

## GE 800



## Digital IP-Intercom Server GE 800

Both the hardware and the software concept of the GE 800 Intercom Servers incorporates state-of-the-art technology. All digital and with distributed intelligence the GE 800 Intercom Server administers up to 112 IP-subscribers (or 56 digital or 56 analog). Interaction of all the peripheral devices and cards is controlled by a central processing unit. Each plug-in card or interface has its own front-end processor for controlling its particular features and facilities.

### GE 800

Basic housing including transformer for power supply (depending on version), with bus pcb for 17 plug-in slots: processor card, connection card, power supply card, slot 1 to 14 available for subscriber cards (up to 112 subscribers) and/or interface cards. The Intercom Server unit includes an AF input for music/alarm, 2 inputs for floating contacts, 2 relay outputs and two Ethernet sockets and one RS 232 socket for (remote) configuration or maintenance.

The operating system of the GE 800 is programmed using the latest, object-orientated software. This means that all present and future requirements in the fields of Intercom systems, security systems, facilities management, etc. can be met - fully digitally and on a IP-basis.

# Technical Data – Benefits

## TECHNICAL DATA

AC power supply:	24 V +/- 5% / 80 VA
DC power supply:	24 – 35 V / 80 W
Emergency power consumption:	200 mAh for G8-GEN, G8-NET, G8-GEP, G8-GEB other cards: see corresponding data sheet
Frequency range:	50 Hz to 16 kHz
Operating temperature range:	0° C to +50° C (32° F to 122° F)
Storage temperature range:	-30° C to +60° C (-22° F to 140° F)
Relative humidity:	20% to 80% not condensing
Measurements of the housing:	483 x 133 x 229 mm (19.03 x 5.24 x 9.02 inch)
Weight including package:	approx. 5,800 g (12.8 lbs)
Mounting:	19" , 3 HU
Relay outputs:	max. switching capacity: 60 W / 125 VA, max. switching current: 2A max. switching voltage: 60 VDC / 40 VAC
Music input:	max. 800 mV <sub>rms</sub> at 10 kΩ, 16 kHz
Inputs IN1, IN2:	for floating contacts, max. line resistance: 1.5 kΩ
Thermal dissipation loss: (for calculation of the thermal load)	45.2 W

## EXPANSION

	Subscriber:	Outputs:	Inputs:
Basic expansion:	0	2	2
Maximum expansion per Server housing:	112	226	226
Maximum expansion (239 housings)	30,000 (incl. WAN)	50,000	50,000

## NETWORK REQUIREMENTS G8-NET

### QoS Requirements

- Maximum One-Way-Delay 100ms
- Delay-Jitter not above 50ms
- 0% packet loss for perfect audio quality

### Bandwidth

- Required Bandwidth incl. protocol overhead, for upload/download each: speech and data 96 kBit/s
- Speech is compressed according to G.722 standard

## BENEFITS

- Digital IP-Intercom Server (voice, video, indication and control).
- Integration of other systems via Ethernet and V24 interfaces with own protocol converter.
- The Server housing and connecting technology is specially designed to the requirements of 19" racks.
- More than 150 standard features
- Latest intercom technology: microprocessor-controlled, high density design, SMD production, object-orientated programming.
- For all kinds of Intercom stations (IP, 2-wire and 4-wire).
- Digital networking over IP, 2 or 4-wire lines, E1 or ISDN.
- Non-blocking
- Integrated functions for door/gate control, alarms, conferences and central control desks.
- Plug&Play video integration.
- Expandable from 2 to max. 25,000 subscribers without restrictions (up to 30,000 subscribers with restrictions).
- User-friendly configuration with included PC software.

