B&G

Programming Handbook

HB-0918-01

7 3 8 0 8 7 0 0 7 0 8 6

NOTIFICATION

The information contained in this document is subject to change without prior notice.

Brookes and Gatehouse Ltd. shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this document.

No part of this work covered by the copyright hereon may be reproduced or otherwise copied without prior permission from Brookes and Gatehouse Ltd.

© 2007 Brookes and Gatehouse Ltd. All rights reserved.

TRADE MARK

All rights reserved. No part of this document may be reproduced or transmitted in any form or by any means including photocopying and recording, without the express written permission of B&G.

Information in this document is subject to change without notice. B&G reserves the right to change or improve its products and to make changes in the content without obligation to notify any person or organisation of such changes.

B&G Ltd.
Premier Way
Abbey Park, Romsey
SO51 9DH
United Kingdom

Tel: +44 1794 518448
Fax: +44 1794 518077
www.bandg.com
Email: sales@bandg.com
Email: support@bandg.com

LIABILITY AND SAFETY WARNINGS

Brookes and Gatehouse Ltd accept no responsibility for the use and/or operation of this equipment. It is the user's responsibility to ensure that under all circumstances the equipment is used for the purposes for which it has been designed.

Warning: Electrical Hazard

This equipment uses high voltage electrical power. Contact with high voltages may result in injury and/or loss of life.

Warning: Programming

B&G do not accept responsibility for equipment that has been programmed incorrectly.

Caution: System Reset

After performing any software upgrade of B&G equipment the unit must be reset.

ABOUT B&G

B&G has welcomed the constant challenge to develop new electronic solutions for every sailor's need. Harnessing technical developments and providing proven solutions has continued to be the focus that keeps B&G on the leading edge of advanced marine electronics.

Proven in the world's most testing environments, B&G offers the most accurate and reliable systems used by blue water cruisers, single-handed racers and record breakers alike firmly establishing ourselves as one of the leading innovators of the most highly advanced marine electronics.

B&G is renowned for tried and trusted solutions and is ever evolving to offer the best technology to the customer.

B&G's Promise.

"Uncompromising performance, precision and reliability from both our products and our people".

ABOUT THIS MANUAL

Instructions in this manual describe how to upgrade the software version for B&G instruments and processors using the B&G Update Utility, Field Programmers, and relevant B&G equipment. A PC with USB, 9-way serial port, and Bluetooth COM port will be required depending on which item of B&G equipment requires upgrading.

CONTENTS

V6.0 B&G UPDATE UTILITY INSTALLATION 6

MAIN PROCESSOR USB DRIVER INSTALLATION 8

USING THE UPGRADE UTILITY 9

PROGRAMMING A DEVICE (AUTO MODE) 12

PROGRAMMING A DEVICE (MANUAL MODE) 13

INTERFACING A MAIN PROCESSOR TO A PC 15

PROGRAMMING CONFIGURATIONS 17

- H1000 DEVICES 17
- H2000 DEVICES 18
  - Digital Displays 18
  - Main Processor 19
  - ACP Pilot Processor 20
  - How to use the upgrade flash card 20
- H3000 DEVICES 21
  - Digital Displays 21
  - Analogue Displays 22
  - Central Processor Unit (CPU) - USB 23
- REMOTEVISION 24
  - Handheld 24
  - Base Station 24
  - PC Bluetooth Configuration 25
  - Setting up your Bluetooth device using Windows XP 26
  - Setting up the Bluetooth Serial Port 28
  - Upgrade via Bluetooth using B&G Download Utility. 30
  - Programming the Wireless Port 30
  - Programming the RemoteVision 31

APPENDIX 32

NOTES 33

V6.XX B&G UPDATE UTILITY INSTALLATION

Minimum system requirements

Microsoft WINDOWS 98SE, 2000, XP. 64MB of RAM and 4MB of free disk space. 9-Way Serial COM Port, USB Port, and Bluetooth (For RemoteVision only)

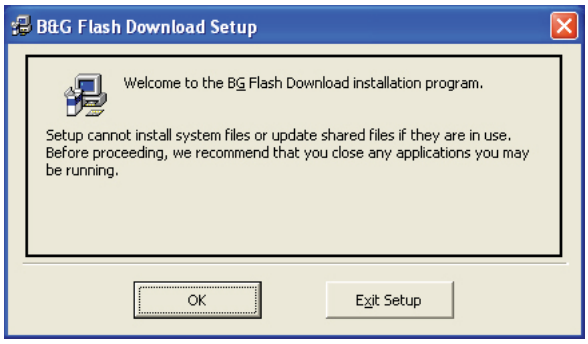
Installation

1) Ensure that no other applications are running.

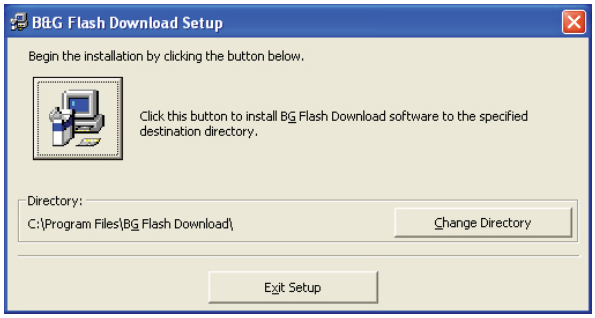
2) Insert the B&G Update Utility CD into your computer CD Drive. The CD should automatically start the installation process after a few seconds.

3) If the Autorun option does not start to load the program, double click 'MY COMPUTER' from the desktop menu. Now double click the CD ROM drive Icon, this should reveal a list of files, double click on the file 'SETUP.EXE' to start the installation process.

4) The installation process will now start, and the screen will display 'Welcome to B&G Flash Download'. Click 'OK' to processd with the installation.



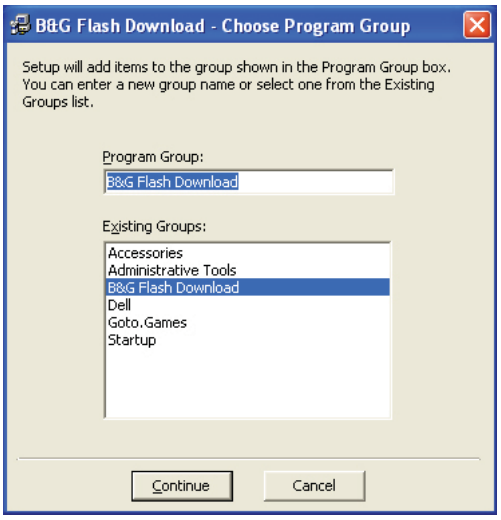
5) The Installation program will now show the folder location where the program will be installed. This is normally 'C:\PROGRAM FILES\B&G FLASH DOWNLOAD\' This may be changed, but it must be noted, as this will be the folder in which the update files (.UPD) are stored.



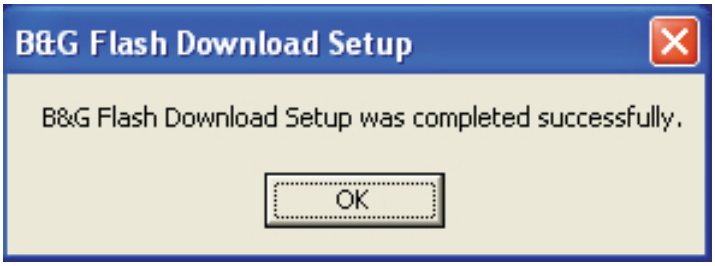
6) To carry on with the installation click on the square button containing the program Setup icon.

7) The installation program will now check that the computer has enough disk space and display the name of the program group that will be created. This is normally B&G Flash Download.

8) Click 'Continue'. You may change the name if required, and then click 'OK' to copy the files to your hard drive.



9) The necessary files are now copied from the CD to the hard drive, and the CD can be removed from your computer.



Note: *There is no need to set up the COM port, as B&G Flash Download will automatically detect the Field Programmer.*

How to Obtain the System Upgrade Files

Please contact B&G Customer Support for the latest upgrade files: **support@bandg.com**

MAIN PROCESSOR USB DRIVER INSTALLATION

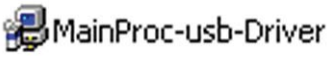
Minimum system requirements

Microsoft WINDOWS 98SE, 2000, XP. 64MB of RAM and 1MB of free disk space.

Installation

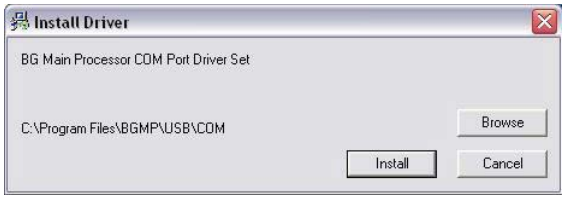
1) Download the Main Processor Driver from the location provided by B&G technical support. This will be located on the B&G website www.bandg.com. Please email support@bandg.com for the location of the driver.

2) Ensure that no other applications are running.

3) Locate the driver installed on your computer 

'Double Click'

4) The installation process will now start, and the installation window will appear. Click 'Install' to proceed with the installation. This will load the driver into the default directory on your PC - C:\Program Files\BGMP\USB\COM. If you would prefer to use a different location click 'Browse' and select the new location. We recommend you use the default location.



