

Using Orbitron with the VK5DJ Beam Indicator Project

Orbitron is a very good satellite tracking program. Sebastian Stoff (<http://www.stoff.pl/>) has programmed a capacity to export the data from Orbitron to beam controlling systems.

I have modified his interface to support serial data through the RS232.

To use the interface (vk5dj.exe) do the following:

- First copy **vk5dj.exe** into the main orbitron directory.
- Set specific name for your driver program, e.g. vk5dj.exe. Then edit '{Orbitron}\Config\Setup.cfg' file by adding a line to the [Drivers] section with your driver information.

Example:

[Drivers]

VK5DJ=c:\program files\Orbitron\vk5dj.exe

The name of the driver must be the same as the name of the exe file.

- Next time you run Orbitron, your driver will be listed on 'Rotor/Radio' panel. You can launch it there. If no path specified, Orbitron will ask you about your driver's location (drivers located in {Orbitron} directory will be found automatically).
- In Orbitron click the *rotor/radio tab* and choose the wanted body (satellite/moon/sun) and choose the VK5DJ driver. Activate it by clicking the icon to the right.
- On the beam controller unit choose the External mode of the Int/Ext switch.
- If the driver is running you will now see the **CTS on** panel flashing occasionally (it is mostly off as the CTS pulse is very short) and the LCD on the beam unit will be indicating "Comp=" and two numbers – the AZ and El of the body being tracked. You can then either use Manual mode or Auto tracking to track the body.
- The CTS on panel will not flash if the Int/Ext switch is on "Internal" as the handshaking will not be initiated.
- Clicking on Orbitron will relegate the interface to the background.
- Shutting down Orbitron also shuts down the interface.

Note: the computations by Orbitron for the location of the moon and the sun are not as accurate as those produced by the PIC in the VK5DJ beam controller system. I suggest you use Orbitron for satellite use and the VK5DJ beam controller internal calculations for moon and sun.

For satellite use it may also be necessary to make the hysteresis settings in the beam controller system larger than you would use for tracking moon/sun to reduce wear and tear on the rotators. Depending on your beams a setting of 5 degrees may be more appropriate.

The interface between Orbitron and VK5DJ Beam Controller sends data many times per second, but Orbitron updates less frequently. The interval may be set in Orbitron configuration.

Note that there is a 'Update Time' button on the VK5DJ interface screen. Clicking this updates the clock in the shack unit and is somewhat easier to use than the menu system on the shack unit. It automatically sets the correct UTC time providing you correctly configured Windows with your UTC offset (see timezone in control panel/Date and Time). Set your computer on local time.

Notes:

- (a) If you notice that the interface appears partly drawn on the screen with incomplete labels, no updating and the close and exit will not work, but otherwise seems to be working, then it is likely you have menu item 32 in the shack unit incorrectly set.

(32) CTS/DTR TTL levels or RS232 levels

The strange screen write is due to the CTS signal being inverted. Alter menu item 32 and you will find that all is well.