TOA

OPERATING INSTRUCTIONS

IP COMMUNICATION SYSTEM
CX-1000 SERIES

Thank you for purchasing TOA's IP Communication System.
Please carefully follow the instructions in this manual to ensure long, trouble-free use of your equipment.

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1. SAFETY PRECAUTIONS

- Before installation or use, be sure to carefully read all the instructions in this section for correct and safe operation.
- Be sure to follow all the precautionary instructions in this section, which contain important warnings and/or cautions regarding safety.
- After reading, keep this manual handy for future reference.

Safety Symbol and Message Conventions

Safety symbols and messages described below are used in this manual to prevent bodily injury and property damage which could result from mishandling. Before operating your product, read this manual first and understand the safety symbols and messages so you are thoroughly aware of the potential safety hazards.

⚠ **WARNING**	Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.
⚠ **CAUTION**	Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

⚠ WARNING

When the Unit is in Use

- Should the following irregularity be found during use, immediately switch off the power, disconnect the power supply plug from the AC outlet and contact your nearest TOA dealer. Make no further attempt to operate the unit in this condition as this may cause fire or electric shock.
  - · If you detect smoke or a strange smell coming from the unit
  - · If water or any metallic object gets into the unit
  - · If the unit falls, or the unit case breaks
  - · If the power supply cord is damaged (exposure of the core, disconnection, etc.)
  - · If it is malfunctioning (no tone sounds)
  - · If it is malfunctioning (no image appears)

- To prevent a fire or electric shock, never open nor remove the unit case as there are high voltage components inside the unit. Refer all servicing to qualified service personnel.

- Do not place cups, bowls, or other containers of liquid or metallic objects on top of the unit. If they accidentally spill into the unit, this may cause a fire or electric shock.

- (Applicable to CX-PA1120/PA1240)
  Do not touch a power supply plug during thunder and lightning, as this may result in electric shock.

⚠ CAUTION

When the Unit is in Use

- (Wall mounting)
  Do not place heavy objects on the unit as this may cause it to fall or break which may result in personal injury and/or property damage. In addition, the object itself may fall off and cause injury and/or damage.

- (Applicable to CX-PA1120/PA1240)
  Make sure that the volume control is set to minimum position before power is switched on. Loud noise produced at high volume when power is switched on can impair hearing.

- (Applicable to CX-PA1120/PA1240)
  Do not operate the unit for an extended period of time with the sound distorting. Doing so may cause the connected speakers to heat, resulting in a fire.

- (Except CX-PA1120/PA1240)
  Use the specified AC adapter for the unit. Note that the use of other adapter may cause a fire.

- (Applicable to CX-PA1120/PA1240)
  Contact your TOA dealer as to the cleaning. If dust is allowed to accumulate in the unit over a long period of time, a fire or damage to the unit may result.

- (Applicable to CX-PA1120/PA1240)
  If dust accumulates on the power supply plug or in the wall AC outlet, a fire may result. Clean it periodically. In addition, insert the plug in the wall outlet securely.

- (Applicable to CX-PA1120/PA1240)
  Switch off the power, and unplug the power supply

plug from the AC outlet for safety purposes when cleaning or leaving the unit unused for 10 days or more. Doing otherwise may cause a fire or electric shock.

- (Wall mounting)
  Do not stand or sit on, nor hang down from the unit as this may cause it to fall down or drop, resulting in personal injury and/or property damage.

Warning: Operation of this equipment in a residential environment could cause radio interference.

Chapter 1

GENERAL DESCRIPTION

1. GENERAL DESCRIPTION

TOA's CX-1000 Series IP network communication system integrates both video call and general broadcasting capabilities, combining a video intercom system with a multi-channel general broadcast system.

2. FEATURES

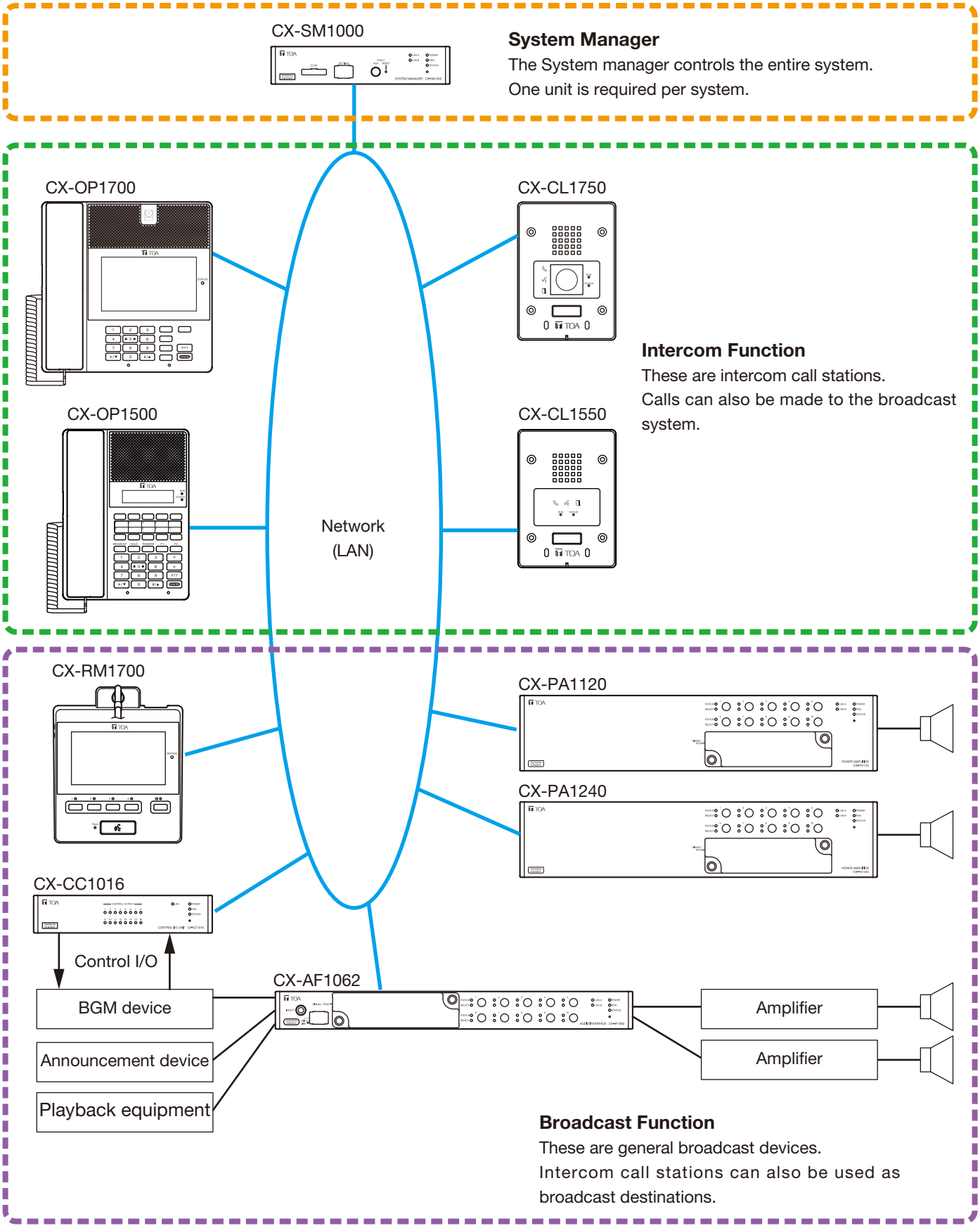
- The multi-channel general broadcast system is capable of providing up to 3000 lines of output.
- As many as 3000 devices can be included in the system.
- The system can also be distributed through the use of a general IP network.
- The failure detection function ensures highly reliable system operation.
- SIP protocol supports calls to be made from general SIP phones.
- Network cameras compatible with an ONVIF® protocol can be monitored on any video stations.
- A multi-line broadcast system can be constructed with the additional use of a speaker selector unit with an amplifier.

* ONVIF is a registered trademark of ONVIF Inc.

3. SPECIFICATIONS

System Specifications	
Audio Input	Max. 3000 channels
Audio Output	Max. 3000 channels
Broadcast Group Number	Max. 999 groups
Speaker Line Output	Max. 3000 lines
Control Input	Max. 12000 channels
Control Output	Max. 15000 channels Normal control output + ATT control output
LAN	1 or 2 ports on each device RJ-45 connector For more details, refer to Network Specifications below.
Number of Audio Links	Max. No. for System: (Calls: 1500 links; Broadcasts: 200 links) Call station: (Calls and multi/unicast broadcasts: 1 link)
System Settings	Upload settings to System Manager using the dedicated setting software (via LAN/ SD card)
Network Specifications	
Network I/F	100BASE-TX
Network Protcol	TCP/IP, UDP, ARP, ICMP, HTTP, RTP, RTSP, IGMP, NTP, SIP, FTP, RSTP
Audio Packet Transmission System	Unicast (No. of broadcasts: Up to 16 locations/devices) Multicast (No. of broadcasts →Multicast: Up to 2999 locations; Unicast: Up to 200 devices / 500 lines)
Audio Transmission Specifications	
Sampling Frequency	• 48 kHz (PCM) • 16 kHz (G.722) • 8 kHz (G.711) Controllable on the software
Quantifying Bit Number	16-bit
Voice Encoding Method	PCM, G.722, G.711 μ-Law/a-Law
Voice Packet Loss Recovery	Silence insertion
Video Transmission Specifications	
Image encoding method	H.264, JPEG
Resolution	1280 x 720, 640 x 480, 640 x 360, 320 x 240, 320 x 180
Frame Rate	H.264: Max. 20fps JPEG: Max. 10fps

4. SYSTEM EXAMPLE



Within this operation manual, devices mounted in equipment racks, such as the CX-SM1000 and CX-PA1120, are collectively called "units" and other devices, such as the CX-OP1700 and CX-RM1700, are called "stations."

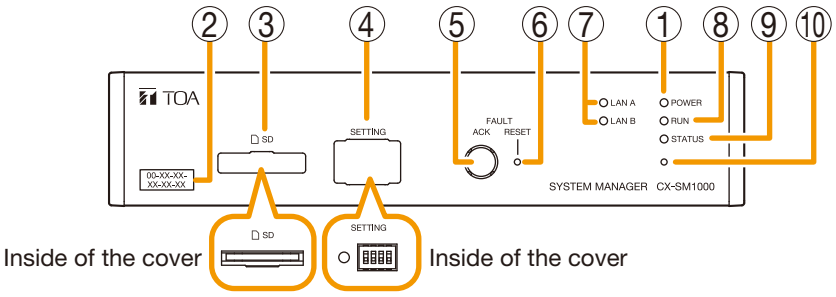
Note

The entire system is controlled by the CX-SM1000, however it is omitted in this manual's operation diagrams.

5. NOMENCLATURE AND FUNCTIONS

5.1. CX-SM1000 System Manager

[Front]

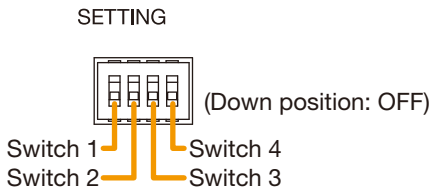


1. Power indicator (green)
Lights when power is supplied to the unit.

2. MAC address
This is the MAC address for the unit.
Since the relationship of each unit location to its MAC address is established when setting the network attributes, keep track of this relationship for later use.

3. SD card slot
Insert an SD card here.
Used to transfer setting data or read the operation history or failure history from the CX-SM1000 unit.
(See Chapter 9 "REGISTERING AND EXPORTING DATA")

4. Setting switch



(Factory default setting: All set to OFF)

Note
Do not use excessive force when removing the cover to avoid the risk of the cover falling off or being damaged.

- **Switch 1**
  Used to save logs and setting data with the SD card inserted to the unit.
  (See Chapter 9 "REGISTERING AND EXPORTING DATA")
- **Switch 2**
  Used to upload setting data to the unit with the SD card inserted to this unit.
  (See Chapter 9 "REGISTERING AND EXPORTING DATA")
- **Switch 3**
  Used to set buzzer to turn on at and during failure occurrence within the CX-1000 system.
  OFF: Enables the buzzer. (Factory default setting)
  ON: Disables the buzzer.

Note
The buzzer sounds regardless of the setting of Switch 3 when the Locate button is pressed in the Device Detection Tool.

- **Switch 4**
  Not used.

5. Fault ACK key
When a system failure is detected, a buzzer sounds. Pressing this key stops the buzzer.
The buzzer can be disabled at switch 3 of the Setting switch (4).

6. Fault reset key
Pressing this key resets the failure information (the buzzer and fault indicators) for the system.

7. LAN A/B indicator (green)
Lights up when the unit is connected to a network, and flashes when data is being transmitted or received.

8. RUN indicator (green)
Displays whether or not the unit is operating correctly.
(See "THE STATUS OF THE RUN INDICATOR" on p. 2-19.)

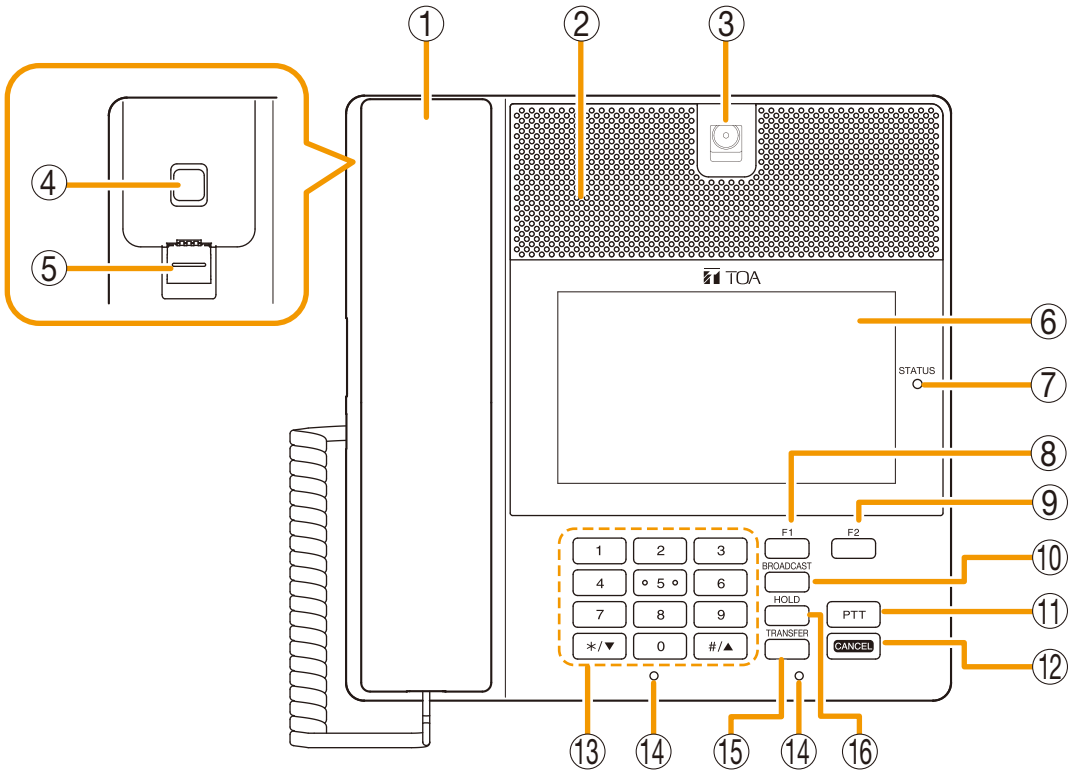
9. Status indicator (green, red, yellow)
Displays the unit's current event status.
(See "The Status Indicators of the CX-SM1000/RM1700/AF1062/PA1120/PA1240/CC1016" on p. 2-21.)

10. Reset key
Pressing this key reactivates the unit.

Notes
- If the unit is restarted while the system is running, all system operations will stop during the restart interval.
- Do not turn off the power while the Status indicator of the CX-SM1000 is flashing.

5.2. CX-OP1700 Video Operation Station

[Operation Panel]



1. Handset
Used for handset conversations or microphone broadcasts.

2. Speaker
Intended for broadcasts and conversations. Used to amplify received broadcasts, signal tones, or perform hands-free conversations.

3. Camera
Displays the video images to the other party during calls depending on settings.

4. Hook switch
Detects whether the handset is on-hook or off-hook.

5. Handset hook
Provides a place to hang the handset when not in use. Hook can be slid out to change orientation. If this station is tilted upward, the handset is less likely to fall by facing the tab end upward.
(See the separate Installation manual "Changing the handset hook's orientation.")

6. LCD
This LCD supports touch operation.
Displays text, images (video) and device status, and activates various events with touch operation.

7. Status indicator (green, red, yellow)
Displays the station's current event status.
(See "THE STATUS OF THE STATUS INDICATOR" on p. 2-20.)

8. Function 1 key
Used when setting transfer destinations or during door remote operation.

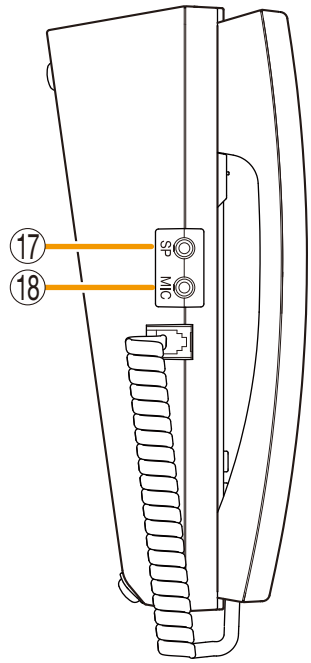
9. Function 2 key
Not used.

10. Broadcast key
Used for broadcasting.

11. PTT key
Pressing this key during a hands-free conversation establishes a one-way conversation from the party who pressed the key.
Press this key to initiate conversations while receiving calls.
(See Chapter 3 "CONVERSATION FUNCTIONS AND OPERATION")

12. Cancel key
Press this key to cancel operations or terminate conversations.

[Left Side]



13. Dial keys
Used to call other stations or set functions.

14. Microphone
Used for hands-free conversation or microphone broadcast.
Note
Do not block the microphone. Doing so may interfere with conversation quality.

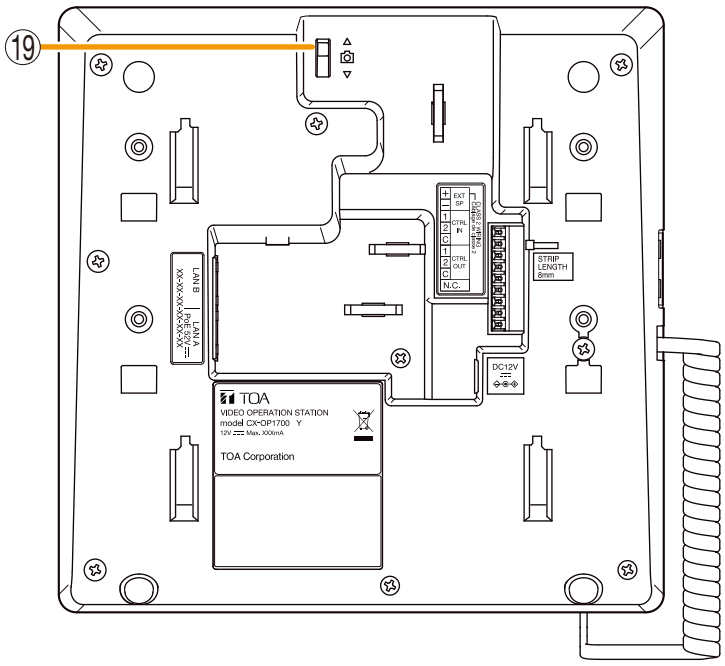
15. Transfer key
Used to transfer the current conversation to another station.
(See Chapter 3 "CONVERSATION FUNCTIONS AND OPERATION")

16. Hold key
Places the conversation on hold.
(See "HOLD (CX-OP1700/OP1500 ONLY)" on p. 3-16.)

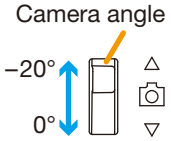
17. Headset speaker connection terminal
Insert a 3.5 mm headset speaker plug here.

18. Headset microphone connection terminal
Insert a 3.5 mm headset microphone plug here.

[Bottom]

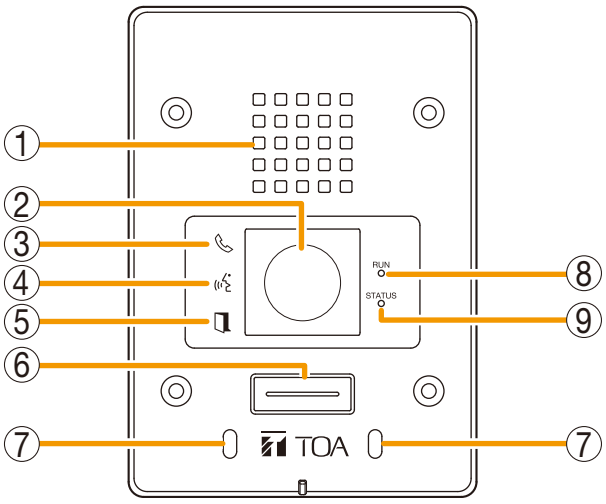


19. Camera angle adjustment lever
Allows adjustment of camera angles.
The camera angle can be adjusted within the vertical range of –20° to 0°.



5.3. CX-CL1750 Video Call Station

[Front]



1. Speaker
Intended for broadcasts and conversations. Used to amplify received broadcasts, signal tones, or perform hands-free conversations.

2. Camera
Displays the video images to the other party during calls depending on settings.

3. Calling indicator (yellow)
Lights continuously while making a call.
(See "ICON LIST" on p. 2-22.)
Set station number and register the call destination to Direct key in advance.

4. Conversation indicator (green)
Lights continuously while a conversation is currently in progress.
(See "ICON LIST" on p. 2-22.)

5. Unlock indicator (green)
Lights up when a door open detection signal is received from the electronic lock system.
(See "ICON LIST" on p. 2-22.)

6. Direct key/Camera lighting
Press this key to perform its assigned function. Depending on the setting, the caller can be illuminated as needed.
Use the CX-1000 Setting software to assign the functions to the key and assign the camera lighting function to the key.
(See the separate Setting software instructions, "EVENT ACTIVATION SETTINGS" and "Lighting Settings.")

7. Microphone
Used for hands-free conversation.
Note
Do not block the microphone. Doing so may interfere with conversation quality.

8. Run indicator (green)
Displays whether or not the station is operating correctly.
(See "THE STATUS OF THE RUN INDICATOR" on p. 2-19.)

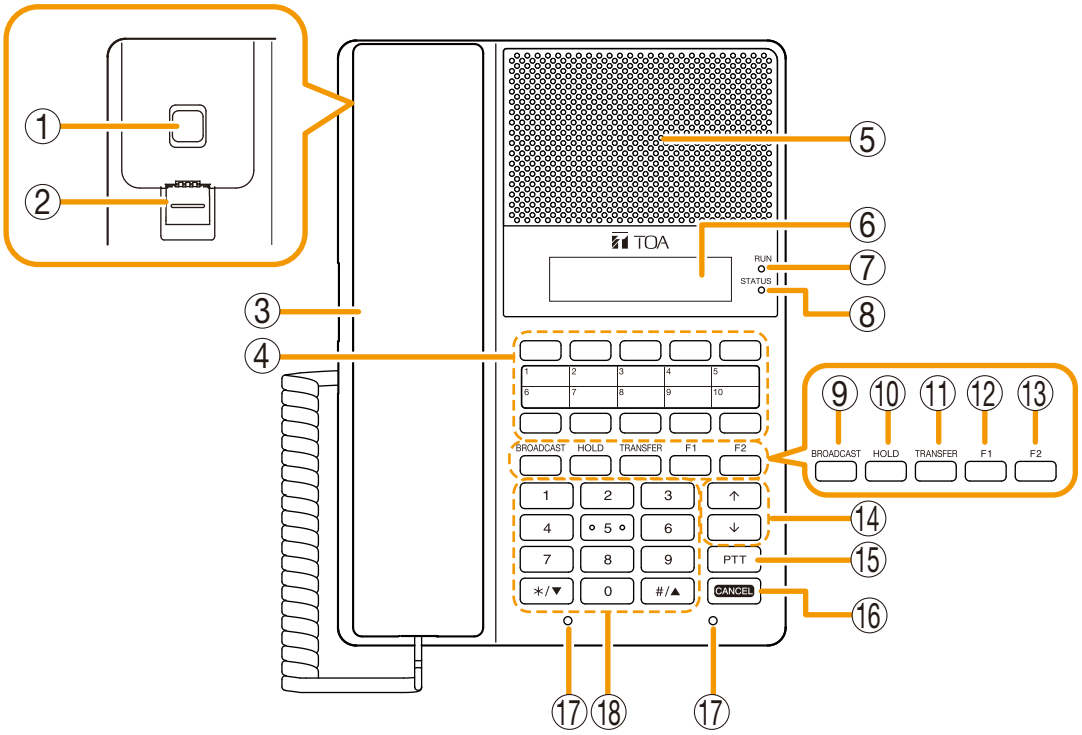
9. Status indicator (green, red, yellow)
Displays the station's current event status.
(See "THE STATUS OF THE STATUS INDICATOR" on p. 2-20.)

[Explanation of symbols]

Symbol	Display Position	Explanation
	Front	Indicates a call is being made before connection.
	Front	Indicates that a conversation is currently in progress.
	Front	Indicates whether or not the corresponding door is locked.

5.4. CX-OP1500 Operation Station

[Operation Panel]



1. Hook switch
Detects whether the handset is on-hook or off-hook.

2. Handset hook
Provides a place to hang the handset when not in use. Hook can be slid out to change orientation. If this station is tilted upward, the handset is less likely to fall by facing the tab end upward.
(See the separate Installation manual "Changing the handset hook's orientation.")

3. Handset
Used for handset conversations or microphone broadcasts.

4. Direct keys
When pressed, each key executes the function assigned to it. Use the CX-1000 setting software to assign specific functions to each key.
(See the separate Setting software instructions, "EVENT ACTIVATION SETTINGS.")

5. Speaker
Intended for broadcasts and conversations. Used to amplify received broadcasts, signal tones, or perform hands-free conversations.

6. LCD
Displays the dialed number or the number of a call received in 2 lines of 16 digits.

7. Run indicator (green)
Displays whether or not the station is operating correctly.
(See "THE STATUS OF THE RUN INDICATOR" on p. 2-19.)

8. Status indicator (green, red, yellow)
Displays the station's current event status.
(See "THE STATUS OF THE STATUS INDICATOR" on p. 2-20.)

9. Broadcast key
Used for broadcasting.

10. Hold key
Places the conversation on hold.
(See "HOLD (CX-OP1700/OP1500 ONLY)" on p. 3-16.)

11. Transfer key
Used to transfer the current conversation to another station.
(See Chapter 3 "CONVERSATION FUNCTIONS AND OPERATION")

12. Function 1 key
Used when setting transfer destinations or during remote door operation.

13. Function 2 key
Used to display menus on the LCD (6).

14. Arrow keys
Used for system settings ("CX-OP1500 Menu Screen" on p. 2-29").

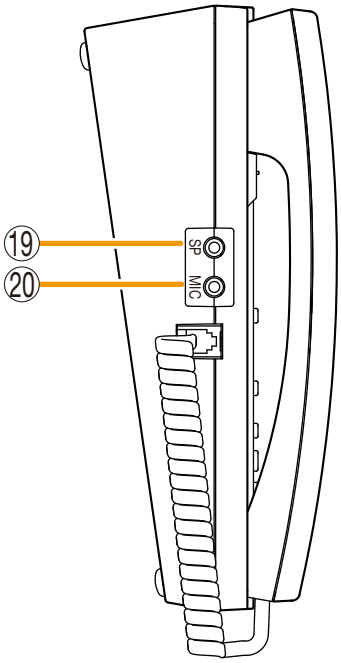
15. PTT key
Pressing this key during a hands-free conversation establishes a one-way conversation from the party who pressed the key.
Press this key to initiate conversations while receiving calls.
(See Chapter 3 "CONVERSATION FUNCTIONS AND OPERATION")

16. Cancel key
Press this key to cancel operations or terminate conversations.

17. Microphone
Used for hands-free conversation or microphone broadcast.
Note
Do not block the microphone. Doing so may interfere with conversation quality.

18. Dial keys
Used to call other stations or set functions.

[Left Side]

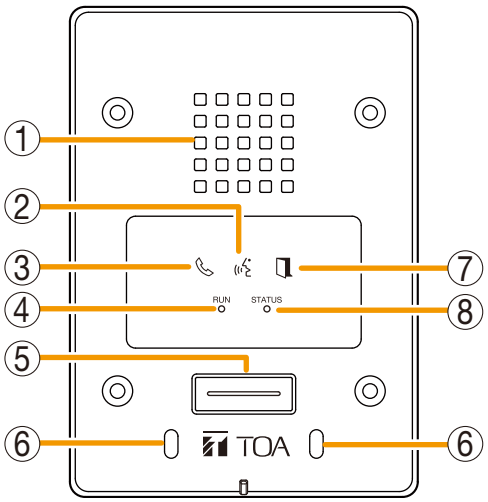


19. Headset speaker connection terminal
Insert a 3.5 mm headset speaker plug here.

20. Headset microphone connection terminal
Insert a 3.5 mm headset microphone plug here.

5.5. CX-CL1550 Call Station

[Front]



1. Speaker
Intended for broadcasts and conversations. Used to amplify received broadcasts, signal tones, or perform hands-free conversations.

2. Conversation indicator (green)
Lights continuously while a conversation is currently in progress.
(See "ICON LIST" on p. 2-22.)

3. Calling indicator (yellow)
Lights continuously while making a call.
(See "ICON LIST" on p. 2-22.)
Set station number and register the call destination to Direct key in advance.

4. Run indicator (green)
Displays whether or not the station is operating correctly.
(See "THE STATUS OF THE RUN INDICATOR" on p. 2-19.)

5. Direct key
Press this key to perform its assigned function. Use the CX-1000 setting software to assign the function to the key.
(See the separate Setting software instructions, "EVENT ACTIVATION SETTINGS.")
This key can be made be illuminated by setting. Use the CX-1000 setting software for setting.
(See the separate Setting software instructions, "Lighting Settings.")

6. Microphone
Used for hands-free conversation.
Note
Do not block the microphone. Doing so may interfere with conversation quality.

7. Unlock indicator (green)
Lights up when the corresponding door is unlocked.
(See "ICON LIST" on p. 2-22.)

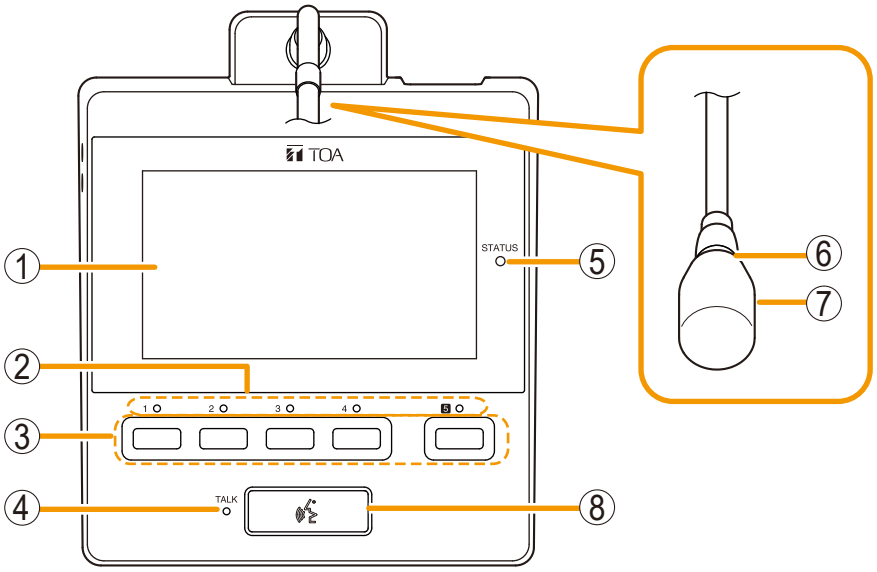
8. Status indicator (green, red, yellow)
Displays the station's current event status.
(See "THE STATUS OF THE STATUS INDICATOR" on p. 2-20.)

[Explanation of symbols]

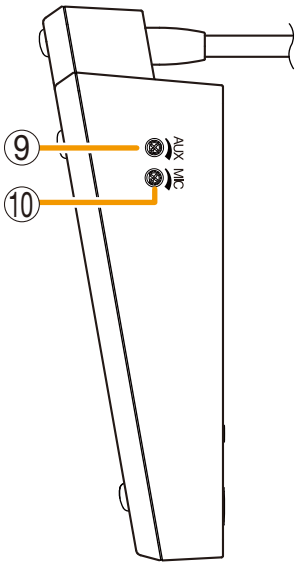
Symbol	Display Position	Explanation
	Front	Indicates a call is being made before connection.
	Front	Indicates that a conversation is currently in progress.
	Front	Indicates whether or not the corresponding door is locked.

5.6. CX-RM1700 Touch Screen Remote Microphone

[Operation Panel]



[Left Side]



1. LCD
This LCD supports touch operation.
Displays text, images (still and video) and device status, and activates various events with touch operation.

2. Selection indicators (green)
Lights up, flashes or goes off, depending on the operating status of the corresponding Direct key.
(See "DIRECT AND BROADCAST KEYS INDICATOR STATUS" on p. 2-2.)

3. Direct keys
When pressed, each key executes the function assigned to it. Use the CX-1000 setting software to assign specific functions to each key.
(See the separate Setting software instructions, "EVENT ACTIVATION SETTINGS.")
Note
Direct keys 1 through 5 correspond to "Direct keys 101 to 105" in the CX-1000 Setting software.

4. Talk indicator (green)
Lights or goes off depending on the current operation state of the Talk key.
(See "Talk Key Indicator (CX-RM1700 only)" on p. 2-3.)

5. Status indicator (green, red, yellow)
Displays the station's current event status.
(See "The Status Indicators of the CX-SM1000/RM1700/AF1062/PA1120/PA1240/CC1016" on p. 2-21.)

6. Microphone indicator (green)
Can be linked to the Talk indicator (4) in settings. Perform settings on the station's LCD.
(See "Volume Control Setting Screen (CX-RM1700 only)" on p. 2-28.)

7. Microphone
Used for microphone broadcasts.
Microphone volume can be adjusted using the Microphone volume control (10).

8. Talk key
Used for microphone broadcast.
If the Talk key is set to "PTT" mode, then it must be pressed continuously for the duration of the broadcast.
If the Talk key is set to "Lock" mode, then it must be pressed once to turn the microphone on at the beginning of a broadcast, then pressed again to turn the microphone off once the broadcast is finished.
Set Talk key operation using the CX-1000 Setting software. (See the separate Setting software instructions, "Setting the Basic Operations for Each Device.")

9. AUX volume control
Adjusts the volume of AUX input.
Rotate this control clockwise to increase the volume level and counterclockwise to decrease it.
The input level is set on the menu of the LCD (1).
(See "CX-OP1700 and CX-RM1700 Menu Screens" on p. 2-26.)