5) If you are installing the driver on a PC using Windows XP operating system the following warning shown below will appear. Click 'Continue Anyway'

6) Installation Successful. Click 'OK'

USING THE UPGRADE UTILITY

1) Add the .UPD file to the Flash Download Folder located in the directory you chose when you installed the Update Utility. Default location is: C:\Program Files\Flash Download.

2) Connect the devices as per the diagrams shown in the programming configurations on pages 17 to 24.

3) With the instrument connected to your PC via the field programmer device, activate the B&G Flash Download Utility.

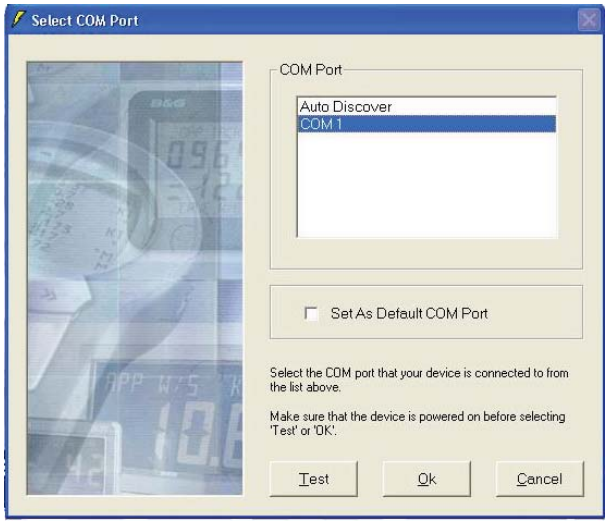
4) To start B&G Flash Download Click 'Start' on the task bar, select Programs then B&G Flash Download.

Desktop Shortcut

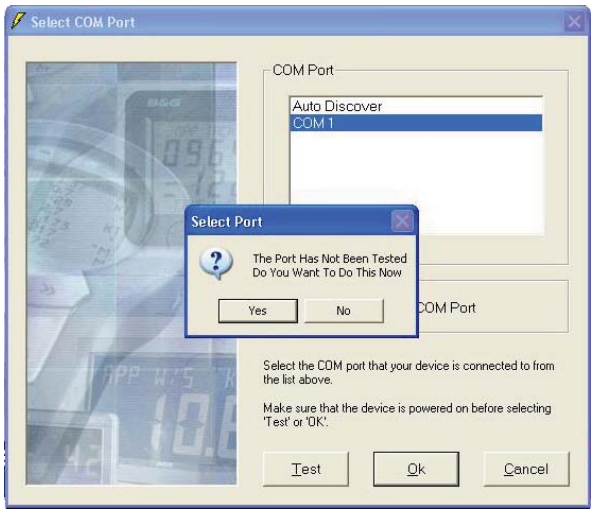
5) When the Upgrade Utility starts it will ask you if you would like to set up a COM port. Select 'Yes'

6) Your PC will automatically detect which COM ports are in use. Select the relevant port and select 'OK'

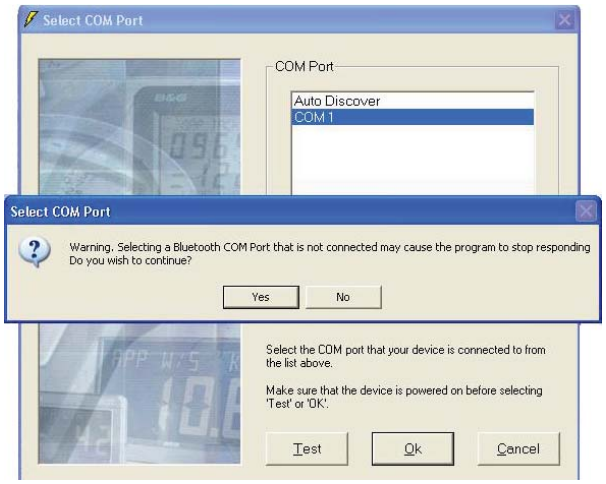
Note: *If you are programming an H3000 Central Processing Unit (CPU) before a COM port can be recognised by the software you will need to change the program lock on a GFD or FFD from 0 to 99. Details of how to do this can be found on page 23.*



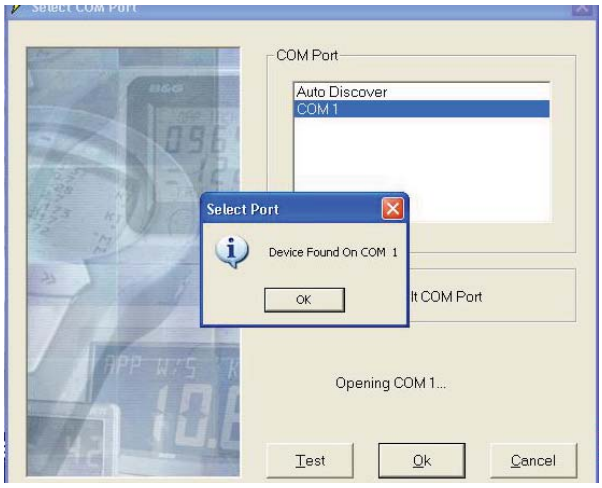
7) A message will appear ‘This port has not been tested. Do you want to do this now?’ Select ‘YES’



8) A warning will appear. ‘Selecting a Bluetooth COM port that is not connected may cause the program to stop responding. Do you wish to continue? Select ‘YES’



9) Device found. Click ‘OK’ The Utility Device is ready to upgrade the equipment.



10) If the software fails to find the COM port you will see an error message. 'Cannot detect programming device. Do you want to search for a new COM port?' Select 'OK'

11) Once a port has been selected and tested correctly the mapping and programming screen will appear as shown on the next page.

Note: *If, for whatever reason, the upgrade fails, this serial number must be used, when prompted, to re-activate the instrument. Having noted the Serial No., clicking on the OK option will begin the program download. The screen will now display the download information with an animated progress bar to indicate status. Once the download is complete, the user will be prompted to confirm the download. Selecting OK returns the user to the main menu.*

The screen will display four options as follows:

Selecting this option, the program will confirm the unit connected and its current software version. The utility offers the option to upgrade to a defined version, by selecting the YES option, the screen will display a warning panel advising 'Note The Serial No.' of the unit to be upgraded.

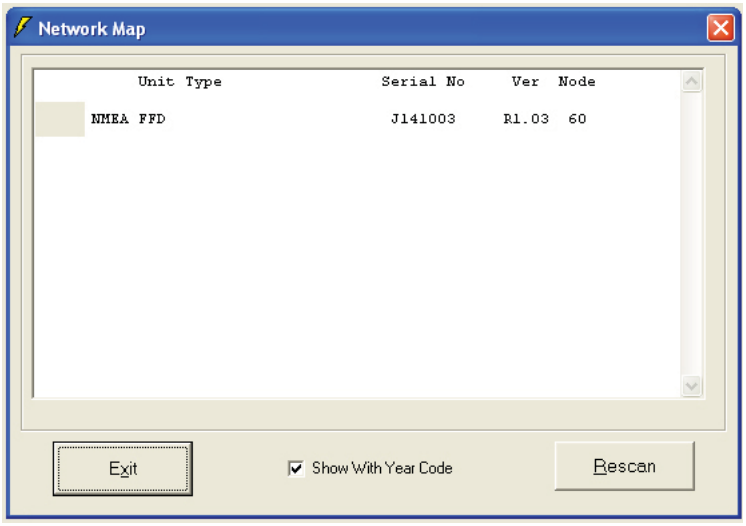
Selecting this option, the program will scan the connected system to identify the instrument(s) connected and their respective software versions.

Select Program Key, when upgrading H3000 CPU only.

Closes the Flash Download Utility.

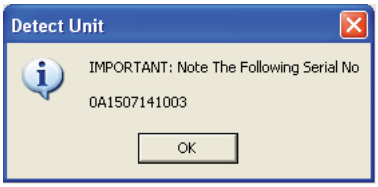
PROGRAMMING A DEVICE (AUTO MODE)

1) First click ‘MAP’ to check which software version is currently installed on the instrument. The information box will show unit type, serial number, the current software version. Make sure that the software version is older than the version you wish to upgrade to. Click ‘EXIT’ to return to the front page.

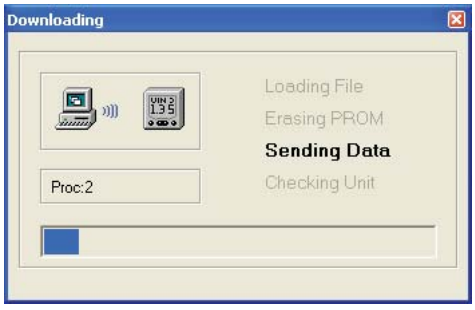


2) Select ‘UPDATE’ to start the upgrade.

3) A popup will appear asking you to ‘Note the following serial number.’ Write this number down. This number will be required if the unit fails to update or loses power midway through the update process. Click ‘OK’ to continue.



4) The unit will now be programmed with the updated software.



