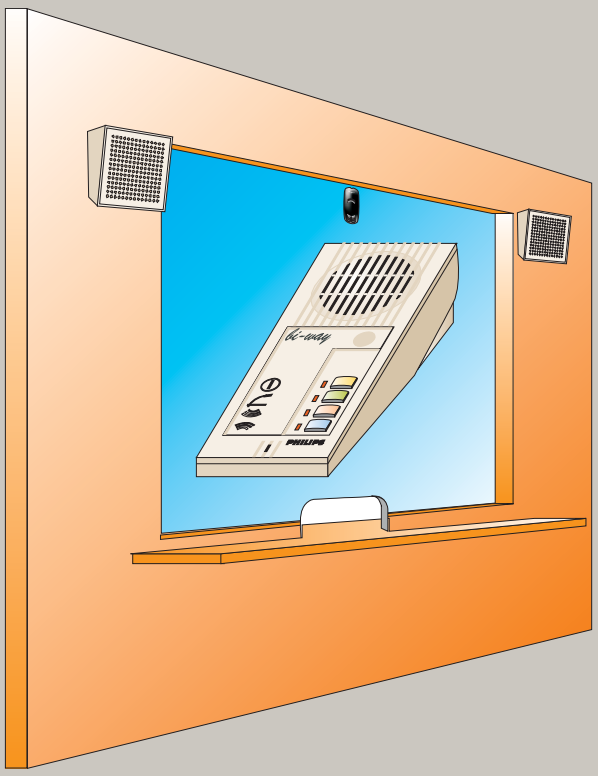
Bi-Way Starter Kit

LBB7026/65

STENTOFON



MOUNTING GUIDE

MI 23614 v.1.1

2003.08.14

GENERAL DESCRIPTION

- The Bi-Way system is designed for hands-free, voice-controlled duplex conversation between counter personnel (operator) and their customers on the other side of a glass partition.
- The operator's unit is easy to fit on the operator's counter or wall. The operating modes are marked with logical symbols and indicated by information lights.
- The loudspeakers and microphone on the public side can be mounted in alternative ways and are easy to fit on any surface such as glass, wood, metal or concrete.
- In addition to the basic Bi-Way kit there are several optional elements, e.g. operator's gooseneck microphone, handset or headset with microphone for noisy areas, flush-mount loudspeakers for public side and hearing aid radiator.

Area Of Application

- Bi-Way is ideal for areas where security from violence and vandalism is essential or where noise or health problems are of importance such as:
  - Cash counters in banks and post offices
  - Embassies
  - Petrol stations
  - Gates and doors to restricted areas
  - Ticket counters in railway stations and airports
  - Treatment labs and isolation wards in hospitals

Bi-Way Units

Bi-Way starter kit, LBB 7026/65

Bi-Way operator's unit	LBB 7026/60
Bi-Way external microphone	LBB 7026/73
Bi-Way loudspeaker kit	LBB 7026/80
Power supply	LBB 7102/60

