



EasyGate TIG 800 is a cost effective and highly reliable Voice over IP (VoIP) gateway that offers toll quality voice and real-time fax data over IP networks. With its embedded architecture, EasyGate TIG 800 is ideal for VoIP applications associated with Small-Medium size Business (SMB), Remote Office and Branch Office (ROBO), and ISP/ITSP service markets.

EasyGate TIG-800

High-performance Embedded Internet Telephony Gateway

EasyGate TIG 800 has user friendly interfaces and it may be installed easily and conveniently with VoIP management tools such as Elite Server to yield immediate cost savings. Also, one EasyGate TIG may support up to 8 voice or Fax communications simultaneously.

Implemented with an efficient Real-Time Operating System (RTOS) and FLASH memory, EasyGate TIG 800 provides field upgradeable capabilities, so, it may be programmed with updated protocols or algorithms locally or via the network at anytime. It comes equipped with remote management capabilities, configurable signaling to work with PBX or telephone. EasyGate TIG 800 utilizes advanced VoIP related technologies. It includes various voice coders and fax algorithms, echo cancellation, Voice Activity Detection (VAD), Comfort Noise Generation (CNG), and packet recovery algorithms.

EasyGate TIG family supports Voice over IP (VoIP), as well as Fax over IP (FoIP), and it seamlessly bridges existing PBX or phones with IP networks. Its scalability satisfies user's needs for system growth without additional software or complex integration. Also, it supports various types of network configurations and requires very little maintenance or administration. It is fully interoperable with world renown VoIP gateways and PBXs. Furthermore EasyGate TIG 800 may coexist with broadband access devices for ADSL or CATV networks.

KEY FEATURES

- * Supports 4, or 8 channels of real-time voice and fax in a single embedded box**
- * Modular design to accommodate various types of telephony interfaces**
- * Field programmable CP tone detection and generation to support PBX and CO line interconnections**
- * Supports programmable line interfaces with country specific telephone settings**
- * Supports ITU standard vocoders and voice processing algorithms including G.711, G.723.1, and G.729 A/B, and G.168 Echo Cancellation**
- * User friendly management including console port interface, HTTP and Telnet servers, and Elite Server for VoIP related management such as call control and dial plan set up**
- * Built-in TFTP and flash memory for software download and upgrade via network**
- * H.323 call control protocol compliant**
- * QoS support for VoIP packets**

TECHNICAL SPECIFICATIONS

HARDWARE

Digital Signal Processors

One TI TMS320VC5409 DSP per module
100 MIPS per DSP processor
On-chip memory: 32K word of SRAM, 16K word of ROM
Local SRAM 128K x 16 for each DSP

Control Processor

32-bit ARM7 TDMI core
8K byte unified cache
4K words Write buffer
Embedded on-chip Ethernet MAC with associated BDMA
Local 2M x 32 SDRAM and 2M x 16 Flash

I/O

Standard 10/100 BaseTX RJ 45 interface
RJ 11 Loop Start interfaces for FXS/FXO
RJ 45 E&M Type V 4w interface

Mechanical, Environment & Power

19" rack mountable or desk top
Operating temperature: 32 to 122 F (0°C to 50°C)
Operating humidity: 10% to 95% (non-condensing)
Storage temperature: 14 to 140 F (-10 to 60°C)
AC-to-DC power supply (90-260 VAC, auto-ranging, 50-60 Hz.)

Compliant

CE
FCC part 15 A
FXS/FXO (Compliant with ITU-T G.712)
UL

Line Specifications

	FXO	FXS
Signaling:	Loop Start / DTMF	Loop Start / DTMF
No. of Channels:	2	2
Interface Connectors:	2RJ 11 2-pin modular jacks.	2RJ 11 2-pin modular jacks.
Line Impedance :	600 900 Complex line impedance	600 900 Complex line impedance
Insertion Loss:	2 dB nominal (Adjustable)	2 dB nominal (Adjustable)
Frequency Response:	300Hz ~ 3400Hz +/- 2dB w.r.t. 1004Hz.	300Hz ~ 3400Hz +/- 2dB w.r.t. 1004Hz.
Return Loss:	18 dB	18 dB
Input Level Adjustment:	-6 dB to +6 dB.	-6 dB to +6 dB.
Output Attenuation:	0 dB to 13 dB.	0 dB to 13 dB.
Longitudinal Balance:	45 dB	45 dB
Loop Current:	N/A	25mA nominal
Ring Voltage:	N/A	40Vrms Nominal
Ring Tone:	N/A	16.67Hz, 20Hz(default), 25Hz or 50Hz

SOFTWARE

Speech

Compression algorithms: ITU G. 711, G.723.1,
and G.729A/B.
Hybrid echo cancellation G.168 (16 ms)
Auto switch between Fax and voice
DTMF tone detection/regeneration
Channel: four channels per module
Comfort Noise Generation (CNG)
User programmable Call Progress detection/generation
Voice Activity Detection (VAD)
User programmable Gain Control

Fax

Facsimile protocol: T.30 Group 3
Modulation formats: V.21, V.27ter, V.29, V.17
Real-time fax over IP
DTMF tone detection/regeneration

Management Tools

RS 232 console port interface
HTTP Server
Telnet Server
Elite Server for RAS and dial plan management
TFTP and flash memory for remote software download and upgrade

H.323 Protocol Stack

RAS sub-stack for Terminals and Gatekeepers: supports all mandatory and optional messages (Tx and Rx) as specified in table 19/H.255.0
H.245 sub-stack: supports the Signaling Entities of Master Slave Determination, Capability Exchange, Open Logical Channels, and Close Logical Channels
Q.931: supports all mandatory messages as specified in table 4/H.255.0
Compliant with H.323 Version 1 and Version 2

ORDERING INFORMATION

Part Number	Description
TIG-804	TIG-804 supporting 4 voice/fax channels with FXO interface
TIG-804S	TIG-804S supporting 4 voice/fax channels with FXS interface
TIG-804E	TIG-804E supporting 4 voice/fax channels with E&M interface
TIG-808	TIG-808 supporting 8 voice/fax channels with FXO interface
TIG-808S	TIG-808S supporting 8 voice/fax channels with FXS interface
TIG-808E	TIG-808E supporting 8 voice/fax channels with E&M interface
TIG-FXO	4-port line module FXO interface
TIG-FXS	4-port line module FXS interface
TIG-ENM	4-port line module E&M interface
TIG-GK	TIG Server

All specifications are subject to change without notice.
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Designed and manufactured by :
TAIWAN TELECOMMUNICATION INDUSTRY CO., LTD.
A joint venture of Tatung CO., Taiwan & NEC, Japan