## EXTENT OF SUPPLY

1 Intercom Server GE 800 including:

- 19" housing (3 height units) with snap-on lid
- G8-GEB Bus PCB (with 17 slots, of which 14 are empty)
- G8-GEN power supply card (incl. installation board G8A-GEN)
- G8-GEP processor card
- G8-NET connection card (incl. installation board G8A-NET, 1m / 3.3ft cable)
- Depending on variant: Transformer incl. mounting set for DIN rail TS 35
- Tool for removing of installation boards



# Installation

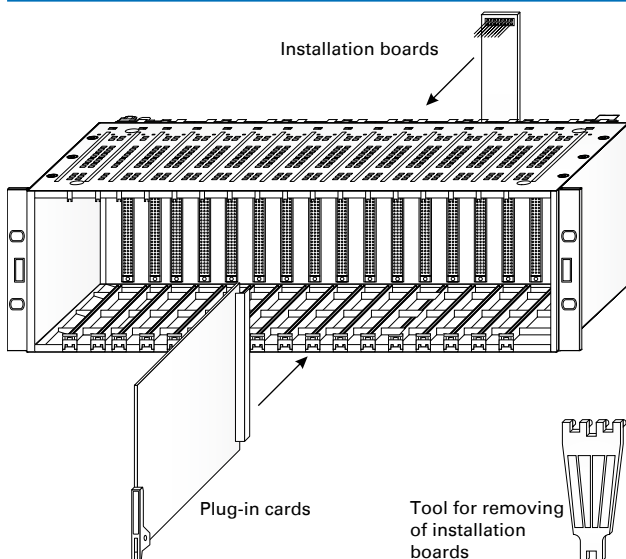
## PRECAUTIONS

- This is a Class A product (standard EN 55022). In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.
- Defective power cables of the transformer must not be repaired or changed. In case of defective power cables, the whole transformer has to be changed.
- Mounting and installation of the Intercom Server GE 800 and of the equipment may be carried out only by authorised service personnel.
- Cards may be inserted and removed only with voltage switched off.
- Before exchanging of cards, ESD precautions must be observed. The Earth terminal of the installation board G8A-GEN (see "Connection Diagram G8A-GEN") is used as grounding point for Wrist Strap Grounding.
- If heavy electromagnetic interference is to be expected (industrial environments), then grounding of the Intercom Server is mandatory.

## MOUNTING INSTRUCTIONS

- One GE 800 housing requires 3 height units
- The plug-in cards are inserted into the 19" housing from the front and fixed with the attachment-clips. The corresponding installation boards are mounted at the rear of the Intercom Server (see "Mounting of Cards and Installation Boards").

## MOUNTING OF CARDS AND INSTALLATION BOARDS



## CONFIGURATION VIA IP

The IP-Addresses of the Intercom Server are defined with the DIP-switches of the G8-GEP. As soon as the Intercom Servers are connected with the network they can be configured via IP.

## CONFIGURATION VIA RS 232

For configuration of the GE 800 a 9-way D-Submin connection cable is required (1:1, plug on Server side, socket on PC side). This cable is connected to the 9-way D-Submin socket on the front of the power supply card G8-GEN or on the installation board G8A-GEN.

NC	1	_____	1
TXD	2	_____	2
RXD	3	_____	3
NC	4	_____	4
GND	5	_____	5
NC	6	_____	6
NC	7	_____	7
NC	8	_____	8
NC	9	_____	9

GE 800 (9-way D-Submin plug)

(9-way D-submin jack) PC

NC = not connected

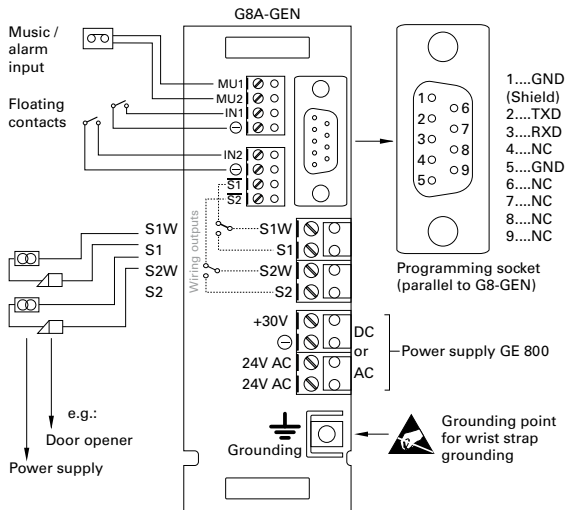
This cable can be purchased at an electric outfitter or ordered under the type "X-KAB-CCT".



