

8 | Receiver Connection and Configuration (GNSS)

Connecting various GNSS receivers for operation with COMMAND

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8.1 | John Deere StarFire

Applicable to:

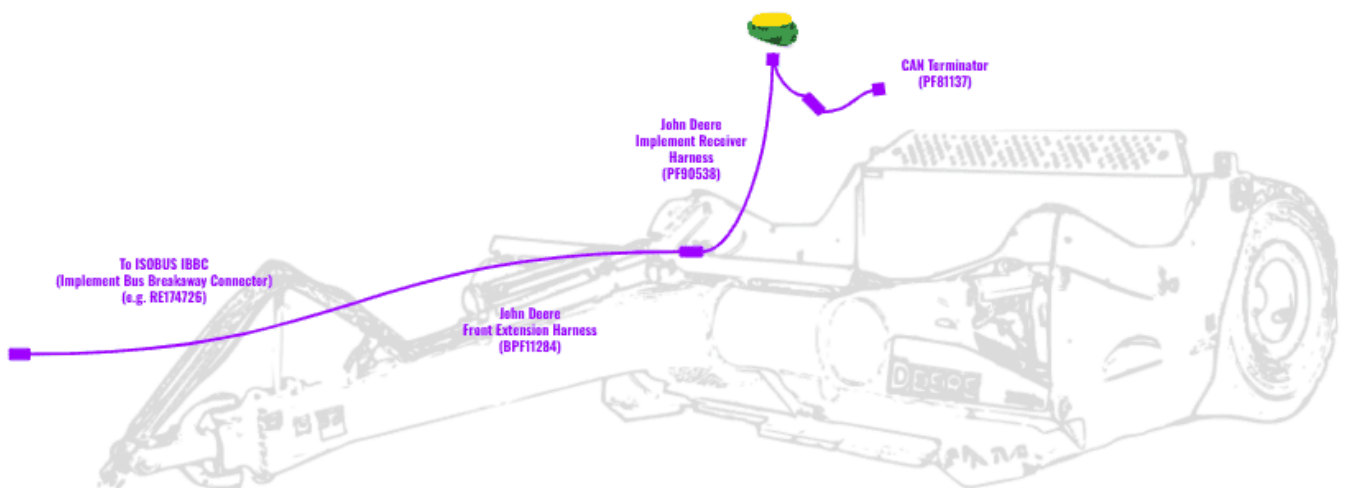
John Deere StarFire 3000, 6000, 7000 & 7500 GNSS receivers using implement harnessing.



Harnessing Layout Overview

For use with **COMMAND**, the John Deere StarFire can be set up with typical John Deere implement harnessing:

