GEC 480

Full-duplex Counter Intercom System GEC 480

The design of the GEC 480 counter Intercom system allows clear and natural speech between acoustically separated locations, e.g. counters, through glass service windows, cashier windows, cleanrooms, intensive care units or isolation units in hospitals. Under normal ambient conditions, the built-in speech processor allows high-quality hands-free, full duplex communication. Volume for both sides can be individually set. Optionally a proximity sensor or a call button can be added on the customer side to activate the system.

GEC 480

Counter Intercom system designed as desktop station with gooseneck microphone (speaking distance up to 50 cm / 19.7 inch). Built in speech processor with four operating modes: „Open PLUS" (full duplex for increased volume), „Open" (full duplex), „Switched" (duplex with voice switching) and Simplex. Prepared for connection of a proximity sensor or a call button.
Available types:
GEC 480S: microphone Q400 and transformer PA 9 (240 VAC, 50-60 Hz, 12 VAC) included
GEC 481S: no microphone included, transformer PA 9 (240 VAC, 50-60 Hz, 12 VAC) included
GEC 481SU: no microphone included, no power supply included

1. **Q 400**
Hypercardioid directional microphone for use on the client side, to be mounted with double-sided adhesive tape.

2. **MIC 480**
Client-side omnidirectional microphone for mounting into glass or metal panels up to 10 mm/0.4 inch thick.

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SECURITY AND COMMUNICATION

Technical Data - Benefits

TECHNICAL DATA

Power supply:	12 VAC
	(e.g. via the plug in transformer PA 9 connected at the operator station)
Speech connection:	Open (full duplex), Open PLUS, Switched (Duplex controlled by speech), Simplex
Cabling:	4 wires (6 wires with proximity sensor or bell-push) + power supply
Amplifier:	Client station: 4 W / 4 Ω
	Operator station: 4 W / 4 Ω
Gooseneck microphone:	Electret noise cancelling microphone with cardioid pattern for up to 50 cm (19.7 inch) speaking distance
Frequency range:	200 Hz - 12,000 Hz
Operating temperature range:	0° C to +50° C (32° F to 122° F)
Storage temperature range:	−20° C to +50° C (-4° F to 122° F)
Relative humidity:	20 % to 80 %
Measurements:	179 x 230 x 57 mm (7.05 x 9.06 x 2.25 inch) (gooseneck 430 mm / 16.94 inch)
Weight incl. package:	1,200 g (2.7 lbs)

MOUSE MICROPHONE Q400

Sensitivity:	4.5 mV / Pa
Polar pattern:	Hypercardioid to the front
Cable length:	3 m (9.8 ft) shielded
Temperature range:	−25 to +70° C (−13° F to 158° F)
Measurements:	43 x 21 x 13 mm (1.69 x 0.83 x 0.51 in)

BUILD-IN MICROPHONE MIC 480

Sensitivity:	5.6 mV / Pa
Type:	Back electret condenser microphone
Directivity:	omnidirectional
Cable length:	4 m (13.1 ft) shielded
IP rating:	IP 53 (rain water proof)
Temperature range:	−20°C to +60°C (−4° F to 140° F)
Measurement:	14 x 20 mm (0.55 x 0.79 in)

BENEFITS

- Open duplex speech (talk and listen simultaneously)
- Excellent speech quality, even at high volume
- Quick, easy installation
- Volume adjustable for operator and client station
- Facility for proximity sensor connection
- Automatic muting
- Microprocessor controlled
- Listening with microphone switched off at the operator station

EXTENT OF SUPPLY

1 Counter Intercom system including:
- Operator station (desktop station with gooseneck microphone)
- Power supply (depending on type of counter Intercom - see below)
- Mouse microphone Q400 for the client station (included only with type GEC 480S - see below)
- 8-way modular socket for connection of the client station
- 3 m (9.8 feet) connection cable from operator station to modular socket
- Manual

The three types of counter Intercoms differ in extent of supply

Type:	Client Side Micro-phone:	Power supply:
GEC 480S	Microphone Q400 included	PA 9 (240 VAC, 50-60 Hz, 12 VAC)
GEC 481S	no microphone	PA 9 (240 VAC, 50-60 Hz, 12 VAC)
GEC 481SU	no microphone	no power supply

