IP DOOR STATION BOARD

N-8640SB

⚠ CAUTION

Use the specified AC adapter in combination.
Failure to do so may cause a fire.
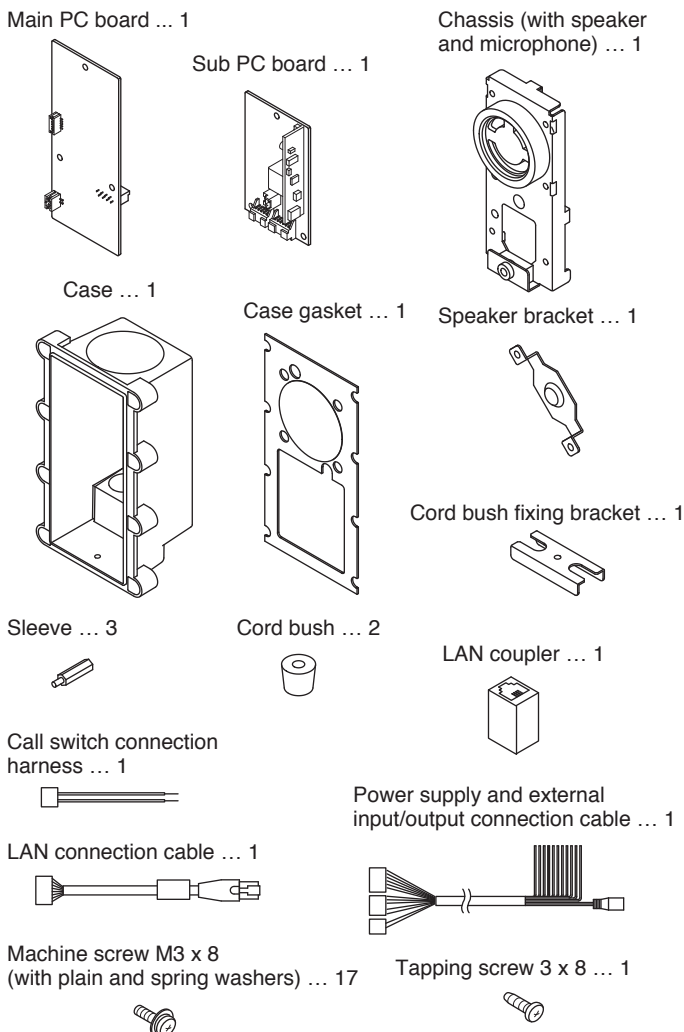
1. GENERAL DESCRIPTION

The N-8640SB is an IP door station assembly kit consisting of Main and Sub PC boards, cables, and mounting hardware (excluding the operation panel) of the N-8640DS IP door station.
You can make the IP door station suitable for applications using this kit in combination with the operation panel section to be prepared separately.
Use the N-8000 Setting Software* to perform settings. Set up the same items as those for the N-8640DS since the N-8640SB is handled as the N-8640DS on the software.
Settings and operations are the same as those of the N-8640DS. For details, read the descriptions about the N-8640DS in the N-8000 series instruction manual*.

* Available for download on the TOA product data download site (http://www.toa-products.com/international/).

