Remote Microphone RM-200M
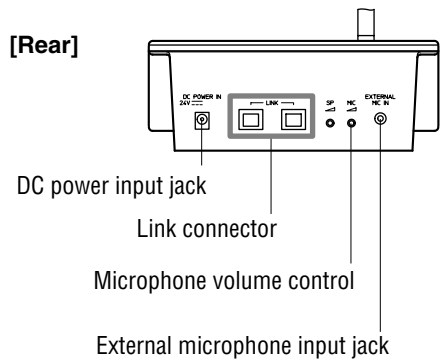
[Top]

- Groups 1&2 broadcast key
- Name label
- Zone indicator
- Gooseneck microphone
- Name label
- Power indicator
- Failure indicator
- Emergency indicator
- Emergency broadcast switch
- Groups 1&2 indicator
- Zone selector key
- Zone/Message selector key
- Talk key
- Zone/Message indicator
- All-zone indicator
- In-use indicator
- All-zone broadcast key
- Busy indicator

[Right Side]

- Gooseneck microphone
- Function setting switch
- Extension connector

[Rear]

- DC power input jack
- Link connector
- Microphone volume control
- External microphone input jack

Remote Microphone Extension RM-210

[Top]

- Zone/Message indicator
- Name label
- Zone/Message selector key

[Left Side]

- Extension connector
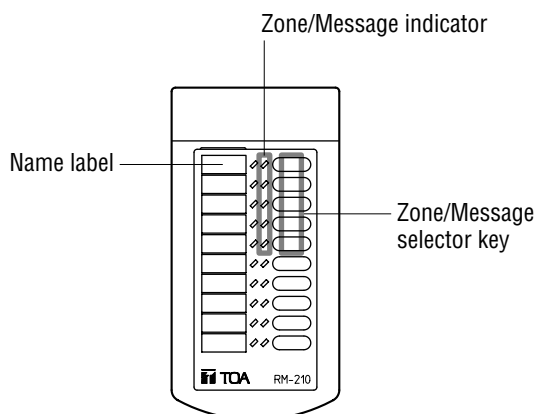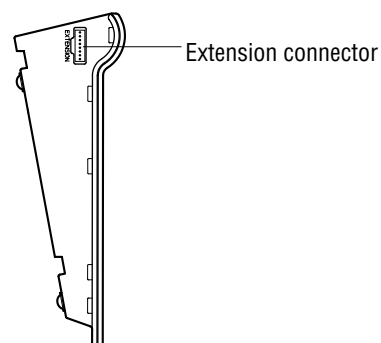
RM-200M Remote Microphone