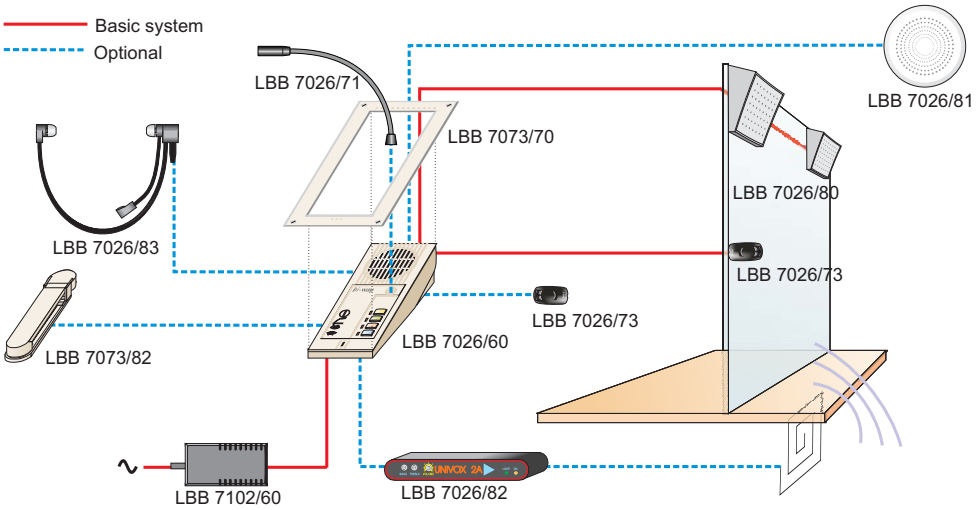
Accessories

Bi-Way gooseneck microphone	LBB 7026/71
Bi-Way external microphone	LBB 7026/73
Bi-Way flush-mount loudspeaker kit	LBB 7026/81
Bi-Way hearing aid kit	LBB 7026/82
Headset with microphone	LBB 7026/83
Flush-mount back box - 60 mm	LBB 7073/61
Flush-mount frame	LBB 7073/70
Handset with cradle kit	LBB 7073/82
Cradle bracket	LBB 7073/84

INSTALLATION

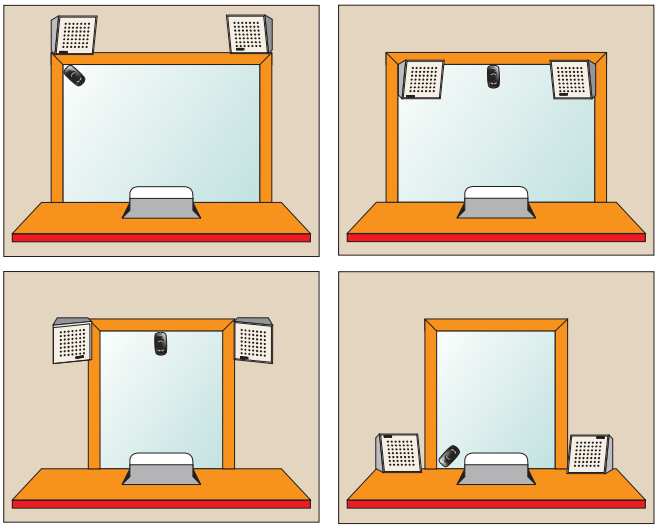
General Mounting

The different parts of the Bi-Way system are mounted on either side of a glass partition as shown in the figure below.



Public Side

There are several ways to mount the loudspeakers and the public microphone. Some general examples are shown below.



The mounting of accessories such as gooseneck microphone, hearing aid radiator and flush-mount loudspeakers are described in separate instructions packed together with the items.

These instructions are also found on the web site www.stentofon.com

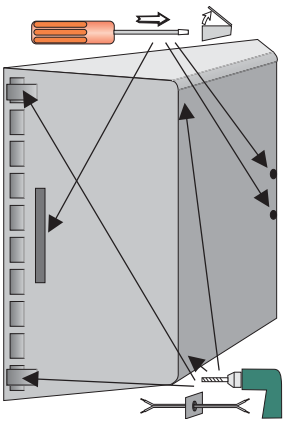
LBB 7026/80 - Bi-way Loudspeaker kit

The kit contains:

- 2 x loudspeakers in plastic cabinets for surface mounting
- 10 m 2-wire cable

- Decide the loudspeaker placement and fastening method.
- The loudspeakers should be mounted on each side of the customer's area with the distance between loudspeakers = 60-100 cm.
- They may be mounted in one of the following ways:
  - on the glass with self-adhesive tape
  - on the frame or wall with screws
  - on the counter with self-adhesive tape or screws

❑ Open the loudspeaker boxes by pressing a thin screwdriver into the slot at the base or through the holes in the rear.



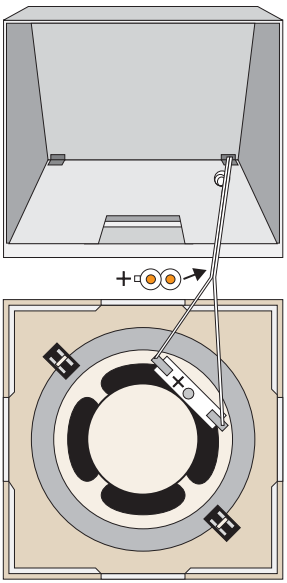
❑ Drill a hole in the cabinet for the cable according to loudspeaker placement and fastening method.

