

# BluePOD Solo



```
COM5 - PuTTY
HFP
BP_CONNECTION D004013A920C
AVRCP
BP_CONNECTION D004013A920C
BWAP_RESET
A2DP
BP_CONNECTION D004013A920C
AVRCP
BP_CONNECTION D004013A920C
BP_STREAM 1
BP_STREAM 0
BWAP_RESET
HFP
BP_CONNECTION D004013A920C
AVRCP
BP_CONNECTION D004013A920C
BP_STREAM 1
BP_CONNECTION 0
HFP
BP_CONNECTION D004013A920C
AVRCP
BP_CONNECTION D004013A920C
BP_STREAM 1
```

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## BluePOD Solo Programmer's Guide

The Programmer's Guide is to be used as a supplement to the BluePOD Solo User Manual and Spec Sheets, available on the Williams AV website. Please reference the User Manual for basic operation tasks and device specifications.

This guide will provide an overview of the control commands and monitoring available for the BluePOD Solo. These commands can be entered via a terminal when the BluePOD Solo is connected to a computer, or can be controlled/monitored by a 3rd party system that can send and receive RS-232 ASCII characters at 9600 baud.

For more information on the BluePOD Solo, reference the BluePOD Solo User Manual. This is only an RS-232 Programming Guide.

**NOTE:** These commands should only be used by someone familiar with audio technology.

If further advice is needed, please contact TechBlue at WilliamsAV by calling 1-800-328-6190.

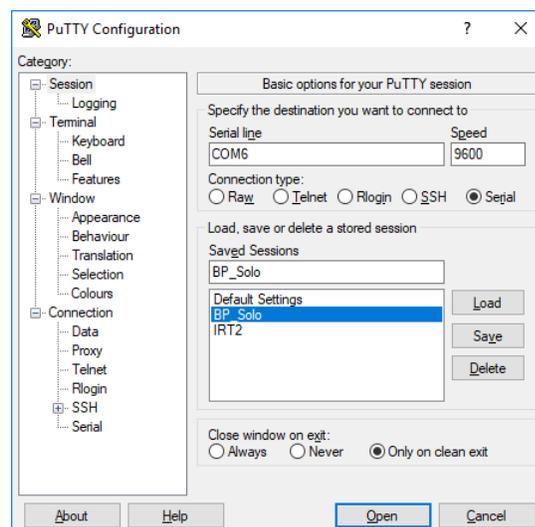
## Accessing the Terminal Interface

The BluePOD Solo has a Control port that is RS-232 compatible. It can be connected directly to a computer or other 3rd party system (Crestron, Kramer, Extron, QSC, etc) for control and monitoring.

1. Connect a **TTL-232R-3V3-WE cable made by FTDI** (or an equivalent cable) to the **RS-232 Control** Phoenix-style connector on the back of the BluePOD Solo. Only three wires are used for the wiring process. See the "Remote Control and Monitoring" section in the BluePOD Solo User Manual for more wiring information.
2. Connect the USB end of the cable into the computer.
3. Gather the COM port number the computer assigned to the cable. The port will be different per computer. To find the correct COM Port, open the Device Manager and look for the Serial to USB connector. Note the COM number, as shown below.

