

SECTION 5 ADJUSTMENT PROCEDURES

5-1 PREPARATION BEFORE SERVICING

The receiver (IC-PCR1000) can be adjusted by sending adjustment data to the RS-232C port via a PC. Most of the adjustments in this section must use **EX-2099**, an adjustment program for IC-PCR1000. The software that comes with the IC-PCR1000 is not necessary for adjustments in this section.

SYSTEM REQUIREMENTS

- IBM PC compatible computer
- An RS-232C serial port (38400 bps or faster)
- Microsoft Windows 95
- Intel i486DX4 processor or faster (pentium 100 MHz or faster recommended)
- At least 16 MB RAM
- At least 10 MB of hard disk space
- 640 × 480 pixel display (800 × 600 pixel display recommended)

SOFTWARE INSTALLATION

NOTE: Before using the program, make a backup copy of the original disk. After making a backup copy, keep the original disk in a safe place.

- ① Boot up Windows.
 - Quit all applications when Windows is running.
- ② Insert the backup disk 1 into the appropriate floppy drive.
- ③ Select 'Run' from the [Start] menu.
- ④ Type the setup program name using the full path name, then push the [Enter] key. (A:\ setup [Enter])
- ⑤ Follow the prompts.
- ⑥ Program group 'IC-PCR1000' appears in the 'Programs' folder of the [Start] menu.

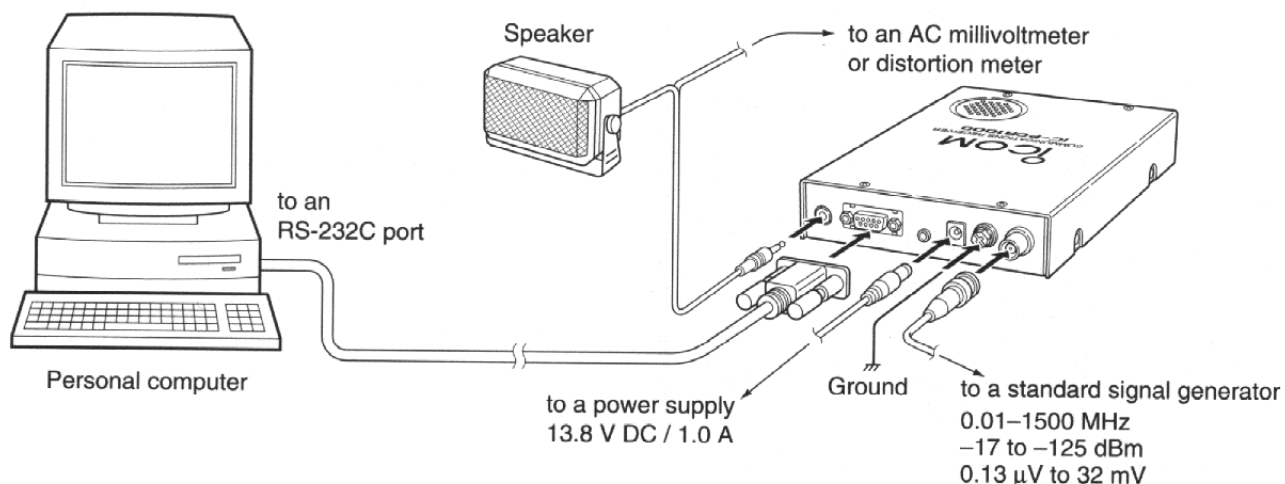
OPERATING INSTRUCTIONS

The adjustment program window contains 3 panels; the Power Panel, Control Panel and Adjustment Panel. The Power Panel will appear at start up the program.

