01726	
R81	RESISTOR FXD	ERJ-8GEYJ221V	1/8W 220 OHM	SREAG01730	
R82	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	SREAG01738	
R83	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	SREAG01738	
R84	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	SREAG01726	
R85	RESISTOR FXD	ERJ-8GEYJ223V	1/8W 22K OHM	SREAG01754	
R86	RESISTOR FXD	ERJ-8GEYJ223V	1/8W 22K OHM	SREAG01754	
R87	RESISTOR FXD	ERJ-8GEYJ222V	1/8W 2.2K OHM	SREAG01742	
R88	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	SREAG01738	
R89	RESISTOR CFXD	ERJ-8GEYJ151V	1/8W 150 OHM	SREAG01728	
R90	RESISTOR FXD	ERJ-8GEYJ473V	1/8W 47K OHM	SREAG01758	
R91	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	SREAG01726	
R92	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	SREAG01738	
R93	RESISTOR FXD	ERJ-8GEYJ333V	1/8W 33K OHM	SREAG01756	
R94	RESISTOR CFXD	ERJ-8GEYJ151V	1/8W 150 OHM	SREAG01728	
R95	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	SREAG01750	
R96	RESISTOR FXD	ERJ-8GEYJ223V	1/8W 22K OHM	SREAG01754	
R97	RESISTOR FXD	ERJ-8GEYJ470V	1/8W 47 OHM	SREAG01722	
R98	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	SREAG01726	

## PARTS LIST

PART NO	PART NAME	TYPR	DESCRIPTION	CODE	TITLE		SHEET NO.
					REF7DD5	CGR-127A	
R100	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	5REAG01738			9
R101	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	5REAG01738			
R102	RESISTOR FXD	ERJ-8GEYJ471V	1/8W 470 OHM	5REAG01734			
R113	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726			
RA1	RESISTOR FXD	20B-12Z-MES		5READ00836			
RA2	RESISTOR FXD	20B-12Z-MES		5READ00836			
RA3	RESISTOR FXD	20B-12Z-MES		5READ00836			
RV1	RESISTOR VAR	EVN-D2A03B13		5RVAB00422			
RV2	RESISTOR VAR	EVN-D2A03B13		5RVAB00422			
RV3	RESISTOR VAR	EVN-D8A03B54		5RVAB00419			
S1	TERMINAL	A2-3PA-2.54DSA(01)		5JTBX00010			
S1P	CONNECTOR	H1F3GA-2.54SP		5JFAA01151			
T1	RF XFMR	H-6LHJDD0297		6LHJDD0297			
TP1	TEST TERMINAL	PCN6-PEA		5JDA00364			
TP2	TEST TERMINAL	PCN6-PEA		5JDA00364			
TP3	TEST TERMINAL	PCN6-PEA		5JDA00364			
TP4	TEST TERMINAL	PCN6-PEA		5JDA00364			
TP5	TEST TERMINAL	PCN6-PEA		5JDA00364			
TP6	TEST TERMINAL	PCN6-PEA		5JDA00364			
TP7	TEST TERMINAL	PCN6-PEA		5JDA00364			
TP8	TEST TERMINAL	PCN6-PEA		5JDA00364			
TP9	TEST TERMINAL	PCN6-PEA		5JDA00364			
TR1	TRANSISTOR	2SA1162-YTEB5L		5TAAG00182			
TR2	TRANSISTOR	2SC2714-YTEB5L		5TCAF00436			
TR3	TRANSISTOR	2SA1162-YTEB5L		5TAAG00182			
TR4	TRANSISTOR	2SC2714-YTEB5L		5TCAF00436			
TR5	TRANSISTOR	2SC2714-YTEB5L		5TCAF00436			
TR6	TRANSISTOR	2SC2714-YTEB5L		5TCAF00436			
TR7	TRANSISTOR	2SC2714-YTEB5L		5TCAF00436			
TR8	TRANSISTOR	2SC2714-YTEB5L		5TCAF00436			
TR9	TRANSISTOR	2SC2714-YTEB5L		5TCAF00436			
TR10	TRANSISTOR	2SK210-BLTEB5L		5TKAA00189			
TR11	TRANSISTOR	2SC2714-YTEB5L		5TCAF00436			
TR12	TRANSISTOR	2SC3324GR TEB5L		5TCAF00711			
TR13	TRANSISTOR	2SC3324GR TEB5L		5TCAF00711			

## PARTS LIST

PART NO	PART NAME	TYPE	DESCRIPTION	CODE	TITLE		SHEET NO.
					REF7DD5	CGR-127A	
TR14	TRANSISTOR	2SC3324GR TEB5L		5TCAF00711			
TR15	TRANSISTOR	2SC2714-YTEB5L		5TCAF00436			
TR16	TRANSISTOR	2SC2712Y TEB5L		5TAAG00186			
TR17	TRANSISTOR	2SC3398-TB		5TCAZ00011			
TR19	TRANSISTOR	2SC3398-TB		5TCAZ00011			
X1	CRYSTAL	H-6XHJDD00199		6XHJDD00199			
X3	CRYSTAL	H-6XHJDD0030A		6XHJDD0030A			

PARTS LIST

CPU		TITLE		SHEET NO.	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
B11	BATTERY	C02032-1HS		5ZBA000047	
C1	CAP,FXD CER	C3216CH1H330J-E-TP	33PF	5CAAD00794	
C2	CAP,FXD CER	C3216CH1H330J-E-TP	33PF	5CAAD00794	
C3	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782	
C4	CAP,FXD CER	C3216SL1H102J-E-TP	1000PF	5CAAD00782	
C5	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C6	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C7	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C8	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C9	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C10	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C11	CAP,FXD TANTAL	202L1602 106KB		5CSAC00932	
C12	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C13	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C14	CAP,FXD CER	C3216X7R1E333K-E-TP	0.033U	5CAAD01203	
C15	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C16	CAP,FXD TANTAL	202L1602 106KB		5CSAC00932	
C17	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C18	CAP,FXD TANTAL	202L3502 105KB	35V 1UF	5CSAC00982	
C19	CAP,FXD TANTAL	202L3502 105KB	35V 1UF	5CSAC00982	
C20	CAP,FXD TANTAL	202L3502 105KB	35V 1UF	5CSAC00982	
C21	CAP,FXD TANTAL	202L3502 105KB	35V 1UF	5CSAC00982	
C22	CAP,FXD TANTAL	202L3502 105KB	35V 1UF	5CSAC00982	
C23	CAP,FXD TANTAL	202L3502 105KB	35V 1UF	5CSAC00982	
C24	CAP,FXD TANTAL	202L3502 105KB	35V 1UF	5CSAC00982	
C25	CAP,FXD TANTAL	202L3502 105KB	35V 1UF	5CSAC00982	
C26	CAP,FXD TANTAL	202L3502 105KB	35V 1UF	5CSAC00982	
C29	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C30	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C31	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C32	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C33	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C34	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C35	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C36	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	

