Digi TransPort® WR Family

3G/4G Enterprise Class Cellular Routers

Flexible, enterprise class cellular routers for remote and mobile networking applications.

Overview

The Digi TransPort WR family of 3G/4G cellular routers offers an all-in-one mobile communications solution with true enterprise class routing, security and firewall. These multifunction cellular routers feature a flexible design with optional integrated Wi-Fi access point (with multi SSID) / client, USB, serial, VDSL, 1-, 2- or 4-port Ethernet switch with VLAN. Additional configuration options include multiple serial ports (async or sync), GPS or telemetry I/O.

The Digi TransPort family offers an advanced routing, security and firewall feature set including stateful inspection firewall and integrated VPN. Enterprise class protocols incorporate BGP, OSPF and VRRP+, a patented technology built upon the popular VRRP failover standard providing true auto-sensing, auto-failure and auto-recovery of any line drop.

Digi TransPort WR routers are ideal for transportation, POS, energy, medical, financial and digital signage as well as cellular backup and remote device connectivity applications.

Digi management solutions provide easy setup, configuration and maintenance of large installations of remote Digi TransPort devices. iDigi® Manager Pro™ offers web-based device management for remote Digi cellular routers and gateways. Also available is the Windows based Digi Remote Manager™ for customer installed device management and reporting.

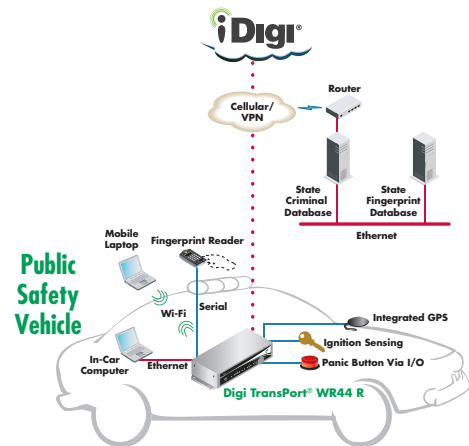### Related Products

| VPN Concentrators | Digi Remote Management | Accessories |

Application Highlight

Features/Benefits

- **Enterprise class cellular routers with advanced dynamic routing, security and firewall features**

- **High speed GSM and CDMA 3G/4G cellular**

- **Optional integrated Wi-Fi access point and multiport Ethernet switch**

- **Flexible interfaces including serial (async/sync), GPS, VDSL, USB, CAN Bus and telemetry I/O, with flexible DC power options**

- **Powerful integrated end user programming**

- **Remote Management via windows remote management software or clould hosted iDigi Manager Pro**