The RM-200M Remote Microphone connects to the VM-3360VA or VM-3240VA for the purpose of making general broadcast announcements. It communicates with the VM-3360VA or VM-3240VA through its RS-485 interface. Zone selection or automatic announcement start can be assigned to the function key using the dedicated software. No emergency broadcasts can be made with this microphone.
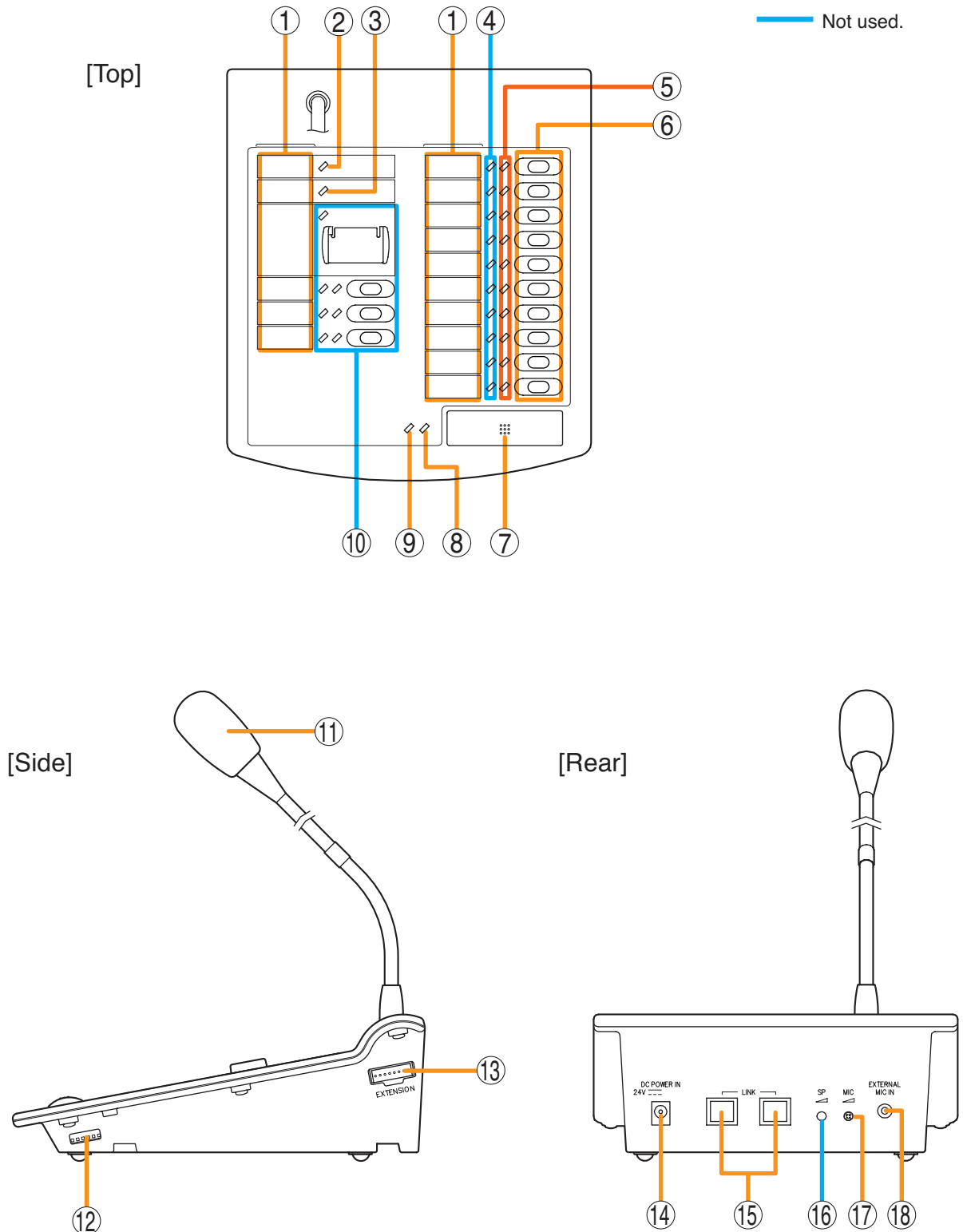
[Top]

[Side]

[Rear]

Not used.

1. Indication Label Holder

Write the name, purpose, etc. of the indicator and key on a label and insert the label into the holder from the top. Labels can be printed using the setting software. (For more information, refer to "Printing Remote Microphone Labels" in the separate software manual.)

2. Power Indicator (green)

Lights when power is supplied to the unit.

3. Communication Failure Indicator (yellow)

Flashes when a failure is detected in communications with the VM-3360VA or VM-3240VA.

4. Not used.

Lights when the system is in emergency status.

5. Broadcast Zone / Automatic general broadcast Announcement Start Indicators (green)

Indicator's function assigned to each indicator is determined by software settings.
Broadcast Zone Indicators
Light when their corresponding zones are selected.
Automatic general broadcast Announcement Start Indicators
Light when an automatic announcement is started.

6. Broadcast Zone Selector / Automatic general broadcast Announcement Start Keys

Key function assigned to each key is determined by software settings.
Broadcast Zone Selector Keys
Select broadcast zones. Pressing the Talk key (7) after zone selection allows microphone announcements to be broadcast over the selected zone(s).
Automatic general broadcast Announcement Start Key
Automatic general broadcast announcements are broadcast over the selected zone(s).

7. Talk Key

This key is used for general broadcast microphone announcements. Pressing the Talk key after zone selection allows microphone announcements to be broadcast over the selected zone(s).

8. Talk Indicator (green)

Lights when the Talk key (7) is pressed.

9. External Microphone In-Use Indicator (orange / green)

Flashes when a paging call is made from the external remote microphone.
Orange: Indicates the mode that disables broadcasts from the unit.
Green: Indicates the mode that allows the unit to interrupt broadcasts from external equipment.

10. Not used.

11. Microphone

Used for making announcements.