PARTS LIST

CPU		TITLE		SHEET NO.	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
C37	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C38	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C39	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C40	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C41	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C42	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C43	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C48	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C49	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C50	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C51	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C52	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C53	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C54	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C55	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C56	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C57	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C58	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C59	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C60	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C61	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C62	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C63	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C64	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C65	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C66	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C67	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C68	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C69	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C70	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C71	CAP,FXD CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C72	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C73	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C01	D10DE	15S184 TE85L		5TXAD00290	
C02	D10DE	15S226 TE85L		5TXAD00320	

PARTS LIST		TITLE		SHEET NO.	
CPU		CDC-4930		4	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
CD3	DIODE	1S226 1E85L		5TXAD00320	
CD4	DIODE	1S226 1E85L		5TXAD00320	
CD5	DIODE	1S226 1E85L		5TXAD00320	
CD6	DIODE	1S5184 1E85L		5TXAD00290	
FL1	FILTER	DS310-558222M	100V 0.0022UF	5HXAA00002	
FL2	FILTER	DS310-558222M	100V 0.0022UF	5HXAA00002	
IC1	IC	MSM80C85A-2RS		5DDAG00176	
IC2	IC	MC74HC573N		5DAAJ00229	
IC3	IC	H-7DEJD0182B		7DEJD0182B	
IC4	IC	HM6264ALP-15		5DAAJ00380	
IC5	IC	MSM81C55-5RS		5DDAG00206	
IC6	IC	MSM81C55-5RS		5DDAG00206	
IC7	IC	LM358N		5DAAK00205	
IC8	IC	MC74HC574AN		5DAAJ00912	
IC9	IC	MC74HC00N		5DAAJ00142	
IC10	IC	MC74HC138AN		5DAAJ00755	
IC11	IC	MC74HC32AN		5DAAJ00751	
IC12	IC	MSM82C51A-2RS		5DDAG00184	
IC13	IC	MSM82C51A-2RS		5DDAG00184	
IC14	IC	MC74HC541AN		5DAAJ00933	
IC15	IC	MC74HC244AN		5DAAJ00761	
IC16	IC	MS1953BL		5DAA800150	
IC17	IC	MC74HC4049N		5DAAJ00247	
IC18	IC	T062083AP		5DDAE00507	
IC53	SOCKET	1CC05-028-3601P		5ZJCK00056	
J61	CONNECTOR	HKP-20M1		5JJAA00118	
P17	CONNECTOR	XCSA-6482-1		5JWCF0043	
PC1	PCB	H-6PCJ000263B		6PCJ000263	
R1	RESISTOR FXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726	
R2	RESISTOR FXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726	
R4	RESISTOR FXD	ERJ-8GEYJ223V	1/8W 22K OHM	5REAG01754	
R5	RESISTOR FXD	ERJ-8GEYJ223V	1/8W 22K OHM	5REAG01754	
R6	RESISTOR FXD	ERJ-8GEYJ563V		5REAG01759	
R7	RESISTOR FXD	ERJ-8GEYJ105V	1/8W 1M OHM	5REAG01774	
R8	RESISTOR FXD	ERJ-8GEYJ273V	1/8W 27K OHM	5REAG01755	
R9	RESISTOR FXD	ERJ-8GEYJ273V	1/8W 27K OHM	5REAG01755	
R10	RESISTOR FXD	ERJ-8GEYJ333V	1/8W 33K OHM	5REAG01756	
R11	RESISTOR FXD	ERJ-8GEYJ473V	1/8W 47K OHM	5REAG01758	
R12	RESISTOR FXD	ERJ-8GEYJ393V	1/8W 39K OHM	5REAG01757	
R13	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	5REAG01750	
R14	RESISTOR FXD	ERJ-8GEYJ104V	1/8W 100K OHM	5REAG01762	
R15	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	5REAG01750	
R16	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	5REAG01750	
R17	RESISTOR FXD	ERJ-8GEYJ473V	1/8W 47K OHM	5REAG01758	
R18	RESISTOR FXD	ERJ-8GEYJ333V	1/8W 3.3K OHM	5REAG01744	
R20	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	5REAG01750	
R21	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	5REAG01750	
R22	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	5REAG01750	
R23	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	5REAG01750	
R24	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	5REAG01750	
R25	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	5REAG01750	
R26	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	5REAG01750	
R28	RESISTOR FXD	ERJ-8GEYJ333V	1/8W 3.3K OHM	5REAG01744	
R38	RESISTOR FXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726	
R39	RESISTOR FXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726	
R40	RESISTOR FXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726	
R41	RESISTOR FXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726	
R42	RESISTOR FXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726	
R43	RESISTOR FXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726	
R44	RESISTOR FXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726	
R45	RESISTOR FXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726	
R46	RESISTOR FXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726	
R47	RESISTOR FXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726	
R48	RESISTOR FXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726	
R49	RESISTOR FXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726	
R50	RESISTOR FXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726	
R51	RESISTOR FXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726	
R52	RESISTOR FXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726	
R53	RESISTOR FXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726	
R54	RESISTOR FXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAG01726	