2. COMPONENT PARTS

Main PC board ... 1

Sub PC board … 1

Chassis (with speaker and microphone) … 1

Case … 1

Case gasket … 1

Speaker bracket … 1

Cord bush fixing bracket … 1

Sleeve … 3

Cord bush … 2

LAN coupler … 1

Call switch connection harness … 1

Power supply and external input/output connection cable … 1

LAN connection cable … 1

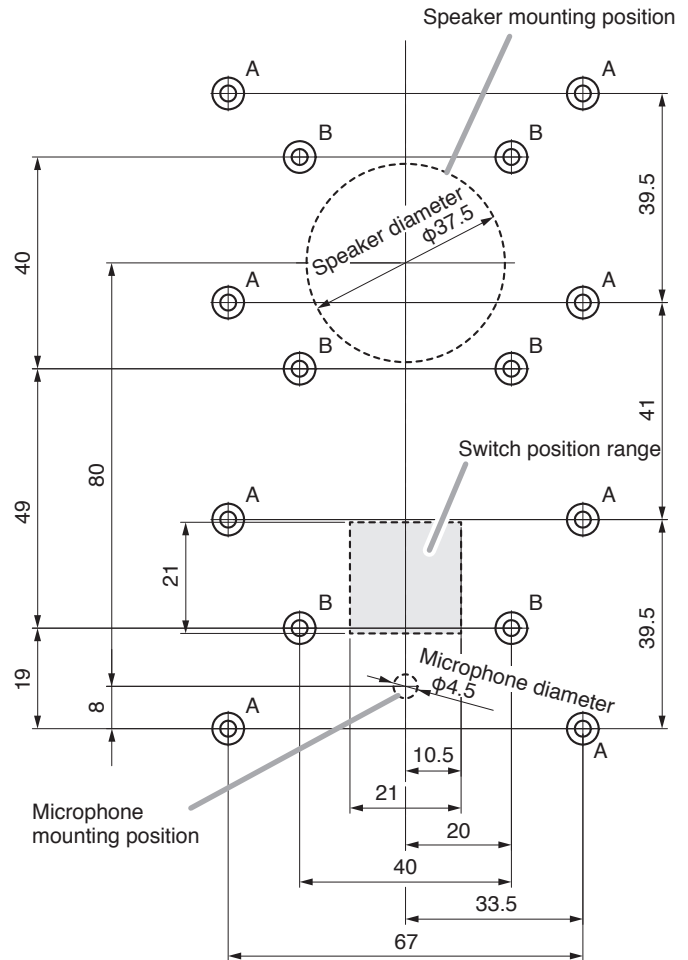Machine screw M3 x 8 (with plain and spring washers) … 17

Tapping screw 3 x 8 … 1

3. OPERATION PANEL DESIGN GUIDELINE

Note
The operation panel should be metallic, and grounded.

[Chassis and case mounting sleeve layout]

Unit: mm

- A: Case mounting sleeve position
- B: Chassis mounting sleeve position
- Sleeve height: 11 mm (from the panel's rear surface)
- Sleeves should be metallic.
- Speaker opening size should be roughly 30% of the area of a circle with the speaker's diameter.
- Microphone opening size should be roughly 70% or more of the area of a circle with the microphone's diameter.

[Notes on the Call switch]
- Position the Call switch within the range shown above.
- The Call switch's height should be 20 mm or less from the operation panel's rear surface.
- The Call switch should be of momentary type.
- When the above conditions could not be satisfied, provide an external call switch using the external control input cables.

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4. ASSEMBLING

Step 1. Place the Case gasket onto the operation panel, then screw the chassis and speaker bracket to the operation panel.

Step 2. Connect the connection cables and harness to the Main PC board, then secure the Main PC board to the chassis.