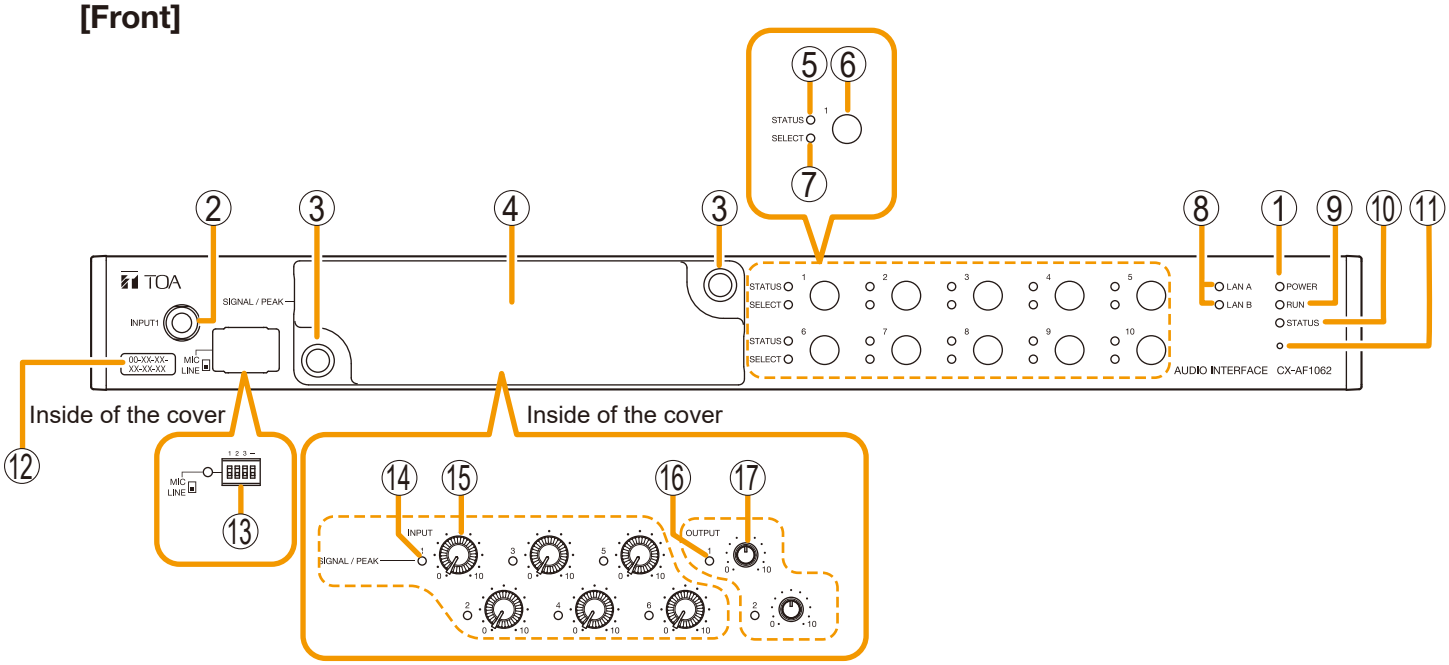
10. Microphone volume control
Adjusts the volume of the Microphone (7).
Rotate this control clockwise to increase the volume level and counterclockwise to decrease it.

[Explanation of symbols]

Symbol	Display Position	Explanation
	Operation panel	Shows the mark for making microphone announcements.
	Left side	Volume control: Turn it clockwise with a screw driver to increase the volume, and turn it counter-clockwise to decrease the volume.

5.7. CX-AF1062 Audio Interface 6in2out

[Front]



1. Power indicator (green)
Lights when power is supplied to the unit.

2. Input 1 jack
Insert the microphone's phone plug into this jack. This Input 1 jack takes precedence over the rear mounted Audio input terminal 1.
Inserting a phone plug into this jack disables the audio connected to Audio Input 1 on the rear panel.

3. Volume control section cover knob
The Volume control section cover (4) can be removed by pulling the both knobs.

4. Volume control section cover
The volume controls for all input channels are located inside this cover.

5. Status indicators (green, red, yellow)
Lights, flashes or goes off, in synchronization with the function status assigned to the Direct key (6).
(See "DIRECT AND BROADCAST KEYS INDICATOR STATUS" on p. 2-2.)

6. Direct keys
When pressed, each key executes the function assigned to it. Use the CX-1000 setting software to assign specific functions to each key.
(See the separate Setting software instructions, "EVENT ACTIVATION SETTINGS.")

7. Selection indicators (green)
Lights or goes off depending on the current operation state of the Direct key (6).
(See "DIRECT AND BROADCAST KEYS INDICATOR STATUS" on p. 2-2.)

8. LAN A/B indicators (green)
Lights up when the unit is connected to a network, and flashes when data is being transmitted or received.

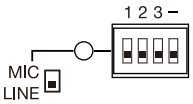
9. Run indicator (green)
Displays whether or not the unit is operating correctly.
(See "THE STATUS OF THE RUN INDICATOR" on p. 2-19.)

10. Status indicator (green, red, yellow)
Displays the unit's current event status.
(See "The Status Indicators of the CX-SM1000/RM1700/AF1062/PA1120/PA1240/CC1016" on p. 2-21.)

11. Reset key
Pressing this key reactivates the unit.

12. MAC address
This is the MAC address for the unit.
Since the relationship of each unit location to its MAC address is established when setting the network attributes, keep track of this relationship for later use.

13. Input level setting switches



The input level of Audio inputs 1 to 3 can be switched between line level (0 dB*) and microphone level (–60 dB*).
Switch 4 is not used.
(Factory setting: All switches set to lower position.)
Note
Do not use excessive force when removing the cover to avoid the risk of falling off or being damaged.

14. Audio input signal indicators (green, red)
Displays the input status of Audio input volume controls (15).
Lights green when audio is input to the input channel, and red when over-input is applied to the audio input.

15. Audio input volume controls
Volume controls for each audio input. These are arranged (left-to-right) as Audio input 1 – 6.
Rotate this control clockwise to increase the volume level and counterclockwise to decrease it.

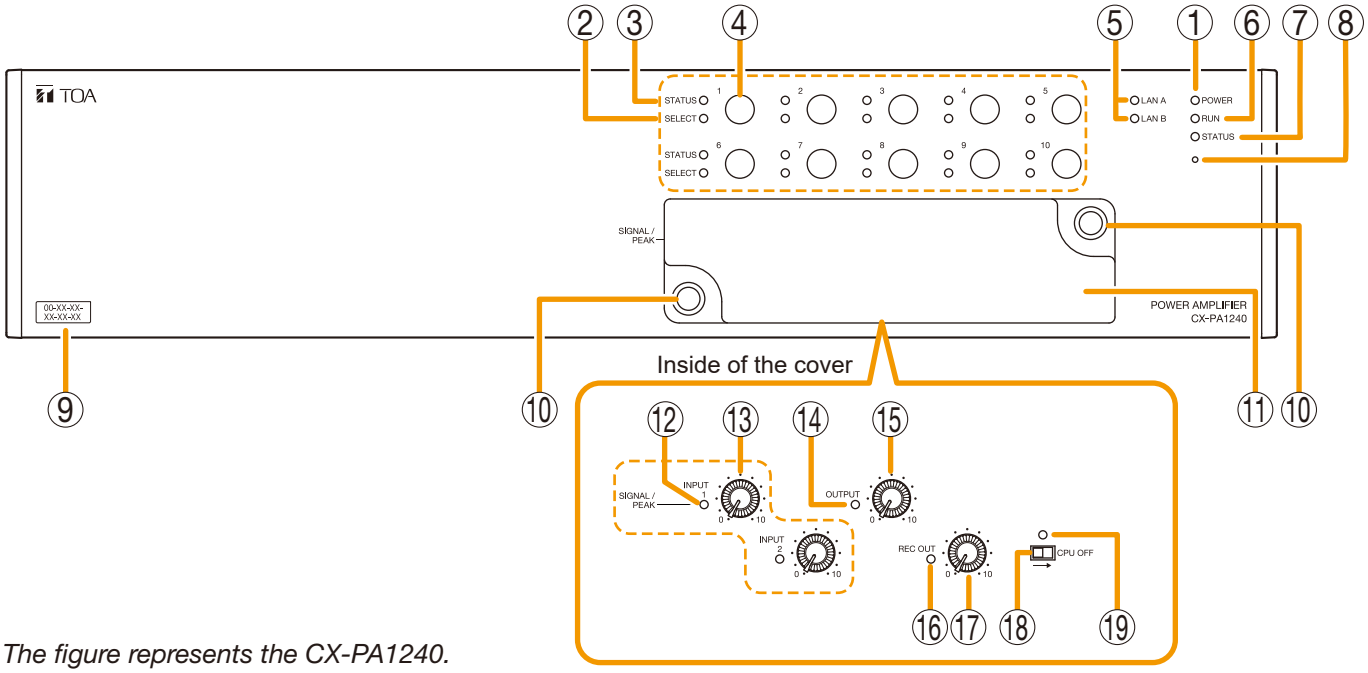
16. Audio output signal indicators (green, red)
Displays the output status of Audio output volume controls (17).
Lights green when audio is output from the output channel, and red when audio output is above the rated output level.

17. Audio output volume controls
Volume controls for each audio output. These are arranged (left-to-right) as Audio output 1 – 2.
Rotate this control clockwise to increase the volume level and counterclockwise to decrease it.

* 0 dB = 1 V

5.8. CX-PA1120/PA1240 Power Amplifier 120W/240W 10SS

[Front]



The figure represents the CX-PA1240.

1. Power indicator (green)
Lights when power is supplied to the unit.

2. Selection indicators (green)
Lights or goes off depending on the current operation state of the Direct key (4).
(See "DIRECT AND BROADCAST KEYS INDICATOR STATUS" on p. 2-2.)

3. Status indicators (green, red, yellow)
Lights, flashes or goes off, in synchronization with the function status assigned to the Direct key (4).
(See "DIRECT AND BROADCAST KEYS INDICATOR STATUS" on p. 2-2.)

4. Direct keys
When pressed, each key executes the function assigned to it. Use the CX-1000 setting software to assign specific functions to each key.
(See the separate Setting software instructions, "EVENT ACTIVATION SETTINGS.")

5. LAN A/B indicators (green)
Lights up when the unit is connected to a network, and flashes when data is being transmitted or received.

6. Run indicator (green)
Displays whether or not the unit is operating correctly.
(See "THE STATUS OF THE RUN INDICATOR" on p. 2-19.)

7. Status indicator (green, red, yellow)
Displays the unit's current event status.
(See "The Status Indicators of the CX-SM1000/RM1700/AF1062/PA1120/PA1240/CC1016" on p. 2-21.)

8. Reset key
Pressing this key reactivates the unit.

9. MAC address
This is the MAC address for the unit.
Since the relationship of each unit location to its MAC address is established when setting the network attributes, keep track of this relationship for later use.

10. Volume control section cover knob
The cover over the volume control section can be removed by pulling the both knobs.

11. Volume control section cover
The volume controls for all input channels are located inside this cover.

12. Audio input signal indicators (green, red)
Displays the input status set to Audio input volume controls (13).
Lights green when audio is input to the input channel, and red when over-input is applied to the audio input.

13. Audio input volume controls
Volume controls for each audio input. These are arranged (left-to-right) as Audio input 1 – 2.
Rotate this control clockwise to increase the volume level and counterclockwise to decrease it.

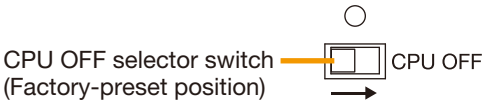
14. Speaker output signal indicator (green, red)
Displays the speaker output status set to this Speaker output volume control (15).
Lights green when audio is output from speaker output, and red when audio output is above the rated output level.

15. Speaker output volume control
Volume controls for speaker audio output.
Rotate this control clockwise to increase the volume level and counterclockwise to decrease it.

16. Recording output signal indicator (green, red)
Displays the recording output status set to the Recording output volume control (17).
Lights green when audio is output from recording output, and red when audio output is above the rated output level.

17. Recording output volume control
Volume controls for recording output.
Rotate this control clockwise to increase the volume level and counterclockwise to decrease it.

18. CPU OFF selector switch
Normally, use this switch with the factory default settings, as shown in the figure below.

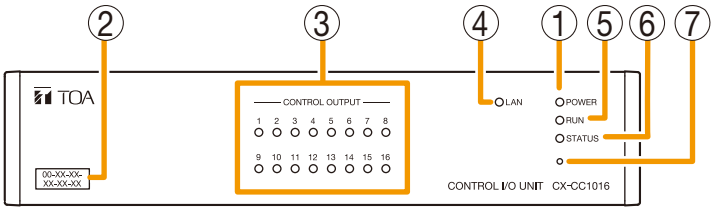


Sliding this switch to the CPU OFF position, as indicated by the arrow, permits all-call broadcasts using the sound source connected to Audio input 1 of Audio input terminal via non-CPU analog control.
(See "ALL-CALL BROADCASTS USING THE CPU OFF SELECTOR SWITCH" on p. 7-2.)

19. CPU OFF indicator (red)
Lights continuously while the CPU OFF switch (18) is set to CPU OFF position.

5.9. CX-CC1016 Control I/O Unit

[Front]



1. Power indicator (green)
Lights when power is supplied to the unit.

2. MAC address
This is the MAC address for the unit.
Since the relationship of each unit location to its MAC address is established when setting the network attributes, keep track of this relationship for later use.

3. Control output indicators (green)
Lights when the control output turns ON.

4. LAN indicator (green)
Lights up when the unit is connected to a network, and flashes when data is being transmitted or received.

5. RUN indicator (green)
Displays whether or not the unit is operating correctly.
(See "THE STATUS OF THE RUN INDICATOR" on p. 2-19.)

6. Status indicator (green, red, yellow)
Displays the unit's current event status.
(See "The Status Indicators of the CX-SM1000/RM1700/AF1062/PA1120/PA1240/CC1016" on p. 2-21.)

7. Reset key
Pressing this key reactivates the unit.

6. SYSTEM FUNCTION TABLE

Function		Description
Call	Individual call	The desired party can be called by dialing its station number.
	Contacts	The desired party can be selected and called from among the contacts registered in the Contacts.
	Remote dial	Control inputs can be used to remotely dial numbers.
	Group call	Multiple stations can be simultaneously called by dialing a group call number.
Response	Automatic response	Stations are automatically switched to conversation status after a call is received.
	Manual response	Stations can be switched to conversation status by manually responding to received calls.
Conversation	Audio-only conversation	Calls with stations not equipped with built-in cameras (CX-OP1500 and CX-CL1550) will automatically revert to voice call status.
	Video conversation	Either audio-only or video conversation can be selected in the settings for conversations between the CX-OP1700 and stations featuring a built-in camera (CX-OP1700 and CX-CL1750). During video conversations, the other party's camera image can be displayed on the CX-OP1700's LCD.
	Hands-free conversation	Conversations can be made while the handset remains on its cradle. Only hands-free conversations are available to any station not equipped with a handset.
	Handset conversation	Handset conversations can be made by lifting the handset.
	Headset conversation	Headset conversations can be made by connecting a headset. Lifting the handset during a headset conversation switches the conversation to the handset.
	Half duplex conversation	During a conversation, when the PTT key is pressed and held down, the conversation flows in one direction only, from the party who pressed the key. Releasing the PTT key reverses the flow of the one-way conversation, enabling the other party to speak.
	Volume setting	Receiving output volume can be adjusted during a conversation.
	Lighting control	The CX-CL1750's built-in light can be set to automatically turn on when a video conversation begins.
	IP camera image display	Besides the other party's built-in camera's image, network camera compatible with a general-purpose IP camera protocol images can also be displayed on the LCD.
Hold	Conversation hold	Pressing the Hold key during a conversation places the conversation on hold, transmitting a hold tone to both parties. Pressing it again cancels the hold mode, restoring the original conversation.
Transfer		Current conversations can be placed on hold to call a third party by pressing the Transfer key. The original conversation can be subsequently restored or transferred to the third party after conclusion of the second call.
Forwarding	Redirecting	Calls to stations are automatically transferred to another designated station without sounding a call tone if the called station is set to Redirecting. Programming a station to which a call is to be rerouted instantly sets that station to the Redirecting mode.
	Time-based redirecting	When calls are received at the station in Redirecting mode during a specified time, they are automatically transferred to another designated station without sounding a call tone. Even when the Redirecting destination is programmed, the station is not switched to Redirecting mode until the set time is reached.
	Busy forwarding	Calls to a busy station are automatically transferred to another designated station, if busy forwarding function is set to the called station.
	No response forwarding	When no response is made to a call at the station in No response forwarding mode for a set period of time, the call is automatically transferred to another designated station.
	Failover forwarding	If a network malfunction occurs at the station receiving a call, and the station is unable to communicate with the System Manager, the call will be automatically transferred.
Other Functions	Door remote control	The control output can be turned on or off during conversation via dial operation.
	Key unlocking	During a conversation, the key can be locked and unlocked by dial operation.
	Speaker output switching	Audio, broadcast reception tones, and other signal tones can be output from the internal (hands-free) speaker or an external speaker (connected to the external speaker output terminal), depending on the system configuration.

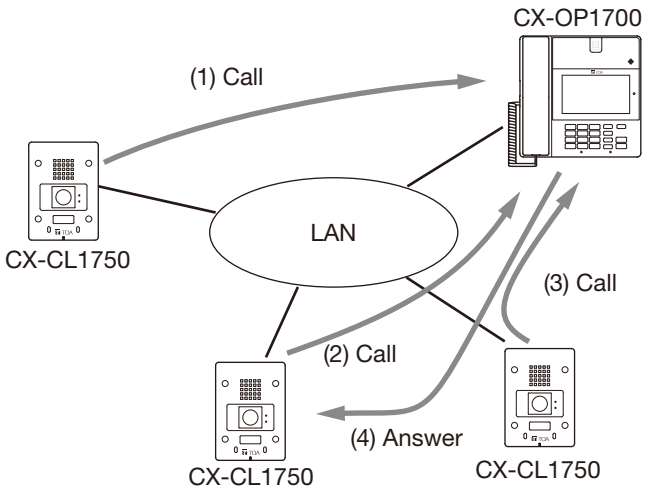
Function		Description
Broadcasts	General broadcast	Sound sources or audios can be broadcast to the selected or preset broadcast destinations.
	Voice stack broadcasts	Temporarily stored station audio clips can be broadcast. When a higher priority broadcast is in progress, the recorded audio can be automatically broadcast after the higher-priority broadcast ends.
	Video monitoring broadcasts	Broadcasting is possible while viewing images from a network camera compatible with a general-purpose IP camera protocol.
Emergency mode	Emergency announcement	Voice announcements can be broadcast to a preset output destination when in emergency mode.
	Emergency message broadcasts	A prerecorded emergency message can be sent to a preset output destination when in emergency mode.
	All-clear message broadcasts	At the end of the emergency mode, a prerecorded emergency all-clear message can be sent to a preset output destination.
External telephone system	Call	Calls to other phone systems are made possible using a VoIP adapter or IP-PBX.
	Transfer	It is possible to call other phone system during a 2-party conversation, then return to the original conversation, or to put the original conversation partner in conversation status with another phone system.
	Direct in line call	By receiving calls from other phone system, preset stations can be called. Group call numbers can also be set to call multiple stations.
	Direct inward dialing call	By receiving calls from other phone system, any station number can be dialed.
SIP Phone	Individual call	Calls can be placed by dialing the desired station number from a SIP phone.
	Group call	Multiple stations can be simultaneously called from a SIP phone by dialing a Group call number.
	Response	Incoming calls answered on a SIP phone automatically enable call mode.
	Contact bridge	The control output can be turned on or off via SIP phone dial operation.
	Door remote control	The control output can be turned on or off during a conversation via SIP phone dial operation.
Broadcasts to IP-A1		Broadcasts can be made to the IP-A1 Series via the network.
Priority Call	Relief call	In normal mode, this type of call has the highest priority. Priorities can be set for each call station.
Time-Out	Call time-out	The maximum time available for calls placed to another party can be set. If the other party does not respond within the time limit, its station will automatically return to Standby mode.
	Conversation time-out	A maximum time limit for conversations can be set. The conversation will automatically be terminated when the time limit is reached.
	Broadcast time-out	A maximum time limit for broadcasts can be set. The broadcast will automatically be terminated when the time limit is reached.
Control Output	Calling station display	When calling a specific preset station, the control output can be turned on in conjunction with the status of the incoming call or conversation at the call destination station.
	Call-linked control output	Control outputs can be turned on in conjunction with the status of the call transmission or conversation at the station being operated.
	Broadcast-linked control output	Control outputs can be turned on in conjunction with the start of a broadcast.
	Contact bridge	External equipment can be controlled by turning on or off the control output through station or unit operation.
	ATT control output	Enables ATT control of the CX-PA1120/PA1240 in conjunction with the broadcast output in Emergency mode.
Lighting	Key lighting	Lighting for the Direct key/Camera lighting of the CX-CL1750 and that for the Direct key of the CX-CL1550 can be turned on.
Audio Notifications	Notification tone during conversation	Outputs a brief signal tone from the speaker during conversations. Allows detection of busy status by providing notification that the station is currently in conversation status.
Chime	Pre-chime	Chime tones can be sounded when an announcement starts.
	Post-chime	Chime tones can be sounded when an announcement ends.

Function		Description
Program Timer	Timer event activation	The start and end of a broadcast, change in sound volume, control output, time-based redirecting and similar functions can be activated at specified times.
	Timer operation pattern change	The timer operation pattern can be changed.
Wide Area Broadcast		Announcements can be simultaneously broadcast to up to 2999 units and stations in total.
Time adjustment	NTP Time synchronization	An NTP server can be used to synchronize the clocks of the devices in the CX-1000 system.
	Time correction	Resets the CX-SM1000's time to 0 seconds.
Network	RSTP	Loops can be prevented using the Spanning Tree Protocol (STP), even if the network is duplicated. When the network is duplicated, even if one path fails, the other will continue to communicate, providing highly fault-tolerant service.
Surveillance	Self-check	Automatically performs daily failure detection. If a malfunction is detected in the audio line, Direct keys or the like, it will provide notification by buzzer or display. It can also be manually enabled on a temporary basis via station or browser operation.
	Constant inspection	Failure detection is constantly performed during system operation. If a malfunction is detected in device connections, temperature or the like, it will provide notification by buzzer or display.
	External failure	The occurrence of a failure in external devices is notified if the external devices that are notified via the control output when a failure occurs are connected to the control input.

7. REPRESENTATIVE FUNCTIONS

7.1. Selective Response

Any source station in the CX-1000 system can be answered, regardless of the order in which the calls come in, by allowing the destination station to select the source station.
Additionally, since source station information can be set to be displayed in order of priority, important calls from preselected locations can be more quickly and easily seen.
When a call is answered at a station with no selection capability (either by LCD or key operation), or answered automatically, the answered call will have the highest priority at the time.



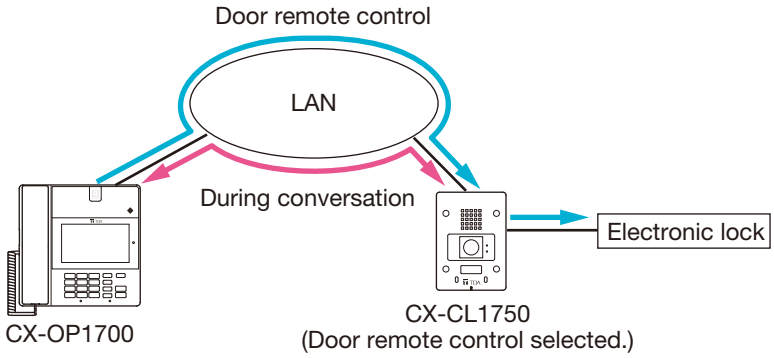
- Confirm that multiple calls are being received.
- Select the source station and begin conversation.

7.2. Door Remote Control

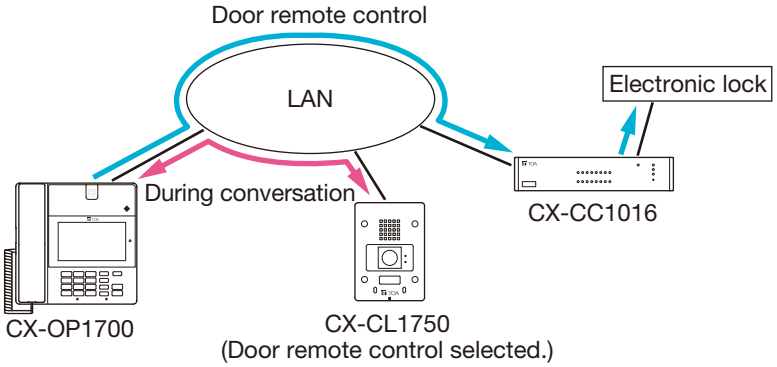
During a 2-party conversation, the electronic lock can be unlocked by using door remote control from this device to turn on the control output, which establishes linkage with the other party's station. Additionally, by receiving an "Unlock" signal from the electronic lock the sound of the Unlock tone and the illumination of the Unlock indicator can also be controlled.
Control output pulse times can be set to specify the time to unlock the key. When this time is passed, a Lock signal (turns off the said control output) is sent to lock the electronic lock. The call ends at the same time the door is locked.
Even if a 2-party conversation ends with the key unlocked, the Lock signal is sent to lock the electronic lock.
Refer to p. 1-21 for the related image.

Notes
- Electronic locks are required separately.
- All electronic lock connections are made via the control inputs and outputs.
- Door remote control refers to a function that allows the operation of control output groups, such as for electronic locks, via key operation during a call. Even if the control output for the electronic lock is operated via door remote control, if no Unlock status signal is received, events related to unlocking (Unlock tone, Unlock indicator, Unlock duration) are not enabled.

7.2.1. Example of door station control of the lock module



7.2.2. Example of system unit control of the lock module



7.3. General Broadcast

Broadcasts can be made from a station, a touch screen remote microphone, or the unit which an external sound source is connected to. Individual stations and units can also be selected as broadcast output destinations. Use appropriately depending on application.

7.3.1. Microphone broadcasts

Broadcasts can be made to stations or units belonging to selected broadcast destinations by operating a station or touch screen remote microphone. The broadcast sound source can be the microphone of the station or the touch screen remote microphone being operated.

7.3.2. General/BGM broadcast

With the operation of the station, unit, or touch screen remote microphone, audio from an external sound source (CD, etc.), the device's internal sound source, an external microphone connected to the touch screen remote microphone's AUX input, or an external microphone connected to the unit's audio input can be broadcast as an individual announcement or BGM to the stations or units that make up the selected broadcast destination.

7.3.3. General pattern broadcast

With the operation of the station, unit, or touch screen remote microphone, broadcasts can be made from a preset input sound source to individual broadcast destinations or selected broadcast destination patterns. The unit's audio input, the device's internal sound source, chime, or the touch screen remote microphone's AUX input can all be used as sound sources. Control output can also be controlled in conjunction with broadcasting.

7.3.4. Base pattern broadcast

BGM device input can be broadcast throughout the CX-1000 system, usually at low volume. For base pattern broadcasts, a base pattern consisting of the BGM sound source and the broadcast destination is first set, then activated from the station, the unit's control input or Direct keys.

7.4. Voice Stack Broadcasts (CX-OP1700/RM1700 only)

Prerecorded audios can be broadcast.
Even if broadcasts cannot be made due to a current higher-priority broadcast, by prerecording a broadcast and setting up its broadcast destination, a recorded broadcast can be automatically initiated immediately after the higher-priority broadcast ends. Voice announcements can also be recorded, and the recording checked as many times as necessary before broadcasting to ensure that only the desired contents are accurately transmitted.

Notes

- Only one Voice announcement can be recorded per one device, with a time limit of 1 minute. If recorded again, the previously recorded data will be overwritten.
- If a high-priority broadcast or incoming call occurs during a Voice stack broadcast, the Voice stack broadcast is interrupted. Even after the high-priority broadcast etc. ends, the Voice stack broadcast will not resume.

7.5. Video Monitoring Broadcasts (CX-OP1700/RM1700 only)

Broadcasts can be performed while monitoring the video of the camera installed at the broadcast destination.

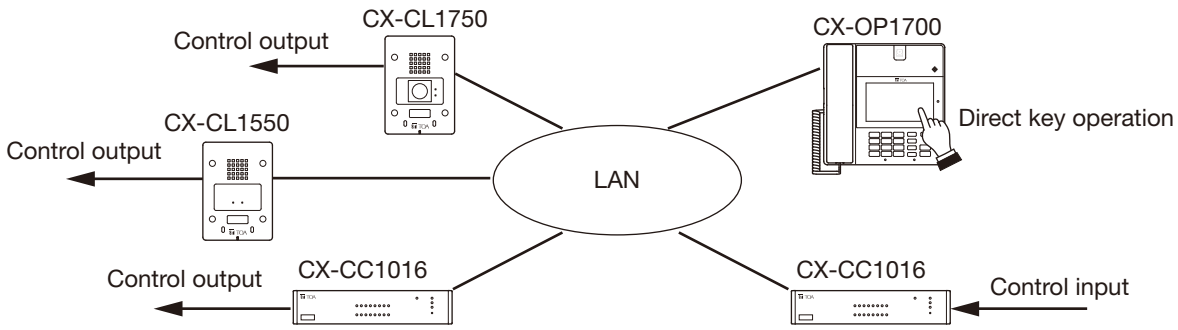
(Example of LCD when performing broadcasts while monitoring the output video of the camera)



7.6. Contact Bridge

External device can be controlled by turning the control output on or off at the station or unit. It can also be operated either by the station's Direct keys or control inputs.

Note
Only pulse control can be performed when operated by the station's Direct key.



7.7. Emergency Mode

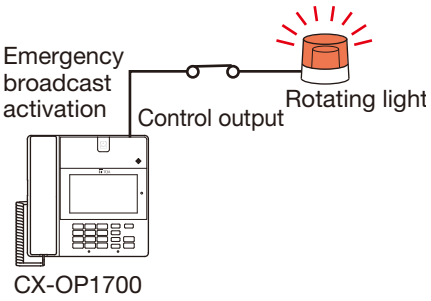
When emergency evacuation instructions must be provided due to the intrusion of suspicious persons, or in other emergency situations, higher priority announcements can be made overriding other functions.
When the CX-1000 series devices included in each of the divided hubs switches to Emergency mode, the display and signal tone are different from Normal mode, so that the switch to Emergency mode can be immediately known.
To enter Emergency mode status, activate the Emergency message broadcast pattern by either manually operating the station or unit, or by control input.
In Emergency mode status, BGM and general broadcasts cannot be made, and Emergency broadcasts are given priority.

Note
Emergency mode will continue even after the Emergency broadcast ends. To return to Normal mode, perform the Emergency all-clear operation.

7.8. Emergency Broadcast

7.8.1. Emergency microphone broadcast

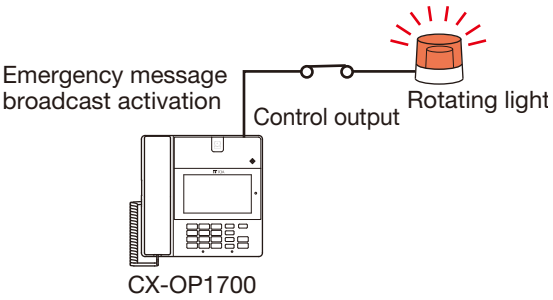
If a broadcast is made from a station set to "General/Emergency," when the system switches to Emergency mode, the CX-PA1120/PA1240's Attenuator/Control Output turns ON and the connected attenuator is bypassed, resulting in a high-urgency Emergency broadcast. By using a different sound source for the start and end chimes than for general broadcasts, the high urgency of the broadcast can be conveyed.
Also, linking the control output to the Emergency broadcast allows control over external rotating lights and similar devices. The high urgency of the broadcast can be enhanced with the control of larger display devices.



Tip
For more information on CX-PA1120/CX-PA1240 amplifier, attenuator or speaker connections, refer to Items (2) and (3) of "5. Speaker Output Terminal Connections" in the CX-PA1120/PA1240 Connections section of the separate Installation manual.

7.8.2. Emergency message pattern broadcast

Urgent message broadcast pattern can be activated in either Normal or Emergency modes.
When activating an Emergency message broadcast pattern, the hub where the activated device is attached and the hub(s) where the Emergency message is broadcast may be switched to Emergency mode.
By linking control outputs to an Emergency message broadcast pattern, such equipment as external rotating lights can be controlled. The sense of urgency can be enhanced by controlling larger display equipment.



Emergency message broadcast pattern can be composed of up to 3 phases. When the preset time for each phase elapses, the system automatically moves to the next phase. Since different messages, broadcast destinations, control outputs, etc. can be registered for each phase, broadcast contents can be changed depending on the situation, such as "An abnormality has been detected. This is currently being investigated." → "An abnormal situation has occurred." → "Please evacuate immediately." Phases can also be switched both manually and automatically.
Note
Up to 3 phases can be registered; and no more than 2 can be used.
When the Emergency situation is passed and the Emergency mode reverts to Normal mode, an all-clear broadcast can be made. The end of this broadcast indicates that the Emergency situation is past.

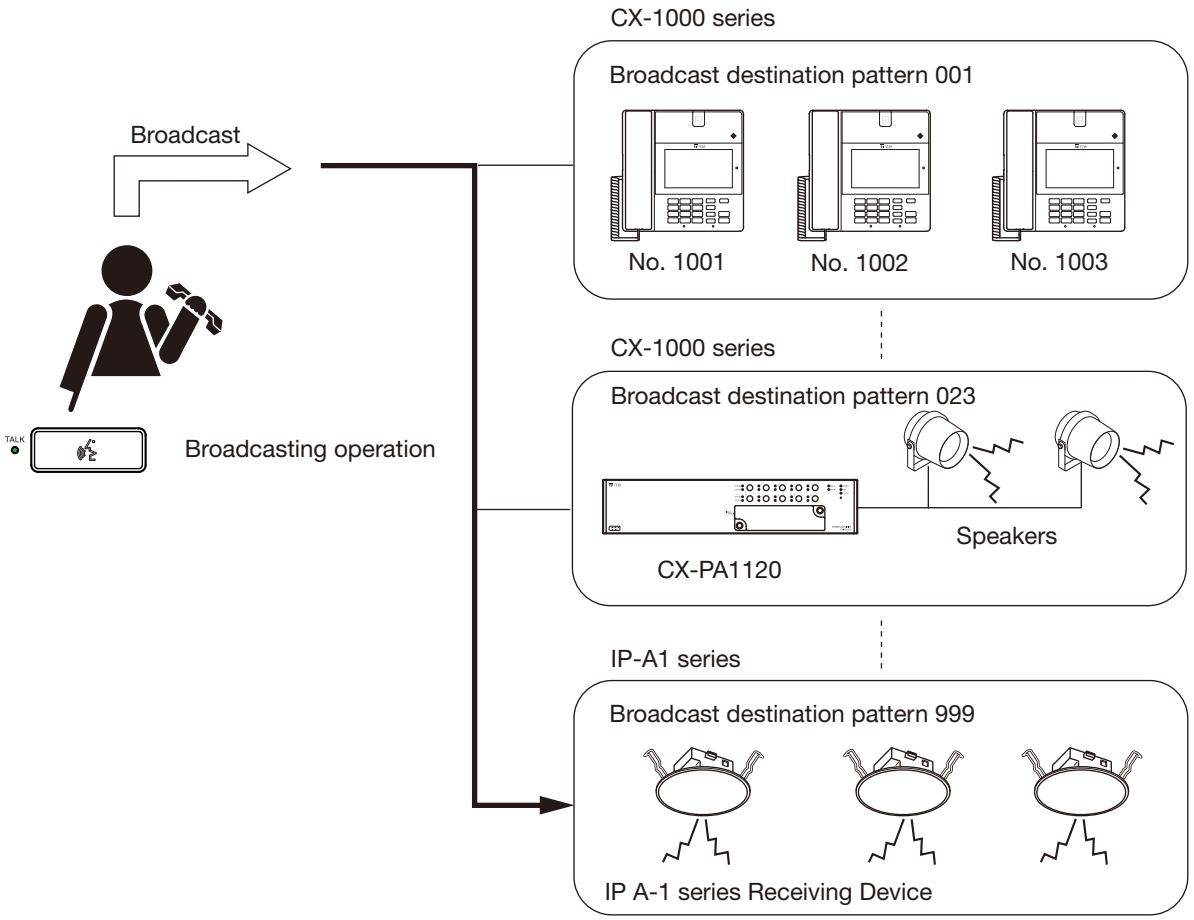
7.8.3. Emergency message broadcast

When the purpose of use is set to Alert or Evacuation, contents can be broadcast to preset destinations in Emergency mode.