Specifications	Digi TransPort® WR44 RR	Digi TransPort® WR44/WR44 R	Digi TransPort® WR41	Digi TransPort® WR21
Wireless Interfaces				
WWAN**				
LTE - Verizon (L2)	700 MHz (Band 13); 2G fall back to CDMA 850/1900 MHz; Transfer rate (max): 50 Mbps Up, 100 Mbps Down			
LTE - AT&T (L3) (Available on all models except WR41 - coming soon)	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): 50 Mbps Up, 100 Mbps Down			
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 Gobi (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): 5.76 Mbps Up, 14.4 Mbps Down			
Edge (E1)	N/A	GPRS/EDGE Class 10; 850/900/1800/1900 MHz; Transfer rate (max): 236 Kbps Up/Down		
CDMA 450 (Cx)	N/A	450 MHz; R-UIM support; Transfer rate (max): 1.8 Mbps Up, 3.1 Mbps Down		
CDMA 1xRTT (Bx)	N/A			800/1900 MHz; Transfer rate (max): 153 Kbps up/down
Connector	2 x 50 Ω TNC (Center pin: female)	U8, Lx variants: 2 x 50 Ω SMA (Center pin: female); E1, Cx, Bx variants: 1 x 50 Ω SMA (Center pin: female)		
SIM Slots	2			
SIM Security	SIM slot cover plate	SIM slot cover plate included with WR44 R; Optional on WR44	Optional SIM slot cover plate	
Wi-Fi*				
Standard	802.11b/g/n	802.11b/g; 802.11b/g/n (coming soon)	Option of 802.11b/g or 802.11b/g/n	N/A
Modes	Access point, Client and support for multiple SSID			
Transmit Power	17 dBm ± 2 dBm	20 dBm + 1.0/-1.5 dBm	17 dBm ± 2 dBm	
Receive Sensitivity	54 Mbps OFDM, 10% PER, -70 dBm, 11 Mbps CCK, 8% PER, -83.5 dBm	54 Mbps / <-72 dBm and 11 Mbps / -90 dBm	54 Mbps / -70 dBm and 11 Mbps / -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)			
Connectors	2 x 50 Ω RP-TNC (Center pin: male)	2 x 50 Ω RP-SMA (Center pin: male)		
GPS*				
Channels	50			N/A
Sensitivity	-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 Accuracy	< 2.5 meters (90%)			
Velocity Accuracy	0.1m/s			
Connector	1 x 50 Ω RP-TNC (Center pin: male)	1 x 50 Ω SMA (Center pin: female)		
Additional Features	Send GPS via UDP/IP, TCP/IP (up to two destinations) or serial; Customize and/or send data using Python; GPS status query; Time source capable			
Other				
XBee	N/A			
Satellite	N/A			
Wired Interfaces				
Serial				
Ports	1	1; Expansion cards available to increase serial ports		1
Standard	RS-232	RS-232; Expansion cards available in RS-422/485		Option of RS-232 or RS-232/422/485
Async/Sync	Async	Async; Expansion cards available in sync		
DTE/DCE	DCE			
Signal Support	TXD, RXD, RTS, CTS, GND	TXD, RXD, RTS, CTS, DTR, DCD, DSR, RI	TXD, RXD, RTS, CTS, DTR, DCD	TXD, RXD, RTS, CTS, DTR, DCD, DSR, RI
Flow Control	Software (XON/XOFF), Hardware supported			
COM Port Redirector	RealPort®			
Connector	5-pin A-coded M12 female	DB-9 female	RJ-45	DB-9 female

* Optional hardware
** Transfer rates are theoretical and network operator dependent
*** Reduced cellular performance may occur above +60° C. Standard temperature power supplies may reduce temperature range.

