

# 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.



## 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.

Models Impacted by GPS Rollover Cycles				
	Dec. 20, 2020	June 20, 2021	Jan. 2, 2022 (JRC May 15 <sup>th</sup> )	Update / Replace
<b>FURUNO</b>	Felcom 15/16* w/ GPS GN79L5A		Felcom 15/16* w/ GPS GN78097	Update may Fix or Felcom 18/19
	AIS FA100			FA170
	GPS GP310B*			GP330B
		GPS GP32/37		GP39
		GPS GP320B*		GP330B
		GP80; GP90 & GP150 Dual GPS		Update or GP170/ GP170D
		GPS GP1640, GP1650, GP1850	GPS/Plotter /Sounder	GP1871F/ GP1971F
		GP3500 F - Chartplotter-GPS		Software Update
<b>COBHAM SAILOR</b>	SAILOR 65xx GNSS/DGNSS			Software 1.11
	SAILOR 6004 Control Panel			Software 2.03 & APP
<b>JRC</b>			AIS JHS-182* (BB51401+)	JHS-183
			Inm. C JUE-85*	Software Update
			Mini-C JUE-95* SA/LT/VM	Software Update
			FBB JUE-250*	FBB JUE-251
			JLR-7700 MKII* GPS JLR-4300/4331* GPS Rec.	Update GPS or JLR-7600/7900

\* GPS Rollover 2020-22 Impacts specific serial number ranges for noted products – please consult your Mackay Salesperson to verify the affected equipment.

**Certain legacy GPS, AIS, and Sat C 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](mailto:otc.asia@mackaycomm.com),  
[otc.europe@mackaycomm.com](mailto:otc.europe@mackaycomm.com), [houston.inventory@mackaycomm.com](mailto: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: \_\_\_\_\_

SAT C #3

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](mailto:service@mackaymarine.com)**