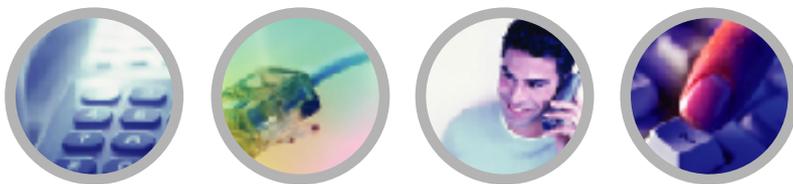# CG-100/101E/200/201E

Clipcomm's Multi-Function Analog VoIP Gateways

- **CG-100: 1 FXS**   ■ **CG-101E: 1 FXS + 1 FXO + Wireless Extension**
- **CG-200: 2 FXS**   ■ **CG-201E: 2 FXS + 1 FXO + Wireless Extension**

Clipcomm's multi-function analog VoIP gateways provide an easy and cost-effective way to take advantage of IP telephony with existing analog phones, fax machines, and PBXs. The gateways offer toll quality voice and real-time FAX over IP enabling easy deployment of IP-PBX based intelligent office network. With their unique FXO gateway and wireless extension feature, Clipcomm's analog VoIP gateways are ideal for ITSPs and VoIP system integrators who wish to provide their customers with field proven and various levels of enhanced services.

Multi-Function Analog VoIP Gateways

Overview

The CG-100/101E/200/201E series are Clipcomm's small channel analog VoIP gateways that are designed to connect analog telephones and/or G3 FAX machines to both IP network and traditional PSTN network. Even in the case of catastrophic power failure, the gateways still guarantee uninterruptible connection to the traditional PSTN. Leveraging Clipcomm's world-leading DSP technologies, the CG-101E/201E additionally support enhanced functions such as answering machine and independent FXO gateway functions in a very cost effective way.

Wireless Extension

The CG-101E/201E has a unique wireless extensible feature that makes the range of its application areas become much broader. Once an IEEE 802.11b PCMCIA card is inserted into the CG-101E/201E's extension slot, it becomes either a WLAN 'access point' for nearby mobile terminals or WLAN 'station' that can be wirelessly connected to the Internet through nearby access points, which will greatly enhance its applicability by removing UTP cabling. By inserting the Clipcomm's Bluetooth extension card into the CG-101E/201E's extension slot, users can enjoy various Bluetooth services such as the LAN access point function based on LAN access / PAN Profile and wireless VoIP or PSTN gateway function based on Cordless Telephony and Headset Profiles.

Independent FXO Gateway Function

CG-101E/201E additionally supports independent FXO gateway function. Users even at a remote site can access the CG-101E/201E by PSTN in order to make a phone call to another IP phone and vice versa. Usage scenario of this FXO gateway function can be easily configured through intuitive internal web interface.

NAT Traversal

Clipcomm's VoIP gateways overcome the well known 'NAT traversal' problems by either manual configuration of external IP address or STUN/TURN client function. Together with Clipcomm's NAT traversal server products, the gateways can make and receive VoIP phone calls behind any type of NAT routers including the symmetric ones. For more details, please contact sales@clipcomm.co.kr.

World-Leading DSP Technology

Clipcomm has developed all the signal processing software modules based on a fixed-point DSP including standard G.723.1A and G.729AB vocoders, line echo canceller, caller ID detector/generator, DTMF detector, configurable call progress tone detector and so on. This empowers Clipcomm to easily embed additional DSP features - such as answering machine, FXO gateway, and encryption engines for security - and quickly support customer's various requirements. Based on this proprietary DSP technology, Clipcomm provides third party developers and OEM partners with a collaborative environment to create and deploy a new class of VoIP equipments.

Various Value-Added Functions

Clipcomm's VoIP gateways are feature-rich Internet appliances that are affordable, easy to use, and loaded with lots of great features. The integrated dual-port 10/100Base-T Ethernet switch allows the co-located PCs to directly connect to the Internet using single WAN IP address. This IP sharing service is provided by either NAT router function or 'WAN IP address sharing' mechanism with which the gateway and co-located PC operates using the same WAN IP address. Invoking answering machine functions and retrieving recorded voice message are just as easy as pushing a dedicated button on the gateway.

Management Interfaces

Clipcomm's VoIP gateways can handle multiple VoIP standards such as SIP or H.323 through firmware update. Firmware update as well as parameter configuration can be performed either through per-unit management method like FTP/HTTP or automatic provisioning mass-deployment system based on TFTP. On-site initial device configuration by DTMF tones from an analog phone connected to the device's FXS port is also provided. Clipcomm has much experience in customizing this various management interfaces to their customers' service environments.