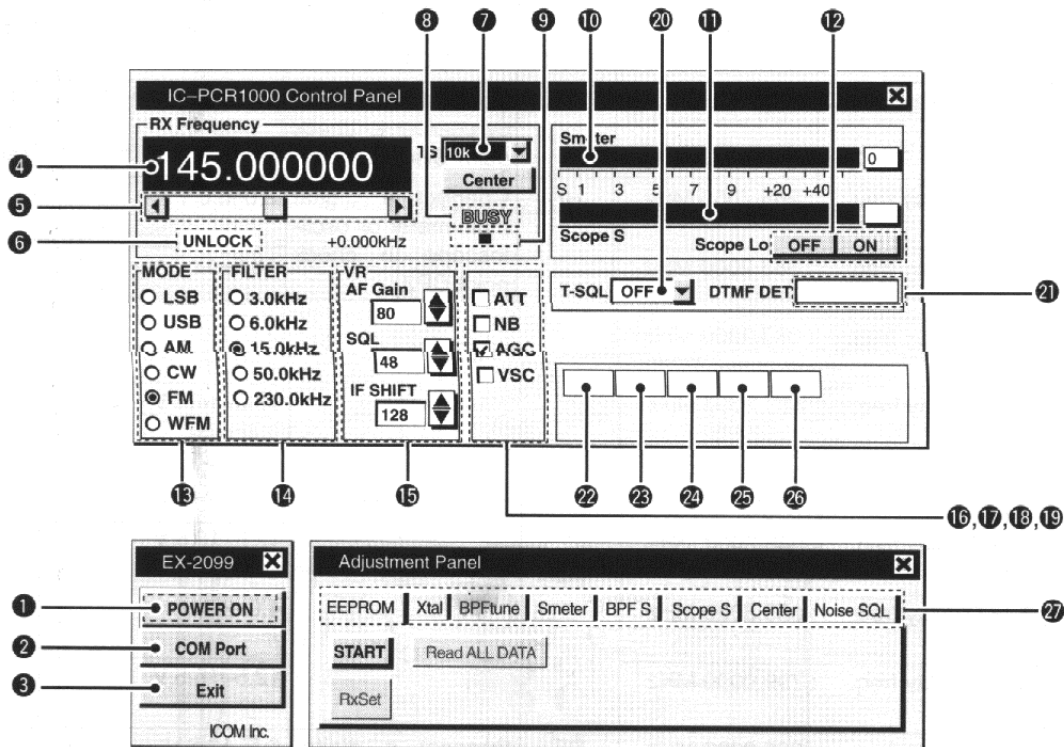
- ① Connect IC-PCR1000 and PC with an RS-232C serial cable.
- ② Boot up Windows.
- ③ Click the "EX-2099 for IC-PCR1000" in the program group 'IC-PCR1000' to start the program.
 - The Power Panel appears.
- ④ Click "POWER ON" on the Power panel.
 - Control Panel and Adjustment Panel appear.
- ⑤ Click "START" on the Adjustment Panel when starting the SOFTWARE adjustment.
 - Data panel appears at the bottom side of the Adjustment panel.
- ⑥ Click "Read ALL DATA" on the Adjustment Panel.
 - Application reads adjustment data of the connected receiver.
- ⑦ Set or modify adjustment data as desired. See the following SOFTWARE adjustments.

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BASIC CONNECTION



■ PANEL DESCRIPTIONS



◆ POWER PANEL

- ❶ **POWER button**
Turns IC-PCR1000 on and off.
- ❷ **COM port button**
Used to select a COM port.
- ❸ **EXIT button**
Quits the program.

◆ CONTROL PANEL

- ❹ **FREQUENCY indication**
Indicates or inputs the receive frequency.
- ❺ **FREQUENCY scroll bar**
Used to change the receive frequency. Moving the button to the right increases the frequency; to the left decreases the frequency.
- ❻ **UNLOCK indicator**
Appears when the PLL is unlocked.
- ❼ **Tuning step button**
Used to change the tuning step.
- ❽ **BUSY indicator**
Appears when receiving a signal or when signal noise opens the squelch.
- ❾ **FM center indicator**
Indicates the tuning level when selecting the 6 kHz or 15 kHz IF filter in FM mode.
- ❿ **S-meter indicator**
Indicates the receive signal strength.
- ⓫ **Scope S indicator**
- ⓬ **Scope Lo (ON/OFF) button**
- ⓭ **Receive mode buttons**
Select a receive mode.
- ⓮ **FILTER (IF filter) buttons**
Change the IF filter in use.
- ⓯ **Volume buttons**
Adjust the audio output, squelch level and set the signals passband position.