7.9. Broadcasting to IP-A1

By setting the IP-A1 series' multicast address as the broadcast destination, broadcasts can be made directly to the IP-A1 series via the network.
Broadcast procedures are the same as those for the CX-1000 series devices.

Notes
- Separate settings for the IP-A1 series devices are also required.
- IP-A1 series broadcasts to and control of the CX-1000 series devices are not possible.
- For detailed information about the IP-A1, refer to the IP-A1 Setup manual or other documentation.



Chapter 2

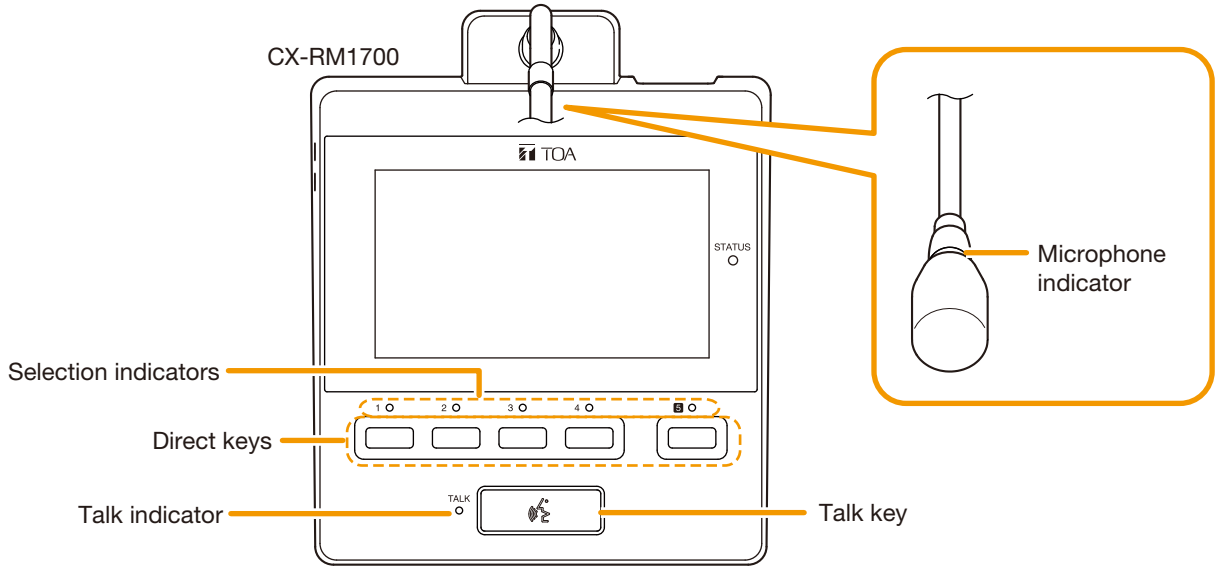
INDICATOR LIGHT STATUS AND LCD

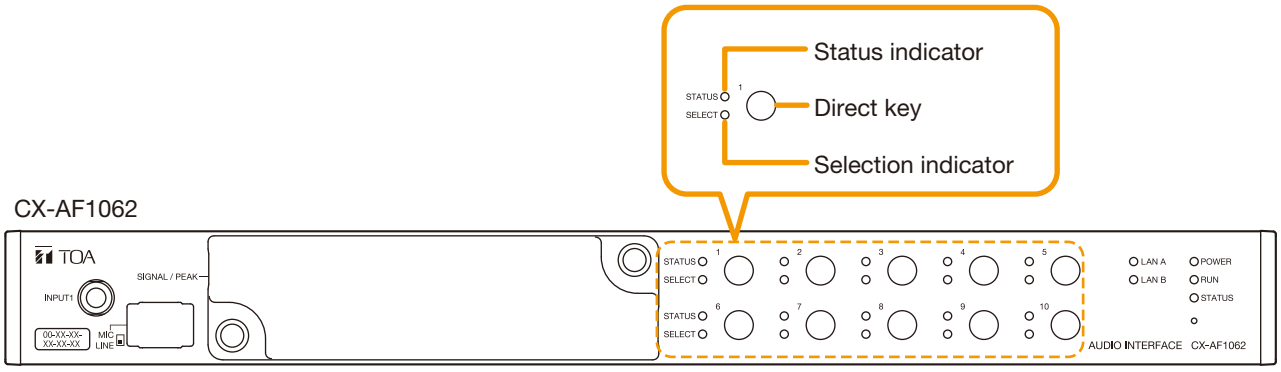
1. DIRECT AND BROADCAST KEYS INDICATOR STATUS

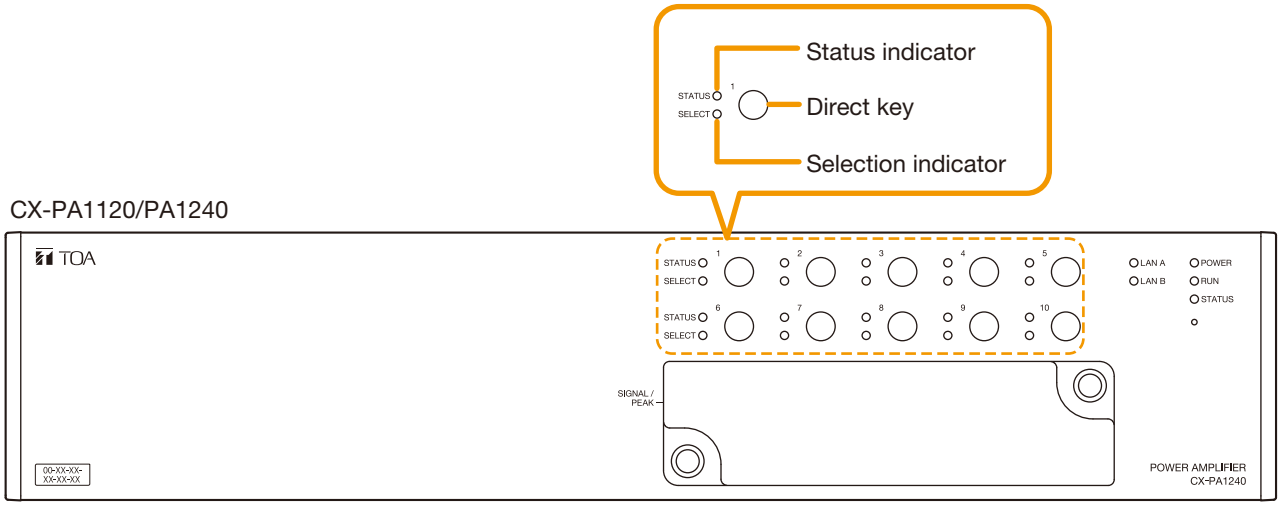
This section explains the status of the indicators that are linked to the CX-RM1700's Direct keys (hardware keys) and Talk key as well as to the Direct keys for the CX-AF1062 and the CX-PA1120 and CX-PA1240.

Tip

Use the CX-1000 Setting software to assign functions to the Direct keys.
(See the separate Setting software instructions, "EVENT ACTIVATION SETTINGS.")







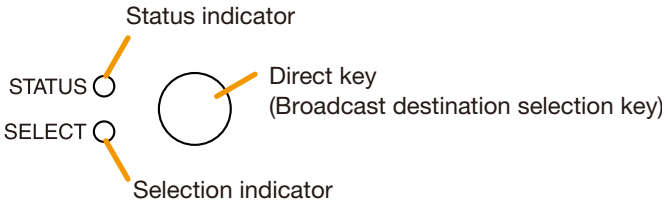
1.1. Broadcast Destination Selection Indicators

When a broadcast destination selection (pattern or individual) function is assigned to a Direct key, the indicators nearest the key indicate both the broadcast status and the destination selection status.

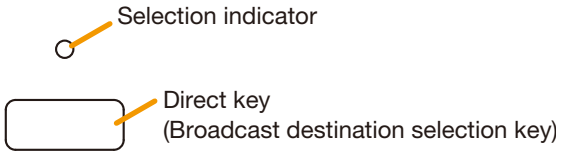
Note

The status indicator will remain OFF if the Direct key's broadcast destination pattern is set for wide area broadcast, regardless of broadcast status.

[When using the CX-AF1062/PA1120/PA1240]



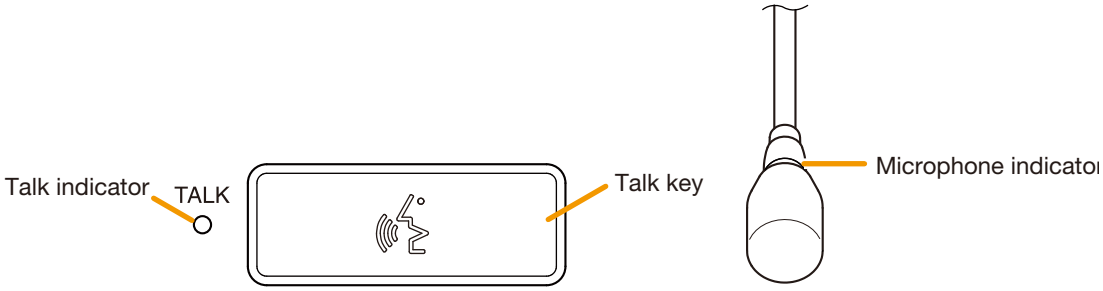
[When using the CX-RM1700]



Indicator	Status	Meaning
Status Indicator	Unlit ○	The broadcast destinations assigned to this Direct key are not currently being used or background music (BGM) is being broadcast.
	Flashes green ☼	Indicates that some of the broadcast destinations assigned to the Direct key are currently broadcasting the audio input selected for the device's general broadcast.
	Lights yellow ●	The device is currently broadcasting to all the Direct key's assigned destinations.
Selection Indicator	Unlit ○	This Direct key not selected.
	Lights green ●	This Direct key selected.

1.2. Talk Key Indicator (CX-RM1700 only)

The indicator located to the left of the Talk key shows the current broadcasting status.
The microphone indicator either flashes or remains lit in conjunction with the Talk indicator depending on the LCD settings. (See p. 2-28.)

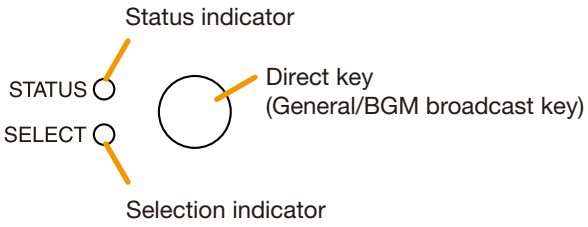


Indicator	Status	Meaning
Broadcast Indicator	Unlit ○	Microphone not used
	Lights green ●	Microphone announcement in progress
	Flashes green ☼	This device's chime in progress

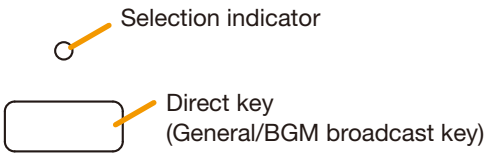
1.3. Indicator Status at the Time of General/BGM Broadcast

When a General/BGM broadcast function is assigned to a Direct key, the indicators near the key show the selection and broadcast status.

[When using the CX-AF1062/PA1120/PA1240]



[When using the CX-RM1700]

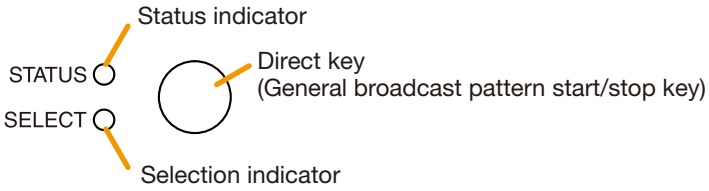


Indicator	Status		Meaning
Status Indicator	Unlit	○	Always unlit
Selection Indicator	Unlit	○	This Direct key not selected.
	Lights green	●	This Direct key selected.

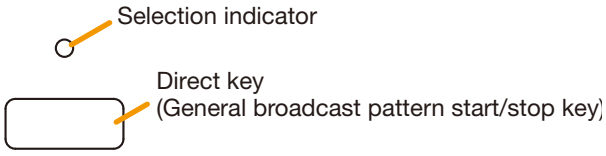
1.4. Indicator Status at the Time of General Broadcast Pattern Start/Stop

When a General broadcast pattern start/stop function has been assigned to a Direct key, the indicators near the key indicate its pattern selection and broadcast status.

[When using the CX-AF1062/PA1120/PA1240]



[When using the CX-RM1700]

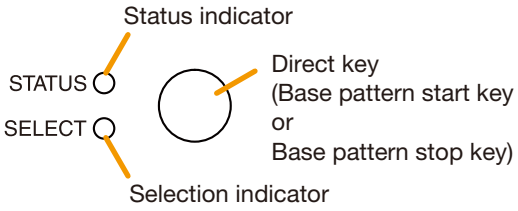


Indicator	Status		Meaning
Status Indicator	Unlit	○	The General broadcast pattern assigned to this Direct key is not currently broadcasting.
	Flashes yellow	☼	The General broadcast pattern assigned to this Direct key is currently broadcasting (including when enabled by other devices).
Selection Indicator	Unlit	○	This Direct key not selected.
	Lights green	●	This Direct key selected.

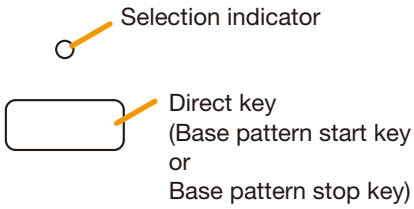
1.5. Indicator Status at the Time of Base Pattern Start or Stop

When a Base pattern start function or stop function has been assigned to a Direct key, the indicators near the key show the selection and broadcast status.

[When using the CX-AF1062/PA1120/PA1240]



[When using the CX-RM1700]

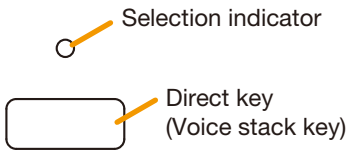


Indicator	Status	Meaning
Status Indicator	Unlit ○	The Base pattern* assigned to this Direct key is not currently broadcasting.
	Lights yellow ●	The Base pattern* assigned to this Direct key is broadcasting (including when enabled by other devices).
Selection Indicator	Unlit ○	This Direct key not pressed.
	Lights green ●	This Direct key pressed. (Indicator lights and goes out.)

* When a base pattern is stopped, all base patterns are disabled.

1.6. Indicator Status at the Time Voice Stack (CX-RM1700 only)

When Voice Stack function is assigned to a Direct key, the indicator near the key shows the selection status.



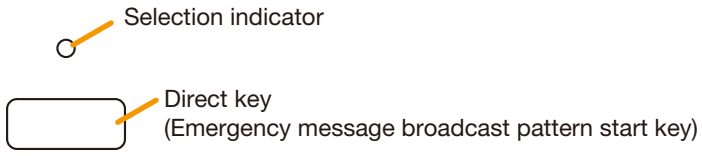
Indicator	Status	Meaning
Selection Indicator	Unlit ○	Voice Stack function not used.
	Lights green ●	Voice Stack function in progress. (The interval following Direct key input, from recording start to the end of the Voice stack broadcast).

1.7. Indicator Status at the Time of Emergency Message Broadcast Pattern Start (CX-RM1700 only)

When the Emergency mode is switched ON and the CX-RM1700's usage is set to General/Emergency, assigning the Emergency message broadcast pattern start function to a Direct key causes the indicator near the key to light to show the selection status.

Tips

- Use the CX-1000 Setting software to enable Emergency mode. (See the separate Setting software instructions, "GENERAL SETTINGS.")
- Use the CX-1000 Setting software to select the CX-RM1700's usage. (See the separate Setting software instructions, "Setting the Basic Operations for Each Device.")



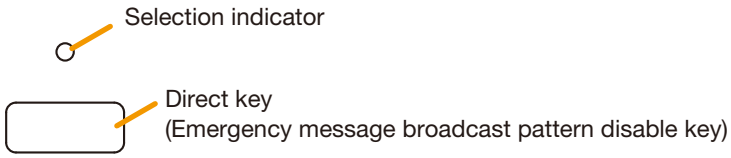
Indicator	Status	Meaning
Selection Indicator	Unlit ○	Direct key not pressed.
	Lights green ●	Direct key pressed. (as long as it is pressed)

1.8. Indicator Status at the Time of Emergency Message Broadcast Pattern Stop (CX-RM1700 only)

When the Emergency mode is switched ON and the CX-RM1700's usage is set to General/Emergency, assigning the Emergency message broadcast pattern stop function to a Direct key causes the indicator near the key to light to show the selection status.

Tips

- Use the CX-1000 Setting software to enable Emergency mode. (See the separate Setting software instructions, "GENERAL SETTINGS.")
- Use the CX-1000 Setting software to select the CX-RM1700's usage. (See the separate Setting software instructions, "Setting the Basic Operations for Each Device.")



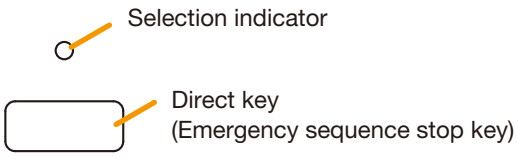
Indicator	Status	Meaning
Selection Indicator	Unlit ○	Direct key not pressed.
	Lights green ●	Direct key pressed. (as long as it is pressed)

1.9. Indicator Status at the Time of Emergency Sequence Stop (CX-RM1700 only)

When the Emergency mode is switched ON and the CX-RM1700's operation is set to General/Emergency, assigning the Emergency sequence stop function to a Direct key causes the indicator near the key to light to show the selection status.

Tips

- Use the CX-1000 Setting software to enable Emergency mode. (See the separate Setting software instructions, "GENERAL SETTINGS.")
- Use the CX-1000 Setting software to select the CX-RM1700's usage. (See the separate Setting software instructions, "Setting the Basic Operations for Each Device.")



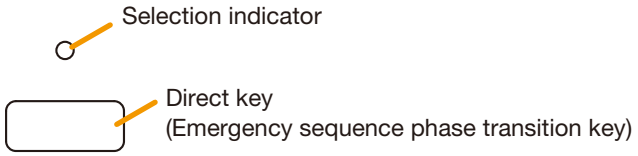
Indicator	Status		Meaning
Selection Indicator	Unlit	○	Direct key not pressed.
	Lights green	●	Direct key pressed. (as long as it is pressed)

1.10. Indicator Status at the Time of Emergency Sequence Phase Transition (CX-RM1700 only)

When the Emergency mode is switched ON and the CX-RM1700's operation is set to General/Emergency, assigning the Emergency sequence phase transition function to a Direct key causes the indicator near the key to light to show the selection status.

Tips

- Use the CX-1000 Setting software to enable Emergency mode. (See the separate Setting software instructions, "GENERAL SETTINGS.")
- Use the CX-1000 Setting software to select the CX-RM1700's usage. (See the separate Setting software instructions, "Setting the Basic Operations for Each Device.")



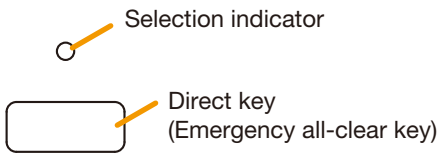
Indicator	Status		Meaning
Selection Indicator	Unlit	○	Direct key not pressed.
	Lights green	●	Direct key pressed. (as long as it is pressed)

1.11. Indicator Status at the Time of Emergency All-clear (CX-RM1700 only)

When the Emergency mode is switched ON and the CX-RM1700's usage is set to General/Emergency, assigning the Emergency all-clear function to a Direct key causes the indicator near the key to light to show the selection status.

Tips

- Use the CX-1000 Setting software to enable Emergency mode. (See the separate Setting software instructions, "GENERAL SETTINGS.")
- Use the CX-1000 Setting software to select the CX-RM1700's usage. (See the separate Setting software instructions, "Setting the Basic Operations for Each Device.")



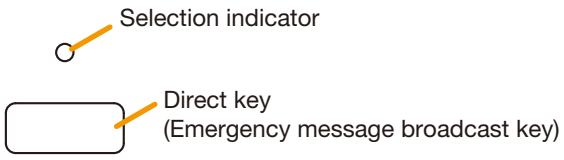
Indicator	Status		Meaning
Selection Indicator	Unlit	○	Direct key not pressed.
	Lights green	●	Direct key pressed. (as long as it is pressed)

1.12. Indicator Status at the Time of Emergency Message Broadcast (CX-RM1700 only)

When the Emergency mode is switched ON and the CX-RM1700's operation is set to General/Emergency, assigning the Emergency message broadcast function to a Direct key causes the indicator near the key to light to show the selection status.

Tips

- Use the CX-1000 Setting software to enable Emergency mode. (See the separate Setting software instructions, "GENERAL SETTINGS.")
- Use the CX-1000 Setting software to select the CX-RM1700's usage. (See the separate Setting software instructions, "Setting the Basic Operations for Each Device.")



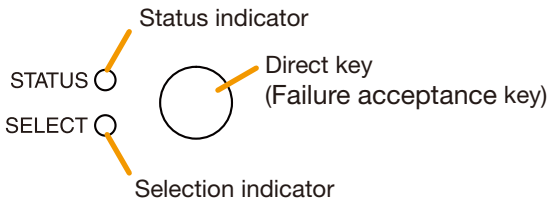
Indicator	Status		Meaning
Selection Indicator	Unlit	○	This Direct key not selected.
	Lights green	●	This Direct key selected.

1.13. Indicator Status at the Time of Failure Acceptance (CX-AF1062/PA1120/PA1240 only)

When the Failure detection is enabled, the Failure acceptance function is assigned to a Direct key, its indicators near the key will light to indicate the selection status, and also the status of the occurrence and acceptance of the failure pattern.

Tip

Use the CX-1000 Setting software to set Failure detection mode. (See the separate Setting software instructions, "GENERAL SETTINGS.")



Indicator	Status	Meaning
Status Indicator	Unlit ○	The failure pattern set for this Direct key has not occurred
	Flashes yellow ☼	The failure pattern set for this Direct key has occurred
	Lights yellow ●	The failure pattern has been acknowledged after pressing this Direct key
Selection Indicator	Unlit ○	Direct key not pressed.
	Lights green ●	Direct key pressed. (as long as it is pressed)

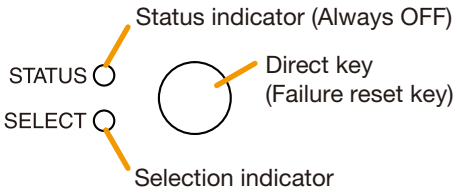
1.14. Indicator Status at the Time of Failure Reset

When the Failure detection function is enabled, if Failure reset function is assigned to a Direct key, its indicator near the key will light to indicate the selection status while the Key is held down. The Status indicator will remain OFF.

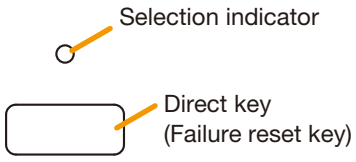
Tip

Use the CX-1000 Setting software to enable Failure detection mode. (See the separate Setting software instructions, "GENERAL SETTINGS.")

[When using the CX-AF1062/PA1120/PA1240]



[When using the CX-RM1700]

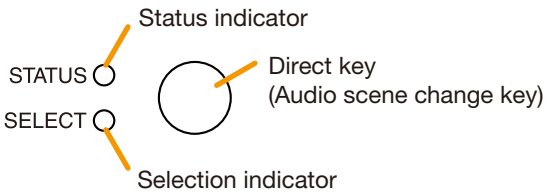


Indicator	Status	Meaning
Selection Indicator	Unlit ○	Direct key not pressed.
	Lights green ●	Direct key pressed. (as long as it is pressed)

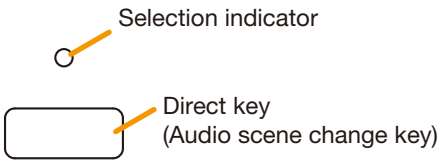
1.15. Indicator Status at the Time of Audio Scene Change

When the Audio scene change function is assigned to a Direct key, the indicators near the key will light to indicate both selection and Audio scene status.

[When using the CX-AF1062/PA1120/PA1240]



[When using the CX-RM1700]

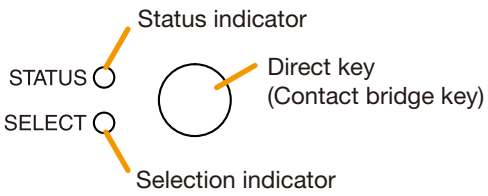


Indicator	Status		Meaning
Status Indicator	Unlit	○	The Audio Scene assigned to this Direct key is currently OFF.
	Lights yellow	●	The Audio Scene assigned to this Direct key is currently ON.
Selection Indicator	Unlit	○	This Direct key not selected.
	Lights green	●	This Direct key selected.

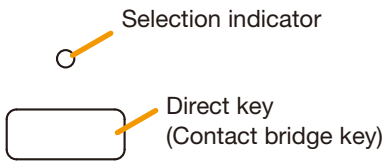
1.16. Indicator Status at the Time of Contact Bridge

When the Contact bridge function is assigned to a Direct key, the indicators near the key will light to indicate both selection and control output status.

[When using the CX-AF1062/PA1120/PA1240]



[When using the CX-RM1700]

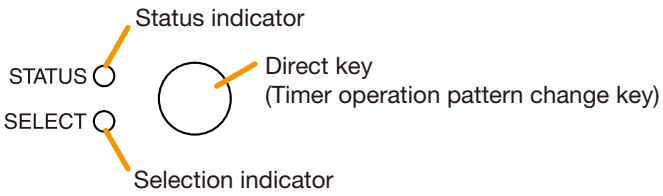


Indicator	Status		Meaning
Status Indicator	Unlit	○	The control output pattern assigned to this Direct key is currently OFF.
	Lights yellow	●	The control output pattern assigned to this Direct key is currently ON. **Tip** When the control output is set to Pulse, if the control output pattern is turned ON, then even after the pulse width elapses and the control output itself turns OFF, since the control output pattern remains ON, the indicator stays lit.
Selection Indicator	Unlit	○	This Direct key not selected.
	Lights green	●	This Direct key selected.

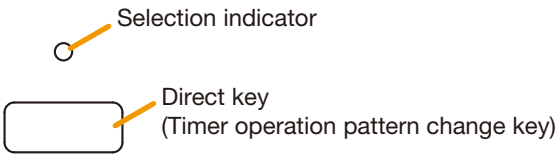
1.17. Indicator Status at the Time of Timer Operation Pattern Change

When the Timer operation pattern change function is assigned to a Direct key, the indicators near the key will light to indicate both selection and Timer Operation Pattern status.

[When using the CX-AF1062/PA1120/PA1240]



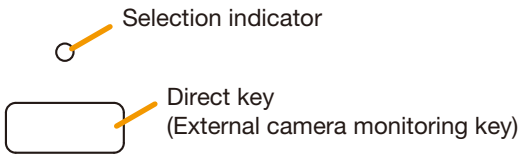
[When using the CX-RM1700]



Indicator	Status		Meaning
Status Indicator	Unlit	○	The timer operation pattern assigned to this Direct key is currently OFF.
	Lights yellow	●	The timer operation pattern assigned to this Direct key is currently ON.
Selection Indicator	Unlit	○	This Direct key not selected.
	Lights green	●	This Direct key selected.

1.18. Indicator Status at the Time of External Camera Monitoring (CX-RM1700 only)

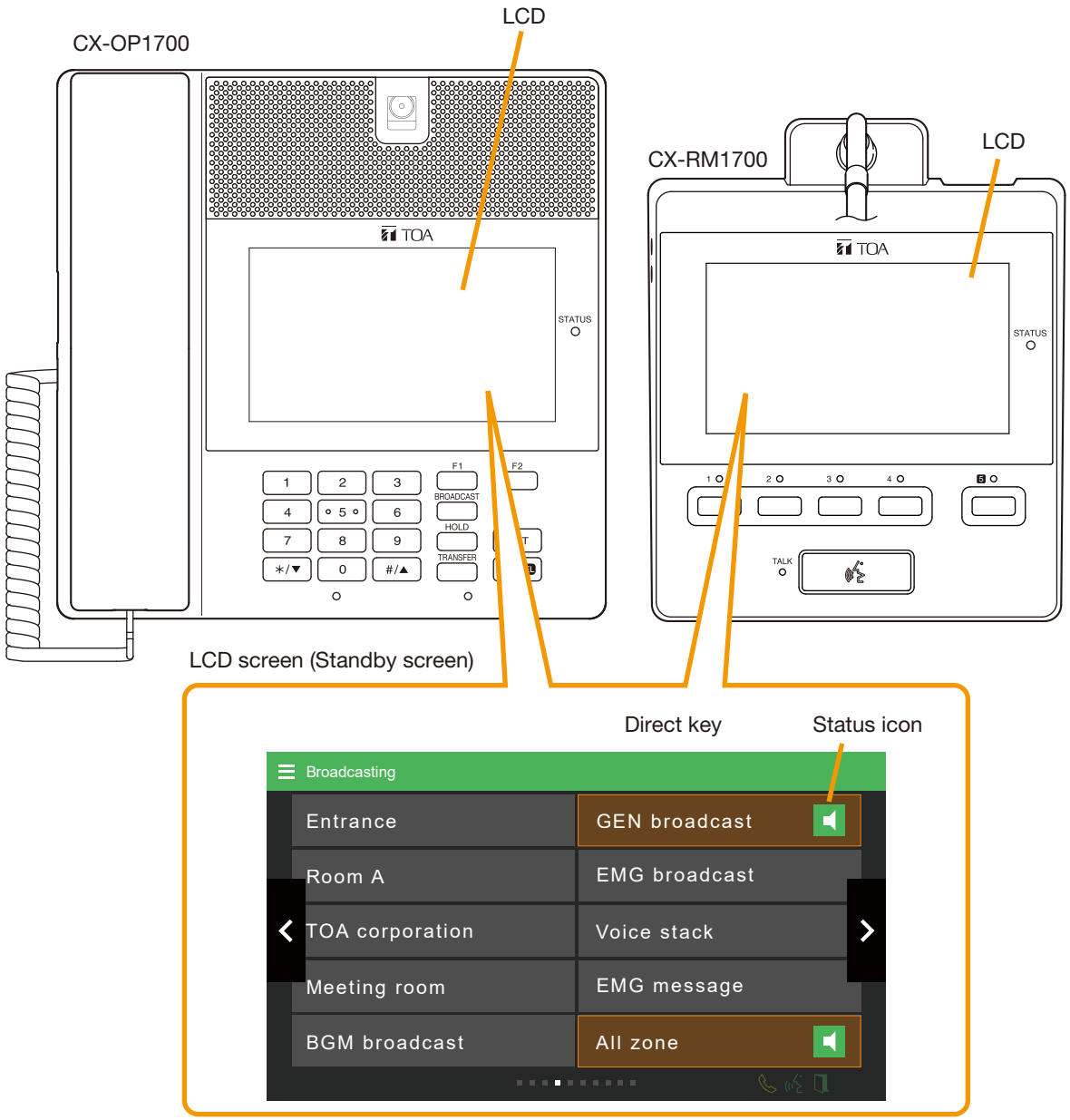
When External camera monitoring function is assigned to a Direct key, the indicator near the key will light to indicate selection status.



Indicator	Status		Meaning
Selection Indicator	Unlit	○	This Direct key not selected.
	Lights green	●	This Direct key selected.

2. LCD DIRECT KEY DISPLAY STATUS

This section describes the displayed status of the Direct keys that appear on the LCD of the CX-OP1700 and CX-RM1700.



Tips

- Use the CX-1000 Setting software to assign functions to the Direct keys.
  (See the separate Setting software instructions, "EVENT ACTIVATION SETTINGS.")
- The displayed Direct key names are the one having been set using the CX-1000 Setting software. The Direct key names used hereinafter are only for examples.

2.1. Indicator Status at the Time of Broadcast Destination Selection

When a broadcast destination selection (pattern or individual) function is assigned to a Direct key, the selection status is indicated by the color of the Direct key and the broadcast status by the icon visible inside the Direct key.

Notes

- The status display icon is not shown if the broadcast destination type is set to Wide Area broadcast.
- The status display icon does not appear if all the broadcast destinations assigned to a Direct key for broadcast destination selection are currently broadcasting or on a call, meaning they cannot receive broadcasts.

Direct key Status	Meaning
Direct key	This Direct key not selected.
Direct key	This Direct key selected.

Icon	Meaning
None	Some or all of the Direct key's broadcast destinations are unused (excluding BGM broadcasts).
	All broadcast destinations assigned to the Direct key are currently either broadcasting from the device or are broadcasting an All-clear message from the device.
	The station's evacuation message is broadcast to all broadcast destinations assigned to this Direct key.
	The station's warning message is broadcast to all broadcast destinations assigned to this Direct key.
	Some of the broadcast destinations assigned to this Direct key are set as broadcast destinations from this device and are currently broadcasting.
	Some of the broadcast destinations assigned to this Direct key are set as broadcast destinations from this device and are currently broadcasting an evacuation message.
	Some of the broadcast destinations assigned to this Direct key are set as broadcast destinations from this device and are currently broadcasting a warning message.

2.2. Indicator Status at the Time of General/BGM Broadcast

When a General/BGM broadcast function is assigned to a Direct key, its status is indicated by the color of the Direct key and the broadcast status by the icon visible inside the Direct key.

Direct key Status	Meaning
Direct key	This Direct key not selected.
Direct key	This Direct key selected.

Icon	Meaning
	The General/BGM broadcast assigned to this Direct key is broadcasting.

2.3. Indicator Status at the Time of the General Broadcast Pattern Start/Stop

When a General broadcast pattern start/stop function is assigned to a Direct key, the selection status is indicated by the color of the Direct key and the broadcast status by the icon visible inside the Direct key.

Direct key Status	Meaning
	This Direct key not selected.
	This Direct key selected.

Icon	Meaning
None	The General broadcast pattern assigned to this Direct key is not currently broadcasting.
	The General broadcast pattern assigned to this Direct key is broadcasting (including when enabled by other devices).

2.4. Indicator Status at the Time of the Base Pattern Start

When a Base pattern start function is assigned to a Direct key, the selection status is indicated by the color of the Direct key and the broadcast status by the icon visible inside the Direct key.

Direct key Status	Meaning
	Direct key not pressed.
	Direct key pressed. (Indicator lights and goes out.)

Icon	Meaning
None	The Base pattern assigned to this Direct key is not currently broadcasting.
	The Base pattern assigned to this Direct key is broadcasting (including when enabled by other devices).

2.5. Indicator Status at the Time of Voice Stack

When a Voice stack function is assigned to a Direct key, the selection status is indicated by the color of the Direct key and the Voice stack standby status by the icon visible inside the Direct key.

Direct key Status	Meaning
	Voice stack function not used.
	Voice stack function in progress (The interval following Direct key input, from recording start to the end of the Voice stack broadcast).

Icon	Meaning
None	When no recorded audio is available.
	The Voice stack broadcast assigned to this Direct key is broadcasting.
	When recorded audio is available.

2.6. Indicator Status at the Time of Emergency Message Broadcast Pattern Start

When the CX-OP1700 or CX-RM1700's usage is set to General/Emergency, and Emergency mode is switched ON, if a Direct key is set for Emergency message broadcast pattern start function, the selection status is indicated by the color of the Direct key and the broadcast status by the icon visible inside the Direct key.

Tips

- Use the CX-1000 Setting software to enable Emergency mode. (See the separate Setting software instructions, "GENERAL SETTINGS.")
- Use the CX-1000 Setting software to select the CX-OP1700/RM1700's usage. (See the separate Setting software instructions, "Setting the Basic Operations for Each Device.")

