

Bad controller communication with the PC

Diagnosis:

A controller which communicated perfectly, does not communicate with the software sometimes or for a long period, i.e. on the Real time event window there are messages like "some commands returned error 263 Timeout", or no events are displayed. Pressing on the Reset button of the controller does not give any event on the software screen but doors are still opening with codes and tags means that the controller still work as stand alone mode.

1. In case the controller does not communicate at all:

Solutions:

If the Green communication LED is constantly ON:

→ Disconnect the controller from its communication bus.

If the LED is still ON, remove the communication component (the one marked 'Max3085').

If the LED switches OFF, replace the component as it burned.

Do not change the component on a powered controller.

→ Check Rx and Tx (or Hi and Lo) communication wires are not cut.

→ If using a switch mode PSU please ensure you have installed the 120 Ohms resistor.

If the Reset LED blinks:

- Power off the controller
- Remove the ROM
- If there are Kit Com2 components remove them
- Power up and try to read the Boot version with the Flash2000 software.

If the Led does not blink after 2-3 minutes, insert the ROM and try to read the Boot again.

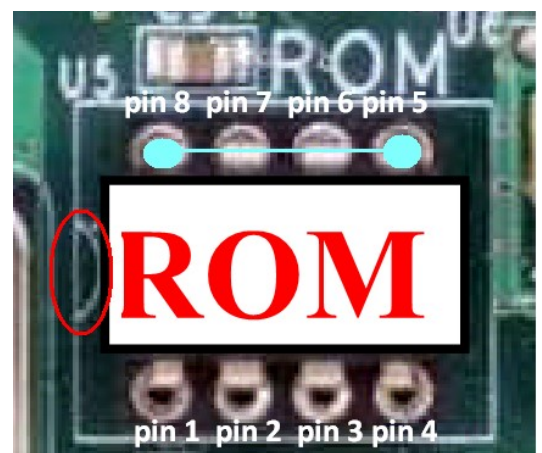
If the communication is OK, flash the controller and initialize it with the software.

If the Led still blinks after 2-3 minutes, replace the ROM.

If the Led still blinks after 2-3 minutes, try to clear the RAM:

- Power off the controller
- Remove the Lithium jumper (JP1)
- On the ROM, shortcut pin 5 with pin 8 together during 5 sec
- Set the JP1 back with the Power
- Check if the communication is restored

If not, the controller is faulty.



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- **All controller relays are constantly ON**

→ Check the Lithium Battery voltage. If the voltage of the Battery is under 3VDC, the Lithium Battery is faulty. If not, maybe the Battery Jumper is faulty.

- **If Controller firmware version is from 12/11/2006:**

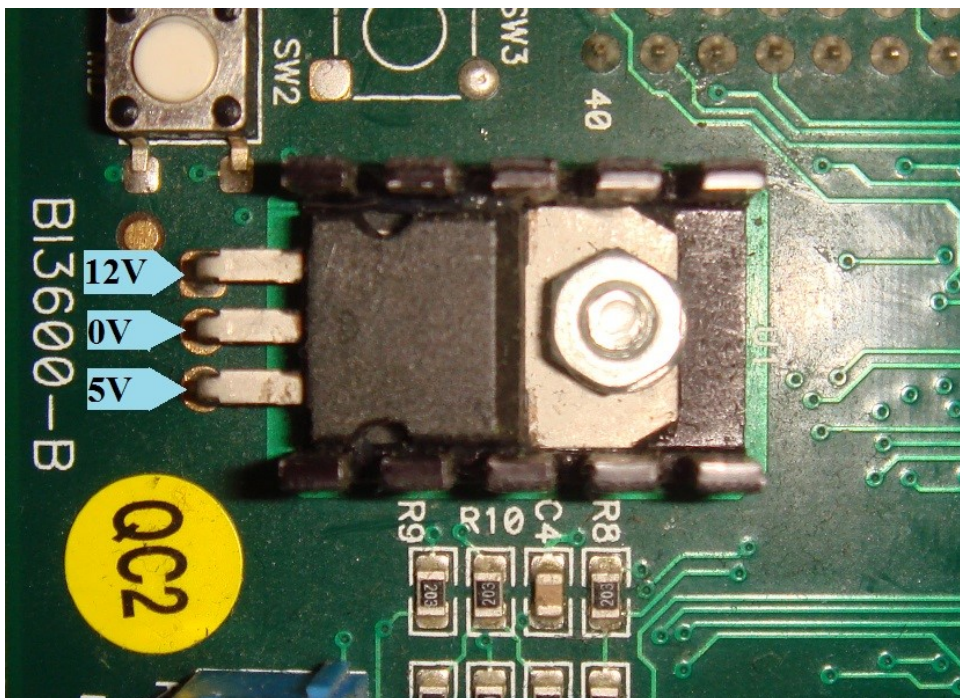
→ Upgrade the Controller firmware with a firmware dated from 19/11/2006 or newer.

