

Pulsar FAQ Oct. 2010.

How do I know if I have proper connection with the PC?

Install Pulsar Commander (download from www.astronomy.hu) on your PC (preferably Win XP), select the correct COM port number (9600 bps for P1, leave settings unchanged for P2) and click „Connect” in Pulsar Commander. Next, click the Hand Controller tab and compare to what you see on the real hand controller. These must be identical if you have a proper connection. Use Pulsar Commander 2.XX for P1 and 3.XX for P2.

What can I do if Pulsar cannot connect to the PC?

For P1, check the serial cable you have. It must have pins 2,3,5 connected straight to pins 2,3,5 on the other end. The rest of the pins is irrelevant. If you are using a USB to Serial adapter, try using another one, not all work correctly.

For P2 check if you have installed the driver. Available at <http://www.astronomy.hu/pulsar2%20drivers.zip>

Check if you have selected the correct virtual COM port your OS has created when you have installed the driver. You can look at it in MyComputer/Properties/Hardware/Device Manager/Ports.

On some machines you must always use the same physical USB slot you used when you have installed the driver.

What can go wrong during upgrade?

For P1 upgrade lasts several minutes and you are tempted to use other applications in the meantime. This will make Pulsar Commander loose the communication and you will not see when the upgrade has finished. Do not click outside the Commander window while the upgrade is in progress! Make sure your PC will not screensave, shut down or restart during the upgrade process!

If Pulsar gets switched off during the upgrade it will need a forced upgrade.

For P2, the upgrade last a few seconds but the same warnings apply.

What can I do if Pulsar hangs up during upgrade?

In this case you will have to do a forced upgrade. The printed circuit board must be removed from the black box (open at the power cable end) for access.

What has happened if I see „Pulsar Hand XXX” on the hand controller?

The hand controller is only a peripheral unit of the driver, receives and sends information to the central unit. If the central unit is in upgrade mode or faulty this message will appear on the LCD. If it is not possible to make an upgrade or forced upgrade the central unit may be defective.

What can I do if I have accidentally selected upgrade mode?

Connect to the appropriate Pulsar Commander. You will get the message „Pulsar is in upgrade mode“. Click the Upgrade tab, then click „exit upgrade mode“. If this does not work you shall try the forced upgrade process.

My Pulsar forgets time/date. What has happened?

If you get stupid horizon error warnings instead of a goto check the time/date! If it is lost after you have switched your Pulsar off the internal battery may be dead. Earlier Pulsars have a rechargable battery pack soldered into the circuit board. Please replace with an identical or similar item. Later models have a replaceable battery in a plastic holder (CR 2032). Note the correct polarity!!! In both cases the black alu box must be opened from the power cable side and the circuit board pulled out for access.

How can I use the Pulsar2 Ethernet capability?

In the Setup/System menu you can set the proper IP address/netmask/gateway of the controller.

Default : 192.168.1.111/255.255.255.0/192.168.1.1

You can connect to Pulsar2 using the Telnet protocol on port 23. All LX200 commands are accepted, like over RS232.

Alternatively you can use your browser to reach the simulated hand controller (JAVA applet).

You can use any LX200 serial port based program over ethernet if you install a virtual serial port to TCP/IP driver on your PC. You find the driver here: <http://www.astronomy.hu/pulsar2%20drivers.zip>

Is it possible to use a traditional serial port with Pulsar2?

Yes, on the auxiliary port Pulsar2 has a serial port. A serial port may be more stable which is an advantage in remote use. To make a cable, get an Ethernet cable, cut one end off and solder on a female DB9 connector as shown in the illustration!



How can I use a GPS with Pulsar?

Both Pulsar1 and Pulsar2 can receive serial NMEA 4800 baud GPS input. The GPS will provide the exact time and geographical position to Pulsar. A GPS antenna cannot be connected to Pulsar because it does not communicate with the NMEA protocol.

Pulsar1 automatically reads the GPS when switched on but the firmware versions supporting the ASCOM driver do not have this function (for memory limitations and because it interferes with the connection to the PC). The GPS must be connected to the serial port before switching the unit on. Pins 2,3 must be reversed on the PC serial cable supplied with the GPS.(with an adapter)

Pulsar2 can be prompted to read the GPS from the user setup menu. The Pulsar2 manual has the pinout information (Auxiliary port section). The cable has to be plugged into the auxiliary port.

What power supply shall I use?

Generally speaking any 12-18V DC regulated power supply with 3-5 Amp capacity may be suitable. Lead acid (car) batteries with at least 30Ah capacity will also do, provided they are well charged (the tension must be above 12V when Pulsar runs). What may cause problems?