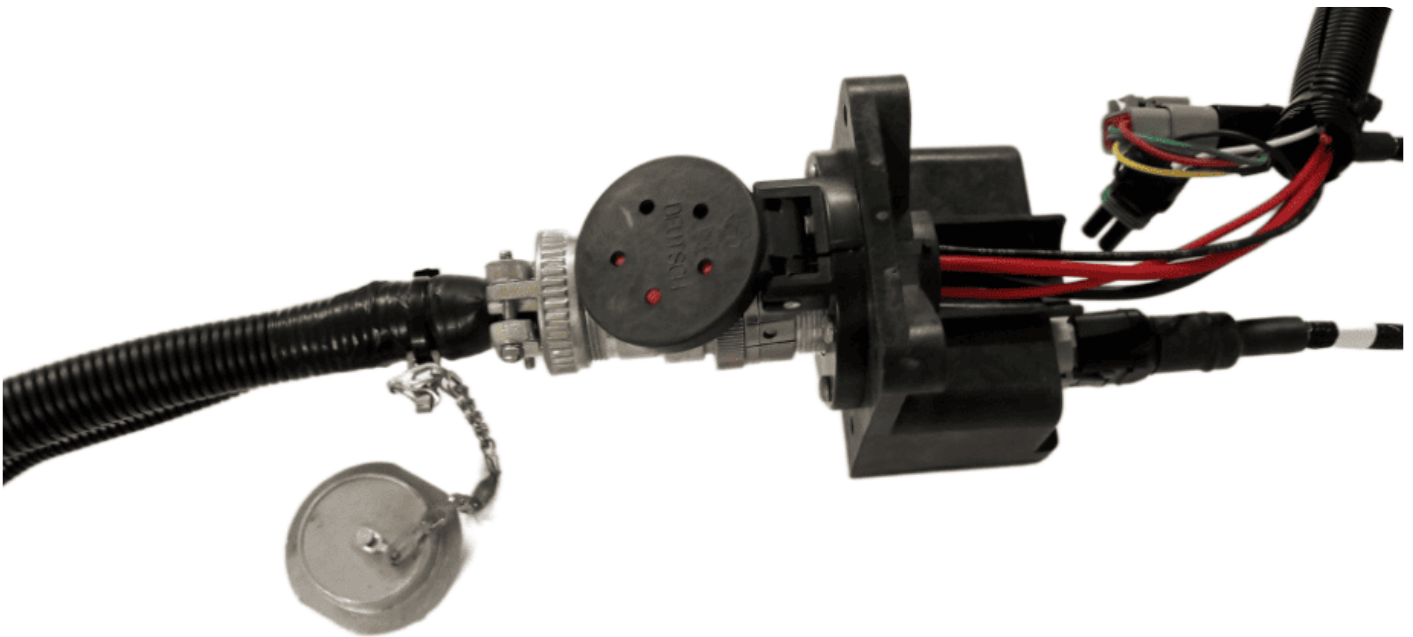
- **RE174726** - Greenstar ISOBUS IBBC (Implement Bus Breakaway Connector) if not present, IBBC from other manufacturers are also appropriate for **COMMAND**.
- **BPF11117** - John Deere Front Extension Harness with Terminator (10m)
 - **OR BPF11284** - John Deere Front Extension Harness (10m)
 - **AND PF81137** - John Deere Implement Pigtail Terminator Wiring Harness
- **PF90538** - John Deere Implement Receiver Wiring Harness Kit





Connection Process

1. Connect the John Deere Front Extension Harness to the ISOBUS breakaway connection.
2. Route along the implement, allowing slack at pivot points and avoiding snag hazards.



3. Connect the Implement Receiver Wiring Harness to the Front Extension Harness and route the cabling up toward the receiver mast.



4. Connect the Implement Receiver Wiring Harness to the Starfire receiver 12-pin DT connector. A 12-pin Deutsch gender change adapter may be needed to connect the DT06-12SA connector on the implement receiver harness to the DT06-12SA connector on the StarFire Receiver.



5. Connect the **PF81137** Implement Pigtail Terminator to the Implement Receiver Wiring Harness and secure the terminator to the implement receiver wiring harness.

**Verify:**

- Receiver powers on

8.2 | Trimble FMX/GFX/TMX with Ag25

Applicable to:

Trimble FMX, GFX, and TMX displays using NMEA 0183 RS232 output via 12-way DTM port.

Harnessing Layout Overview

Usage of the FMX/TMX NMEA 0183 output only requires the addition of a **T3H-G004** adapter to the **T3H-C002** ECU breakout harness.



Parts Required

- **T3H-G004** - COMMAND Trimble NMEA Output Adapter

Connection Process

NOTE: The **T3H-G004** adapter routes the RS232 Tx and Rx connection to the **COMMAND** ECU and they are NOT replicated on the port replicator connector. All other pins are replicated for connection of other devices.

