

## 16/32-Port VoIP Trunk Gateways

### High Port Density Gateway for Business

- Connects Remote IP Phone Network to 16 or 32 Local Analog Phone Lines
- Direct Internet Phone Call Without SIP Proxy
- Voice Compression Format to Save Internet Bandwidth
- Real-Time/Toll-Quality Voice
- High Port Densities to Save Cost/Maintenance

#### FEATURES

##### Internet Telephone

- High Density of 16 or 32 FXO Ports
- Ideal for Enterprise/ISP Deployment
- Compatible With SIP Services
- Extensive Call Feature Support
- Guaranteed Toll-Quality Voice Even in Busy Network

##### Call Features

- Call Hold, Wait, Forward, Transfer
- Easy Tracking With Call Detailed Records
- Greeting Message, Caller ID Delivery

##### WAN/LAN Connection

- 10/100Mbps Ethernet WAN Port
- 10/100Mbps Ethernet LAN Port
- WAN Connection Supports PPPoE, DHCP Client, DDNS

##### Configuration/Upgrade

- Easy Configuration by IVR or Web-Based GUI
- Web-Based Firmware Upgrade

The D-Link DVG-3016S/DVG-3032S VoIP trunk gateways connect an IP network to POTS (plain old telephone service) analog lines to send IP voice and data to the conventional phone sets and fax machines. These devices provide 16 or 32 FXO (Foreign eXchange Office) ports for 16 or 32 phone line connections. IP network connection can be through the LAN port or the WAN port, both of which are 10/100BASE-TX Ethernet interfaces.

*For Enterprise Use.* In a remote IP phone to local analog phone line application, a branch office can take in IP voice calls from a head office, then route them to local destinations equipped with only analog phones. The long distance calls are sent through the Internet without any phone charge, and the remote office pays only for the local analog phone time. The gateways connect analog callers to the IP network without involving operators or incurring toll charges from telephone companies.

*For Service Providers.* The DVG-3016S/DVG-3032S VoIP trunk gateways can also be deployed by service providers to interface their VoIP infrastructure with a Public Switched Telephone Network (PSTN). For incoming calls from subscribers, these gateways accept local analog calls and place them on the IP network for sending out over the Internet. The gateways accept dial tone and ring current from the connected equipment, and facilitate the use of conventional phone sets and fax machines on a VoIP network. They allow analog phone callers to place calls, with a small charge, through the long-distance Internet trunk line.

*Guaranteed Voice Quality.* The DVG-3016S/DVG-3032S gateways deliver clear sound, voice and reliable fax calling through implementation of internationally recognized standards for voice and data networking. They incorporate Quality of Service (QoS) functions to ensure that voice received through the Internet is the same as or even surpasses that received on the ordinary phone.

*Convenient Call Features.* The DVG-3016S/DVG-3032S gateways support extensive call features, allowing the service providers to offer these functions to their subscribers. Provided that the telephone sets at the end-users side support these functions, callers can take advantage of these convenient features. Configuration of individual phone connection is easy, using the multi-language Interactive Voice Response (IVR) or the web-based user's interface.



▪ DVG-3016S  
16-Port Gateway



▪ DVG-3032S  
32-Port Gateway

## Technical Specifications

### VoIP

#### Analog Interface

- DVG-3016S: 16 FXO ports (1 RJ-21 connector)
- DVG-3032S: 32 FXO ports (2 RJ-21 connectors)
- Loop start signaling protocol
- Reversed polarity detection

#### Voice Features

- SIP (RFC3261) compatible
- SIP method: ACK, BYE, CANCEL, INFO, INVITE, NOTIFY, OPTIONS, PING, PRACK, PUBLISH, REFER, REGISTER, SUBSCRIBE, UPDATE
- SIP Extension: Session Timer (UPDATE or re-INVITE), Proxy-Require, P-Asserted (RFC3325), MWI (RFC3842)
- Voice CODEC: G.711 a/u law, G.726, G.729A, G.723.1
- CNG (Comfort Noise Generation)
- VAD (Voice Activity Detection)
- Silence suppression/detection
- G.165/G.168 echo cancellation
- Adaptive Jitter Buffer and programmable Gain Control
- In-Band DTMF, Out-Of-Band DTMF relay (RFC2833, SIP INFO)
- Multiple SIP Proxy server entries with fail-over mechanism
- T.30 (G.111)/Real time T38/Secured T.38 FAX relay
- DTMF, FSK (Bellcore & ETSI) Caller ID detection and generation
- Caller ID Restriction (CLIR) support
- FXO hang-up detection: Busy Tone cadence auto learning/detection
- Group hunting function
- Digit Map
- E.164 Numbering & ENUM support
- Recordable greeting message
- Hot-Line, Warm-Line support

### Call Features

- Call Hold, Call Waiting, Call Pickup
- Call Forward: Unconditional, Busy, No Answer
- Call Transfer: Unattended, Attended
- Speed Dialing, Repeat Dialing, Three Way Calling (Media Server required)