12. DIP Switch

Used to set the unit ID number and equipment functions. (Refer to "DIP Switch Functions" on page 89.)

Switches 1 and 2
Set the ID number of the Remote Microphone.
Default setting: ON
(Refer to "Unit ID Number Settings" on page 90.)
Switch 3
Not used.
Default setting: ON
Switch 4
Sets the Talk key's operating system.
Default setting: ON
(Refer to "Talk Key Settings" on page 91.)
Switch 5
Not used.
Default setting: ON
Switch 6   [COMPRESSION]
Enables/disables compression.
Default setting: ON
(Refer to "Compression Settings" on page 90.)

13. RM-210 Connector   [Extension]

Connect the added RM-210 Remote Microphone Extension to this connector.

14. Power Supply Input Connector

The VM-3360VA or VM-3240VA can only supply power to one RM-200M Remote Microphone. Connect the power supply to this connector when using multiple Remote Microphones or Fireman's Microphone Extensions.

15. Link Connector (RJ45 Connector)

Connects to the VM-3360VA's, VM-3240VA's, RM-300MF's or other RM-200M's LINK connector.

16. Not used.

17. Microphone Volume Control

Adjusts the volume of the unit's microphone (11).
Rotate clockwise to increase the microphone volume. Rotate counterclockwise to decrease the microphone volume.

18. External Microphone Input Jack (3.5 mm mini jack)

An electret condenser microphone can be connected to this terminal. Connecting a microphone to this jack disables the unit's microphone (11).

RM-210 Remote Microphone Extension

The RM-210 is an expansion unit for the RM-200M Remote Microphone. Up to 4 Expansion Units can be added, expanding the available function keys to up to 10 per unit. Zone selection or automatic announcement start functions can be assigned to each function key using the dedicated software. Only the right-side indicators are used.
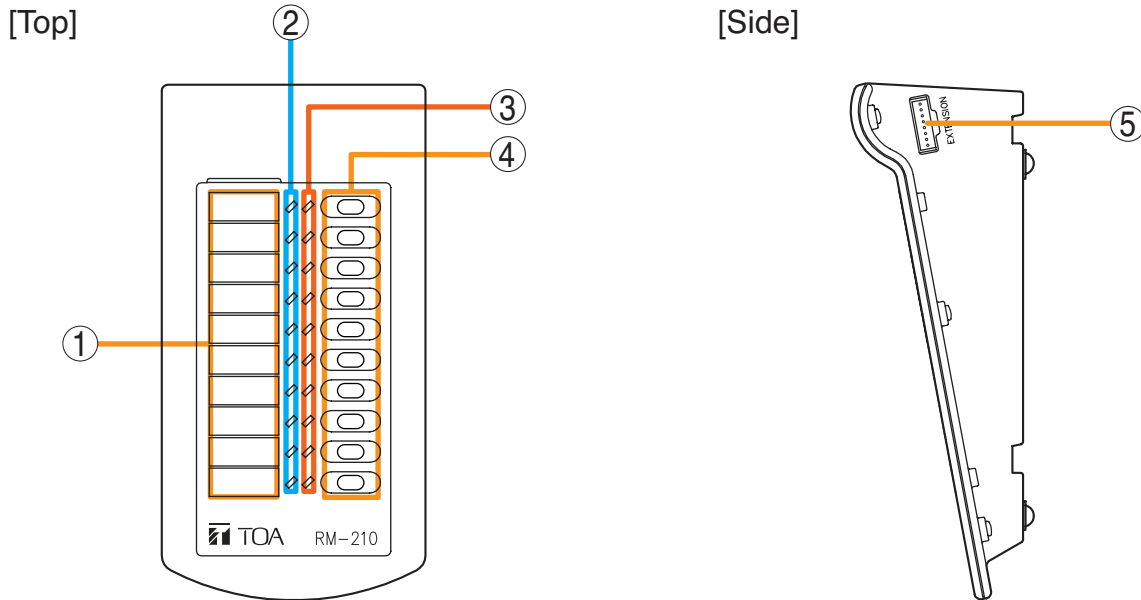
[Top]

[Side]

1. Indication Label Holder

Write the name, purpose, etc. of the indicator and key on a label and insert the label into the holder from the top. Labels can be printed using the setting software. (For more information, refer to "Printing Remote Microphone Labels" in the separate software manual.)