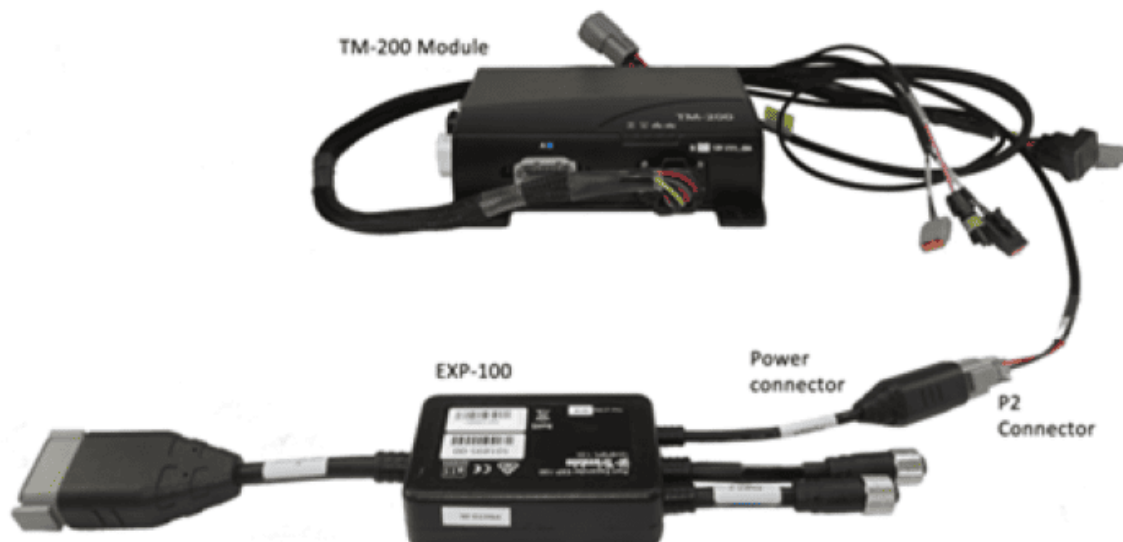
For FMX/FM1000

Connect the **T3H-G004** adapter to Port C or Port D on the FMX display depending on whether antenna port 1 or 2 is to be used. Port C will provide the NMEA output for antenna port 1 while Port D will provide NMEA output for antenna port 2.



For GFX/TMX with TM-200 and EXP-100

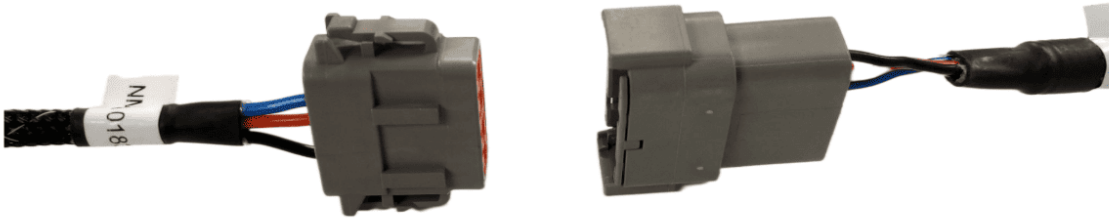
Connect the T3H-G004 adapter to the EXP-100 port expander module.



A port replicator is supplied in case the port was already in use for something else, if so disconnect the device, connect **T3H-G004** and then reconnect the device using the port replicator on **T3H-G004**.



Connect the other end of **T3H-G004** to the **T3H-C002** ECU breakout harness.



Next, follow the setup process below for activating the NMEA output port on the FMX/TMX system.

Activating the NMEA Output - FMX/FM1000

Make sure that if present, Autopilot is configured for use on Port A - this leaves Port C and Port D free for NMEA output of either implement receiver.