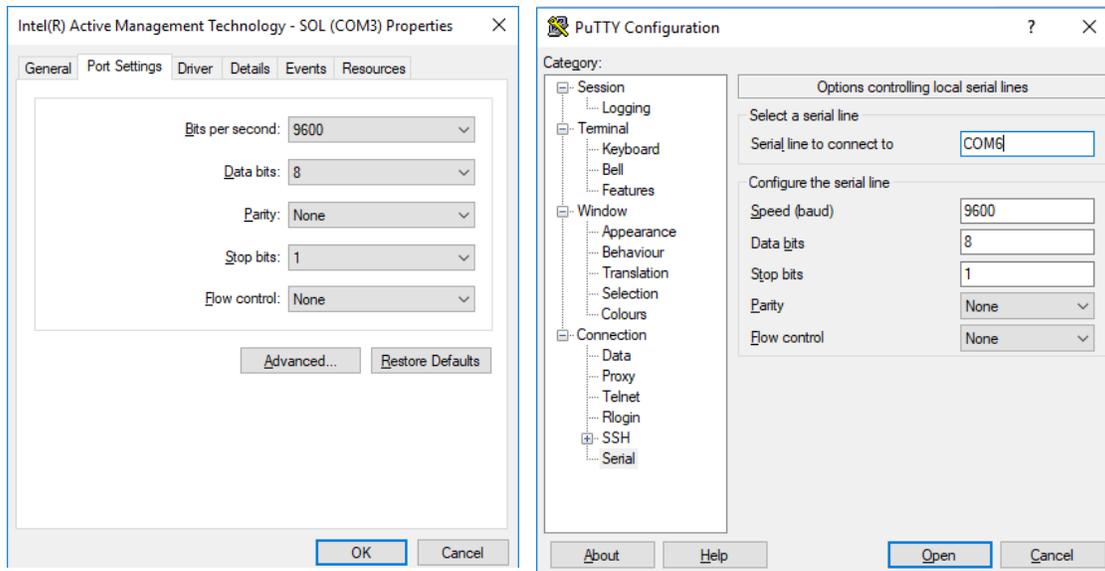


4. Open a terminal program that can read serial connections. **NOTE: If you will be using RS-232 connection to install firmware updates, you will need to be able to send files over serial connections.**
5. Start a Serial connection using your terminal program of choice. If using PuTTY, set your **connection type** to Serial. The Serial line should be the COM Port gathered from the device manager in Step 3 (for this example, it is COM6).



6. Configure the serial connection (setting names may differ for your terminal program).

- **Serial line to connect to:** the Com Port gathered from the device manager in Step 3.
  - In this example, it is COM6.
- **Speed (baud):** 9600
- **Data bits:** 8
- **Stop bits:** 1
- **Parity:** None
- **Flow Control:** None



## Event Messages

Certain events may send a message to the monitoring system. These messages are available below:

MESSAGE	EVENT DESCRIPTION
BP_ALLOW <BlueTooth Address>	Device with BlueTooth Address has requested to connect to the B-WAP. The host system must respond with bt_authorize command. This message is only generated when bt_security is set to 1.
BP_CALL <status>	This indicates the status change of a call. Status 1 indicates that a call has been initiated. Status 0 indicates that a call has ended.
BP_CONNECTION <BlueTooth Address>	Device with BlueTooth Address connected to B-WAP. If the address is listed as 0, this indicates that the connection was closed.
BP_STREAM <status>	This indicates a status change in audio streaming. Status 1 indicates that streaming has been initiated. Status 0 indicates that streaming has been suspended.
BP_TIMEOUT	This message indicates that the silence or stream timer has expired.
BWAP_RESET	This indicates that the B-WAP has reset, either in response to a bt_reset command or to a B-WAP being plugged in to the system. This message will also be generated during the power up sequence.

## Commands

The following commands can be used. Each command must be ended by a carriage return to execute. Commands are case sensitive.