2. Not used.

3. Broadcast Zone / Automatic Announcement Start Indicators (green)

Indicator's function assigned to each indicator is determined by software settings.
Broadcast Zone Indicators
Light when their corresponding zones are selected.
Automatic general broadcast Announcement Start Indicators
Light when an automatic announcement is started.

4. Broadcast Zone Selector Keys/ Automatic Announcement Start Keys

Key function assigned to each key is determined by software settings.

Broadcast Zone Selector Keys
Select broadcast zones. Pressing the RM-200M Remote Microphone's Talk key (7) after zone selection allows microphone announcements to be broadcast over the selected zone(s).
Automatic general broadcast Announcement Start Key
Automatic general broadcast announcements are broadcast over the selected zone(s).

5. Connector [Extension]

Connect the RM-200M Remote Microphone or additional RM-210 Remote Microphone Extension to this connector.
The same terminal is provided on the other side as well.

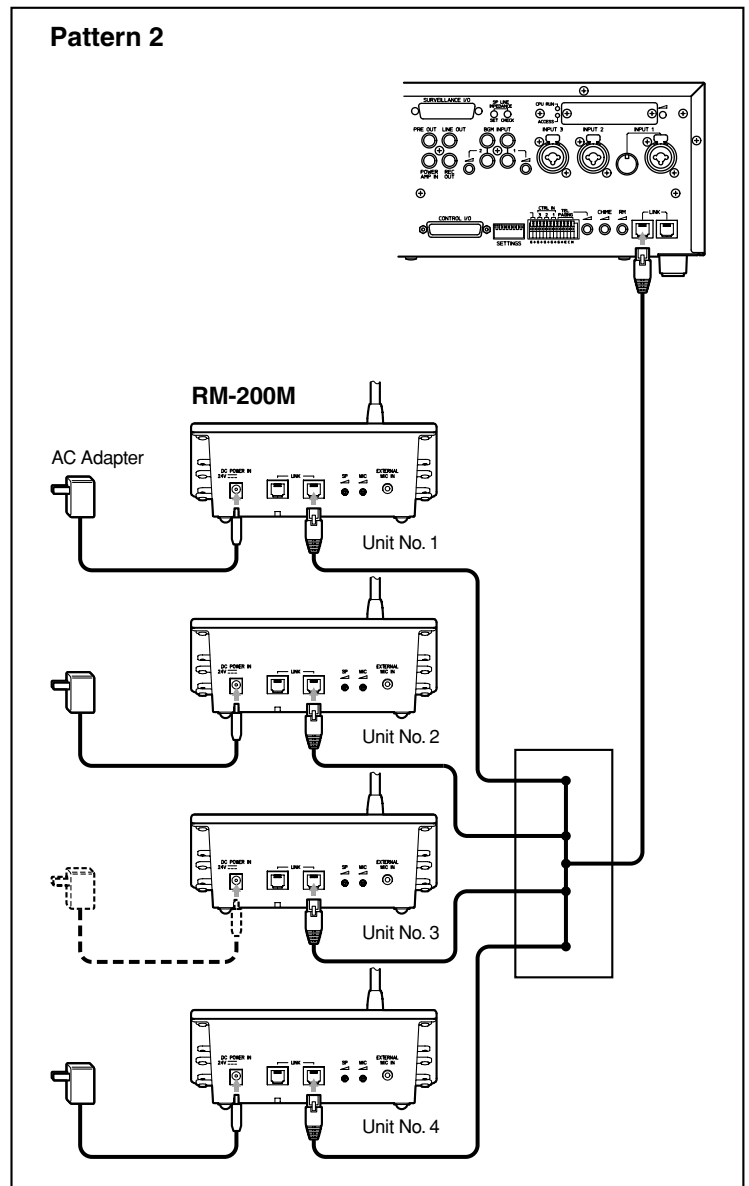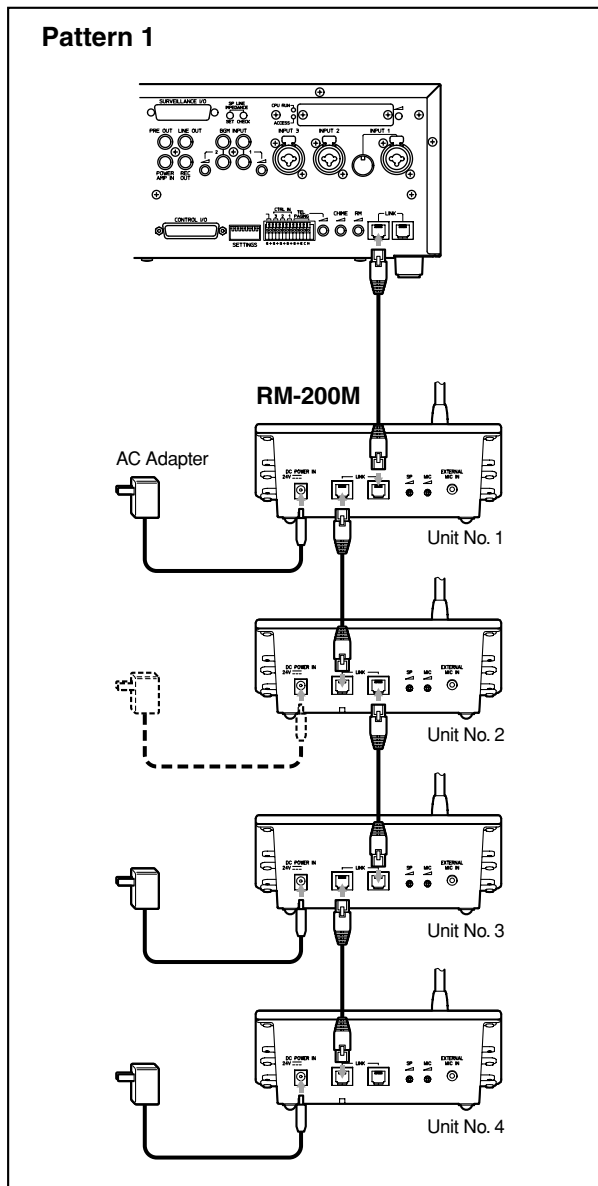## VM amplifier Connection to the Remote Microphone (Pattern 1)
[Operation]
All 4 Remote Microphones connected to the VM amplifier can enable the same operation. Two different priority levels can also be assigned to the connected Remote Microphones, depending on application.
[Connection]
Connect each Remote Microphone in series using the Category 5 STP cable and RJ-45 connectors.

