Introduction
Precision Planting's 20/20 SeedSense® display requires DGPS information to provide real-time planting information and generate planter performance maps based on field location. The following instructions outline the procedure to connect a Trimble® FMX® Display to a Precision Planting 20/20 SeedSense® Monitor in order to enable DGPS communication between the two devices. In this case, the 20/20 SeedSense® Monitor is acquiring GPS/GNSS positioning data from the Trimble system.

Required Hardware/Accessories

![Image of hardware/accessories]

- Precision Planting Cable PN: 727060
- 20/20 SeedSense® Monitor
- Trimble® FMX® Display

Instructions
1. Connect the 12-pin (female connector) of the Cable to Port B of the FMX display and the 4-pin connector to the GPS connector on the main harness that connects to the 20/20 monitor.
2. Turn ON the 20/20 monitor and FMX displays. The startup screen of the 20/20 should have a ‘NO GPS’ box in the top, right-hand corner indicating no GPS communication at this time.
3. On the FMX startup screen, select the Settings icon located on the top right hand corner and then select GPS Receiver from the configuration options. The GPS Receiver option will be highlighted.
4. Select the Diagnostics button on the screen to check the incoming GPS signal (long/lat, status, quality, etc.) from the receiver. If working properly, select OK to go back to the configuration screen.
5. Select the **Setup** button to open the **GPS Receiver settings** screen (If the FMX display is password protected, you will be prompted to enter the administrative password in order to go to the next screen).

6. On the **GPS Receiver Settings** screen, select the **Settings** tab and then the **NMEA Output** button to open the **NMEA Message Output Settings**.

7. Select the tab marked **Rate**. Under this tab, you can select the NMEA message settings such as rate, output port and baud rate for the 20/20 monitor.

8. From the dropdown list for these settings, select the following:

   - **Message Rate**: 5 Hz
   - **Baud Rate**: 19200
   - **GGA Quality**: 1
   - **Lat/Lon Precision**: 8

   *See Precision Planting’s SeedSense (20-20) Operators Manual for further GPS setup info.*

9. For the **Output Port** setting, select **B (ext GPS)** from the dropdown list to set **Port B** to output GPS NMEA data.

10. Now select the **Messages** tab under the **NMEA Message Output Settings**. Make sure the GGA, VTG and RMC message strings are checked **ON**. Select **OK** twice to return to the FMX home screen.

11. **RESTART** the FMX display by selecting **Shutdown** and then turning it back **ON** from the power button manually in order for these new settings to be saved. The Port B on FMX should be activated to output the correct GPS NMEA data now.

12. The 20/20 monitor should have GPS communication via the FMX now. The top right hand box on the 20/20 monitor should indicate the GPS signal and tractor ground speed.

13. Select **Setup<Systems<GPS<GPS Communications** on the 20/20 Monitor to check the GPS status and quality.