1. Select the GPS Receiver listed below Autopilot [Vehicle] and press "Setup".

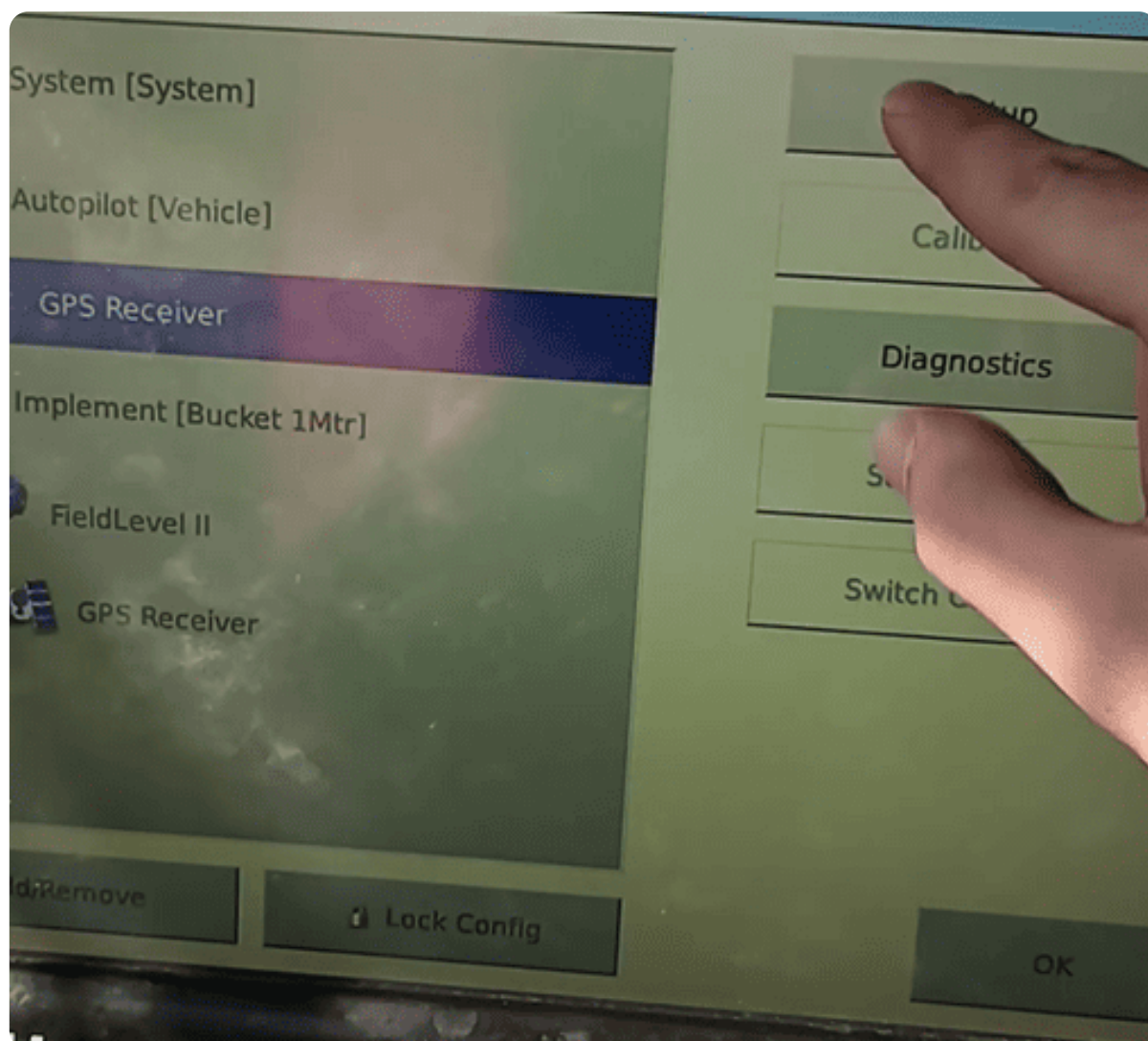
2. Press the "GPS Output" button.