❑ Drill a corresponding hole in the wall for the loudspeaker cable. You may choose to drill one hole for each item or select a convenient place for a common hole including the microphone cable.

❑ Route the loudspeaker cable through the wall from the operator's side and through the hole in the loudspeaker cabinet.

❑ Tie a knot on the cable 15 cm from the end as a strain relief and pull the cable back.

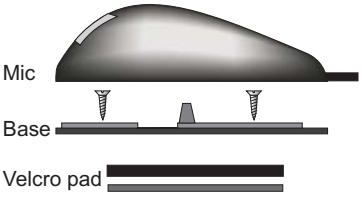
❑ Mount the cabinet on the surface as decided and ensure there is sufficient space behind the loudspeakers to open the cabinets for subsequent service of the elements.
Self-adhesive tape:
Clean the glass screen and loudspeaker cabinet with alcopad before positioning the cabinets.
Screws:
3-4 holes must be drilled in the rear or base of the cabinet. Do not use the holes for opening the cabinet!



❑ Solder the cable to the loudspeaker terminals making sure the marked wire is connected to the + terminal.

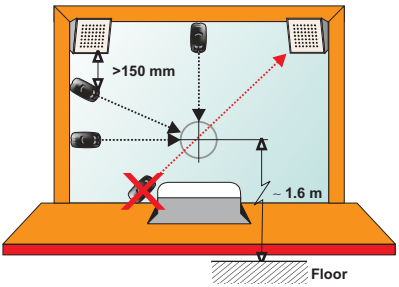
❑ Mount the loudspeaker front, be sure the logo is horizontal at the bottom left.

LBB 7026/73 - Bi-way Public Microphone



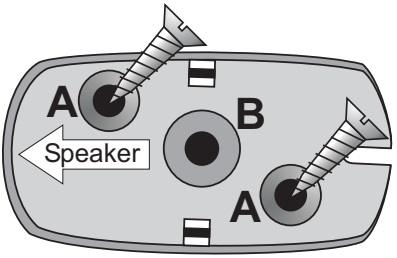
- The type number contains a hyper cardioid microphone with base for screw mounting and a Velcro pad for mounting on an even surface.
- The microphone is delivered with 5m shielded cable prepared for screw terminals.

❑ Decide the placement of the microphone.
- The microphone front should always point in the direction of the customer, e.g. an area in the middle of the glass about 1.6 m above the floor.
- Never point the microphone towards a loudspeaker.
- The distance to the nearest loudspeaker should be at least 150 mm.



❑ The microphone can be mounted in two ways:

1. Use two screws (A) to fix the mounting base to a wooden or concrete surface. **Note the direction of the base!**
   - By using one screw through the middle hole (B) the microphone direction can be adjusted after mounting.
   - Snap the microphone onto the base.
2. Attach one part of the Velcro pad to either the base plate or directly on the microphone base.
   - Clean the glass with an alco-pad, and press the other part of the Velcro pad to the glass.
   - Press the microphone on place.



❑ Drill a hole in the wall in a convenient place and route the cable through the hole into the operator's room.

❑ Connect the microphone cable to the operator's unit as explained in "Connections" page 7.

Options

On the customer's side optional equipment may be mounted to ease or improve the communication. The mounting of these items are described separately.

Hearing aid kit, LBB 7026/82

Loop antenna to serve customers wearing a hearing aid.
Description is found in manual 3924 985 24212.

Flush-mount loudspeaker(s), LBB 7026/81

Used for alternative loudspeaker mounting, description is found in manual 3924 985 24412.

