PCR-1000
Control Panel

Operation Manual (V5.2)

(Hw. ED3 BOXED)

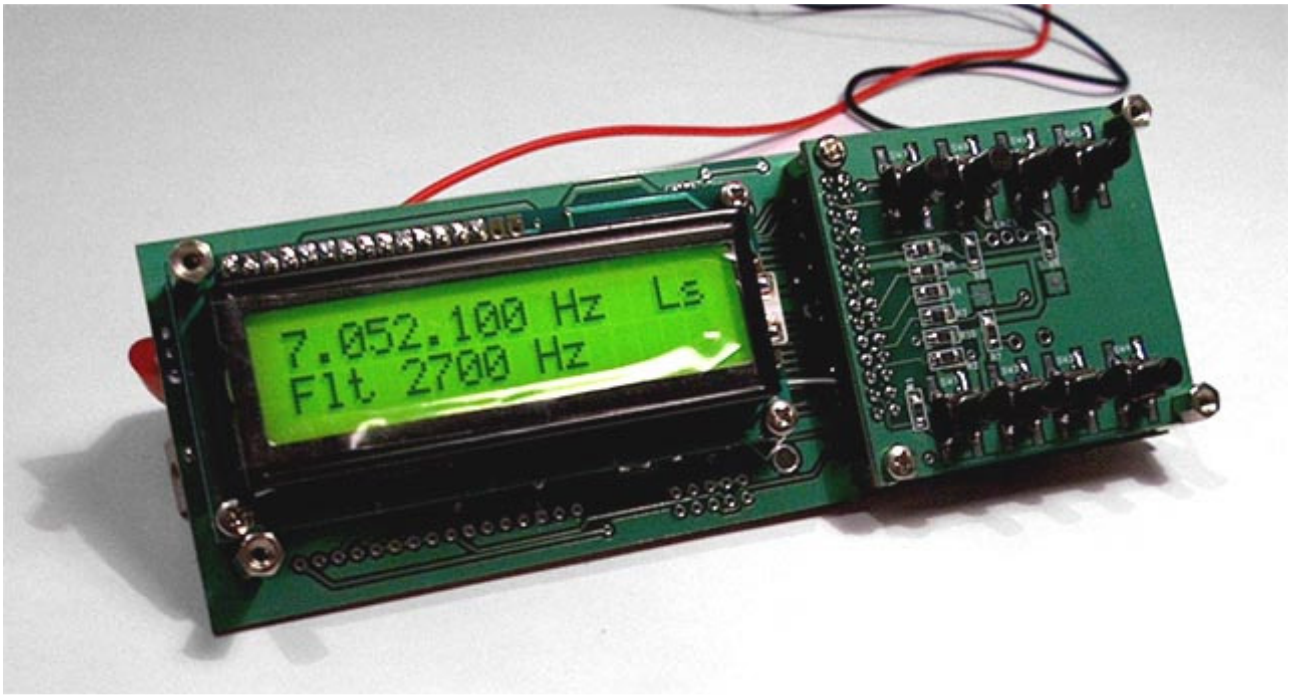
Last rev. Oct. 2011

PCR-1000 Control Panel Keyboard

PCR1000 controller

Key functions:

1. **RX MODE** :Rx Mode key to select LSB, USB, CW, AM, FM, FMW
2. **VOL-**:Volume Down (displayed on the S-meter field)
3. **VOL+**:Volume Up (displayed on the S-meter field)
4. **DEC** :Decreasing Key (for the selected function)
5. **STEP/BAND**:Frequency/Tuning step/ Ham Band
6. **FUN-**:Function Mode Down (see Table)
7. **FUN+**:Function Mode Up
8. **INC**:Increasing Key (for the selected function)



Controller

Start-up programming:
The last frequency used in each band is placed in the no-volatile memory. So when you switch the Ham-bands the last frequencies used are displayed. To restore the default central frequency bands: switch –on the controller with the Key #1 pressed.
Also last Volume used and last Squelch used are stored in the no-volatile memory
(This function is on up V5.1 version)

Description for the FUN +/- key (Function mode up & Down)