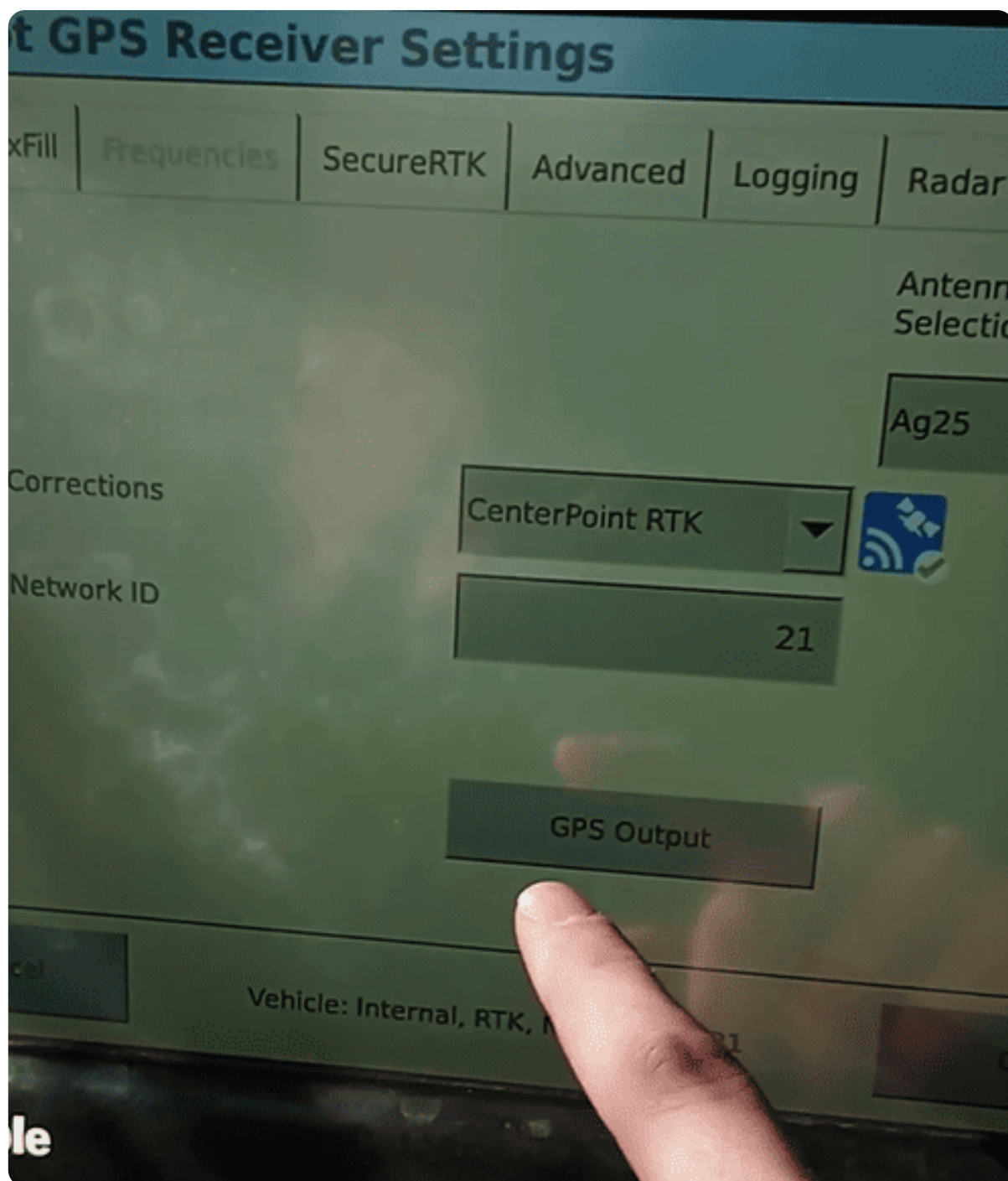
3. Configure the NMEA GPS Output port as below:

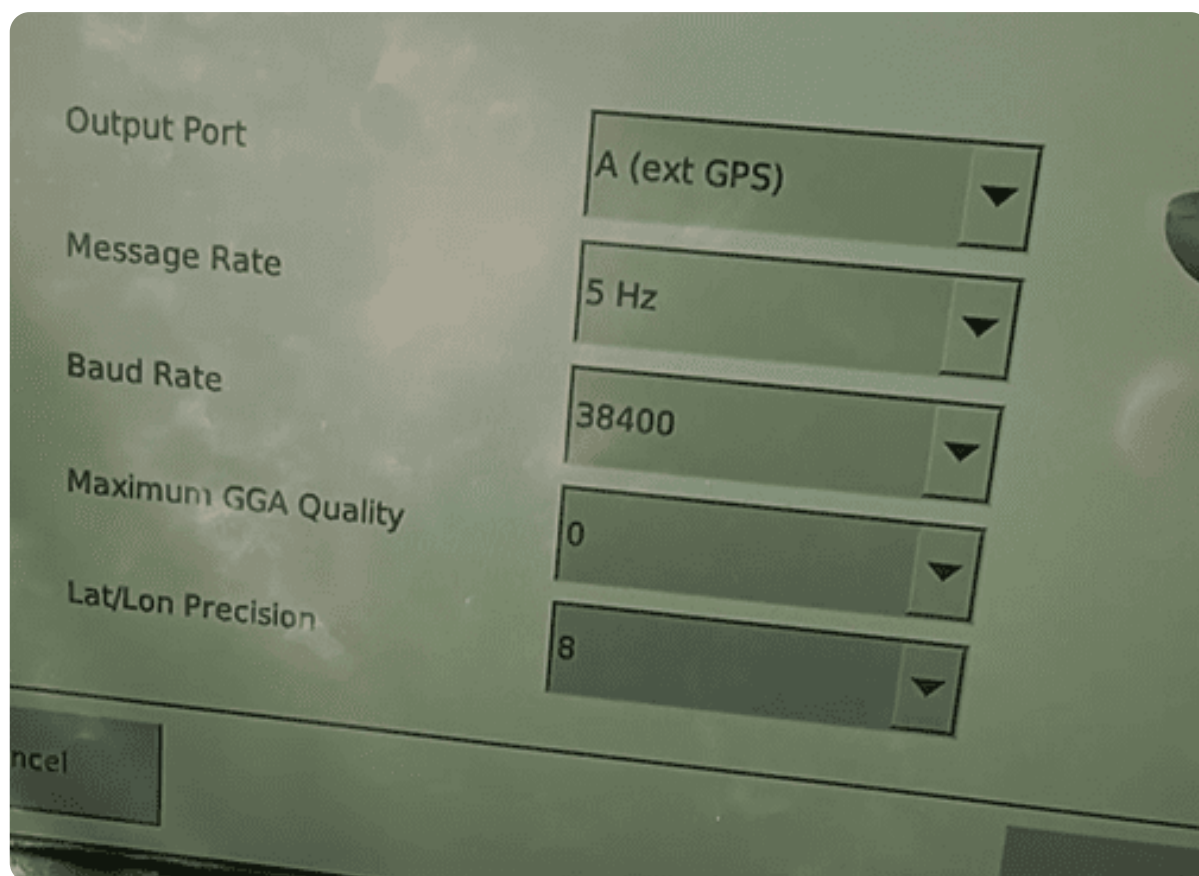
- Select Output Port A (ext. GPS)
- Select a message rate of 5 Hz
- Select a Baud Rate of 38400
- Set Maximum GGA Quality to 0
- Set Lat/Lon Precision to 8
- Press the "NMEA Messages" Tab.