PARTS LIST

CPU		TITLE		SHEET NO	
CPU		COC-4V3XB		5	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
R55	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAGD1726	
R56	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAGD1726	
R57	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAGD1726	
R58	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAGD1726	
R59	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAGD1726	
R60	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAGD1726	
R61	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAGD1726	
R62	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAGD1726	
R63	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAGD1726	
R64	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAGD1726	
R65	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 OHM	5REAGD1726	
R66	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	5REAGD1750	
R67	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	5REAGD1750	
R68	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	5REAGD1750	
R69	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	5REAGD1750	
R70	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	5REAGD1750	
R71	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	5REAGD1750	
RA1	RESISTOR	EXB-F9E103JY		SRZASD0499	
RA2	RESISTOR	EXB-F9E472J	4.7K OHM	SRZASD0260	
RA3	RESISTOR	EXB-F9E103JY		SRZASD0499	
RA4	RESISTOR	EXB-LD7104G		SRZASD0180	
RJ0	RESISTOR FXD	ERD-25UJ1R0T	1 OHM	SRPAAD1733	
RJ3	RESISTOR FXD	ERD-25UJ1R0T	1 OHM	SRPAAD1733	
RJ4	RESISTOR FXD	ERD-25UJ1R0T	1 OHM	SRPAAD1733	
RJ5	RESISTOR FXD	ERD-25UJ1R0T	1 OHM	SRPAAD1733	
RJ6	RESISTOR FXD	ERD-25UJ1R0T	1 OHM	SRPAAD1733	
RJ7	RESISTOR FXD	ERD-25UJ1R0T	1 OHM	SRPAAD1733	
RV1	RESISTOR VAR	EVH-D2A003B14		SRVAB00430	
RV2	RESISTOR VAR	EVH-D2A003B14		SRVAB00430	
TP1	TEST TERMINAL	PCM6-PEA		SJDAAD00364	
TP2	TEST TERMINAL	PCM6-PEA		SJDAAD00364	
TP3	TEST TERMINAL	PCM6-PEA		SJDAAD00364	
TR1	TRANSISTOR	2SC2712Y TE85L		STAAGD0186	
TR2	TRANSISTOR	2SC339B-TB		STCAZD0011	
X1	TRANSUCER	CSA8-46MT		SUMAB00033	

PARTS LIST

CPU		TITLE		SHEET NO	
CPU		COC-4V3AL		6	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
Z1	ROM LABEL	MPNN25138B		MPNN25138B	

PARTS LIST

RTTY DEMO		TITLE		SHEET NO.	
RTTY DEMO		CRM-530		1	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
C1	CAP,FXD TANTAL	202L3502	105K5471	35V 1UF	5CSAC00796
C2	CAP,FXD TANTAL	202L3502	105K5471	35V 1UF	5CSAC00796
C3	CAP,FXD TANTAL	202L3502	105K5471	35V 1UF	5CSAC00796
C4	CAP,FXD TANTAL	202L3502	105K5471	35V 1UF	5CSAC00796
C5	CAP,FXD TANTAL	202L3502	106K4	25V 10UF	5CSAC00324
C6	CAP,FXD TANTAL	202L3502	105K5471	35V 1UF	5CSAC00796
C7	CAP,FXD TANTAL	202L3502	105K5471	35V 1UF	5CSAC00796
C8	CAP,FXD TANTAL	202L3502	105K5471	35V 1UF	5CSAC00796
C9	CAP,FXD TANTAL	202L3502	105K5471	35V 1UF	5CSAC00796
C10	CAP,FXD PLSTC	501N5002	103K1	50V 0.01UF	5CRAC00009
C11	CAP,FXD PLSTC	501N5002	103K1	50V 0.01UF	5CRAC00009
C12	CAP,FXD TANTAL	202L3502	474K5 471	35V 0.47UF	5CSAC00825
C13	CAP,FXD TANTAL	202L3502	474K5 471	35V 0.47UF	5CSAC00825
C14	CAP,FXD TANTAL	202L2502	106K4	25V 10UF	5CSAC00324
C15	CAP,FXD TANTAL	202L2502	106K4	25V 10UF	5CSAC00324
C16	CAP,FXD PLSTC	501N5002	224K1	50V 0.22UF	5CRAC00017
C17	CAP,FXD PLSTC	501N5002	473K1	50V 0.47UF	5CRAC00013
C18	CAP,FXD PLSTC	501N5002	103K1	50V 0.01UF	5CRAC00009
C19	CAP,FXD TANTAL	202L3502	105K5471	35V 1UF	5CSAC00796
C20	CAP,FXD TANTAL	202L3502	105K5471	35V 1UF	5CSAC00796
C21	CAP,FXD ELCTLT	ECE-A1ES100		25V10UF	5CERAA01348
C22	CAP,FXD ELCTLT	ECE-A1ES100		25V10UF	5CERAA01348
C23	CAP,FXD ELCTLT	ECE-A1ES100		25V10UF	5CERAA01348
C24	CAP,FXD ELCTLT	ECE-A1ES100		25V10UF	5CERAA01348
C25	CAP,FXD ELCTLT	ECE-A1ES100		25V10UF	5CERAA01348
C26	CAP,FXD CER	00106F103Z50		50V 10000PF	5C0AB00400
C27	CAP,FXD ELCTLT	ECE-A1ES100		25V10UF	5CERAA01348
C28	CAP,FXD CER	00106F103Z50		50V 10000PF	5C0AB00400
C29	CAP,FXD CER	00106F103Z50		50V 10000PF	5C0AB00400
C30	CAP,FXD ELCTLT	ECE-A1ES100		25V10UF	5CERAA01348
C31	CAP,FXD CER	00106F103Z50		50V 10000PF	5C0AB00400
C32	CAP,FXD CER	00106F103Z50		50V 10000PF	5C0AB00400
C33	CAP,FXD PLSTC	501N5002	103K1	50V 0.01UF	5CRAC00009
C34	CAP,FXD PLSTC	501N5002	103K1	50V 0.01UF	5CRAC00009
CD1	DIODE	1S2076S7			5TXAE00355

PARTS LIST

RTTY DEMO		TITLE		SHEET NO.	
RTTY DEMO		CRM-530		2	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
CD2	DIODE	1S2076S7			5TXAE00355
CD3	DIODE	1S2076S7			5TXAE00355
CD4	DIODE	1S2076S7			5TXAE00355
CD5	DIODE	1S2076S7			5TXAE00355
CD6	DIODE	1S2076S7			5TXAE00355
CD7	DIODE	1S2076S7			5TXAE00355
CD8	LED	TLR102A			5TZAD00020
CD9	LED	TLR102A			5TZAD00020
CP1	PHOTO COUPLER	HXD-421C			5TEBC00003
CP2	PHOTO COUPLER	HXD-421C			5TEBC00003
IC1	IC	TC74HC138AP			5DDAE01239
IC2	IC	MSH82C51A-2RS			5DPAG00184
IC3	IC	MSH82C55A-2BS			5DPAG00182
IC4	IC	TC9122P			5DDAE00281
IC5	IC	MC74HC160N			5DAAJ00182
IC8	IC	HD74D06P			5DDAF00113
IC9	IC	HD74LS05P			5DDAF00291
IC10	IC	HJM3403A0			5DAAH00085
IC11	IC	HJM3403A0			5DAAH00085
IC12	IC	HJM3403A0			5DAAH00085
IC13	IC	HJM3403A0			5DAAH00085
IC14	IC	HJM3403A0			5DAAH00085
IC15	IC	HJM3407AD			5DAAH00085
IC16	IC	TC40668P			5DDAE00078
IC17	IC	TC40308P			5DDAE00050
L1	COIL	FL-5H101K		100UH	5LCAA00013
L2	COIL	FL-5H101K		100UH	5LCAA00013
P15	CONNECTOR	ECTC-22P-2.50SA		22P	5JWBS00070
P16	CONNECTOR	ECTC-22P-2.50SA		22P	5JWBS00070
PC1	PCB	H-6PCJ000169A			6PCJ000169
R1	RESISTOR FXD	ERD-25UJ104		1/4W 100K OHM	5R0AA01393
R2	RESISTOR FXD	ERD-25UJ105		1/4W 1M OHM	5R0AA01417
R3	RESISTOR FXD	ERD-25UJ103		1/4W 10K OHM	5R0AA01369
R4	RESISTOR FXD	ERD-25UJ473		1/4W 47K OHM	5R0AA01385
R5	RESISTOR FXD	ERD-25UJ101		1/4W 100 OHM	5R0AA01321



