

|                                                                                   |                       |              |       |            |                   |     |
|-----------------------------------------------------------------------------------|-----------------------|--------------|-------|------------|-------------------|-----|
|  | Doc or ECO #:         | ECO-72038-00 | Date: | 06/12/2023 | Author:           | SL  |
|                                                                                   | Rev. #:               | A            |       |            |                   |     |
| Engineering Change Order (ECO)                                                    | Engineering Approval: | srg          | Date: | 06/22/2023 | Quality Approval: | aeg |

|               |                                  |                        |               |
|---------------|----------------------------------|------------------------|---------------|
| <b>P/N #:</b> | 72038                            | <b>Effective Date:</b> | June 22, 2023 |
| <b>Title:</b> | Topside EOL GPS Puck Replacement |                        |               |

## 1.0 Purpose / Summary

- This ECO will address the end of life and replacement of the 5 hertz Topside GPS Receiver

## 2.0 Parts Affected

| Part Number | Notes                                  | Removed                  | Added                    | Modified                            | REV |
|-------------|----------------------------------------|--------------------------|--------------------------|-------------------------------------|-----|
| 72038       | Updated to use GlobalSat BU-353N(10Hz) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | B   |
| 72749       | Current Revision Date 5-31-2023        | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | C   |

## 3.0 Detail

- The GlobalSat BU-353-S4-5HZ GPS has gone end of life and will be replaced with the BU-353N-10Hz
- The new GPS is compatible with kernel version 5.5+
  - This can be checked with the terminal command **uname -r**
- Ubuntu 18.04 LTS only supports kernels up to 5.4, because of this a kernel module add-on has been compiled to allow compatibility.
- To install the kernel module follow the steps below
  - Acquire file **pl2303.ko** this is the precompiled module located in the ICB-420 RTM directory
  - Place **pl2303.ko** in the home directory
  - Move pl2303.ko to the correct directory with
    - Sudo mv pl2303.ko /lib/modules/\$(uname -r)/kernel/drivers/usb/serial**
  - Edit the module files with the following commands
    - sudo gedit /etc/modules**
    - at the bottom add **pl2303**
    - save** and then **close** the file
    - restart the computer
  - if the above is followed the new GPS will function correctly automatically with GSS

|                                                                                   |                       |              |       |            |                   |     |
|-----------------------------------------------------------------------------------|-----------------------|--------------|-------|------------|-------------------|-----|
|  | Doc or ECO #:         | ECO-72038-00 | Date: | 06/12/2023 | Author:           | SL  |
|                                                                                   | Rev. #:               | A            |       |            |                   |     |
| <b>Engineering Change Order (ECO)</b>                                             | Engineering Approval: | srg          | Date: | 06/22/2023 | Quality Approval: | aeg |

- The new GPS has a 5-foot cable where the previous GPS had a 15-foot cable, if required an optional USB extension cable can be sold using Part Number **74385**
- As of **5/31/2023** starting with OCC **M2023166** Panel **MSSOC00439**
  - the kernel module **pl2303.ko** will be preinstalled on all basic/pro OCC's
  - We additionally added a production test script to panel, this needs to be manually started
    - test script **vr\_panel\_function\_test.py** is preinstalled. When used in conjunction with **74097 – OCC Panel Tester** the script will test the following functions of the OCC for pass/fail while outputting the average bandwidth through-put.
      - RS485 Send
      - RS485 Receive
      - Maximum bandwidth send through the 8 pin bulkhead
      - Maximum bandwidth receive through the 8 pin bulkhead
      - Maximum bandwidth send through the auxiliary ethernet jack
      - Maximum bandwidth receive through the auxiliary ethernet jack

#### 4.0 Disposition of Material

- Finish using stock of Revision B 72038 before switch to Revision C

#### 5.0 Action Items

| Action        | Department  | Acknowledgement Initials |
|---------------|-------------|--------------------------|
| Update Epicor | Engineering | SL                       |

#### 6.0 Modified / Referenced Documents:

| Document | Current Revision                          |
|----------|-------------------------------------------|
|          | <a href="#">Click here to enter text.</a> |

|                                                                                   |                       |              |       |            |                   |     |
|-----------------------------------------------------------------------------------|-----------------------|--------------|-------|------------|-------------------|-----|
|  | Doc or ECO #:         | ECO-72038-00 | Date: | 06/12/2023 | Author:           | SL  |
|                                                                                   | Rev. #:               | A            |       |            |                   |     |
| <b>Engineering Change Order (ECO)</b>                                             | Engineering Approval: | srg          | Date: | 06/22/2023 | Quality Approval: | aeg |

## 7.0 Revision History

| Date Revised<br>(mm-dd-yyyy) | Location of Change<br>(section, paragraph no.,<br>step no., etc.) | Description of Change Made | Name of Person making<br>the Change |
|------------------------------|-------------------------------------------------------------------|----------------------------|-------------------------------------|
| 06/12/2023                   |                                                                   | Init                       | SL                                  |
|                              |                                                                   |                            |                                     |
|                              |                                                                   |                            |                                     |