  2-1. Connect the speaker and microphone connection cables (fitted with a connector) from the chassis to the Main PC board. Connect between the Call switch on the operation panel and Main PC board using the Call switch connection harness.
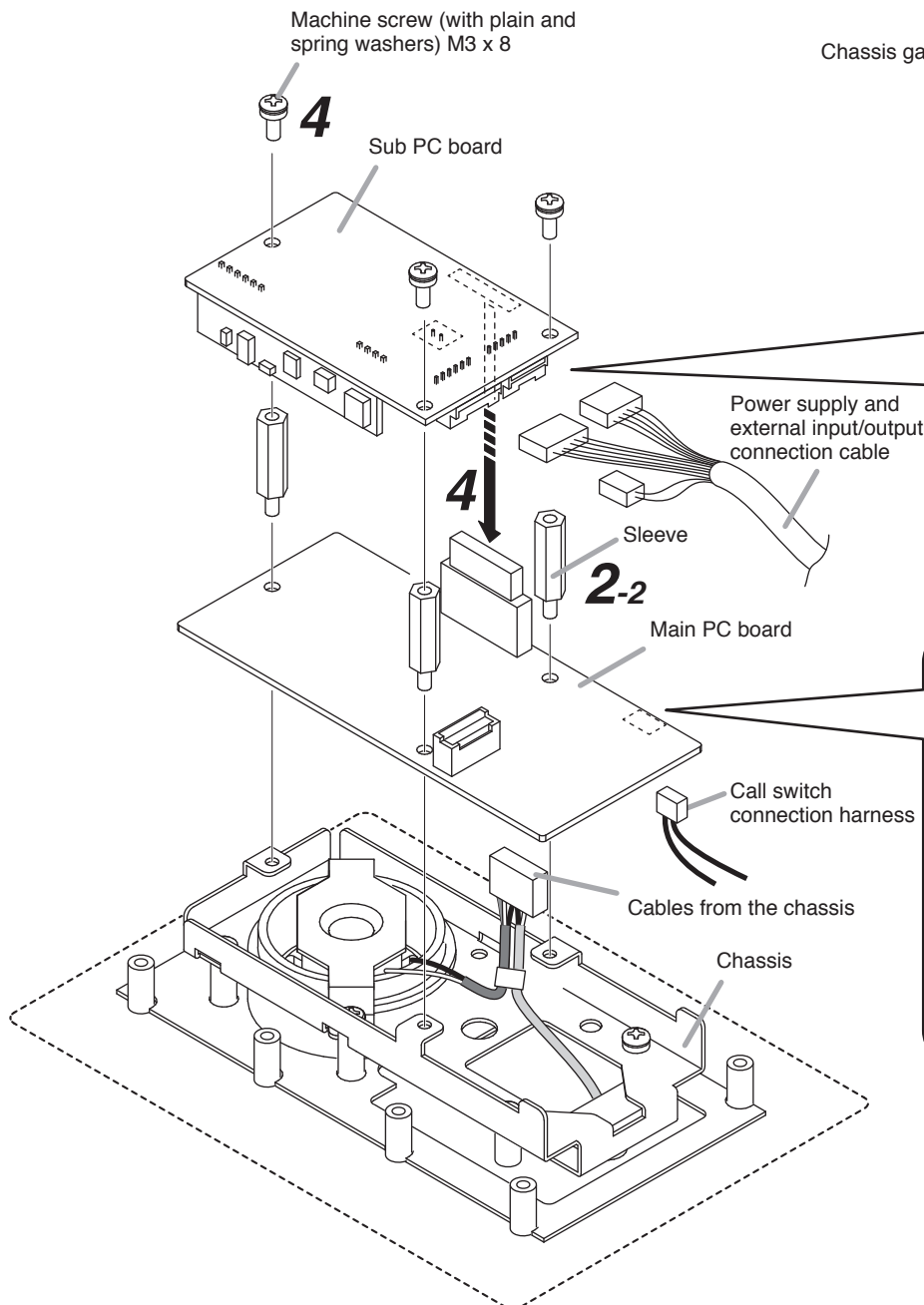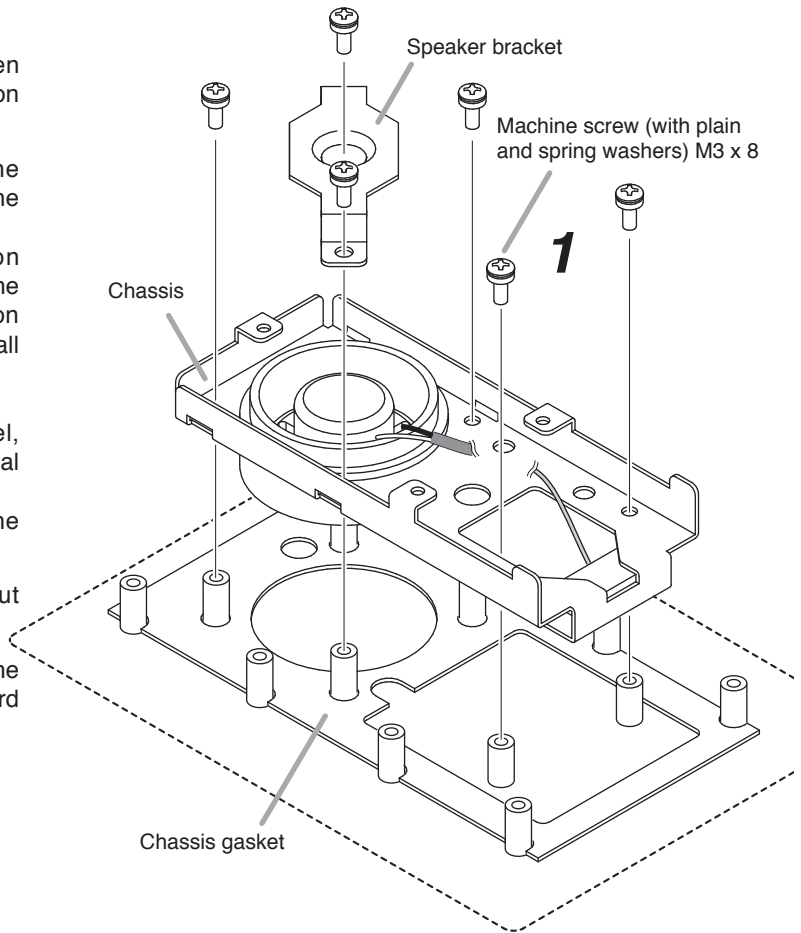
    Note