Gooseneck microphone, LBB 7026/71

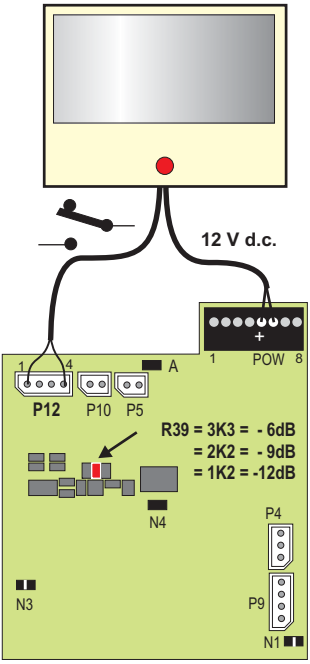
Can be used to reduce extreme background noise. Connect to the public mic. input.

Movement detector

The operator's unit is prepared for use with a movement detector to automatically switch from standby mode to duplex mode when a customer is present at the counter.
This item is not included in the Bi-Way range and must be acquired locally.

Mounting the movement detector

The physical mounting depends on local circumstances and detector type. Typical mounting would be above the counter glass or in the ceiling. Be sure the detector does not react on incidental bystanders or persons at a neighboring counter.



Connections

❑ Route the switch/power cable(s) from the detector through one of the station breakouts and secure by a strain relief.

❑ Connect the n.o. switch cable to P12-1(+) and P12-4 and the detector power cable to P1-5(+) and P1-6(–)

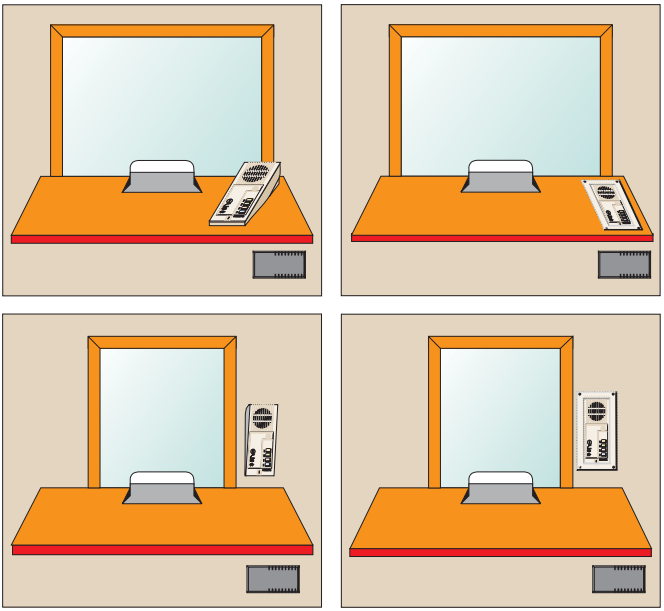
Operation

- Place the operator's unit in standby mode (push the green button). The movement detector will switch to operating mode when activated.
- The standby mode must be reestablished by pushing the green button once when the customer leaves.
- The sound damping on the operator's side is -6 dB in standby mode. If more damping is required the value of R39 (3K3) could be lowered.

Operator's Side

Basically the operator's unit and the power supply are the only units on the operator's side.

- The operator's unit can be placed freestanding on the desk, fastened to the wall by screws or flush-mounted in the desk or wall.
- Alternative microphones and handset may be connected to the station.



LBB 7026/60 - Operator's Unit

Decide where to place the unit for ease of operation. The distance to the built-in microphone should normally be less than 50 cm^2 to ensure safe voice switching. Consider the necessity for optional microphone types to reduce the influence of background noise. Consult your dealer for advice. The optional microphones may be mounted at a later stage.

Desk Mounting

The unit has rubber feet for stable placement on any horizontal surface. Allow sufficient length of cable to the unit from the public loudspeaker, microphone and power for alternative positions on the desk.

Wall Mounting

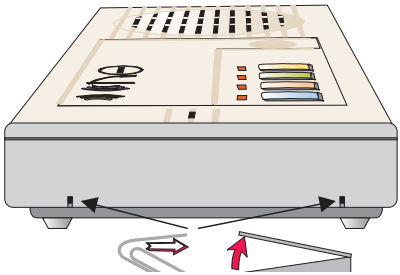
There are two keyhole openings in the station's rear cover.
Use screws through these holes to mount the station to the wall.