Specifications	Digi TransPort® WR44 RR	Digi TransPort® WR44/WR44 R	Digi TransPort® WR41	Digi TransPort® WR21
Wired Interfaces (Continued)				
Ethernet				
Ports	4		1	Option of 1 or 2
Standard/Physical Layer	IEEE 802.3; 10/100 Base-T			
Data Rate/Mode/Interface	10/100 Mbit/s; Full or Half duplex; Auto MDI/MDIX			
Connector	Option of 4-pin D-coded M12 female or 8-pin A-coded M12 female	RJ-45		
I/O				
Digital I/O	Input 4 - 28 VDC / Output: 28 VDC 50 mA max		Extended temperature variants: Input 4 - 28 VDC / Output: 28 VDC 50 mA max	N/A
Connector	4-pin A-coded M12 Male (2 pins are used for I/O; the other 2 pins are used for DC Power)	4-pin Molex (2 pins are used for I/O; the other 2 pins are used for DC power)	Extended temperature variants: 4-pin Molex (2 pins are used for I/O; the other 2 pins are used for DC power)	N/A
USB				
Ports	N/A	1		
Standard		USB 1.0; WR44v2: USB 2.0		USB 2.0
Signaling		Full- or low-speed		High-speed
Connector		Type A		
DSL*				
Technology	N/A	VDSL2, ADSL2+, ADSL2, ADSL	N/A	N/A
Standard		Option of Annex A/M or B		
Connector		RJ-11		
Protocol	N/A	RFC 2364 PPPoA, RFC 2516 PPPoE, RFC 2684 Bridged Ethernet, RFC 1483 Routed IP (all either LLC or VC-Mux); PPP and ATM PVC support	N/A	N/A
Other				
Expansion Cards	N/A	Optional expansion cards available for GPS, fleet, telemetry (digital/analog I/O), ISDN/PSTN, serial and DialServ. See page 5 for more information.		N/A
Software/Management				
Remote Management	iDigi® Manager Pro™ (cloud based); Digi Remote Manager™ (user installed/managed); SNMP v1/v2c/v3 (user installed/managed)			
Local Management	Web Interface (HTTP/HTTPS); CLI (Telnet, SSH, SMS, Serial port)			
Management/ Troubleshooting Tools	FTP, SFTP, SCP, Protocol Analyzer with PCAP for Wireshark, Event Logging with Syslog and SMTP, NTP/SNTP			
Programming Tools/ Environments	Python, iDigi® Dia, Digi ESP™			
Software Packages (See page 4 for details)	Enterprise			Option of Standard or Enterprise
Memory	128 MB NAND Flash/64 MB DDR2 SDRAM		64 MB RAM, 32 MB NOR Flash	128 MB NAND Flash/ 128 MB DDR2 SDRAM
Power				
Input	9 – 36 VDC		8-48 VDC	9-30 VDC
Consumption	15W max, 8.5W typical		6W max, 4W typical	
Connector	4-pin A-coded M12 male (2 pins are used for power; the other 2 pins are used for I/O)	Locking barrel and 4-pin terminal block	Locking barrel or 4-pin terminal block (extended temperature models only)	Depending on model: Locking barrel or screw-down removeable terminal block
DC Power Cord*	4-pin A-coded M12 female to bare wire	Locking barrel to bare wire or 4-pin connector to bare wire		Locking barrel to bare wire
DC Power Supply*	(P/N: 76000917) 100W, 24 VDC output, 67-143 VDC input, EN50155 compliant; (P/N: 76000918) 400W, 14.2 VDC output, 40–100 VDC input, EN50155 and S-5702 compliant	100-240 VAC 50/60 Hz; Option of standard temperature or extended temperature		
Battery Backup	None			

* Optional hardware
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Specifications	Digi TransPort® WR44 RR	Digi TransPort® WR44/WR44 R	Digi TransPort® WR41	Digi TransPort® WR21
Physical				
Dimensions (L x W x H)	11.5 in x 6.65 in x 2.05 in (29.2 cm x 16.9 cm x 5.2 cm)	WR44: (non-DSL variants): 5.7 in x 8.3 in x 1.6 in (145 mm x 210 mm x 40 mm) WR44: (DSL variants): 5.7 in x 10.4 in x 1.6 in (145 mm x 264 mm x 40 mm) WR44 R: 5.5 in x 10 in x 1.9 in (140 mm x 254 mm x 48 mm)	4.7 in x 6.8 in x 1.3 in (120 mm x 173 mm x 32 mm)	3.9 in x 5.2 in x 1.3 in (100 mm x 131 mm x 32 mm)
Weight	5.7 lbs (2.6 kg)	WR44: (non-DSL variants) 1.98 lb (0.9 kg) WR44: (DSL variants): 2.25 lbs (1 kg) WR44 R: 2.4 lbs (1.1 kg)	1.27 lb (0.53 kg)	1.08 lb (0.49 kg)
Status LEDs	Power, LAN, Wi-Fi, Serial, WWAN (Link, Act, SIM), Signal Strength	Power, LAN, Wi-Fi, Serial/DSL, WWAN (Link, Act, SIM), Signal strength	Power, LAN, Wi-Fi, WWAN (Link, Act, SIM), Signal strength, Serial	Power, Service, WWAN, Signal strength
Enclosure Material/Rating	Aluminium Alloy/ IP54	WR44: Industrial (Metal)/ IP50 WR44 R: Aluminium Alloy/ IP50	Industrial (Metal)/ IP50	
Mounting	4x mounting slots on the unit's flange	WR44: Brackets for wall mount & DIN rail sold separately; WR44 R: 4x mounting slots on the unit's flange	Brackets for wall mount & DIN rail sold separately	Brackets for wall mount & DIN rail sold separately
Environmental				
Operating Temperature ***	-40° C to +75° C	WR44: (standard temp variants): 0° C to +60° C WR44: (extended temp variants)/ WR44 R: -40° C to +75° C Wi-Fi variants: -20° C to +75° C	-25° C to +70° C Wi-Fi variants: -10° C to +70° C	-35° C to +75° C
Storage Temperature	-40° C to +85° C			
Relative Humidity	0% to 95% (non-condensing)	20% to 95% (non-condensing)		
Ethernet Isolation	2 kV RMS	1.5 kV RMS		
Serial Port Protection (ESD)	10 kV	15 kV		
Hazardous (Class 1 Div 2)	N/A			Optional
Conformal Coating	Available upon request		N/A	
Approvals				
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.			
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	E-Marking (72/245/EEC, 2009/19/EC); Automotive Non-Immunity (2004/104/ EC, 2005/49/EC, 2005/83/EC, 2006/28/EC)	N/A	
Warranty				
Product Warranty	3 years	WR44: 5 years; WR44 R: 3 years	5 years	