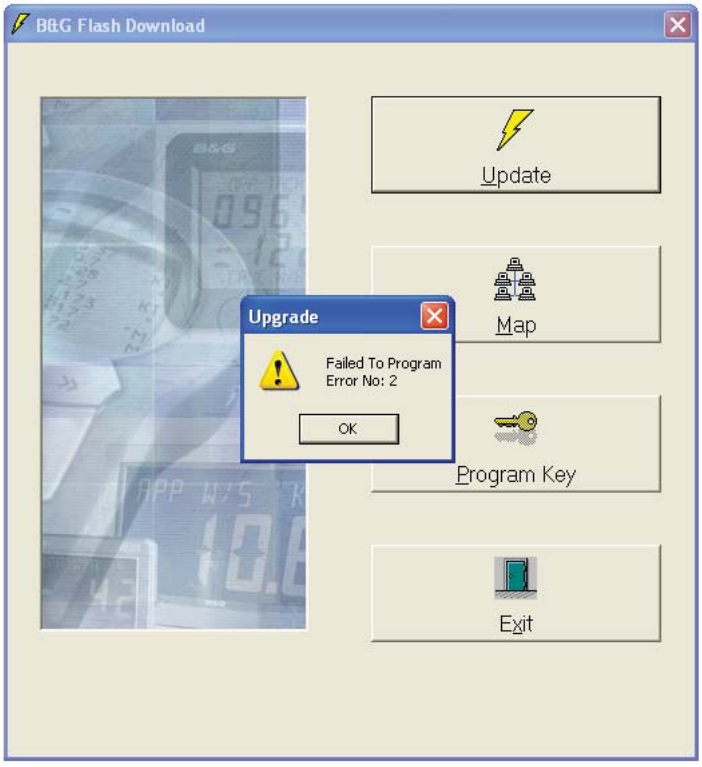
5) Click ‘OK’ once complete.

Note: *If at any time during the programming process the unit fails to program cycle the power and re-start the procedure. If it fails a second time please refer to manual programming on the following page.*

PROGRAMMING A DEVICE (MANUAL MODE)

CAUTION: *It is possible to program an instrument with the wrong software when using manual mode. Make sure that the correct software is selected when updating instruments. We recommend that you attempt to update automatically before you update in manual mode.*

Below is a typical example of an error message. If error messages continue to appear whilst trying to upgrade automatically continue using the instructions below for manual programming.



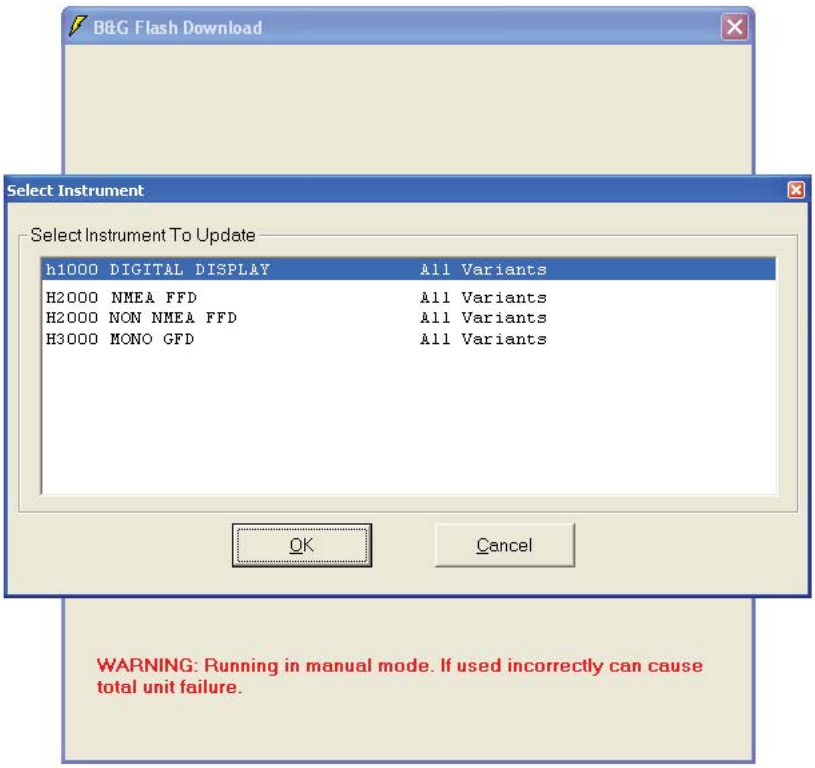
1) Cycle the power to the instrument.

2) Restart the Update Utility.

3) Press the 'M' Key on your keyboard. A warning message will appear at the bottom of the window.

WARNING: Running in manual mode. If used incorrectly can cause total unit failure.

4) Click ‘Update’ It will then ask you which instrument you wish to program. Select the correct instrument and click ‘OK’



5) The programmer will identify the unit and program accordingly. Follow steps 3 to 5 of the auto setup.

INTERFACING A MAIN PROCESSOR TO A PC

1) Make sure you have installed the H2000 Main Processor USB Driver as described on page 8

2) Connect the USB connector to the H2000 Main Processor. The port is on the right-hand side of the unit.

3) Switch on your computer. Connect the USB connector to the PC into an available USB port. A 'Found New Hardware' window will appear as shown below. It will ask 'Can windows connect to windows update to search for software. Select 'No not this time' then click 'NEXT'

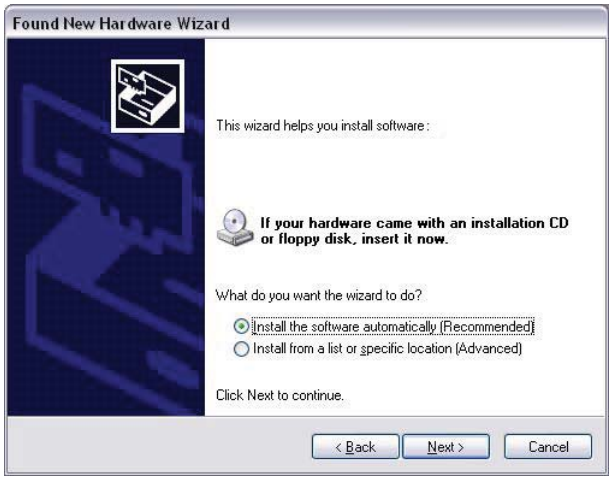
3) Select 'Install the software automatically (Recommended). Click 'Next'

4) A warning box will appear. Click 'Continue Anyway'.

5) Installation complete. Click 'Finish'

6) Once Installed another 'Found New Hardware' screen will appear. Select 'No not this time' and click 'Next'.

7) Select 'Install the software automatically (Recommended). Click 'Next'



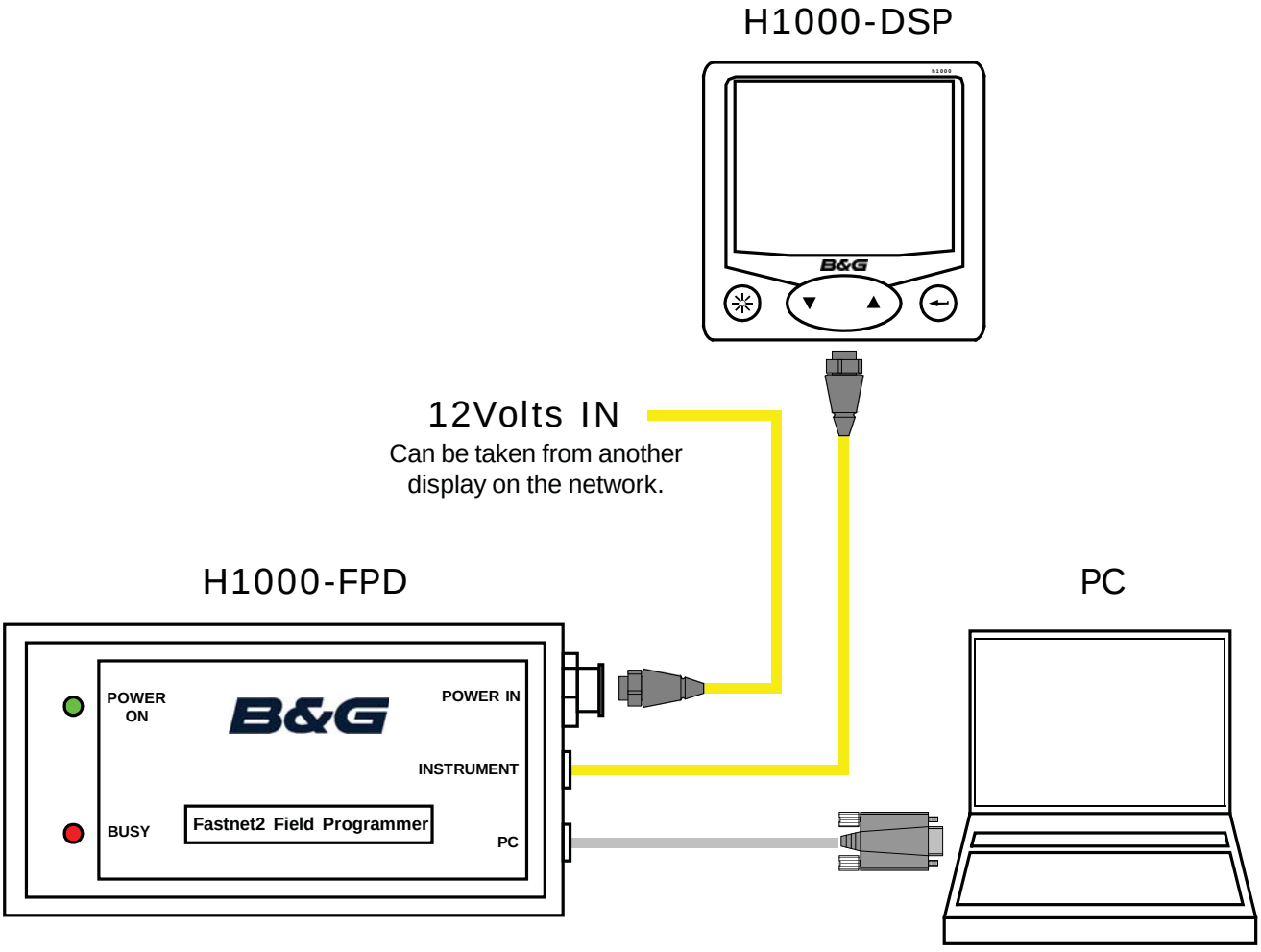
8) B&G Main Processor USB COM Port Driver Installed successfully. Click 'Finish' to complete.