Flush Mounting

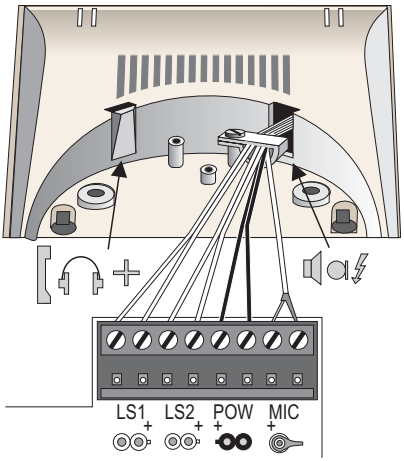
Mount the flush mount frame LBB 7073/70 to the station front and make a cut-out in the desk or wall as described in the instruction.

The station may be mounted with or without the 60 mm flush-mount back box LBB 7073/61.

Connections



- ❑ Open the station by inserting a thin object, e.g. paper clip, through the small holes at the microphone end.
- ❑ Separate the front and rear covers.
  All connections are made to terminals on the board in the front cover.
- ❑ Remove the right breakout in the rear cover.
- ❑ Route the loudspeaker, microphone and power cables through the breakouts and leave 15 cm of cable inside the station.
- ❑ Secure the cables with the cable clamp.
- ❑ Connect the cables to the screw terminal according to drawing (also found under the rear cover).
  Please note the polarization!



- The screw terminal is plugable and may be removed from the board at any time.

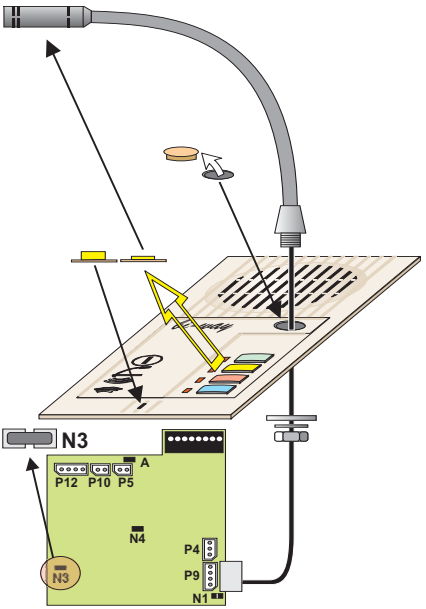
Power supply, LBB 7102/60

The power supply is connected to a 230 V a.c. mains power outlet. This supply cannot be set for other mains voltages. A 12 V d.c. /500 ma supply must then be obtained locally.

- The 12 V d.c. is connected to a screw terminal inside the station.
- Up to 5 operator's units can be powered from one supply.

Gooseneck microphone, LBB 7026/71

Mount the optional gooseneck microphone to mprove the signal/noise level on the public side.

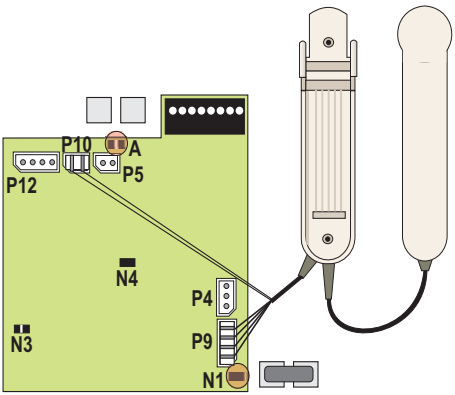


- ❑ Break out the tinted field between the buttons and the loudspeaker.
- ❑ Route the microphone cable through the opening, the spacer, lock washer and nut. Tighten the nut on the microphone threaded stud.
- ❑ Insert the microphone plug in connector P9.
- ❑ Close the solder-split N3 to activate the gooseneck microphone function.
- By pushing the yellow button you can toggle between built-in and gooseneck mic. The LED is lit when gooseneck is selected.
- The gooseneck mic. can also be mounted on a separate stand. The cable is then routed through the left breakout in the station's rear cover.

Further instructions are given in the manual MI 23813.

Handset with cradle kit, LBB 7073/82

The standard intercom handset with cradle kit can be connected to obtain low-speaking open duplex in heavy noise environments or for confidential conversation on the operator's side.



