



DRG 500 series

DRG 580 products



The DRG

The DRG 580 (Digital Residential Gateway) is a Triple Play platform providing up to 1 Gbps WAN access, 8 LAN ports with 100 Mbps, and 2 telephone lines. DRG 580 is designed for residential customers, small offices and medium size enterprises taking advantage of the multiple LAN ports and high through-put.

Multiple Broadband Services

DRG supports Triple Play services such as fast Internet access, IP telephony and IPTV. CATV is optionally supported with a CATV receiver which converts optical TV signals received via the fibre network into traditional electrical RF signal.

An integrated serial port offers more possible means of communication for services like telemetry and security.

Plug-n-Call IP Telephony

The end-user only needs to plug in a standard analogue phone and/or G3 fax machine to use the telephone services. No investment in IP-phones is needed.

A full range of Class 5 services (e.g. Call Waiting, 3-Party Call, Call Forwarding, Caller Line Identification Presentation) are supported in the DRG, independently of the softswitch. DRG 580 complies with IP telephony signalling protocols SIP, H.323, MGCP, and H.248.

High Quality Services

DRG 580 enables carrier grade voice and video quality through priority mechanisms both on Ethernet and IP levels.

The DRG System gives operators and service providers a reliable home gateway platform to support multiple broadband services with enhanced security and high quality standards.

DRG 580 supports IGMP snooping, which routes a multicast video stream only to LAN ports that have joined the multicast group. This prevents unnecessary traffic on other ports.

Efficient Remote Management

The DRG 580 is designed for remote management including remote configuration and software upgrade mechanism. This allows the operator to easily and efficiently manage and control a vast number of installed units.

In addition the DRG 580 provides quality measurement for LAN and voice ports. The produced statistics can be gathered allowing the operator to monitor and control the quality of the offered services.

Cost Efficient Click On Deployment

The FTU provides the network builders a solution for terminating fiber access in a cost efficient and robust manner. Once the installation of the FTU and corresponding fiber connectors is done the end customers can install the active equipment themselves by simply click on the DRG unit. No special skills or patch cables are needed.

The Choice of FTTX Networks

The DRG 580 can be used in fiber and copper networks and is very well suited to the particular requirements of FTTX networks.

Product Specification for DRG 580

Interfaces

Model	Port	Wavelength TX/RX (nm)	Max/Min output pwr (dBm)	Max/Min input pwr (dBm)	Speed (Mbps)	Specification
DRG 581	WAN	1310/(1270-1380)	-14/-22.5	-14/-31.8	10/100/1000	Copper, UTP, Cat5, RJ-45
DRG 582m						Multi-mode, dual-fiber, MT-RJ
DRG 582s						Multi-mode, dual-fiber, SC
DRG 586s						Single-mode, single-fiber, SC
DRG 586Gs						Single-mode, single-fiber, SC
DRG 587c						Single-mode, dual-fiber, LC
DRG 587s						Single-mode, dual-fiber, SC
DRG 587Gs	Single-mode, dual-fiber, SC					
DRG 58x*	LAN				10/100	8 x Copper, UTP, Cat5, RJ-45
DRG 58x*	Telephony				N/A	2 x Analogue phones, RJ-11
DRG 58x*	Other				N/A	Serial port RS232, RJ-11

* x can be either 1, 2, 6 or 7

Telephone and Fax services

VoIP protocols	SIP, H.323, MGCP, H.248
Speech Codecs	G.711, G.729ab, (G.723.1 available on request)
Class 5 services	Call Waiting, 3-Party Call, Call Alteration, Differentiated Ringing Signals, Call Forwarding, Calling Line Identification Presentation (CLIP), permanent and temporary CLIR (Calling Line Identification Restriction)
Fax	T.38
3rd Party initiated pause and rerouting	External rerouting of media stream during speech, e.g. for pre-paid calling card and record announcement
DTMF	Inband and outband using H.245 and H.225, RFC2833 or SIP INFO
Number of telephones	Up to 5 analogue telephones can be connected to each telephone port
Market adaptation	Possible to set telephony signals, tones, cadences, impedance, CLIP etc. according to local market requirements

Management

SNMP management	SNMP v1, SNMP v2, MIB-II for statistics, Enterprise-specific DRG MIB for configuration
HTTP server	Two access levels for manual configuration, can be turned on/off remotely
TFTP/HTTP client	Software download
DHCP	Configuration support
HDD	Pre-integrated with 42Networks Element Management System, HDD, that allows optimal management of large populations of DRG units

Quality of Service

DiffServ	Layer 3 (IP) QoS mechanism, 4 hardware queues for prioritization
Class of Service	IEEE 802.1p, Layer 2 (Ethernet) QoS mechanism, 4 hardware queues for prioritization
LAN port priority	4 hardware queues
Internal delay (VoIP)	5-30 ms delay for decoding/encoding/AEC/internal operations in the DRG
Bandwidth shaping	Rate limitation per LAN port
General	Adaptive or flexible jitter buffer, echo cancellation (G.165, G.168), speech sampling
IGMP snooping	10-60 ms, silence suppression with comfort noise IGMP v1, IGMP v2

Traffic Classification and Security

VLAN	Services and port separation
VLAN stacking (Q-in-Q)	Service provider tagging
Hybrid links	Tagged and untagged traffic simultaneously on the same link
Authentication per registration	H225.0 RAS, SIP digest
Authentication per call	H235, SIP digest

Reliability

MTBF	>150 000 hours
High Availability	Configurable high availability through secondary gatekeeper

Physical

Dimensions	56 mm (D) x 170 mm (H) x 238 mm (W)
Weight	Approximately 430 g
Power requirements (incl. AC/DC adapter)	7,5-10,5 watts
Power supply	12Vdc, external plug-in wall adapter, UPS optional
LED indicators	WAN, LAN per port, POTS per port, POWER
Operating conditions	Temperature 0°C to +40°C, humidity 5-95% RH non-condensing

Regulatory Compliance

CE-mark
ETL-mark
FCC Part 15 Subpart B
CB-mark
IEC/EN/UL 60950, IEC/EN/UL 60825, ETSI EN 300386
RoHS directive 2002/95/EC
WEEE directive 2002/96/EC

Subject to change without notice