PROGRAMMING CONFIGURATIONS

H1000 Fastnet2 Devices

- Digital & Analogue Instrument Displays
- Interface Boxes (UNI, WDI & SDI)
- Pilot ACP

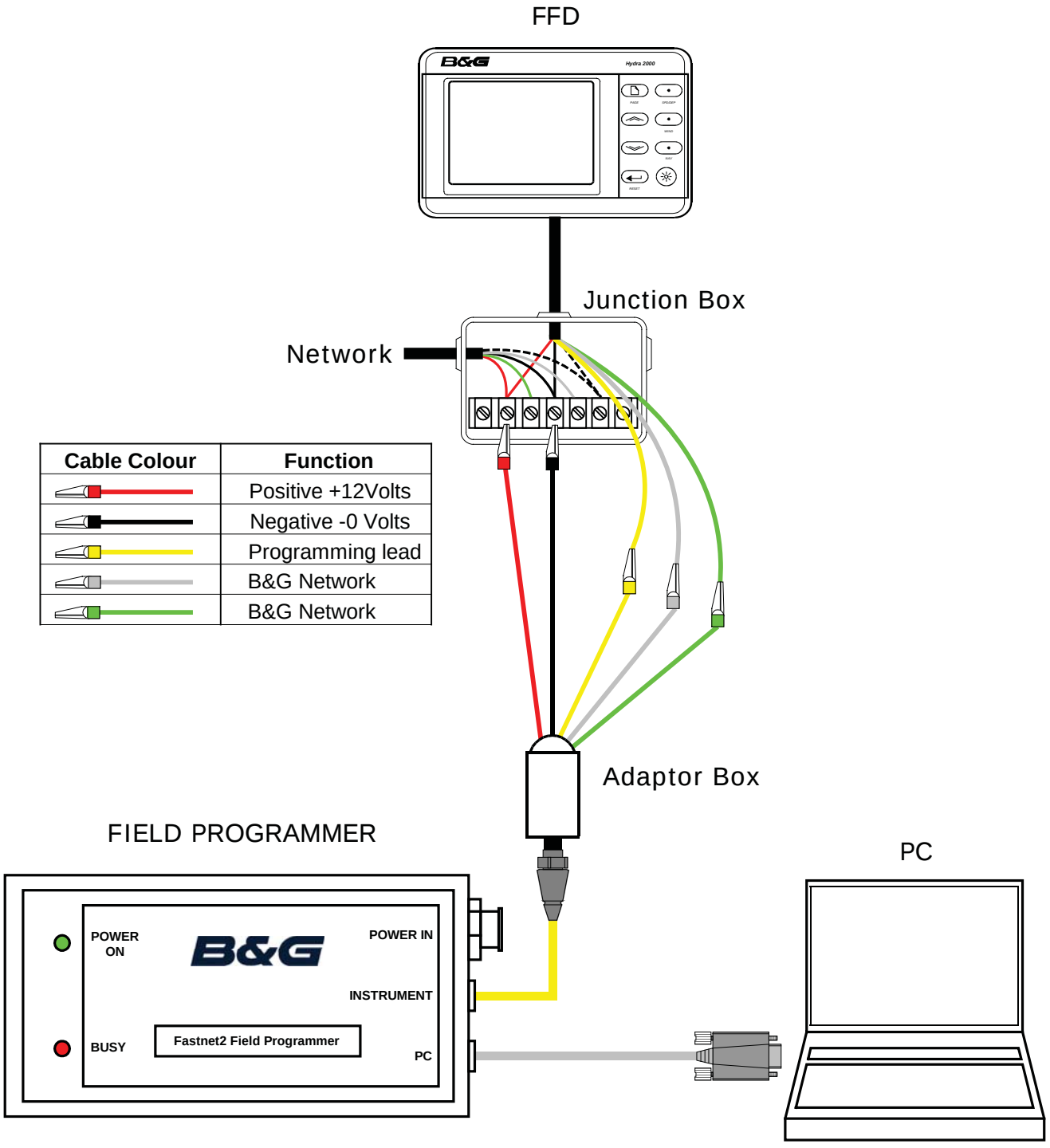
This configuration is suitable for re-programming all of the H1000 equipment listed above. This is an example showing how the Fastnet2 Field Programmer should be arranged to program the H1000-DSP. The same configuration should be used for all other equipment.



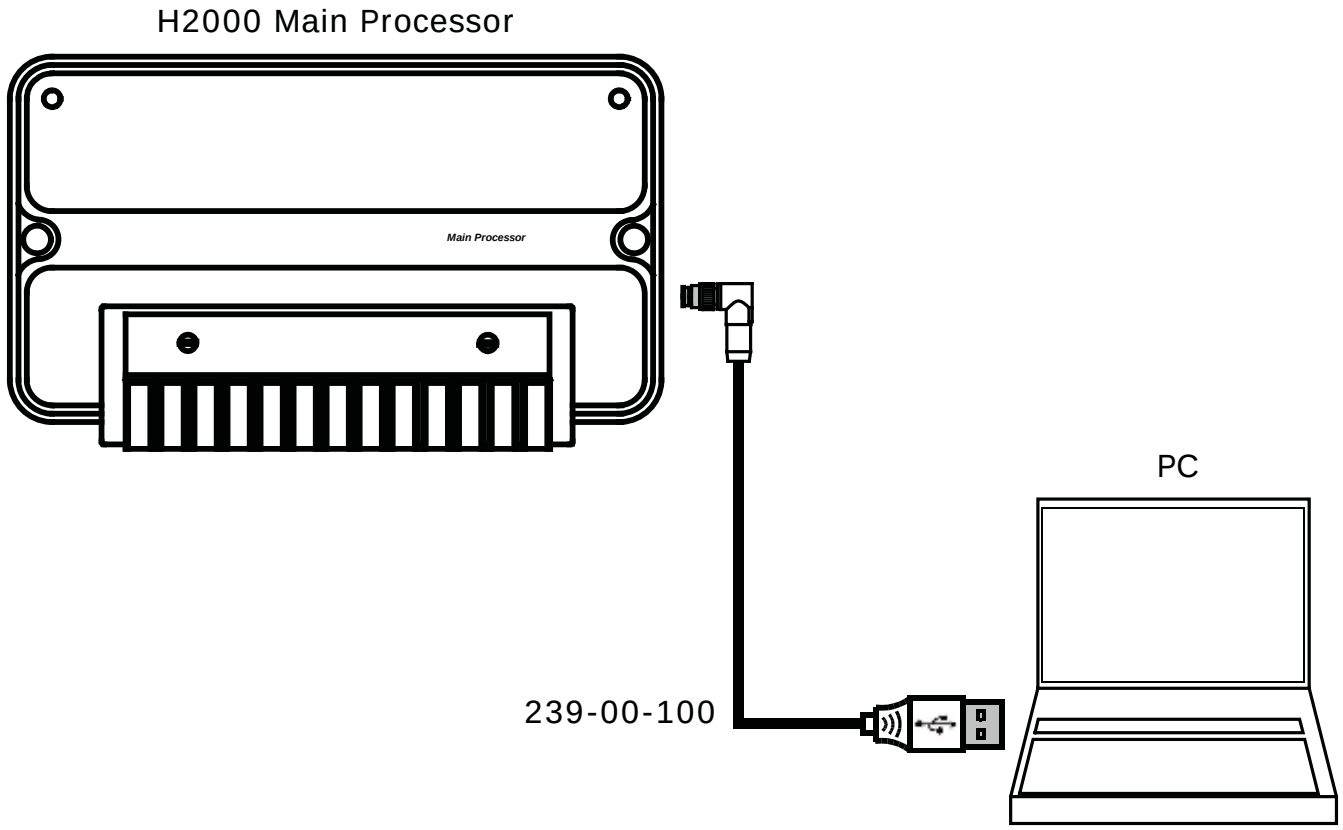
H2000 Devices

Digital Displays - Version R1.XX onwards

- Full Function Display (FFD)
- Pilot Display (PDU)



