IC-4088A ADJUSTMENT PROCEDURES

1 PREPARATION

• When adjusting IC-4088A, HM-75A OPTIONAL SPEAKER-MICROPHONE is required.

• All adjustment items must be preformed at “ADJUSTMENT MODE” as show below.

■ REQUIRED TEST EQUIPMENT

EQUIPMENT	GRADE AND RANGE	EQUIPMENT	GRADE AND RANGE
DC power supply	Output voltage : 6 V DC Current capacity : 1 A or more	FM deviation meter	Frequency range : 30–600 MHz Measuring range : 0 to ±10 kH
RF power meter (terminated type)	Measuring range : 1 mW–1 W Frequency range : 300–600 MHz Impedance : 50 Ω SWR : Less than 1.2 : 1	Standard signal generator (SSG)	Frequency range : 0.1–600 MHz Output level : 0.1 µV–32 mV (–127 to –17 dBm)
Frequency counter	Frequency range : 0.1–600 MHz Frequency accuracy : ±1 ppm or better Sensitivity : 100 mV or better		

■ ENTERING THE ADJUSTMENT MODE

① Turn the transceiver’s power OFF.

② While connecting the “TEST” on the MAIN board to “GND”, and then turn power ON.

■ OPERATION ON THE ADJUSTMENT MODE

- Change the adjustment item : HM-75A’s [B] key
- Change the adjustment value : HM-75A’s [UP]/[DN] keys
- Verify the adjustment value : HM-75A’s [A] key
- Change the adjustment channel : IC-4088A’s [UP]/[DN] keys
- Change the adjustment group : IC-4088A’s [MODE]+ [UP]/[DN] keys

■ ADJUSTMENT ITEMS

When entering adjustment mode, displayed adjustment items indicator on the LCD as follow.

- Reference frequecy adjustment : Displayed Fr-88
- Output power adjustment : Displayed PS-88 Ph-88
- FM deviation adjustment : Displayed dL-88 dh-88
- CTCSS adjustment : Displayed to-88
- Squelch adjustment : Displayed SQ-88

• DISPLAYED CHANNEL’S FREQUENCY LIST

CHANNEL NO.	FREQUENCY
1 ch.	462.5625 MHz
2 ch.	462.5875 MHz
3 ch.	462.6125 MHz
4 ch.	462.6375 MHz
5 ch.	462.6625 MHz
6 ch.	462.6875 MHz
7 ch.	462.7125 MHz
8 ch.	467.5625 MHz
9 ch.	467.5875 MHz
10 ch.	467.6125 MHz
11 ch.	467.6375 MHz
12 ch.	467.6625 MHz
13 ch.	467.6875 MHz
14 ch.	467.7125 MHz

2 ADJUSTMENT MODE ADJUSTMENTS

The following adjustment must be performed at “ADJUSTMENT MODE”.

ADJUSTMENT		ADJUSTMENT CONDITION	MEASUREMENT	VALUE	HM-75A’s KEY
REFERENCE FREQUENCY [Fr]	1	• Operating channel : Ch 14 • Transmitting	Loosely couple a frequency counter to the antenna.	467.7125 MHz	[UP]/[DN]
OUTPUT POWER [PS]	1	• Operating channel : Ch 4 • Transmitting	Connect an RF power meter to the RF test port J1.	450 mW	[UP]/[DN]
[Ph]	2	• Operating channel : Ch 11 • Transmitting		450 mW	[UP]/[DN]
FM DEVIATION [dh]	1	• Operating channel : Ch 11 • Connect an audio generator to the [MIC] jack and set as : 1 kHz/100 mV rms • Set an FM deviation meter as: HPF : OFF LPF : 20 kHz or 15 kHz De-emphasis : OFF Detector : (P–P)/2 • Set group No. : OFF (– –) • Transmitting	Connect an FM deviation meter to the RF test port J1.	± 2.10 kHz	[UP]/[DN]
[dL]	2	• Operating channel : Ch 4 • Transmitting		± 2.10 kHz	[UP]/[DN]
CTCSS MODULATION [to]	1	• Operating channel : Ch 11 • Set group No. : 24 • Transmitting	Connect an FM deviation meter to the RF test port J1.	± 0.30 kHz	[UP]/[DN]
SQUELCH SENSITIVITY [Sq]	1	• Operating channel : Ch 1 • Connect an SSG to J1 on the RF unit and set as: Level : 0.13 µV* (–125 dBm) Modulation : OFF • Receiving		• Squelch sensitivity is adjusted automatically when HM-75A’s [A] button is pushed.	
	2	• Set an SSG as: Level : OFF • Receiving		Audio signal disappears	Verify