## PARTS LIST

TITLE CMH-530

RTTY DEMO

SHEET NO. 3

PART NO	PART NAME	TYPE	DESCRIPTION	CODE
R6	RESISTOR FXD	ERD-25UJ473	1/4W 47K OHM	SRDAA01385
R7	RESISTOR FXD	ERD-25UJ102	1/4W 1K OHM	SRDAA01345
R8	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R9	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R10	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R11	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R12	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R13	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R14	RESISTOR FXD	ERD-25UJ333	1/4W 33K OHM	SRDAA01381
R15	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R16	RESISTOR FXD	ERD-25UJ104	1/4W 100K OHM	SRDAA01393
R17	RESISTOR FXD	ERD-25UJ224	1/4W 220K OHM	SRDAA01401
R18	RESISTOR FXD	ERD-25UJ224	1/4W 220K OHM	SRDAA01401
R19	RESISTOR FXD	ERD-25UJ222	1/4W 2.2K OHM	SRDAA01353
R20	RESISTOR FXD	ERD-25UJ682	1/4W 6.8K OHM	SRDAA01365
R21	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R22	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R23	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R24	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R25	RESISTOR FXD	ERD-25UJ104	1/4W 100K OHM	SRDAA01393
R26	RESISTOR FXD	ERD-25UJ224	1/4W 220K OHM	SRDAA01401
R27	RESISTOR FXD	ERD-25UJ224	1/4W 220K OHM	SRDAA01401
R28	RESISTOR FXD	ERD-25UJ222	1/4W 2.2K OHM	SRDAA01353
R29	RESISTOR FXD	ERD-25UJ332	1/4W 3.3K OHM	SRDAA01357
R30	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R31	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R32	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R33	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R34	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R35	RESISTOR FXD	ERD-25UJ682	1/4W 6.8K OHM	SRDAA01365
R36	RESISTOR FXD	ERD-25UJ223	1/4W 22K OHM	SRDAA01377
R37	RESISTOR FXD	ERD-25UJ223	1/4W 22K OHM	SRDAA01377
R38	RESISTOR FXD	ERD-25UJ223	1/4W 22K OHM	SRDAA01377
R42	RESISTOR FXD	ERD-25UJ182	1/4W 1.8K OHM	SRDAA01351
R43	RESISTOR FXD	ERD-25UJ102	1/4W 1K OHM	SRDAA01345

## PARTS LIST

TITLE CMH-530

RTTY DEMO

SHEET NO. 4

PART NO	PART NAME	TYPE	DESCRIPTION	CODE
R44	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R45	RESISTOR FXD	ERD-25UJ472	1/4W 4.7K OHM	SRDAA01361
R46	RESISTOR FXD	ERD-25UJ104	1/4W 100K OHM	SRDAA01393
R47	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R48	RESISTOR FXD	ERD-25UJ104	1/4W 100K OHM	SRDAA01393
R49	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R50	RESISTOR FXD	ERD-25UJ472	1/4W 4.7K OHM	SRDAA01361
R51	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R52	RESISTOR FXD	ERD-25UJ104	1/4W 100K OHM	SRDAA01393
R53	RESISTOR FXD	ERD-25UJ104	1/4W 100K OHM	SRDAA01393
R54	RESISTOR FXD	ERD-25UJ104	1/4W 100K OHM	SRDAA01393
R55	RESISTOR FXD	ERD-25UJ104	1/4W 100K OHM	SRDAA01393
R56	RESISTOR FXD	ERD-25UJ474	1/4W 470K OHM	SRDAA01409
R57	RESISTOR FXD	ERD-25UJ183	1/4W 18K OHM	SRDAA01375
R58	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R59	RESISTOR FXD	ERD-25UJ333	1/4W 33K OHM	SRDAA01381
R60	RESISTOR FXD	ERD-25UJ333	1/4W 33K OHM	SRDAA01381
R61	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R62	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R63	RESISTOR FXD	ERD-25UJ105	1/4W 1M OHM	SRDAA01417
R64	RESISTOR FXD	ERD-25UJ153	1/4W 15K OHM	SRDAA01373
R65	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R66	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R67	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R68	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R69	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R70	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R71	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R72	RESISTOR FXD	ERD-25UJ221	1/4W 220 OHM	SRDAA01324
R73	RESISTOR FXD	ERD-25UJ221	1/4W 220 OHM	SRDAA01324
R74	RESISTOR FXD	ERD-25UJ221	1/4W 220 OHM	SRDAA01324
R75	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R76	RESISTOR FXD	ERD-25UJ103	1/4W 10K OHM	SRDAA01369
R77	RESISTOR FXD	ERD-25UJ221	1/4W 220 OHM	SRDAA01324
R78	RESISTOR FXD	ERD-25UJ104	1/4W 100K OHM	SRDAA01393

PARTS LIST		TITLE		SHEET NO.	
RITY DEMO		CMH-530		5	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
RA1	RESISTOR	IHR-B-103JA(2.54)	10K OHM X8	5RZAB00136	
RA2	RESISTOR	IHR-4-103JA	10K OHM X4	5RZAB00043	
RV1	RESISTOR VAR	GFO6P-10K OHM	10K OHM	5RMAB00053	
RV2	RESISTOR VAR	GFO6P-10K OHM	10K OHM	5RMAB00053	
RV3	RESISTOR VAR	GFO6P-10K OHM	10K OHM	5RMAB00053	
RV4	RESISTOR VAR	GFO6P-10K OHM	10K OHM	5RMAB00053	
RV5	RESISTOR VAR	GFO6P-10K OHM	10K OHM	5RMAB00053	
RV6	RESISTOR VAR	GFO6P-10K OHM	10K OHM	5RMAB00053	
RV7	RESISTOR VAR	GFO6P-10K OHM	10K OHM	5RMAB00053	
TP1	TEST TERMINAL	PCN6-PEA		5JDA00364	
TP2	TEST TERMINAL	PCN6-PEA		5JDA00364	
TP3	TEST TERMINAL	PCN6-PEA		5JDA00364	
TP4	TEST TERMINAL	PCN6-PEA		5JDA00364	
TP5	TEST TERMINAL	PCN6-PEA		5JDA00364	

