



DIGITAL INTERCOM SERVER

GE 700-2

The central GE 700-2 is a fully digital, micro-processor-controlled intercom server in 19" design (3 HU). Plug-in slots for subscriber cards for up to 96 IP-stations. IP-stations, 2-wire and 4-wire stations can be combined as desired. Further plug-in cards enable additional I/O functions such as music and alarm inputs, relay outputs, RS 232/RS 422 interfaces, etc.



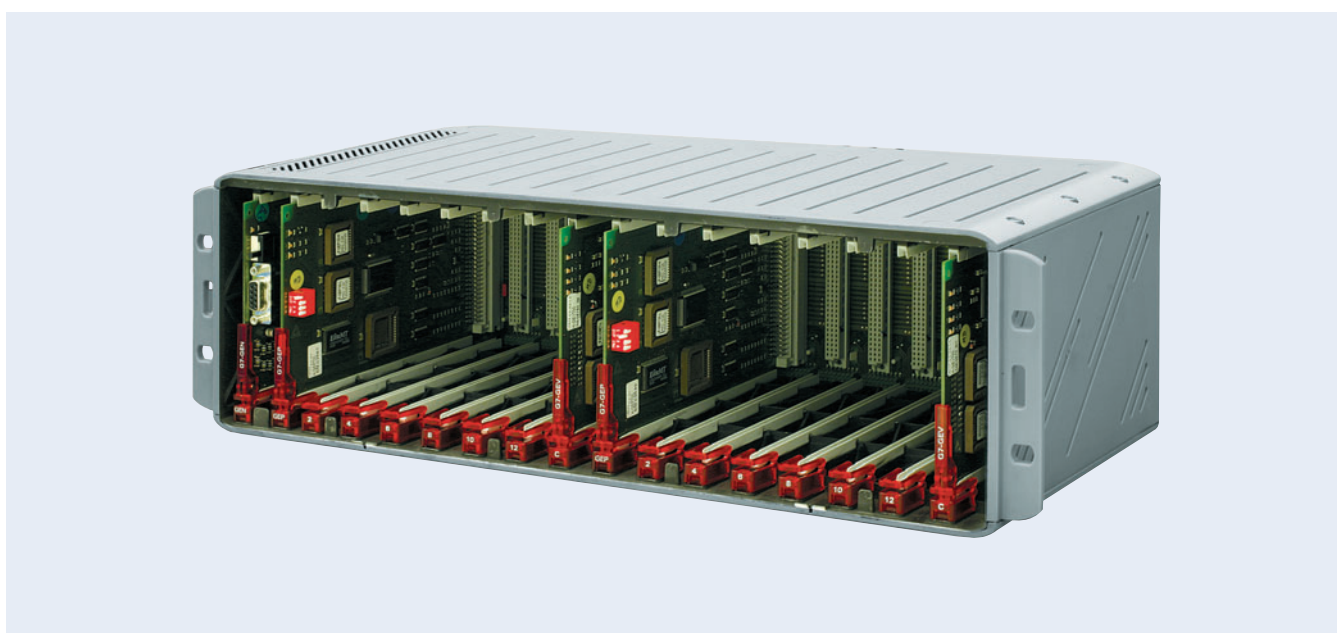
Digital Intercom Server

GE 700-2

Both the hardware and the software concept of the GE 700-2 intercom server incorporates state-of-the-art technology and is the consistent evolution of the successful GE 700 concept. All-digital, based on standard SMD components and with distributed intelligence the GE 700-2 intercom server administers up to 96 Intercom terminals that are connected via IP. 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.

The operating system of the GE 700-2 is programmed using the latest, object-orientated software. This means that all present and future requirements in the fields of intercom systems, security systems, facility management, etc. can be met - fully and digitally.



GE 700-2

Basic central unit with bus pcb for 17 plug-in slots: 1 power supply card, 2 processor cards, 2 connection cards, 12 slots for subscriber cards (IP, 2-wire or 4-wire) and/or interface cards. The basic central unit includes an AF input for music/alarm, 2 inputs for floating contacts, 2 relay outputs and a socket for (remote) programming or maintenance.