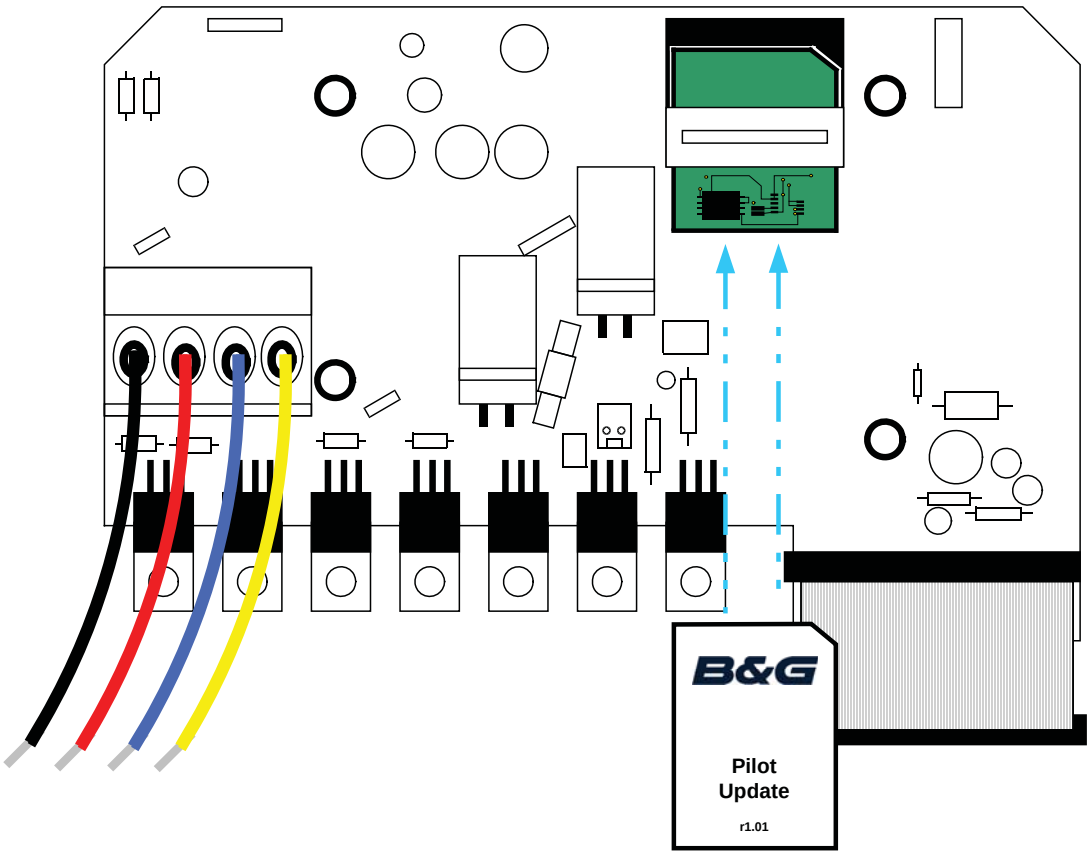
Main Processor



Note: *Drivers will need to be loaded onto your PC to enable it to use the USB connection to update the software via the Update Utility.*

ACP Pilot Processor

To upgrade the ACP Pilot Processor follow the instructions below. You do not need to use the upgrade utility to update this equipment.



How to use the upgrade flash card

1) Switch off the power to your B&G system.

2) Unscrew the two screws in the outer case of the Pilot Processor. The processor lid is hinged. Open the lid and you will see four screws retaining an inner plate in the top half of the unit.

3) Unscrew the four screws holding this plate in place. This will expose the PCB as shown above. Slide the memory card out and slide the Flash Upgrade Card in.

4) Restart the processor. The programming process should take approx 1 minute. When the software has finished upgrading the Pilot display should flash Fault 114. This means the Processor has been upgraded successfully.

5) Turn off the power, remove the upgrade card and replace it with the original memory card. Replace the screws and return the processor to its original state. The new software will now work when you turn the power back on.

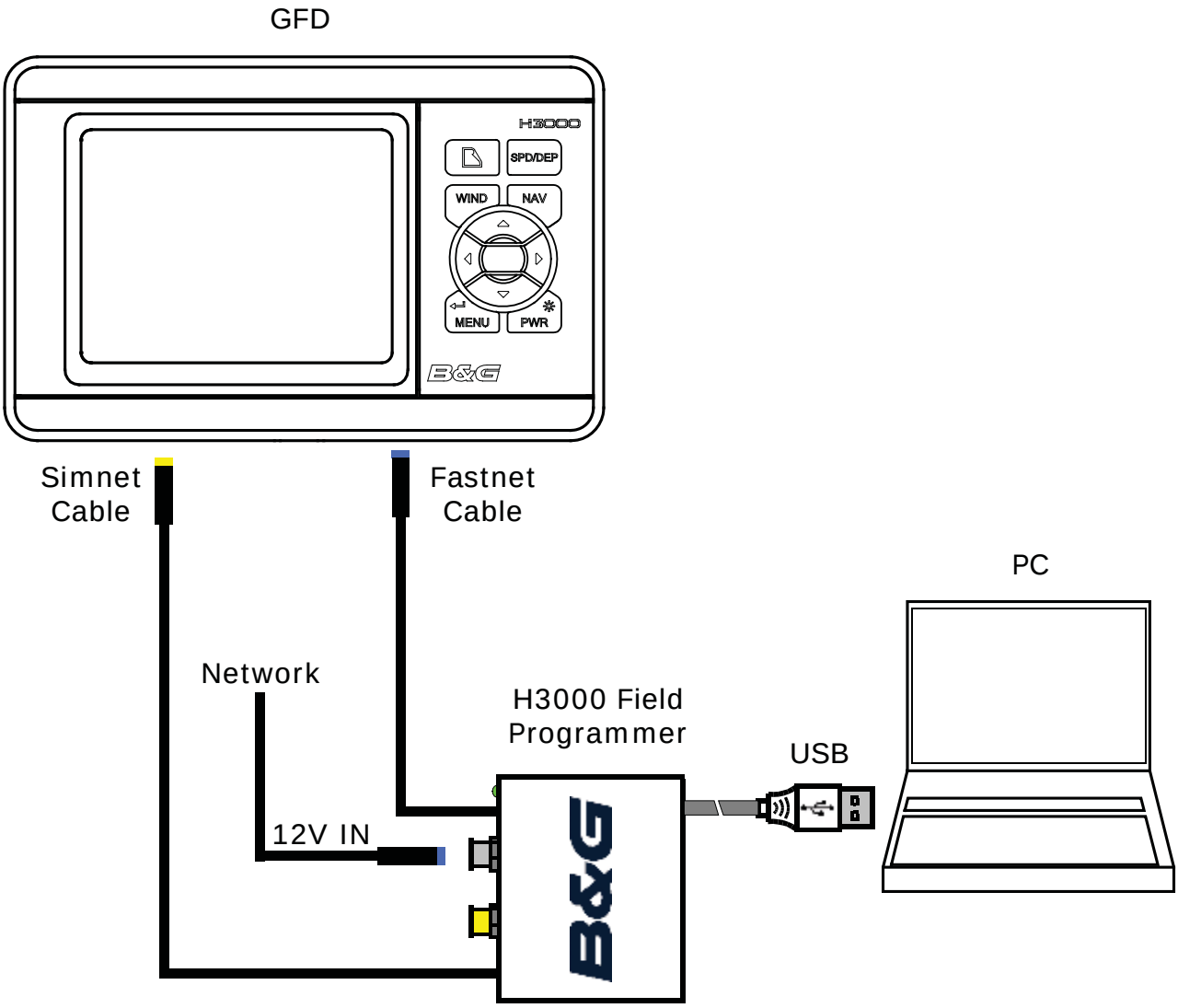
6) Carry out a system reset on node '0012' (Pilot ACP) unit. Upgrade process is now complete.

7) You will need to re commission the Pilot ACP again.