PARTS LIST

PARTS LIST		TITLE		SHEET NO.	
DISPLAY		CDE-705		1	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
C1	CAP,FXD CER	C3216J81H473K-E-TP	0.047UF 50V	5CAAD01282	
C2	CAP,FXD CER	C3216CH1H330J-E-TP	33PF	5CAAD00794	
C3	CAP,FXD CER	C3216CH1H470J-E-TP	47PF	5CAAD00864	
C4	CAP,FXD CER	C3216CH1H470J-E-TP	47PF	5CAAD00864	
C5	CAP,FXD CER	C3216CH1H330J-E-TP	33PF	5CAAD00794	
C6	CAP,FXD CER	C3216CH1H330J-E-TP	33PF	5CAAD00794	
C7	CAP,FXD ELCTLT	ECE-A1HU100B	50V 10UF	5CEAA02184	
C8	CAP,FXD ELCTLT	ECE-A1EU101B		5CEAA01813	
C9	CAP,FXD CER	C3216J81H102K-E-TP	1000PF 50V	5CAAD01267	
C10	CAP,FXD ELCTLT	ECE-A1HU100B	50V 10UF	5CEAA02184	
C11	CAP,FXD ELCTLT	ECE-A1HU100B	50V 10UF	5CEAA02184	
C12	CAP,FXD TANTAL	267M1602 105ML	16V 1UF	5CSAC01050	
C13	CAP,FXD C CER	C3216J81H103K-E-TP	50V 0.01UF	5CAAD00789	
C14	CAP,FXD TANTAL	267M1602 105ML	16V 1UF	5CSAC01050	
C15	CAP,FXD TANTAL	267M1602 105ML	16V 1UF	5CSAC01050	
C16	CAP,FXD TANTAL	267M1602 105ML	16V 1UF	5CSAC01050	
C17	CAP,FXD TANTAL	267M1602 105ML	16V 1UF	5CSAC01050	
C18	CAP,FXD TANTAL	267M1602 105ML	16V 1UF	5CSAC01050	
C19	CAP,FXD C CER	C3216J81H103K-E-TP	50V 0.01UF	5CAAD00789	
C20	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C01	DIODE	1S5184 TE85L		5TXAD00290	
C02	DIODE	1S5184 TE85L		5TXAD00290	
C03	DIODE	1S5184 TE85L		5TXAD00290	
C04	DIODE	1S5184 TE85L		5TXAD00290	
C05	DIODE	1S5184 TE85L		5TXAD00290	
C06	DIODE	1S5184 TE85L		5TXAD00290	
C07	DIODE	1S5184 TE85L		5TXAD00290	
C08	DIODE	1S5184 TE85L		5TXAD00290	
C09	LED	PR551K		5TZA000035	
C010	LED	PG551KY		5TZA000055	
C011	LED	PG551KY		5TZA000055	
C012	LED	PG551KY		5TZA000055	
C013	LED	PG551KY		5TZA000055	
C014	LED	PG551KY		5TZA000055	
C015	LED	PG551KY		5TZA000055	

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PARTS LIST

PARTS LIST		TITLE		SHEET NO.	
DISPLAY		CDE-705		2	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
CD16	LED	SEL2310E		5TZAAD0165	
CD17	LED	SEL2310E		5TZAAD0165	
CD18	DIODE	SEL2110S		5TXAD00205	
CD19	DIODE	SEL2110S		5TXAD00205	
CD20	DIODE	1S5226 TE85L		5TXAD00320	
CD21	DIODE	1S5226 TE85L		5TXAD00320	
CD22	DIODE	HZ9A2RE		5TXAE00592	
CV1	CAPACITOR VAR	ECV-11W20X60		5CVAC00034	
F1	VFD	CC1029H		5NIBED0004	
FL1	FILTER	06S310-550233	50V 0.022UF	5RXKA00006	
IC1	IC	MSM80C85A-2I		5DBAG00176	
IC2	IC	TC74HC373AP		5DBAE01345	
IC3	IC	H-70EJDD183B		70EJDD183B	
IC4	IC	TC74HC138AP		500AEO1239	
IC5	IC	MSM81C55-5RS		5DDAG00206	
IC6	IC	MSM81C55-5RS		500AG00206	
IC7	IC	LR3671D		5008H00037	
IC8	IC	MSM82C51A-2RS		500AG00184	
IC9	IC	MSM8242BRS		500AG00226	
IC10	IC	MSM8253RS		500AG00305	
IC11	IC	MC74HC364N		50A1J00228	
IC12	IC	MSL915RS		500AG00032	
IC13	IC	MSL915RS		500AG00032	
IC14	IC	MSL915RS		500AG00032	
IC15	IC	MSL915RS		500AG00032	
IC16	IC	TC7452F TE12L		500AEO1894	
IC17	IC	MC74HC4053H		50A1J00251	
IC18	IC	MC74HC259H		50A1J00207	
ICS1	SOCKET	ICCS5-028-360TP		5ZJCK00056	
J46	CONNECTOR	B4B-EH-A		5JWAP00226	
J47	TERMINAL	FFC-5CM1		5JTCAD00238	
J48	TERMINAL	FFC-4CM1		5JTCAD00218	
L1	COIL	FL-91IG71J-H		5LCKA00700	
L2	COIL	LAL04MA330K		5LCAAD0196	
P39	CABLE	H-6ZCJ000348A		6ZCJ000348	