With the firmware version of 12/11/2006, the communication may be stopped sometimes by a wrong event.

To retrieve the communication, it is necessary to clear the event buffer (by clicking on the **Actions>Clear Events buffer** in the Diagnostic screen). This problem has been corrected in the firmware version from 19/11/2006.

If the controller communicates via TCP module:

→ When the board is powered and connected to the 100Mb Ethernet switch, measure the voltage at the regulator located on the board and check that the voltages are close to the following. If not, the board is faulty.



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→ It is possible that the TCP converter (Tibbo or Lantronix module) is working at a different baudrate than the controller baudrate (eg. GPP baudrate is at 19200, Tibbo is at 38400 and controller is at 9600).

Try to change the baudrate of the TCP converter (eg. 9600) via its configuration tool (DS Manager or Device Installer) and then try to communicate with DBCOM with this controller.

→ Check if the "UDP_Conf.exe" file is located in the GPP folder. If not, probably your antivirus has deleted it.

To solve this issue, re-install it by using this [setup](#) and configure it as a safe file in your anti-virus settings.

→ Create a virtual Com port with VSP Manager (this application is located in the Tibbo Toolkit) and try to communicate via this Com port.

If it works, either the "UDP_Conf.exe" file is not located in the GPP folder (see the previous point) or the machine has some issue with its network board. In the last case, try to reboot the machine.

If none of the previous cases has solved your issue:

→ Open the Windows Task Manager on the GPP server and check that there is only one GPP process that is running. If not, close GPP and close all the processes and restart the GPP software.

→ As controllers cannot communicate with more than one GPP server at the same time, make sure that GPP server is not running on another machine.

→ Try with Flash2000 to read the BOOT* version. If you do not get it, remove the ROM component. If still not, try to replace the communication component (the one marked 'Max3085'). Do not change the component on powered controller.

→ Try with Flash2000 to read the Firmware version. If you get something like AB/CD/EF, download the firmware and try again. If you still do not get the firmware version, try to replace the ROM component. Do not change the component on powered controller.

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2. In case the controller communicates sometimes:

Solutions:

If the Green communication LED is constantly ON:

→ If using controllers with Switch mode PSU ensure the 120 Ohm resistor is installed at the end of line for each network

If the Reset LED blinks sometimes:

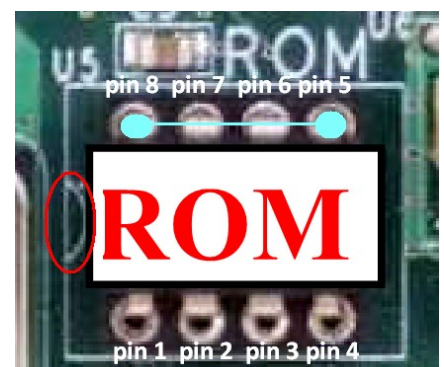
- Power off the controller
- Remove the ROM
- If there are Kit Com2 components remove them
- Power up and try to read the Boot version with the Flash2000 software.

If the Led does not blink after 2-3 minutes, insert the ROM and try to read the Boot again. If the communication is OK, flash the controller and initialize it with the software. If the Led still blinks after 2-3 minutes, replace the ROM.

If the Led still blinks after 2-3 minutes, try to clear the RAM:

- Power off the controller
- Remove the Lithium jumper (JP1)
- On the ROM, shortcut pin 5 with pin 8 together during 5 sec
- Set the JP1 back with the Power
- Check if the communication is restored

If not, the controller is faulty.