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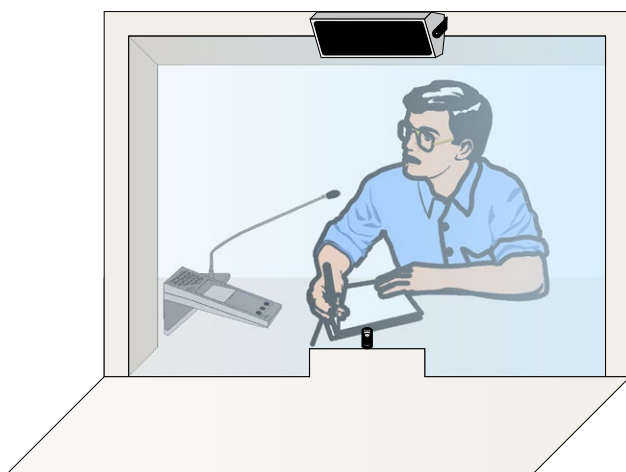SECURITY AND COMMUNICATION

Installation

PRECAUTIONS

- With regard to the CE mark, the counter Intercom 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.

- Mounting and installation of the counter Intercom and of the equipment may be carried out by authorised service personnel only.

- When opening the counter Intercom ESD precautions must be observed.

- The counter Intercom may be opened by authorised service engineers only.

MOUNTING OF CLIENT STATION

The loudspeaker should be mounted as close as possible to the client's ear, but at a distance of at least 50 cm / 19.7 inch from the microphone. If possible, the loudspeaker should not face directly to the microphone because this increases the tendency to feedback.
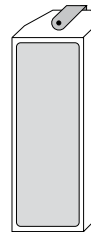
1. Loudspeaker at the top, max. 2.10 m (6.9 ft) above the floor
2. Build-in loudspeaker at the side, ~ 1.60 m (5.2 ft) above the floor

   If possible, the microphone should be mounted at the bottom of the counter, in direction to the client. If this is not possible, the microphone has to be mounted aside in direction to the client. The closer the microphone is mounted to the client, the lower the volume required at the operator station. This means, that the tendency of feedback decreases because the total gain is very low.

3. Microphone in the middle of the counter
4. Build-in microphone at the side, 1.30 m to 1.50 m (4.3 ft - 4.9 ft) above the floor
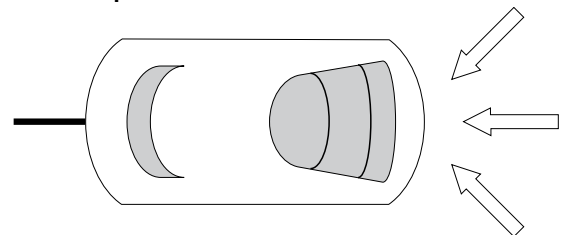
LOUDSPEAKER

In general, each loudspeaker with an impedance of 4 Ohms or more can be used. We recommend the following types:

- AL 10 (10 W / 4 Ohm, 100 x 270 x 90 mm) (3.94 x 10.64 x 3.55 inch)
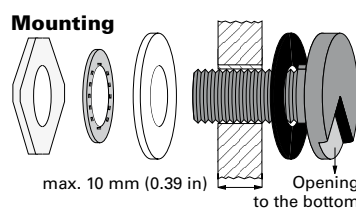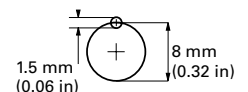
MICROPHONE

Mouse microphone Q400

This microphone has a special directional characteristic to the front, as shown in the picture. It should be mounted in such a way, that the speech enters the microphone in direction of the arrows. The microphone can also be used for outdoor mounting, but it has to be protected against rain and moisture.

Build-in microphone MIC 480

Mounting

max. 10 mm (0.39 in)   Opening to the bottom
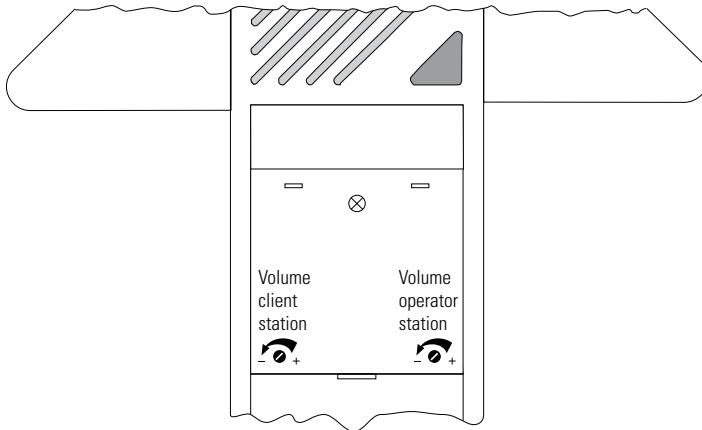
Bore-hole