* Optional hardware
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Software Packages	Enterprise	Standard
Protocols	Same as Standard plus iDigi; Dynamic DNS client compatible with BIND9/No-IP/DynDNS	HTTP, HTTPS, FTP, SFTP, SSL, SMTP, SNMP (v1/v2c/v3), SSH, Telnet and CLI for web management; remote management via software tool (option); SMS management, protocol analyzer, ability to capture PCAP for use with Wireshark; DynDNS
Security/VPN	Stateful inspection firewall with scripting, address and port translation; VPN: IPSec with IKEv1, IKEv2, NAT Traversal; SSL, SSLv2, SSLv3, FIPS 197, Open VPN client and server; PPTP, L2TP; VPN Tunnels: 5 included. Additional available: WR21 (5 max.), WR41 (50 max.), WR44/WR44R/WR44RR (200 max.; (200 max.); Cryptology: SHA-1, MD5, RSA; Encryption: DES, 3DES and AES up to 256-bit (CBC mode for IPsec); Authentication: RADIUS, TACACS+, SCEP for X.509 certificates; Content Filtering (via 3rd party); MAC Address Filtering; VLAN support; Ethernet Port Isolation	IP Filtering
Routing/Failover	IP pass-through; NAT, NAPT with IP Port Forwarding; Ethernet Bridging; GRE; Multicast Routing;Routing Protocols: PPP, PPPoE, RIP (v1, v2) OSPF, SRI, BGP, iGMP routing (multicast); IPv6 (firmware upgradable); RSTP (Rapid Spanning Tree Protocol); IP Failover: VRRP, VRRP+TM; Automatic failover/ failback to second GSM network/Standby APN	IP pass-through; NAT, NAPT with IP Port Forwarding
Other Protocols	DHCP; Dynamic DNS client compatible with BIND9/No-IP/DynDNS; QoS via TOS/DSCP/WRED	DHCP; Dynamic DNS client compatible with BIND9/No-IP/DynDNS
Specialty/Legacy Protocols	RealPort®; Modbus UDP/TCP to serial; X.25 including XOT, SNA/IP, TPAD and PAD; Protocol switch*	RealPort®

Expansion Cards	Connector	Specification
Available for Digi TransPort WR41/WR44/WR44 R		