VM-2000 Connection to the Remote Microphone (Pattern 2)
Install a terminal panel between the VM amplifier and the Remote Microphone to sort wiring from each remote control unit. The terminal panel also contributes to more adequate and economical cable routing, depending on construction conditions.

Pattern 1

RM-200M

AC Adapter

Unit No. 1

Unit No. 2

Unit No. 3

Unit No. 4

Pattern 2

RM-200M

AC Adapter

Unit No. 1

Unit No. 2

Unit No. 3

Unit No. 4

Using the specified cable, connect between the VM amplifier(s) and Remote Microphone(s) via their LINK connectors. They can be connected in any order. (Two connection examples are shown.)

Connection example 1
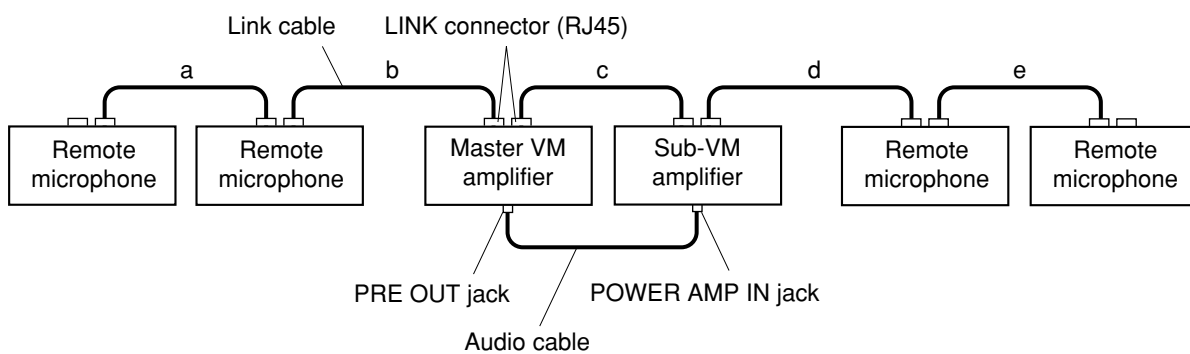
Link cable   LINK connector (RJ45)

| a | b | c | d | e |

| Remote microphone | Remote microphone | Remote microphone | Remote microphone | Master VM amplifier | Sub-VM amplifier |