1.5 mm (0.06 in)   8 mm (0.32 in)

Instead of the mouse microphone Q400 the build-in microphone MIC 480 can be used. The build-in microphone is designed to fit panels up to 10 mm (0.4 inch) thick.

Installation

Datasheet Version 2.2/0512 | Errors and omissions excepted | Products may change in the interest of technical improvements

ADJUSTING THE VOLUME

The volume of the operator station and the client station is adjusted with the 2 potentiometers under the index panel:
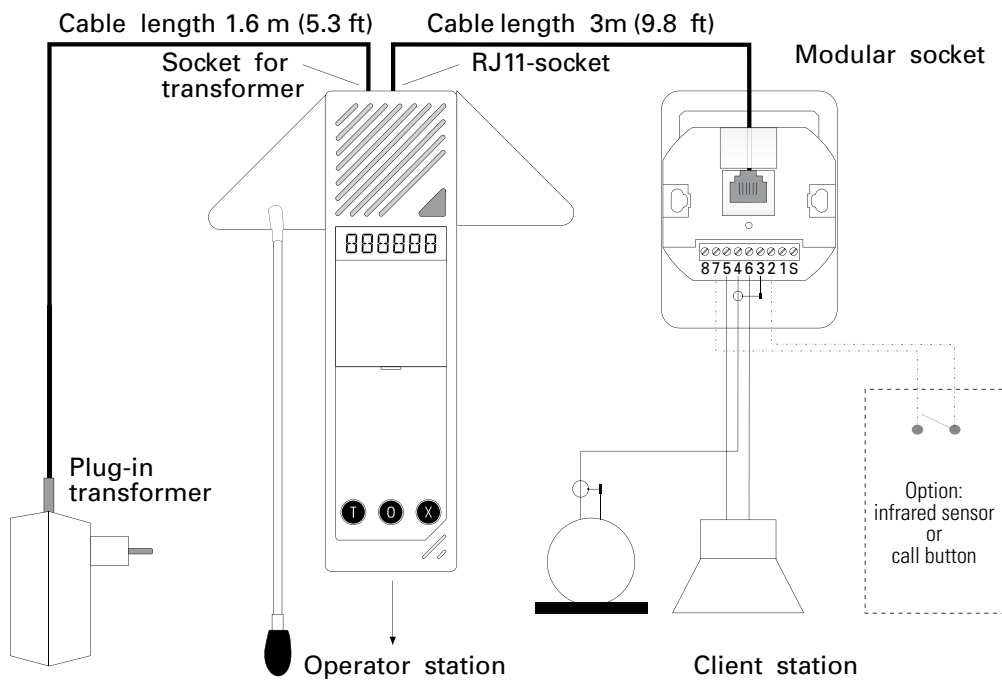

Care should be taken to ensure that no feedback occurs (e.g. if the window or the entrance is open).
This can be tested by placing a flat hand 2 cm (0.8 inch) above the microphone. No feedback should occur.
If it is not possible to adjust the desired volume without feedback occurring, the following measures can be taken (see "Adjusting the Dip-switches" at page 5):