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Technical Data - Benefits

GE 700-2

TECHNICAL DATA

AC power supply:	24 V +/- 5% / 80 VA
DC power supply:	24 - 35 V / 80 W
Emergency power consumption:	340 mAh/h for G7-GEN, 2 x G7-GEV, 2 x G7-GEP, GEB700-2 - other cards see corresponding data sheet
Frequency range:	analogue: internal 300 – 16,000 Hz digital: 200 - 7,000 Hz
Distortion:	less than 0.9%
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%
Measurements of the housing:	483 x 133 x 229 mm (19.03 x 5.24 x 9.02 inch)
Weight including package:	3,650 g (12.79 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 at 600 Ohm
Inputs IN1, IN2:	for floating contacts, max. line resistance: 1.5 kOhm

EXTENT OF SUPPLY

1 central GE 700-2 including:

- NA 700 19" housing (3 height units)
- GEB700-2 bus pcb (for 17 plug-in slots)
- G7-GEN power supply card (incl. installation board GEAN 700R)
- 2 x G7-GEP processor card
- 2 x G7-GEV connection card (incl. installation board GEAC 700, 1m / 3.3ft cable)
- Tool for removing of installation boards
- CD "Software & Manuals"

The desired transformer (incl. mounting set (TS 35) for DIN rail) must be ordered separately:

- X-PA7-230VEU Transformer 230 V Europe
- X-PA7-230VAU Transformer 230 V Australia
- X-PA7-230VUK Transformer 240 V UK
- X-PA7-230VUS Transformer 120 V USA

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BENEFITS

- Digital intercom server for global intercom systems (voice, video, indication and control).
- The central housing and connecting technology is specially designed to the requirements of 19" racks.
- Subscriber cards for up to 96 IP-stations in only one 3 HU housing.
- Utilisation of virtual inputs and outputs, in combination with 2-wire or 4-wire stations without loss of plug-in slots.
- Integration of other systems via V24 interfaces with own protocol converter.
- 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-wire lines, E1 or ISDN
- Integrated functions for door/gate control, alarms, conferences and central control desks
- Plug&Play video integration
- Expandable from 4 to max. 5,760 subscribers without restrictions
- User-friendly programming with PC software
- Remote programming via modem

EXPANSION

	Subscribers:	Outputs:	Inputs:
Basic expansion:	0	2	2
Maximum expansion per central housing:	2-/4-wire: 48* IP: 96*	194*	194*
Maximum expansion (120 GE700 or 60 GE700-2)	5,760*	1,000*	1,000*

* Details see ["Plug-in Position of the Cards" at page 8](#)



Installation

GE 700-2

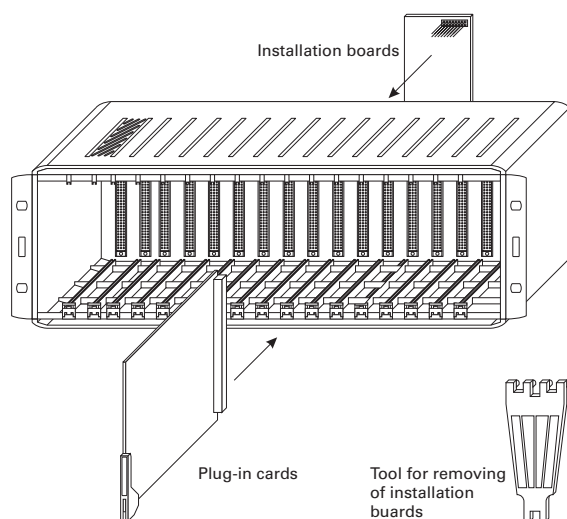
PRECAUTIONS

- With regard to the CE mark, the central is suitable for the following types of application: residential buildings, office and commercial premises, small businesses and industrial premises with public low-voltage mains supply.
- 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 central GE 700-2 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 GEAN 700R (see "[Connection Diagram GEAN 700R](#)") is used as grounding point for Wrist Strap Grounding.