- ❑ Mount the cradle to the wall by two screws or to the station by using a cradle bracket LBB 7073/84, see instruction.
- ❑ Remove the left breakout in the station rear cover.

❑ Route the cradle cable through the opening and secure with a cable clamp.

❑ Connect the 4-pin plug to P9 and the 2-pin plug to P10.

❑ Open the solder-split A to activate the reed switch.

❑ Close the solder-split N1 to set the handset microphone level.

- The station will switch to low-speaking mode on lifting handset.

Headset with microphone, LBB 7026/83

A headset with microphone is available as an alternative to the normal handset..

- An optional switch will toggle between high- and low speaking mode.

Further instructions are found in manual MI 24413.

External microphone, LBB 7026/73

A freestanding microphone with flexible mounting may substitute the built-in microphone where the distance to the operator's unit is too far.

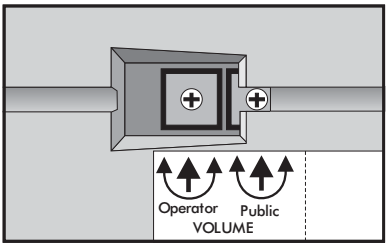
- This microphone is plugged into connector P4.

Further instructions are found in manual MI 23914.

ADJUSTMENTS

The volume in the operator's unit and on the public side can be adjusted individually without opening the station.

The volume controls are accessed by means of a small screwdriver through an opening under the station. The potentiometers are clearly marked.



❑ Adjust the sound volume to a suitable level on both sides of the partition.

Simplex Mode Setting

By default the station is set for duplex operation with the possibility to force the speech direction towards the public side amplified by +6 dB. Solder split N4 is closed on delivery.

- It is possible to set the system to *push-to-talk / release-to-listen* simplex mode with normal amplification both ways.

❑ Open solder split N4 situated in the middle of the station board.

TECHNICAL SPECIFICATIONS

LBB 7026/65 - Bi-Way Starter Kit

LBB 7026/60 - BI-WAY OPERATOR'S UNIT

Dimensions (WxHxD)	93 x 65 x 224 mm
Weight (net)	350 g
Environmental condition	cat. T1, CE requirements
Supply voltage	12.0 V d.c. ±0.5 V
Current consumption	typ. 100 ma
	min. 42 ma, max. 180 ma
Output power, public side	max. 500 mW
Output power, operator's unit	max. 350 mW

LBB 7026/73 - BI-WAY EXTERNAL MICROPHONE

Type AKG C 400 BL	Hypercardioid, electret
Frequency range	150 - 12000 Hz ± 6dB
Dimensions (L x H x D)	43 x 24 x 12 mm
Sensitivity at 1000 Hz	13.5 mV/Pa, -37 dBV
Shielded cable	5 m

LBB 7026/80 - BI-WAY LOUDSPEAKER KIT

2 cabinets	silver brown ABS plastic
Dimensions (WxHxD), each	105 x 106 x 62 mm
Weight, each	180 g
Loudspeaker element	Philips AD 3071/Y50
Power capacity	2 W max.
Impedance	50 ohms
Cable length, total	10 m

LBB 7102/60 - POWER SUPPLY

Dimensions (WxHxD)	100 x 51 x 63 mm
Weight	450 g
Input voltage	230 V a.c. +6/-10%, 50-60 Hz
Mains connection	EURO PLUG
Output voltage	standard 12 V d.c. ±0.5 V
	adjustable range 5-15 V d.c.
Output current at 12 V	max. 500 mA (8 W)
Protection	Double insulated housing
	Thermal fuse in trafo, Thermal protected regulator

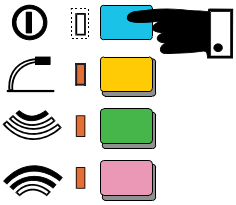
OPTIONAL EQUIPMENT

Gooseneck microphone	220 mm, Electret, 7.2 mV, 1 Kohm
Handset	LBB 7073/82
Headset with microphone	LBB 7072/26
Headset/mic. kit	LBB 7072/25
External microphone	Electret, 0.5-1.0 mV
Flush mount loudspeaker	> 2 W, 16 - 50 ohms
Hearing aid kit	max. 15 m^2 area coverage
Movement detector	I.R., 12 V d.c., N.O. switch contact

Further data are found in the instructions packed with the products.