PRE OUT jack   POWER AMP IN jack

Audio cable

Connection example 2

Link cable   LINK connector (RJ45)

| a | b | c | d | e |

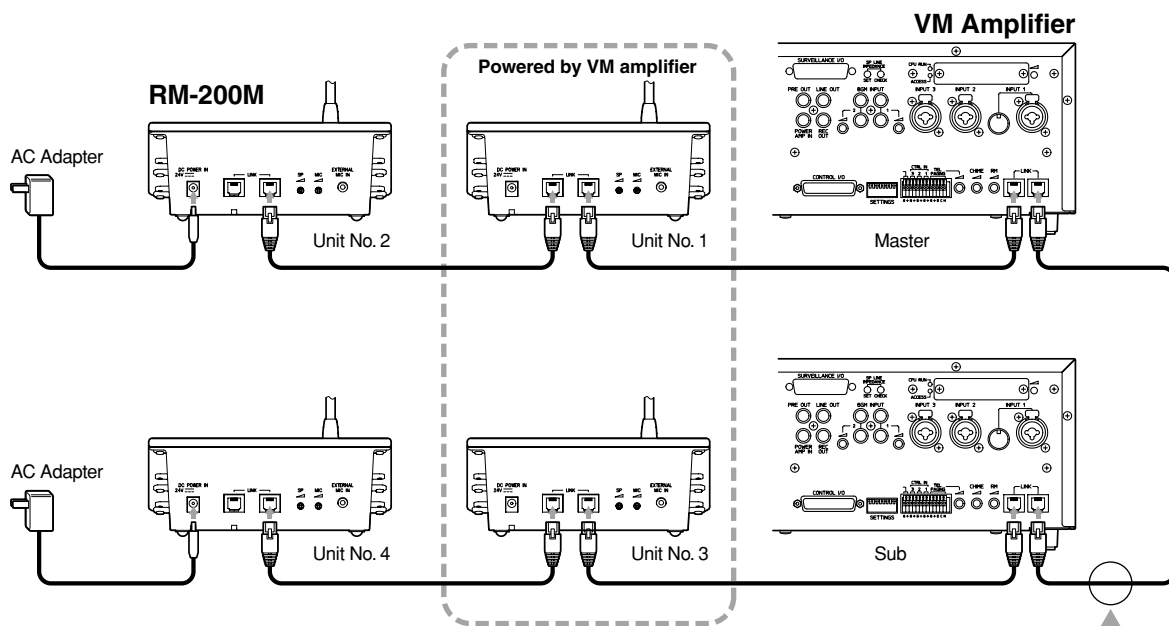| Remote microphone | Remote microphone | Master VM amplifier | Sub-VM amplifier | Remote microphone | Remote microphone |

PRE OUT jack   POWER AMP IN jack

Audio cable

- TIA/EIA-568A standard Category 5 Shielded Twisted-Pair cable (straight type) Abbreviated to "Cat. 5 STP cable."
- The total length of LINK-to-LINK connection cables (Link cables) must be under 800 m (when connected using Category 5 STP cable).

$$a + b + c + d + e \leqq 800 \text{ m}$$

When building a system in which 2 or more Remote Microphones are to be connected to each of two VM amplifiers, a system that eliminates the necessity of an AC adapter for the first RM-200M connected to each VM amplifier can be created by modifying the link cable between the two VM amplifiers.

VM Amplifier

RM-200M

AC Adapter

Powered by VM amplifier

Unit No. 2   Unit No. 1   Master

Unit No. 4   Unit No. 3   Sub

AC Adapter

[Connection]

Disconnect power supply pins 1, 2, 7 and 8 from the link cable, and connect the two VM amplifier units.

