

HAM RADIO PROGRAMS FOR WINDOWS 3.1 BY IOJX

(June 1995)

I am pleased to offer the three programs described below to the ham radio community. In line with the “hamspirit”, programs can be freely utilized and distributed provided they are not used for commercial or business purposes. All programs are in English.

You need a reasonably fast computer (80386 or up) with enough RAM (4 Mbyte RAM or more) and a 256-color VGA card with a color monitor. SVGA resolutions (800x600 and 1024x768) are supported.

Brief programs description

CLUSTERMASTER (ver. 4.10): communications program specialized for *PacketCluster*^(TM) operations. Main features:

- separate windows for your own traffic and for monitoring the *PacketCluster* activity;
- when a DX alert is received, the DX call and band are spelled by voice (a SoundBlaster or equivalent card is required);
- your antenna can be rotated automatically on the DX station heading (a *Kansas City Tracker / Star Track* or equivalent card is required);
- double clicking on any frequency indication will cause your equipment (Kenwood or ICOM) to shift on that frequency (this feature operates in conjunction with the *RigMaster* or *RigMate* program, which must run concurrently with *ClusterMaster*, as described below);
- double click on any DX callsign to identify the DX country and get access to the DXCC data base;
- a bell sound is generated on DX alerts referring a country missing on the DX band or mode;
- it is possible to visualize or print the station address, if you have the Buckmaster HamCall CD-ROM;
- most program functions are available even if one operates without connecting the *PacketCluster* (monitor mode).

RIGMASTER (ver. 5.03b): sophisticated control program, via the RS232 serial communications port, for latest-generation Kenwood transceivers, i.e. TS-450/690/850/950 (may also partially work with other transceivers, although not tested). In addition to full equipment control, it offers the following main features:

- automatic SWR graphic plot (on the basis of the SWR readings generated by the internal SWR meter and output on the RS232 port);
- automatic antenna gain-response plot (on the basis of S-meter readings output on the RS232 port);
- an very sophisticated SWL frequency data base;
- support of *ClusterMaster* for its frequency/mode setting function (exploiting the Windows built-in DDE feature).

RIGMATE (ver. 1.03b): very simple RS232 control program for ICOM transceivers. This is just intended to support the *ClusterMaster* frequency/mode setting function.

Essential operating guide

Comprehensive help files are available both in Italian and English, providing detailed operating instructions; they can be directly consulted while the program is running. In the following, an essential synthesis of the program features is presented.

Installation

Software

Program installation is fully automatic. Once in Windows, run A:SETUP (if A: is your disk drive). You will initially be prompted to select the program(s) you wish to install. Once the installation procedure is completed, a new program group named "IOJX ham radio" will be created, containing the icons of the programs you have decided to install.

Hardware

To fully exploit the programs, you shall properly connect your TNC (by means of a full RS232 cable, i.e. 9-wire or more) and your RS232 transceiver control interface (available from Kenwood or ICOM) to *two* free COM ports of your PC.

All COM ports (including the one connected to your mouse, if any) shall utilize different IRQs. To achieve this, consult the file K_EXPLA.TXT located in the directory where you have installed *RigMaster*.

It is anticipated that an easy solution which solves all problems is to buy a "bus mouse" (i.e. a mouse which comes with its own board), to be operated on IRQ5. Then use the normal COM1 and COM2 port to communicate with your TNC and your control interface.

ClusterMaster (ver. 4.10): PacketCluster terminal program

Help file (ASCII): C_READ.ME

Additional information (ASCII): C_EXPLA.TXT

Warning: this program properly operates only if the TNC parameters are set as described below.

Before booting the program, you shall get into the directory where the program is installed and type:

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COPY CLUSTER.XXX CLUSTER.TNC
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where XXX is:

- “TN2”, if you use a TNC compatible with the TAPR TNC2;
- “AEA”, if you use an AEA TNC (PK-232. PK96, etc.);
- “DSP”, if you use a DSP-2232.

After this you shall edit, by means of a normal ASCII editor, the file CLUSTER.TNC, replacing the line MY MYCALL with MY <your callsign>.

If you use a KAM, please read file C_EXPLA.TXT.

After booting the program the first time, go immediately to the "Configure" menu and, for the time being, just personalize the essential items, i.e. the COM port, the Baud rate, your home call-sign, your WW locator and the PacketCluster Sysop call-signs. If you don't have a sound card, also set "Voice" to OFF. Once this is done, save the configuration.

Once you will get accustomed to program operation, you may change the other parameters of the "Configure" menu (you must consult the help file for doing this).

After starting the selected COM port in the “Actions” menu, the program will become immediately operational. The first time you use the program, you shall properly set the TNC parameters, by means of the “Set TNC” choice in the “Miscellaneous” menu. If the TNC, once switched off, does not store the parameters, you may set the “Set TNC on start” option to ON in the “Configure” menu. This will cause the TNC to be automatically set every time the program is used.

At this point you may press the "Connect" button to establish the connection to the *PacketCluster* (in case of problems check the TNC parameters and that you have used a full RS232 cable, i.e. 9-wire or more).

