

NAME

RA1792Control – a program to control the RACAL RA1792 receiver with look & feel similar to the receiver itself, with some enhancements.

SYNOPSIS

RA1792Control

DESCRIPTION

A full manual has been not written yet. Briefly and with apologies for the bad english:

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THIS PROGRAM HAS BEEN WRITTEN FOR THE  
PROLOGIX USB-to-GPIB INTERFACE  
SEEN BY THE SYSTEM AS A VIRTUAL COM PORT!  
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The "REM" button starts program execution and connection with the RA1792. Before clicking on it, be sure to select in the "Options" menu the correct receiver address. Actual address is shown in brackets after the menu entry "Receiver address". The chosen configuration will be saved automatically. For serial ports other than the first two, or USB, select the "Custom" serial port option and write the name of the port. Please note that with the Prologix USB-to-GPIB interface the serial speed does not matter.

Don't forget to set the same address on the receiver with the dip switches on the back. Check also that your user has serial port access privileges; under Linux usually it must be a member of the "dialout" group and the virtual serial port created by the Prologix interface is no exception.

When you start the program, the RX state (frequency, mode, filters, etc) will be read from RX itself. The state can also be saved to and restored from a file. Default file name is <frequency>-<mode>.dat, e.g.10100.800-CW.dat.

Option "Enable S-meter" starts polling the received signal level (using the TR command) every 0.3s and display a bar-meter for the received signal strenght. During the command duration, other keys are disabled, so selecting this option slows down somewhat operations. Note that not all RA1792 have the TR command (e. g. mine, an old non-backlit version, has not).

Frequency can be changed by clicking on the RX display, with the mouse wheel, by writing the desired frequency in the spinedit at lower right of the main window or by turning the tuning "knob", moving the mouse on it. To enable tuning (indicator TUNE lit), press the "TUNE" button or click on the tuning knob. Clicking a second time disables tuning.

The tuning knob rate can be fixed (0.5, 1, 10 or 100 kHz per turn) or timed, as in the real receiver tuning knob: turning it slowly makes small frequency increments, down to 1 Hz, turning it faster makes bigger increments. Since it is difficult to maintain a well-defined tuning speed using the mouse, in the author's opinion it is wise to use one of the fixed tuning rates, so the initial default is fixed at 1kHz per turn. Try and see yourself.

Left-clicking on a figure in the RX frequency display decrements that figure by one, right-clicking increments that figure by one. This only happens if the final frequency is in the range of the RX. Clicking on the decimal point the displayed frequency will be rewritten. Smallest increment/decrement available is 1 Hz.

If the mouse wheel is rotated with the pointer over one of the figures of the RX frequency, that figure is incremented or decremented (does not work under Windows).

If the mouse wheel is rotated with the pointer over the frequency spinedit, the frequency is

incremented/decremented by 1 Hz.

Last, if the mouse wheel is rotated with the pointer anywhere else, RX frequency is incremented or decremented by the tuning step in effect.

The channels stored or recalled with the STORE, CHAN and CHAN SCAN keys are local to the program, which tries to mimic the RX behaviour, but have nothing to do with the channels stored in the receiver, since no remote command is available to read or set these.

There are also some keyboard shortcuts:

- +: Tune up by the default tuning step in effect
- : Tune down by the default tuning step in effect
- /: Change tune rate (cycles between 1, 10, 100 and 1000 Hz)
- *: Set receive frequency
- .: Enable/disable TUNE mode
- ENTER: same as ENTER button

allowing basic control of the receiver using only the numerical keypad.

These keyboard shortcuts are also accepted:

- U: Set USB mode
- L: Set LSB mode
- C: Set CW mode
- A: Set AM mode
- F: Set FM mode
- I: Set ISB mode (if ISB option fitted)

The above commands can be issued either upper or lower case. The frequency value for command * can be entered either with the keyboard or with the on-screen numeric keys.

OTHER COMMANDS & CONTROLS

The message display shows informations about the command being executed or status/info/error messages. Double-clicking on it clears display.

RX parameters (frequency, step, AGC, etc.) can be set also by selecting the desired value with the controls at the lower right of the main window.

The program tries to disable illegal keys for the actual state (e. g. pressing the "F" key, only the numeric keys are active and all other function keys are disabled. If this behaviour is not wanted, then check the "Option>Enable all controls" menu entry.

NOTE ON CONFIGURATION AND STATE FILES.

All configuration files are kept in the .RA1792Control directory of your home directory (RA1792Control under Windows). In case the program configuration has messed up, delete (or move) the "Config.dat" files and the program at next start will recreate it using the default configuration.

The channels stored with the STORE are kept in the RXChan.dat file.

The AUX configuration is kept in the file AUXconf.dat. To change it, set the wanted configuration (mode, bandwidth, AGC and BFO if applicable, other parameters are meaningless) and use the "File>Save state..." menu entry to overwrite existing file.

Files saved in the Channels subdirectory (using the "File>Save Channel" menu entry) will be read at program startup and shown in the Channels menu entry and can be recalled using only one mouse click. To allow to rename and delete the saved state files from within the program, a very minimal file manager is built in (menu entries "File>Manage states" and "File>Manage channels").

TODO.

Check the correctness of the state machine dealing with the memory channel functions against the RX behaviour.

Check if the received signal level reading code works. My RA1792 does not have this command so I was unable to test it.