These Master Stations are designed to connect to the IP Intercom Exchange, and provide hands-free conversation of high sound quality.

Using an optional YC-280 Wall Mounting Bracket, these stations can be mounted on a wall, or tilted for easy key operation when used on a desktop.

**Warning**
This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

### 1. WALL MOUNTING

The station can be mounted on a wall using an optional YC-280 wall-mounting bracket. The YC-280 can be installed to JIS standard one gang switch box.

#### 1.1. Mounting Example

1. **Step 1.** Install the YC-280 wall mounting bracket to the wall.

   **Notes**
   - Use the appropriate screws for the construction of wall.
   - Wooden screws 3.5 x 20 are supplied with the YC-280.
   - No fitting screws for switch box are supplied with. Use commercially available screws.

2. **Step 2.** Hang the station on the wall mounting bracket hook to install.

   Push down the station main body in the direction indicated by the arrow.

#### 1.2. Installation Completion Drawing

**[N-8000MS/8010MS]**

**[N-8020MS]**

#### 1.3. YC-280 Dimensional Drawing

**Rubber foot mounting position (desk-top application)**

**Unit:** mm

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TOA Corporation
2. WALL MOUNTING
When mounting the station on a wall, the orientation of the handset hook needs to be changed.

2.1. N-8000MS or N-8010MS Station
Step 1. Raise the number directory cover forward tab.

Step 2. Remove both the number directory cover and the directory. Remove the handset hook and reverse its orientation, then replace.

Step 3. After replacing the directory on the station, hook the directory cover's forward tab and push on the upper part of the directory cover.

2.2. N-8020MS Station
Remove the handset hook and reverse its orientation.

3. DESK-TOP INSTALLATION
In desktop installations, the front operation panel can be inclined 16° from the desk surface for easier operation by attaching the YC-280 Wall Mounting Bracket to its bottom surface.

3.1. Mounting Example
Hang the wall mounting bracket hook on the station's wall bracket mounting slot to install. Push up the Wall mounting bracket in the direction indicated by the arrow.

3.2. Installation Completion Drawing

Note
The figure shows the N-8000MS.
4. WIRING

4.1. Connection Diagram

(1) Station connection
To connect the cables from the N-8000EX Exchange to the Master Station, use the connection cable* and a commercially available RJ-11 modular jack. These cables have no polarity.

* The connection cable is supplied with the station (N-8000MS/8010MS), while that of the N-8020MS is directly attached to the unit.

(2) External speaker terminals and control output terminals connections

[N-8000MS]
These terminals are designed for exclusive connection with external speakers. Press down the desired push-in terminal button on the rear panel with a tip of standard driver, and insert the cable securely.

[N-8020MS]
Follow the procedure below for external speaker terminals and control output terminals connections.

Step 1. Remove a protection cover. Unscrew the 3 fitting screws securing the protection cover.

Step 2. Pull out a protection cap on the desired terminal.
Note: Do not remove the protection cover on the unused terminal.

Step 3. Run the cable through the protection cover removed, and then connect it to the push-in terminal.

Note: For the type of cables, refer to p.4, The Type of Cables.

Step 4. After inserting the cables in the supplied rubber bushing, insert the bushing into the station, then put the protection cover back in place.

Since wire leads can be pinched, make them as short as possible.


4.2. The Type of Cables

The types of cables are to be determined according to the following conditions.

- Twisted pair wires (such as those used for electronic push-button telephone) are to be used for wiring between the Exchange and the stations in principle.
- The number of cables pairs laid should be determined considering the possibility of future expansion of the system.
- Outdoor wires should be used where wiring passes through inaccessible areas such as ceilings or under floors where the maintenance is not performed. Indoor wires may also be used, however, in case where there is no risk of deterioration due to exposure to heat, etc.

Note
Specifications related to each junction are as follows.

Mini-clamp connector (N-8000EX line terminal)
- Conductor diameter: ø 0.4 – 0.65 mm (AWG22 – 26), Solid wire
- Outside diameter: ø 1.05 mm or below

Clip terminal (E-7000TB)
- Conductor diameter: ø 0.4 – 0.8 mm (AWG20 – 26), Solid wire
- Outside diameter: ø 1.5 mm or below

4.3. Relations Between Core Diameter of Cable and Maximum Cable Length

Referring to the following chart as guidelines, design the distance between the Exchange and stations so that loop resistance value becomes 170 Ω or less.

<table>
<thead>
<tr>
<th>Conductor diameter (mm)</th>
<th>Loop resistance (Ω/km)</th>
<th>Maximum cable length between the Exchange and station (Assuming that the loop resistance is 170 Ω)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø 0.4</td>
<td>295</td>
<td>570 m</td>
</tr>
<tr>
<td>ø 0.5</td>
<td>187</td>
<td>900 m</td>
</tr>
<tr>
<td>ø 0.65</td>
<td>113</td>
<td>1.5 km</td>
</tr>
<tr>
<td>ø 0.9</td>
<td>58</td>
<td>2.9 km</td>
</tr>
</tbody>
</table>

4.4. Mini-Clamp Connector Connection

Mini-clamp connectors for line terminals are supplied with the N-8000EX Exchange. Connect the mini-clamp connector to a cable using a commercially available tool (pliers).

Step 1. Cut off two-cable ends in equal length, and insert them securely to a cover section (transparent side) of the mini-clamp connector.

Note
Insert the cable without stripping the cable jacket.

Step 2. With a pair of pliers, lightly pinch the mini-clamp cover and, after ensuring that the cable is securely inserted, firmly squeeze on the cover.

Note
Squeeze on the mini-clamp cover until it is correctly locked.

Step 3. Insert the wired connector (plug) into the exchange’s connector (socket) until it locks into place.