Your own traffic appears in the upper white window (the main window), while the general *PacketCluster* traffic is monitored in the lower yellow window (the auxiliary window).

At this point you may either type the text you like in the transmit window (the lower blue one) or press one of the available buttons (the buttons meaning may be changed by pressing the lowest rightmost button).

If either *RigMaster* or *RigMate* is also simultaneously active with DDE enabled, double-clicking any frequency indication in the receive window (the large white one) will cause the transceiver shifting to that frequency. If, in *RigMaster* or *RigMate*, the DDE is set to "frequency+mode", the transceiver will also shift to the mode corresponding to the frequency (e.g. for 14080 it will go to FSK).

By double-clicking any call-sign indication in the receive window, a new window appears which provides several information about the DXCC countr(ies) corresponding to the clicked prefix (to select a country in the list, just click it). In that window you have the possibility to mark whether a country has been worked (click

the check box once) and/or confirmed (click twice) in any band/mode and to store the callsign for each band/mode (remember to press the "Update" button after each change). Two distinct user-editable prefix and DXCC-country data bases are provided, for current and deleted countries respectively. If you have an antenna tracking card, pressing "Point" will turn the antenna to the DX station heading (you must boot the tracking card driver *before* booting Windows, see help file, and "Antenna track" must be at ON in the "Configure" menu). Furthermore, it is possible to visualize ("Address" button) and then print ("Print" button) the station address, if you have the Buckmaster HamCall CD-ROM.

Access to the same window can be gained with the "Search and point" selection in the "DXCC" menu. The "DXCC status" selection allows you to get immediate summary information on your DXCC status. Click band or mode labels to get selective data.

When a DX spot is received, the DX call-sign and the relevant band are pronounced (unless you do not have a sound card or you have set "Voice" to OFF in the "Configure" menu). The call-sign spelling is preceded by an "bell" sound if the DX prefix corresponds to a DXCC country that you do not have confirmed in that band or mode (the alert sound can be selectively disabled, for the various bands or modes, by means of the "Alert profile" indication in the "Configure" menu).

To scroll old received text, just press the long vertical button marked "S" located at the extreme right hand side of the receive window.

It is possible to operate even without connecting the *PacketCluster*. In this case, all traffic appears in the main window and the above described functions (voice announcements, transceiver frequency setting, DXCC country identification, antenna pointing, etc.) are all still available.

You may want that the program, once booted, gets automatically connected to the *PacketCluster*. To achieve this simply edit the command line (in the "Properties" selection of the Windows "File" menu) according to instructions given in the help file C_READ.ME. This file should be consulted to fully understand the operation of the other program functions.

RigMaster (ver. 5.03b): Kenwood rig control

Help file (ASCII): K_READ.ME

Additional information (ASCII file): K_EXPLA.TXT

Note: the program features are all available only if your transceiver is a TS950/850/690/450

After booting *RigMaster*, select the appropriate COM port ("Port" menu) and then start the selected port (menu "Actions"). If everything is hooked up correctly, an updating procedure will automatically begin, at the end of which the screen will show the current status of your transceiver.

You may then play with the program as you like, by clicking the various labels and buttons. By means of the "Features" menu, you gain access to the antenna SWR and antenna-gain plots and to the SWL data base.

If you set "Auto" to ON (click once on the "ON" label), the transceiver will automatically update the screen each time frequency and/or mode is manually changed (with "Auto" at ON certain programs features are disabled).

The "DDE" menu activates the link with *ClusterMaster* (i.e. the *PacketCluster* program), thus enabling this program to control (via *RigMaster*) the frequency, or the frequency and the mode, of your transceiver. Obviously, to achieve this, both programs (i.e. *RigMaster* and *ClusterMaster*) must run simultaneously (programs may even be reduced to an icon if so desired). It does not matter which of the two programs is booted first.

If you mainly use *RigMaster* as a support to *ClusterMaster*, you may want that *RigMaster* starts already preconfigured as you prefer (e.g. COM port already selected and started, "Auto" already set to ON, DDE already enabled, program reduced to an icon). To achieve this simply edit the command line (in the "Properties" selection of the Windows "File" menu) according to instructions given in file K_EXPLA.TXT.

RigMate (ver. 1.03b): ICOM rig control

Help file (ASCII): I_READ.ME

RigMate should be activated with the same procedure described for *RigMaster*. In this case you will have to also select the transceiver type in the "Radio" menu.

RigMate is a very simple program, just intended to support *ClusterMaster* program, allowing it to control the frequency, or frequency and mode, of your transceiver. What has been said for *RigMaster* with regard to the DDE link also applies to *RigMaster*.

You will be able to start *RigMate* already pre-configured as you prefer. To do this simply edit the command line (in the "Properties" selection of the Windows "File" menu) according to instructions given in the help file I_READ.ME.

A more featured ICOM control program (*ICOMtrol*), which also supports the DDE link with *ClusterMaster*, is available from IK0AOC.

73 Tony I0JX/AB6VZ

Antonio Vernucci, via G. C. Abba 8, I-00141 Roma (Italy)

Internet address: vernucci@space.it