# Installation

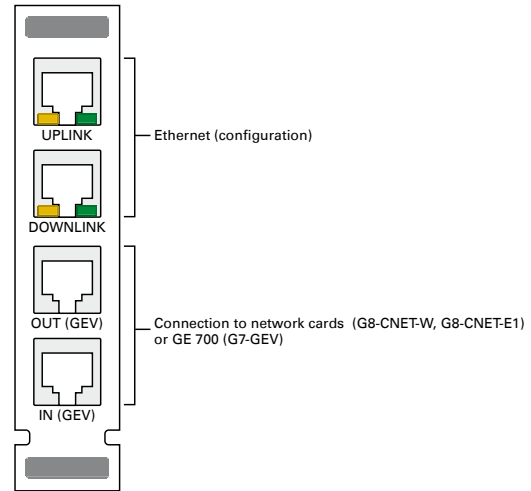
## CONNECTION DIAGRAM G8A-GEN

The G8A-GEN is the installation board for the card power supply card G8-GEN and the processor card G8-GEP.



## CONNECTION DIAGRAM G8A-NET

G8A-NET is the installation board for the card G8-NET.



# Installation

## PLUG-IN CARDS FOR GE 800

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### Subscriber cards:

- G8-IP-4B, C, D, P: for four IP-stations
- G8-IP-8B, C, D, P: for eight IP-stations
- G8-GED-4B, C, D: for four digital intercom stations
- G8-GET-4B, C, D: for four analogue intercom stations
- G8-TEL-4C, D: for four analogue telephones

### Input/output cards:

- G8-8E8A: 8 inputs for floating (volt-free) contacts and 8 floating (volt-free) relay contacts
- G8-16A: 16 outputs (floating (volt-free) relay contacts)
- G8-16E: 16 inputs for floating (volt-free) contacts

### Interface cards:

- G8-V24-PRO: Programmable V24-card with two RS 232-interfaces, of which one can be configured as RS 422.  
Attention: The card works with separately available driver software only!
- G8-AUD-2B, C, D: Digital Audio-Recording-Card with two audio channels (IN/OUT) and four relay contacts.
- G8-AUD-4B, C, D: Digital Audio-Recording-Card with four audio channels (IN/OUT) and four relay contacts.
- G8-TEL: Analogue telephone interface for connection to a PABX or the public telephone network.
- G8-SELCALL: Radio interface (two slots of the GE 800 are occupied by the G8-SELCALL and the enclosed G8-V24-PRO!)
- G8-IAX: Interface card for integration of various VoIP-Standards via a IAX-capable Asterisk® server.
- G8-VOIPSERV: Server card on Linux and Asterisk® basis allows integration of various VoIP-Standards such as SIP, H.323 oder SCCP directly in the Intercom Server.
- G8-IF: Ethernet Interface card with standard ICX-protocol via Ethernet and two RS 232

### Connection cards:

- G8-LAN: IP network card for connection of up to 100 Intercom Servers GE 800, GE 700, GE 300 and GE 200 via Ethernet (corresponding to IP protocol).
- G8-CNET-E1: E1 network card for connection of up to 100 Intercom Servers GE 800, GE 700, GE 300 and GE 200 over multiplexer connections or media converter, like e.g. fibre optic.
- G8-CNET-W: Network card for connection of up to 100 Intercom Servers GE 800, GE 700, GE 300 and GE 200 over 2 wires up to 4 km (2.48 miles).
- G8-S0: Network card for connection of up to 100 Intercom Servers GE 800, GE 700, GE 300 and GE 200 over ISDN dial up connections (two ISDN-basic rate interfaces).

## LICENCES FOR GE 800

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### Subscriber Licences:

- L8-SUB-28C: For feature level upgrade from B to C for 28 subscribers.
- L8-SUB-28D: For feature level upgrade from B to D for 28 subscribers.