| Expansion Cards	Connector	Specification
Sync/Async Serial Port (S1)	1 x DB-25	X.21/RS-422/RS-232 synchronous/ asynchronous serial port
Async Serial Ports (A3)	3 x RJ-45	3 x asynchronous RS-232 serial ports
PSTN (P1)	1 x RJ-45	PSTN interface that can be used to dial out and receive calls. A PPP session is created over which IP traffic can be sent and received.
DialServ (P3)	1 x RJ-11 (FXS)	Dial tone simulator to emulate local telco.
ISDN (I1)	1 x RJ-45	ISDN Basic Rate Interface (BRI) which can be configured either as a TE (terminal endpoint) or as NT-1 (network termination). The option also includes an additional asynchronous serial port via a second RJ-45 port.
ISDN-U/PSTN (I3)	1 x RJ-11, 1 x RJ-45	ISDN-U interface suitable for the USA plus PSTN interface. Can be configured for Bell-103 modulation in leased line mode as well as a normal PSTN interface.
Telemetry 1 (T1)	1 x 14-pin terminal block	4 x Opto-isolated digital output ports and 1 x Opto-isolated digital input port. It also provides a relay I/O port, voltage monitoring port, and internal temperature monitoring. Fully programmable via Python for embedded Digi TransPort applications.
Telemetry 2 (T2)	1 x 14-pin terminal block	4 x Analog and 4 x Digital I/O ports fully programmable via Python for embedded Digi TransPort applications.
GPS (G1)	1x SMA	Fully-integrated GPS tracking. See main specifications area for details.
Fleet (F1)	1 x 4-pin, 1 x 15-pin, 1 x SMA	Flexible transportation/fleet focused applications requiring CAN bus, J1708, GPS, Non-isolated digital I/O, Ignition Sense, 3-Axis accelerometer, and power control of Digi TransPort interfaces. Fully programmable via Python for embedded Digi TransPort applications.

Device Management Features

- View of all remote devices and their connection status
- Automatic registration of newly connected devices
- Remote device configuration
- Actions include device grouping and scheduling of operations
- Monitoring of user specified events

- Device statistic and report generation
- Alarm generation and alerting
- Secure access to all devices from web browser, anywhere
- Remote reboot of device and default reset
- Remote device management with iDigi Manager Pro, a Digi-hosted device management software

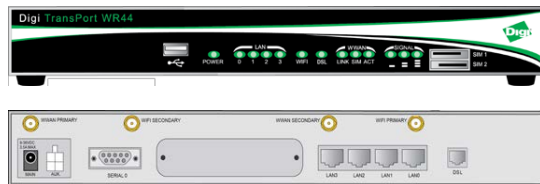## Easy Remote Configuration and Management
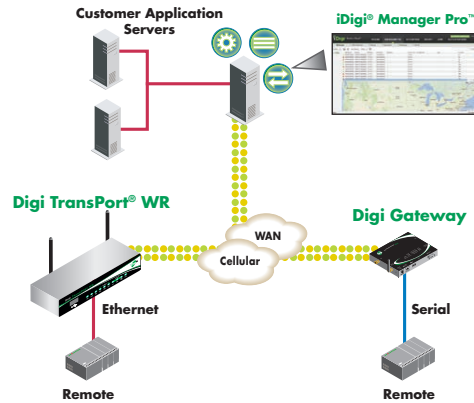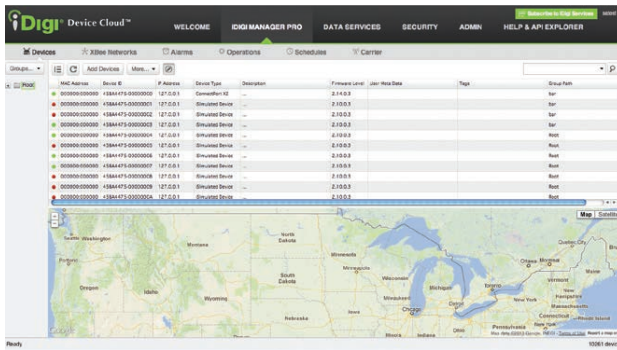
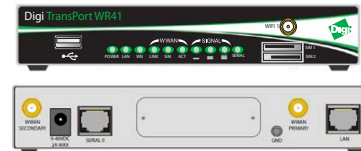## Product Images

Digi TransPort WR44 RR
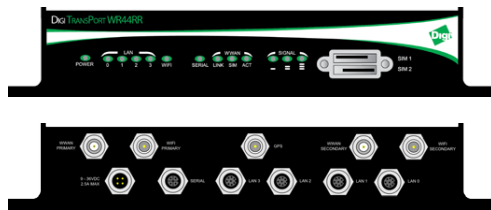
Digi TransPort WR44 (DSL variant)

Digi TransPort WR21

Digi TransPort WR41

Digi TransPort WR44/WR44 R