

TERRASTAR® FREQUENCY CHANGE

AUGUST 2018

TerraStar-C and TerraStar-L correction services are a frequently ordered option for TeeJet RX520 GNSS receivers. TerraStar corrections are broadcast globally from 7 geostationary L-band satellites; and in 2017, it was determined that the frequencies that these services are broadcast on would have to change in 2018. Customers using RX520 receivers were advised to use firmware v6.720 or later so that the receiver would automatically manage the frequency change.

Now that the frequency change process has started, we have identified several use cases where the frequency change may not happen automatically. This bulletin outlines how each of those use cases can be managed.

- NOTES: 1. The manual frequency update process described in this bulletin only works on receivers running v6.710 or later. At the time of the writing of this bulletin v6.730 is the latest and recommended version for RX520 receivers.
2. Matrix Pro GS / Aeros consoles currently do not display the firmware version of the RX520. Contact TeeJet Customer Support if further assistance is needed.

The frequency changes are taking place in the 2 stages detailed in Table 1. The following sections detail whether the update to the RX520 will take place automatically or will need to be done manually.

Table 1: Frequency Transition Details

Stage	Beam Name	Primary Location	Frequency Transition	
			Start Date	End Date
1	98W	North America	March 15, 2018	May 15, 2018
	AORE	Western Europe, Western Africa	March 16, 2018	May 16, 2018
	143.5E	Asia, Australia	March 17, 2018	May 17, 2018
2	25E	Africa, Central Europe	August 15, 2018	October 15, 2018
	AORW	South America	August 16, 2018	October 16, 2018
	IOR	Eastern Europe	August 17, 2018	October 17, 2018
	POR	Pacific	August 18, 2018	October 18, 2018

Status of RX520 Receivers Already in the Field

If an RX520 was purchased from TeeJet prior to August 20th, 2018 and **is** unlocked for TerraStar-C or TerraStar-L and **is** used in a regular GNSS reception environment at any time during the frequency transition period (see Table 1):

- The receiver **will** automatically receive the new frequency update, and will seamlessly continue to operate during and after the frequency transition period
- The frequency update will occur regardless of the TerraStar subscription status during the frequency transition period.
- No further updates or configuration changes are required

If an RX520 was purchased from TeeJet prior to August 20th, 2018 and **is** unlocked for TerraStar-C or TerraStar-L but **is not** used in a regular GNSS reception environment at any time during the frequency transition period (see Table 1):

- The receiver **will not** automatically receive the new frequency update
- At the end of the frequency transition period the receiver will no longer receive TerraStar correction services until an update is manually applied to the receiver
- See section “How to Update RX520 Receivers in the Field” for instructions on how to manually apply the frequency update.

If an RX520 was purchased from TeeJet prior to August 20th, 2018 and is **not** unlocked for TerraStar-C or TerraStar-L and **does/does not** operate in a regular GNSS reception environment before, during, or after the frequency transition period (see Table 1):

- The receiver **will not** automatically receive the new frequency update
- In order to operate with TerraStar correction services the receiver will require all of the following:
 - An unlock code to enable TerraStar-C (additional charge) or TerraStar-L (no-charge) operation
 - A manually applied update to the receiver so it can track the new TerraStar frequencies.
 - A TerraStar subscription (additional charge)
- Please contact TeeJet Technologies Customer Support for further assistance.

When to Update RX520 Receivers in the Field

In order to keep the update process as simple as possible TeeJet is providing a single update that works for all Stage 1 and Stage 2 locations; however, this means that the timing of the update is in some cases critical.

- ▶ Stage 1 Locations – If you have an RX520 that will only be operated in a Stage 1 location and this bulletin indicates that it needs to be updated, the update can be applied immediately.
- ▶ Stage 2 Locations – If you have an RX520 that will only be operated in a Stage 2 location and this bulletin indicates that it needs to be updated, do not apply the update until **after** the Frequency Transition Start Date specified in Table 1 for the location of the receiver operation.
NOTE: If the update is applied before the applicable Frequency Transition Start Date in Table 1, the receiver will not receive TerraStar corrections until the Frequency Transition Start Date.

Contact TeeJet Technologies Customer Support for any combinations or situations not covered in this bulletin.

How to Update RX520 Receivers in the Field

1. Download the file “TerraStar_FrequencyChange_2018-08.zip” from <http://www.teejet.com/support/software.aspx>
2. Unzip the update file onto a clean USB Drive.
3. Have the RX520
 - connected to a TeeJet Matrix Pro GS or Aeros console
 - console and receiver powered on
 - console setting Config->GNSS Receiver Configuration-> GNSS Port set to External
4. Insert the USB Drive in the Matrix Pro GS / Aeros console.
5. Wait for 1 minute then remove the USB Drive.
6. Cycle power to the console and GNSS receiver.

The update is complete, and the receiver will begin tracking the new TerraStar frequencies.

New RX520 Shipments

All RX520 receivers that ship from TeeJet Technologies on or after August 20th, 2018 will be configured to track the new TerraStar frequencies; therefore, no field updates will be required.

