Problem	Possible Cause	Solution
BL-3GRC unit not powering up	Connections from the receiver are not connected properly to the BL-3GRC unit as per the Quick Start Guide or Advanced User Manual	• Make sure the ground (brown or black) wire of all cables is on the outside. All connections provide power, but special connection is needed for high current usage - see Quick Start Guide or Advanced User Manual • When powered up the RED LED should be on • You can also test the BL-3GRC unit in isolation by installing the Setup Tool on a Windows PC and connecting the unit via USB. When not connected to an ESC, Receiver or Servos the BL-3GRC will power up from the USB connection. • After initialization, with default settings the following LED indications should be observed: RED (power on), BLUE (flashing, software running), GREEN (fast flashing, gyro working)
BL-3GRC unit not running (solid RED & BLUE LEDs)	Gyro in "Invert with POTS mode" (All 3 POTS full left/anticlockwise)	• Center all POTS and recycle power

No control outputs working (connections)	Connections from the BL-3GRC unit to the servos are not connected properly	• Ensure Receiver, Servos and ESC are all working *without* the BL-3GRC unit installed
		• Install the BL-3GRC unit and make sure the ground (brown or black) wire is on the outside for all connections
		• Center all 3 POTS and power cycle the BL-3GRC unit (if the unit is connected to servos or ESC in the plane ensure battery is connected)
		• Check the following LEDs on the unit:
		  ○ RED – power on
		  ○ BLUE (Flashing) – software running

No control outputs working (software)
 	
[This is also describes the Firmware upgrade procedure]
	Software configuration or firmware corruption	• If you can connect the BL-3GRC gyro to the Setup Tool, from Quick Start or <Basic> page <Send>* configurations to the BL-3GRC unit
		• If still not working re-load the firmware (see Advanced User Manual)
		  ○ Download the latest Setup Tool, Firmware package and Manual from: http://www.bluelight-tech.com/Downloads.htm
		  ○ Extract the Setup Tool and Firmware files to a folder on a Windows PC
		  ○ Install the Setup Tool
		  ○ Run the Setup Tool and connect the BL-3GRC unit via USB. (If the unit is connected to servos or ESC in the plane ensure battery is connected)
		  ○ Ensure connection established
		  ○ From Tool, select <enable tabs> from Quick Start page
		  ○ Go to <Upgrade> page and <launch upgrade>; select .efu file and enter Programmer Keys when prompted
		  ○ Power cycle the unit and ensure RED power LED is on and, after gyro initialization, BLUE LED flashes
		[* Note whenever Sending or Receiving (version 3.0 and later) data from the BL-3GRC unit, always let this complete before clicking to another page or function]
		• Upgrade process: http://xflighttech.com/Upgrade.htm

No control outputs working (Transmitter Matching)	Transmitter signals not being received	• Check that the BL-3GRC unit is receiving the Transmitter signals; Setup Tool <Advanced1> page hit <Start> button and move Transmitter sticks • Check Min/Max ranges, if in doubt run *Tx input matching* (see Manual) and/or reload <defaults> settings and <Send> to gyro from <Basic> page
No control outputs working (Servo type)	Servo type not selected correctly	• Check that the BL-3GRC unit is configured correctly for the type of servos used; Setup Tool <Basic> page *Output Connection;* select correct servo type *(Digital/Analog/Controller/Narrow pulse)*
Control surface not working on one channel (connection)	Connection from the BL-3GRC unit to the servo are not connected properly	• Make sure the ground (brown or black) wire is on the outside and Servo works without Gyro connected