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PARTS LIST

PARTS LIST		TITLE		SHEET NO.	
DISPLAY		EDE-705		3	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
P40	CABLE	H-6ZCJ000124		6ZCJ000124	
P41	CABLE	H-6ZCJ000125		6ZCJ000125	
PC1	PCB	H-6PCJ000619C		6PCJ000619	
PG1	ENCODER	H-6BZJ000001		6BZJ000001	
R1	RESISTOR FXD	ERJ-8GEYJ223V	1/8W 22K 0HM	SREAG01754	
R2	RESISTOR FXD	ERJ-8GEYJ562V	1/8W 5.6K 0HM	SREAG01747	
R3	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K 0HM	SREAG01750	
R4	RESISTOR FXD	ERJ-8GEYJ332V	1/8W 3.3K 0HM	SREAG01744	
R5	RESISTOR FXD	ERJ-8GEYJ332V	1/8W 3.3K 0HM	SREAG01744	
R6	RESISTOR FXD	ERJ-8GEYJ561V	1/8W 560 0HM	SREAG01735	
R7	RESISTOR CFXD	ERJ-8GEYJ182V	1/8W 1.8K 0HM	SREAG01741	
R8	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K 0HM	SREAG01750	
R9	RESISTOR FXD	ERJ-8GEYJ273V	1/8W 27K 0HM	SREAG01755	
R12	RESISTOR FXD	ERJ-8GEYJ221V	1/8W 220 0HM	SREAG01730	
R13	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 0HM	SREAG01726	
R14	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 0HM	SREAG01726	
R15	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 0HM	SREAG01726	
R16	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 0HM	SREAG01726	
R17	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 0HM	SREAG01726	
R18	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 0HM	SREAG01726	
R19	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K 0HM	SREAG01750	
R20	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K 0HM	SREAG01750	
R21	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K 0HM	SREAG01750	
R22	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K 0HM	SREAG01750	
R23	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K 0HM	SREAG01750	
R24	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 0HM	SREAG01726	
R25	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 0HM	SREAG01726	
R26	RESISTOR FXD	ERJ-8GEYJ331V	330 0HM 1/8W	SREAG01732	
R27	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K 0HM	SREAG01750	
R28	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 0HM	SREAG01726	
R29	RESISTOR CFXD	ERJ-8GEYJ101V	1/8W 100 0HM	SREAG01726	
R30	RESISTOR FXD	ERJ-8GEYJ221V	1/8W 220 0HM	SREAG01730	
R31	RESISTOR FXD	ERJ-8GEYJ221V	1/8W 220 0HM	SREAG01730	
R32	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K 0HM	SREAG01750	
R33	RESISTOR VAR	EVH-DXA009B14		SRAV000242	

PARTS LIST

PARTS LIST		TITLE		SHEET NO.	
DISPLAY		CDE-705		1	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
RV2	RESISTOR VAR	EVH-DXA009B14		SRAV00024	
RV3	RESISTOR VAR	EVH-DXA009B14		SRAV00024	
RV4	RESISTOR VAR	EVH-DXA009B14		SRAV00024	
RV5	RESISTOR VAR	EVH-DXA009B14		SRAV00024	
RV6	RESISTOR VAR	EVH-DXA009B14		SRAV00024	
RV7	RESISTOR VAR	EVH-DXA009A14		SRAV000261	
RV8	RESISTOR VAR	EVH-DXA009B14		SRAV000262	
S1	SWITCH	SKHHAR		SSCAFD00194	
S2	SWITCH	SKHHAR		SSCAFD00194	
S3	SWITCH	SKHHAR		SSCAFD00194	
S4	SWITCH	SKHHAR		SSCAFD00194	
S5	SWITCH	SKHHAR		SSCAFD00194	
S6	SWITCH	SKHHAR		SSCAFD00194	
S7	SWITCH	SKHHAR		SSCAFD00194	
S8	SWITCH	SKHHAR		SSCAFD00194	
S9	SWITCH	SKHHAR		SSCAFD00194	
S10	SWITCH	SKHHAR		SSCAFD00194	
S11	SWITCH	SKHHAR		SSCAFD00194	
S12	SWITCH	SKHHAR		SSCAFD00194	
S13	SWITCH	SKHHAR		SSCAFD00194	
S14	SWITCH	SKHHAR		SSCAFD00194	
S15	SWITCH	SKHHAR		SSCAFD00194	
S16	SWITCH	SKHHAR		SSCAFD00194	
S17	SWITCH	SKHHAR		SSCAFD00194	
S18	SWITCH	SKHHAR		SSCAFD00194	
S19	SWITCH	SKHHAR		SSCAFD00194	
S20	SWITCH	SKHHAR		SSCAFD00194	
S21	SWITCH	SKHHAR		SSCAFD00194	
S22	SWITCH	SKHHAR		SSCAFD00194	
S23	SWITCH	SKHHAR		SSCAFD00194	
S24	SWITCH	SKHHAR		SSCAFD00194	
S25	SWITCH	SKHHAR		SSCAFD00194	
S26	SWITCH	SKHHAR		SSCAFD00194	
S27	SWITCH	SKHHAR		SSCAFD00194	
S28	SWITCH	SKHHAR		SSCAFD00194	

PARTS LIST

DISPLAY		TITLE CDE-703		SHEET NO. 5	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
S29	SWITCH	SKHHR		5SCAF00194	
S30	SWITCH	SKHHR		5SCAF00194	
S31	SWITCH	SKHHR		5SCAF00194	
S32	SWITCH	SKHHR		5SCAF00194	
S33	SWITCH	D-2023KB-J3D AT-451		5SAAB00737	
T1	TRANSFORMER	H-6LUJ000017		6LUJ000017	
TP1	TEST TERMINAL	PCN6-PEA		5JDAAC0364	
TR1	TRANSISTOR	Z5D471 LA	HFE135-270	5TDABC0020	
TR2	TRANSISTOR	Z5D471 LA	HFE135-270	5TDABC0020	
X1	TRANSDUCER	CSAB-46MT		SUNABC0033	
X2	CRYSTAL	MX-38T 32.768KHZ		5XHAAC0509	
Z1	ROM LABEL	MPRZ5139B		MPRZ5139B	

