

# 1020 Router Series



The 1020 Router Series is the entry level series of routers for secure LAN data connectivity over leased access lines. Along with the other OneAccess Routers they offer a complete solution for mission-critical business applications. All these devices have been specifically designed to meet the requirements of enterprise branch offices and service provider managed services.

## 1020 ROUTER SERIES

The 1020 Router Series offers a highly cost effective solution for realising professional LAN connectivity for end user networks with basic hardware needs.

The 1020 Router Series is part of the family of TDRE compliant products (Total Dynamic Routing Engine). It includes all features to build secure IP VPN connections with quality of service over leased line, Frame Relay and MPLS networks. With a routing performance of approximately 50.000 pps (90.000 pps for the 1021 Router) and a built-in hardware accelerator for encryption, the 1020 Router Series is capable of routing at wire speed without compromise even with performance demanding requirements like access lists and the stateful inspection firewall.

## 1021 ROUTER

The 1021 Router is a LAN to LAN router with built-in 4-port Ethernet switch and an optional ISDN backup facility. It is the ideal access device for offering additional secured managed IP services in ethernet based networks (e.g. metro). The basic model comes with one 10/100 Ethernet LAN with integrated 4-ports Ethernet and VLAN switch and a second 10/100 Ethernet LAN. A model with additional 2 BRI (Basic Rate ISDN) interfaces offers backup functionality with the possibility to aggregate the speeds of the different B channels up to 256 kbps.

## 1022 ROUTER

The 1022 Router has a 2 Mbps E1 WAN interface. It is extremely well suited to transport LAN traffic over a PDH or SDH infrastructure. This G703 interface can be used as a transparent G703, a framed E1 or a fractional E1.

## 1023 ROUTER

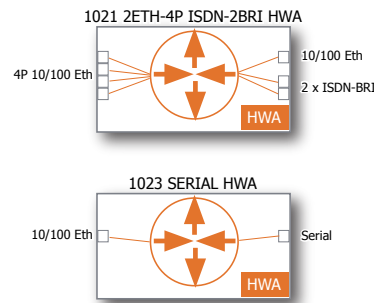
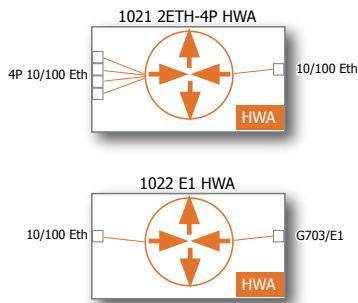
The 1023 Router has a serial interface on a DB25 connector. The interface can be configured as a X.21, V.35, V.36 (RS-449), RS-530, RS-530A or V.24 (RS-232) interface to suit the needs for almost any serial interface type. Conversion cables to the standard connector type are available. It supports serial interface speeds up to 10 Mbps. In the V.24 mode both synchronous and asynchronous data transfer is possible.

## FEATURES AND MANAGEMENT

WAN protocols over the G703 or serial interface are PPP and Frame Relay. PPP is most appropriate for leased line connections. Frame Relay is most appropriate for connection over a Frame Relay or MPLS network. As all TDRE routers, the 1020 Router Series is manageable through a variety of maintenance and management tools. These compact desktop routers can be mounted in a rack through an optional rack mount kit. The units can be delivered with a power plug for 110 Vac, 230 Vac, 24 Vdc or -48 Vdc powering.

## FEATURES AND BENEFITS

- High performance LAN and WAN Routers
- LAN to LAN and Single Port WAN versions
- IP Routing and Bridging
- Class of service routing and bridging
- VLAN Interconnect
- IP VPN Termination



## 1020 ROUTER SERIES SPECIFICATIONS

### LAN ports

- Compliant with IEEE 802.3 10 Mbps HDX/FDX Ethernet
- Compliant with IEEE 802.3u 100 Mbps HDX/FDX Ethernet
- 10/100 Mbps auto-sense
- Auto cross-over
- RJ45 Unshielded Twisted Pair (UTP)

### Integrated Ethernet switch (1021 versions)

- Number of ports: 4
- 802.1Q VLAN tagging per port
- Tagged, untagged and trunking VLAN operation
- Maximum total number of VLANs: 16