Master VM Amp

SJP1401

SJP1402

IT-450

RM

EBA

DC Power Supply

SJP1403

Sub VM Amp

SJP1401

SJP1402

RM

EBA

DC Power Supply

SJP1403

| Pin No.	Colour	Pair	Assignment
1	orange/white		Power +24V
2	orange		Power GND
3	green/white		RS-485 (H)
4	blue		Audio signal (H)
5	blue/white		Audio signal (C)
6	green		RS-485 (C)
7	brown/white		Power +24V
8	brown		Power GND
Chassis	—		GND (shield)
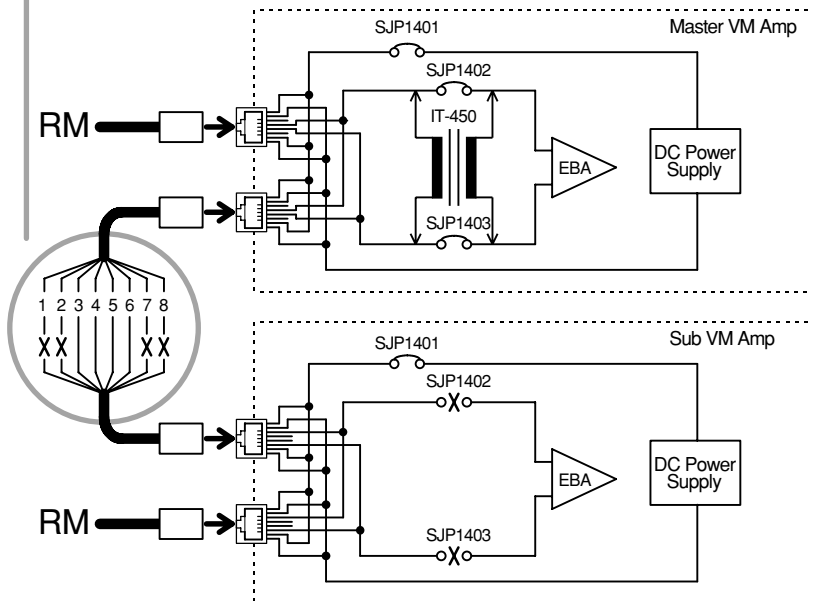
In the VM amplifier system, the VM-2120 or the VM-2240 can be expanded as a sub-amplifier to increase the number of broadcast zones. Even in this case, the number of input channels and the EV-200's functions remain unchanged.

A maximum system employing a single master amplifier.

Sub-amplifier: 8 units
Number of zones: 45 zones
Remote control unit (RM-200M): 4 units

