

NOTICE: GPS Date Rollover Can Affect IMO Required Equipment

Mackay Marine has identified equipment in your fleet that potentially may be impacted by the upcoming GPS Rollover.

What are GPS (Time / Date) Rollovers

Since the implementation of GPS Satellites in the early 1980s; GPS time / date has been defined by a standardized format of counting. This counting format has a finite period and resets every 1024 weeks, or 19.7 years. The first event (or Epoch) where the finite period ended was back in 1999 and was widely known as Y2k.

Most modern IMO equipment has been designed to account for this reset of date / time. However, some older legacy IMO GPS, AIS, and Sat C equipment have GPS receiver chips that will not take into account the reset of the date and thus will cause the display to show the incorrect date as well as transmit the incorrect date to connected equipment.



Models Impacted by GPS Rollover Cycles

| | Dec. 20, 2020 | June 20, 2021 | Jan. 2, 2022 (JRC May 15, '22) | Update / Replace* |
|----------------------|-----------------------------------|-----------------------|-----------------------------------|--------------------------------|
| FURUNO | Felcom 15/16* | | Felcom 15/16* | Update may Fix or FELCOM 18/19 |
| | | | Felcom 18/19* | Software Update |
| | AIS FA100 - ALL | | | FA170 |
| | | | AIS FA150* | Software or FA170 |
| | | | AIS ClassB FA50* | Software Update |
| | | GPS GP32/37* | GP32/37* & 500MK2 - ALL | GP33 or GP39 |
| | | | GPS GP33* | Software Update |
| | GPS GP310B* | GP320B* | GP320B* | Cold Start or GP330B |
| | | | GP330B* | Furuno 220WX |
| | | GPS GP80 & GP90/Dual* | GP80/90-Dual* | GP170 or GP170D |
| | GPS GP150/150D* | GP150 /DUAL ALL | Software Update | |
| | GPS/ Plotter/ Sounder /Fishfinder | GP1640, GP1650/1850* | GP1650/1850, GP7000F* | GP1871F or GP1971F |
| | Chartplotter-GPS | GP3500/3500F* | GP3500*/3500F* | Software Update |
| | | SatCompass | SC30/50/110* | Software Update |
| | | SAT Speed Log | GS100* | Software Update |
| COBHAM SAILOR | SAILOR 65xx GNSS/DGNSS | | | Software 1.11 |
| | SAILOR 6004 Control Panel | | | Software 2.03 & APP |
| JRC | | | AIS JHS-182* | JHS-183 |
| | | | Inm. C JUE-85* | Software Update |
| | | | Mini-C JUE-95 SA/LT/VM | Software Update |
| | | | FBB JUE-250 - ALL | FleetBB JUE-251 |
| | | | JLR-7700 MKII* GPS Navig. | JLR-7600/7900 |
| | | | JLR-4300/4331* GPS Rec. | |

Impact on Vessel Operations

Certain IMO mandated equipment are crucially reliant on having the correct date transmitted by the connected GPS:

- ECDIS relies on the date for critical IMO approved weekly chart updates; an incorrect date may invalidate all licensed ENC Charts.
- GMDSS systems need the correct date in the event of the need to transmit a distress message.
- The VDR requires the correct date; an incorrect date will impact the reliability and authenticity of incident recordings by authorities.
- ODME equipment on Tankers rely on the GPS for correct date information in order to keep appropriate and accurate discharge logs.
- Other varieties of ships equipment are dependent upon the time & date typically derived from the GPS.

**Certain GPS, AIS, Sat-Compass & SatC systems will be impacted.
Action must be taken for equipment to continue proper operation.**



Each model of equipment affected requires a different remedy to correct the problem.

- Certain models of equipment will require a software upgrade, others will need replacement.
- Certain manufacturers will not evaluate equipment deemed obsolete, the rollover affect will be unknown in this instance.
- In certain cases, the equipment can be reprogrammed by the user with the correct date; however, manufacturers recommend continuous monitoring of the date as power outages and fluctuations can reset the date.

**Many of the equipment remedy requirements are "serial number specific".
Please provide the following equipment information on your GPS / AIS / Sat C systems.
This will enable Mackay to assist in providing the correct solution for your affected equipment.**

**Return completed pdf to your Mackay Salesperson or Regional OTC: otc.asia@mackaycomm.com,
otc.europe@mackaycomm.com, houston.inventory@mackaycomm.com (Americas)**

GPS #1

MAKER / MODEL: _____

S/N: _____

GPS #2

MAKER / MODEL: _____

S/N: _____

GPS #3

MAKER / MODEL: _____

S/N: _____

GPS #4

MAKER / MODEL: _____

S/N: _____

SAT C #1

MAKER / MODEL: _____

S/N: _____

SAT C #2

MAKER / MODEL: _____

S/N: _____

OTHER

MAKER / MODEL: _____

S/N: _____

AIS MAKER / MODEL: _____

S/N of Processor: _____

Model of Transponder: _____

S/N of Transponder: _____

**To better assist, please provide primary contact information
for service /sales related matters for your company.**

DATE: _____

Contact Name: _____

VESSEL NAME: _____

E-mail: _____

IMO # _____

Phone #: _____



Thank you for choosing Mackay!
24/7 service@mackaymarine.com