

StarFire™ 3000 receiver - External antenna port

The StarFire 3000 position receiver, recently introduced in North America, is equipped with an external antenna port. This document reviews the use case for the external antenna, components that are compatible with this new feature, and where to purchase the compatible antennas.



External antenna port location

Use case:

The external antenna port is located on the bottom of the receiver and is designed to be used with an approved auxiliary base station GNSS satellite antenna connected by an approved coax cable and length. The external antenna port allows the user to keep the receiver in a secure and safe location, away from many different environmental threats. Locating the receiver at the bottom of the base station will also allow easier access to the receiver for updates.

The receiver on a traditional base station is mounted in a higher location to provide better access to more satellites. Placing the receiver at a higher point on the base station makes the receiver and other components more susceptible to lightning strikes and other environmental conditions that may harm the receiver. Utilizing an external antenna to relocate the receiver may help eliminate some of these risks. Please adhere to the following guidelines when using an external antenna for your base station.

Compatible components:

External Antenna: There are two GNSS antennas which are electrically compatible with the external antenna port on the StarFire 3000 receiver and are provided by NavCom Technologies. Both antennas support multiple constellations including GPS and GLONASS as well as WAAS and StarFire.

ANT-3001R A pole-mount antenna, ideal for most base stations, is a great solution at a lower cost. This antenna has a lower profile, lightweight and rugged, and easy to mount. (Part Number: 82-001020-3001LF)

ANT-3001BR A choke ring antenna is designed to be used on base stations with multipath issues to help reduce signal interferences. In most situations, this antenna is not necessary. (Part Number: 82-001021-3001LF)

Coax Cable: Please use the following guidelines for coax when setting up your base using an external antenna. The recommended cable types listed here work well when using the proper cable length to achieve no greater than a loss of 7dB.

Cable Type	dB loss per 100 ft.	Maximum cable length (ft)	Loss in dB
RG-213	9.564	74	7.08
LMR600	3.407	207	7.05
LMR400	5.262	133	7.00
LMR240	10.127	70	7.09

Lightning Protection: Where the GNSS antenna is exposed to sources of electromagnetic discharge such as lightning, you can install a properly grounded in-line electrical surge suppressor between the GNSS sensor and antenna. Install protective devices in compliance with local regulatory codes and practices. Protective devices must pass DC power from the receiver to the antenna. John Deere has not tested and does not support lightning protection for this application.

Where to purchase:

Western Latitudes is a NavCom products dealer who has agreed to offer sales and support of both compatible external antennas that are listed in this document which are compatible with the external antenna port on John Deere's new StarFire 3000 receiver. This is the only dealer in North America able to provide these antennas to John Deere dealers. The coax cable and lightning protection may not be purchased through Western Latitudes, and will need to be purchased elsewhere.

**** Western Latitudes will be John Deere dealer's contact regarding sales and support for the use of the external antenna with the StarFire 3000 as an auxiliary base station. ****

Western Latitudes' ability to provide these antennas to John Deere dealers is a temporary agreement until John Deere AMS is able to provide solutions for dealer base stations that meet these needs.

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