Direct key Status	Meaning
	Direct key not pressed.
	Direct key pressed. (Indicator lights and goes out.)

Icon	Meaning
None	The Emergency message broadcast pattern assigned to this Direct key is not currently broadcasting.
	The Emergency message broadcast pattern assigned to this Direct key is currently broadcasting a warning message.
	The Emergency message broadcast pattern assigned to this Direct key is currently broadcasting an evacuation message.

2.7. Indicator Status at the Time of Emergency Message Broadcast Pattern Stop

When the CX-OP1700 or CX-RM1700's usage is set to General/Emergency, and Emergency mode is switched ON, if a Direct key is set for Emergency message broadcast pattern stop function, the selection status is indicated by the color of the Direct key and the broadcast status by the icon visible inside the Direct key.

Tips

- Use the CX-1000 Setting software to enable Emergency mode. (See the separate Setting software instructions, "GENERAL SETTINGS.")
- Use the CX-1000 Setting software to select the CX-OP1700/RM1700's usage. (See the separate Setting software instructions, "Setting the Basic Operations for Each Device.")

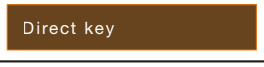
Direct key Status	Meaning
	Direct key not pressed.
	Direct key pressed. (Indicator lights and goes out.)

2.8. Indicator Status at the Time of Emergency Sequence Stop

When the CX-OP1700 or CX-RM1700's usage is set to General/Emergency, if the Emergency sequence stop function is assigned to a Direct key, the selection status is indicated by the color of the Direct key.

Tips

- Use the CX-1000 Setting software to enable Emergency mode. (See the separate Setting software instructions, "GENERAL SETTINGS.")
- Use the CX-1000 Setting software to select the CX-OP1700/RM1700's usage. (See the separate Setting software instructions, "Setting the Basic Operations for Each Device.")

Direct key Status	Meaning
	Direct key not pressed.
	Direct key pressed. (Indicator lights and goes out.)

2.9. Indicator Status at the Time of Emergency Sequence Phase Transition

When the CX-OP1700 or CX-RM1700's usage is set to General/Emergency, and Emergency mode is switched ON, if a Direct key is set for Emergency sequence phase transition function, the selection status is indicated by the color of the Direct key and the broadcast status by the icon visible inside the Direct key.

Tips

- Use the CX-1000 Setting software to enable Emergency mode. (See the separate Setting software instructions, "GENERAL SETTINGS.")
- Use the CX-1000 Setting software to select the CX-OP1700/RM1700's usage. (See the separate Setting software instructions, "Setting the Basic Operations for Each Device.")

Direct key Status	Meaning
	This Direct key not selected.
	This Direct key selected.

Icon	Meaning
	The Emergency sequence assigned to this Direct key is currently in its 1st phase.
	The Emergency sequence assigned to this Direct key is currently in its 2nd phase.
	The Emergency sequence assigned to this Direct key is currently in its 3rd phase.

2.10. Indicator Status at the Time of Emergency All-clear

When the CX-OP1700 or CX-RM1700's usage is set to General/Emergency, and Emergency mode is switched ON, if a Direct key is set for Emergency all-clear function, the selection status is indicated by the color of the Direct key and the broadcast status by the icon visible inside the Direct key.

Tips

- Use the CX-1000 Setting software to enable Emergency mode. (See the separate Setting software instructions, "GENERAL SETTINGS.")
- Use the CX-1000 Setting software to select the CX-OP1700/RM1700's usage. (See the separate Setting software instructions, "Setting the Basic Operations for Each Device.")

Direct key Status	Meaning
	Direct key not pressed.
	Direct key pressed. (Indicator lights and goes out.)

Icon	Meaning
None	The Direct key's assigned All-clear message is now stopped.
	The Direct key's assigned All-clear message is being broadcast from this device.

2.11. Indicator Status at the Time of Emergency Message Broadcast

When the CX-OP1700's usage is set to General/Emergency, and Emergency mode is switched ON, if a Direct key is set for Emergency message broadcast function, the selection status is indicated by the color of the Direct key and the broadcast status by the icon visible inside the Direct key.

Tips

- Use the CX-1000 Setting software to enable Emergency mode. (See the separate Setting software instructions, "GENERAL SETTINGS.")
- Use the CX-1000 Setting software to select the CX-OP1700's usage. (See the separate Setting software instructions, "Setting the Basic Operations for Each Device.")

Direct key Status	Meaning
Direct key	This Direct key not selected.
Direct key	This Direct key selected.

Icon	Meaning
None	When the Direct key's Emergency message is not broadcasting to all system destinations.
	When the Direct key's Emergency message is being broadcast as a warning.
	When the Direct key's Emergency message is currently being broadcast as an evacuation order.

2.12. Indicator Status at the Time of Failure Reset

When Failure reset function is assigned to a Direct key, its selection status is indicated by the color of the Direct key.

Direct key Status	Meaning
Direct key	This Direct key not selected.
Direct key	This Direct key selected.

2.13. Indicator Status at the Time of Audio Scene Change

When Audio scene change function is assigned to a Direct key, its selection status is indicated by the color of the Direct key.

Direct key Status	Meaning
Direct key	This Direct key not selected.
Direct key	This Direct key selected.

2.14. Indicator Status at the Time of Contact Bridge

When a Contact bridge function is assigned to a Direct key, the selection status is indicated by the color of the Direct key and the control output status by the icon visible inside the Direct key.

Direct key Status	Meaning
Direct key	This Direct key not selected.
Direct key	This Direct key selected.

Icon	Meaning
None	The control output pattern assigned to this Direct key is currently OFF.
	The control output pattern assigned to this Direct key is currently ON. **Tip** If the control output is set to Pulse, if the control output pattern is turned ON, then even after the pulse width elapses and the control output itself turns OFF, since the control output pattern remains ON, the icon stays lit.

2.15. Indicator Status at the Time of Timer Operation Pattern Change

When a Timer operation pattern change function is assigned to the Direct key, the selection status is indicated by the color of the Direct key and the Timer operation pattern status by the icon visible inside the Direct key.

Direct key Status	Meaning
Direct key	This Direct key not selected.
Direct key	This Direct key selected.

Icon	Meaning
None	The timer operation pattern assigned to this Direct key is currently OFF.
	The timer operation pattern assigned to this Direct key is currently ON.

2.16. Indicator Status at the Time of External Camera Monitoring

When External camera monitoring function is assigned to a Direct key, the following display appears:

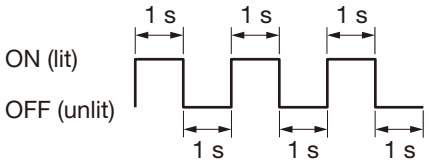
Direct key Status	Meaning
Direct key	This Direct key not selected.
—	The image from the external camera is displayed over the entire LCD when the Direct key is selected.

3. THE STATUS OF THE RUN INDICATOR

The operation status of the device can be seen by the [RUN] operation indicator located on the front of the device. (Applies to CX-SM1000, CX-CL1750, CX-OP1500, CX-CL1550, CX-AF1062, CX-PA1120, CX-PA1240, and CX-CC1016)

Status	Flashing cycle*	Meaning
Unlit ○	–	Power OFF When the CPU OFF selector switch is set to CPU OFF position: (CX-PA1120/PA1240 only)
Lights green ●	–	All functions usable (in standby or being activated)
Flashes green ☀	ON = 1 s OFF = 1 s	Until each function is made usable after power-ON.

* Flashing (cycling through 1 s ON and 1 s OFF.) indicates the following conditions:



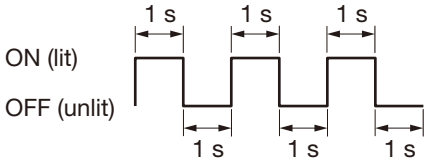
4. THE STATUS OF THE STATUS INDICATOR

4.1. The Status Indicators of the CX-OP1700/CL1750/OP1500/CL1550

The Event status of the station can be seen by the Status indicator located on the front of the unit. (Applies to CX-OP1700, CX-CL1750, CX-OP1500, and CX-CL1550.)

Status	Flashing cycle*	Meaning
Unlit ○	–	Power OFF Unit starting up Waiting for connection to the System Manager
Lights green ●	–	Correctly in Normal mode after establishing a connection with the System Manager
Flashes green ✳	ON = 0.1 s OFF = 0.1 s	Receiving a call in Normal mode
Lights yellow ●	–	The state in which a failure of this station has occurred in Normal mode, and was acknowledged
Flashes yellow ✳	ON = 1 s OFF = 1 s	The state in which a failure of this station has occurred in Normal mode, and was not acknowledged
Lights red ●	–	In Emergency mode

* Flashing (cycling through 1 s ON and 1 s OFF) indicates the following conditions:
Flashing cycle is approximate.

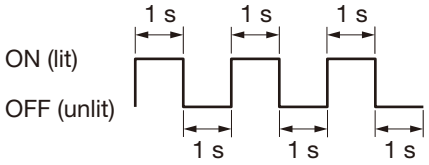


4.2. The Status Indicators of the CX-SM1000/RM1700/AF1062/PA1120/PA1240/CC1016

The Event status of the device can be seen by the Status indicator located on the front of the unit. (Applies to CX-SM1000, CX-RM1700, CX-AF1062, CX-PA1120, CX-PA1240, and CX-CC1016)

Status	Flashing cycle*1	Meaning
Unlit	–	Power OFF Unit starting up Waiting for connection to the System Manager
Lights green	–	Correctly in Normal mode after establishing a connection with the System Manager
Flashes green	ON = 0.1 s OFF = 0.1 s	Accessing the SD card. (CX-SM1000 only)
Lights yellow	–	The state in which a failure of this device*2 has occurred in Normal mode, and was acknowledged
Flashes yellow	ON = 1 s OFF = 1 s	The state in which a failure of this device*2 has occurred in Normal mode, and was not acknowledged
Lights red	–	In Emergency mode

*1 Flashing (cycling through 1 s ON and 1 s OFF) indicates the following conditions:
Flashing cycle is approximate.

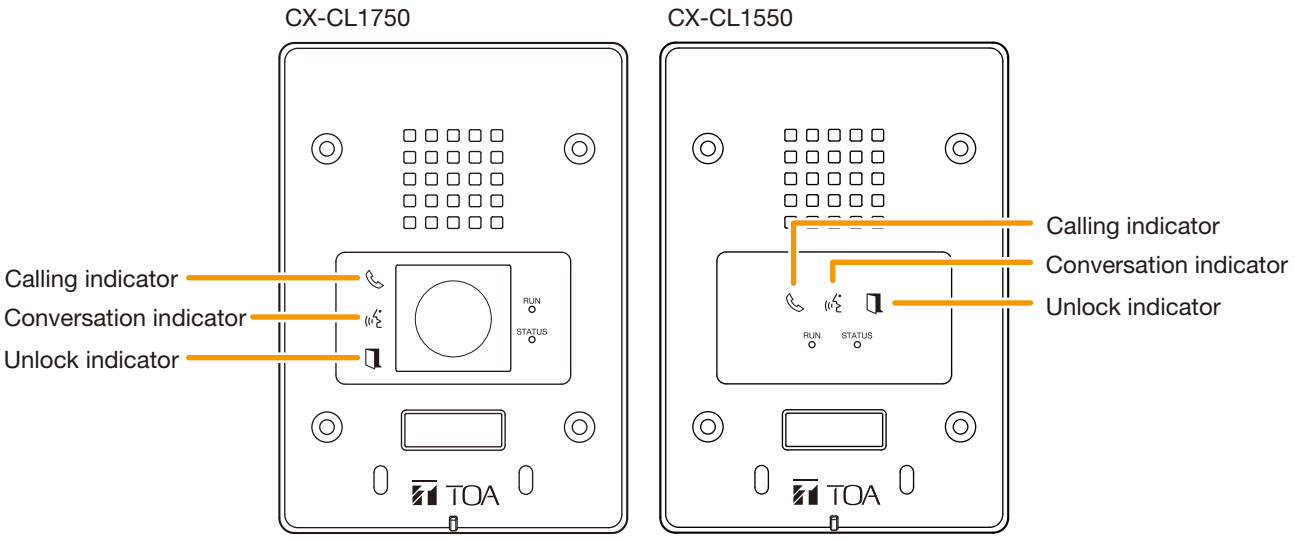


*2 The CX-SM1000's indicator light switches ON whenever a failure is detected in any device in the system.

5. ICON LIST

5.1. Indicators of the CX-CL1750/CL1550

The Event status of the device can be seen by the Calling indicator, Conversation indicator, and Unlock indicator located on the front of the CX-CL1750/CL1550.



5.1.1. Calling indicator

This indicator lights or flashes when an outgoing call is made. (See Chapter 3 for details.)

Status	Indicator	Flashing cycle*	Meaning
Lights		–	Call is in progress

5.1.2. Conversation indicator

This indicator lights during conversation. (See Chapter 3 for details.)

Status	Indicator	Flashing cycle*	Meaning
Lights		–	Conversation in progress

5.1.3. Unlock indicator

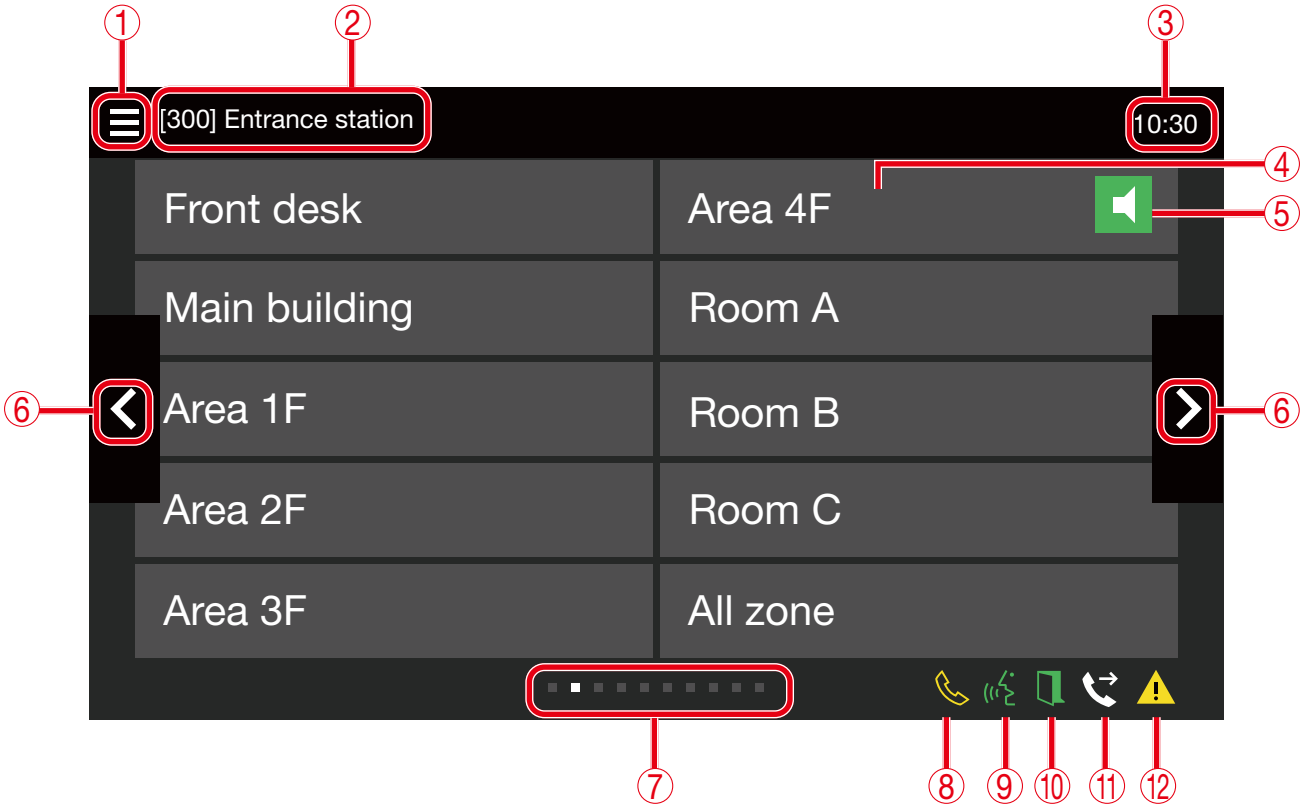
This indicator lights when an unlock operation for the electronic lock is performed via door remote control. (See Chapter 3 for details.)

Status	Indicator	Meaning
Lights		Unlocking the key during a 2-party conversation

5.2. Icon Display on the CX-OP1700 and CX-RM1700 LCD

The Event status of the station can be seen by the icons visible on the LCD of the CX-OP1700 and CX-RM1700.

5.2.1. Standby screen



1. **Menu button**
   Used to display the Contacts* (p. 3-4), perform inspections (p. 8-2), etc.

2. **Name display**
   For the CX-OP1700, the station's assigned number and name are displayed while in Standby mode. The Event name is displayed during each function's operation.
   Only the station name is displayed in the case of the CX-RM1700.

3. **Clock**
   Displays the system's current time.

4. **Direct key**
   Functions previously assigned to the Direct key can be executed by a simple press of the key. The name displayed on the Direct key can be changed in the settings. Up to 100 Direct keys can be registered.
   (See "LCD DIRECT KEY DISPLAY STATUS" on p. 2-12.)

5. **Status indicator icon**
   Indicates the status of the function assigned to the Direct key.
   (See "LCD DIRECT KEY DISPLAY STATUS" on p. 2-12.)

6. **Page shift**
   The Direct key screen can be shifted. Press [>] to advance and [<] to return.

7. **Page position information**
   Indicates the position of the page on the Direct key screen.

8. Call icon (CX-OP1700 only)

Lights up to indicate outgoing call status.

Status	Indicator	Meaning
Lights		Call is in progress

9. Conversation icon (CX-OP1700 only)

Lights up to indicate conversation status.

Status	Indicator	Meaning
Lights		Conversation in progress

10. Unlock icon (CX-OP1700 only)

Lights up to indicate the key's unlocked status.

Status	Indicator	Meaning
Lights		Unlocking the key during a 2-party conversation

11. Redirecting icon

Appears when the Redirecting setting is performed.

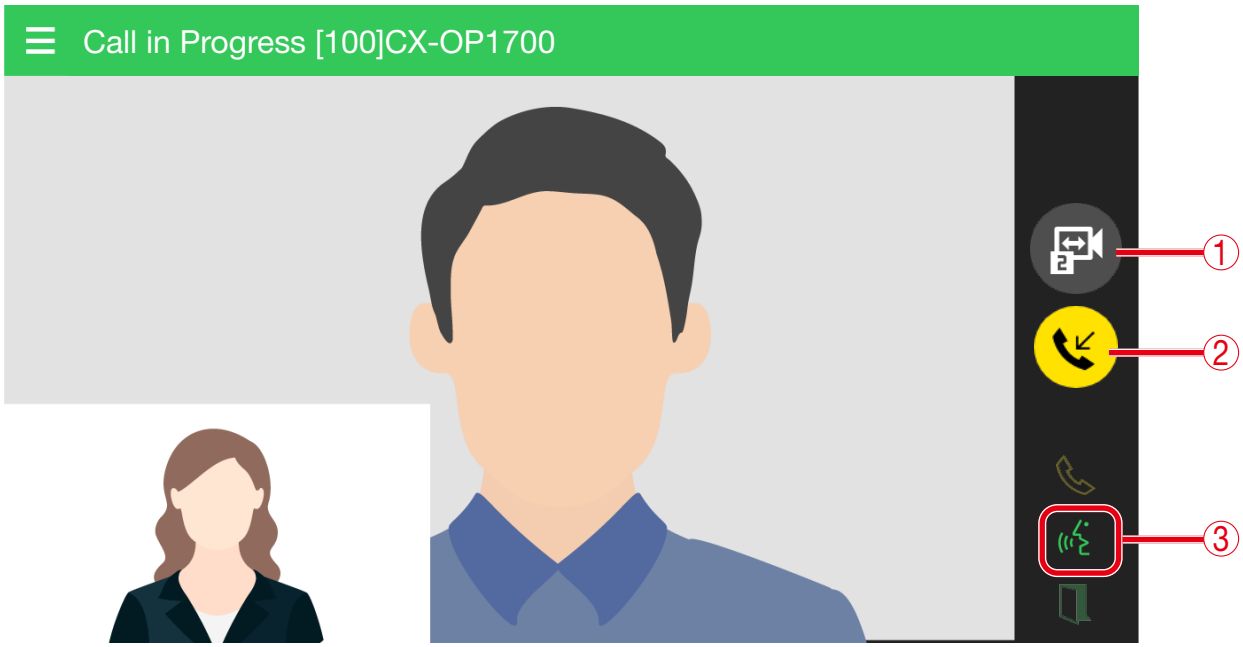
Status	Indicator	Meaning
Lights		Redirecting is set

12. Failure icon

Appears when a failure pattern set for a Direct key occurs, and disappears when the failure is resolved.

Status	Indicator	Meaning
Lights		Failure detected

5.2.2. Video conversation in-progress screen (CX-OP1700 only)



1. **Camera image switching**
   The displayed image can be switched between the called party's station camera or an IP camera.
   (See "Video Conversation (CX-OP1700/CL1750 only)" on p. 3-14.)

2. **Incoming call display**
   This icon appears when a new call is incoming during a conversation. Pressing this icon displays the list of incoming calls.

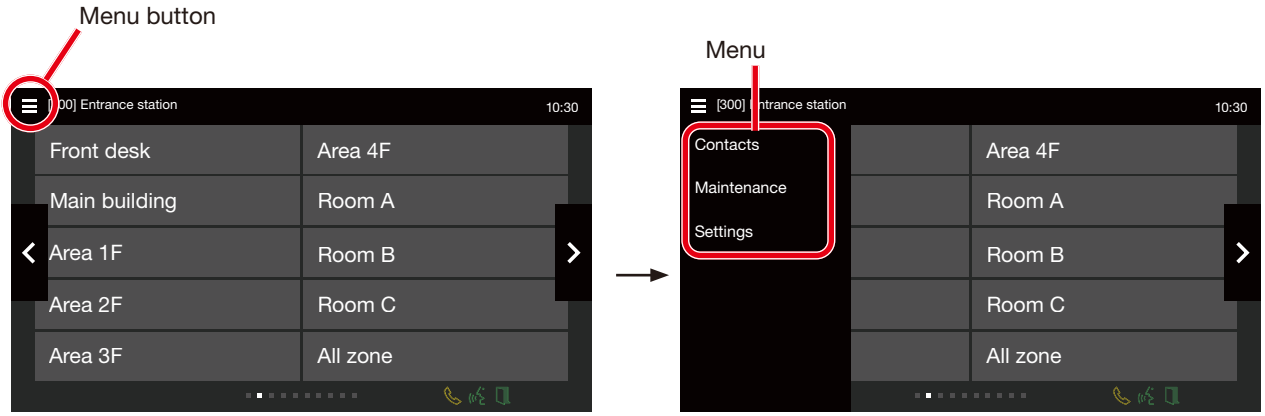
3. **Conversation icon**
   This icon continuously lights during a conversation.

6. MENU SCREEN TRANSITION

6.1. CX-OP1700 and CX-RM1700 Menu Screens

6.1.1. How to enter the menu screen

Press the Menu button in the upper left corner of the LCD to display the menu.



Note: These screens are examples of the CX-OP1700.

6.1.2. Menu structure

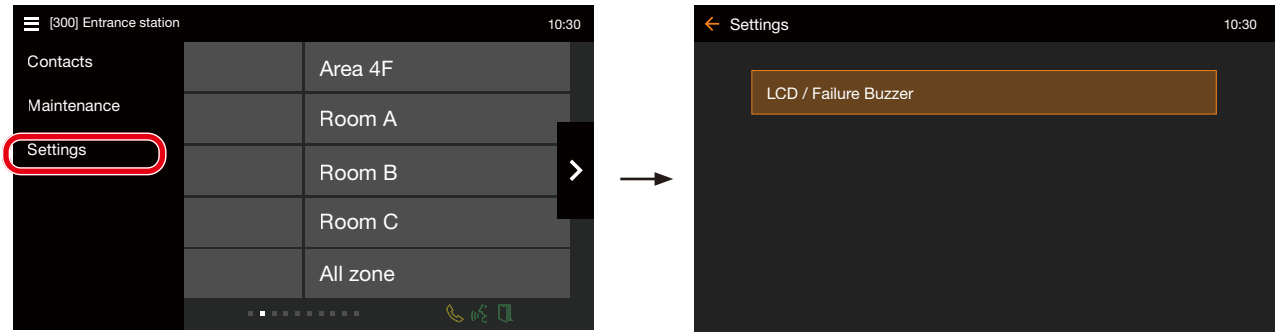
Contacts*1	
Maintenance	
	Self-check
	Station information
Setting	
	LCD and buzzer adjustment setting
	Volume control settings*2

*1 This is the CX-CP1700 menu.
*2 This is the CX-RM1700 menu.

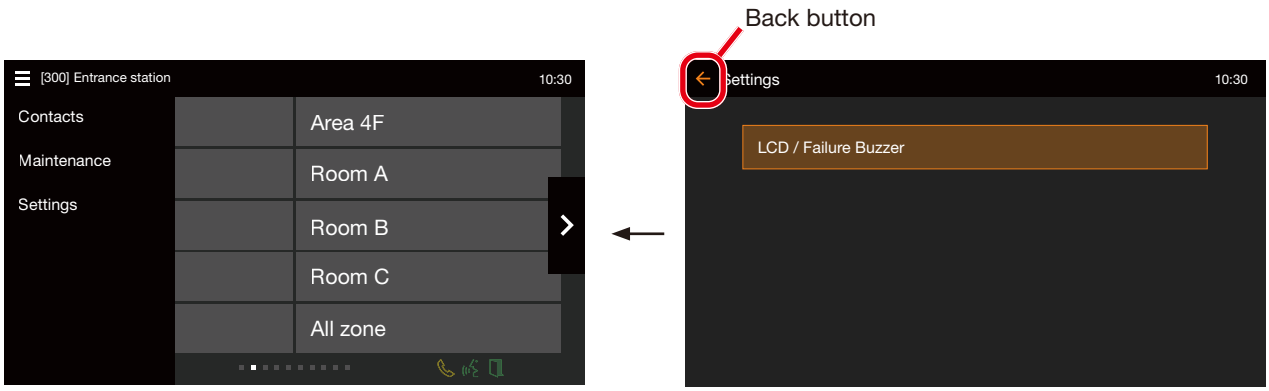
6.1.3. Basic menu screen operations

Note: These screens are examples of the CX-OP1700.

- When a menu item is pressed, the color of the button changes and the LCD displays the item selection screen, item's setting screen, etc.

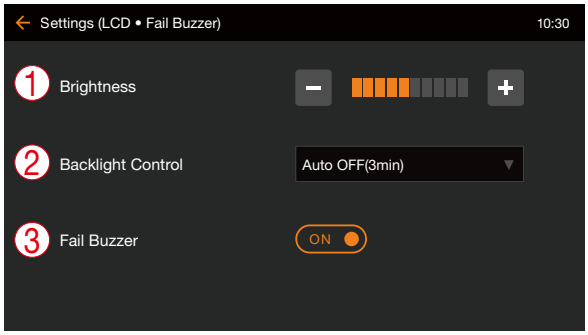


- To return to the previous screen, press the Back button in the upper left corner of the screen.



6.1.4. Settings screens

[LCD and Buzzer Adjustment Screen]

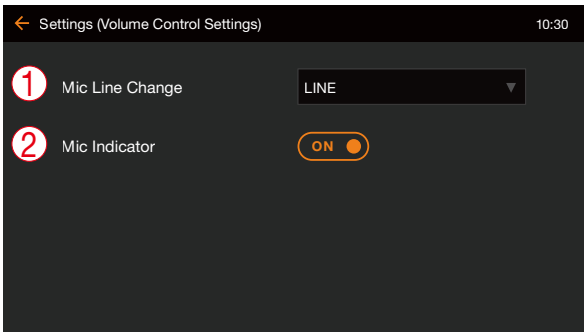


1. Brightness
Pressing the +/– keys adjusts the brightness of the LCD in real time.
(Factory default: 50%, 5 of 10 stages, or meter center position)

2. Backlight control
Always ON: Backlight is always on.
Auto OFF(3min): Backlight automatically turns off if no operation continues for 3 minutes.
(Factory default: Auto OFF)
Note
The Always ON selection may reduce the lifespan of the LCD.

3. Failure Buzzer
Buzzer operation can be set when the Failure detection function is enabled.
OFF: No buzzer sounds when a failure occurs.
ON: Buzzer sounds when a failure occurs.
(Factory default: ON)

[Volume Control Setting Screen (CX-RM1700 only)]

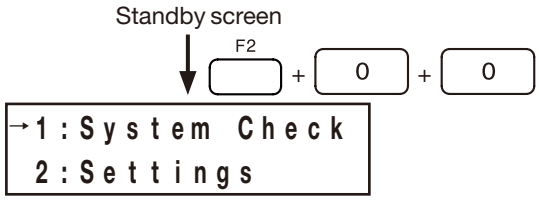


1. MIC/LINE switching
Sets the input level for the AUX input terminal.
Setting range: MIC/LINE
(Factory default: LINE)

2. Microphone indicator
Setting range: ON/OFF
(Factory default: ON)

6.2. CX-OP1500 Menu Screen

6.2.1. Entering the menu screen



On the Standby screen, press Function key 2 and the [0] key twice to display the menu on the LCD.

Note

This menu is only displayed on the Standby screen. The Standby screen is displayed whenever background music output is being received, however the menu screen will not be displayed.

Tip

Pressing the Cancel key on the screen at right returns the display to the Standby screen.

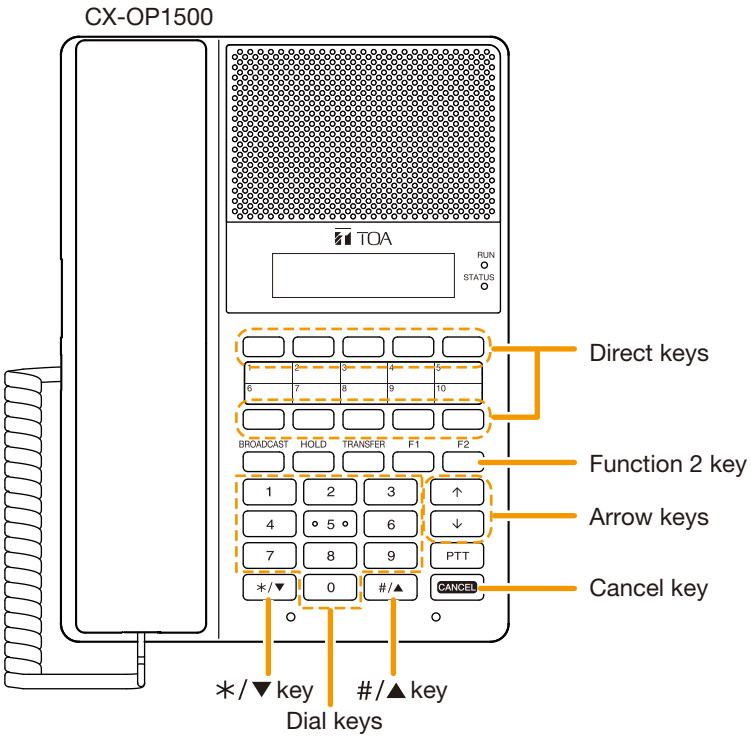
6.2.2. Menu structure

- 1. System Check
  - 1.1. Self-check
    - 1.1.1. MIC/SP
      - Disable
      - Enable
    - 1.1.2. Key [CL]
      - Disable
      - Enable
    - 1.1.3. Amp
      - Disable
      - Enable
    - 1.1.4. Storage
      - Disable
      - Enable
    - 1.1.5. Start
  - 1.2. Device Info
    - 1.2.1. This Device
      - Firmware Ver
      - Hardware Ver
      - IP Address
      - Subnet Mask
      - MAC Address
      - Default Gateway
    - 1.2.2. SM
      - IP Address

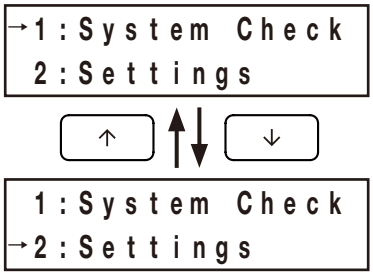
- 2. Settings
  - 2.1. LCD/Buzzer
    - 2.1.1. Backlight
      - Auto OFF
      - Always ON
    - 2.1.2. Fail Buzzer
      - OFF
      - ON

6.2.3. Basic menu screen operations

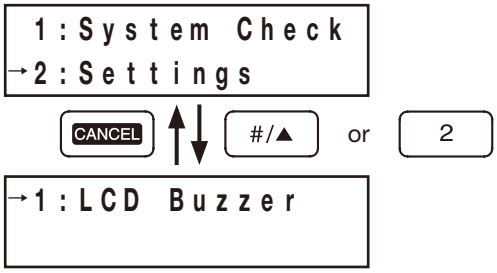
The following keys are used in Menu screen operations:



- Press the arrow keys to move the "→" mark to the desired selection.



- To select, press on the [#/▲] key or the corresponding numbered dial key.
- Press the Cancel key to return to the previous screen without a selection.



Chapter 3

CONVERSATION FUNCTIONS AND OPERATION

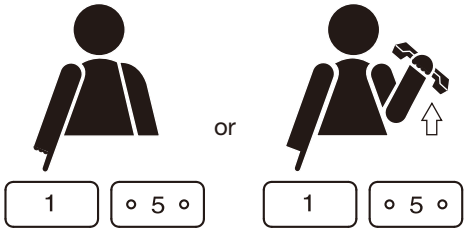
1. CALL

1.1. Individual Calls (CX-OP1700/OP1500 only)

Step 1. Press the station number to be called.

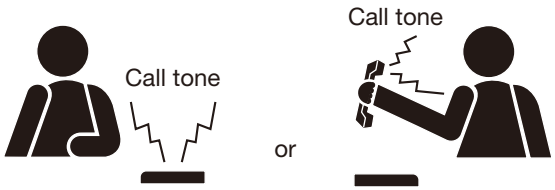
Note
When a station is broadcasting from its built-in audio source, all outgoing call operations are disabled.

Tip
The station's handset may be either lifted or in place.

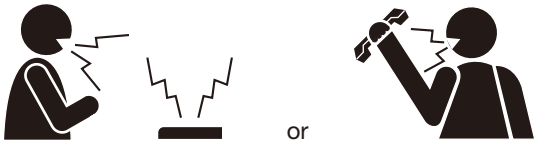


The call tone is heard through the calling station's speaker.

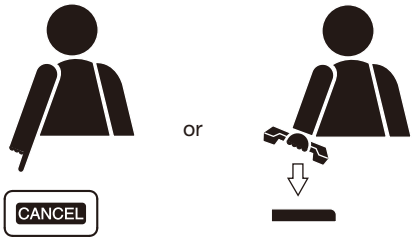
Tips
- The call tone is heard in the calling station's handset speaker if dialed after lifting the handset.
- When the called party is currently speaking on another line and cannot be reached, a busy tone is heard. When the called party finishes the conversation, the busy tone changes to a call tone.



Step 2. Start conversations when the call tone stops and the called party answers.
The call tone continues to sound and stops when the called party answers, allowing conversations to start.



Step 3. To finish conversations, press the Cancel key or replace the handset.