    If no Call switch is installed on the operation panel, connect the external control input cables to the external switch. (See Example 3 on p. 4, "Connections.")
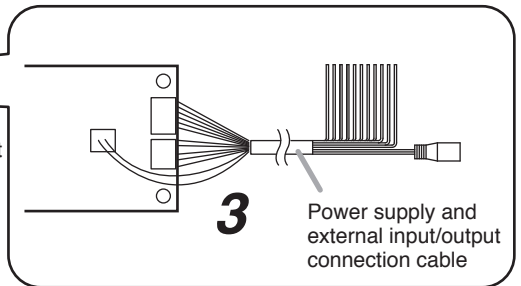
  2-2. Secure the Main PC board to the chassis using the sleeves.

Step 3. Connect the power supply and external input/output connection cable to the Sub PC board.

Step 4. Join the connector on the Sub PC board and that on the Main PC board together, then screw the Sub PC board onto the sleeves.

Speaker bracket

Machine screw (with plain and spring washers) M3 x 8

1

Chassis

Chassis gasket

Machine screw (with plain and spring washers) M3 x 8

4

Sub PC board

Viewed from the component side

Power supply and external input/output connection cable

3

Power supply and external input/output connection cable

4

Sleeve

2-2

Main PC board

Viewed from the rear side

Call switch connection harness

Cables from the chassis

Chassis

2-1

Cables from the chassis

Call switch connection harness

To the switch on the operation panel
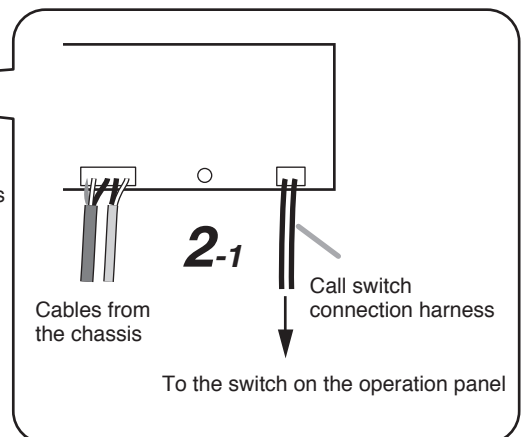
Step 5. Run the connection cables through the case's cable entry holes, then make cable connections.

5-1. Run the LAN connection cable through the case's cable entry hole on your left, then connect it to the LAN connector on the Main PC board.

5-2. Run the power supply and external input/output connection cable connected to the Sub PC board in step 3 through the other cable entry hole from the inside of the case, then pull it out.

**Step 6.** Screw the case to the sleeves fixed to the operation panel.

Step 7. Secure the cables to the case.

7-1. Install the cord bush to each cable.

7-2. Screw the cord bush fixing bracket to the case while pressing both cord bushes with it.