CONNECTION G7-GEV

- A GE 700-2 housing contains two GE 700 centrals. Therefore the GEV cards must be connected, same as with central expansion.
- The DIP-switches of the two G7-GEP cards must be different. In order to set the central number of the G7-GEP of the right side with CCT, it must be temporarily inserted into the GEP-slot of the left central (no cards may be inserted in the slots of the left central at this time).

MOUNTING OF CARDS AND INSTALLATION BOARDS



PROGRAMMING CABLE

For programming of the GE 700-2 a 9-way D-Submin connection cable is required (1:1, plug on central side, socket on PC side).

This cable is connected to the 9-way D-Submin socket on the front of the power supply card G7-GEN or on the installation board GEAN 700R.

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 700 (9-way D-Submin plug)

(9-way D-submin jack) PC

NC = not connected

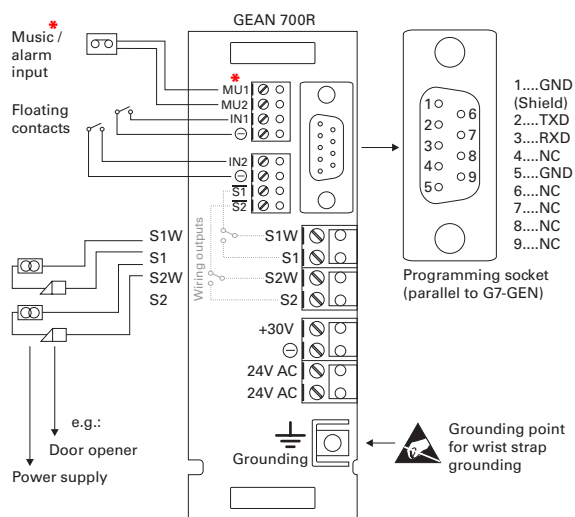
This cable can be purchased at an electric outfitter or ordered under the type "X-KAB-CCT".

MOUNTING INSTRUCTIONS

- One central housing GE 700-2 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 central (see "[Mounting of Cards and Installation Boards](#)").

CONNECTION DIAGRAM GEAN 700R

The GEAN 700R is the installation board for the card G7-GEN



* when using music feed-in via the terminals MU on the GEAN installation board the G7-GEV card must be inserted in slot 12 and a G7-GEK must be inserted in slot C.

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Installation

GE 700-2

LINK CARDS

Attention: The GE 700-2 counts as two separate GE 700 servers internally, with slots 2, 4, 6, 8, 10, 12 each.

A link card is required for two reasons:

1. If a housing GE 700 contains 4-wire subscriber cards or telephone interfaces G7-TEL, at least one link card G7-GEK3-4 is necessary.
2. If features like "Reception of several music programs", "Conference" or "Radio conference" are used in a GE 700, additional link cards G7-GEK3-4 are required.

Available per link card G7-GEK3-4 (a maximum of 5 G7-GEK3-4 per central housing):

- 3 duplex controllers (a maximum of 3 duplex controllers can be used in the central, hence, from more than one card only the A/D converters can be used).
 - 4 A/D-D/A converters (a maximum of 20 A/D converters can be used)
- If only 2-wire subscribers are used, no link card is required.

Available in each GE 700

- 48 digital audio lines
- 28 analogue audio lines

The different types of conversation require a different number of audio lines, the free lines are allocated dynamically (see below).

REQUIRED LINES

		A/D converter	Duplex controllers	Digital audio lines	Analogue audio lines	max. conversations per GE 700
Digital - Digital	Simplex	-	-	1	-	24
	Switched duplex	-	-	2	-	24
	Open duplex	-	-	2	-	24
Analog - Digital	Simplex	1	-	1	1	20
	Switched duplex	1	1	2	4	3
	Open duplex	1	-	2	2	14
Analog - Analog	Simplex	-	-	-	1	24
	Switched duplex	-	1	-	4	3
	Open duplex	-	-	-	2	14
Feed-in of audio signals*	over G7-GET-4D	1 per channel	-	1	1	8 channels **
	over G7-GED-4D and ET 808, 7 kHz	-	-	1	-	20 channels **
	over G7-GED-4D and ET 808, 3.5 kHz	-	-	1/2	-	40 channels **

* Features like "feed in of music programs", "conferences" or "radio conferences".