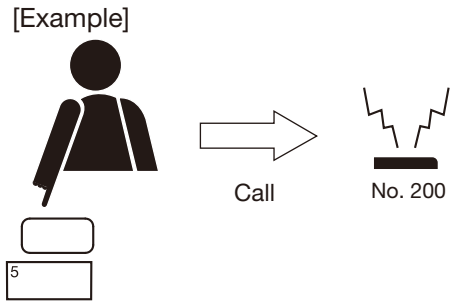
Note
The call or conversation automatically stops after the specified time-out.
The specific length of call time-out and conversation time-out (in 10-second units between 10 and 990 seconds, or none) are preprogrammed into individual stations using the CX-1000 Setting software. (See the separate Setting software instructions, "Setting Calls, Responses, and Conversations.")

1.2. Speed Dialing

Programming a specified station key for one-touch dial allows calls to be made using one-touch dial function.

1.2.1. One-touch dial (CX-OP1700/OP1500 only)

Calls can be made using one-touch dial if the one-touch dial function has been previously assigned to a station's Direct key and dialing operations (up to 25 digits) have been registered.

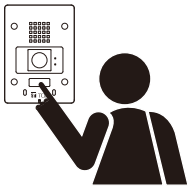


Tip
Use the CX-1000 Setting software to assign functions and register dialing operations to individual keys for one-touch dial. (See the separate Setting software instructions, "EVENT ACTIVATION SETTINGS.")

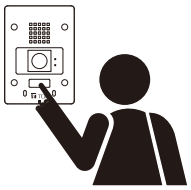
1.2.2. Calling from the CX-CL1750/CL1550

If the one-touch dial function is assigned and dialing operations (up to 25 digits) registered to the Direct key in advance, calls can be quickly made to a specific station.

Step 1. Press the Direct key.
The call tone is heard through the calling station's speaker.
Tip
The busy tone is heard if the called party is currently busy on another line. If the busy tone is heard, please wait. The call will be allowed to go through as soon as the called party ends its current conversation.



Step 2. Press the Direct key again to end the call or conversation.



Note
If a time-out has been set for call or conversation duration, the call or conversation will automatically end when the time-out elapses.
The specific length of call time-out and conversation time-out (in 10-second units between 10 and 990 seconds, or none) are preprogrammed into individual stations using the CX-1000 Setting software. (See the separate Setting software instructions, "Setting Calls, Responses, and Conversations.")
Tip
Use the CX-1000 Setting software to assign a function and register dialing operations to each Direct key.
(See the separate Setting software instructions, "EVENT ACTIVATION SETTINGS.")

1.3. Contacts (CX-OP1700 Only)

Calls can be made to any call destinations registered in the Contacts and contact group.

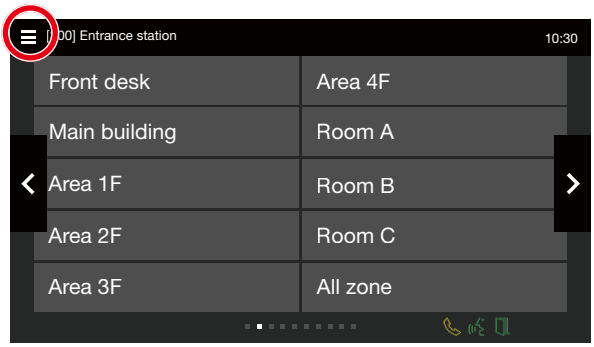
Note

When using the contacts to place calls, calls can only be made when the station is in Standby mode. Please note that transfer destinations cannot be selected from the contacts when a call in progress is being manually transferred.

Tip

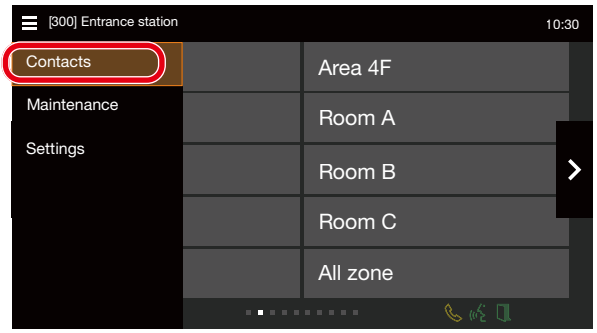
The CX-1000 Setting software is used to register call destinations in the contacts and contact group. (See the separate Setting software instructions, "Phone Book Settings" and "Contact Group Settings.")

Step 1. Press the Menu button on the LCD.



The menu is displayed.

Step 2. Press the "Contacts."



The contacts are displayed.

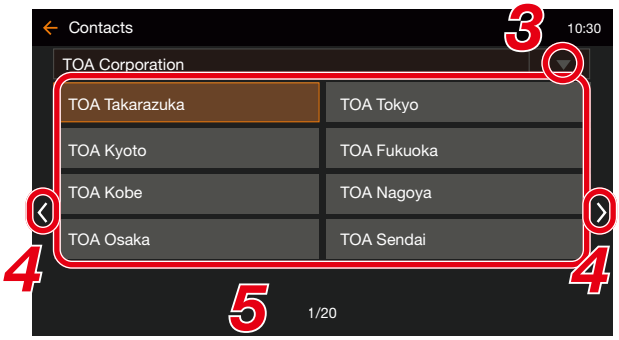
Step 3. Using the [▼] button, select a group desired to call from among those displayed.

Tip

Use the CX-1000 Setting software to register the groups.

Step 4. Press the [<] or [>] button to display the desired page.

Step 5. Press the desired call destination.
Calling begins.



The screen returns to the standby screen after the conversation ends.

1.4. Remote Dial

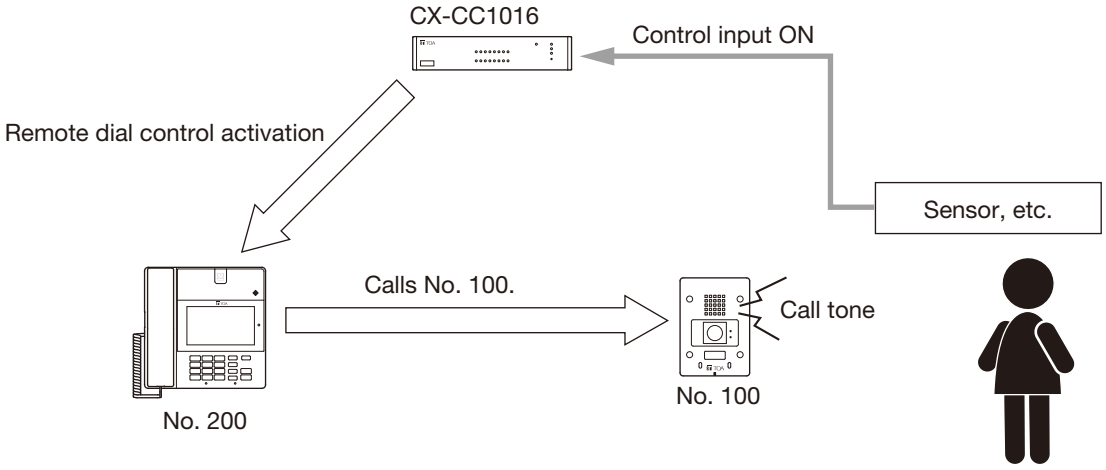
When the control input terminal is on, an arbitrary station is made to automatically perform dial operation. A set of up to 25-digit dialing operations can be assigned to each control input terminal.

Tip
Use the CX-1000 Setting software to perform the Remote dial setup. (See the separate Setting software instructions, "EVENT ACTIVATION SETTINGS.")

Note
To activate the remote dial, the control input terminal needs to be on for over 50 ms.

[Example]

This is an example of an automatic call to Station No. 100 from Station No. 200 using a remote sensor's control input signal.



1.5. Group Call

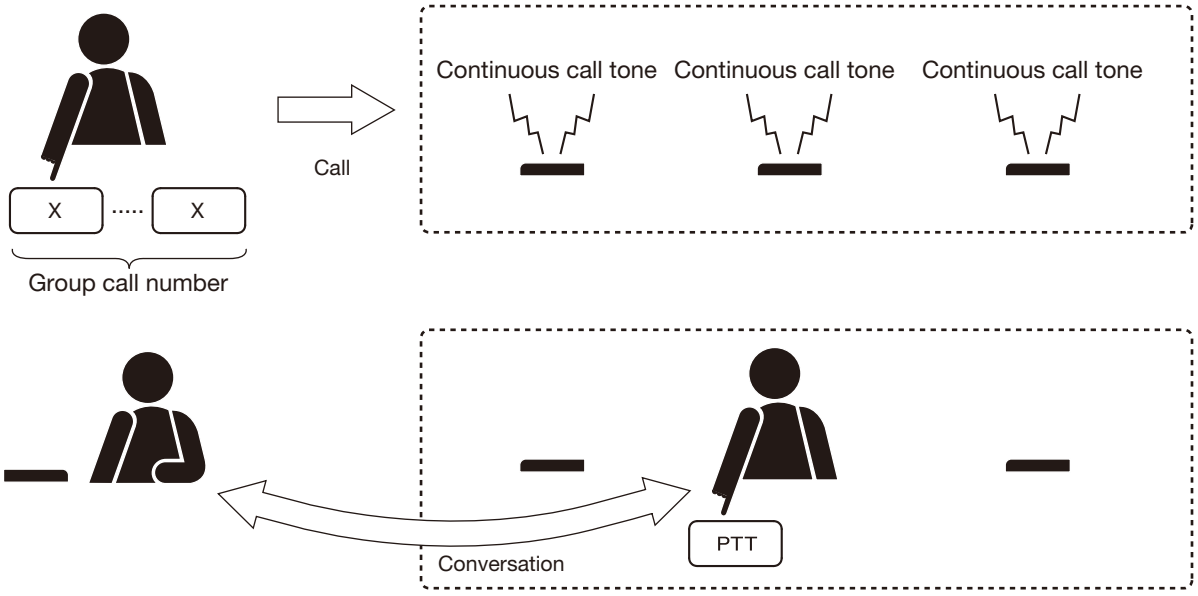
When a group call number is dialed, all stations assigned to that group are called by a continuous call tone regardless of the Response method settings.
Registering a group call number to the Speed Dialing function allows group calls to be made with a single touch. When one of the stations within the group responds, the call being made to all the other stations is stopped.

Notes

- CX-CL1750 and CX-CL1550 cannot be selected as group members.
- Stations with Response method set to "Automatic" are switched to "Manual" when receiving a group call.

Tip

Use the CX-1000 Setting software to perform the group call number settings. (See the separate Setting software instructions, "Station Group Settings.")



2. RESPONSE

2.1. Response Selection

2.1.1. Automatic response

[When using the CX-OP1700/OP1500]

When a call is incoming, the station automatically connects to the call immediately after the call tone sounds once.

Note

The Direct key is not operational when a call is being received.

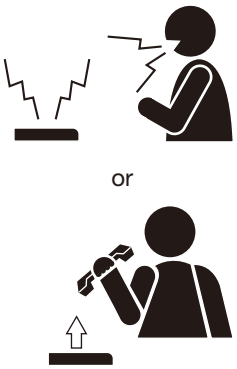
Tip

If a headset is connected, the call tone can be output only to the headset.

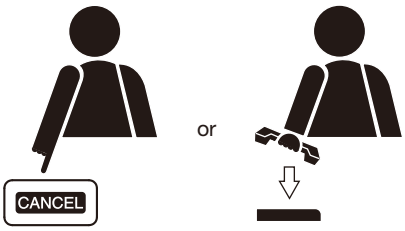
Step 1. Speak into the station when the call tone is heard.

Tip

Otherwise, lift the handset to respond.
In this case, handset conversation is established.

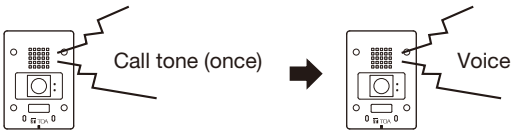


Step 2. To finish conversations, press the Cancel key or replace the handset.

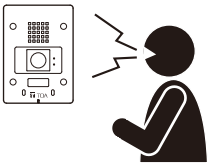


[When using the CX-CL1750/CL1550]

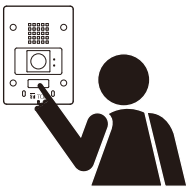
When a call is incoming, the station automatically connects to the call immediately after the call tone sounds once.



Step 1. Speak into the station when the call tone is heard.



Step 2. To end a call, press the Direct key.



2.1.2. Manual response (CX-OP1700/OP1500 only)

Step 1. Response to an incoming call:

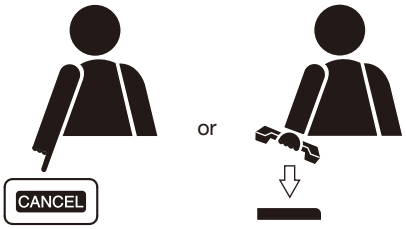
1-1. Lifting the handset
Lifting the handset stops the call tone and enables conversation.



1-2. Pressing the PTT key
Pressing the PTT key enables hands-free conversation.



Step 2. To finish conversations, press the Cancel key or replace the handset.



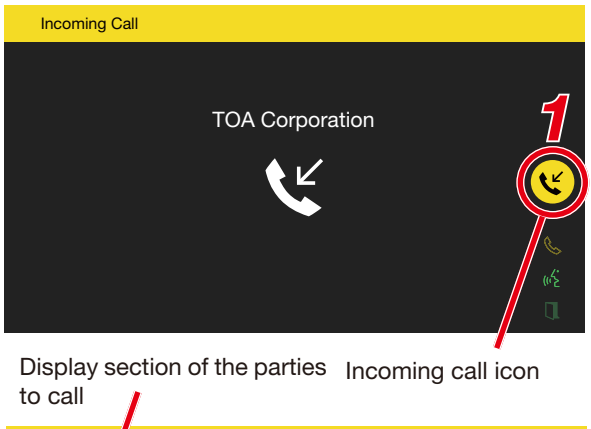
[Incoming call selection]

If multiple calls are incoming at the same time, select the party to answer by following the steps below:

• When using the CX-OP1700

Step 1. Press the incoming call icon.

Tip
The incoming call icon only appears when 2 or more calls are received at the same time.



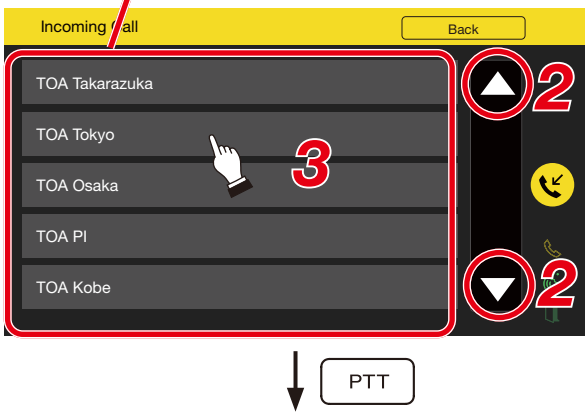
Display section of the parties to call

Incoming call icon

A list of incoming calls is displayed in order of priority.

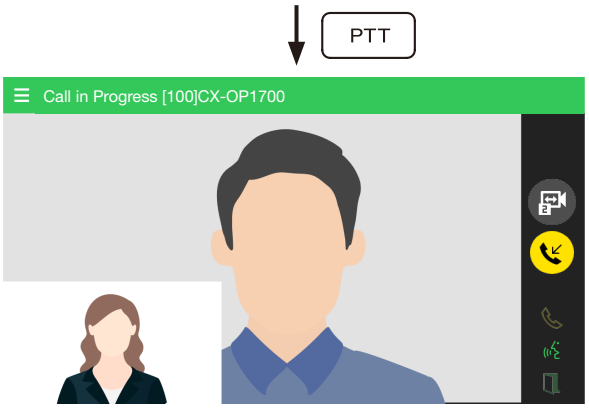
Step 2. Scroll the display section of parties to call up or down to search for the desired party to call.

Tips
- If the caller is already registered in the contacts, his or her name will show up on the display. If not registered, the handset number will be displayed. If a call is received from an external phone system, “OUTSIDE” is displayed.
- Press the [▲] button to move to a higher priority incoming call, or press the [▼] button to move to a lower priority incoming call.



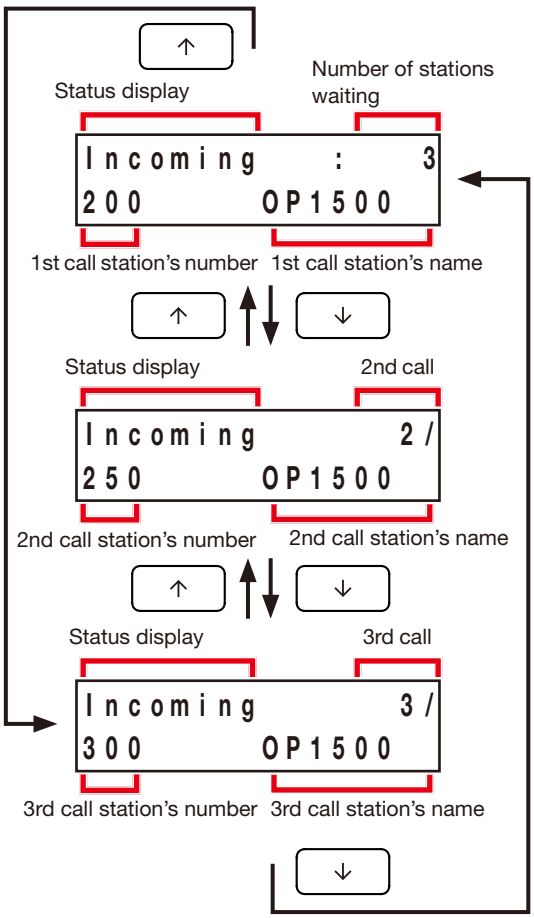
Step 3. Select the desired party to call.

Step 4. Lift the handset or press the PTT key to start the conversation.

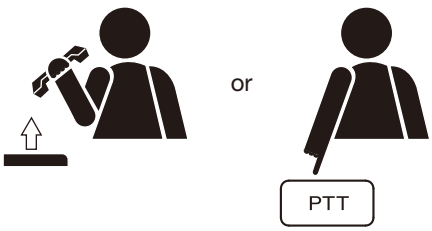


• When using the CX-OP1500

Step 1. Press the [↓] key or [↑] key to display the stations to be responded to.
The station number and name are displayed according to call priorities.



Step 2. Lift the handset or press the PTT key when the desired station number and name are displayed.
The call tone then stops and permits conversation to proceed.
Tip
The PTT key may also be pressed for hands-free response.

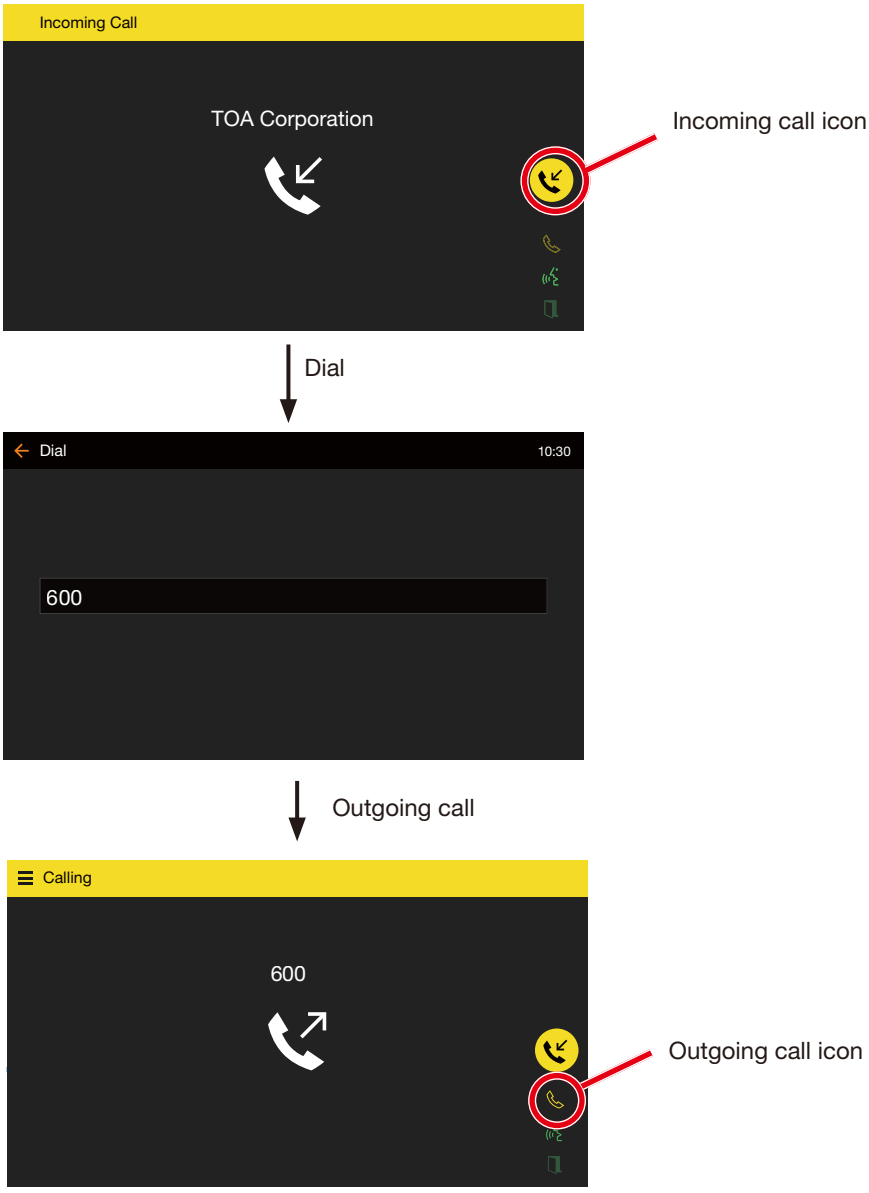


[Operations when receiving a call]

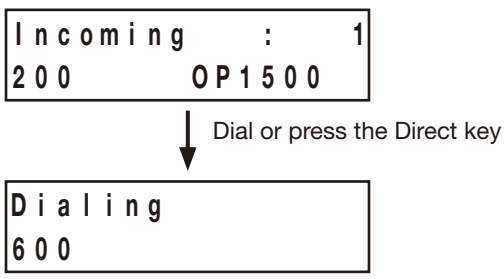
Calls can be made while receiving a call by dialing a number or pressing a Direct key.

Step: Dial a number or press the Direct key when receiving a call.
Calls can be transmitted to the party dialed or registered to the Direct key.

[CX-OP1700 screen transition]



[CX-OP1500 screen transition]



3. CONVERSATION

3.1. Audio-only Conversation

Tip
Although a CX-OP1700's Conversation mode may be set for "Audio-only conversation," if it is also set to link up with an external IP camera, the image from the IP camera will still be displayed during conversations.

Use the CX-1000 Setting software to set the Conversation mode and the Camera link. (See the separate Setting software instructions, "Setting Calls, Responses, and Conversations.")

3.1.1. Hands-free

For CX-OP1700 and CX-OP1500, conversations can be held while the handset is left on the cradle. For stations without a handset (CX-CL1750 and CX-CL1550), conversations are hands-free only.



Duplex conversations

[Operation in hands-free conversation]
When either station or both stations are engaged in hands-free conversation, a full duplex conversation is made by way of an echo canceller* and a voice switch. During this conversation, the station's internal settings (parameters relating to the condition of sound reflection) are constantly updated in response to the change in sound collected by the built-in microphone, allowing for optimum hands-free conversation.
When both stations make hands-free conversation after either one has been moved in a new environment or the environment surrounding the station has significantly changed, this may cause acoustic feedback. In this case, continue the conversation and the situation will soon return to the normal condition.
However, if the feedback does not stop, adjust the audio input and output volumes, or the voice switch.

* An echo canceller is used to eliminate acoustic feedback caused when the voice outputs from the station's speaker are picked up by the same station's microphone. As acoustic feedback cannot be eliminated thoroughly, the echo canceller is usually used in conjunction with a voice switch.
* Voice switch reduces the quieter party's voice by a preset attenuation amount if both parties speak simultaneously during a call, delivering the adjusted audio to the other party.
  At this time, the louder party's voice is not attenuated but is delivered to the other party at its original volume.

Tips
- Use the CX-1000 Setting software to set the audio input and output volumes, and the voice switch.
  (See the separate Setting software instructions, "Setting Calls, Responses, and Conversations.")
- It is possible to set the CX-OP1700/OP1500's speaker output volume at the station.
  (See "Volume setting (CX-OP1700/OP1500 only)" on p. 3-13.)

3.1.2. Handset

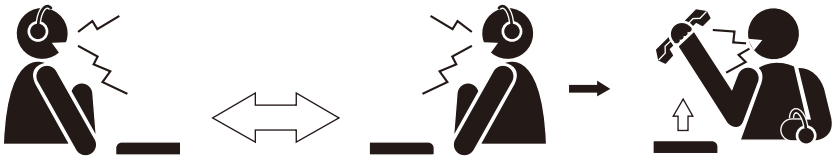
The CX-OP1700 and CX-OP1500 provide handset conversations by simply lifting the handset.



Duplex conversations

3.1.3. Headset

Headset conversations are enabled by simply connecting a headset to the CX-OP1700 or CX-OP1500. Lifting the handset during a headset conversation automatically switches the conversation to the handset.

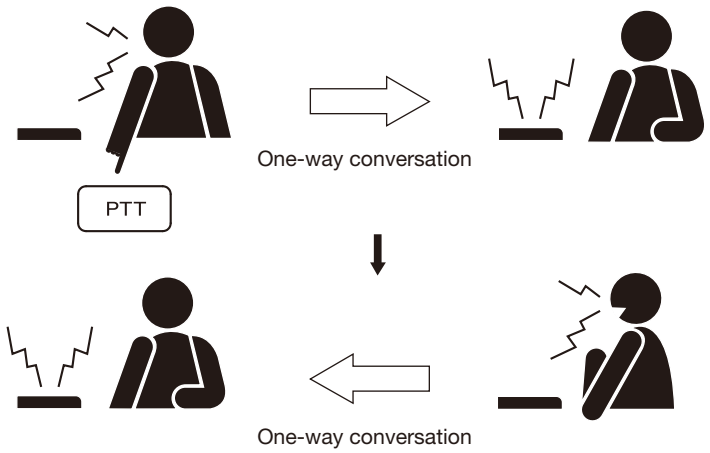


Duplex conversations

3.1.4. Half duplex conversation (CX-OP1700/OP1500 only)

Pressing the PTT key during a 2-party conversation switches to transmit status and releasing the PTT key to receive status.

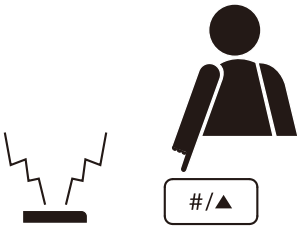
Pressing the PTT key results in one-way conversation from the party pressing the key, while releasing the key reverses the conversation flow, resulting in one-way conversation from a conversation partner.
If the 2 parties press their PTT keys at the same time, priority is given to the last station enabled.



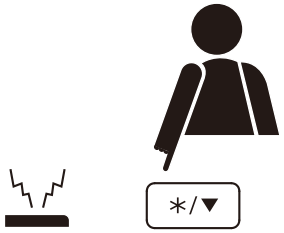
3.1.5. Volume setting (CX-OP1700/OP1500 only)

The volume of a received call can be adjusted during conversations.
The speaker volume level can be changed in 10 steps (in 3 dB steps).
Changes in output volume are retained even after the conversation ends.

Step: Press the [#/▲] key during conversation to increase the volume.



Press the [∗/▼] key during conversation to decrease the volume.



3.2. Video Conversation (CX-OP1700/CL1750 only)

When talking to the CX-OP1700 or CX-CL1750, the CX-OP1700 can transmit video from its built-in camera along with audio while viewing the image from the other party's built-in camera.

For making calls, see "CALL" on p. 3-2, and for response for incoming calls, see "RESPONSE" on p. 3-7.

3.2.1. Lighting control

Lighting for the CX-CL1750 can be preset to turn on when starting a video conversation.

Tips

- To enable video conversations, perform initial settings using the CX-1000 Setting software. (See the separate Setting software instructions, "Setting Calls, Responses, and Conversations.")
- To turn on the lighting when a video conversation starts, perform the initial settings using the CX-1000 Setting software. (See the separate Setting software instructions, "Lighting Settings.")

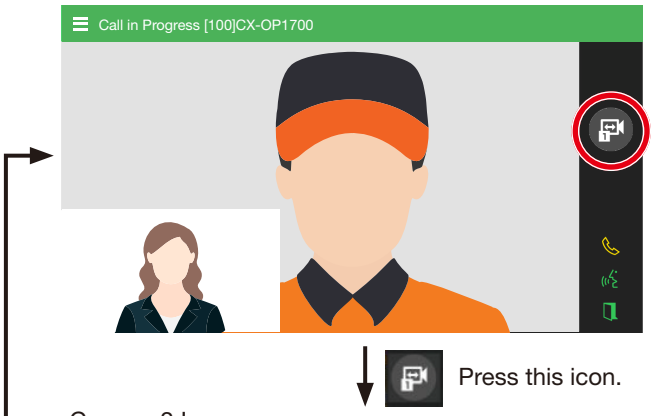
3.2.2. Camera image switching

The image from a conversation partner's built-in camera or a network camera compatible with a general-purpose IP camera protocol image can be made to appear on the station's LCD video display. Even if the conversation partner's station is not equipped with its own camera, images from an IP camera can be displayed on the LCD.
If the camera icon is pressed during a conversation, the screen will transition as shown below:

Tip

Use the CX-1000 Setting software to perform camera settings in order to display a video image in conjunction with the conversation. (See the separate Setting software instructions, "Setting Calls, Responses, and Conversations.")

Camera 1 Image



Large window: Call destination camera image
Small window: Call source camera image

Note

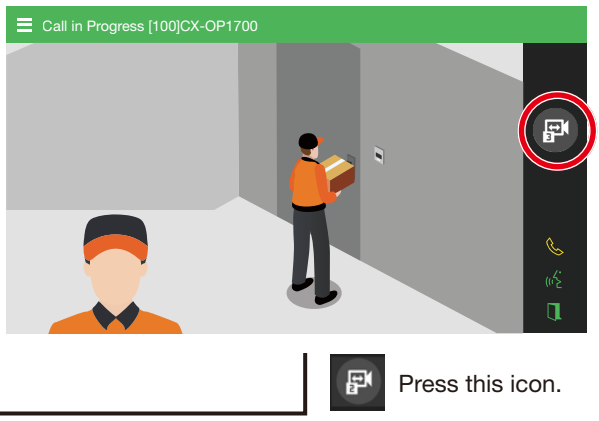
The small window only shows the image of your own camera. IP camera image is not displayed.

Camera 2 Image



Large window: Call destination camera image
Small window: Not displayed

Camera 3 Image



Large window: IP camera image
Small window: Call destination camera image

Note

- If no IP camera image is available, the Camera 3 image will not be displayed, and the display will only switch between the images of Cameras 1 and 2.
- Some time may be required to output IP camera images. For example, if Camera 3 is being readied for output, the image can only be switched between Camera 1 and 2. As soon as the Camera 3 image is ready, switching to Camera 3 will also become available.

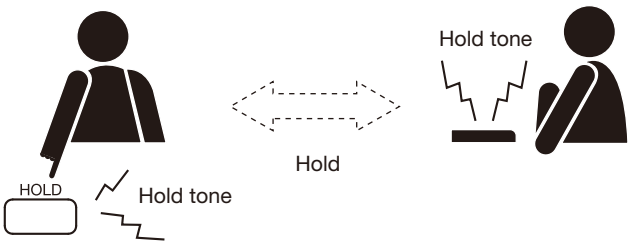
4. HOLD (CX-OP1700/OP1500 ONLY)

4.1. Conversation Hold

Pressing the Hold key during a conversation places the conversation on hold, transmitting a hold tone to both parties.
Pressing the Hold key again cancels Hold status and restores the original conversation.

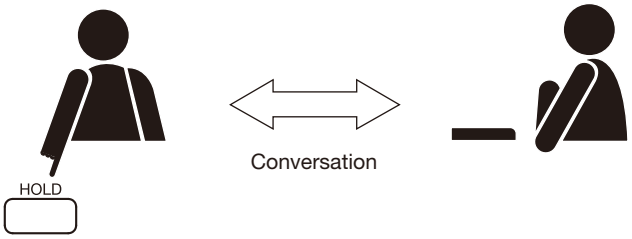
[Hold]

Step: Press the Hold key during conversation.
A hold tone is heard at both parties, placing the conversation on hold.
If the handset is replaced with Hold key is pressed, the conversation is not terminated.



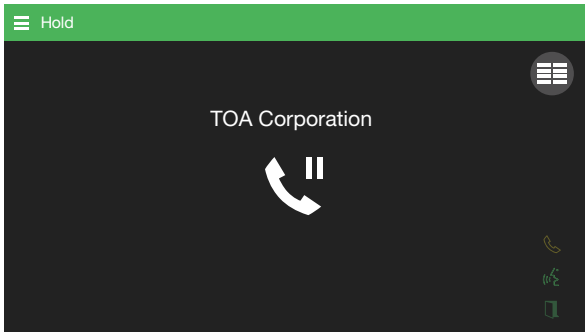
[Hold release]

Step: Press the Hold key again.
The hold status is cancelled, and the original conversation status is restored.
Lifting the handset does not release the Hold.



Notes

- If a conversation is placed on hold during a video conversation, no camera images will be displayed.
- The conversation time is not displayed while a conversation is on hold.



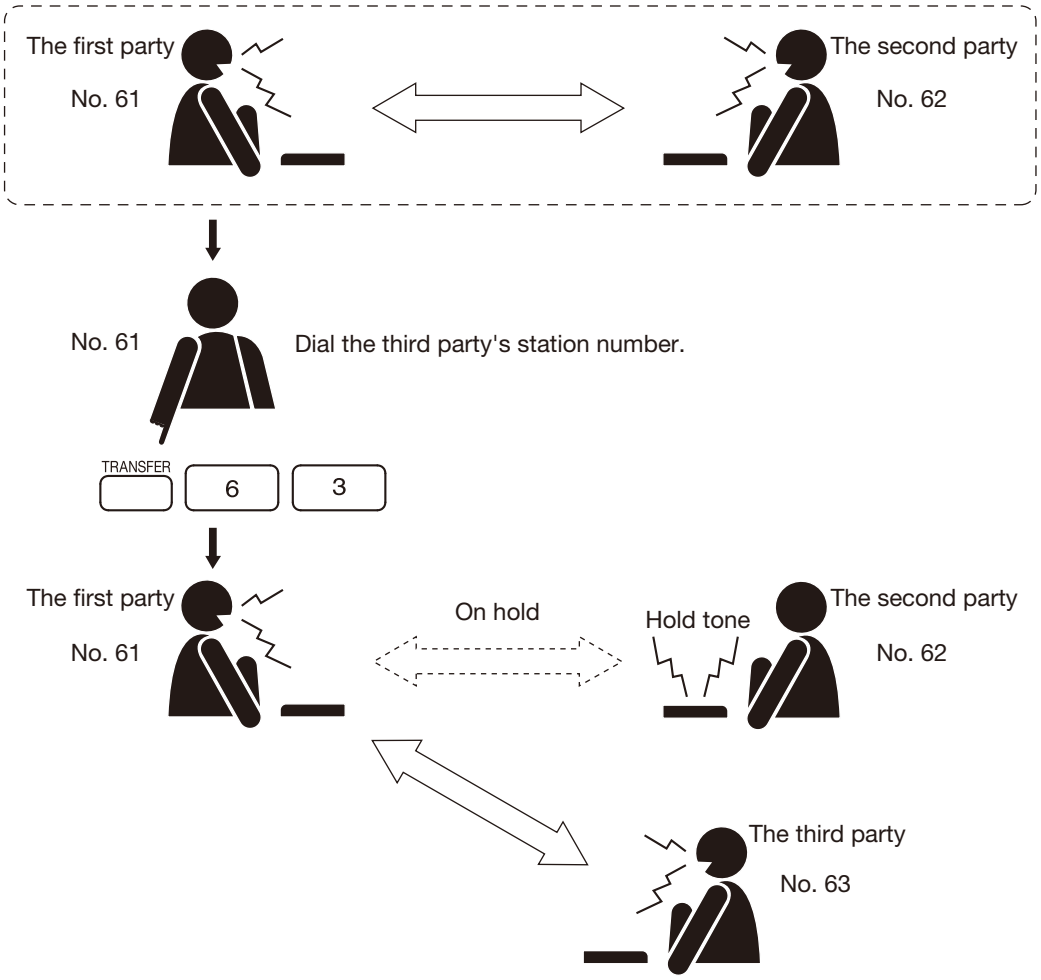
5. CALL TRANSFER (CX-OP1700/OP1500 ONLY)

5.1. Transfer

Either party engaged in 2-party conversation can call the third party to make conversation with (placing the original conversation partner on hold). After the conversation end, it is possible to restore the original 2-party conversation or transfer the conversation with the third party to the original conversation partner.