### Networking Licences:

- L8-NETLAN4: For activation of 4 LAN-connections via G8-NET card.
- L8-NETLAN8: For activation of 8 LAN-connections via G8-NET card.
- L8-NETWAN4: For activation of 4 WAN-connections via G8-NET card.
- L8-NETWAN8: For activation of 8 WAN-connections via G8-NET card.

### Interface Licences:

- L8-ICX: For activation of one ICX-Interface (ICX/TCP or ICX/RS232).

# Installation

## PLUG-IN POSITIONS OF THE CARDS

The plug-in cards can be inserted in the following slots:

Card type	GEN	GEP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	NET	max. per Server
G8-16A <sup>3</sup>	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	14 <sup>3</sup>
G8-16E	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	14
G8-8E8A <sup>3</sup>	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	14 <sup>3</sup>
G8-CNET-E1	-	-	-	-	-	-	-	-	-	✓	✓	✓	✓	✓	✓	✓	-	5
G8-LAN	-	-	-	-	-	-	-	-	-	✓	✓	✓	✓	✓	✓	✓	-	7
G8-CNET-W	-	-	-	-	-	-	-	-	-	✓	✓	✓	✓	✓	✓	✓	-	5
G8-AUD	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	14
G8-IAX	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	14
G8-IF	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	14
G8-IP	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	14
G8-TEL4 <sup>1</sup>	-	-	✓	-	✓	-	✓	-	✓	-	✓	-	✓	-	✓	-	-	2 <sup>1</sup>
G8-GED	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	14
G8-GEN	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
G8-GEP	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
G8-GET	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	14
G8-NET	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	1
G8-S0	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	7
G8-SELCALL <sup>2</sup>	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	4 <sup>2</sup>
G8-TEL	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	14
G8-V24-PRO	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	14
G8-VOIPSERV	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	6

<sup>1</sup> Details see datasheet G8-TEL4

<sup>2</sup> A second slot of the GE 800 is occupied by the G8-V24-PRO delivered with the G8-SELCALL.

<sup>3</sup> A maximum of 100 outputs may be activated at once.

# Installation

## INSTALLATION BOARDS FOR THE PLUG-IN CARDS

The plug-in cards can be used with the following installation boards:

- ...included in extent of supply
- ...available separately
- X ...via Ethernet sockets of Intercom Server (G8A-NET)

	G8A-C	G8A-I	G8A-K	G8A-T	G8A-V24	G8A-GEN	G8A-NET	G8A-TEL	G8A-PRO	G8A-EW
G8-16A	-	○	○	-	-	-	-	-	-	-
G8-16E	-	○	○	-	-	-	-	-	-	-
G8-8E8A	-	○	○	-	-	-	-	-	-	-
G8-CNET-E1	-	-	-	-	-	-	-	-	-	●
G8-LAN	-	-	-	-	-	-	X	-	-	-
G8-CNET-W	-	-	-	-	-	-	-	-	-	●
G8-AUD	○*	○	○	○*	-	-	-	-	-	-
G8-IAX	-	-	-	-	-	-	X	-	-	-
G8-IF	-	-	-	-	●	-	X	-	-	-
G8-IP	-	-	-	-	-	-	X	-	-	-
G8-TEL4	-	○	○	-	-	-	-	-	-	-
G8-GED	○	○	○	○	-	-	-	-	-	-
G8-GEN	-	-	-	-	-	●	-	-	-	-
G8-GEP	-	-	-	-	-	-	X	-	-	-
G8-GET	○	○	○	○	-	-	-	-	-	-
G8-NET	-	-	-	-	-	-	●	-	-	-
G8-S0	●	-	-	-	-	-	-	-	-	-
G8-SELCALL	-	-	●	-	-	-	-	-	-	-
G8-TEL	-	-	-	-	-	-	-	●	-	-
G8-V24-PRO	-	-	-	-	●	-	-	-	-	-
G8-VOIPSERV	-	-	-	-	-	-	X	-	○	-

\* When using the installation boards G8A-C or G8A-T the 4 relay contacts of the G8-AUD can not be connected!

## QUALITY TESTED. RELIABLE. SMART.

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