### IP Network

#### WAN Port

- RJ-45 10/100BASE-TX Ethernet port supporting Nway auto-negotiation, auto-detection/adjustment of MDI/MDIX
- Static IP, PPPoE, PPTP, Bigpond Cable and DHCP address assignment support
- QoS: IP TOS (IP Precedence), DiffServ, Port Priority
- NAT traversal: STUN, UPnP, OUTBOUND PROXY
- Pass-through NAT
- NAP: (Network Time Protocol RFC 1305), accepts up to 3 Time Servers Time Zones
- DDNS: DynDns.org, TZO, PeanutHull, 3322.org.
- RTP Packet Summary: packet sent, packet received, packet loss
- MAC address clone

#### LAN Ports

- RJ-45 10/100BASE-TX Ethernet port supporting Nway auto-negotiation, auto-detection/adjustment of MDI/MDIX
- QoS: port based priority (Hi/Low) with rate limit

### Operation & Maintenance

#### Management/Configuration

- Web-based & Telnet user interfaces with password authentication
- Configuration, port status, registration status, hardware/software information in web-based & Telnet UI
- IVR (Interactive Voice Response) configuration engine
- Reset button (factory default setting restoration)
- Optional Auto Provisioning Server (APS) for mass deployment with less dispatch
- SNMP v.1/v.2c support
- Ping test

#### Diagnostic LEDs

- Voice ports
- WAN port
- LAN port
- Run
- Power
- Alarm

## Physical & Environmental

#### Power Input

90 to 260 VAC, 50/60Hz internal universal power supply

#### Dimensions

- 442 x 330 x 43 mm
- 19-inch standard rack-mount width, 1U height

#### Weight

- DVG-3016S: 4.1 kg
- DVG-3032S: 4.4 kg

#### Operating Temperature

0° to 45°C

#### Storage Temperature

-25° to 75°C

#### Operating Humidity

Up to 90%RH, non-condensing

#### EMI

- FCC Class A
- CE

#### Safety

- UL



## D-Link Worldwide Offices

<b>U.S.A.</b>	TEL: 1-800-326-1688	FAX: 1-866-743-4905	<b>Luxemburg</b>	TEL: 32-(0)2-517-7111	FAX: 32-(0)2-517-6500
<b>Canada</b>	TEL: 1-905-8295033	FAX: 1-905-8295223	<b>Poland</b>	TEL: 48-(0)-22-583-92-75	FAX: 48-(0)-22-583-92-76
<b>Europe (U. K.)</b>	TEL: 44-20-8955-9000	FAX: 44-20-8955-9001	<b>Hungary</b>	TEL: 36-(0)-1-461-30-00	FAX: 36-(0)-1-461-30-09
<b>Germany</b>	TEL: 49-6196-77990	FAX: 49-6196-7799300	<b>Singapore</b>	TEL: 65-6774-6233	FAX: 65-6774-6322
<b>France</b>	TEL: 33-1-30238688	FAX: 33-1-30238689	<b>Australia</b>	TEL: 61-2-8899-1800	FAX: 61-2-8899-1868
<b>Netherlands</b>	TEL: 31-10-282-1445	FAX: 31-10-282-1331	<b>India</b>	TEL: 91-022-26526696	FAX: 91-022-26528914
<b>Belgium</b>	TEL: 32(0)2-517-7111	FAX: 32(0)2-517-6500	<b>Middle East (Dubai)</b>	TEL: 971-4-3916480	FAX: 971-4-3908881
<b>Italy</b>	TEL: 39-02-2900-0676	FAX: 39-02-2900-1723	<b>Turkey</b>	TEL: 90-312-473-40-55	FAX: 90-312-473-40-58
<b>Sweden</b>	TEL: 46-(0)8564-61900	FAX: 46-(0)8564-61901	<b>Egypt</b>	TEL: 202-291-9035	FAX: 202-291-9051
<b>Denmark</b>	TEL: 45-43-969040	FAX: 45-43-424347	<b>Israel</b>	TEL: 972-9-9715700	FAX: 972-9-9715601
<b>Norway</b>	TEL: 47-99-300-100	FAX: 47-22-309580	<b>LatinAmerica</b>	TEL: 56-2-232-3185	FAX: 56-2-232-0923
<b>Finland</b>	TEL: 358-9-2707 5080	FAX: 358-9-2707-5081	<b>Brazil</b>	TEL: 55-11-218-59300	FAX: 55-11-218-59322
<b>Spain</b>	TEL: 34-93-4090770	FAX: 34-93-4910795	<b>South Africa</b>	TEL: 27-12-665-2165	FAX: 27-12-665-2186
<b>Portugal</b>	TEL: 351-21-8688493		<b>Russia</b>	TEL: 7-495-744-0099	FAX: 7-495-744-0099 #350
<b>Czech Republic</b>	TEL: 420-(603)-276-589		<b>Japan</b>	TEL: 81-3-5781-0963	FAX: 81-3-5781-0965
<b>Switzerland</b>	TEL: 41-(0)-1-832-11-00	FAX: 41(0)-1-832-11-01	<b>China</b>	TEL: 86-10-58635800	FAX: 86-10-58635799
<b>Greece</b>	TEL: 30-210-9914 512	FAX: 30-210-9916902	<b>Taiwan</b>	TEL: 886-2-6600-0123	FAX: 886-2-6600-8168
			<b>Headquarters</b>	TEL: 886-2-6600-0123	FAX: 886-2-6600-9898