### G703 interface (1022 version)

- Applicable standards: ITU-T G.703, G.704, G.706, G.775, G.823, G.826
- Data rate: 2.048 kBit/s  $\pm$  50 ppm, co-directional
- Coding: HDB3
- Impedance: 120 Ohm balanced
- Transparent 2 Mbit/s and G.704 framed E1 operation
- Fractional speeds (E1): N x 64 kbps (N = 1 ... 32)
- Connector: RJ45 DTE
- Clocking: slave receive, internal
- CRC4 monitoring and insertion
- Layer 2 protocols: PPP, Frame Relay, HDLC

### Serial interface (1023 version)

- Applicable electrical standards: ITU-T V.10, V.11, V.28
- Connector: female DB25 (ISO 2110), directly compliant with RS530, RS530A
- Through adapter cable: V.35, V.36 (RS449), X.21, V.24 (RS232)
- DTE signals: SGND (102), TXD (103), RXD (104), RTS (105), CTS (106), DTR (108), DCD (109), EXTCLK (113), TXCLK (114), RXCLK (115), RI (125), RDL (140), AL (141), TI (142)
- X.21 signals: G, T, R, C, I, S, X
- Synchronous or asynchronous operation
- Synchronous clocking: internal, internal transmit, slave receive, external
- Synchronous interface speeds slave receive and external clocking: all speeds up to 10 Mbps
- Synchronous interface speeds in internal and internal transmit clocking: 64, 128, 256, 512, 1024, 2048, 4096, 8192 kbps
- Asynchronous interface speeds: 9600, 19200, 38400, 57600, 115200 bps
- Layer 2 protocols: PPP, Frame Relay, HDLC

### Sales Code

- >195226: 1021 2ETH-4P HWA 230VAC
- >195231: 1021 2ETH-4P ISDN-2BRI HWA 230VAC (with ISDN)
- >201179: 1022 E1 HWA 230VAC
- >201186: 1023 SERIAL HWA 230VAC

### BRI interfaces (1021 version)

- ISDN S0 BRI interfaces
- ISDN Dial-up or leased line mode
- Applicable standards: I.420, I.412, I.430, I.440 (= Q.920), I.441 (= Q.921), I.450 (= Q.930), I.451 (= Q.931)
- Connector: RJ45 S0 DTE
- PPP and MLPPP WAN encapsulations

### Control Interface

- Applicable standards: ITU-T V.24, V.28, EIA/TIA 574
- DCE signals: SGND (102), TXD (103), RXD (104)
- Connector: female DB9
- Speed: 9600 bps

### IP Routing and Bridging

- Conform TDRE 12.0 (Total Dynamic Routing Engine)
- On-board encryption hardware accelerator for DES and 3DES encryption
- Full forwarding performance of 64 byte packets at maximum interface speed
- Routing and bridging performance: 95 kpps (1021) and 50 kpps (1022 & 1023)
- Number of Frame Relay DLCIs: 200
- Number of IP VPN tunnels: 25
- Number of VLANs: 200
- Number of bridge-groups: 13

### Maintenance and Management Support

- Conform TDRE 12.0 (Total Dynamic Routing Engine)

### Front Panel Indications

- PWR: Power
- LINE / BACKUP: ISDN backup status (on ISDN model only)
- LINE / ACT: ISDN encapsulation protocol status (on ISDN model only)
- WAN1 / LNK: WAN interface physical layer status
- WAN1 / ACT: WAN interface protocol status
- LAN1 / 1..4: LAN status on the Ethernet switch ports
- LAN2: LAN status on second Ethernet port

### Memory

- Flash memory: 8 Mbyte
- RAM memory: 16 Mbyte

### Mechanical Data

- Desktop (1 rack-unit high)
- Dimensions: 45 x 220 x 135 mm
- Weight: 500 g
- Wall mountable
- Rack mountable (optional 19" rack-mount kit required)

### Power Requirements

- Input voltage: 12 Vdc, max 1 A
- Power adapters for 115 Vac, 230 Vac, 24 Vdc and -48 Vdc
- Power consumption: max 5 W