[Dimensional diagram for the completed assembly]

Unit: mm

53

134

79

69

IP DOOR STATION BOARD
model N-8640SB
TOA Corporation
MADE IN JAPAN

(135)

(130)
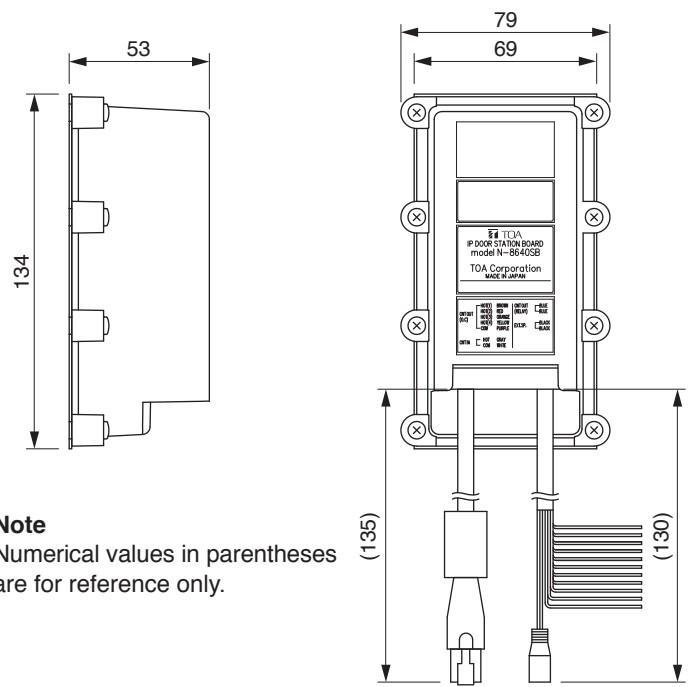
Note
Numerical values in parentheses are for reference only.

Machine screw (with plain and spring washers) M3 x 8

6

Case

Cord bush

7-1

Note
A slit is provided on each cord bush. Install the cord bush with its slit facing inward.

