DRG 580

Digital Residential Gateway

Reliable home gateway for high quality triple-play services, incl. VoIP functionality

Key benefits:

- Optimized for residential and SME users
- Gigabit WAN access (optional)
- Carrier-grade voice and video quality
- Embedded VoIP functionality
- 100/1000 Mbps autosensing of fiber WAN
- Fully automated service activation process
- Remotely managed, allows mass deployment
- Easily integrated with click-on Fiber Termination Unit

The DRG 580 is a triple-play home gateway that provides up to 1 Gbps WAN access, 8 LAN ports with 100 Mbps, and 2 telephone lines. Autosensing of 1 Gbps speed to the Central Office is supported in DRG 580. This allows the network owner to install a future proof Gigabit DRG at the customer premises starting off with 100 Mbps, for later service update to full Gigabit speed.

The DRG 580 is designed for residential customers, small offices and medium size businesses wishing to take advantage of multiple LAN ports and high through-put.

Triple-play services

The DRG 580 supports triple-play services, such as fast Internet access, IP telephony-services and IPTV. CATV can also be supported, via a CATV receiver which converts optical TV signals received via the fibre network into traditional electrical RF signal.

An integrated serial port provides additional means of communication for services such as telemetry and security.

Plug-n-Call™ IP-telephony

A standard analogue phone and/or a G3 fax machine is all that is needed to use the telephony services. No need to invest in IP telephones.

The DRG 580 supports the full range of Class 5 services (e.g. Call Waiting, 3-party call, Call Forwarding, Caller Line Identification Presentation), independent of which softswitch is used. The DRG 580 complies with SIP, H.323, MGCP, and H.248 IP-telephony signaling protocols.

High quality services

The DRG 580 provides carrier-grade voice and video quality, through priority mechanisms on both the Ethernet and IP levels.

The DRG 580 supports IGMP snooping, which allows multicast video streams to be routed only to LAN ports which have joined the multicast group, preventing unnecessary traffic on other ports.

Efficient remote management

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

In addition, the DRG 580 provides quality measurement of LAN and voice ports. These statistics can be collated and this allows the operator to monitor and control quality of the offered services.

Easy Click-On deployment of FTU

By simply using a click-on mechanism, you can easily integrate an FTU (Fiber Termination Unit) with the DRG 580. This provides network builders with a cost-effective and robust solution for terminating fiber access. Once the FTU and corresponding fiber connectors have been installed, the end user can install the active equipment themselves by simply clicking on the DRG 580 unit. No special skills or patch cables are required, (see separate FTU datasheet for more information).

Choice of FTTx networks

The DRG 580 can be used in fiber and copper networks and is ideal for the particular requirements of FTTx networks.

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The Future of Broadband. Today

DRG 580

Interfaces and description

Model	Port	Wavelength TX/RX (nm)	Max/Min output pwr (dBm)	Max/Min input pwr (dBm)	Speed (Mbps)	Specification
DRG 581	WAN				10/100/1000	Copper, UTP, Cat5, RJ-45
DRG 582m	"	1310/1310	-14/-22.5	-14/-31.8	100	Multi-mode, dual-fiber, MT-RJ
DRG 582s	"	1310/(1260-1610)	-14/-23.5	0/-31	100	Multi-mode, dual-fiber, SC
DRG 586s	"	1310/1550	-8/-14	0/-31	100	Single-mode, single-fiber, SC
DRG 587c	"	1310/(1260-1600)	0/-20	0/-28	100	Single-mode, dual-fiber, LC
DRG 587s	"	1310/(1260-1610)	-8/-15	0/-34	100	Single-mode, dual-fiber, SC
DRG 587Gc	"	1310/(1260-1610)	-3/-9.5	-3/-20	1000	Single-mode, dual-fiber, LC
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 re-routing	External rerouting of media stream during speech, e.g. for pre-paid calling cards and recording 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	It is possible to set ring signals, tones, cadences, impedance, CLIP etc. according to local market requirements

Management

Protocols	SNMP v1, SNMP v2, MIB-II for statistics, Enterprise-specific DRG MIB for configuration
HTTP server	Two access levels for manual configuration, can be switched on/off remotely
TFTP/HTTP client	Software download
DHCP	Configuration support
BECS	PacketFront's network control and provisioning system
HDD	Full configuration and supervision via the Home Device Director (HDD), the DRG element manager

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
Bandwidth shaping	Rate limitation per LAN port
General	Adaptive or flexible jitter buffer, echo cancellation (G.165, G.168), speech sampling
10-60 ms, silence suppression with comfort noise	
IGMP snooping	v1 and 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	56mm (D) x 170mm (H) x 238mm (W), 2.20˝ (D) x 6.69˝ (H) x 9.37˝ (W)
Weight	Approximately 430g, 0.9lbs
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, 32°F to 104°F, 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

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