1Unstabilized (unregulated) power supplies like battery chargers,

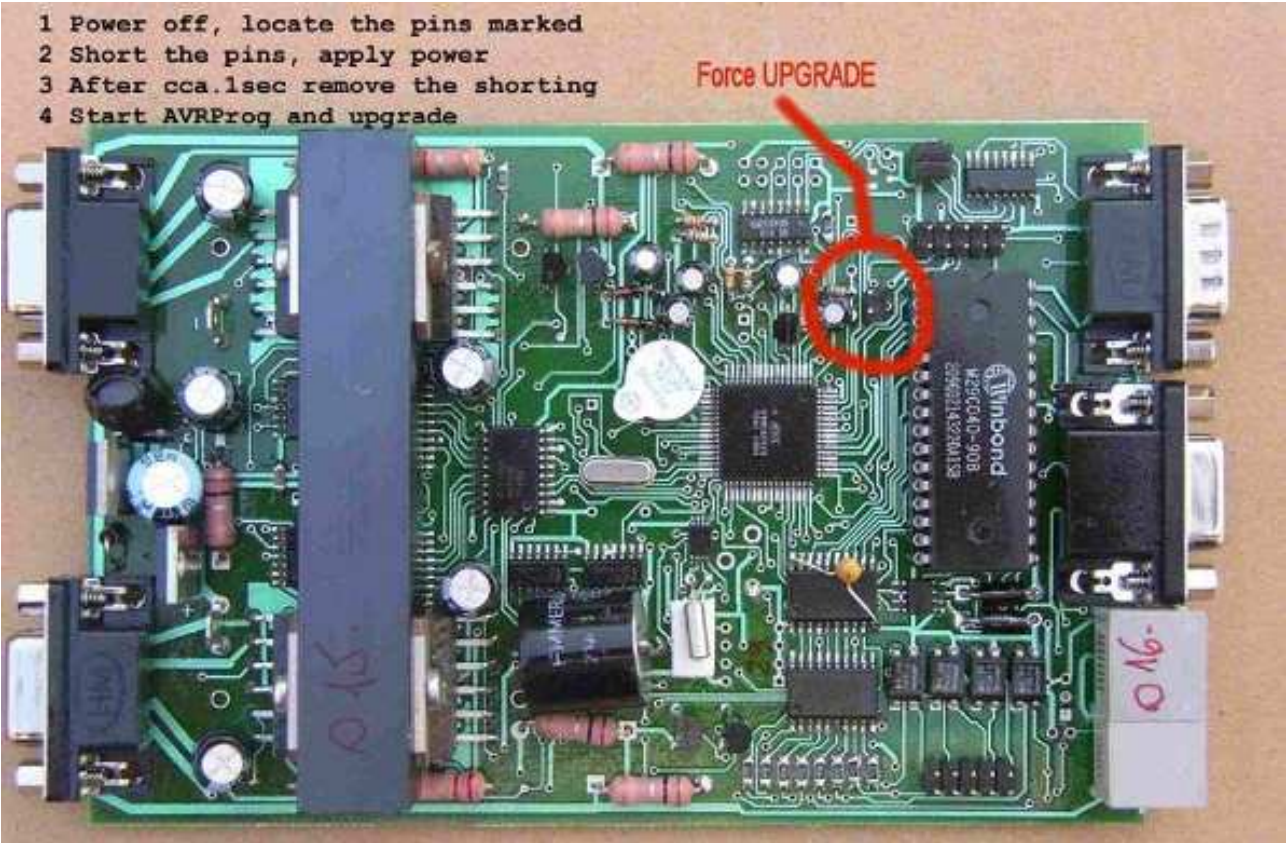
2Switching mode power supplies because A) they may interfere with Pulsar's internal switching mode regulator (rare problem) B) they may have a very fast protection that shuts down when Pulsar starts.

3Laboratory power supplies with fast current limiting function (same reason as B above)

If you need a particular hint the Voltcraft 13.8V power supply (FPS4-6 or 2-4) will do.

Pulsar1 forced upgrade procedure

- 1 Power off, locate the pins marked
- 2 Short the pins, apply power
- 3 After cca.1sec remove the shorting
- 4 Start AVRProg and upgrade



Pulsar2 forced upgrade procedure

Pulsar2Forced Upgrade

- 1. power off, close jumper
- 2 power on for 5 sec
- 3. power off, release jumper
- 4. power on, upgrade