Control surface not working on one channel (software)	Input or Output configuration issues	• Check that BL-3GRC unit is receiving the Transmitter signal; Setup Tool <Advanced1> page hit <Start> button and move Transmitter stick • Check the configuration on the Setup Tool <Info> page is correct • Check the assignment of inputs is correct in the <Advanced2> page
Control surface not working on output 6 (software)	Output 6 configuration issue	• Check that correct Input / Output assignments are configured for channel 6 in Setup Tool: o <Basic> page, check if Power routed to Output 6 is correct. If you are not using Output 6 for power, uncheck this option o <Advanced2> page, check if Input 6 assigned to alternate function o <Info> page, check correct configuration
Control surface reversed (Pitch, Roll or Yaw)	Servo connected such that control movement is in wrong direction	• Four possible solutions: o Reverse direction with Transmitter switch (if available) o Connect control surface servo to alternate (inverted) output. (E.g. Pitch Output 2 is the Inverse of Pitch Output 1) o Setup Tool <Basic> page Select *Invert In / Gyro* check box 1 (pitch), 3 (roll) or 5(yaw) to invert input (if not in pass-thru mode v3.0 and above) [Note that channel 6 can be configured for Power, so check <Basic> page for channel 6 Power assignment] o Setup Tool <Basic> page Select *Subtrim* & *Output Invert* check boxes (outputs 1 – 6) to invert specific outputs
No gyro action working	Gyro function not enabled or switched off	• Check that Setup Tool <Basic> page <Gyro On/Off> button is selected. It will be RED for OFF and GREEN for ON • The *Activity LED* <Enable/ disable> check box enables the GREEN LED to indicated Gyro function • Ensure that if you have a channel configured to switch the Gyro function on and off in real time, it is switched on. See Setup Tool <Advanced2> tab for assignment • Ensure sensitivity POTS on BL-3GRC unit are not set too low. See Setup Tool <Professional1> for sensitivities: *Total X gain (Pitch), Total Y gain (Roll), Total Z gain (Yaw).* Values of around 4 are low, 10 are medium and 20 high (nor recommended) • If in doubt re-set <defaults> settings from any page and <Send> to gyro from <Basic> page and/or center POTS

Gyro action not working on one channel	Gyro function not functioning on one axis	• Ensure sensitivity POT on BL-3GRC unit is not set too low for that channel. See Setup Tool <Professional1> for sensitivities: *Total X gain (Pitch), Total Y gain (Roll), Total Z gain (Yaw).* Values of around 4 are low, 10 are medium and 20 high (nor recommended) • If in doubt re-set <defaults> settings for any page and <Send> to gyro from <Basic> page and/or center POT
Gyro action reversed	Gyro is making corrections in wrong direction (e.g. unwanted roll to the right results in gyro lowering left wing aileron exacerbating the move)	• Four possible solutions from Setup Tool: ○ With version 3.0 and above, this can be reversed without need for the Setup Tool. See Gyro Function Invert section in the Advanced User Manual ○ <Quick Start> page, Invert desired axis by clicking *Gyro function invert* check boxes at bottom of page and <Send> to BL-3GRC unit ○ <Advanced1> page *Gyro Function Invert* at bottom right *Inv. Pitch, Inv Roll, Inv. Yaw* check boxes as desired and <Send> to BL-3GRC unit from <Basic> page ○ If using pass-thru mode [V3.0 and above only], Setup Tool <Basic> page Select *Invert In/Gyro* check boxes (Inputs 1,3,5) invert specific outputs and <Send> to BL-3GRC unit from <Basic> page
Gyro too sensitive / not sensitive enough	Adjust gyro sensitivity set wrong	• Adjust POTS on BL-3GRC unit. Clockwise to increase sensitivity and anti-clockwise to reduce for desired axis OR • Adjust sensitivity in Setup Tool <Professional 1> page – see Advanced User Manual
Plane experiences "wing flutter"	Filter settings not optimal	• Automatic Gain Control (AGC) is designed to reduce wing flutter (control correction feedback) by detecting and reducing gain as needed. This can be enabled on a per axis (pitch, roll, yaw) basis in the Setup Tool <Professional 1> page, bottom right (enabled for roll by default) • Please see Advanced User Manual for other Filter settings on <Professional2> page
Plane is very unstable in one or more axes (Pitch, Roll or Yaw)	Gyro action is revered for one or more axes	• See 'Gyro action reversed' above

Not able to switch gyro on/off in flight or other real-time functions with additional channel (e.g. ch 7)	Switching channel not properly configured	• Ensure correct channel is configured for desired function in Setup Tool <Advanced2> page • Ensure cable is connected from selected Receiver channel to desired BL-3GRC input (brown/black wire on outside) • If using output 6, ensure this is not configured for Power output, see <Basic> page *Outputs, Throttle out onto Output 6* section
Power control not working	Power input / output not connected / configured properly	• Ensure Power functions correctly without the BL-3GRC unit, i.e. Receiver throttle/power output connected directly to the ESC. • Ensure BL-3GRC input is configured for throttle/power connection. See Setup Tool <Advanced2> page *Power in mode* • Ensure Receiver throttle/power output is connected to the BL-3GRC input and output 6 is connected to the ESC (please see Quick Start Guide or Advanced User Manual for detailed power connection info) • If the <Throttle out safety lock enable> check box is selected in the <Basic> page, perform this to unlock: *Throttle off, full left rudder, full up elevator, full right aileron.* Note that if some of these channels are reversed the reverse action will need to be taken for those channels • If in doubt remove the safety lock and <Send> configuration to the BL-3GRC unit and making sure that the throttle stick is at minimum, see if power works
Takeoff mode not working	Throttle/power not routed through BL-3GRC unit, or improperly configured	• Takeoff mode is initiated when power level reaches 30%. Power needs to be routed via the BL-3GRC unit in order for it to detect this power level. See Quick Start Guide or Advanced User Manual to configure Throttle/Power connections • Check that Setup Tool <Advanced2> page left side <Take off mode> check box is selected and <"Critical time"> is set up for time required. See Advanced User Manual for more details
Gyro not connecting to software tool		• Center all 3 POTS and power cycle the BL-3GRC unit (if the unit is connected to servos or ESC in the plane ensure battery is connected)