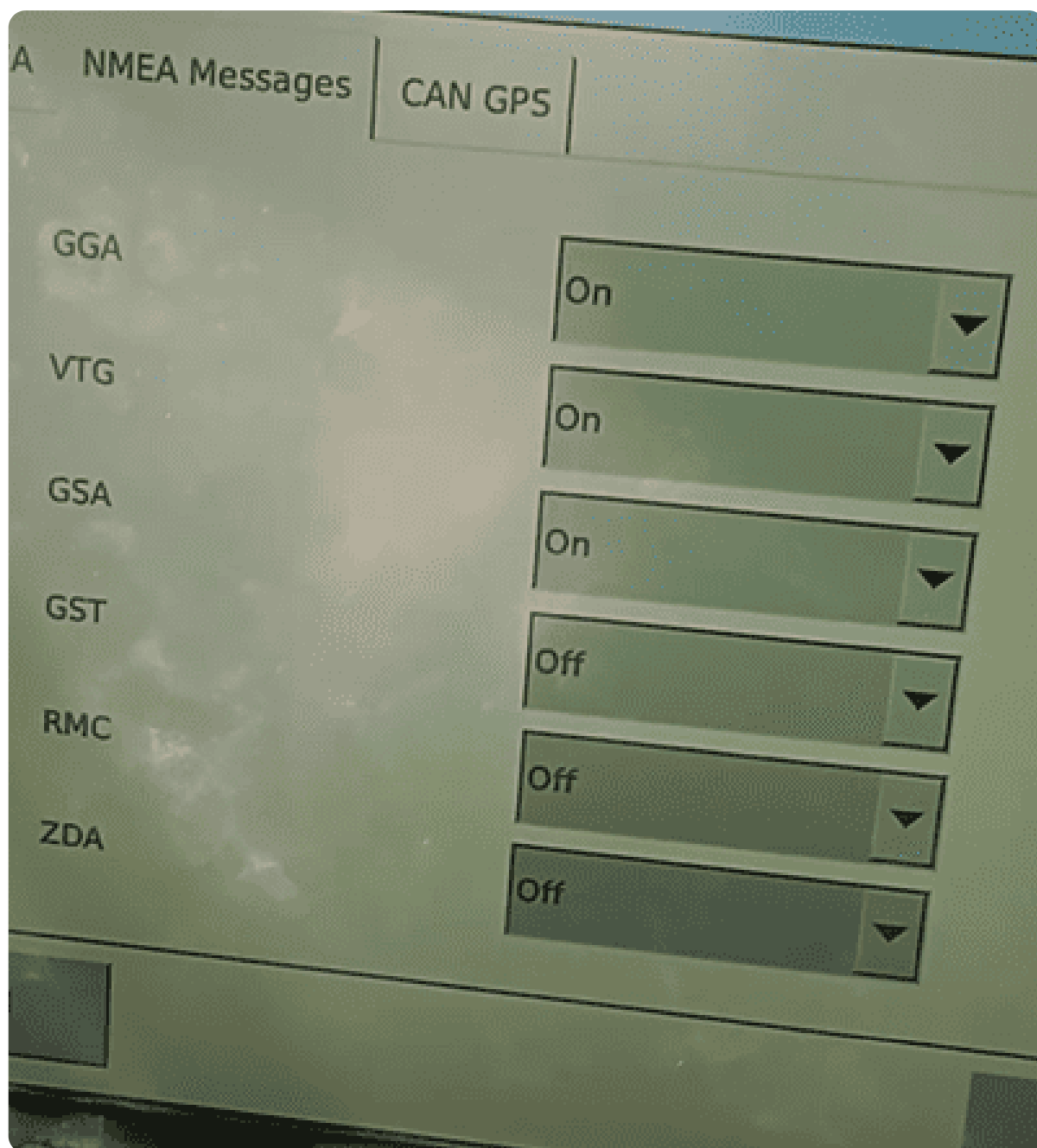
4. Configure the NMEA Messages as below:

- Set GGA, to "On".
- Set GSA, to "On".
- Set VTG, to "On".
- Leave all other messages set to "Off".









8.3 | Modern Case IH / New Holland / Trimble

This section covers connection of Novatel-based GNSS receivers using a 12-pin Deutsch interface.

Applicable to receivers including:

Case IH - Vector Pro

New Holland - PLM Cygnus

Trimble - AG-372, AG-392, NAV-900

Steyr - S-Guide

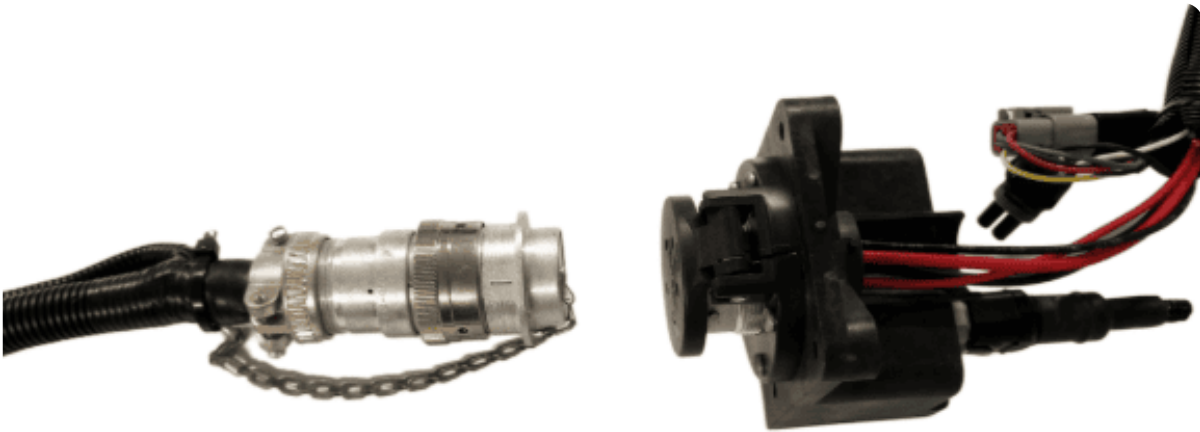


Parts Required

- **BPF11284** - Front Extension Harness (10m)
- **PF81137** - Implement Pigtail Terminator Wiring Harness
- **T3H-G002** - COMMAND Impl Adapter - NAV-900
- **T3H-S001** - COMMAND Impl Adapter - Stub Junction
- **Optional - T3H-G001 / T3H-G007** - COMMAND NMEA Extension Harness
 - Only required if using NMEA 0183 Serial for GNSS data.

Connection Process

1. Connect the John Deere Front Extension Harness to the ISOBUS breakaway connection.
2. Route along the implement, allowing slack at pivot points and avoiding snag hazards.



