

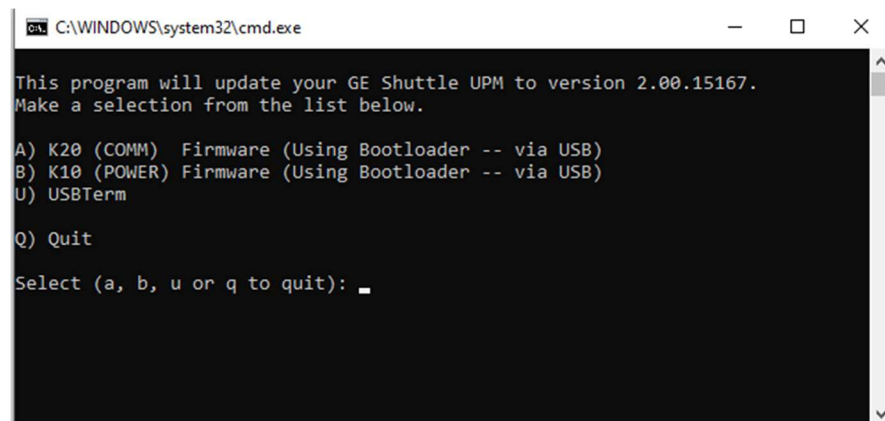
## GEHC Custom Shuttle Power System – FW Update Package 15167 21 May 2021.

### Materials:

- Windows PC with USB port
- Standard USB Cable
- Software Application for Shuttle Firmware Update: upm-ge-15167.sfx-2.exe  
Download *upm-ge-15167.sfx-2.exe* file to a folder on the PC
- Shuttle Power System (UPM)

The update procedure requires two steps; A. Comms processor, B. Power processor. Verification will be run automatically as part of the Power processor update.

1. To begin, connect the UPM USB port to the computer USB port.  
*Note: UPM needs to be plugged into AC source with UPM turned on.*
2. Using Windows Explorer, double-click on the file icon for *upm-ge-15167.sfx-2.exe* executable in the folder it was copied to.
3. When prompted, click “yes” to allow Firmware Update application to make changes to the UPM. The following screen will appear.



```
C:\WINDOWS\system32\cmd.exe

This program will update your GE Shuttle UPM to version 2.00.15167.
Make a selection from the list below.

A) K20 (COMM) Firmware (Using Bootloader -- via USB)
B) K10 (POWER) Firmware (Using Bootloader -- via USB)
U) USBTerm

Q) Quit

Select (a, b, u or q to quit):
```

Select option A..

This will start the update process for the **Communications Processor** which will take about a minute or so. Note that you will briefly see a timeout error, it will then start the update process. This is normal.

**NOTE: LET THE UPDATES COMPLETE WITHOUT BEING DISTURBED.  
DO NOT DISRUPT ANY OF THE UPDATE PROCESSES BY OPENING ANY OTHER APPLICATIONS,  
MULTITASKING OR EVEN CLICKING / DRAGGING THE SCROLL BAR IN THE UPDATE UTILITY.**



## RECOVERING FROM INCOMPLETED FW UPDATE:

Image below is what the WHO command returns when one of the two update steps have failed.

The string GBOOT or PBOOT will appear in place of the FW version number.

```
usbterm
Connected to VID: 0x4234, PID: 0x0002
=> WHO
<= WHO=GBOOT;15077

usbterm
Unable to connect to VID: 0x4234, PID: 0x0002
Connected to VID: 0x4234, PID: 0x0002
=> WHO
<= WHO=GAPP;15167;15077;PAPP;PBOOT;15077
```

If the application FW update is interrupted, the FW update process can be restarted.

If the unit is left in that state for several minutes, such that it shuts down the control and communications systems/

The unit will need to be restarted with a hard reboot via power cycle.

When the powers up, it will appear to be non-functional. (no output, odd LED pattern).

This is because the unit has restarted and picked up where it left off – at the boot-load state waiting for the FW update process to be reinitiated.

The FW update application can be restarted if it was closed.

The FW update process can then be restarted with Step A, as documented on page 1 of this update instruction document. After both updates and verifications steps have been completed, the unit will be operational.