Power supply and external input/output connection cable

5-2

Cord bush fixing bracket

LAN connection cable

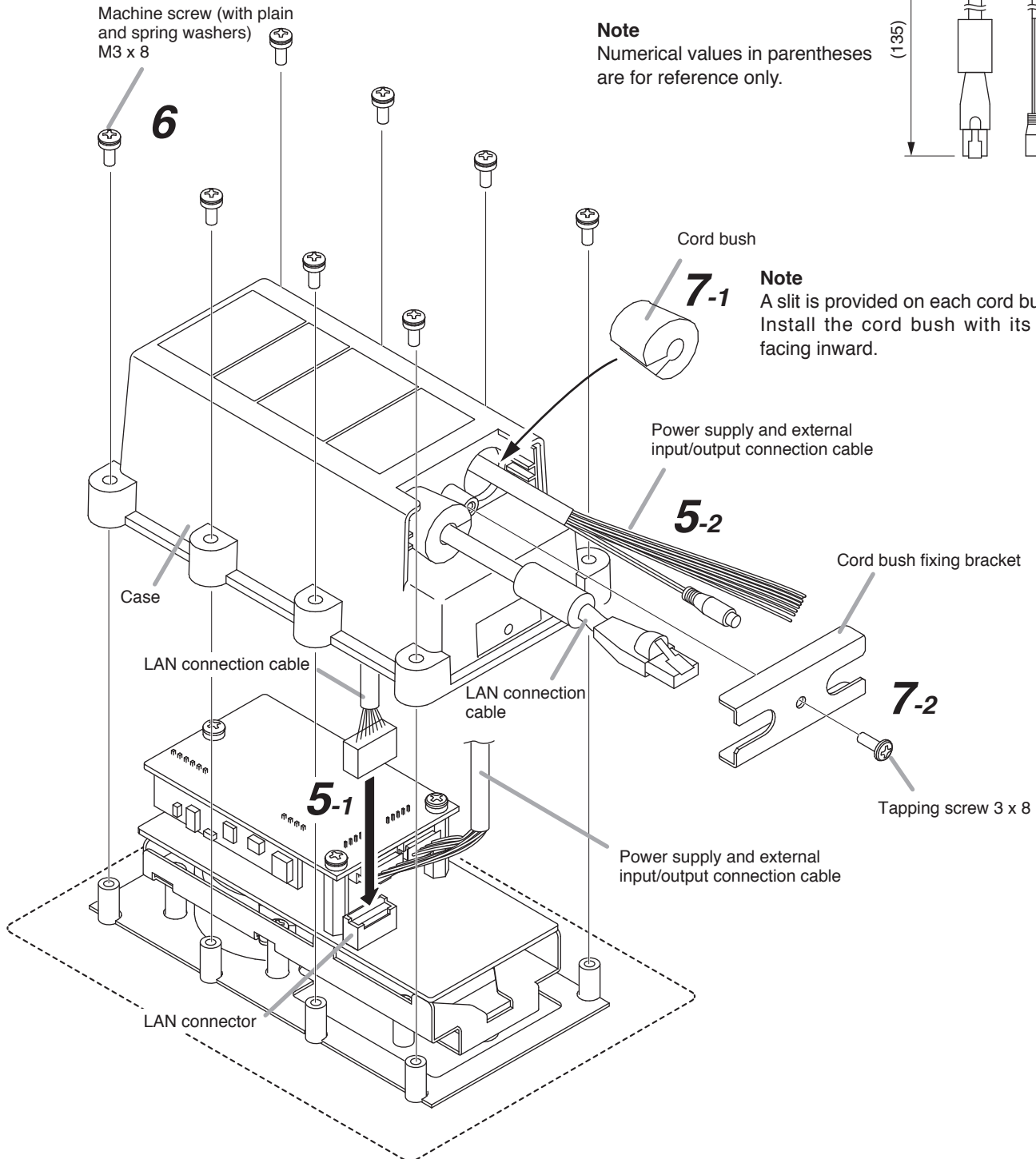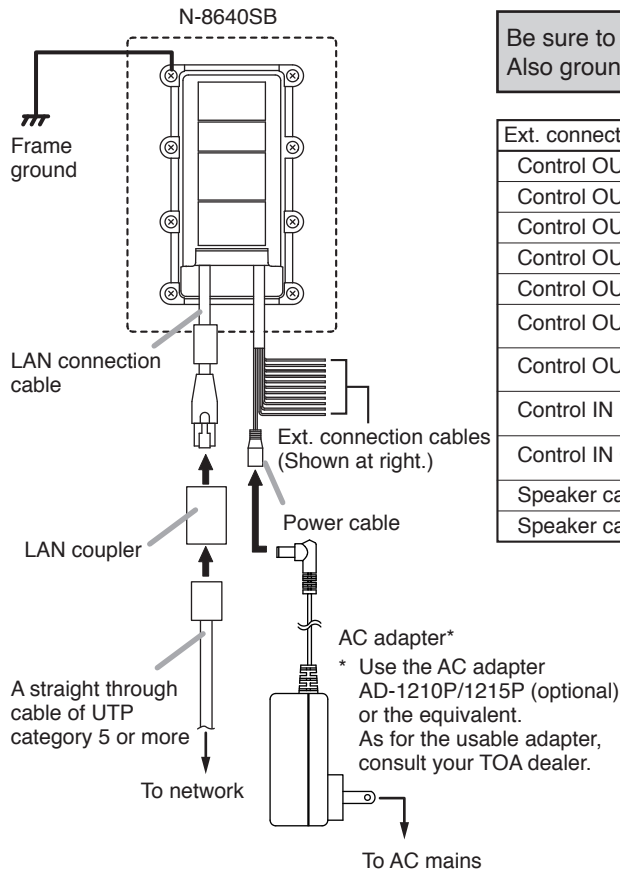LAN connection cable

7-2

5-1

Tapping screw 3 x 8

Power supply and external input/output connection cable

LAN connector

5. CONNECTIONS

N-8640SB

Frame ground

LAN connection cable

LAN coupler

A straight through cable of UTP category 5 or more

To network

Ext. connection cables (Shown at right.)

Power cable

AC adapter*
* Use the AC adapter AD-1210P/1215P (optional) or the equivalent. As for the usable adapter, consult your TOA dealer.

