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The Firmware on the Cygnus DIVE can be updated by a software tool "DIVE Firmware Updater" which is available from Cygnus Instruments Ltd.

All that is required to update a DIVE gauge is;

- 1. DIVELink USB Lead (DIVE Gauge to USB)
- 2. A DIVE Battery with >50% charge
- 3. The new Firmware file from Cygnus (a '.hex' file)
- 4. 'DIVE Firmware Updater' program installed

## Important

If the Firmware Update process is interrupted the DIVE Gauge will be in an undefined state and the DIVE Gauge will not operate – it will then have to be returned to Cygnus UK for re-programming. Only attempt the Firmware Update process if you have a charged battery, you are familiar with operating the DIVE gauge buttons and the DIVE Firmware Updater program and make sure the USB lead can't get accidentally unplugged.

## Instructions

- 1. Check you have the new DIVE firmware HEX file emailed from Cygnus
- 2. Install the "DIVE Firmware Updater" program if not already
- 3. Connect the DIVE gauge to the computer using the USB link lead
- 4. Find out the COM PORT number assigned to the USB Lead (Open Control Panel, then Device Manager..)



5. Fit the battery in the DIVE gauge and turn on the DIVE gauge as normal, don't connect the ultrasonic probe. Press any button to go past the red warning screen

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- the DIVE gauge should be in its normal operating screen with the "NO PROBE" message displayed.

- 6. Start the "DIVE Firmware Updater" program
- 7. Set the COM Port number to match the USB Lead's and click the **Open** button, the status bar at the bottom should say "COM Port Opened" if all is ok.

| DIVE Config        |          |  |
|--------------------|----------|--|
| COM Port           | ¢3 Qose  |  |
| Load Firmware File | filename |  |
|                    | filesize |  |
| Start Update       |          |  |
| Progress           |          |  |
| Status             | A        |  |
|                    |          |  |
|                    |          |  |
|                    |          |  |
|                    | <u> </u> |  |
|                    | Abort    |  |
| COM Port Opened    |          |  |
|                    |          |  |

8. Click the **Load Firmware File** button and in the file select dialog locate the new DIVE firmware HEX file sent from Cygnus, then click the **Load** button. You should see a path and file size appear.

| DIVE Config        |  |
|--------------------|--|
| COM Port           | \$3 Qose   |
| Load Firmware File | i:\My Projects\Dive\ARIM M3 Cortex\M1-DIVE\objects\M1-DIVE hex 79408 Bytes |
| Start Update       |  |
| Progress           |  |
| Status             |  |
| 2011.0             | Abort  |
| COM Port Opened    |  |

- 9. Next prepare the DIVE Gauge for receiving the new firmware.
- 10. On the DIVE gauge press and hold the **Right** button until the "*STANDBY MODE*" message is displayed then also press and hold the **Left** button hold in **both** buttons until the Factory Menu is displayed it takes 10 seconds.
- 11. Press the **Left** button to scroll down to **FIRMWARE UPDATE** at the bottom, then press the **Right** button to select it you will see a Red "*UPDATE FIRMWARE*" message appear. Press the **Left** button for "YES" the screen will go black the gauge is now ready to receive the new firmware.

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12. On the DIVE Firmware Updater program click the **Start Update** button - you should see the green progress bar move along the screen as the data is transmitted to the DIVE Gauge. <u>DO NOT INTERRUPT THIS PROCESS</u>.

| DIVE Config        |  |
|--------------------|--|
| COM Port           | 3 Qose   |
| Load Firmware File | I:\My Projects\Dive\ARM M3 Cortex\M1-DIVE\objects\M1-DIVE hex 79408 Bytes  |
| Start Update       |  |
| Progress           |  |
| Status             | ACK Received for Block 22<br>ACK Received for Block 23<br>ACK Received for Block 24<br>ACK Received for Block 25<br>ACK Received for Block 26<br>ACK Received for Block 26<br>ACK Received for Block 28<br>ACK Received for Block 29 |
| Ok                 |  |

13. When the transfer has completed, the Status will show "Completed".

| DIVE Config        |  |
|--------------------|--|
| COM Port           | \$3 Qose   |
| Load Firmware File | i:/My Projects/Dive/ARM M3 Cortex/M1-DIVE/objects/M1-DIVE hex 78400 69765  |
| Start Update       |  |
| Progress           |  |
| Status             | ACK Received for Block 71<br>ACK Received for Block 72<br>ACK Received for Block 73<br>ACK Received for Block 73<br>ACK Received for Block 75<br>ACK Received for Block 76<br>ACK Received for Block 77<br>Completed |
| Ok                 |  |

14. Now you can re-start the DIVE gauge. Just remove the battery, wait a moment, then re-insert the DIVE battery. The DIVE gauge should start with the new firmware version.