MobileMark
antenna solutions

Antenna Solutions for Passenger Trains, Trams & Commercial Freight

Wireless connectivity has become increasingly important for Passenger Trains, Trams and Commercial Freight trains. The push to implement Positive Train Control (PTC) is just one aspect of the wireless evolution taking place in the rail industry.

Critical, time sensitive data is being communicated over multiple technologies from licensed Cellular channels to unlicensed WiFi and ISM bands to specialized rail frequencies such as the 220 MHz band. Train stock, way-side tracks and stations must all be equipped to handle the growing volume of wireless data transmissions.

Providing wireless connections can be a challenge. User expectations are high, and network infrastructures will be pushed to the limit. Mobile Mark's wide range of antennas can help you prepare for it all.

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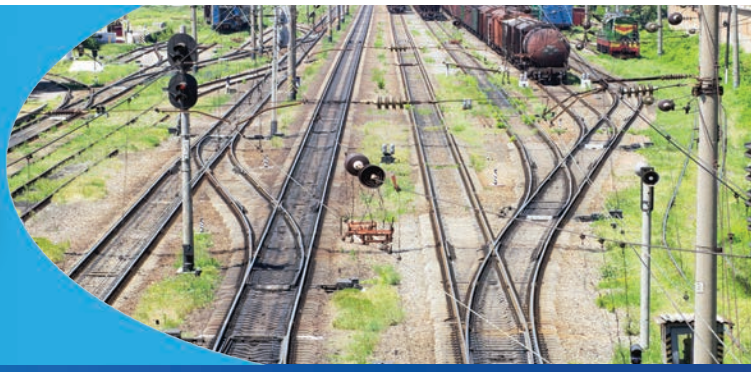
Wayside Track Antennas
Wayside wireless systems rely on multiple wireless technologies to track trains as they cover long distances between train stations. Mobile Mark's site antenna solutions provide a range of coverage patterns and can communicate on different frequency bands. Some antenna solutions will cover stand-alone frequency bands and others will incorporate multiple antennas within a single antenna package. Custom design solutions can be developed for unique wayside situations. GPS Timing sensors are often incorporated to provide precise timing.

Onboard Passenger Services
It is a given that today's train riders want to stay connected wirelessly, and more passenger trains are offering WiFi On-board. WiFi reliability has to be a priority because nothing turns a new service into a frustration faster than dropped wireless connection. Mobile Mark offers a number of MIMO (multiple-input-multiple-output) antennas for 802.11n or 802.11ac that can be mounted in the ceilings or walls of the passenger train compartment. We also offer tailored antenna solutions that provide bi-directional coverage.

Specialized Frequency
In addition to Positive Train Control at 220 MHz, some railroad companies are using commercially available networks, such as Cellular, to transmit critical information. Others are using unlicensed networks with short range coverage, such as WiFi or ISM at 433 MHz and 915 MHz, and still others are using privately licensed bands such as the 3.65 GHz band. RFID solutions are being implemented to read passenger fare cards on trams.

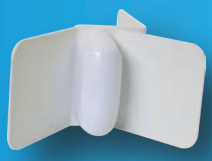
Antenna Solutions for Passenger Trains, Trams & Commercial Freight

www.MobileMark.com for our full product line.



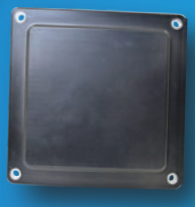
Train Management

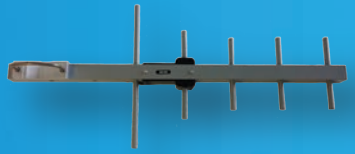
Communications are not limited to train-to-train or train-to-station networks. Wireless is being used to monitor the condition of the train itself. Onboard train telemetry is critical to keeping trains running smoothly by detecting problems while they are still small and fixable and before they become a hazard. Sensors placed in critical junctures need to be read and the data transmitted to a central location. Multiple wireless technologies come in to play, typically ISM, WiFi and Cellular.



Positive Train Control

PTC or Positive Train Control is mandated by law in the US. Many rail companies are well on their way to implementing PTC on their moving stock and rail lines, while others are earlier in the process. Mobile Mark offers several antenna solutions for PTC at 220 MHz, including both site and mobile antennas. These antennas need to be electrically efficient and mechanically sound to stand up to the demands of railway communications.





Mobile Mark antennas cover commercially available wireless networks as well as specialized networks. We can help you tie together the right mix of wireless systems for both vehicles and infrastructure. And, installers love the fact our antennas are easy to install and service free.

If you need something special, Mobile Mark has the facilities and the experience to take a project from initial conception through to final production. Our team of design engineers brings years of experience and a proven track record for developing innovative, high quality antennas.

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WAYSIDE TRACK ANTENNAS

GPS Timing Antennas
Rugged, heavy duty
Water and shock resistant
1575 MHz

PS Series Directional Panels
Sectors: 45°, 60°, 90° or 120°
Models: 2.4-6.0 GHz
10-14 dBi gain

Custom designed Trackside
Multi-element antenna
Customizable enclosures
Cellular, WiFi, GPS, PTC

TRAIN MANAGEMENT

LTM Surface, MIMO coverage
3-6 cable Multi-band
Cellular LTE, WiFi, GPS/Glonass

SMW Series, Surface Mount
4-cable, multiple combinations
GPS, MIMO WiFi & Cellular

CVL Series Embedded
Custom enclosures,
IP69 protection
Cellular & LTE, 694-2700 MHz

ONBOARD PASSENGER SERVICES

WiFi MIMO Ceiling Mount
Onboard streaming WiFi
2.4 & 5 GHz, 4 dBi gain

WiFi MIMO Panel
Six connections, 6x MIMO
2.4 & 5 GHz, 10 dBi gain

SCR Corner Reflectors
Can mount for bi-directional coverage
2.4 & 4.9-6.0 GHz,
9 & 12 dBi gain

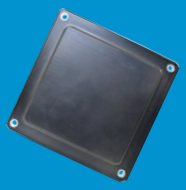
POSITIVE TRAIN CONTROL

SMW Series, Surface Mount
3 elements, 3 cables
PTC, WiFi & GPS

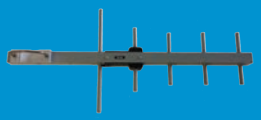
SM-220/1575,
Surface Mount
External flexible whip
PTC & GPS, unity gain on PTC

OD3-220
Rugged, omni-directional
3 dBi gain, 220 MHz

SPECIALIZED FREQUENCY



RFID Panel Antenna
Reader Antenna, Asset Tracking
915 or 868 MHz, 7 dBi gain



YAGI Directional Antennas
ISM, 915 MHz
11 dBi gain

RMM-433
Surface Mount antenna
433 MHz, Unity gain

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