Step 1. Press the Transfer key during 2-party conversation.
The current conversation is placed on hold, sending a hold tone to the other party.

Step 2. Dial the third party's station number.
If the third party answers, the first party can speak with the third party while keeping the original conversation on hold.



After completing the conversation with the third party, the first party can transfer the conversation with the second party to the third party or return to the original conversation.

Step 3. Transfer calls to the third party or return to the original conversation.

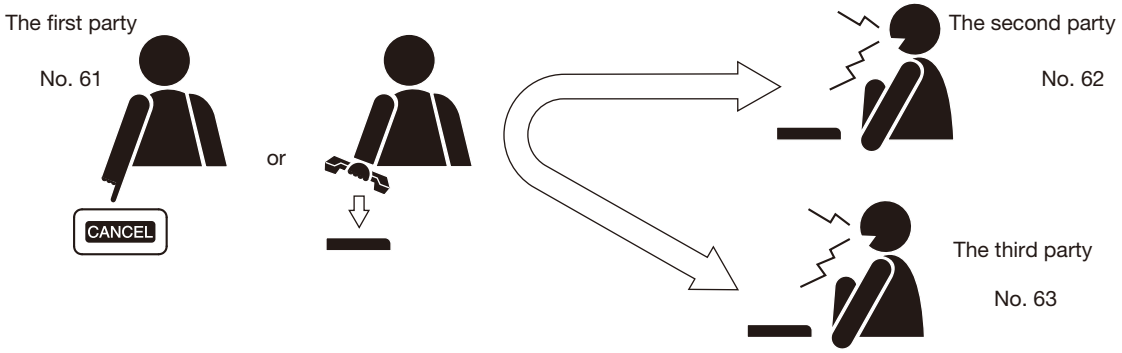
3-1. When transferring calls to the third party

To connect the third party to the original conversation partner being placed on hold, either press the Cancel key or replace the handset.

This permits conversation between the second and third parties.

Note

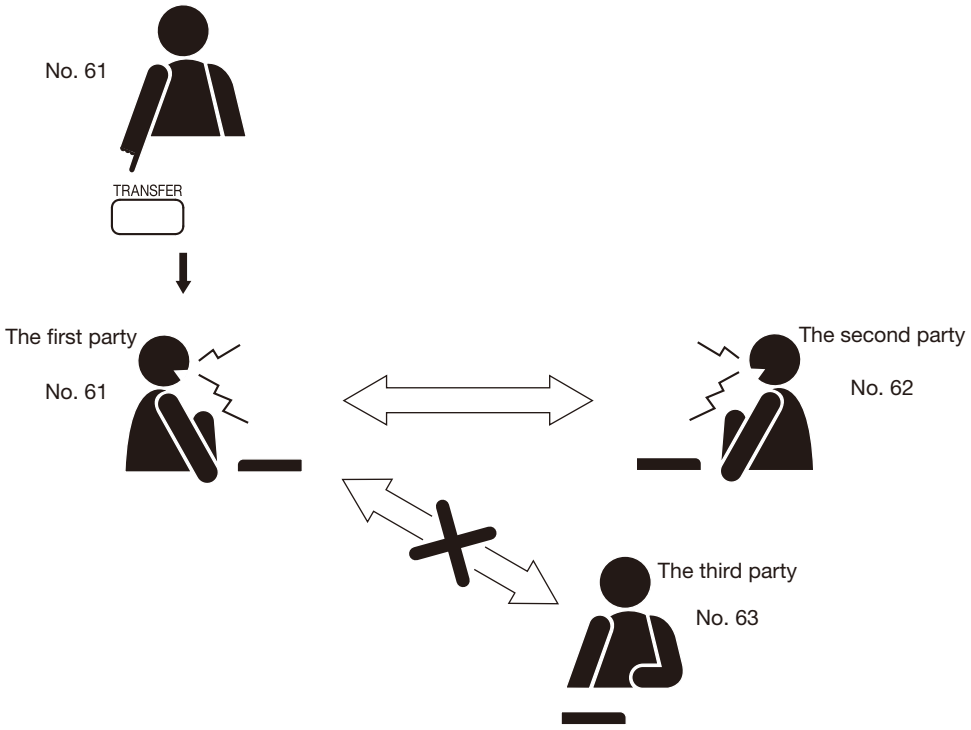
Further manual transfers of conversations with third parties cannot be performed.



3-2. When returning to the original conversation

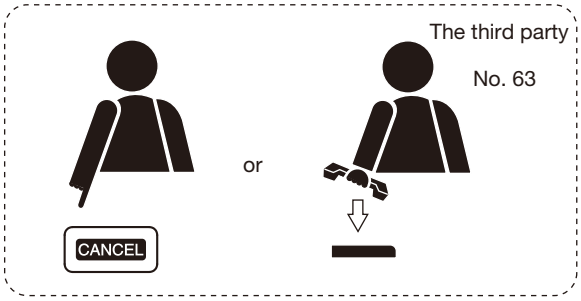
To return to the original conversation without transferring it to the third party, press the Transfer key again.

The original 2-party conversation is restored.



Tip

Even if the first party does not press the Transfer key, if the third party either presses the Cancel key or replaces the handset, the original conversation is restored.



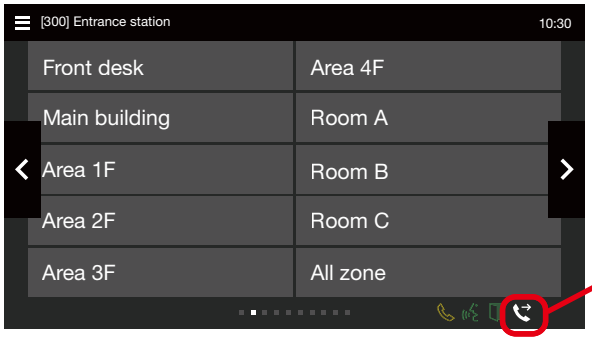
5.2. Forwarding

Note
This function's settings from the station to transfer can only be performed when the station is in Standby mode. The Standby screen is displayed whenever background music is being received, however settings cannot be made.

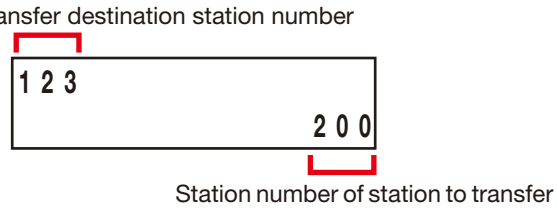
5.2.1. Redirecting

Calls to stations set for Redirecting are automatically transferred to another designated station without sounding a call tone.
Setting a station for Redirecting will immediately switch that station to Redirecting mode.
Calls received during conversations ("CALL TRANSFER (CX-OP1700/OP1500 ONLY)" on p. 3-17) can be redirected.

[The CX-OP1700 LCD during Redirecting settings]



[The CX-OP1500 LCD during Redirecting settings]

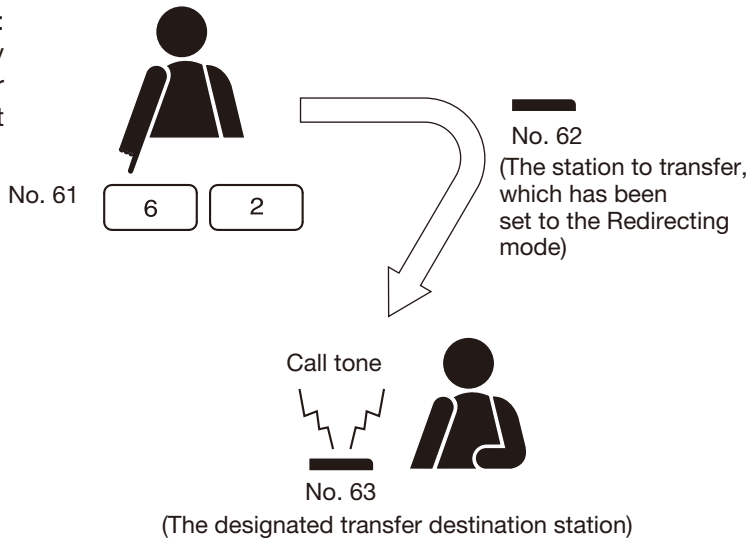


Notes
- Calls are not transferred when the station set for Redirecting is called as an associated member station of the group.
- The transfer destination station will be called if its source station has been set up as the automatic call transfer destination.

Tip
Operate the station or use the CX-1000 Setting software to perform Redirecting settings.
(See "Setup" on p. 3-20 and the separate Setting software instructions, "Transfer Operation Settings.")

[When Redirecting is set]

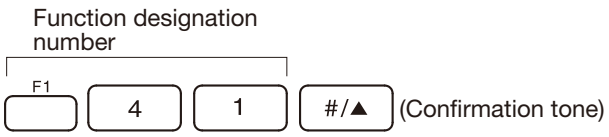
Calls to the station to transfer (example: No. 62) set for Redirecting are automatically transferred to the designated transfer destination station (example: No. 63) without sounding a call tone.



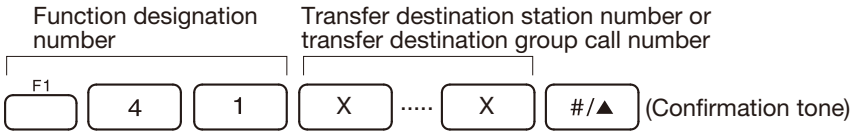
[Setup]

Step 1. Press the following keys at the station to transfer or the transfer destination station to switch to Redirecting mode.

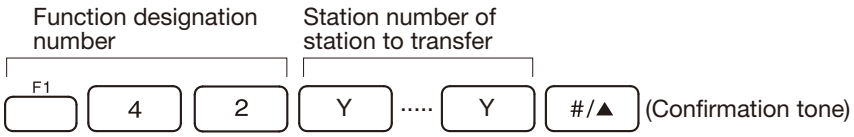
1-1. When transferring the call at the station to transfer to the Redirecting destination selected with the CX-1000 Setting software:



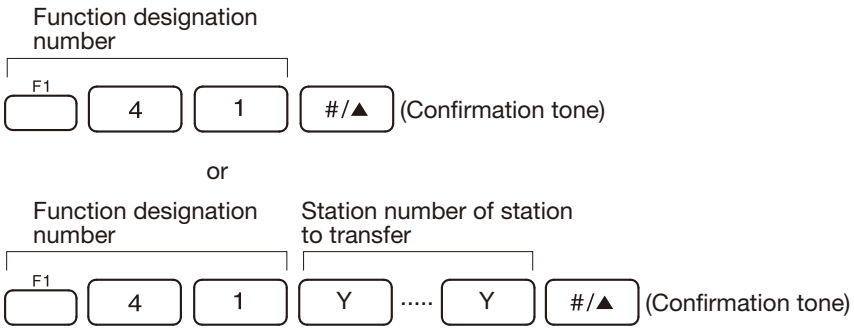
1-2. When transferring the call at the station to transfer to an individual station or group by designating it as the Redirecting destination:



1-3. When transferring the call at the transfer destination station to transfer to the station itself:



Step 2. To cancel Redirecting mode, perform the following key operations at the station to transfer.

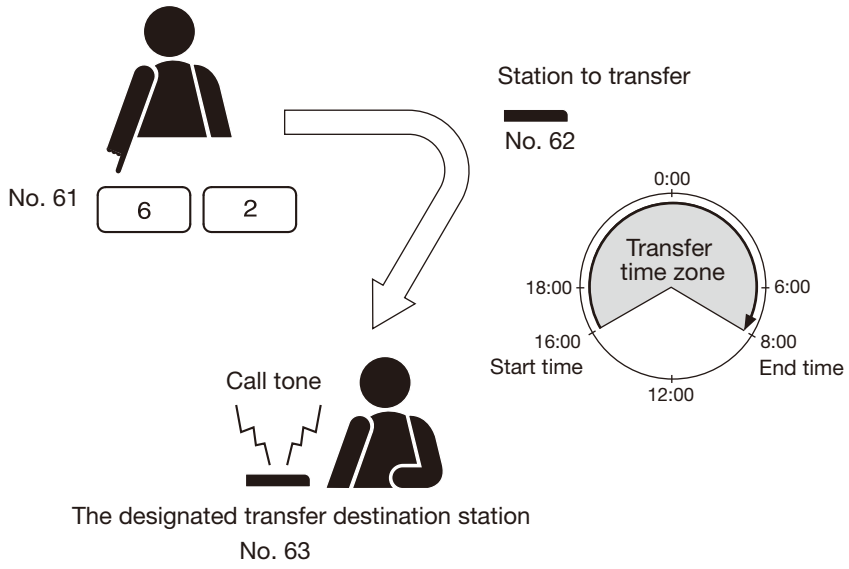


5.2.2. Time-based redirecting

The station to transfer is placed into Redirecting mode during a set time period on the preset day. When an incoming call is received during that time period, the call is automatically transferred to the transfer destination station without sounding a call tone.

Tip

Use the CX-1000 Setting software to set the destination station for the Time-based redirecting, the station that initiates the Time-based redirecting, and the time period set for Redirecting mode. (See the separate Setting software instructions, "Transfer Operation Settings", "Time-Based Redirecting Pattern Settings", and "PROGRAM TIMER SETTING.")



5.2.3. Busy forwarding

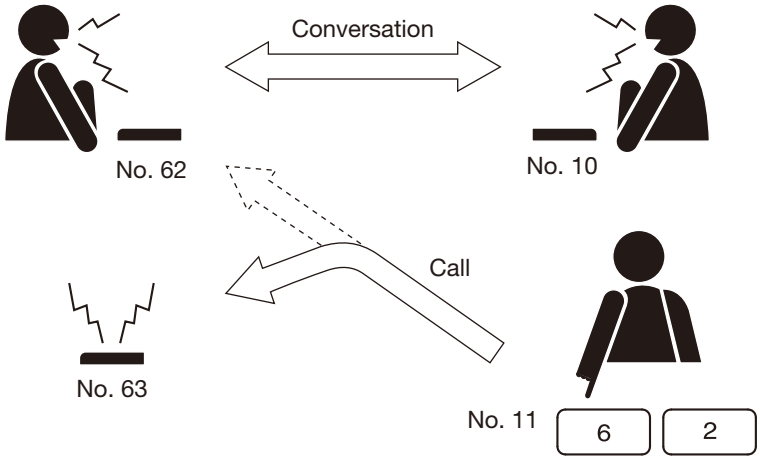
Calls to a busy station set for Busy forwarding are automatically transferred to another transfer designation station.
Calls received during conversations ("CALL TRANSFER (CX-OP1700/OP1500 ONLY)" on p. 3-17) can be transferred.

Note
Calls are not transferred under the following conditions.
- The transfer destination station is set for Redirecting.
- The transfer destination station is not in standby mode. (However, even when the transfer destination station is busy, if it is set for Busy forwarding, the call is further transferred to the next designated station.)

Tip
Operate the station or use the CX-1000 Setting software to perform Busy forwarding settings.
(See "Setup" mentioned below and the separate Setting software instructions, "Transfer Operation Settings.")

[When busy forwarding is set]

A call to the station to transfer (example: No. 62) will automatically be transferred, if the station (No. 62) is busy, to the next designated transfer destination station (example: No. 63).



[Setup]

Step 1. Press the following keys at the station to transfer to switch to Busy forwarding mode.

1-1. When switching to the Busy forwarding destination selected with the CX-1000 Setting software:

Function designation number

F1 | 4 | 4 | #/▲ (Confirmation tone)

1-2. When transferring the call to an individual station or group by designating it as the Busy forwarding destination:

Function designation number | Transfer destination station number or transfer destination group call number

F1 | 4 | 4 | X ····· X | #/▲ (Confirmation tone)

Step 2. To cancel Busy forwarding mode, perform the following key operations at the station to transfer.

Function designation number

F1 | 4 | 4 | #/▲ (Confirmation tone)

or

Function designation number | Station number of station to transfer

F1 | 4 | 4 | Y ····· Y | #/▲ (Confirmation tone)

5.2.4. No response forwarding

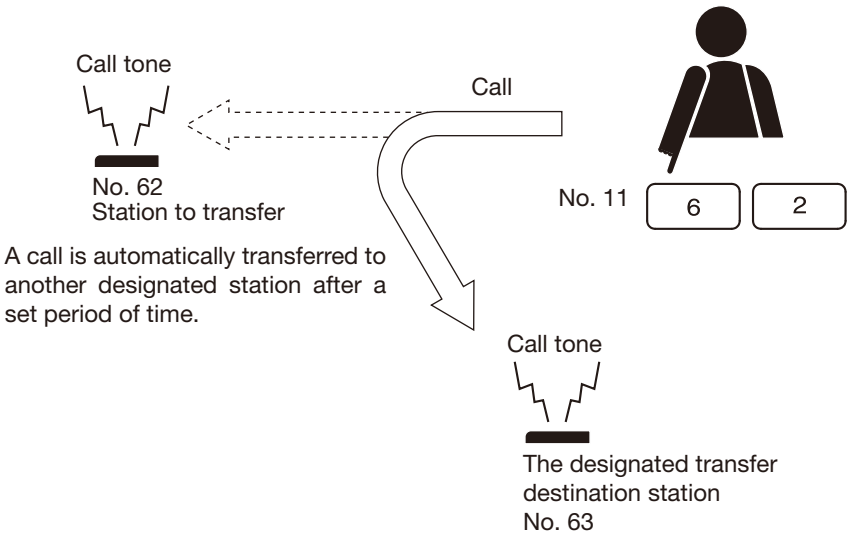
When no response is made to a call to the station set for No response forwarding for a set period of time, the call is automatically transferred to another designated transfer destination station.
Calls received during conversations (p. 3-17) can also be transferred.

Notes
- Calls are not transferred when the transfer destination station is not in standby mode.
- The transfer destination station will be continuously called if its source station has been setup as the automatic call transfer destination.

Tips
- Operate the station or use the CX-1000 Setting software to perform No response forwarding settings. (See "Setup" mentioned below and the separate Setting software instructions, "Transfer Operation Settings.")
- Use the CX-1000 Setting software to set the time period that will be judged to be an absence transfer. (See "Setup" mentioned below and the separate Setting software instructions, "Setting Calls, Responses, and Conversations.")

[When No response forwarding is set]

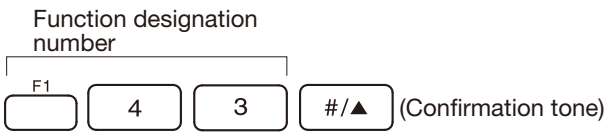
All calls to a station to transfer (e.g., No. 62) will be transferred to another designated transfer designation station (e.g., No. 63) if they are not responded to within a specified period of time.



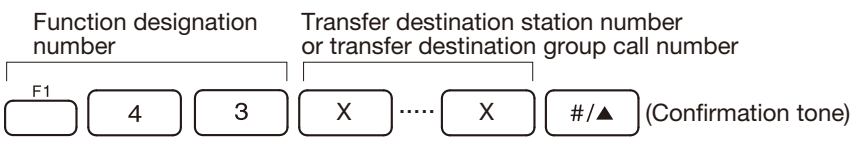
[Setup]

Step 1. Press the following keys at the station to transfer to switch to No response forwarding mode.

1-1. When switching to the No response forwarding destination selected with the CX-1000 Setting software:



1-2. When transferring the call to an individual station or group by designating it as the No response forwarding destination:



Step 2. To cancel No response forwarding mode, perform the following key operations at the station to transfer.

Function designation number

F1 | 4 | 3 | #/▲ (Confirmation tone)

or

Function designation number | Station number of station to transfer

F1 | 4 | 3 | Y ····· Y | #/▲ (Confirmation tone)

5.2.5. Failover forwarding

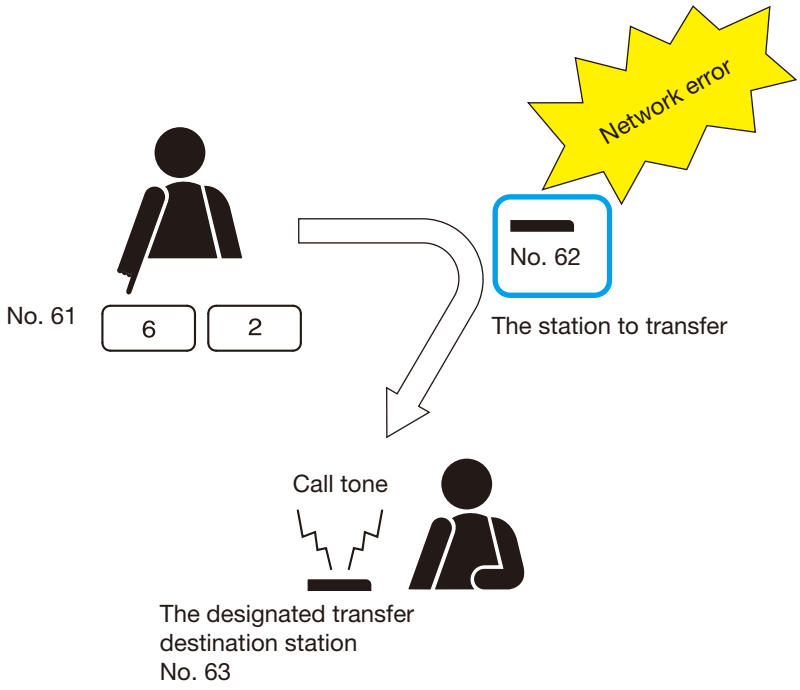
When a network error occurs at a station that received an incoming call, and communications cannot be established with the System Manager, the call is automatically transferred to the pre-designated station.
Calls received during conversations ("CALL TRANSFER (CX-OP1700/OP1500 ONLY)" on p. 3-17) can be transferred.

Notes
Calls are not transferred under the following conditions.
- The transfer destination station is set for Redirecting.
- The transfer destination station is not in standby mode.

Tips
- Operate the station or use the CX-1000 Setting software to perform Failover forwarding settings. (See "Setup" on p. 3-25 and the separate Setting software instructions, "Transfer Operation Settings.")
- To transfer calls to an external telephone system, a special number must be set. The special number is set using the CX-1000 Setting software. (See the separate Setting software instructions, "External Telephone System Settings.")

[When Failover forwarding is set]

Incoming calls received when the station to transfer network error occurs (example: Station No. 62) are transferred to another designated transfer destination station (example: No. 63).

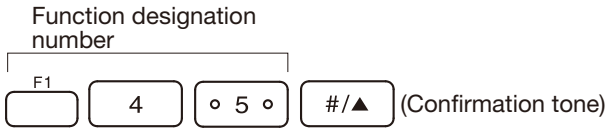


[Setup]

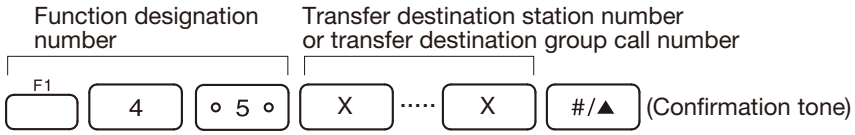
Step 1. Press the following keys at the station to transfer to switch to Failover forwarding mode.

Note
Operate the keys when the station is able to communicate with the CX-SM1000.
Even if operations are performed after it is already unconnected and not communicating with the CX-SM1000, nothing changes.

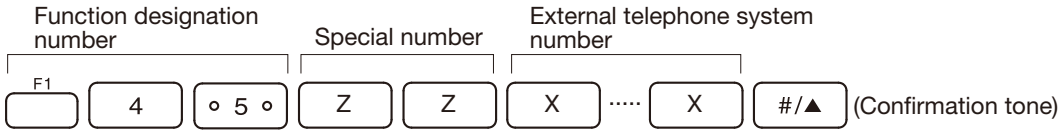
1-1. When switching to the Failover forwarding destination selected with the CX-1000 Setting software:



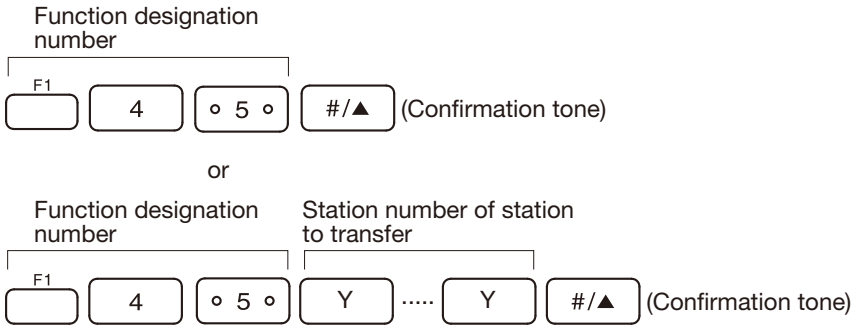
1-2. When transferring the call to an individual station or group by designating it as the Failover forwarding destination:



1-3. When transferring the call to an external telephone system by designating it as the Failover forwarding destination:



Step 2. To cancel Failover forwarding mode, perform the following key operations at the station to transfer.

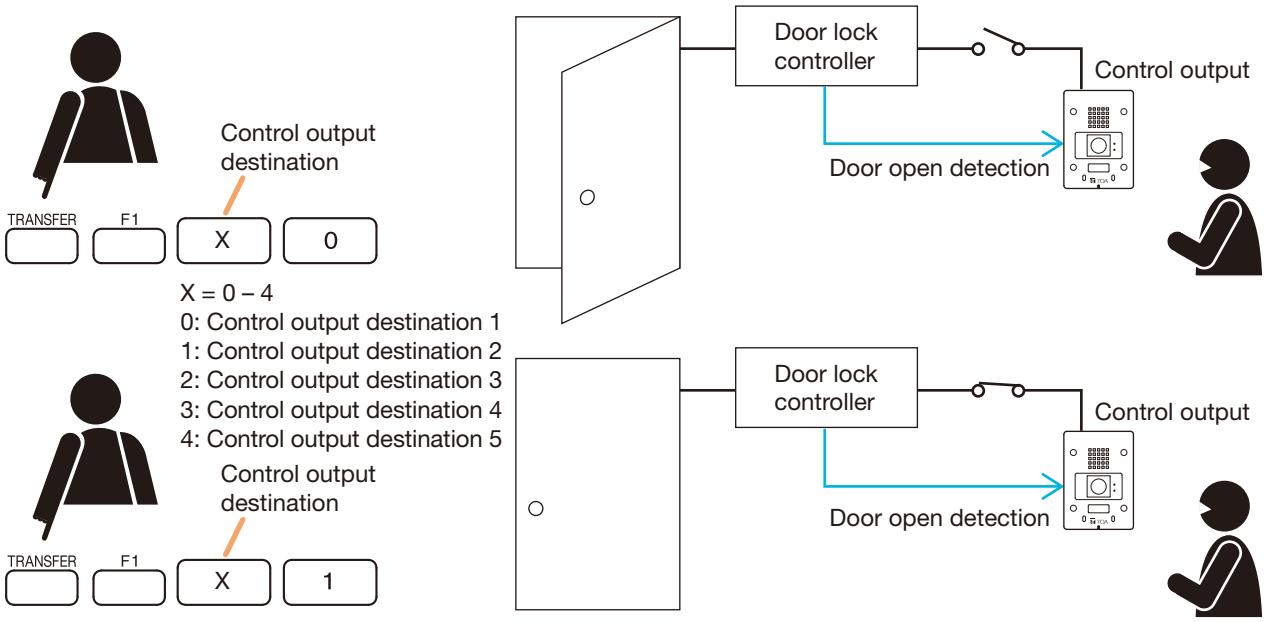


6. OTHER CALL FUNCTIONS

6.1. Door Remote Control (CX-OP1700/OP1500 Only)

Control output can be turned on or off through dialing operation during a conversation.
From CX-OP1700/OP1500, it is possible to turn on/off or turn on for a certain time period the respective control output group that establishes linkage with the other party.
For example, a door lock can be controlled by connecting an electronic lock system to the control output.

Tip
Up to 5 control output destinations can be set by selecting from among the control output groups.
Use the CX-1000 Setting software to perform settings for the control output groups and remote door control. (See the separate Setting software instructions, "Control Output Group Settings" and "Door Remote Control Settings.")



[Turning on a control output (level or pulse signal)]

Step: Perform the following key operations during 2-party conversation:

TRANSFER F1 X 0

The designated control output turns on. The original conversation is restored following the confirmation tone.

Tips

- [X] is a preset control output destination that can be specified by a number between 0 and 4.
  0: Control output destination 1, 1: Control output destination 2, 2: Control output destination 3, 3: Control output destination 4, 4: Control output destination 5
- To stop operation partway, leave an interval of at least 5 seconds between dial digits, or press Function 1 key.

[Turning off the control output (level signal)]

Step: Perform the following key operations during 2-party conversation:



The designated control output turns off. The original conversation is restored following the confirmation tone.

Tips

- [X] is a preset control output destination that can be specified by a number between 0 and 4.
  0: Control output destination 1, 1: Control output destination 2, 2: Control output destination 3,
  3: Control output destination 4, 4: Control output destination 5
- To stop operation partway, leave an interval of at least 5 seconds between dial digits, or press Function 1 key.

6.2. Speaker Output Switching (CX-OP1700/OP1500/CL1750/CL1550 Only)

Whether to output the audio of a conversation, a received broadcast, or signal tones through the station's built-in or external speakers has been preset for each station using the CX-1000 Setting software.
(See the separate Setting software instructions, "Audio Output Settings.")
Output from the handset when used.
Output from the headset when used.

6.3. Video Preview Function

When making a call from a CX-CL1750 with the video preview function enabled, it is possible to check the CX-CL1750 camera image before starting the conversations.
Perform the video preview function settings using the CX-1000 Setting software. (See the separate Setting software instructions, "Setting Calls, Responses, and Conversations")

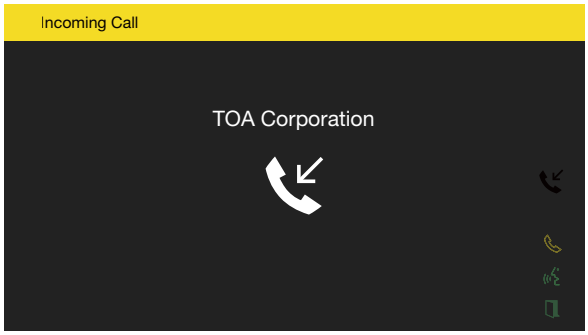
Tips

- The video preview function operates only when the calling station is a CX-CL1750 and the call destination station is a CX-OP1700.
- If the call destination CX-OP1700 is receiving a call from another station or is currently in a call, the video preview function cannot be used.

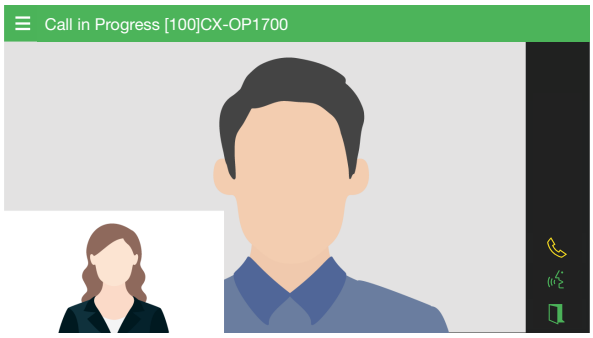
[Display and Operation on the Destination Side for the Video Preview Function (CX-OP1700 Only)]

When a call is received from a station for which the video preview function is set, the call tone sounds once, and then the other party's audio is output and camera image are displayed immediately.
To receive the call from the other party, lift the handset or press the PTT key.

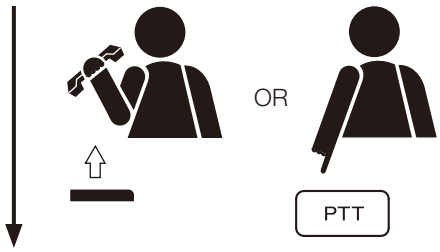
[Screen Transition on the Destination Side for the Video Preview Function (CX-OP1700 Only)]



Automatic transition



Large screen: Other party's camera image
Small screen: This station's camera image





Video call starts.

Chapter 4

BROADCAST FUNCTIONS AND OPERATION

1. Broadcast Functions

1.1. Overview of Broadcast Functions

Microphone broadcasts, Base pattern broadcasts, General pattern broadcasts, General/BGM broadcasts and other similar types of broadcasts can be started and stopped using the station's (or unit's) Direct key or control input ,etc., as a trigger.
The "Operation Examples" in this chapter use the combination of the CX-RM1700, the CX-OP1500 and the CX-AF1062, though basic operations and displays are the same for most other stations and units. The CX-CC1016 is only capable of starting and stopping Base pattern broadcasts and General pattern broadcasts.
In the section on broadcasting, an explanation is provided on how to operate the broadcast functions based on a Direct key setting example (p. 4-3). Operations are the same for the CX-RM1700 and CX-OP1700, both of which are equipped with touch screen-compatible LCD.
Operations are essentially the same for all units equipped with Direct keys.
Control input operation is not covered in this manual because the connected external devices can vary widely from system to system.

Tip
Use the CX-1000 Setting software to assign functions to the Direct keys, control inputs, etc.
(See the separate Setting software instructions, "EVENT ACTIVATION SETTINGS.")

1.2. Direct Key Setting Examples

The procedures explained in the Operation Examples section of this chapter are based on the following settings:

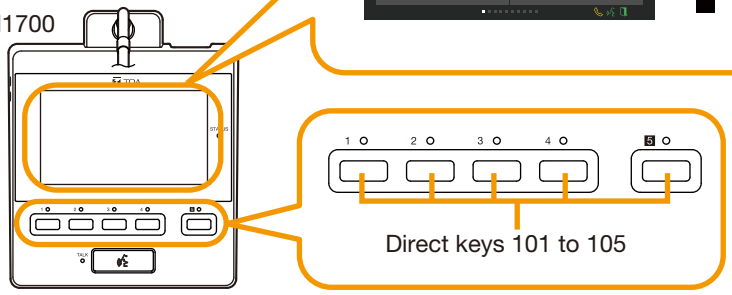
Item	Function	Model			
		CX-OP1700	CX-RM1700	CX-OP1500	CX-AF1062 CX-PA1120 CX-PA1240
Broadcast Destination 1, 2, 3	Broadcast destination selection (pattern)	Direct key 1			
Broadcast Destination 1	Broadcast destination selection (individual)	Direct key 2			
Broadcast Destination 2	Broadcast destination selection (individual)	Direct key 3			
Broadcast Destination 3	Broadcast destination selection (individual)	Direct key 4			
Broadcast Destination Selection All Clear	Cancels the selected broadcast destination.	Direct key 5			
General Broadcast Pattern 1	Starts and stops broadcasting of General broadcast pattern 1.	Direct key 6			
General/BGM Broadcast	Starts and stops broadcasting of the sound sources intended for General broadcast or BGM (background music).	Direct key 7			
Audio Scene Change	Changes the audio scene (pulse signal).	Direct key 10		—	
Voice Stack Broadcast	Starts and stops Voice stack broadcast.	Direct key 13		—	
Video Monitoring Broadcast	Confirmation of external camera images, and start/stop of microphone broadcasts to Broadcast Destination 1.	Direct key 15		—	
Contact Bridge	Starts and stops control output (pulse signal).	Direct key 16		Direct key 10	
Base Pattern 1	Starts base pattern 1.	—	Direct key 101	—	
Base Pattern 2	Starts base pattern 2.	—	Direct key 102	—	
Base Pattern Stop	Base pattern end	—	Direct key 103	—	
Microphone Broadcast	Lock type*, Pre-chime: default, Post-chime: none	Broadcast key	Talk key	Broadcast key	—

* The Broadcast key of the CX-OP1700/OP1500 is fixed to a lock type.

