

## GEC 480



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## 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.

### 1. GEC 881

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 8 (100-240 VAC, 50-60 Hz, 400 mA /15VDC, 1 A) included

GEC 481S: no microphone included, transformer PA 8 (100-240 VAC, 50-60 Hz, 400 mA /15VDC, 1 A) included

### 2. Q 400

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

### 3. MIC 480

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

# Technical Data - Benefits

## TECHNICAL DATA

Power supply:	via the included plug in transformer PA 8 (connected at the operator station)
Speech connection:	Open (full duplex), Open PLUS, Switched (Duplex controlled by speech), Simplex
Cabling:	4 wires (6 wires with proxistor or bell-push) + power supply
Amplifier:	2 x 4 W / 4 Ohm
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:	1,182 g (2.61 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 Microphone:	Power supply:
GEC 480S	Microphone Q400 included in extent of supply	PA 8 (100-240 VAC, 50-60 Hz, 400 mA /15 VDC, 1 A)
GEC 481S	no microphone in extent of supply	PA 8 (100-240 VAC, 50-60 Hz, 400 mA /15 VDC, 1 A)
GEC 481SU	no microphone in extent of supply	PA 8 USA(120VAC, 6VA/ 12VAC, 500mA)

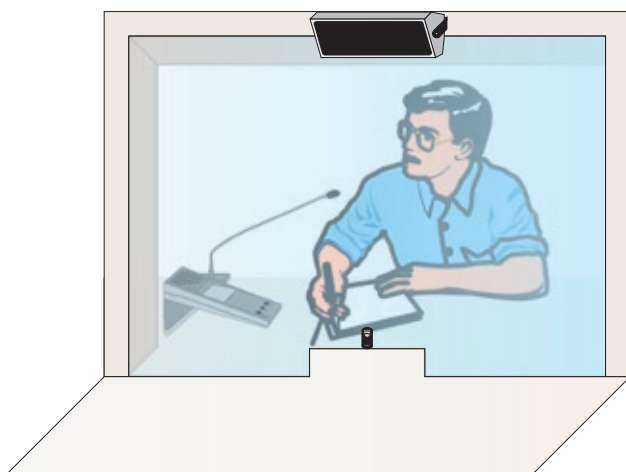


# Installation

## 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.

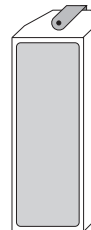
1. Loudspeaker at the top, max. 2.10 m (6.9 ft) above the floor
2. Build-in loudspeaker at the side, ~ 1.60 m (5.2 ft) above the floor

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

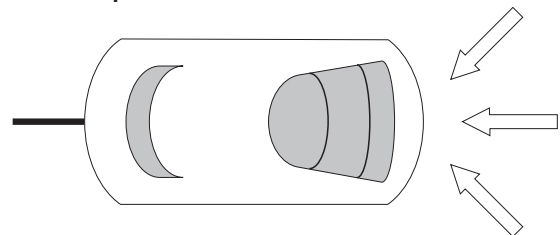
In general, each loudspeaker with an impedance of 4 Ohms or more can be used. We recommend the following types:



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

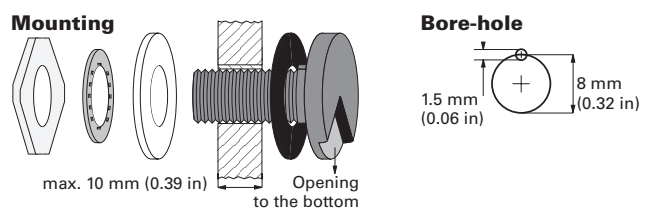
## MICROPHONE

### 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



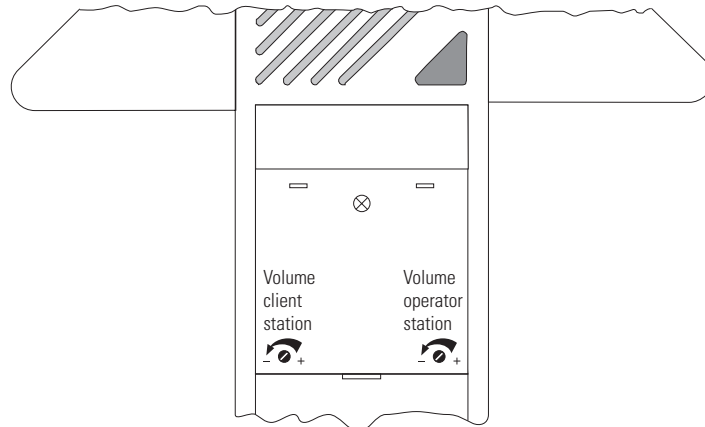
Instead of the mouse microphone Q400 the build-in microphone MIC 480 can be used. The build-in microphone is designed to fit panels up to 10 mm (0.4 inch) thick.



