

# Digi TransPort® WR44 RR

Enterprise Class Cellular Routers for Rail

Rugged, all-in-one cellular router with 3G/4G Gobi GSM/CDMA and GPS. Designed for use on-board rail vehicles.



## Overview

Digi TransPort WR44 RR is a rugged enterprise-class cellular router designed for rail environments. Its rail industry ratings, versatility, security features and performance make it ideal for applications such as Positive Train Control (PTC), wayside device communications and on-board passenger Internet access.

Digi TransPort WR44 RR provides a reliable primary high speed cellular network connection or can act as a secure backup connection to the existing railroad network. It features a flexible communications design with 3G/4G Gobi multicarrier GSM/CDMA cellular, plus integrated Wi-Fi b/g/n access point, serial and 4-port Ethernet switch. It also features full on-board train certifications, including AREMA C/H and EN50155. Communications interfaces include hardened connectors, including M12 for Ethernet and serial, as well as TNC connectors for antenna connections.

Digi management solutions provide easy setup, configuration and maintenance of large installations of remote Digi TransPort devices. Device Manager offers web-based device management for remote Digi cellular routers and gateways. Additionally, users may choose Windows based Digi Remote Manager™ for customer installed device management and reporting.

### Related Products



Device Manager

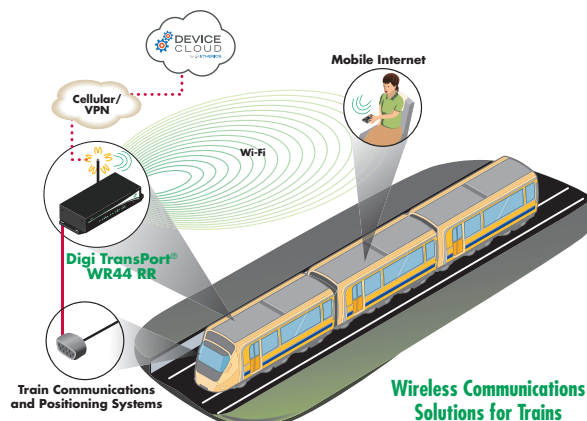


Remote Management Solutions



Accessories

### Application Highlight



### Features/Benefits

- Heavy-duty enclosure and connectors designed for shock and high vibration environments
- Enterprise-class routing, VPN and firewall capabilities
- Optional integrated 802.11b/g/n Wi-Fi access point
- Dual SIM for carrier redundancy
- Cellular to Wi-Fi autoswitch
- Full on-board train certs including AREMA C/H and EN50155
- Digi's remote management solutions include software or web application for easy setup, configuration and maintenance



# Specifications

# Digi TransPort® WR44 RR

## Wireless Interfaces

### WWAN

LTE - Verizon (L2)	700 MHz (Band 13); 2G fall back to CDMA 850/1900 MHz; Transfer rate (max): UL 50 Mbps/DL 100 Mbps (Network operator dependent)
LTE - GSM (L3)	700 MHz (Band 17)/AWS; 3G fall back to HSPA 850/AWS/1900/2100 MHz; 2G fallback to 850/900/1800/1900 MHz; Transfer rate (max): UL 50 Mbps/DL 100 Mbps (Network operator dependent)
LTE - EMEA (L4)	800/900/1800/2100/2600 MHz; 3G fall back to HSPA+ 900/2100 MHz; 2G fallback to 900/1800/1900 MHz
GSM/CDMA (U8)	GSM and CDMA supported on the same module via Gobi diversity; UMTS/HSPA/HSPA+ (850/900/1700 AWS/1800/1900/2100 MHz with Rx Diversity); EV-DO Rev A (800/1900 MHz with Rx Diversity); Transfer rate (max): UL 5.76 Mbps/DL 14.4 Mbps
Connector	2 x 50 Ω TNC (Center pin: female)
SIM Slots and Security	2; SIM slot cover plate

### Wi-Fi\*

Standard	802.11b/g/n
Modes	Access point, Client, and support for multiple SSID
Transmit Power	17 dBm ± 2 dBm
Receive Sensitivity	54 Mbps OFDM, 10% PER, -70 dBm, 11 Mbps CCK, 8% PER, -83.5 dBm
Security	Open or shared key authentication; WEP (64 and 128 bit) encryption; WPA/WPA2 with Radius (WPA Enterprise and pre-shared keys)
Connector	Primary and Diversity; 2 x 50 Ω RP-TNC (Center pin: male)

### GPS

Channels and Sensitivity	50; -163 dB
Protocol	NMEA 0183 V2.3 sentence output; +3.3 VDC active antenna drive; NMEA stream to local serial port or over TCP/IP
Navigation	Galileo ready
Augmentation	SBAS
Cold Start	< 27 seconds TTFF (90%)
Horizontal and Velocity Accuracy	< 2.5 meters (90%); 0.1m/s
Connector	1 x 50 Ω RP-TNC (Center pin: male)

## Wired Interfaces

### Serial

Async	1 x RS-232
Signal Support	TXD, RXD, RTS, CTS, GND
Flow Control	Software (XON/XOFF), Hardware supported
COM Port Redirector	RealPort®
Connector	5-pin A-coded M12 Female