To AC mains

Note: Connecting the station to a PoE (Power over Ethernet) switching hub compliant with IEEE802.3af eliminates the need for an AC adapter.
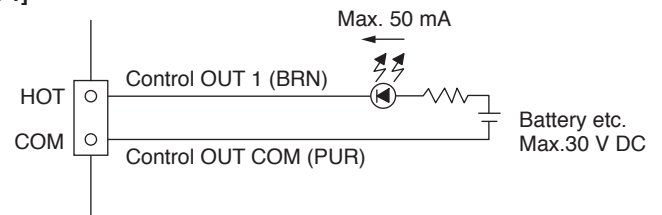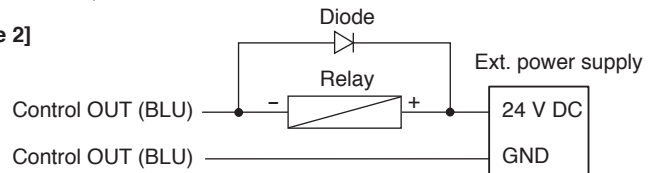
Be sure to ground the N-8640SB's frame ground terminal. Also ground the electrical box if used.

Ext. connection cables	Color	Specifications	Connected device	Reference
Control OUT 1	BRN	Open collector OUT Withstand voltage: 30 V DC Max. control current: 50 mA	An indicator or other external equipment	Example 1
Control OUT 2	RED			
Control OUT 3	ORG			
Control OUT 4	YEL			
Control OUT COM	PUR			
Control OUT	BLU	Relay contact OUT Withstand voltage: 30 V DC Max. control current: 500 mA	An electronic lock or other external equipment	Example 2
Control OUT	BLU			
Control IN HOT	GRY	No-voltage closed contact IN Open voltage: 5 V DC Short-circuit current: 10 mA or less	A switch, sensor, or other external equipment	Example 3
Control IN COM	WHT			
Speaker cable	BLK	Max. OUT 0.5 W 8Ω	Ext. speakers (8 Ω, 0.6 W or more)	―
Speaker cable	BLK			

[Example 1]

Max. 50 mA

HOT — Control OUT 1 (BRN) — Battery etc. Max.30 V DC

COM — Control OUT COM (PUR)

[Example 2]

Diode

Control OUT (BLU) — – Relay + — Ext. power supply 24 V DC

Control OUT (BLU) — GND

[Example 3]

Control IN HOT (GRY)

Control IN COM (WHT)

6. SPECIFICATIONS

Power Source	Power supply device that complies with IEEE802.3af standard or 12 V DC (supplied from the AC adapter)
Power Consumption	Use of the AC adapter (12 V DC): 3.5 W (station only), Use of the PoE (48 V DC): 5 W
Speech Method	Hands-free conversation
Audio Frequency Range	300 Hz – 7 kHz
Hands-free	Speaker: 3.5 cm cone-type, maximum output 0.5 W, 8 Ω Microphone: Omni-directional electret condenser microphone
Control Input	1 channel, no-voltage make contact input, open circuit voltage: 5 V DC, short-circuit current: 10 mA or less, unterminated ends
Control Output	Open collector output, 4 channels, withstand voltage: 30 V DC, control current: Max. 50 mA (4 output 1 COMMON), unterminated ends Relay contact output, 1 channel, withstand voltage: 30 V DC, control current: Max. 500 mA, unterminated ends
External Speaker Output	Maximum output 0.5 W, 8 Ω, unterminated ends
Network Section	Network I/F: 10BASE-T/100BASE-TX (Automatic-Negotiation) Network Protocol: TCP/IP, UDP, HTTP, RTP, ARP, ICMP, IGMP Audio Packet Transmission System: Unicast, Multicast Number of Paging Destinations: 0 Note: Reception only LAN Connector: RJ-45 connector (PoE compatible) Voice Sampling Frequency: 16 kHz, 8 kHz (controllable on the software) Quantifying Bit Number: 16-bit Voice Encoding Method: Sub-band ADPCM, Cryptosystem Voice Packet Loss Recovery: Silence insertion Audio Delay Time: 80 ms, 320 ms (controllable on the software)
Operating Temperature	−10 to +50°C
Operating Humidity	Under 90 % RH (no condensation)
Dimensions	79 (w) x 134 (h) x 53 (d) mm (Complete assembly of parts)
Weight	350 g (Total weight)
Optional Products	AC adapter: AD-1210P or AD-1215P

Note: The design and specifications are subject to change without notice for improvement.

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