RCA / THOMSON

DHG535 - Residential VoIP Cable modem

Designed for
Microsoft®
Windows® XP
Windows® 2000
Windows® ME

CableLabs®
CERTIFIED

| CABLE | SATELLITE | TELECOM | TERRESTRIAL |

Data | Voice | Video

DOCSIS 2.0

RCA is proud to present the new generation of E-MTA voice-capable cable modems with even more power and performance. The new E-MTA model, DHG535, builds on the latest generation of chipset uses a new Reduced Instruction Set Computer (RISC) processing architecture. The DHG535 is able to handle more complex codecs at faster speeds than any previous VoIP modem deployed on the market.

Voice is supported using the Packetcable 1.5 standard NCS protocol or, if so desired, using the SIP protocol. Three-party teleconferencing and handling of other advanced features are of course supported.

Enhanced Voice Performance
The DHG535 Residential VoIP modem uses a 300 MHz Dual Instruction MIPS32 CPU and DSP Instruction Extensions for VoIP in order to guarantee superior performance. Gateway and Voice operation support 10Mbs small packet data throughput and 2 complex voice codec calls simultaneously. All standard codecs are supported, including the new iLBC and BV16. Different software images are available to support PacketCable™ 1.5 and SIP.

Built-in Firewall
Firewall allows protection from Internet hackers and also gives protection against Denial of Service attacks.

Start-Up Indicators
Easy-to-use LED lights on the front of the unit show the modem status. This provides the user the ability to verify modem operation and connectivity.

Other Broadband Cable Products:
DCM425: DOCSIS 2.0 Cable Modem
DHG525: DOCSIS 2.0 PacketCable Residential VoIP Modem
DCW725: DOCSIS 2.0, CableHome 1.1 Wireless Gateway with 4-port Ethernet
DWG855: DOCSIS 2.0, PacketCable 1.5, CableHome 1.1 Residential VoIP – Wireless Gateway

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Technical Specifications

Standards

DOCSIS	DOCSIS 1.0/1.1/2.0
PacketCable	PacketCable™ 1.0/1.1/1.5
CMTS Interoperability	Any qualified DOCSIS CMTS
Operating Systems supported	Any OS with Ethernet connection Windows 2000, Me and XP with USB connection

Receiver

Downstream Modulation	64/256 QAM
Downstream Frequency Range	88-860 MHz
Maximum Downstream Data Rate	30.34/42.88 Mbps (64QAM/256QAM)
Input Signal Level Range	-15 to +15 dBmV(64QAM) -15 to +15 dBmV(256QAM)
BER	1×10^{-8} @ C/N=23.5dB, 64QAM with FEC 1×10^{-8} @ C/N=30dB, 256QAM with FEC, received power = -6dBmV to +15dBmV 1×10^{-8} @ C/N=33dB, 256QAM with FEC, received power = -15dBmV to –6dBmV
Input Impedance	75 Ohm

Transmitter

Upstream Modulation	"QPSK 16/32/64 QAM, 128 QAM
Upstream Frequency Range	5-42 MHz
Maximum Upstream Data Rate	30.72 Mbps (64QAM)
Output Signal Level Range	A-TDMA: +8 to +58 dBmV/QPSK +8 to +55 dBmV @ 8/16QAM +8 to +54 dBmV @ 32/64QAM S-CDMA: +8 to +53 dBmv/All
Output Impedance	75 Ohm
Channel Bandwidth	Programmable (200*N KHz) N=1, 2, 4, 8, 16, 32
Automatic Level Adjust	Yes
Gain Control Range	50dB
Frequency Stability	± 5 kHz

Telephony Features – Voice/Fax

Audio Codecs	PCM A-law, PCM µ-law, G.729, G.729a, G.729e, G.728, iLBC and BV16
Multi Lines Phone Support	Yes, Two phone lines, three-part conference calls, can support two complex voice codecs simultaneously
Fax Relay	T.38
DTMF Tone relay	RFC2833
Caller ID	Type I and Type II
CLASS features	BASIC and Extended CLASS features
VAD (Voice Activity Detection)	Yes
CNG (Comfort Noise Generation)	Yes
Echo cancellation	G.165/G.168 up to 16ms
Packet Tone	DTMF generation/Call Progress Generation/Custom Tone Generation
Call discrimination	Fax and Modem Detection
Telephony interface capabilities	Loop-back and on demand diagnostic
Modems	Up to V.90 (38.5kbps)
REN	5 REN
Pulse dialing	DTMF tones to pulse tones conversion and pulse to DTMF tones conversion

VoIP Call Control

RTP layer	RFC1889/RFC1890
RTCP statistics collection	Yes
PacketCable Protocols	PacketCable™ NCS v1.0 Network-Based Call Signaling Protocol (PKT-SP-EC-MGCP)
SIP Based Protocols	Yes

Software Features

Software Downloadable	Yes
Bridging	Between USB and Ethernet
Multiple client support	250
Class-of-Service (COS)	16 SID's
Protocol Filtering	Ethernet & IP
SNMP Management	V2, V3
LED Diagnostics	9-step LED

Interfaces

Ethernet	One RJ-45, 10BaseT/100BaseT auto-detect
RF Connector	F-Type
Power	110 Vac 50-60Hz (Wall Pack)
Telephony Lines	Two RJ-11
USB 1.1 Port	Yes
Number of PCs Supported	254

Packaging & Content

Cabinet Dimensions	181mm (L) x 130mm (D) x 70mm (H)
Shipping Weight	appr. 1,4 kg
Packaging dimensions	261 mm (L) x 195 mm (D) x 100 mm (H)
Master Pack Quantity	10 pcs
Operating Temp.	0°C to +40°C
Storage Temperature	-20°C to 70°C
Cables	USB & Ethernet
CD-ROM	Yes

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