Mnemonic on LCD	**Description**
AGC	**Automatic Gain Control**: key 4 and 8 perform ON and OFF
ATT	**20dB Input Attenuator**: key 4 and 8 perform ON and OFF
AUT	Automode: if ON, to any RX mode, is joined the typical selectivity, and tuning step value. Keys 4 and 8 perform ON and OFF
BPT	**Band Pass Tuning**
FLT	**Selectivity Filter**: Keys 4 and 8 select the following selectivity: 3 kHz, 6 kHz, 15 kHz, 50 kHz and 230 kHz
MER	**Memory Read**: Use Keys 4 (down) and 8 (up) for selecting the memory location from channels 1 to 20 (any location stores Freq. Filter, RX Mode and Tuning Step)
MEW	**Memory Write**: Key 8 selects memory location 1 to 20; Key 4 stores the channel received
NBL	**Noise Blanker**: Keys 4 and 8 perform ON and OFF
SQL	**Squelch**: Keys 8 and 4 perform up/down from 0 to 255
Scan1	**Scanning Mode 1**: The receiver scans from F1 to F2 frequency. Key 8 stores F1 (F1s on LCD) and F2 (F2s on LCD). Key 4 starts and stops scanning. If squelch threshold is exceeded scanning stops.
Scan2	**Scanning Mode 2**: as Sc1 mode but without stop for squelch
ScanM	**Scanning Memory:**the receiver scan from channels memory location 1 to 20 ; Key 4 starts and stops scanning. If squelch threshold is exceeded scanning stops.
DSP Notch	Keys 8 perform Notch on and off
DSP NoiseR	**NOISE Reduction:** Key 8 perform reduction level from 0 to 15

Scan function
The frequency scanning function works in two modes:

- Scan1: Scans with stop on channel busy
- Scan2: Scans without stop on channel busy

Scanning mode 1 (Scan1 on LCD)
To set up scanning proceed as follows:

1. Tune the first frequency (F1) with normal key for tuning
2. With function mode Key (key 6/7) select Sc1
3. With Key N8 store this frequency; LCD displays “F1s”. Press the key only once

4. With encoder or with Key 6 (frequency/step) and Keys 4/7 select a new frequency (F2) (F2 must be higher then F1)
5. With function mode key 6/7 return to Sc1 mode
6. With key N8 store this new frequency; LCD displays “F2s”. Press the key only once
7. To start scanning press key 4; LCD displays “Stop”
8. To stop scanning press key 4; LCD displays “Str”
9. When scanning stops you can change frequency up and down with the encoder

Scanning stops if a carrier overcomes a Squelch level.
To set the squelch level use the “SQL” mode in the range S1-S64
Scanning is performed at the frequency step size selected .
Select the appropriate step size for the reception mode selected as follows:

- 100 Hz step for USB, LSB and CW
- 3KHz for AM
- 12.5 or 25 KHz for narrow FM
- 100 KHz for WFM

When scanning is running it is possible to change other operating modes: the tuning step, the reception mode and so on.
To stop scanning you must always return to Sc1 or Sc2 and press Key 4.

Scanning mode 2 (Scan2 on LCD)

As for Sc1 mode without stop on channel busy. Start and stop scanning are controlled only with Key 4.

Memory scanning (ScanM on LCD)
Memory scanning i also possible (sw V4 and up): the receiver scan from channels memory location 1 to 20 ; Key 4 starts and stops scanning. If squelch threshold is exceeded scanning stops.

Description for the Key 5
Key 5 toggles frequency /tuning step / HAM Band. The action of Keys 4 and 8 increases and decreases the selected function.

Description for the encoder Knob

The encoder knob performs the frequency tuning with the tuning resolution selected with 5/4/8 key.
Tuning step available: 1 , 10, 100, 1000 Hz, 3, 10, 12.5, 25, 100 KHz 1, 10 MHz
This knob is optional. Keys 4 and 8 can also be used.
The knob uses a mechanical encoder (16 pulses / turn). This encoder can be replaced from a optic encoder (64 pulses / turn)

The keyboard PCB is assembled on the PIC CPU Printed circuit board.

Power-up restore
During tuning, the frequency on use and the Rx mode, are stored in the cnannel memory position M0. When the controller is turned on, the last frequency used is restored.
To preserve the EEprom memory durance,(1 Milions writing) the memory write isn't performed during scanning or during fast tuning. (This feature is added up V4.3 version)

Cables & Connections and power requirement

Connect the Control Panel unit to the PCR-1000 receiver with an RS-232 cable male/female pin-to-pin DB9 (not supplied with unit). Rs232 connections are possible on the JP1 connector too.
Power supply is 8-15v DC on the rear connector (polarity diode protected)
Supply current with standard LCD: 250 mA maximum with LCD .

For schematics see the Hardware manual "PIC_board_ED3 "

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