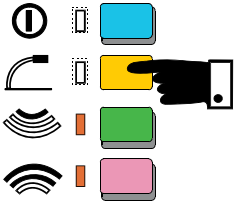
USER GUIDE
Normal Mode

Default setting



ON / OFF

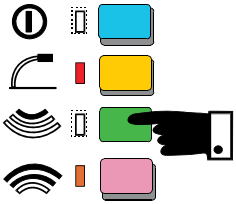
- Push the *blue* button once to turn ON the station
  LED is lit.
- Push once to turn OFF an active station
  LED is off.



MICROPHONE SELECTOR

The button is active only when a gooseneck microphone is mounted.

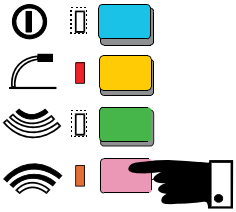
- Push the *yellow* button to toggle between built-in and gooseneck microphones.
  LED is lit when the gooseneck microphone is selected.



STANDBY

The sound is reduced by -6 dB.

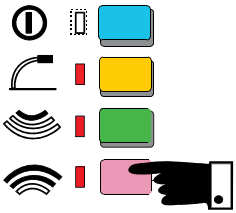
- Push the *green* button once to force speech direction towards the operator, LED is lit.
- Push again to return to duplex operation mode, LED is off.



SIMPLEX (in STANDBY mode)

'Standby' is selected, LED is lit.

- Push and hold the *pink* button to make an announcement to the public side. *The sound is increased by +6dB*, LED is off.
- Release the button to return to standby mode.

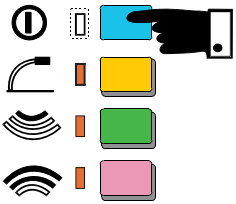


PUSH-TO-TALK (in DUPLEX mode)

The sound is increased by +6 dB.

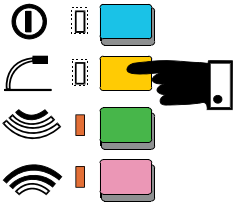
- Push and hold the *pink* button to force the speech direction towards the public side, LED is off.
- Release the button to return to duplex mode, LED is off.

USER GUIDE - Simplex Mode



ON / OFF

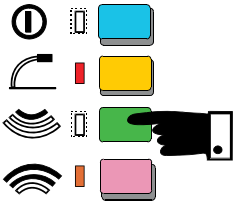
- Push the *blue* button once to turn ON the station
  LED is lit.
- Push once to turn OFF an active station
  LED is off.



MICROPHONE SELECTOR

The button is active only when a gooseneck microphone is mounted.

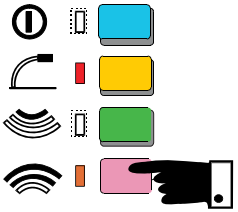
- Push the *yellow* button to toggle between built-in and gooseneck microphones.
  LED is lit when the gooseneck microphone is selected.



STANDBY

The sound is reduced by -6 dB.

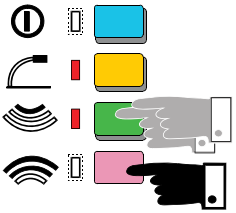
- Push the *green* button once to force speech direction towards the operator, LED is lit.
- Push again to return to duplex operation mode, LED is off.



SIMPLEX (in STANDBY mode)

'Standby' is selected, LED is lit.

- Push and hold the *pink* button to make an announcement to the public side, *The sound is increased by +6dB,* LED is off.
- Release the button to return to standby mode.



SIMPLEX (from DUPLEX mode)

'Standby' LED is off

- Push and hold the *pink* button to force speech direction towards public side, *normal sound level,* LED is lit.
- Release to listen, LED is still lit.
- Push the *green* standby button twice to return to duplex mode, LED is off.

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