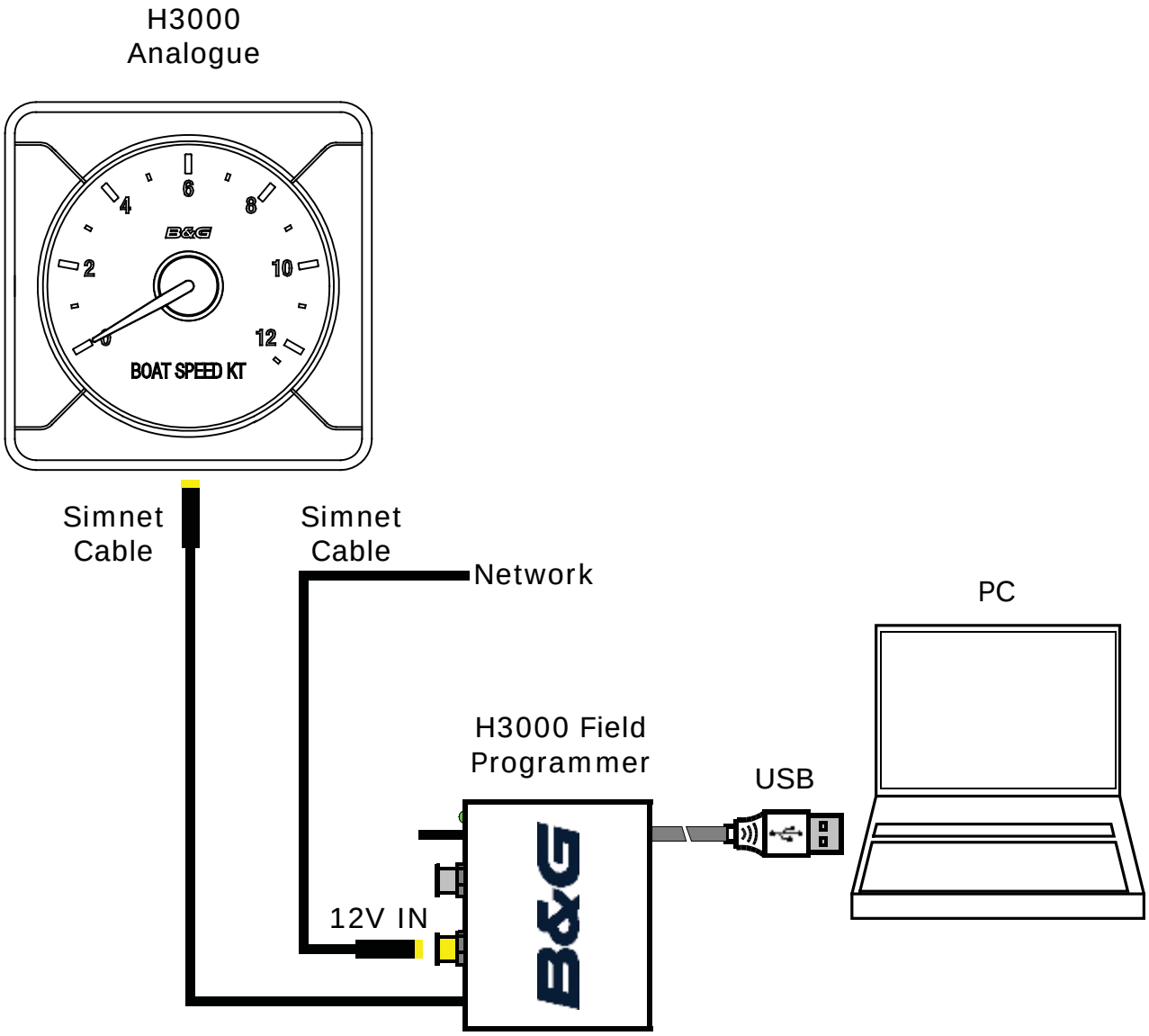
H3000 Devices

Digital Displays

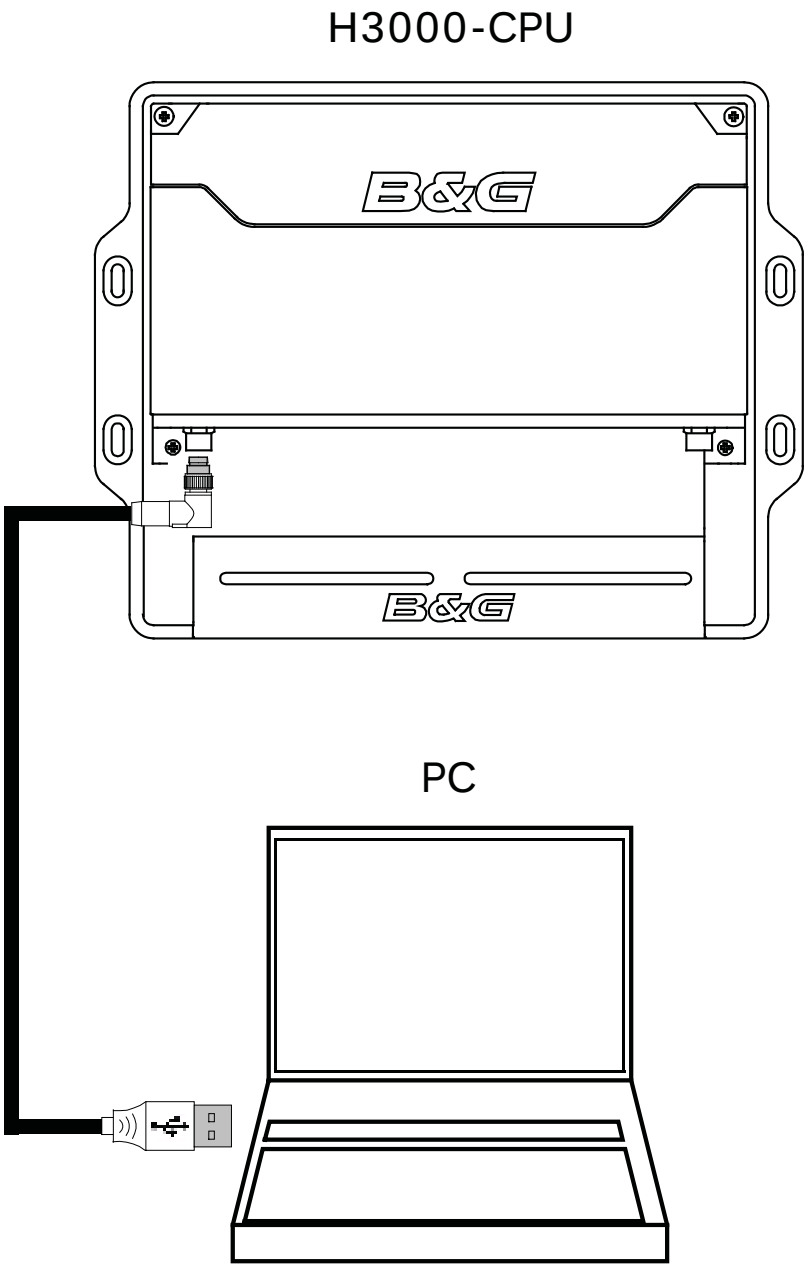
- GFD & GPD Displays
- FFD Display (As per H2000 Configuration & Programming)



Analogue Displays



Central Processor Unit (CPU) - USB



Setting the Program Lock to enable H3000 CPU programming

Before it is possible to program an H3000 CPU you will need to change the Program Lock settings on a GFD. To change the Program Lock on a GFD go to the following menu.

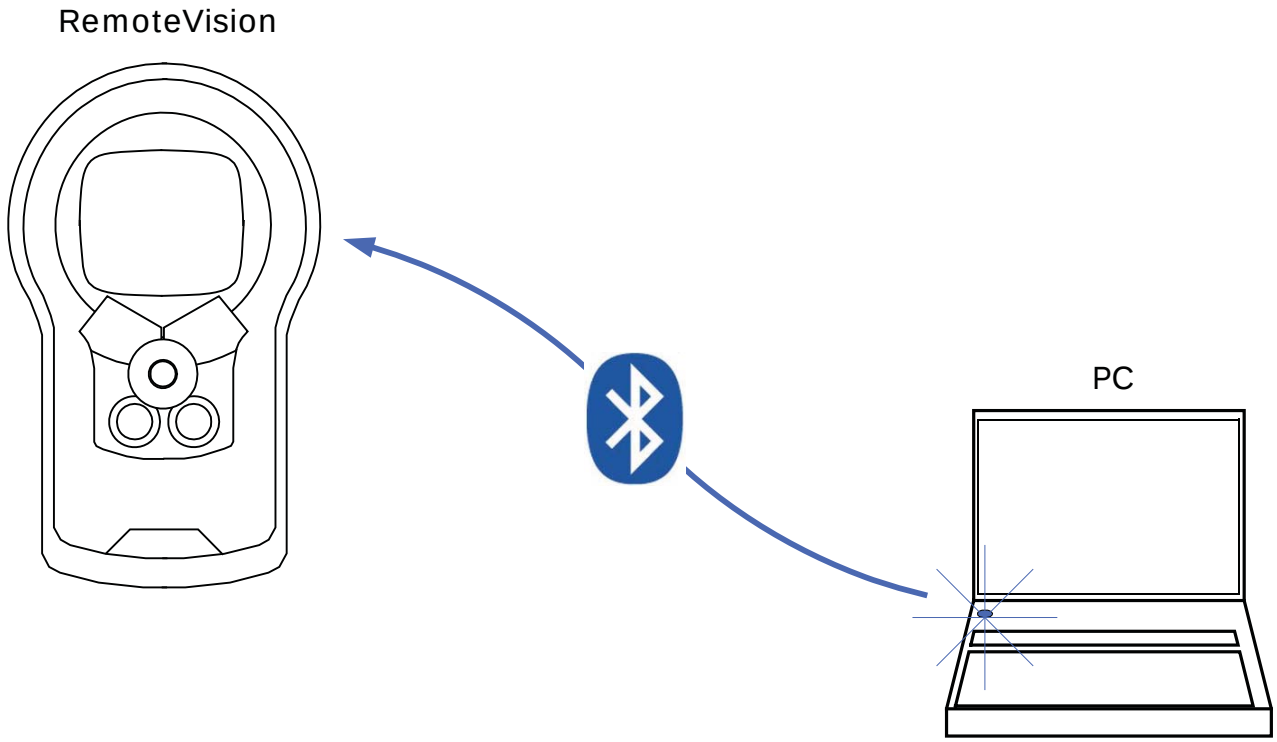
SETUP > CALIBRATION > OTHER CALIBRATION > MISC > COMM CFG > PROG LOCK (Change the value from 0 to 99 and press ENTER.)