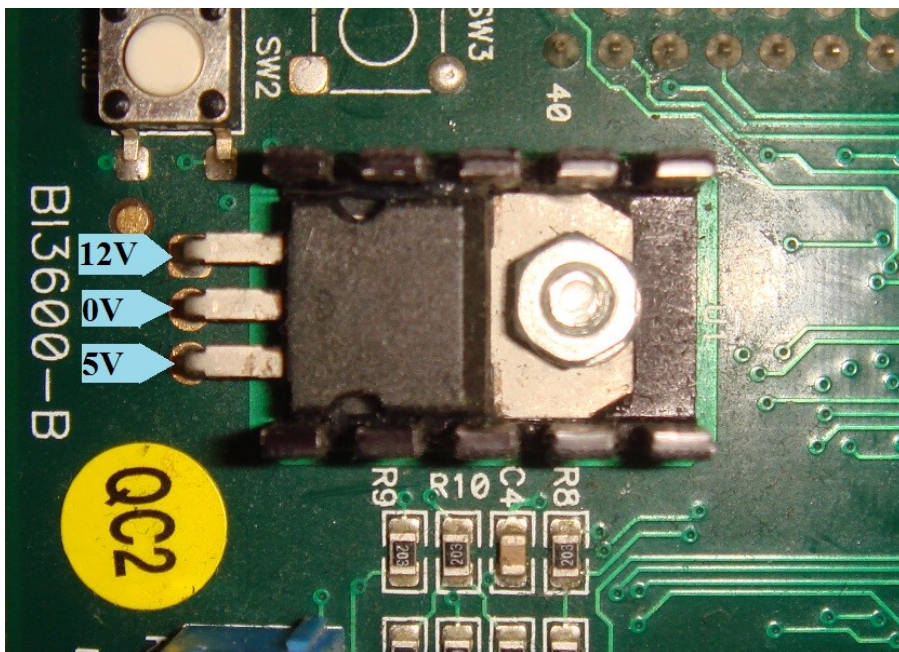


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If the controller communicates via TCP module:

→ When the board is powered and connected to the 100Mb Ethernet switch,

measure the voltage at the regulator located on the board and check that the voltages are close to the following. If not, the board is faulty.



Ping the TCP module and check if there is a latency. If the latency is more than 20ms, open the GPP.ini file and set the option "MotorComNet" = 0. Then restart the GPP server and check again.

The option "MotorComNet = 1" means to use the newer VB.NET communication layer, supposed to work better with larger networks.

The option "MotorComNet = 0" allows to use the older communication layer.

We discovered that the new VB.NET communication motor is not handling the latency issues very well whereas the old COMs layer is able to deal with high latency better. Hopefully we will fix the issue for the new VB.NET soon. → Create a virtual Com port with VSP Manager (this application is located in the Tibbo Toolkit) and try to communicate via this Com port. If it works, either the "UDP_Conf.exe" file is not located in the GPP folder (see the previous point) or the machine has some issue with its network board. In the last case, try to reboot the machine.

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→ Check the temperature of the controller room.

We have noticed that when the controllers are located in an environment of high temperature (80 deg. C) the Tibbo module would no longer respond. In this case, reset the controller to regain communication.

→ If using SQL databases on Windows Server 2003 SP2, Microsoft has published that a Windows component on Windows Server 2003 SP2 causes issues on SQL Server systems such as general network errors and working set trimming. The Microsoft correction should be installed.

The correction is available here: <http://support.microsoft.com/kb/948496>

For more details, look here: <http://blogs.msdn.com/b/psssql/archive/2008/10/01/windows-scalable-networking-pack-possible-performance-and-concurrency-impacts-to-sql-server-workloads.aspx>

→ TCP module of Tibbo are very sensitive to broadcasting. If there are cameras or other devices in the same network, that could cause communication interferences with the Tibbo boards.

In such case, the controllers network should be installed in a separated network like VLAN/VPN.

→ If using a TCP module of Tibbo and the red Tibbo led is blinking.

This means that the Tibbo module has entered into its programming mode.

In this case, setting the INI option `ResetTibbo=1` and restarting GPP could help.

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If none of the previous cases has solved your issue:

→ Open the Windows Task Manager on the GPP server and check that there is only one GPP process that is running. If not, close GPP and close all the processes and restart the GPP software.

→ Try to increase the controller baudrate (i.e. to 38400) when the communication is retrieved and then check if it improves the communication.

→ Check that the controller network defined in the corresponding screen of the software has polling settings reasonable for the installation. For example, if the network has a latency and the polling timeout is 50msec, there will be communication errors non-stop. You are invited to contact us to get tips on our recommendations.

→ Check that the RS485 bus is not cabled as star configuration.

→ EMI can affect the bus. Check the RS485 bus. If the bus length is more than 500m, install 120 ohms resistors at each end of the bus. The maximum distance between controllers and RS485 bus is 3 meters. The bus cables must be twisted and shielded. Link all the RS485 wire shields together and connect them at the RS232/RS485 interface end and NOT at the controllers end. RS232/RS485 interface must be connected to a reliable ground. Cut the welded wire ends and strip the new ends. Check that the screws/nuts are securely fastened. Use a line protection (like SP200) if necessary.

→ Faulty controller can affect communication across the network. In this case, find the faulty controller by disconnecting all the controllers and then progressively connecting back the controllers, one after the other, until the problem appears: the last controller connected is the faulty one. Then unplug all connectors from this controller (door openers, readers, etc..), then reconnect them gradually in order to find the source of disturbance (wire terminations not isolated, two wires in contact, etc..).

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3. In case the controller has pending commands:

Display the commands for information (in the Tool>Options>Journal GPP screen) and look at the grey commands:

If receiving 'Error 263'. Timeout:

→ Try to increase the controller baudrate (i.e. to 38400) when the communication is retrieved and then check if it improves the communication.

→ Open the Windows Task Manager on the GPP server and check that there is only one GPP process that is running. If not, close GPP and close all the processes and restart the GPP software.

→ Make sure that there is no other GPP server that is communicating with the same controller network.