For music 4T1 only an A/D converter is required, but no audio lines (internal music bus).

** restricted by software*

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Plug-in Cards

GE 700-2

PLUG-IN CARDS FOR GE 700-2

Subscriber cards:

- G7-DSP-IP-8B, C, D, V: for eight IP-stations
- G7-DSP-IP-4B, C, D, V: for four IP-stations
- G7-GED-4B, C, D: for four 2-wire intercom stations
- G7-GET-4B, C, D: for four 4-wire intercom stations
- G7-DSP-TEL-4B, C: for four analog telephones
- G7-GED-DSP: for four 2-wire stations with mixing function for simultaneous monitoring of up to four audio channels (radio channels).

Link cards:

- G7-GEK3-4: 3 duplex controllers and 4 AD/DA converters

Input/output cards:

- G7-8E8A: 8 inputs for floating (volt-free) contacts and 8 floating (volt-free) relay contacts
- G7-16A: 16 outputs (floating (volt-free) relay contacts)
- G7-16E: 16 inputs for floating (volt-free) contacts

Interface cards:

- G7-DSP-AUD4B, C, D: Digital Audio-Recording-Card with four audio channels (IN/OUT) and four relay contacts.
- G7-V24: V24 interface card with two RS 232, of which one can be configured as RS 422
- G7-TEL: analogue telephone interface
- G7-SELCALL: Radio interface (Two slots of the GE 700-2 are occupied by the G7-SELCALL and the enclosed G7-V24-PRO!)
- G7-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!

Connection cards:

- G7-CNET-LAN: IP network card for connection of up to 100 centrals GE 200, GE 700, GE 700-2 via Ethernet (corresponding to IP protocol).
- G7-CNET-E1: E1 network card for connection of up to 100 centrals GE 200, GE 700, GE 700-2 over multiplexer connections or media converter, like e.g. fibre optic
- G7-CNET-W: network card for connection of up to 100 centrals GE 200, GE 700, GE 700-2 over 2 wires up to 4 km (2.48 miles)
- G7-S0: network card for connection of up to 16 centrals GE 200, GE 700, GE 700-2 over ISDN dial up connections (two ISDN-basic rate interfaces)
- G7-GEL: tieline card for two leased line connections to another central, optional 2-wire or 4-wire

Installation Boards:

- GEAC 700: Installation board with RJ 45 plugs, for one plug-in card
- GEA CNETEW: Installation board for one network card
- GEAI 700R: Installation board with 37-way D-Submin plug, for one plug-in card
- GEAIIP 700: Installation board with two RJ 45 plugs, for one IP-subscriber card
- GEAK 700: Installation board with screw terminals for one plug-in card
- GEAN 700: Installation board for one G7-GEN
- GEAT 700R: Installation board with 37-way D-Submin plug, for two plug-in cards
- GEA TEL: Installation board for G7-TEL.
- GEAV 700: Installation board with two 9-way D-Submin plugs for RS 232 and screw terminals for RS 422.