3. Connect the **T3H-S001** adapter to the Front Extension Harness.



[AGV_vUfb18F8k_oebTBPqwfo9XiNBZNwKnM3oAVQCWqCnu81_ej-90MsO88UGKN3PqpReGuf](#)

4. Connect the Implement Pigtail Terminator to the **T3H-S001** adapter and secure the terminator to the implement receiver wiring harness.



5. Connect the **T3H-G002** adapter to the **T3H-S001** adapter.



6. Connect the **T3H-G002** adapter to the appropriate GNSS receiver port.

7. If using NMEA 0183 Serial, also connect the NMEA extension harness to the **T3H-G002**, then connect the other end to the **T3H-C002** ECU breakout harness.

Verify:

- Receiver powers on

8.5 | NMEA 0183

NMEA 0183 Serial (RS232) capable receivers can be connected to the **COMMAND** system.

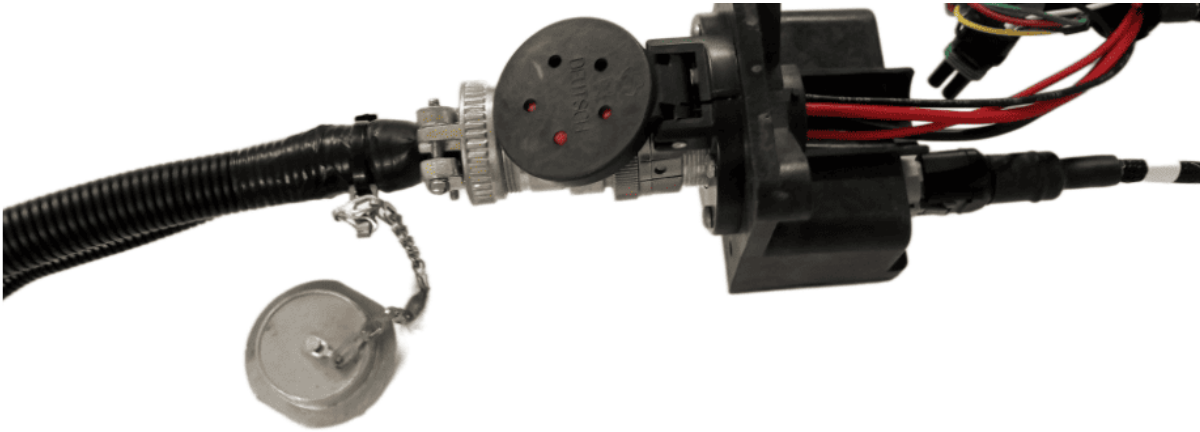
IMPORTANT: If the GNSS receiver does not provide terrain compensation, an IMU must be installed to maintain accuracy.

Parts Required

- **BPF11284** - Front Extension Harness (10m)
- **PF81137** - Implement Pigtail Terminator Wiring Harness
- **T3H-S001** - COMMAND Impl Adapter – Stub Junction
- **T3H-G001 / T3H-G007** - COMMAND NMEA Extension Harness (8m or 12m)
- **Custom GNSS Adapter** - Custom adapter for connection of the NMEA 0183 Serial compatible receiver to the **T3H-S001** and **T3H-G001/G007** adapters.

Connection Process

1. Connect the John Deere Front Extension Harness to the ISOBUS breakway connector.
2. Route along the implement, allowing slack at pivot points and avoiding snag hazards.



3. Connect

the **T3H-S001** adapter to the Front Extension Harness.



3. Connect the **PF81137** Implement Pigtail Terminator to the Implement Receiver Wiring Harness and secure the terminator to the implement receiver wiring harness.



4. Connect the **CUSTOM** adapter to the **T3H-S001** adapter.

5. Connect the **CUSTOM** adapter to the receiver's port ensuring connector keys are lined up.

6. Connect the NMEA extension harness **T3H-G001** or **T3H-G007** to the **CUSTOM** adapter, then connect the other end to the **T3H-C005** external breakout harness.

Receiver Configuration

Perform necessary setup of the GNSS receiver using provided manufacturer tools or programs:

- Talker ID should be set to GP or GN
- Messages enabled - GGA, GSA, VTG
- Output Update rate - 10Hz recommended
- Baud Rate - 38400

Verify:

- Receiver powers on