❿ **ATT (Attenuator) button**

Turns the attenuator on and off.

⓫ **NB (Noise Blanker) button**

Turns the noise blanker function on and off. The noise blanker is used to reduce pulse type noise.

⓬ **AGC (Automatic Gain Control) button**

Turns the AGC function on and off.

⓭ **VSC (Voice Scan Control) button**

Turns the voice scan control function on and off. This function detects whether signals are modulated (contain voice or music components, etc.) or not.

⓮ **T-SQL (Tone squelch) button**

Indicates or selects tone frequency for the tone squelch.

⓯ **DTMF decode indicator**

Indicates the decoded DTMF signals.

⓰ **AD1 (SMAD) indicator**

Indicates voltage level for the S-meter.

⓱ **AD2 (CMAD) indicator**

Indicates voltage level for the center meter.

⓲ **AD3 (L1AD) indicator**

Indicates the 1st LO PLL lock voltage level.

⓳ **AD4 (SCAD) indicator**

Indicates voltage level for the scope signal.

⓴ **AD5 (CTAD) indicator**

Indicates voltage level for the CTCSS decoded signal.

▶ **ADJUSTMENT PANEL**

⓴ **Item select buttons**

Used to select the adjustment items.

5-2 PLL ADJUSTMENT AND IF PEAK ADJUSTMENT

ADJUSTMENT	ADJUSTMENT CONDITION	MEASUREMENT		VALUE	ADJUSTMENT
		UNIT	LOCATION		
REFERENCE FREQUENCY	1 • Display freq. : Any	RF	Connect a frequency counter to check point CP4.	10.250000 MHz	Use the adjustment software. (see page 5-6)
1ST LO PLL LOCK VOLTAGE	1 • Display freq. : 265.7000 MHz	RF	Connect a digital multi-meter or oscilloscope to check point CP2.	2.0–6.0 V	Verify
	2 • Display freq. : 383.2000 MHz			13.5–17.7 V	
	3 • Display freq. : 383.3000 MHz			3.0–7.0 V	
	4 • Display freq. : 483.2000 MHz			10.0–14.0 V	
	5 • Display freq. : 483.3000 MHz			1.5–5.5 V	
	6 • Display freq. : 633.2000 MHz			12.5–16.5 V	
	7 • Display freq. : 633.3000 MHz			4.0–8.0 V	
	8 • Display freq. : 799.9000 MHz			12.5–16.5 V	
2ND LO PLL LOCK VOLTAGE	1 • Display freq. : 265.0000 MHz	RF	Connect a digital multi-meter or oscilloscope to check point CP3.	6.5–10.5 V	Verify
	2 • Display freq. : 266.0000 MHz			6.6–10.6 V	
	3 • Display freq. : 267.0000 MHz			6.4–10.4 V	
LCT TERMINAL	1 • Display freq. : Any frequency of the 1st LO and 2nd LO are locked.	RF	Connect a digital multi-meter or oscilloscope to check point CP9.	Less than 1.5 V	Verify
IF PEAK	1 • Display freq. : 130.0200 MHz • Mode : FM • AGC : ON • Filter : 15 kHz • R521 (RF unit) : Center • R523 (RF unit) : Center • Connect a standard signal generator to [ANT] and set as: Frequency : 130.0200 MHz Level : 50 μ V* (-73 dBm) Modulation : OFF • Receiving			Maximum S-meter level	Use the adjustment software. (see page 5-6, Tuned BPF)
	2 • Display freq. : 149.9800 MHz • Set an SSG as: Frequency : 149.9800 MHz • Receiving				

*This output level of a standard signal generator (SSG) is indicated as SSG's open circuit.