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Installation Boards

GE 700-2

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

	GEAC 700	GEA CNETEW	GEAI 700R	GEAIP 700	GEAK 700	GEAN 700R	GEAT 700R	GEA TEL	GEAV 700
G7-16A	-	-	○	-	○	-	-	-	-
G7-16E	-	-	○	-	○	-	-	-	-
G7-8E8A	-	-	○	-	○	-	-	-	-
G7-CNET-E1	-	●	-	-	-	-	-	-	-
G7-CNET-LAN	-	●	-	-	-	-	-	-	-
G7-CNET-W	-	●	-	-	-	-	-	-	-
G7-DSP-AUD-4	○*	-	○	-	○	-	○*	-	-
G7-DSP-IP-8	-	-	-	●	-	-	-	-	-
G7-DSP-IP-4	-	-	-	●	-	-	-	-	-
G7-DSP-TEL-4	-	-	○	-	○	-	-	-	-
G7-GED-4	○	-	○	-	○	-	○	-	-
G7-GED-DSP	○	-	○	-	○	-	○	-	-
G7-GEK3-4	-	-	-	-	-	-	-	-	-
G7-GEL	○	-	○	-	○	-	○	-	-
G7-GEN	-	-	-	-	-	●	-	-	-
G7-GEP	-	-	-	-	-	-	-	-	-
G7-GET-4	○	-	-	-	○	-	○	-	-
G7-GEV	●	-	-	-	-	-	-	-	-
G7-S0	●	-	-	-	-	-	-	-	-
G7-SELCALL	-	-	-	-	●	-	-	-	-
G7-TEL	-	-	-	-	-	-	-	●	-
G7-V24	-	-	-	-	-	-	-	-	●
G7-V24-PRO	-	-	-	-	-	-	-	-	●

* When using the installation boards GEAC 700 or GEAT 700R the 4 relay contacts of the G7-DSP-AUD-4 can not be connected!

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Installation

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PLUG-IN POSITION OF THE CARDS

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

	GEN	GEP	2	4	6	8	10	12	C	GEP	2	4	6	8	10	12	C	max. pro central ^① (=slot 2-12)
G7-16A	-	-	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	-	together 8
G7-16E	-	-	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	-	
G7-8E8A	-	-	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	-	
G7-CNET-E1	-	-	-	-	-	✓	✓	✓	-	-	-	-	-	✓	✓	✓	-	together 4
G7-CNET-LAN	-	-	-	-	-	✓	✓	✓	-	-	-	-	-	✓	✓	✓	-	
G7-CNET-W	-	-	-	-	-	✓	✓	✓	-	-	-	-	-	✓	✓	✓	-	
G7-DSP-AUD-4	-	-	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	-	6
G7-DSP-IP-8	-	-	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	-	6
G7-DSP-IP-4	-	-	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	-	6
G7-DSP-TEL-4 ^②	-	-	✓	✓	✓	✓	✓	✓	-	-	-	-	-	-	-	-	-	②
G7-GED-4	-	-	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	-	6
G7-GED-DSP	-	-	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	-	6
G7-GEK3-4 ^③	-	-	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	-	③
G7-GEL	-	-	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	-	6
G7-GEN	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
G7-GEP	-	✓	-	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	1
G7-GET-4	-	-	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	-	6
G7-GEV ^④	-	-	-	-	-	-	-	(✓)	✓	-	-	-	-	-	-	-	✓	1 ^④
G7-S0 ^⑤	-	-	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	-	4 ^⑤
G7-SELCALL ^⑥	-	-	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	-	4 ^⑥
G7-TEL	-	-	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	-	6
G7-V24	-	-	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	-	together 4
G7-V24-PRO	-	-	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	-	

The physically not existing slots 1, 3, 5, 7, 9 and 11 can be used for virtual inputs and outputs, but only if no G7-DSP-IP-8 are used. When using G7-DSP-IP-8 the slot to the side of each G7-DSP-IP-8 has to remain free and may not be used for virtual inputs and outputs.

①..... The GE 700-2 counts as two separate GE 700 internally, with slots 2, 4, 6, 8, 10, 12 each.

②..... Not more than 2 G7-DSP-TEL-4 per GE700-2. When installed in slot 6 a G7-FAN card must be installed in slot 8. When installed in slot 10 a G7-FAN card must be installed in slot 12. Additionally a special lid (NAT700FAN) with ventilation slots must be ordered.

③..... A total of 3 duplex controllers is possible, therefore when using more than one link card only the A/D converters are used.

④..... When using music feed-in via the terminals MU on the GEAN installation board the G7-GEV card must be inserted in slot 12 and a G7-GEK must be inserted in slot C.

⑤..... G7-S0 may be plugged into one central only (one central = slot 2, 4, 6, 8, 10, 12 each).

⑥..... A second slot of the GE 700-2 is occupied by the G7-V24-PRO delivered with the G7-SELCALL.

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