Not able to upgrade firmware	Upgrade window *connection status* shows "not connected" or <Upgrade> button not enabled	• After clicking on the green <Launch upgrade> button in the <Upgrade> page, wait for the driver software to be installed by Windows (regardless of whether the Setup Tool itself has already connected to the BL-3GRC unit). This can take a little while. An upgrade can only be performed when the upgrade window *Connection status* shows 'Gyro Connected' • Key words can only be entered after the Firmware file is selected (e.g. BL3GCODEOut .efu). The Key words file is available as part of the Firmware download package (e.g. BLProgrammerKey.txt) • If after clicking on <Launch Upgrade> you get an error message, uninstall the Setup tool (Control Panel -> Progams and Features, right click on BL-3G icon and select Uninstall. Re-install the tool buy following the install process, making sure to double click on the *BL-3G.msi* file to initiate the installation. http://xflighttech.com/Upgrade.htm • If the Upgrade cannot be performed as the status shows *not connected*, Windows may not have associated the upgrade driver correctly. Follow this procedure: http://xflighttech.com/BL3G_UpdateDriver.pdf

Not able to upgrade firmware	Not able to open upgrade window, error: "Application was unable to start correctly(0xc0150002)"	• If the upgrade window does not open after clicking the green <Upgrade > button make sure you have the following windows components running by going to Control Panel -> Programs & Features (or Win 8 equivalent):
		  ○ Microsoft Windows .NET Framework
		  ○ Microsoft Visual Basic ENU
		• If they are missing download and install from Microsoft

Not able to upgrade firmware	Driver no associated with Upgrade Tool	• Please see "BL3G_UpdateDriver.pdf". http://xflighttech.com/BL3G_UpdateDriver.pdf

Software tool reports incompatible version when loading previously saved setup data from <Tools> page	Setup data file saved in different version of the Setup Tool	• The Setup Tool is backward compatible from Version 2.4 and can read previous file versions, however.. • If in doubt edit the setup data file (e.g. Airplane1.txt) and change the version to match the Setup Tool version (e.g. Version: 2.1 to Version: 3.0), and make sure to re-save the setup file • Alternatively reconfigure the Setup Tool parameters and save a new setup data file • Alternatively (version 3.0 and later) download the BL-3GRC configuration from the <Tools> page <Read ALL data from Gyro> button and save configuration to a new file
Flaperon function not working (mode3)	Must use individual channel cables instead of "Y" cable	• Ensure that servos are connected to individual outputs and not via a "Y" cable otherwise the flaps will operate in different directions
Flaperon function not working (mode3)	Configuration issue	• Make sure Setup Tool <Mixing> page <Mode 3> check box is selected and the channel used for deploying the Flaperons is set at the bottom of the <Advanced2> page <Flaps control input> • The <Reverse operation> check box will reverse the deployment direction if they deploy up instead of down. • Make sure % values are set up as per the Advanced User Manual • Toggling the Flaperon channel switch once will deploy Stage1, toggling again Stage2, and toggling a third time will raise the Flaperons
Airbrake/'Crow' function not working (mode2)	Configuration issue	• Make sure Setup Tool <Mixing> page <Mode 2> check box is selected and the channel used for deploying the Flaps is set at the bottom of the <Advanced2> page <Flaps control input>. Note that this function works with normal Flaps (NOT Flaperon function) • Make sure % values are set up as per the Advanced User Manual • Toggling the normal Flap channel switch once will deploy Stage1 Flaps, toggling a second time will deploy Stage2 Flaps, toggling a third time will raise the Flaps and deploy the Airbrake (ailerons up), and a fourth time will lower the Airbrake

Switching curves	Curves not switching in flight	• The <Curves> page options on the left hand side of the page select the normal curve settings to be applied. When selecting alternate in-flight switchable curves go to the <Advanced2> tab and select the input channel that will be used for Curve switching against either Power or Pitch (bottom 2 options) and select the alternate Curves from the drop down list