If the number of zones is increased, the number of zone selection switches will become insufficient. To permit individual broadcasts to such added zones, connect an Expansion unit to each remote control unit to increase the number of zone selection switches. Up to 4 Expansion units (RM-210) can be added to each remote control unit.
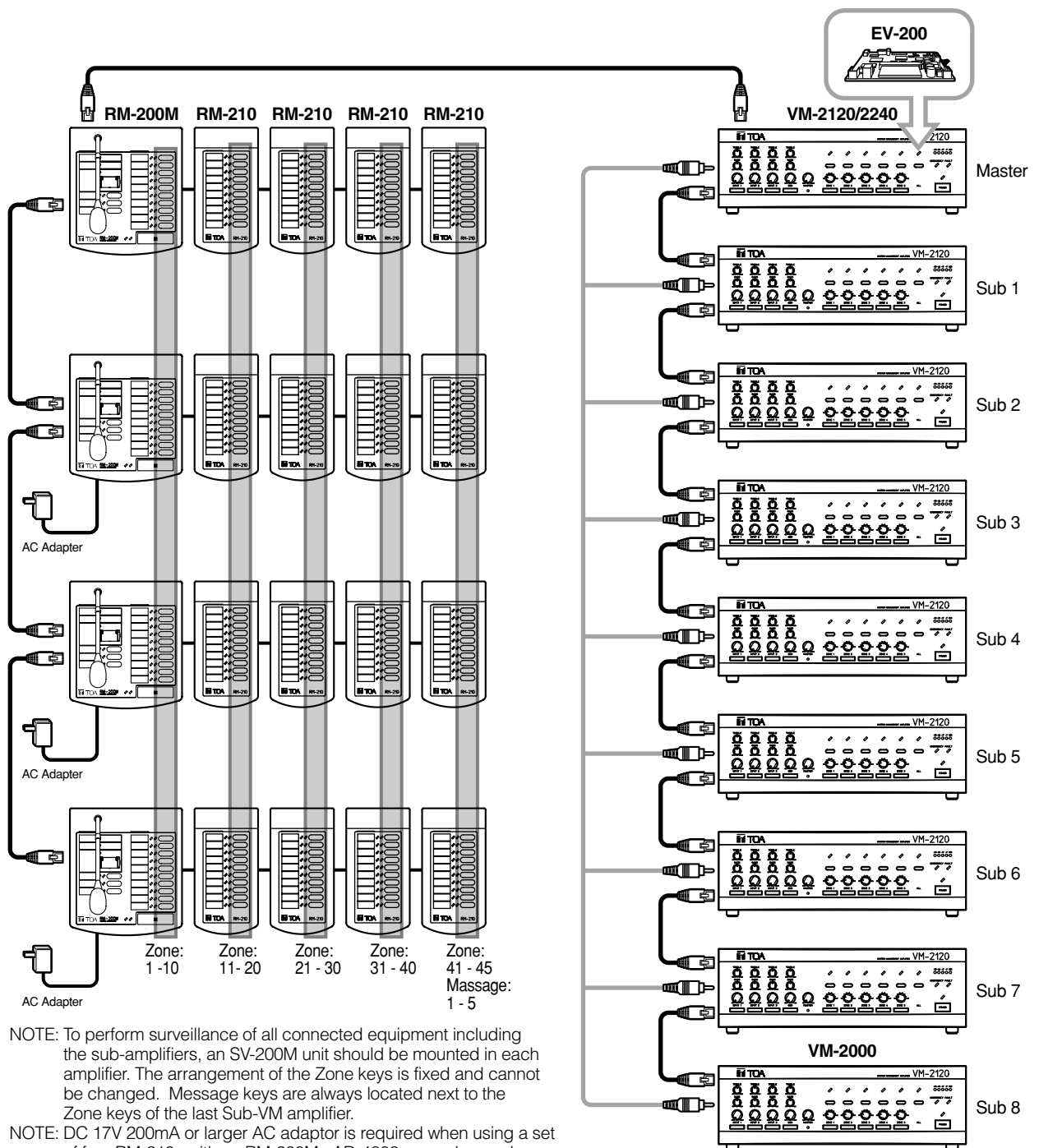
NOTE: To perform surveillance of all connected equipment including the sub-amplifiers, an SV-200M unit should be mounted in each amplifier. The arrangement of the Zone keys is fixed and cannot be changed. Message keys are always located next to the Zone keys of the last Sub-VM amplifier.

NOTE: DC 17V 200mA or larger AC adaptor is required when using a set of four RM-210s with an RM-200M. AD-4800 can only supply power enough with a set of three RM-210s.

RM-200M Remote Microphone

Power Source	24 V DC (operating range: 14 – 28 V DC) Power input jack: Non-polarity type Usable power input plug*1: Outer diameter ø5.5 mm, inner diameter ø2.1 mm, length 9.5 mm
Current Consumption	100 mA or less
Audio Output	0 dB*2, 600 Ω, balanced
Frequency Response	100 Hz – 20 kHz
Distortion	1% or less
S/N Ratio	60 dB or more
Microphone	Unidirectional electret condenser microphone
Function Key	Number of keys: 10 Function: "Broadcast zone selector" or "Automatic general broadcast Announcement Start" (Either function is assigned to individual keys by the dedicated software.)
Volume Control	Microphone volume control
Connection and Cable Connector	Category 5 Shielded Twisted-Pair straight cable, RJ45 connector
Finish	ABS resin, blueish gray (PANTONE 538 or its equivalent)
Dimensions	190 (w) x 76.5 (h) x 215 (d) mm (Gooseneck microphone excluded)
Weight	750 kg

*1 Use the AC adapter AD-246 or equivalent.

*2 0 dB = 1 V

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

・ **Accessories**
Link cable (3 m) 1

RM-210 Remote Microphone Extension

Current Consumption	20 mA max. (in terms of RM-200M's DC power input)
Connection	Connection to RM-200M by way of dedicated cable
Number of Function Keys	10
Finish	ABS resin, blueish gray (PANTONE 538 or its equivalent)
Dimensions	110 (w) x 76.5 (h) x 215 (d) mm
Weight	350 g

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

・ **Accessories**
Extension cable 1
Linkage bracket A 1
Linkage bracket B 2
Screw for linkage bracket 2