### Ethernet

Ports	4
Standard	IEEE 802.3
Physical Layer	10/100 Base-T
Data Rate	10/100 Mbit/s
Mode	Full or Half duplex
Interface	Auto MDI/MDIX
Connector	Option of 4-pin D-coded M12 Female or 8-pin A-coded M12 female

### I/O

Digital I/O	Input 4 - 28 VDC / Output: 28 VDC 50 mA max
Connector	4-pin A-coded M12 male (only 2 pins are used for I/O; the other 2 pins are used for Power)

## Software/Management

Management (Cloud-based)	Device Manager
Management (Local)	Web Interface via HTTP/HTTPS; CLI via serial port, Telnet, SSH
Software	Python, DIA, Digi ESP™ development environment
Protocols	HTTP, HTTPS, FTP, SFTP, SSL, SMTP, SNMP (v1/v2c/v3), SSH, Telnet and CLI for management; SMS management, protocol analyzer, ability to capture PCAP for use with Wireshark; DynDNS; Device Cloud; Dynamic DNS client compatible with BIND9/No-IP/DynDNS
Security/Firewall/VPN	RADIUS, TACACS+, SSL, SSLv2, SSLv3, FIPS 197, L2TP, (5 tunnels included); IPSec with IKEv1, IKEv2, ISAKMP; DES, 3DES and AES up to 256-bit (CBC mode for IPSec); SCEP for X.509 certificates, OpenVPN client and server, PPTP/IPSec/PPP/L2TP VPN Server support; Stateful inspection firewall with scripting; Content filtering (via 3rd party); SHA-1, RSA

# Specifications

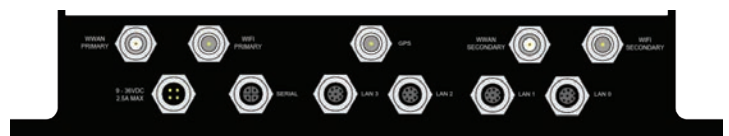
# Digi TransPort® WR44 RR

## Software/Management (Continued)

Routing	Bridging, NAT/NAT-Traversal, NAPT forwarding; PPP, PPPoE, GRE; IP Routing Protocol: PPP, GRE, RIP (v1 & v2) OSPF, SRI, BGP; IP Failover: VRRP, VRRP+TM; VLAN support; STP (Spanning Tree Protocol); Automatic failover/failback to second GSM network/ Standby APN; Firmware upgradable to IPv6; iGMP routing (multicast); IP pass-through (advanced)
Specialty Protocol	RealPort; Modbus UDP/TCP to serial; Legacy protocols (X.25(including XOT), SNA/IP, TPAD and PAD); Protocol switch
Memory	128 MB NAND Flash/64 MB DDR2 SDRAM
<b>Power</b>	
Input	9 – 36 VDC
Consumption	15W max, 8.5W typical
Connector	4-pin A-coded M12 Male (only 2 pins are used for power; the other 2 pins are used for I/O)
DC Power Cord	4-pin A-coded M12 female to bare wire
AC Power Supply	(P/N: 76000917) 100W, 24 VDC output, 67–143 VDC input, EN50155 compliant (optional) (P/N: 76000918) 400W, 14.2 VDC output, 40–100 VDC input, EN50155 and S-5702 compliant (optional)
Battery Backup	None
<b>Physical</b>	
Dimensions (L x W x H) and Weight	11.5 in x 6.65 in x 2.05 in (29.2 cm x 16.9 cm x 5.2 cm); 5.7 lbs (2.6 kg)
Status LEDs	Power, 4 x LAN, Wi-Fi, Serial, WWAN (Link, Act, SIM), 3x signal strength
Enclosure Material	Aluminium alloy
Mounting	4 x mounting slots on the unit's flange
<b>Environmental</b>	
Operating Temperature	-40° C to +75° C; Reduced cellular performance may occur above +60° C
Storage Temperature	-40° C to +85° C
Relative Humidity	0% to 95% (non-condensing)
Ethernet Isolation	2 kV RMS
Serial Port Protection (ESD)	10 kV
Hazardous (Class 1 Div 2)	None
Conformal Coating	Available upon request
<b>Approvals</b>	
GSM/UMTS	PTCRB, NAPRD.03, GCF-CC, R&TTE, EN 301 511
CDMA/EV-DO	CDG TIA/EIA-690, CDG TIA/EIA-98-E
Cellular Carriers	Certified by most major carriers. See <a href="http://www.digi.com">www.digi.com</a> for current listing.
Safety	UL 60950, CSA 22.2 No. 60950, EN60950
Emissions/Immunity	CE, FCC Part 15 Class B, AS/NZS CISPR 22, EN55024, EN55022 Class B
Industry	AAR S-5702, EN50155, AREMA C & H
<b>Warranty</b>	
Product Warranty	3 Years



**Digi TransPort WR44 RR - Front**



**Digi TransPort WR44 RR - Back**

Visit [www.digi.com](http://www.digi.com) for part numbers.

\*Optional Hardware

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