# Installation

## ADJUSTING THE VOLUME

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



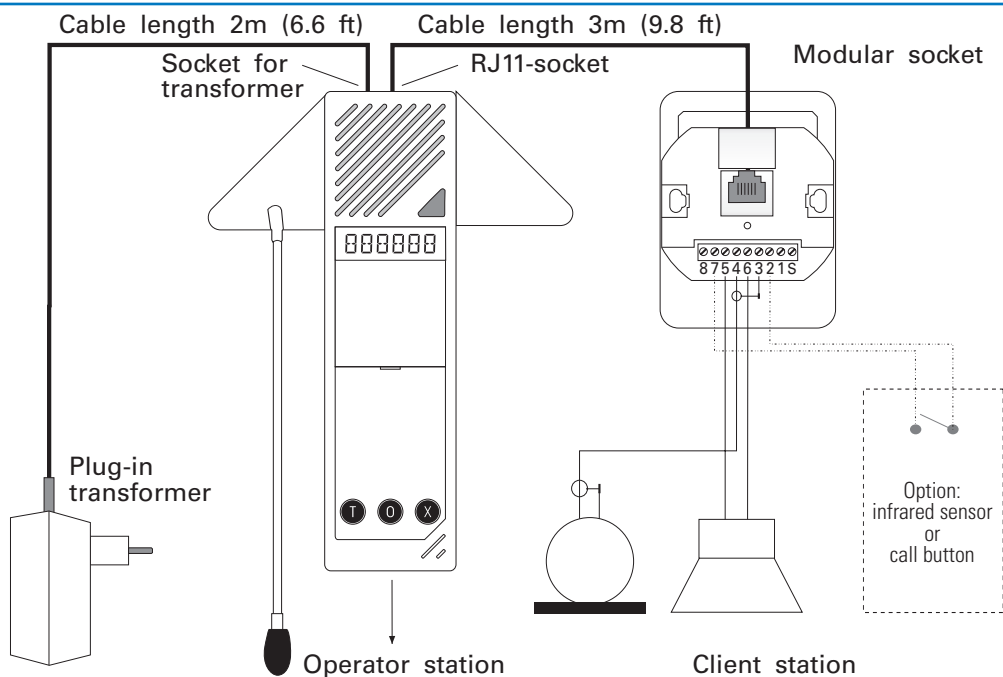
Care should be taken to ensure that no feedback occurs (e.g. if the window or the entrance is open).

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".

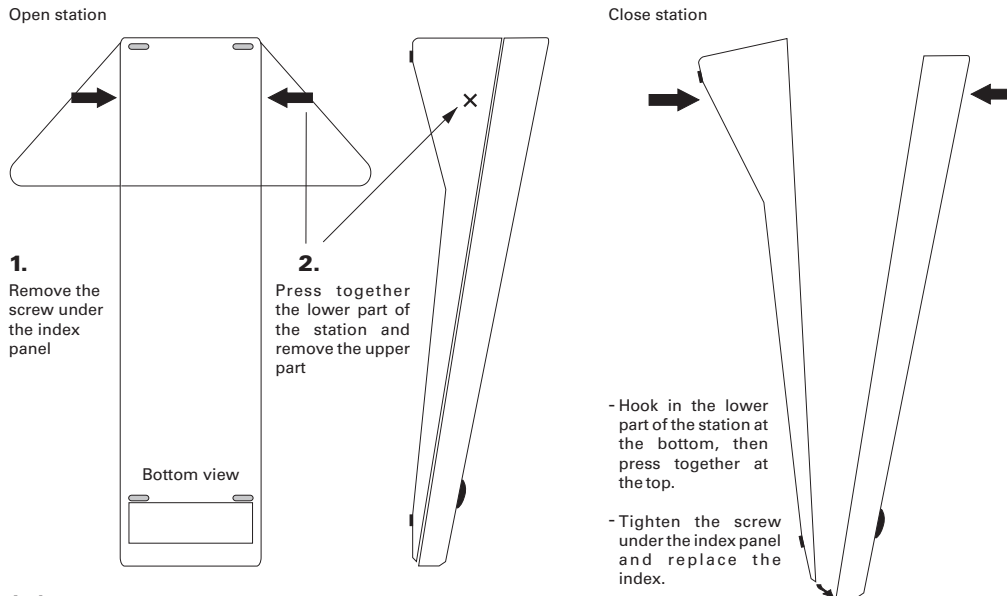
## CONNECTION DIAGRAM



# Installation

## ADJUSTING THE DIP-SWITCHES

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



### Set the DIP-switches

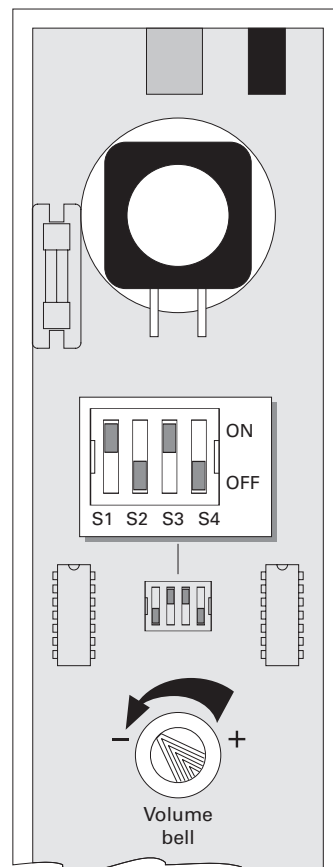
S1	S2	Operating mode
OFF	OFF	Open
OFF	ON	Simplex
ON	OFF	Open PLUS (=standard)
ON	ON	Switched

### S3 Call button / proxistor:

OFF Operation with proxistor  
 ON Operation with call button (=standard)

### S4 Automatic muting:

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



Upper part of station from inside