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PARTS LIST

CHASSIS		TITLE		SHEET NO.	
CHASSIS		NRD-535		1	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
C11	CAP,FXD CER	C3216JB1H473K-E-TP	0.047UF 50V	5CAAD01282	
C12	CAP,FXD CER	C3216JB1H473K-E-TP	0.047UF 50V	5CAAD01282	
C13	CAP,FXD ELCTLT	ECE51VU4726	35WV 4700UF	5CEAA01681	
C14	CAP,FXD ELCTLT	ECE-A1EU101	25V 100UF	5CEAA01839	
C15	CAP,FXD CER	D0106F103Z50	50V 10000PF	5CBAB00400	
C16	CAP,FXD CER	DE7150FZ103PVA1		5CBAB01618	
C17	CAP,FXD ELCTLT	ECE-A1EU470	47UF 25V	5CEAA01820	
C18	CAP,FXD ELCTLT	ECE-A1EU470	47UF 25V	5CEAA01820	
C19	CAP,FXD ELCTLT	ECE-A1EU470	47UF 25V	5CEAA01820	
C20	CAP,FXD ELCTLT	ECE-A1EU470	47UF 25V	5CEAA01820	
C21	CAP,FXD ELCTLT	ECE-A1EU470	47UF 25V	5CEAA01820	
C22	CAP,FXD CER	C3216CH1H680J-E-TP	38PF	5CAAD00929	
C23	CAP,FXD CER	C3216CH1H1000-E-TP	10PF	5CAAD00785	
C24	CAP,FXD CER	C3216CH1H121J-E-TP	120PF	5CAAD00931	
C25	CAP,FXD CER	C3216CH1H220J-E-TP	22PF	5CAAD00869	
C26	CAP,FXD CER	C3216CH1H560J-E-TP		5CAAD00863	
C27	CAP,FXD C CER	C3216CH1H101J-E-TP	50V 100PF	5CAAD00780	
C28	CAP,FXD C CER	C3216CH1H101J-E-TP	50V 100PF	5CAAD00780	
C29	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C30	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C32	CAP,FXD ELCTLT	ECE-A1EU471	25V 470UF	5CEAA01756	
C33	CAP,FXD ELCTLT	ECE-A1EU471	25V 470UF	5CEAA01756	
C34	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C35	CAP,FXD ELCTLT	ECE-A1EU101	25V 100UF	5CEAA01839	
C36	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C37	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C38	CAP,FXD ELCTLT	ECE-A1EU220	16V 22UF	5CEAA01908	
C39	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C40	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C41	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C42	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C43	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C44	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C45	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C46	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C47	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C48	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C49	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C50	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C51	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C52	CAP,FXD ELCTLT	ECE-A1EU471	25V 470UF	5CEAA01756	
C53	CAP,FXD ELCTLT	ECE-A1EU471	25V 470UF	5CEAA01756	
C54	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C55	CAP,FXD ELCTLT	ECE-A1EU101	25V 100UF	5CEAA01839	
C56	CAP,FXD C CER	C3216JB1H103K-E-TP	50V 0.01UF	5CAAD00789	
C57	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C58	CAP,FXD ELCTLT	ECE-A1EU220	16V 22UF	5CEAA01908	
C59	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C60	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C61	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C62	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C63	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C64	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C65	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C66	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C67	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C68	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	

PARTS LIST

CHASSIS		TITLE		SHEET NO.	
CHASSIS		NRD-535		2	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
C69	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C70	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C71	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C72	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C73	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C74	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C75	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C76	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C77	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C78	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C79	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C80	CAP,FXD CER	C3216X7R1E104K-E-TP	0.1UF	5CAAD01237	
C83	DIODE	EM1Z	200V 1A	5TXAD00061	
C84	DIODE	RK44		5TXAD00114	
C85	DIODE	U15C TYPE 1		5TXAE00851	
C86	DIODE	U15C TYPE 1		5TXAE00851	
C87	DIODE	U15C TYPE 1		5TXAE00851	
C88	DIODE	U15C TYPE 1		5TXAE00851	
C89	DIODE	1SS226 1E85L		5TXAD00320	
C92	FUSE	MF61NR1	1A	51FA000403	
F51	VTG CHANGER	S-17221#9 100,120,220		51ZEG00002	
IC4	IC	UPC2002V		50AAA00299	
IC4-1	HEAT SINK	IC-1625-ST		51KAE00042	
IC5	IC	NJM78L05A	5V 0.1A	50AMN00046	
IC6	IC	MAX232CPE		50DER00001	
IC7	IC	SC75U04FEL		50DAS00176	
IC8	IC	SC75H04FEL		50DAS00176	
J5	CONNECTOR	PCN6-22S-2.5DS		5JDAAG00002	
J6	CONNECTOR	PCN6-22S-2.5DS		5JDAAG00002	
J7	CONNECTOR	PCN6-22S-2.5DS		5JDAAG00002	
J8	CONNECTOR	PCN6-22S-2.5DS		5JDAAG00002	
J9	CONNECTOR	PCN6-22S-2.5DS		5JDAAG00002	
J10	CONNECTOR	PCN6-22S-2.5DS		5JDAAG00002	
J13	CONNECTOR	PCN6-22S-2.5DS		5JDAAG00002	
J14	CONNECTOR	PCN6-22S-2.5DS		5JDAAG00002	

## PARTS LIST

CHASSIS TITLE MRD-535 SHEET NO. 3

PART NO	PART NAME	TYPE	DESCRIPTION	CODE
J15	CONNECTOR	PCN6-22S-2.5DS		5JDA00082
J15-1	CONNECTOR	PCN6-22S-2.5DS		5JDA00082
J16	CONNECTOR	PCN6-22S-2.5DS		5JDA00082
J16-1	CONNECTOR	PCN6-22S-2.5DS		5JDA00082
J17	CONNECTOR	XCSB-6431-0	64P	5JHCF0012
J18	CONNECTOR	8P9-VB-2		5JWAP00458
J21	JACK	S-10814#01		5ZEG00003
J22	CONNECTOR	AC-P01CF01	UL	5JWEZ00005
J23	TERMINAL	M-110C-3		5JTBFO0369
J24	PIN JACK	S-03097#03		5JJAL00055
J25	PIN JACK	S-03097#03		5JJAL00055
J26	CONNECTOR	XMBB-2532-112	25P	5JHCF00013
J27	PIN JACK	S-03097#03		5JJAL00055
J29	CONNECTOR	PCN6-22S-2.5DS		5JDA00082
J30	CONNECTOR	PCN6-22S-2.5DS		5JDA00082
J31	CONNECTOR	PCN6-22S-2.5DS		5JDA00082
J32	CONNECTOR	PCN6-22S-2.5DS		5JDA00082
J33	PIN JACK	S-03097#03		5JJAL00055
J34	PIN JACK	S-03097#03		5JJAL00055
J35	PIN JACK	S-03096#03		5JJAL00056
J36	PIN JACK	S-03097#03		5JJAL00055
J37	TERMINAL	PT-C02P01		5JJAK00003
J38	CONNECTOR	FM-WR-M(FM-20S)		5JWBK00004
J39	CONNECTOR	BSP6-VB-2		5JWAP00459
J40	CONNECTOR	IL-G-12P-S3T2-E		5JWAD00082
J41	CONNECTOR	IL-G-12P-S3T2-E		5JWAD00082
J42	CONNECTOR	IL-G-6P-S3T2-E		5JWAD00099
K1	RELAY	LZ12H		SKLACO0033
L1	COIL	LAL03VSR22M		5LCAA00284
L2	COIL	LAL03VSR22M		5LCAA00284
P47	CONNECTOR	H-6ZCJ000100		6ZCJ000100
P61	CABLE	HIF2B(A)3BA-20P-8C-1		5ZCAG00117
PC1	PCB	H-6PCJ000622A		6PCJ000622
R8	RESISTOR FXD	ERJ-8GEYJ223V	1/8W 22K OHM	5REAG01754
R10	RESISTOR FXD	CRZ065 OHM J		5RHA01300