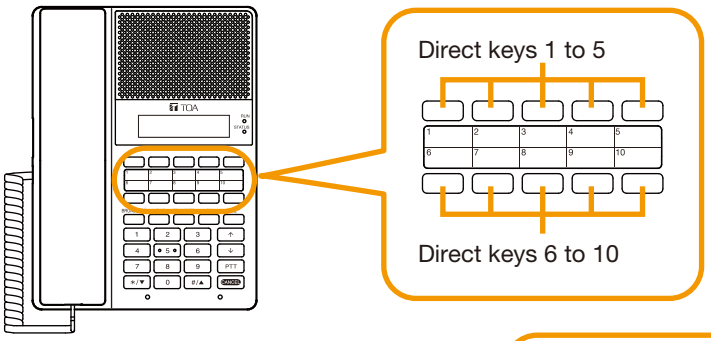
CX-OP1700



CX-RM1700

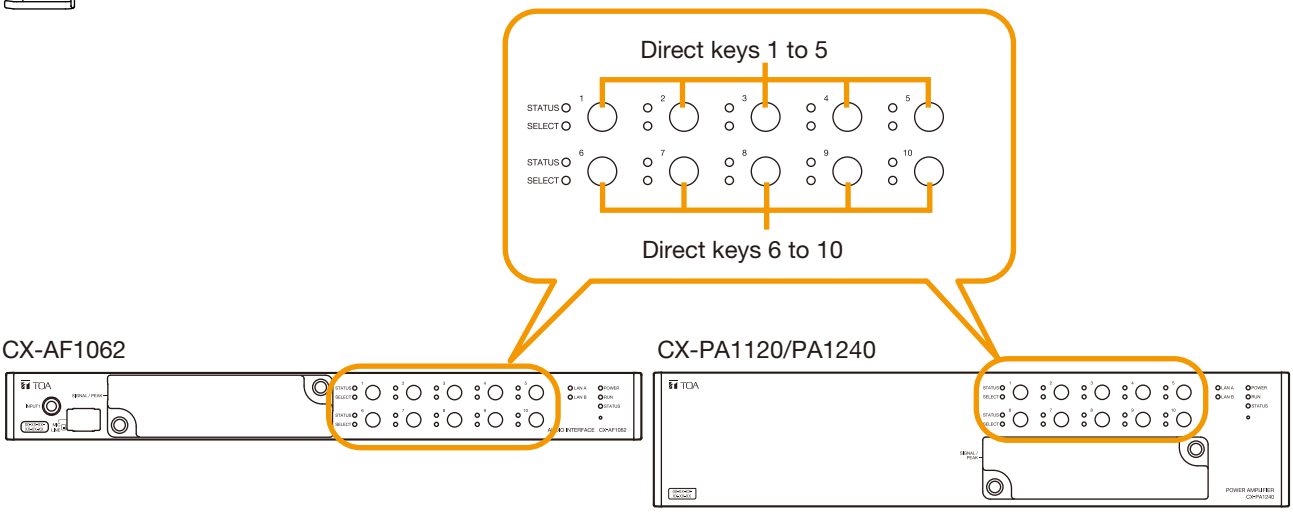


CX-OP1500



CX-AF1062

CX-PA1120/PA1240



1.3. Operation Examples

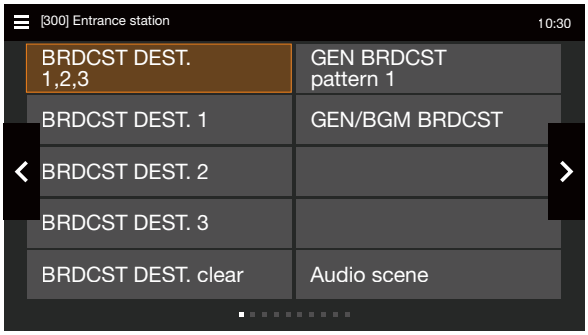
1.3.1. Example of microphone broadcast to several broadcast destination patterns

Broadcast destinations can be selected with the Direct key or by entering the broadcast destination pattern number.

Note
This operation is not possible using the CX-AF1062, CX-PA1120, or CX-PA1240.

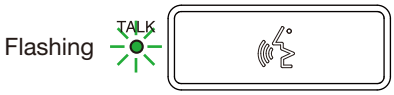
[CX-OP1700/RM1700 broadcasting example (using the Direct keys)]

Step 1. Press the Direct key 1 (Broadcast destinations 1, 2, 3).
The selected Direct key changes color and will be put into selected status.
Tip
To cancel the selection, press the selected Direct key again or press Direct key 5 (Broadcast destination selection all clear).



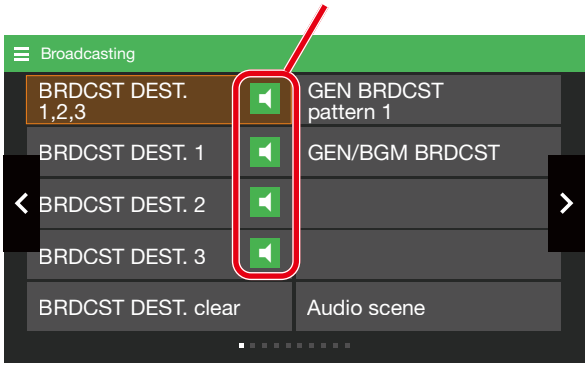
Step 2. Press the Talk key.
A chime tone sounds and broadcast begins. The "Broadcasting" indication is also displayed at the top of the screen. The broadcast indicator flashes green while the chime sounds.
Tip
Depending on the setting, the microphone indicator also flashes or remains lit in conjunction with the broadcast indicator.

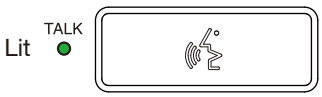
(Example of CX-RM1700's Talk key)



Broadcast in progress icon

Step 3. Perform microphone broadcast when the broadcast indicator turns green.
The broadcast destination settings for Direct keys 2 to 4 are included in the broadcast destination selection pattern for Direct key 1. Thus, the "Broadcast in progress" icon is also displayed at Direct keys 2 to 4.

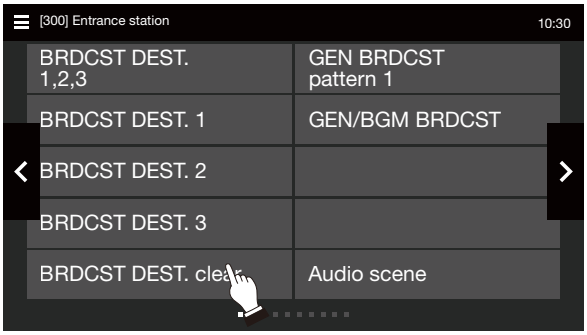




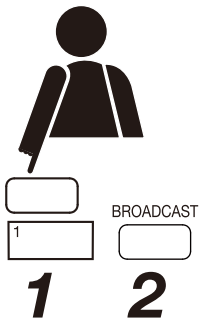
Step 4. Press the Talk key.
The broadcast ends.
Whether the broadcast destination selection is maintained or the selection is canceled when the broadcast ends depends on the preset. The selection status can be checked by observing the color of the Direct key.



Step 5. If the broadcast destination selection status continues, press Direct key 5 (Broadcast destination selection all clear) to cancel.
All broadcast destination selections will be cleared.
Tip
The broadcast destination selection status can also be left as is and used for the next broadcast without performing this operation.



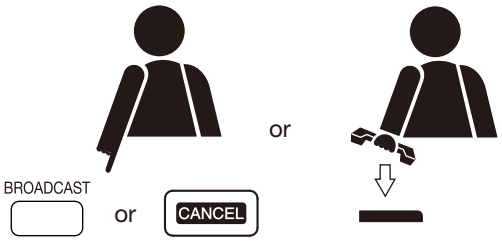
[CX-OP1500 broadcasting example (using the Direct keys)]



Step 1. Press the Direct key 1 (Broadcast destinations 1, 2, 3).
Tip
To cancel the selection, press the selected Direct key again or press Direct key 5 (Broadcast destination selection all clear).

Step 2. Press the Broadcast key.
A chime tone sounds and broadcast begins.

Step 3. Perform microphone broadcast.

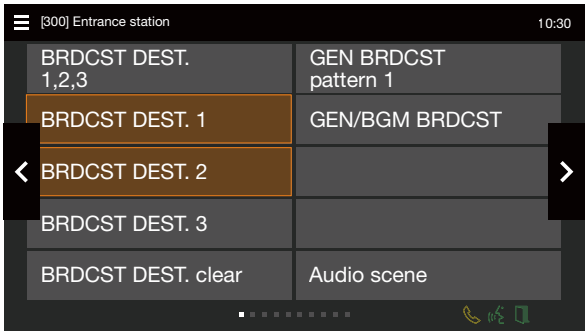


Step 4. Press the Broadcast or Cancel key, or replace the handset.
The broadcast ends.

1.3.2. Microphone broadcast example (for individual broadcast destinations)

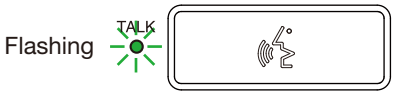
[When using the CX-OP1700/RM1700]

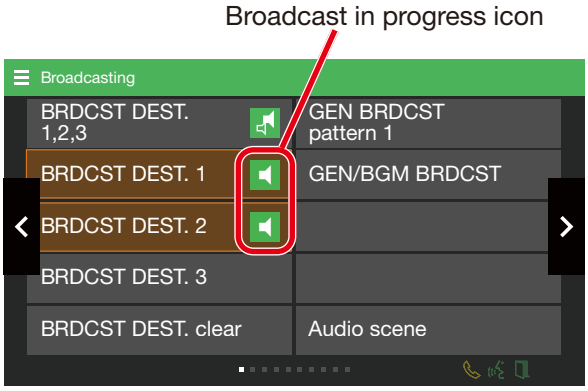
Step 1. Press the Direct key 2 (Broadcast Destination 1) and Direct key 3 (Broadcast Destination 2).
Broadcast destinations 1 and 2 are selected and the Direct keys change color to indicate their selected status.
Tip
To cancel the selection, press the selected Direct key again or press Direct key 5 (Broadcast destination selection all clear).



Step 2. Press the Broadcast key or Talk key.
A chime tone sounds and broadcast begins.
The "Broadcasting" indication is also displayed at the top of the screen.
On the CX-RM1700, the broadcast indicator flashes green during chime sounding and changes to steadily on when the chime ends. Depending on the setting, the microphone indicator also flashes or remains steadily on in conjunction with the broadcast indicator.
Tip
The CX-OP1700 has no broadcast or microphone indicators.

(Example of CX-RM1700's Talk key)

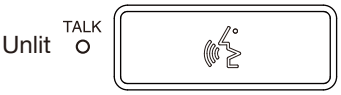




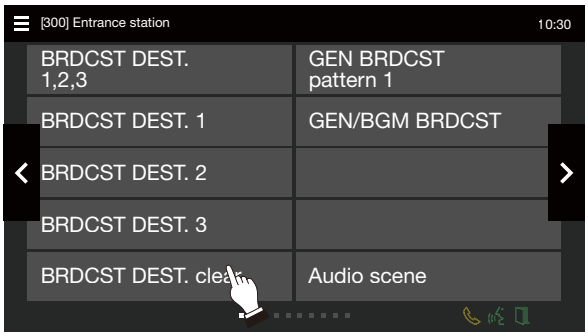
Step 3. Perform microphone broadcast after the chime ends.



Step 4. Press the Broadcast key or Talk key.
The broadcast ends.
The broadcast destination selection status for the CX-OP1700 is maintained even after the broadcast ends. For the CX-RM1700, whether the broadcast destination selection is maintained or turned off at broadcast end depends on the settings.
The selection can be checked by observing the color of the Direct key.

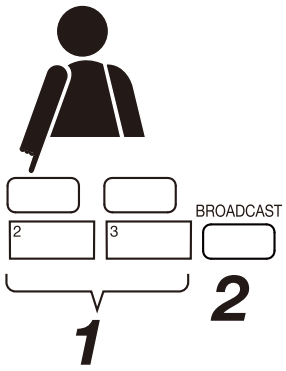


Step 5. If the broadcast destination selection status continues, press Direct key 5 (Broadcast destination selection all clear) to cancel.
All broadcast destination selections will be cleared.
Tip
The broadcast destination selection can also be left as is and used for the next broadcast without performing this operation.



[When using the CX-OP1500]

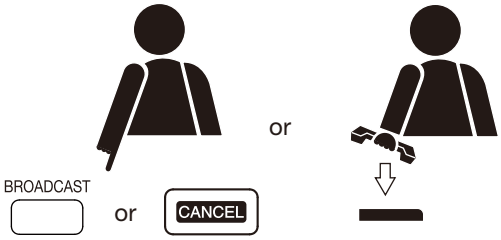
Step 1. Press the Direct key 2 (Broadcast destination 1) and Direct key 3 (Broadcast destination 2).
Tip
To cancel the selection, press the selected Direct key again or press Direct key 5 (Broadcast destination selection all clear).



Step 2. Press the Broadcast key.
A chime tone sounds and broadcasting begins.

Step 3. Perform microphone broadcasting.

Step 4. Press the Broadcast or Cancel key, or replace the handset.
The broadcast ends.



1.3.3. Microphone broadcast example for preset broadcast destinations (CX-OP1700/OP1500/ RM1700 only)

Assigning a broadcast destination pattern or individual broadcast destinations to the CX-OP1700/OP1500's Broadcast key or RM1700's Talk key makes it possible to broadcast to the preset destination(s) with an easy press of the key.

Tip

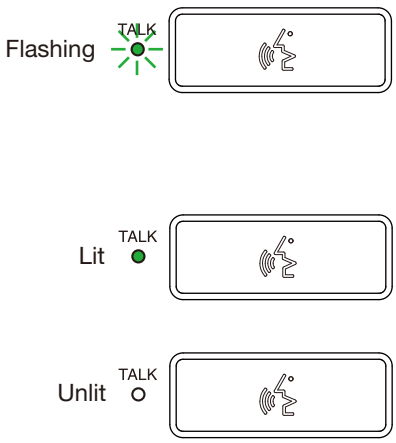
For information on how to assign broadcast destination patterns or individual broadcast destinations to the Broadcast key, refer to "EVENT ACTIVATION SETTINGS" in the separate Setting software instructions.

Step 1. Press the Talk key or Broadcast key.
A chime tone sounds and broadcasting begins.
On the CX-RM1700, the broadcast indicator flashes green during chime sounding and changes to steadily on when the chime ends. Depending on the setting, the microphone indicator also flashes or remains steadily on in conjunction with the broadcast indicator.

Step 2. Perform microphone broadcasting after the chime ends.

Step 3. Press the Talk key or Broadcast key.
The broadcast ends.

(Example of CX-RM1700's Talk key)



1.3.4. Base pattern broadcast example

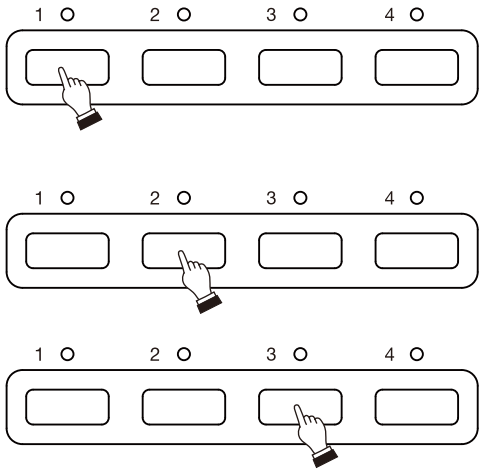
Following is the operation example in the case where Base pattern broadcast is made by the Base pattern 1 in the morning and changed to the Base pattern 2 in the afternoon, and then ended.

[When using the CX-RM1700]

Step 1. Press the Direct key 101 (Base pattern 1).
A set base pattern 1 is selected and activated.
Tip
To cancel the selection, press the Direct key 103 (Base pattern stops).

Step 2. Press the Direct key 102 (Base pattern 2).
Base pattern 2 is selected, ending Base pattern 1, and Base pattern 2 is activated.

Step 3. Press the Direct key 103 (Base pattern stops).
Base pattern 2 ends.

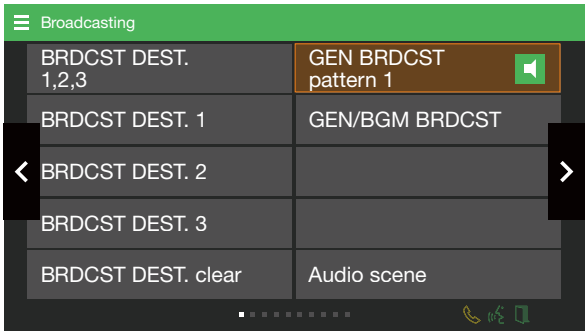


1.3.5. General broadcast example

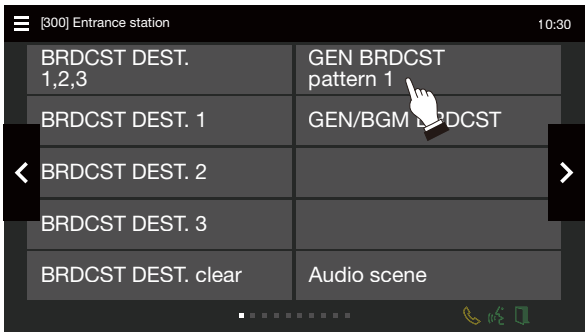
Note
Whenever a General broadcast pattern is started or stopped, always check to be sure whether it is enabled or not before operation. If a control output group is set to be linked with the General broadcast pattern, this can be easily seen by checking the control output status.

[When using the CX-OP1700/RM1700]

Step 1. Press the Direct key 6 (General broadcast pattern 1).
The General broadcast pattern 1 is selected and activated.
The Direct key 6 changes color to indicate its selected status.



Step 2. Press Direct key 6 (General broadcast pattern 1) again.
General broadcast pattern 1 stops.
The Direct key 6 reverts to its original color.



[When using the CX-OP1500]

Step 1. Press the Direct key 6 (General broadcast pattern 1).
The General broadcast pattern 1 is selected and activated.

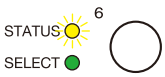


Step 2. Press Direct key 6 (General broadcast pattern 1) again.
General broadcast pattern 1 stops.

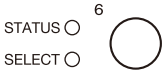


[When using the CX-AF1062/PA1120/PA1240]

Step 1. Press the Direct key 6 (General broadcast pattern 1).
The General broadcast pattern 1 is selected and activated.
The Direct key 6 selection indicator lights green and its status indicator flashes yellow.



Step 2. Press Direct key 6 (General broadcast pattern 1) again.
The Direct key 6 selection indicator and its status indicator turn off.

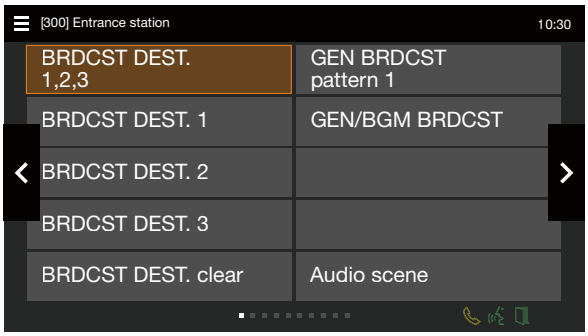


1.3.6. General/BGM broadcast example

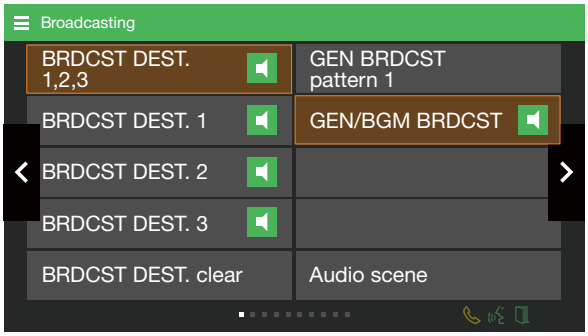
Here, an operation example based on the broadcast destination patterns is explained.

[When using the CX-OP1700/RM1700]

Step 1. Press the Direct key 1 (Broadcast destinations 1, 2, 3).
The selected Direct key changes color and will be put into selected status.
Tip
To cancel the selection, press the selected Direct key again or press Direct key 5 (Broadcast destination selection all clear).



Step 2. Press the Direct key 7 (General/BGM broadcast).
The sound source for the General broadcast or Background music is broadcast to the selected broadcast destinations.
The Direct key 7 changes color and will be put into selected status.
The "Broadcast in progress" icon also lights up. The "Broadcast in progress" icons are also displayed at Direct keys 1 – 4.
Tip
- The LCD header does not turn green during BGM broadcasts.
- Performing this operation during the microphone announcements made by this device terminates the microphone announcements if the audio source assigned to the General/BGM broadcasts takes precedence over the microphone announcements.



[When using the CX-OP1500]

Step 1. Press the Direct key 1 (Broadcast destinations 1, 2, 3).
All the set broadcast destinations are selected.
Tip
To cancel the selection, press the selected Direct key again or press Direct key 5 (Broadcast destination selection all clear).



Step 2. Press the Direct key 7 (General/BGM broadcast).
The sound source for the General broadcast or Background music is broadcast to the selected broadcast destinations.



1.3.7. Broadcasting with the voice stack function (CX-OP1700/RM1700 only)

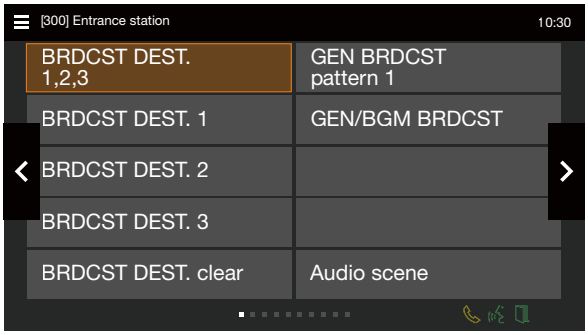
Prerecorded audio can be broadcast.
The max. recording time is 1 minute. If the recording exceeds 1 minute in length, no further audio will be recorded.

Notes

- If an incoming call or broadcast is received during a recording, the data will not be recorded correctly.
- During CX-OP1700 operation, keep the handset lifted from recording start to end.
- If the settings of a station with the Voice Stack function set up are updated by settings data upload, any recorded data will be deleted.
- Voice stack broadcasts cannot be made from a currently broadcasting station.

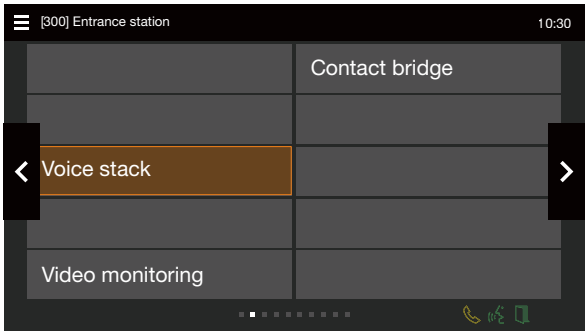
[Recording and Broadcasting Examples]

Step 1. Press the Direct key 1 (Broadcast destinations 1, 2, 3).
Preselect all Voice Stack broadcast destinations.
The Direct key 1 changes color and will be put into selected status.



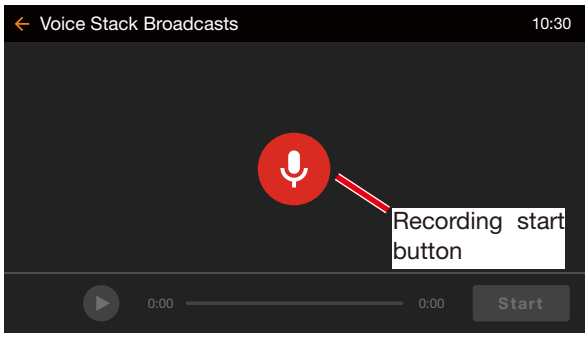
Step 2. Press the Direct key 13 (Voice stack broadcast).

The Direct key 13 changes color and the Recording start screen is displayed.



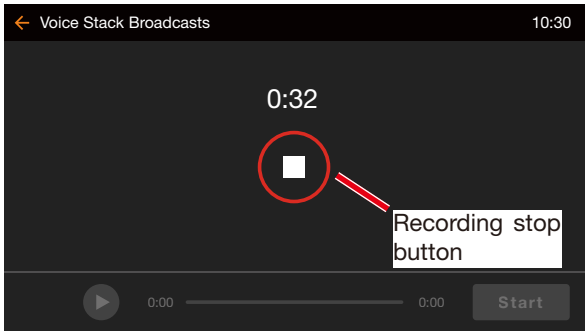
Step 3. Press the Recording start button.

Recording begins.
If the recording exceeds 1 minute, no further audio will be recorded.

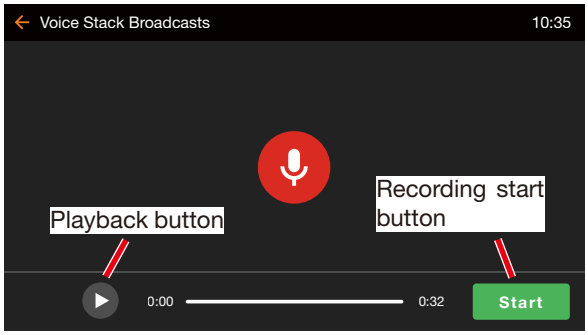


Step 4. Press the Recording stop button.

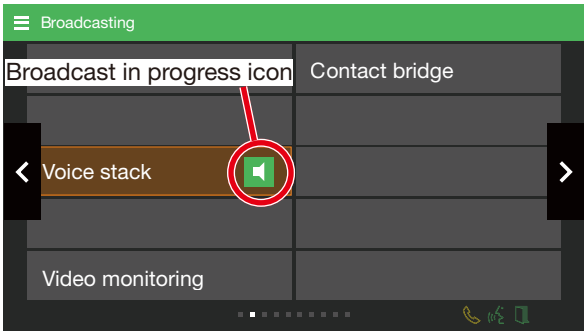
Recording ends, enabling the Playback button.



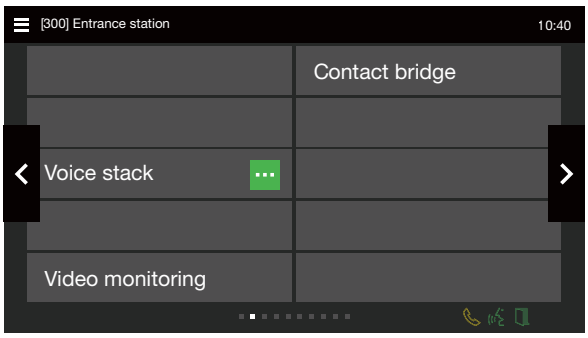
Step 5. Press the Playback button.
Recorded audio is played back.
To override the previous recording, return to **Step 3** and press the Recording start button again.



Step 6. Press the Start broadcast button.
The display reverts to the standby screen and the Broadcast in progress icon is displayed on the Direct key 13 (Voice stack broadcast).

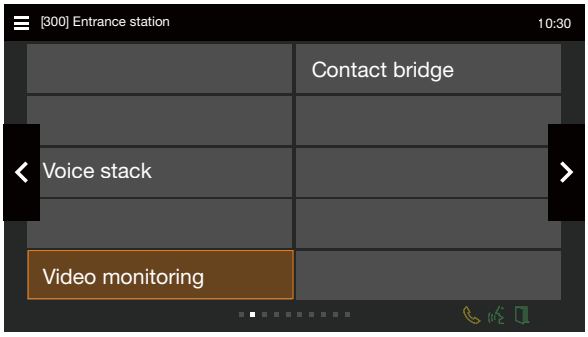


When the broadcast ends, the Direct key 1 and the Direct key 13 (Voice stack broadcast) change color and reverts to unselected status.



1.3.8. Video monitoring broadcast (CX-OP1700/RM1700 only)

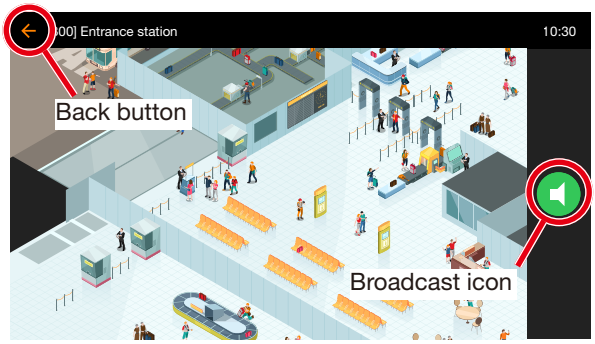
Step 1. Press the Direct key 15 (Video monitoring broadcast).



The screen switches to the preset camera image.

Step 2. Press the Broadcast icon.
Broadcast destination 1 is selected and Microphone broadcast begins.

Tip
Pressing the Broadcast key also starts the broadcast.

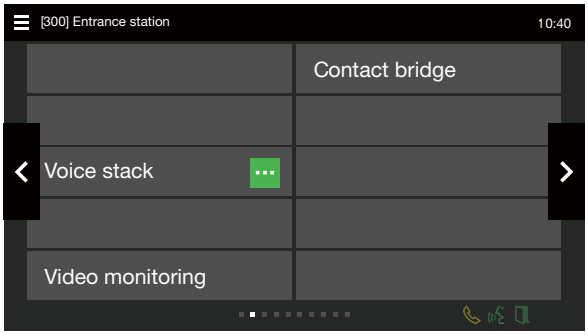


Step 3. Perform microphone broadcast.

Step 4. Press the Broadcast icon again.
Broadcast stops.

Tip
Pressing the Broadcast key also stops the broadcast.

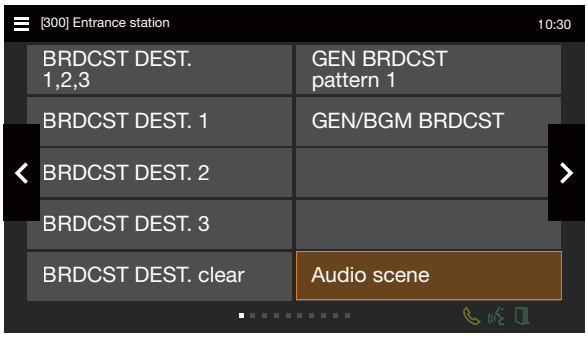
Step 5. Press the Back button on the LCD header. The display returns to the standby screen.



Note
If another broadcast has already begun before the video monitoring broadcast can be initiated, and its broadcast type differs from the video monitoring broadcast (normal, wide-area), pressing the broadcast icon in **Step 2** will stop the earlier broadcast, and pressing it again will resume the broadcast. In this event, the broadcast will not go out to the assigned broadcast destinations.
However, if both broadcasts are of the same type, when the broadcast icon is pressed in **Step 2**, the broadcast destinations of the video monitoring broadcast will be added to those of the previously initiated broadcast.

1.3.9. Audio scene changing

Step 1. Press the Direct key 10 (Audio scene change).
The audio scene changes.
On the CX-RM1700 or the CX-OP1700, the selected Direct key changes color and will be put into selected status.



2. EXTERNAL DEVICE CONTROL

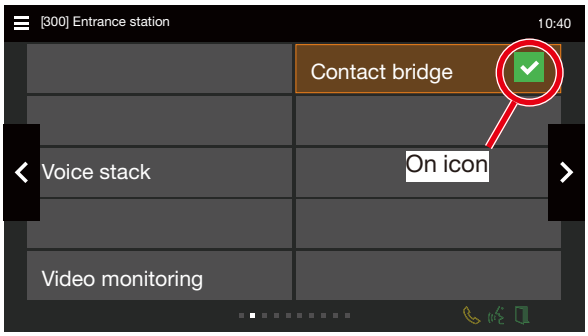
In this section, operation based on the Direct key Setting Examples (p. 4-3) is also explained.

2.1. Contact Bridge Operation

Any control output can be operated using the Direct key.

[When using the CX-OP1700/RM1700]

Step 1. Press the Direct key 16 (Contact bridge).
The Direct key 1 changes color and will be put into selected status.
The control output assigned to the Contact bridge is enabled and the ON icon is displayed.



Step 2. Press the Direct key 16 (Contact bridge) again.
Direct key 16 reverts to its original color and the control output is disabled, causing the ON icon to turn off.

[When using the CX-OP1500]

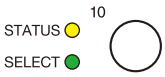
Step 1. Press the Direct key 10 (Contact bridge).
The control output assigned to the Contact bridge is enabled.



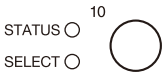
Step 2. Press the Direct key 10 (Contact bridge) again.
The control output is disabled.

[When using the CX-AF1062/PA1120/PA1240]

Step 1. Press the Direct key 10 (Contact bridge).
The control output assigned to the contact bridge is enabled and the Status indicator lights yellow.
Note
If the Status indicator lights yellow even though no key was pressed, the operation will be disabled even if another key is pressed.
This case may occur, for example, when the control output is enabled by another key operation.



Step 2. Press the Direct key 10 (Contact bridge) again.
The control output is disabled and the Status indicator turns off.



Chapter 5

EMERGENCY MODE FUNCTIONS AND OPERATION

1. USING EMERGENCY MODE

1.1. Activating Emergency Mode

The Emergency mode can be activated by starting the Emergency Message broadcast pattern using the Direct key or control input.

1.2. Setting Examples

In this chapter, the operating method is based on the following setting examples:

Item	Function	Model				
		CX-OP1700 CX-RM1700	CX-OP1500	CX-CL1750 CX-CL1550	CX-AF1062 CX-PA1120 CX-PA1240	CX-CC1016
Emergency Message Broadcast pattern	The Emergency broadcast pattern is started.	Direct key 1	—	—	Control input 2	Control input 2
Emergency Message Broadcast pattern	The Emergency broadcast pattern is stopped.	Direct key 2	—	—	Control input 3	Control input 3
Emergency Sequence Stop	The Emergency sequence is stooped	Direct key 4	—	—	Control input 5	Control input 5
Emergency Sequence Phase Transition	Emergency Sequence Phase Transition	Direct key 5	—	—	Control input 6	Control input 6
Emergency All-clear	The Emergency mode is terminated.	Direct key 6	—	—	Control input 7	Control input 7
Broadcast Destination 1,2,3	Broadcast destination selection (pattern)	Direct key 8	—	—	—	—

Note
When setting the Direct key for Emergency message broadcast, first be sure the station's usage is set to "General/Emergency."
(See the separate Setting software instructions, "Setting the Basic Operations for Each Device.")
Tip
Use the CX-1000 Setting software to set the Direct key and control input functions.
(See the separate Setting software instructions, "EVENT ACTIVATION SETTINGS.")

