

## CPU and Memory

Most of the control functions of the 1010 are controlled by the IC501 CPU.

The IC501 CPU has the internal ROM in the capacity of 16Kbyte, and the program for the operation of the IC501.

When the power of turned on, the IC501 decide the operation channel, frequency, etc.

If the user alters any parameter of the radio, the IC501 updates the altered parameter to in the IC301 RAM.

## 8. Alignment instructions

### WARNING

Any repairs or adjustments should be made under the supervision of a qualified radio-telephone technician.

## TRANSMITTER

### 1. Power Supply Voltage

The Power supply voltage should be set for 6.0 VDC measured at the radio during transmit. Periodically check the power supply voltage during the alignment procedure.

### 2. Frequency Setting

- A. Connect a frequency counter or Communications Service Monitor to the antenna connector through an RF power attenuator (10 watt minimum rating, 20 dB minimum attenuation).
- B. Depress the PTT switch.
- C. Adjust the CT200 trimmer capacitor such that the output frequency is equal to the channel frequency with a maximum error of +/- 200 Hz.
- D. Release the PTT switch.

### 3. Output Power Alignment.

- A. Set the power supply voltage for 6.0 VDC.
- B. Connect a Communications Service Monitor or a wattmeter and dummy load

- to the antenna connector.
- C. Depress the PTT switch.
  - D. To be convinced for 0.45 Watt output power with a maximum error of  $\pm 0.05$  Watt.
  - E. Release the PTT switch.

#### 4. Deviation Adjustment.

- A. Connect an audio generator to the microphone jack JIG. The audio frequency should be set at 1 KHz.
- B. Connect an FM deviation meter or Communications Service Monitor to the antenna connector through an RF power attenuator (10 watt minimum rating, 20 dB minimum attenuation). Set the monitor to read peak deviation.
- C. Depress the PTT switch.
- D. Adjust the audio generator level 100 mV rms.
- E. Adjust RV21 for  $\pm 2.4$  KHz maximum deviation.(with ctcss tone)
- F. To be convinced  $\pm 1.8$  KHz without ctcss tone.(1.2 KHz dev. 20dB up)
- g. Release the PTT switch.

## RECEIVER

### NOTE:

Insure that the proper channel has been selected before proceeding with the alignment procedure.

#### 1. Power Supply Voltage

The proper voltage for testing is 6.0 VDC.

#### 2. Receiver Alignment

- A. Connect an RF signal generator or Communications Service Monitor to the antenna connector.
- B. Connect a SINAD meter and oscilloscope across the speaker terminals.
- C. Set the output level of the RF signal generator for -47 dBm. the generator should be set for  $\pm 1.5$  KHz deviation of a 1 KHz tone.
- D. Set the audio output level for 0.6 Vrms. by adjusting volume on key-pad.

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E. Adjust L17 for maximum audio output.

F. Reduce the output level of the RF signal generator for produce a 6-12 dB SINAD indication.

## 9. SEMICONDUCTORS AND FUNCTIONS

### 1) TRANSISTER

REF NO	TYPE	MANUFATURER	FUNCTION
Q101	2SC4901	TEMIC	LNA.
Q102	2SC4901	TEMIC	1'ST MIXER
Q103	KTC3880S	K.E.C	1'ST IF AMP.
Q107	KRA110S ,	K.E.C	AUDIO MUTE
Q201	2SC4901	HITACHI	O.S.C
Q203	2SC4901	HITACHI	VCO BUFFER
Q205	KRA105S	KEC	VCO VCC
Q303~305	2SC4901	HITACHI	TX POWER FINAL AMP
Q302	2SC4901	HITACHI	TX BUFFER AMP
Q505	KRA105S	K.E.C	RX VCC
Q503	KRA105S	K.E.C	TX VCC
Q508	KRA104S	K.E.C	AUDIO AMP SW
Q501	KTA1504S	K.E.C	AUDIO VCC SW
Q1	KRA105S	K.E.C	EXT MIC SW
Q2	KRC104S	K.E.C	EXT PTT
Q506	KRA506S	K.E.C	VOX SW
Q4	KRC104S	K.E.C	MIC MUTE
Q3	KRC104S	K.E.C	VOX SW

### 2) INTEGRATED CIRCUIT

REF NO	TYPE	MANUFATURER	FUNCTION
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