## PARTS LIST

CHASSIS TITLE MRD-535 SHEET NO. 4

PART NO	PART NAME	TYPE	DESCRIPTION	CODE
R10-1		0 20W		5ZJAP00003
R12	RESISTOR FXD	ERJ-8GEYJ332V	1/8W 3.3K OHM	5REAG01744
R13	RESISTOR FXD	ERJ-8GEYJ330V	1/8W 33 OHM	5REAG01720
R14	RESISTOR FXD	ERJ-8GEYJ334V	1/8W 330K OHM	5REAG01768
R15	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	5REAG01738
R16	RESISTOR FXD	ERD-50TJ103	1/2W 10K OHM	5RDA00859
R17	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 1K OHM	5REAG01774
R18	RESISTOR FXD	ERJ-8GEYJ221V	1/8W 220 OHM	5REAG01730
R19	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	5REAG01750
R20	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	5REAG01750
R21	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	5REAG01750
R24	RESISTOR FXD	ERJ-8GEYJ472V	1/8W 4.7K OHM	5REAG01746
R25	RESISTOR FXD	ERJ-8GEYJ472V	1/8W 4.7K OHM	5REAG01746
R51	RESISTOR FXD	ERJ-8GEYK180V		5REAG02208
R52	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	5REAG01738
R53	RESISTOR FXD	ERJ-8GEYJ120V	1/8W 12 OHM	5REAG01715
R54	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	5REAG01738
R55	RESISTOR FXD	ERJ-8GEYJ103V	1/8W 10K OHM	5REAG01750
R56	RESISTOR FXD	ERJ-8GEYJ334V	1/8W 330K OHM	5REAG01768
R57	RESISTOR FXD	ERJ-8GEYJ102V	1/8W 1K OHM	5REAG01738
RV1	RESISTOR VAR	EVM-D8AA03814	10K OHM	5RVAB00428
S1	SWITCH	SSP322		5SAB00206
SP1	SPEAKER	EAS-8P29		5USA00047
T1	TRANSFORMER	H-6LTJ000015		6LTJ000015
T2	RF XFMR	H-6LRJ000380		6LRJ000380
TR2	TRANSISTOR	25C339B-TB		5TCAZ00011
TR3	TRANSISTOR	25A162-YTE85L		5TAAG00182
TR4	TRANSISTOR	25C2712Y TE85L		5TAAG00186
TR5	TRANSISTOR	25C339B-TB		5TCAZ00011
TR6	TRANSISTOR	25A1344-TB		5TAAL00004
TR7	TRANSISTOR	25C339B-TB		5TCAZ00011
X1	TRANSBUCKER	CSA12-0MT040		5UNAB00035

PARTS LIST

JACK		TITLE		SHEET NO.	
JACK		C08-01		1	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
J43	JACK	HLJ4305-01-3070		SJJAM00061	
J44	JACK	HSJ0786-01-010		5JJAM00022	
P42	CONNECTOR	H-62CJD00104		62CJD00104	
PC1	PCB	H-6PCJD00623A		6PCJD00623	
R22	RESISTOR FXD	ERD-S1VJ101T	0.5W	SRDAA01711	
R23	RESISTOR FXD	ERD-S1VJ101T	0.5W	SRDAA01711	

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PARTS LIST

AVR		TITLE		SHEET NO.	
AVR		C00-1080		1	
PART NO	PART NAME	TYPE	DESCRIPTION	CODE	
C1	CAP,FXD	PLSTC	ECO-VIH104JZ3	5CRAA00617	
C2	CAP,FXD	ELECT	ECE-A1EU100B	5CEAA01864	
C3	CAP,FXD	ELECT	ECE-A1EU100B	5CEAA01864	
C4	CAP,FXD	ELECT	ECE-A1EU101B	5CEAA01813	
C5	CAP,FXD	PLSTC	ECO-VIH104JZ3	5CRAA00617	
C6	CAP,FXD	PLSTC	ECO-VIH104JZ3	5CRAA00617	
C7	CAP,FXD	ELECT	ECE-A1EU103B	5CEAA01864	
CB	CAP,FXD	ELECT	ECE-A1EU103B	5CEAA01864	
CD1	DIODE		1S2076RE	5TXAE00388	
CD2	DIODE		HZ38-2RE	5TXAE00366	
IC1	IC		M5237L	5DDAB00346	
IC2	IC		TA78005AP	5DAAD00082	
IC3	IC		TA78009AP	5DAAD00124	
P18	CABLE		H-61CJD00349A	62CJD00349	
PC1	PCB		H-6PCJD00621A	6PCJD00621	
R1	RESISTOR	FXD	ERD-25UJ221Y	5RDAAD1343	
R2	RESISTOR	FXD	ERD-25UJ333T	5RDAAD1391	
R3	RESISTOR	FXD	ERD-25UJ392T	5RDAAD1608	
R4	RESISTOR	FXD	ERD-25UJ101T	5RDAAD1599	
R5	RESISTOR	FXD	ERD-25UJ222T	5RDAAD1348	
R6	RESISTOR	FXD	ERD-25UJ103T	5RDAAD1367	
RV1	RESISTOR	VAR	EVN-DRAD03913	5RVA000433	
TR1	TRANSISTOR		2SB553-Y	5T8AE00036	
TR1-2	ACCESSORY		AC229	5ZKAR00020	
TR1-3	BUSING		YC-40B	5ZZDY00005	

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PARTS LIST

PART NO	PART NAME	TYPE	TITLE		CODE
			ACCESSORY	DESCRIPTION	
AC1	CONNECTOR	M-P-3			5JAA00010
AC2	PIN PLUG	AR-508M			SJWGC0004
AC3	2P PLUG	PJ-2272			5JAJ00167
AC4	PLUG	AP314			5JJB00006
AC5	FUSE	MF61MR1	1A		SIFAD00403
AC6	DC POWER CABLE	M-62CJD00127			62CJD00127

SHEET NO 1

NRD-3357U20KU

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