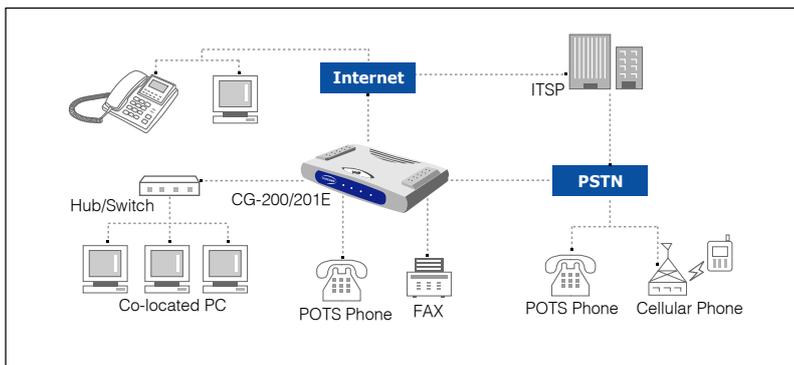**Clipcomm, Inc.**
http://www.clipcomm.co.kr
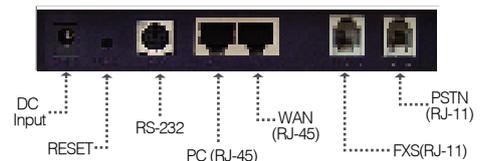
CG-100/101E/200/201E

Technical Specifications

	CG-100	CG-200	CG-101E	CG-201E
Platform				
Processor	32-bit RISC CPU and 16-bit fixed point DSP			
Memory	2MB FLASH ROM and 8MB DRAM			
Interfaces				
Network Interface	Dual switched 10/100Base-T, RJ-45			
FXS	1 FXS (RJ-11)	2 FXS (RJ-11)	1 FXS (RJ-11)	2 FXS (RJ-11)
PSTN	1 PSTN backup (RJ-11)		1 FXO (RJ-11)	
	`Lifeline' feature in case of power failure			
PCMCIA	N/A		PCMCIA TYPE-II slot for Wireless LAN (IEEE 802.11b) and Bluetooth extension	
VoIP Features				
Call Signaling	H.323 v4 / SIP (RFC3261) / MGCP* / MEGACO* / H.248*			
	Standard call control features including Call Forwarding, Call Transfer, etc.			
	Flexible incoming and outgoing call precessing functions configurable through internal web interface			
Digital Signal Processing	Clipcomm's proprietary optimized software for standard G.711, G.723.1A, G.729AB, Line Echo Canceller, Tone Generator/Detector, Caller ID Detector, Call Progress Tone Detector, etc.			
FoIP	N/A	Real-time FAX over IP using T.38	N/A	Real-time FAX over IP using T.38
QoS	Dynamic jitter buffering for improved voice quality in rapidly varying network condition			
	Protection scheme that preserves voice quality during intensive data traffic due to co-located PCs			
	QoS marking with IP-TOS*, VLAN with IEEE 802.1Q*			
NAT-Traversal — External IP	NAT-traversal of VoIP calls by configurable "External IP" feature collaborating with IP sharer or firewalls that support "Port-Mapping" service			
NAT-Traversal — STUN/TURN	NAT traversal of VoIP calls by STUN (Simple Traversal of UDP through NATs) and TURN (Traversal Using Relay NAT) client function			
Network Features				
Network Connection	Private leased lines / ADSL modems using PPPoE / Cable modems (DHCP)			
Dual Ethernet Interface	NAT Router and DHCP Server Function: Private IP adress assignment and Network Address Translation service to co-located PCs.			
	WAN IP Address Sharing Function: The co-located PC can use the same WAN IP address as that of CG-100/101E/200/201E.			
	Dual Ethernet interface can also be configured as a normal two-port switch.			
Management	Easy and intuitive device configuration through integrated web interface			
	Firmware upgrade using FTP or direct UTP cabling			
	Parameter configuration by DTMF tone using an analog phone connected to an FXS interface			
	Automatic Provisioning by TFTP: Each device can automatically download new firmware or parameter configuration file by TFTP from a pre-defined provisioning server.			
Additional Features				
Independent FXO Gateway	N/A		PSTN caller to the CG-101E/201E can make a VoIP call through the CG-101E/201E and vice versa	
Answering Machine	Answering machine function for VoIP calls		Answering machine function for both VoIP and PSTN calls	
Phonebook and Call Log	Displaying and editing of recently placed/received phone numbers via web browser			
Wireless LAN Extension	N/A		IEEE 802.11b extension for WLAN AP or Station function	
Bluetooth Extension*	N/A		LAN Access Profile, PAN Profile, Cordless Telephony Profile (Gateway), Headset Profile (Audio Gateway)	
Tone Configuration	Field programmable tone detection/generation and country specific line interfaces			
Physical				
Power Requirements	100V-240VAC, 60/50Hz, DC Adapter to 12VDC at 1A			
Dimension and Weight	200x140x33 mm, 650 g			

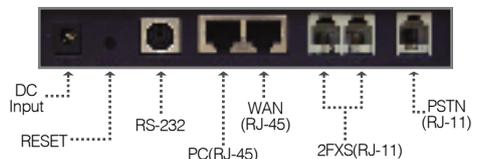*Please check with Clipcomm's sales representative for its availability (sales@clipcomm.co.kr).

Usage Scenario of CG-200/201E

Rear Panel of CG-100/101E

DC Input, RESET, RS-232, PC (RJ-45), WAN (RJ-45), FXS(RJ-11), PSTN (RJ-11)

Rear Panel of CG-200/201E

DC Input, RESET, RS-232, PC(RJ-45), WAN (RJ-45), 2FXS(RJ-11), PSTN (RJ-11)