Note: *If you do not have a GFD you can set the Prog Lock value to 99 in CAL VAL 4.*

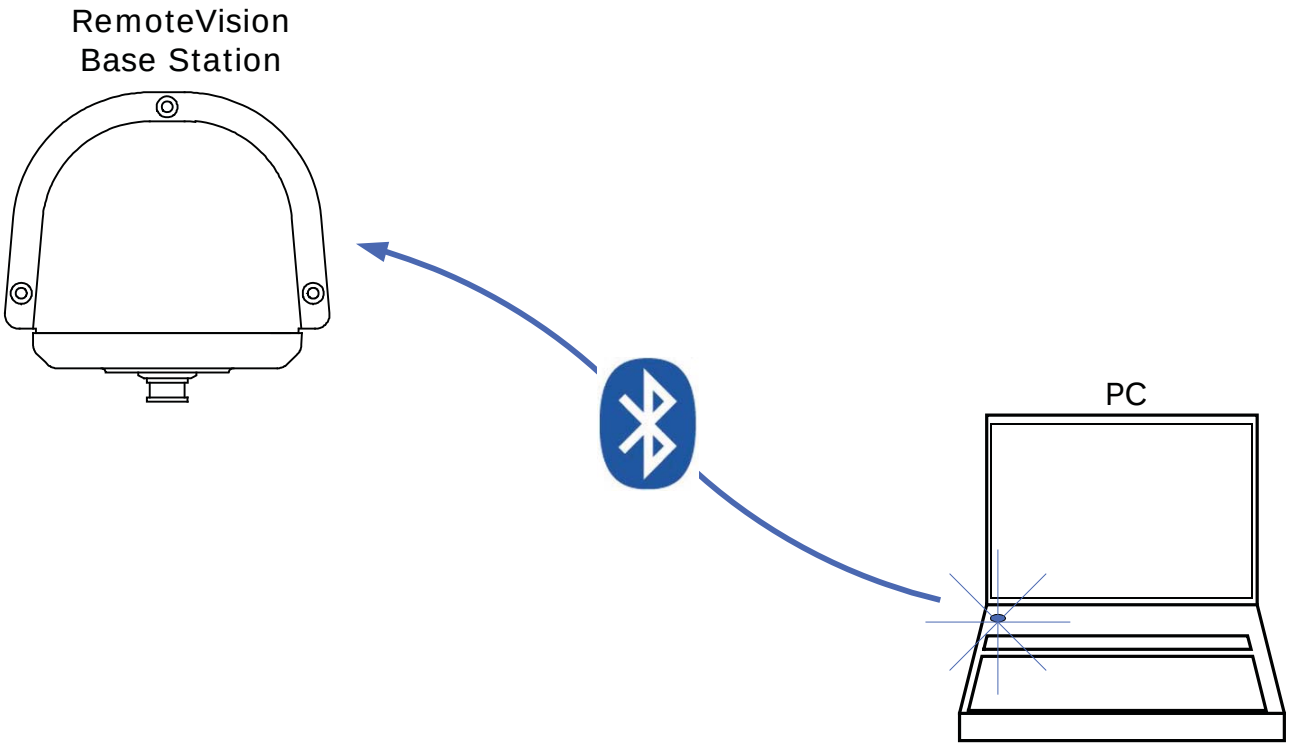
To reset the system after programming we recommend that you switch the system power OFF & ON again. This will reset the Prog Lock back to 0.

REMOTEVISION

Handheld



Base Station



REMOTEVISION SOFTWARE PROGRAMMING

PC Bluetooth Configuration

Checking Your Bluetooth installation

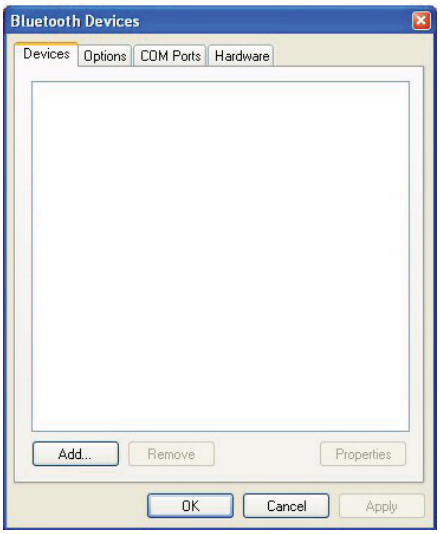
How to setup your Bluetooth device using windows XP (This information has been taken from the Microsoft Knowledge base page)

“When you install a Bluetooth device, using the software from the hardware”

http://support.microsoft.com/default.aspx?scid=kb;en-us;555210

1) Double Click on the Bluetooth icon in your task bar.

2) If the screen shown below appears you are using the wrong driver for your Bluetooth device.



The following instructions should be followed to use the correct driver that came with your bluetooth device.

Setting up your Bluetooth device using Windows XP

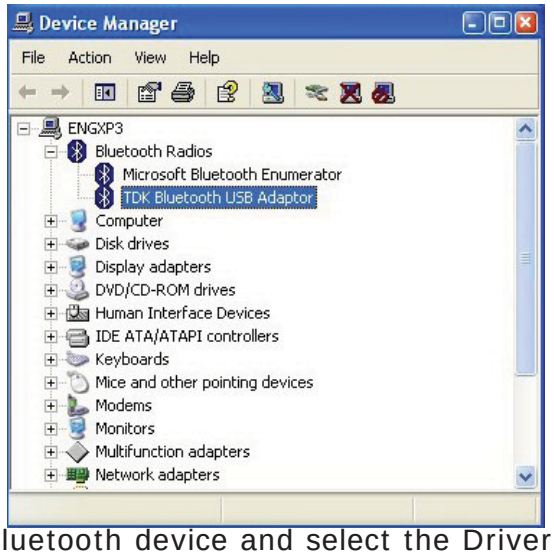
(This information has been taken from the Microsoft Knowledge base page)

“When you install Bluetooth device, using the software from the hardware”

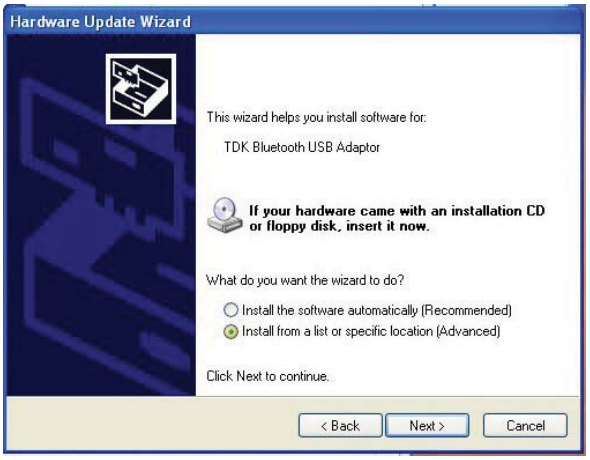
http://support.microsoft.com/default.aspx?scid=kb;en-us;555210

1) Install the manufactures driver for your Bluetooth device. (You are advised to download the latest driver from the manufacturers website)

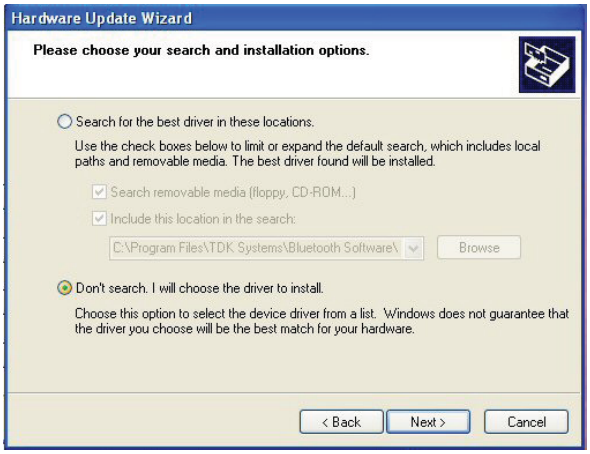
2) Click ‘Start’, click ‘Run’, type devmgmt.msc in the Open box, and then click ‘OK’. A Screen like below should appear.



