RTK – Base Station (RTK)

By focusing on the unique needs of each customer, Central Railway Manufacturing has worked with leaders in the freight transportation industry to address navigation and positioning requirements to turn their precision engineering and railroading goals into a reality.

RTK – Base Station (F3552)

Central Railway Manufacturing's equipment portfolio includes the F3552, the RTK Base Station. The F3552 is a fully featured Real-Time Kinematic (RTK) precision base station receiver.

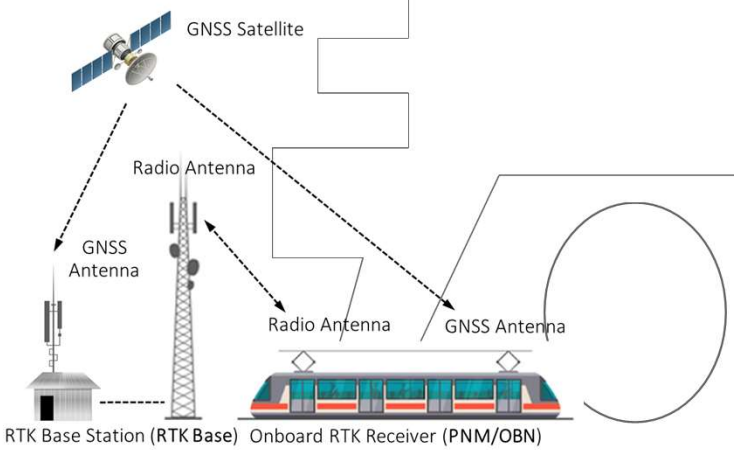
The F3552 is ideal for supporting a wide range of geodetic base station precision reference applications ranging from single point surveying to wide-area deployment as part of an RTK-corrected GPS mobile asset location network.

Insight into RTK technology...

The F3552 employs a fully featured multi-constellation GNSS receiver. This architecture is designed to support industry-standard RTK network implementations and navigation requirements via Ethernet but also legacy applications through serial port applications.

- 1 x NMEA isolated serial port
- 1 x 10/100 Ethernet

The RTK System



Your data at your fingertips...

The F3552 is part of the CRM Enabling Technologies suite of products whose focus is to allow customers to leverage their own networks and data infrastructure, in this case to connect to RTK messaging servers for distributed precision positioning applications. The CRM F3552 not only conforms to industry-driven precision navigation standards, but also allows customers to gain direct access to raw data streams to implement their own focused and optimized correction networks as opposed to open-market RTK alternatives.

The F3552 platform allows the end customer to route RTK correction data through multiple network configurations that can include wired Ethernet, WIFI, and cellular. With the ability to integrate into a wide range of connectivity environments, this flexibility also provides for communications redundancy as required, and also allows for remote maintenance and calibration. Ideal system spacing is 15-20 miles as device accuracy degrades over distance.

Tested with both embedded and enterprise software RTK packages, the F3552 works with NTRIP casters such as SNIP®.

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Precision Navigation Module / On-Board Network (PNM/OBN)

By focusing on the unique needs of each customer, Central Railway Manufacturing has worked with leaders in the freight transportation industry to address timing, navigation and positioning requirements to turn their precision railroading goals into a reality.

Precision Navigation Module / On-board Network (F3626-24 or F3626-72)

Central Railway Manufacturing's equipment portfolio includes the PNM/OBN, the Precision Navigation Module / On-board Network. The PNM/OBN is a fully featured AAR S-9102 and S-9103 precision positioning and locomotive time solution, capable of connecting GNSS and optional time-based inertial functions to Ethernet on-board networks. The CRM PNM/OBN also incorporates user-accessible high-powered edge processing to its positioning and time management engines in a compact, standalone form factor.

Insight into PNM-OBN technology...

The PNM/OBN employs a survey grade GNSS receiver and an embedded real time clock (RTC) to a dedicated positioning microcontroller and a quad-core customer accessible edge processor. This architecture is designed to support cutting edge industry standard navigation requirements via Ethernet but also legacy navigation applications through serial port applications.

- 1 x GNSS RF receiver input
- 2 x NMEA isolated serial ports
- 3 x 10/100/1000 Ethernet ports
- 2 x Cell Modems
- 1 x Bluetooth
- 1 x Wifi

The PNM/OBN GNSS receivers also support a wide array of RTK positioning and correction standards such as NTRIP, RTCM, WAAS, SBAS and Differential modes.

The PNM/OBN is available in three input voltages:

- F3626-24: 12 or 24 volt input
- F3626-74: 74 volt input

Your data at your fingertips...

The PNM/OBN is part of the CRM Enabling Technologies suite of products whose focus is to allow customers to leverage their own networks and data mining infrastructure to connect to and utilize on-board telemetry. The CRM PNM/OBN not only conforms to industry-driven precision navigation standards, but also allows customers to gain direct access to raw data streams such as accelerometer data.

In addition to hosting on of the most state-of-the-art GNSS receivers in the industry, the CRM PNM/OBN is a powerful standalone locomotive edge processing platform that boasts a state-of-the-art quad-core applications processor capable of hosting Linux customer data mining, analytics, routing, and locomotive configuration management applications with the capability to support more than 1TByte of user storage. The PNM/OBN supports a wide range of scripting engines such as Python® to enable all manner of customer-driven processing and rules functions without the need for additional cards.

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