**Note:** Changes to the Bluetooth Network name may not appear immediately on certain personal devices.

COMMAND	FUNCTION
audio <value>	Switches audio input source between line in (value = 0) and add-on module (e.g. Dante module) when value = 1. This setting is retained across power cycles.
bt_authorize <value>	This command should only be issued in response to a BP_ALLOW event message.  Authorize or reject a Bluetooth connection request. Setting value to 0 rejects the request. Setting value to 1 allows the connection. This command only has effect when bt_security is set to 1.
bt_autodisconnect <value>	Setting the value to 1 will cause a Bluetooth device to automatically disconnect when a call ends.  The factory default setting is 1.
bt_eject	Disconnects all connected Bluetooth devices from BluePOD Solo.
bt_enable <value>	Enable/disable connections to B-WAP. Setting value to 0 disables discovery and connection to the B-WAP. If a device is connected to the B-WAP when the command is run and the setting is changed to 0, it can still discover and connect to the BluePOD Solo, even when unpaired.  Setting value to 1 enables discovery and connection to the B-WAP module.
bt_name <string>	Sets the Bluetooth name of the B-WAP. The maximum length of the string is 30 characters.
bt_reset	Reboots the B-WAP.
bt_security <value>	Set the security method for Bluetooth connection requests.  0 – No security, all connection requests allowed. 1 – Requires authorization via bt_authorize command. 2 – Only allows connection of devices on whitelist.  The factory default setting is 0.
bt_sounds <value>	Setting the value to 1 will enable playing sounds when a device connects, and when a device disconnects.  Setting the value to 0 will disable these sounds.  The factory default setting is 1.
bt_timeout <silence timeout> <stream timeout>	Sets the Bluetooth timeout values in minutes. Setting the value to 0 disables the timeout. The maximum value is 480 (8 hours).  If a device connects to the B-WAP, but does not start an A2DP stream or initiate a phone call before the silence timeout duration passes, the device's connection to the B-WAP will be closed.  The default silence timeout is 20 minutes.  If a connected device starts an A2DP stream, after the stream timeout duration passes, the device's connection to the B-WAP will be closed.  The default stream timeout is 2 hours.
default	Restore the BluePOD Solo to default factory settings.
jmp <address>	Executes code located at address. Typically this is used to access the bootloader stored at address 0 ("jmp 0")
rules	Returns the settings for B-WAP rules (defaults shown):  MAX SILENCE : 20 MAX STREAM : 120 BWAP SECURITY : 0 BWAP MODE : 0 SOUND ENABLED : 1 AUTODISCONNECT : 1

<b>COMMAND</b>	<b>FUNCTION</b>
status	Returns current system status:  SILENCE TIME : 0 STREAM TIME : 23 DEVICE CONNECTED : 1 CALL ACTIVE : 0 STREAM ACTIVE : 1 BWAP ID : 097D3D CONNECTED ID : 101C0C0A10DA UPTIME : 02:54:16
ver	Displays version information for the BluePOD Solo.

## Updating Firmware

The firmware can also be updated over a RS-232 connection. The bootloader for the BluePOD Solo is located at memory address 0. Firmware can be updated by forcing the bootloader to load, erasing the current firmware on the device, and installing the new firmware.

BOOTLOADER COMMAND	FUNCTION
bl	Activate the bootloader. Will only execute within one second of powering on the BluePOD Solo.
hw	Provides information about the processor.
jmp <address>	Executes the program located at specified address.  jmp 0 reboots the BluePOD Solo. jmp 1600 executes the BluePOD Solo application.
ni <pass code>	The New Image (ni) command deletes flash memory and prepares to accept new code. The passcode is not case sensitive. The pass code may change for different versions of firmware, so be sure to read any notes on the Williams AV website thoroughly before updating firmware.  The pass code for the BluePOD Solo is <b>11 70 A5 F1</b> .
ver	Provides version information for the bootloader.

```

jmp 0
JAU BOOTLOADER
DEVICE:34
DERIU:1
REUID:1
-----
i - Erase FLASH and Update Firmware
jmp - Jump to Image
i 11 60 a5 f1
*** Erasing flash from 0x1600 to 0x8fff
*** Flash pages erased.

Ready to receive...
:00000001FF98FDAF99C2987E00220822892003D32B
** Firmware Update Complete. **

JAU BOOTLOADER
DEVICE:34
DERIU:1
REUID:1
-----
i - Erase FLASH and Update Firmware
jmp - Jump to Image

PCB307BP v1.0.0
: 2019
CU: 34.01.01
CODEC: 80.85.03
BMAP_RESET
JEP
PCB307BP v1.0.0
: 2019

```

In a terminal window:

1. Download or otherwise acquire the firmware update file and have the file readily available to send through the RS-232 terminal connection.
2. Enter command **jmp 0**. The display should show the bootloader.
3. Enter command **ni 11 70 A5 f1**. This will erase flash memory.
4. Using your terminal program, send the firmware update file to the BluePOD Solo. Instructions on how to do this will differ based on your terminal program. A message saying Firmware Update Complete should appear.
5. Once the file has been uploaded, reset the BluePOD Solo by cycling power.

**Note:** The `bt_reset` command does not cycle power on the BluePOD Solo. It affects the B-WAP only and will not finalize firmware installation.

6. Optionally, run the **ver** command to confirm the firmware update is complete.

**WILLIAMS AV**  
info@williamsav.com / www.williamsav.com  
800-843-3544 / INTL: +1-952-943-2252