• If the counter Intercom is in mode "Open", change to mode "Open PLUS";
• If the counter Intercom is in mode "Open PLUS" (=standard mode), change to mode "Switched" or "Simplex".
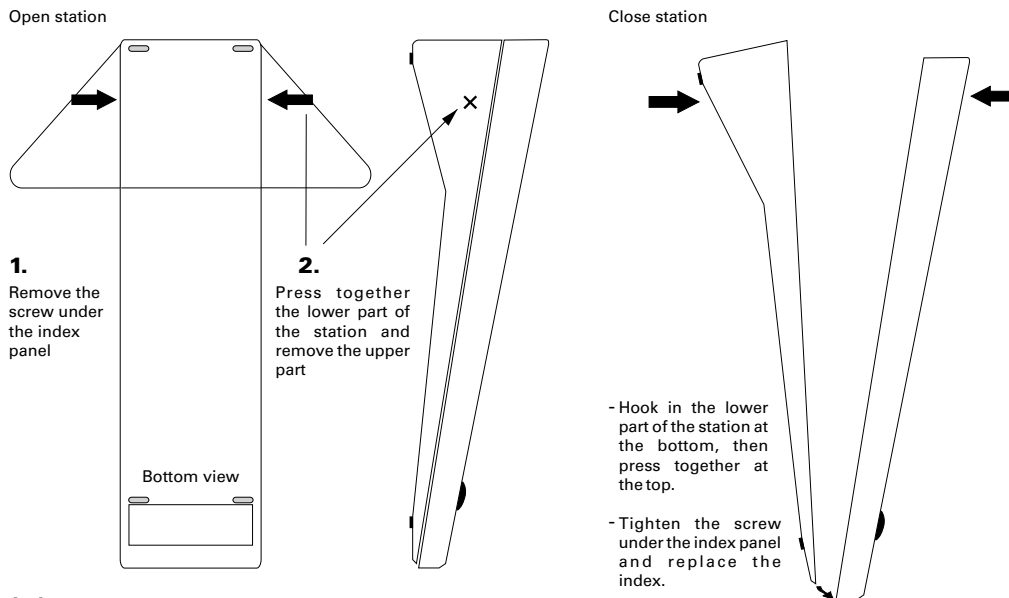
CONNECTION DIAGRAM

Installation

ADJUSTING THE DIP-SWITCHES

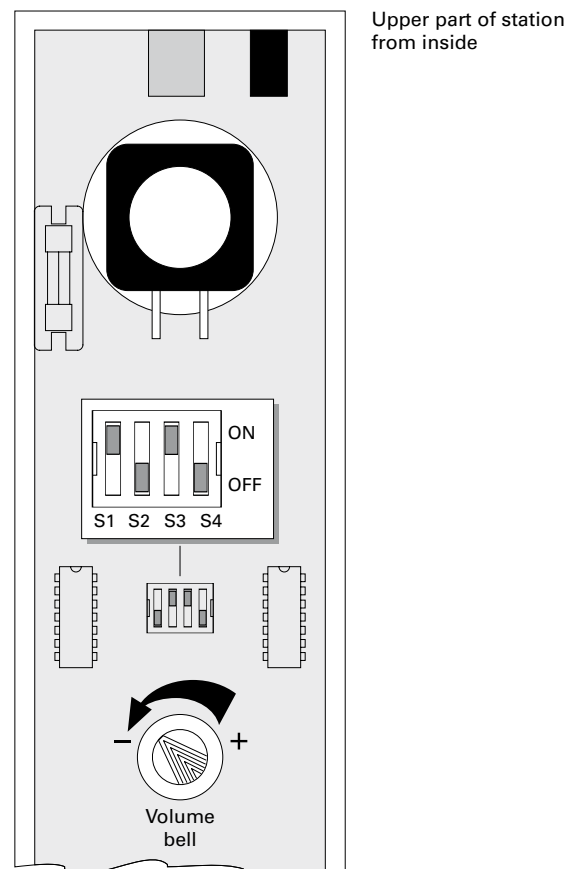Open the counter Intercom (only in an electrostatic protected area)

Open station

Close station

1.

Remove the screw under the index panel

2.

Press together the lower part of the station and remove the upper part

Bottom view

- Hook in the lower part of the station at the bottom, then press together at the top.

- Tighten the screw under the index panel and replace the index.

Set the DIP-switches

S1	S2	Operating mode
OFF	OFF	Open
OFF	ON	Simplex
ON	OFF	Open PLUS (=standard)
ON	ON	Switched

S3 Call button / proximity sensor:
OFF Operation with proximity sensor
ON Operation with call button (=standard)

S4 Automatic muting:
OFF Automatic muting activated (=standard)
ON Automatic muting deactivated

Upper part of station from inside

ON
OFF
S1 S2 S3 S4

Volume bell

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QUALITY TESTED. RELIABLE. SMART.

COMMEND products are developed and manufactured by Commend International in Salzburg, Austria.

The development and manufacturing processes are certified in accordance with **EN ISO 9001:2008**.

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