

DRG 340

Digital Residential Gateway

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

Key benefits:

- Optimized for residential and SME user
- Carrier-grade voice and video quality
- Embedded VoIP functionality
- Fully automated service activation process
- Remotely managed, allows mass deployment



The DRG 340 is a triple-play home gateway that provides 100 Mbps WAN access, 4 LAN ports, and 2 telephone lines. DRG 340 is designed for residential customers and small offices wishing to take advantage of multiple LAN ports and integrated VoIP.

Triple-play services

The DRG 340 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 fiber network into traditional electrical RF signal.

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 340 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. DRG 340 complies with SIP, H.323, MGCP, and H.248 IP telephony signaling protocols.

High quality services

The DRG 340 provides carrier-grade voice and video quality, through priority mechanisms on both the Ethernet and IP levels.

DRG 340 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 340 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 340 provides quality measurement for LAN and voice ports. These statistics can be collated and this

allows the operator to monitor and control the quality of the offered services.

Choice of FTTx networks

The DRG 340 can be used in fiber and copper networks and is ideal for the particular requirements of FTTx networks.

DRG 340

Interfaces and description

Model	Port	Wavelength TX/RX (nm)	Max/Min output pwr (dBm)	Max/Min input pwr (dBm)	Speed (Mbps)	Specification
DRG 341	WAN				10/100	Copper, UTP, Cat5, RJ-45
DRG 342m	"	1310/1310	-14/-22.5	-14/-31.8	100	Multi-mode, dual-fiber, MT-RJ
DRG 342s	"	1310/(1260-1610)	-14/-23.5	0/-31	100	Multi-mode, dual-fiber, SC
DRG 346s	"	1310/1550	-8/-14	0/-31	100	Single-mode, single-fiber, SC
DRG 347c	"	1310/(1260-1600)	0/-20	0/-28	100	Single-mode, dual-fiber, LC
DRG 347s	"	1310/(1260-1610)	-8/-15	0/-34	100	Single-mode, dual-fiber, SC
DRG 34x*	LAN				10/100	4 x Copper, UTP, Cat5, RJ-45
DRG 34x*	Telephony				N/A	2 x Analogue phones, RJ-11
DRG 34x*	LAN**				10/100	4 x Copper, UTP, Cat5, RJ-45

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

** LAN port 1-3 provides WAN-LAN throughput of up to 100Mbps whereas LAN port 4 has limited throughput and should not be used for bandwidth consuming applications.

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 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	PFDP or 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

Quality of Service

DiffServ	Layer 3 (IP) QoS mechanism, 2 hardware queues for prioritization
Class of service	IEEE 802.1p, Layer 2 (Ethernet) QoS mechanism, 2 hardware queues for prioritization
LAN port priority	2 hardware queues for prioritization
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 10-60 ms, silence suppression with comfort noise
IGMP snooping	v1 and v2

Traffic classification and security

VLAN	Services and port separation
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	
IEC/EN/UL 60950, IEC/EN/UL 60825, ETSI EN 300386	
RoHS directive 2002/95/EC	
WEEE directive 2002/96/EC	