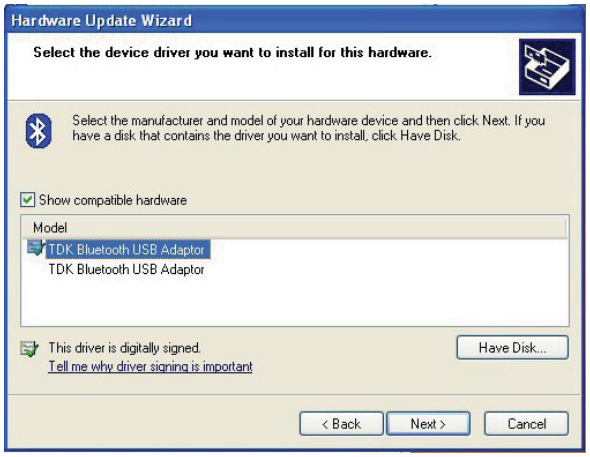
3) Double click on your Bluetooth device and select the Driver =>Update Driver. Either of the screens below should appear.



4) You will then be asked where you want to install the driver from. Since you have installed the manufactures driver already you can select Don't Search. I will choose the driver to install.



5) A list of applicable drivers will appear for you Bluetooth device. The first one listed will be the Microsoft driver with a green tick. Select the other device driver listed and Click 'Next'.



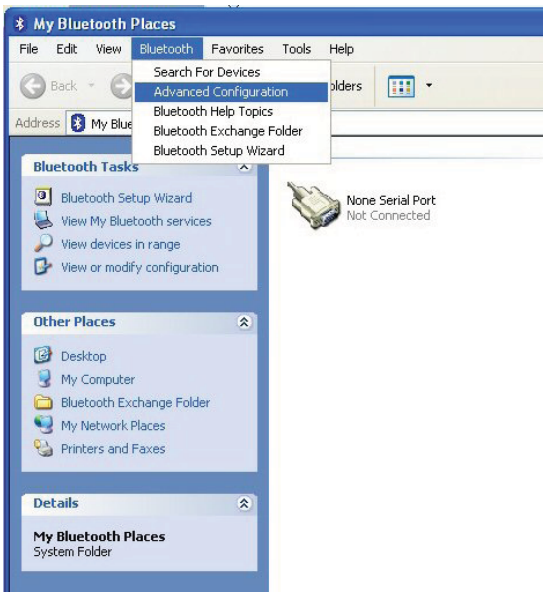
6) Accept all prompts that appear while the new driver is being installed.

7) The device manger screen should now look like below. You will notice that the Bluetooth icon has changed on your task bar too.

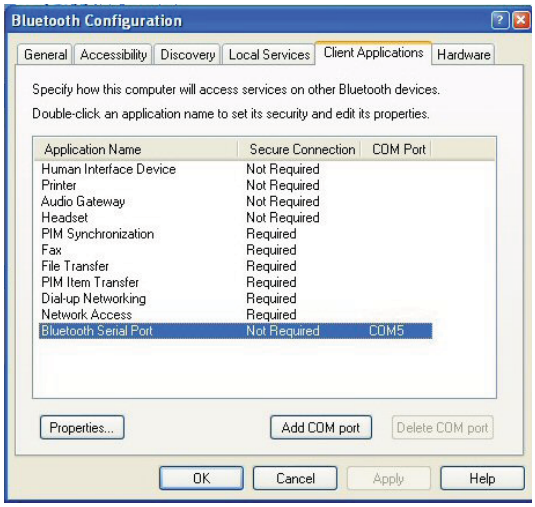
8) To switch back to the Microsoft driver repeat this procedure but in step 5 select the Green Ticked signed Microsoft driver.

Setting up the Bluetooth Serial Port

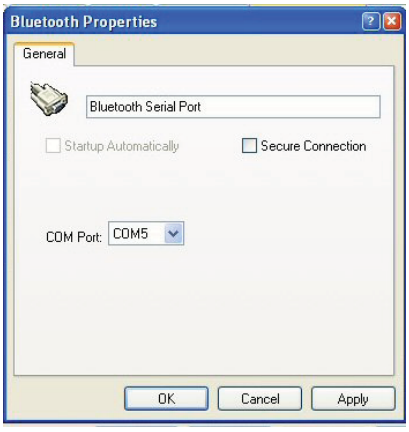
1) Access the advanced configuration settings for your Bluetooth device. Do this by either right clicking on the Bluetooth Icon in the task bar or Selecting from the Bluetooth menu bar on your Bluetooth search screen.



2) Go to Client applications and Select Bluetooth serial port.



3) Double click or Click the Properties button to open the Serial Port setting Screen. Confirm that Secure Connection Setting is disabled, as the remote vision devices do not require a pin number to connect whilst in programming mode.



4) You are now ready to search for your RemoteVision.

Upgrade via Bluetooth using B&G Download Utility.

Programming the Wireless Port

1) Connect Port to the B&G System as per the RemoteVision manual.

2) Switch on Power.

3) On a GFD Scroll to the following menu.

SETUP > CALIBRATION > OTHER CALIBRATION > MISC > BASE STN > PAIR (Change the value from 0 to 99 and press ENTER.)

4) Change the PAIR data value from “0” to “99” which is the Programming mode. The Wireless Port will now become visible to other devices.

5) Double click the Bluetooth Icon on the toolbar to open the “My Bluetooth Places” window.

6) Click “View Devices in Range”. The PC will now search for all Bluetooth Devices in Range.

7) The Wireless Port should now be visible on the screen. The serial number on screen should match the serial number printed on the serial number label.

8) Double Click the Wireless Port icon to display the serial port icon which will show that it is not connected.

9) Right click the icon, and select “Discover Bluetooth Services”.

10) Right click the icon again and select “Connect to Bluetooth Serial Port”. The PC and Wireless Port will now establish a Bluetooth serial data link and the icon will turn green to indicate that it is connected. Make a note of the serial port that it is connected to.

11) From the Start Menu, run the B&G Flash Download application on the PC. You will be presented with the Select COM Port window. Select “Yes” from the options. Select the correct COM Port from the drop down list, and then select Next.

12) The program automatically detects whether a Handheld or Wireless Port is connected. Click on the Update BaseStation button to start programming, and follow the on-screen instructions.

13) Upon completion of the programming, adjust the CAL VAL 1 data value back to “0”.

14) Switch off the power.

Programming the RemoteVision

1) Press and hold the “Dodge Right” button on the RemoteVision and then press the “ON” button to place the Handheld into programming mode. The RMV will now become visible to other devices.

2) Double click the Bluetooth Icon to open the “My Bluetooth Places” window.

3) Click the “Search for Devices in Range”. The PC will now search for all Bluetooth Devices in Range.

4) The RMV should now be visible on the screen. The serial number on screen should match the serial number printed on the serial number label inside the battery compartment.

5) Double Click the Wireless Port icon to display the serial port icon which will show that it is not connected.

6) Right click the icon, and select “Discover Bluetooth Services”.

7) Right click the icon and select “Connect to Bluetooth Serial Port”. The PC and Wireless Port will now establish a Bluetooth serial data link and the icon will turn green to indicate that it is connected. Make a note of the serial port that it is connected to.

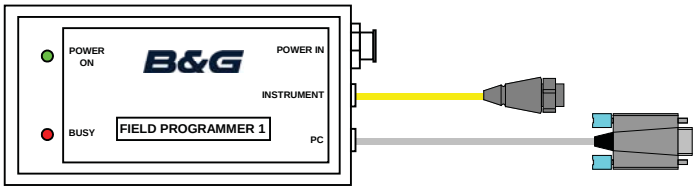
8) From the Start Menu, run the B&G Flash Download application on the PC. You will be presented with the Select COM Port window. Select “Yes” from the options. Select the correct COM Port from the drop down list, and then select “Next”.

9) The program automatically detects whether a Handheld or Wireless Port is connected. Click on the Update BaseStation button to start programming, and follow the on-screen instructions.

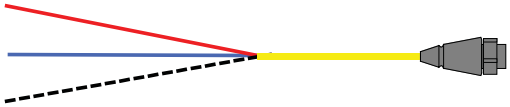
10) Upon completion of the Handheld programming, the Handheld Screen will display PROGRAMMING MODE, Set Normal. Press NavStick in to complete the programming procedure.

APPENDIX

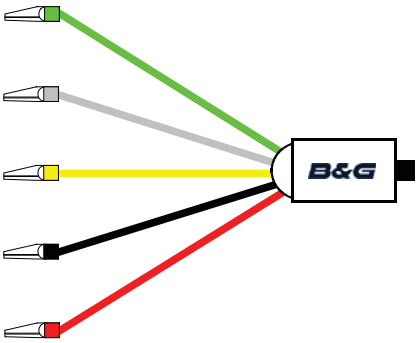
EQUIPMENT	PART NUMBER
FastNet2 Field Programmer	H1000-FPD



Power Cable	H1000-HCP



Adaptor Box	240-00-075



Simnet Field Programmer	BGH390001

USB Cable	239-00-100

PC - Operating Microsoft WINDOWS 98SE, 2000, XP. 64MB of RAM	
Pilot Update Flash Card	Contact B&G
Flash Download Software	Contact B&G
Device Drivers	Contact B&G
.UPD - Update Software	Contact B&G

NOTES