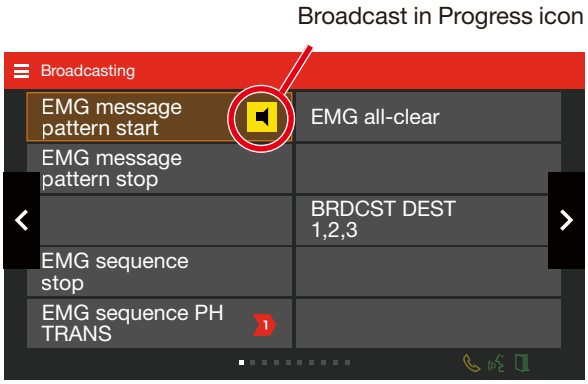
1.3. Emergency Message Broadcast Operation

1.3.1. Activating and deactivating the emergency message broadcast pattern

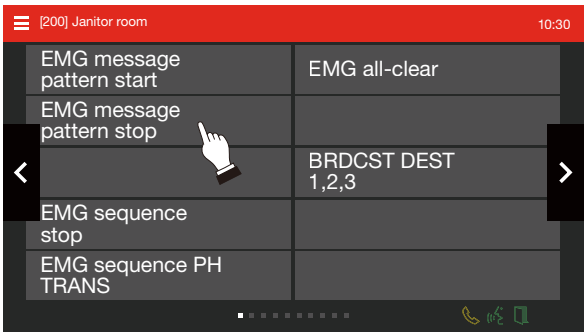
Activating the Emergency message broadcast pattern allows activation of the Emergency mode.
There are several ways to manually activate the Emergency broadcast pattern, depending on the presets.

[CX-OP1700/RM1700 operation using multiple Direct keys]

Step 1. Press the Direct key 1 (Emergency Message Broadcast Pattern start).
When activated in Normal mode, both the hub* where the initiating station is assigned and the hub* where the Emergency message broadcast destination is assigned will switch to Emergency mode.
The Emergency message broadcast pattern is selected and activated.
Direct key 1 changes color and the 'Broadcast in Progress' icon is displayed.
* If no hub settings exist, the entire system is displayed in Emergency mode. For details on hub settings, refer to "Hub Functions" and "GENERAL SETTINGS" in the separate Setting software instructions.



Step 2. Press the Direct key 2 (Emergency Message Broadcast Pattern stop).
The Emergency message broadcast pattern currently being activated stops.
The Direct key 1 "Broadcast In Progress" icon turns off and the Emergency mode continues.



[CX-AF1062/PA1120/PA1240/CC1016 operation using multiple control inputs]

Step 1. Turn on Control input 2 (Emergency Message Broadcast Pattern start).
When activated in Normal mode, both the hub* where the initiating unit is assigned and the hub* where the Emergency message broadcast destination is assigned will switch to Emergency mode.
The Emergency message broadcast pattern is selected and activated.
* If no hub settings exist, the entire system is displayed in Emergency mode. For details on hub settings, refer to "Hub Functions" and "GENERAL SETTINGS" in the separate Setting software instructions.

Step 2. Turn on Control input 3 (Emergency Message Broadcast Pattern stop).
The Emergency message broadcast pattern currently being activated stops.
The Emergency mode continues.

1.3.2. Emergency sequence phase transition

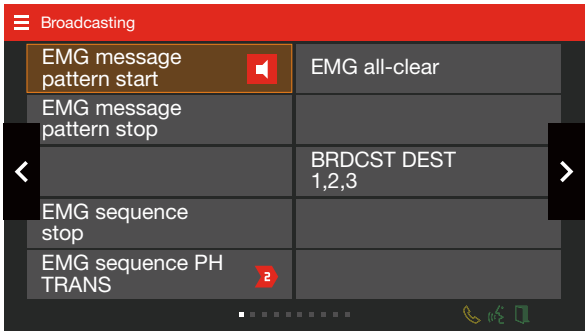
While the Emergency message broadcast pattern is being activated, its current phase can be manually advanced to the next phase according to the setting.

[When using the CX-OP1700/RM1700]

Step: Press the Direct key 5 (Emergency Sequence Phase Transition).



The Emergency sequence moves on to the next phase.



[When using the CX-AF1062/PA1120/PA1240/CC1016]

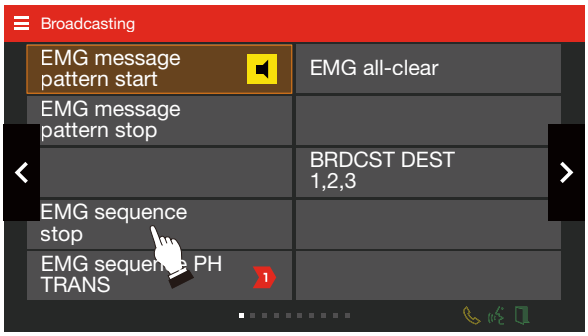
Step: Turn on the Control input 6 (Emergency Sequence Phase Transition).
The Emergency sequence moves on to the next phase.

1.3.3. Emergency sequence stop

The Emergency sequence can be manually stopped during activation of the Emergency Message Broadcast Pattern. The Emergency mode will continue.

[When using the CX-OP1700/RM1700]

Step: Press the Direct key 4 (Emergency sequence stop).
The Emergency sequence currently being activated in the Emergency Message Broadcast Pattern stops.



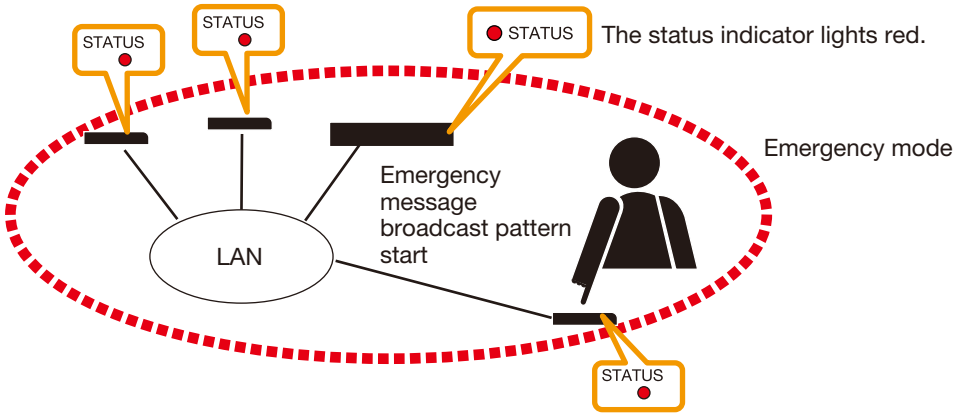
[When using the CX-AF1062/PA1120/PA1240/CC1016]

Step: Turn on the Control input 5 (Emergency sequence stop).
The Emergency sequence currently being activated in the Emergency Message Broadcast Pattern stops.

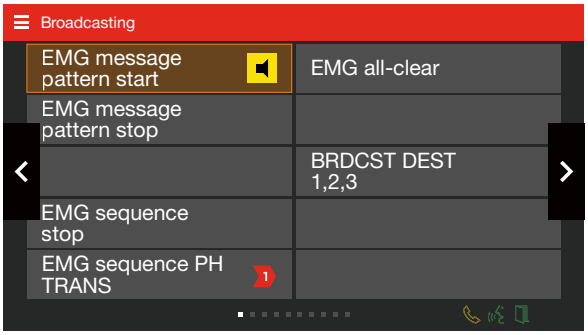
2. WHEN EMERGENCY MODE IS ACTIVATED

2.1. Emergency Mode Operation

- Whenever the Emergency mode is activated, the device activating the Emergency message broadcast pattern and every device connected to the designated destination hub(s) will automatically switch to Emergency mode.
  * If no hub settings exist, the entire system enters Emergency mode display. For details on hub settings, refer to "Hub Functions," "GENERAL SETTINGS," and "Hub Settings" in the separate Setting software instructions.



- When ATT control of the CX-PA1120's or CX-PA1240's audio output is enabled and an Emergency message broadcast or Emergency broadcast is performed, its attenuator control output switches on, causing the connected attenuator to be bypassed.
- Each station's Status indicator lights red.
- The uppermost header of the CX-OP1700 or CX-RM1700 LCD turns red.



- All broadcasts from stations of which usage is set to "General/Emergency" will be Emergency broadcasts.

2.2. Emergency Broadcast

All broadcasts from a station or touch screen remote microphone set to "General/Emergency" will be Emergency broadcasts when the Emergency mode is activated.
The broadcasting method is the same as in Normal mode.

3. EMERGENCY ALL-CLEAR

Emergency All-clear is required in order to switch from Emergency mode back to Normal mode.
Following are the all-clear operations based on the "Setting Examples" on p. 5-2.

[When using the CX-OP1700/RM1700]

Step: Press the Direct key 6 (Emergency all-clear).
The Emergency mode of the hub to which the station belongs is terminated and the hub reverts to Normal mode.
When the All-clear message is set, the All-clear message broadcast begins.
Notes
- The Emergency all-clear broadcast cannot be manually stopped.
- If an Emergency broadcast is in progress when Emergency mode ends, it will be forcibly terminated.

[When using the CX-AF1062/PA1120/PA1240/CC1016]

Step: Turn on the Control input 7 (Emergency all-clear).
The Emergency mode of the hub to which the unit belongs is terminated and the hub reverts to Normal mode.
When the All-clear message is set, the All-clear message broadcast begins.
Notes
- The Emergency all-clear broadcast cannot be manually stopped.
- If an Emergency broadcast is in progress when Emergency mode ends, it will be forcibly terminated.

Tips
- Use the CX-1000 Setting software to set the operation during Emergency All-clear.
  (See the separate Setting software instructions, "EVENT ACTIVATION SETTINGS.")
- The broadcast destinations for an Emergency all-clear broadcast are the same as those included in the phase of the Emergency message broadcast pattern that was active immediately before the Emergency all-clear operation was performed.

Chapter 6

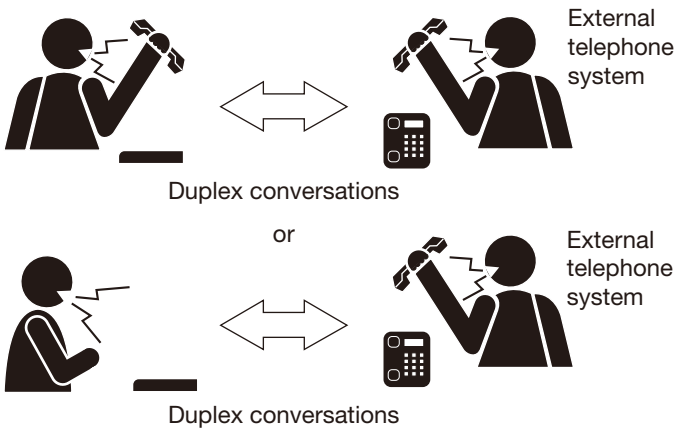
EXTERNAL SYSTEM CONNECTIONS

1. EXTERNAL TELEPHONE SYSTEM CONNECTION

Note
Connection to the PBX may be subject to country-wide regulations.
Please make note of and adhere to local regulations when connecting to a PBX.

1.1. Calls With External Telephone Systems

Hands-free, handset and headset conversations are all possible.
Note
One-way conversations using the PTT key are not possible.



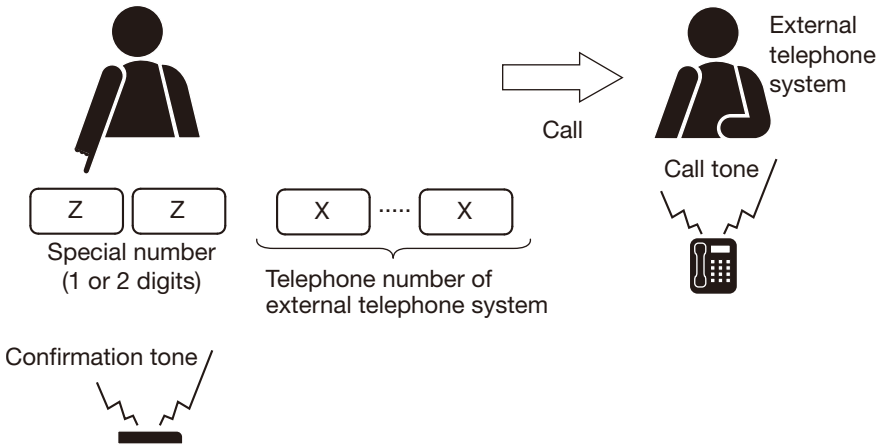
1.2. Calling the External Telephone Systems

A VoIP adapter or IP-PBX makes it possible to call other phone systems.
Tip
When using the IP-PBX, follow the manufacturer instructions.

1.2.1. Making calls (Using the Dial keys)

Step 1. Press the special number.
The station is connected to an external telephone system.

Step 2. Confirm that a dial tone from the external telephone system is heard, then dial the telephone number.
The external telephone system is called.



Tips
- Be sure to perform the settings to enable an external telephone system call in advance. Use the CX-1000 Setting software to enable external telephone system call capability for each station.
  (See the separate Setting software instructions, "Setting Calls, Responses, and Conversations.")
- Use the CX-1000 Setting software to set the special number.
  (See the separate Setting software instructions, "External Telephone System settings.")
- Even if the external telephone system to which a call is made is busy, the call is automatically shifted to the free external telephone system for which the same special number is set.

1.2.2. Direct key

External telephone systems can be called by simply pressing the Direct key if the external telephone system special and telephone numbers are registered to the Direct key.

Note

DTMF transmission may fail depending on the VoIP adapter or the IP-PBX to use. In such a case, adjust the DTMF transmission delay time. Use the CX-1000 Setting software to perform the delay time setting. (See the separate Setting Software instructions, "External Telephone System settings.")

Tips

- Be sure to perform the settings to enable an external telephone system call in advance. Use the CX-1000 Setting software to enable external telephone system call capability for each station.
  (See the separate Setting software instructions, "Setting Calls and Call Operations.")
- Use the CX-1000 Setting software to set the special number.
  (See the separate Setting software instructions, "External Telephone System settings.")
- Use the CX-1000 Setting software to assign the One-touch dial function and register the number to the Direct key. (See the separate Setting software instructions, "EVENT ACTIVATION SETTINGS.")

1.2.3. Contacts

Calls can be made to external telephone systems by selecting numbers from the contacts if the external telephone system special and telephone numbers are previously registered in the contacts. The method for placing calls by selecting numbers from the phone book is essentially the same as when calling CX-1000 Series stations.

(See "Contacts (CX-OP1700 Only)" on p. 3-4.)

Tips

- Be sure to perform the settings to enable an external telephone system call in advance. Use the CX-1000 Setting software to enable external telephone system call capability for each station.
  (See the separate Setting software instructions, "Setting Calls, Responses, and Conversations.")
- Use the CX-1000 Setting software to set the special number. (See the separate Setting software instructions, "External Telephone System settings.")
- Use the CX-1000 Setting software to set the register calls in the phone book.
  (See the separate Setting software instructions, "Phone Book Settings.")

1.3. External Telephone System Call Transfer

1.3.1. Transfer

Either party engaged in 2-party conversation can call the external telephone system to make conversation with (placing the original conversation partner on hold). After the conversation end, it is possible to restore the original 2-party conversation or transfer the conversation with the external telephone system to the original conversation partner.

Note

Calls cannot be transferred to another external telephone system number during conversations with an external telephone system .

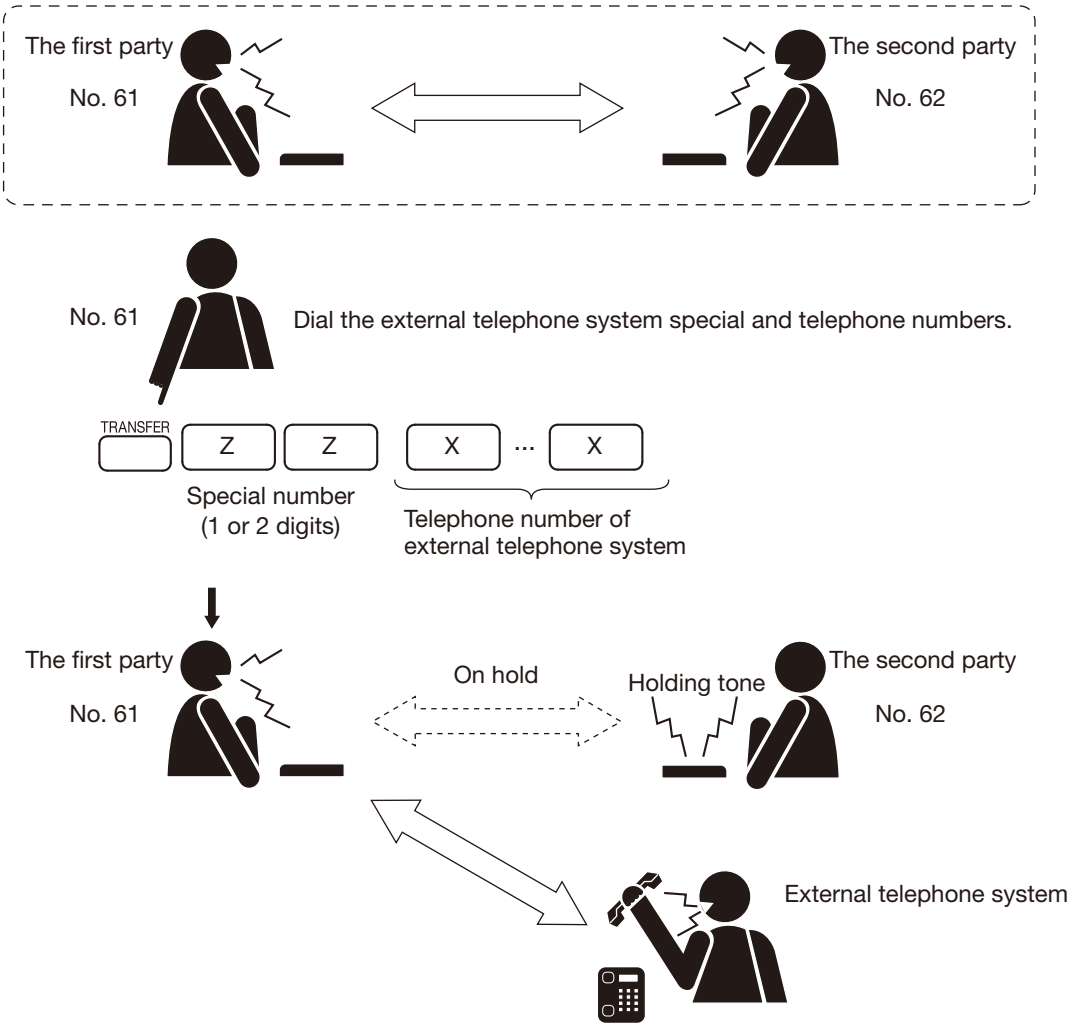
Tip

- Any calls to an external telephone system must first be preset. To enable or disable calls, use the CX-1000 Setting software to set-up each station. (See the separate Setting software instructions, "Setting Calls, Responses, and Conversations.")
- Use the CX-1000 Setting Software to set-up a special and telephone numbers. (See the separate Setting software instructions, "External Telephone System settings.")

Step 1. Press the Transfer key during 2-party conversation.
The current conversation is placed on hold, sending a hold tone to the other party.

Step 2. Press the special number.
The station is connected to an external telephone system.

Step 3. Dial the telephone number of the external telephone system.
If the external telephone system answers, the first party can speak with the third party while keeping the original conversation on hold.



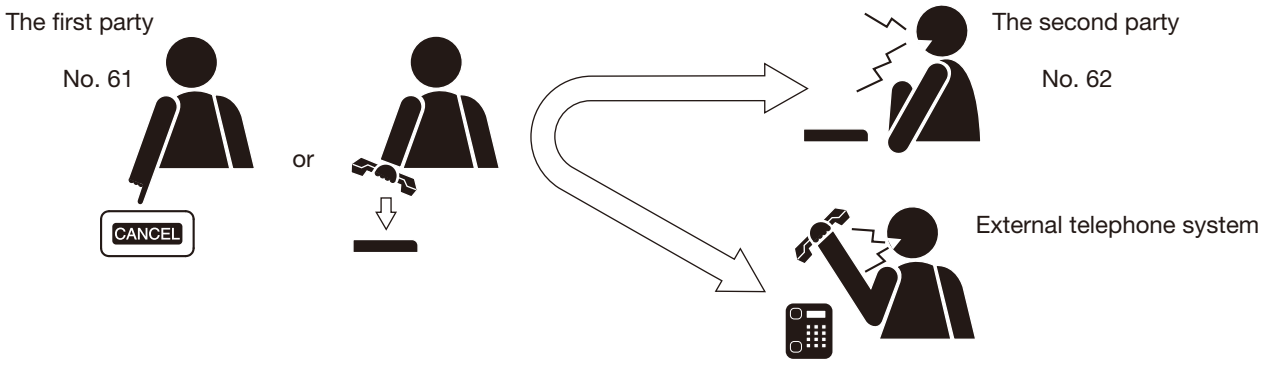
After completing the conversation with the external telephone system, the first party can transfer the conversation with the second party to the external telephone system or return to the original conversation.

Step 4. Transfer calls to the external telephone system or return to the original conversation.

4-1 When transferring calls to the external telephone system

To connect the external telephone system to the original conversation partner being placed on hold, either press the Cancel key or replace the handset.

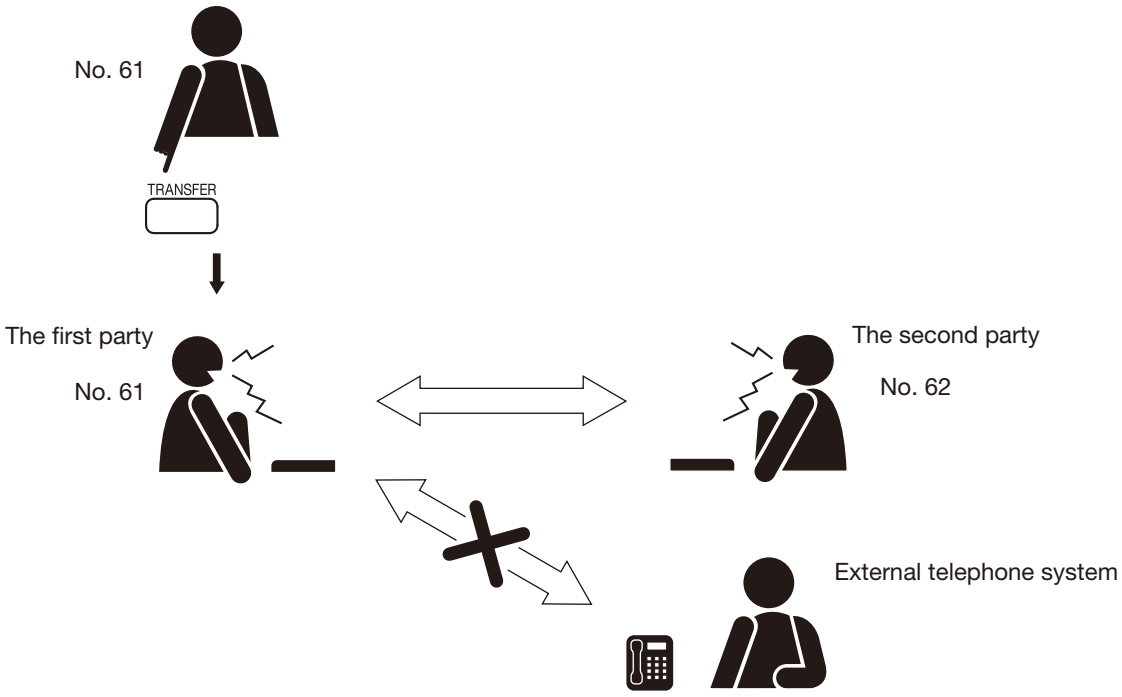
This permits conversation between the second party and external telephone system.



4-2 When returning to the original conversation

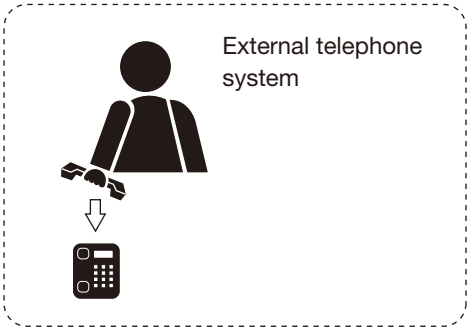
To return to the original conversation without transferring it to the external telephone system, press the Transfer key again.

The original 2-party conversation is restored.



Tip

Even if the first party does not press the Transfer key, if the external telephone system telephone either presses the Cancel key or replaces the handset, the original conversation is restored.



1.3.2. Forwarding

[Redirecting to external telephone systems]

External telephone systems can be designated as the transfer destinations for Redirecting (p. 3-19).
Calls received during conversations ("CALL TRANSFER (CX-OP1700/OP1500 ONLY)" on p. 3-17) can be transferred to external telephone system.

Note

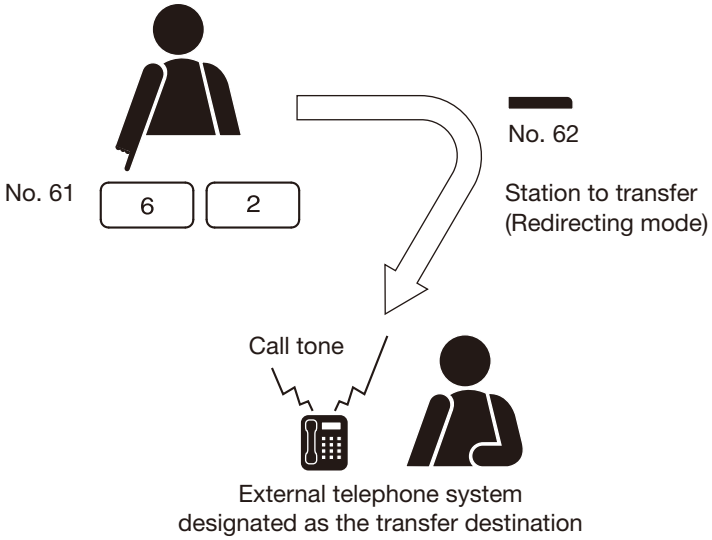
Calls received from an external telephone system are not transferred to the destination external telephone system, but only the station to transfer is called.

Tips

- Operate the station or use the CX-1000 Setting software to perform Redirecting settings.
  (See "Setup" mentioned below and the separate Setting software instructions, "Transfer Operation Settings.")
- Perform the settings for external telephone system calls in advance. Use the CX-1000 Setting software to enable external telephone system call capability for each station. (See the separate Setting software instructions, "Setting Calls and Call Operations.")
- Use the CX-1000 Setting software to set the external telephone system special number.
  (See the separate Setting software instructions, "External Telephone System settings.")
- Even if the external telephone system to which a call is made is busy, the call is automatically shifted to the free external telephone system for which the same special number is set. Thereafter, the external telephone system connected last becomes the transfer destination.

• When Redirecting to external telephone system is set

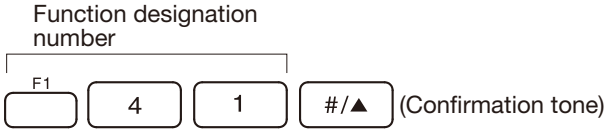
Calls to the station to transfer set for Redirecting are automatically transferred to the designated external telephone system without sounding a call tone.



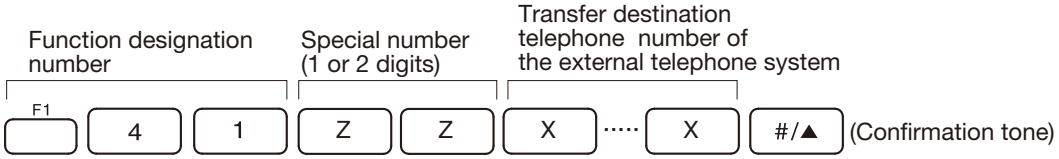
• Setup

Step 1. Press the following keys at the station to transfer to switch to Redirecting mode.

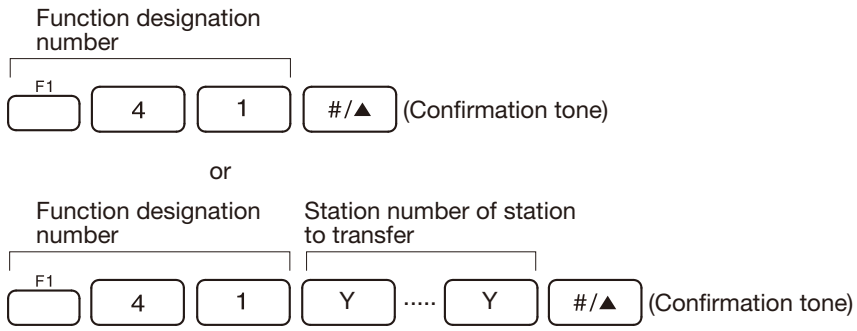
1-1. When the Redirecting destination is preset using the CX-1000 Setting software:



1-2. Designate an external telephone system as the transfer destination:



Step 2. To cancel Redirecting mode, perform the following key operations at the station to transfer.



[Time-based redirecting to external telephone system]

External telephone systems can be designated as the transfer destinations for Time-based redirecting (p. 3-21). Station to transfer is placed in Redirecting mode at a specified time on a pre-determined date. If a call is received during the time zone, it will be automatically transferred to the designated external telephone system without sounding a call tone.

Note

Calls received from an external telephone system are not transferred to the destination external telephone system, but only the station to transfer is called.

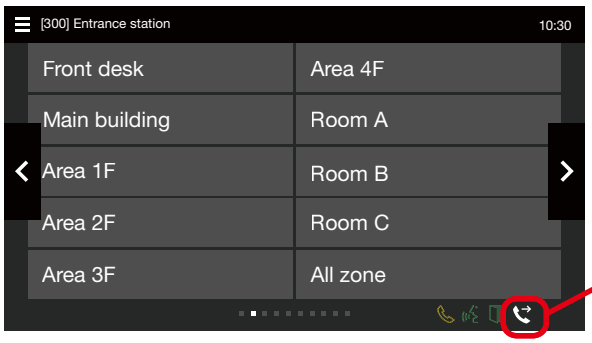
Tips

- Use the CX-1000 Setting software to set the destination station for the Time-based redirecting, the station that initiates the Time-based redirecting, and the time period set for Redirecting mode. (See the separate Setting software instructions, "Transfer Operation Settings," "Time-Based Redirecting Pattern Settings," and "PROGRAM TIMER SETTING.")
- Perform the settings for external telephone system calls in advance. Use the CX-1000 Setting software to enable external telephone system call capability for each station. (See the separate Setting software instructions, "Setting Calls, Responses, and Conversations.")
- Use the CX-1000 Setting software to set the external telephone system special number. (See the separate Setting software instructions, "External Telephone System settings.")
- Even if the external telephone system to which a call is made is busy, the call is automatically shifted to the free external telephone system for which the same special number is set. Thereafter, the external telephone system connected last becomes the transfer destination.

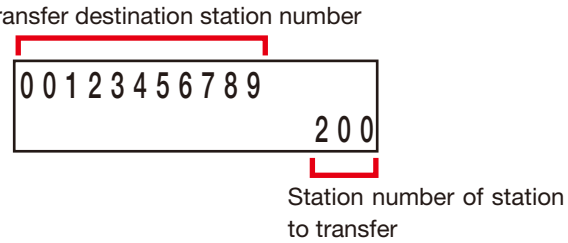
• Operation when Time-based redirecting to external telephone system is activated

1. When the preset transfer start time is reached, the station's display shows the station to transfer has entered the Time-based redirecting mode.

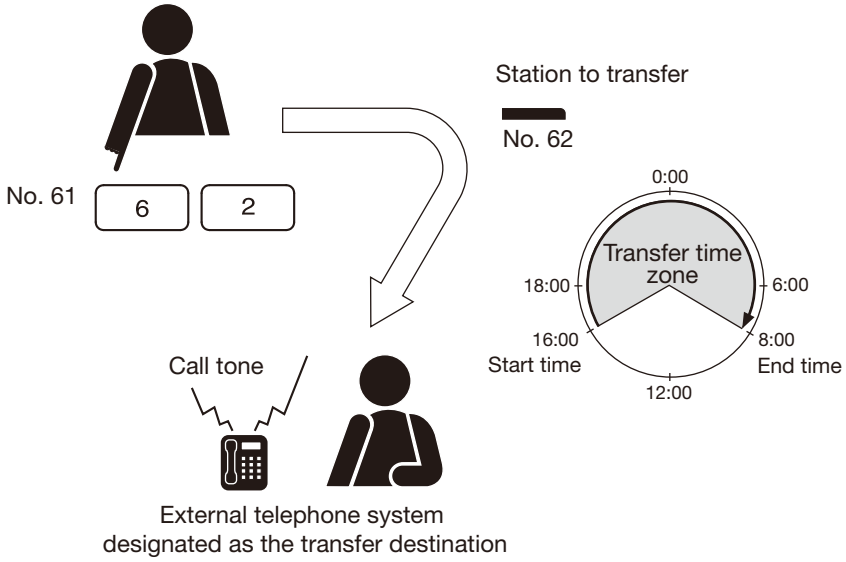
[The CX-OP1700 LCD during Redirecting settings]



[The CX-OP1500 LCD during Redirecting settings]



2. Calls to the station to transfer set to Redirecting are automatically transferred to the external telephone system designated as the transfer destination without sounding a call tone.



[Busy forwarding to external telephone system]

External telephone systems can be designated as the transfer destinations for Busy forwarding (p. 3-22). Calls received during conversations ("CALL TRANSFER (CX-OP1700/OP1500 ONLY)" on p. 3-17) can be transferred to an external telephone system.

Note

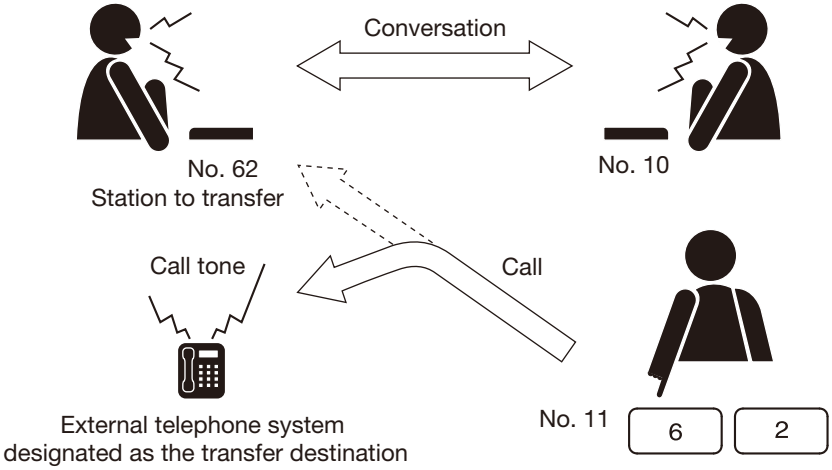
Calls received from an external telephone system are not transferred to the destination external telephone system, but only the station to transfer is called.

Tips

- Operate the station or use the CX-1000 Setting software to perform Busy forwarding settings. (See "Setup" on p. 6-9 and the separate Setting software instructions, "Transfer Operation Settings.")
- Perform the settings for external telephone system calls in advance. Use the CX-1000 Setting software to enable external telephone system call capability for each station. (See the separate Setting software instructions, "Setting Calls, Responses, and Conversations.")
- Use the CX-1000 Setting software to set the external telephone system special number. (See the separate Setting software instructions, "External Telephone System settings.")
- Even if the external telephone system to which a call is made is busy, the call is automatically shifted to the free external telephone system for which the same special number is set. Thereafter, the external telephone system telephone connected last becomes the transfer destination external telephone system telephone.

• When Busy forwarding to external telephone system is set

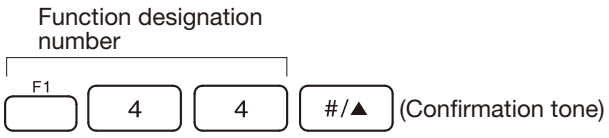
A call to the station to transfer (example: No. 62) will automatically be transferred, if the station (No. 62) is busy, to the designated external telephone system.



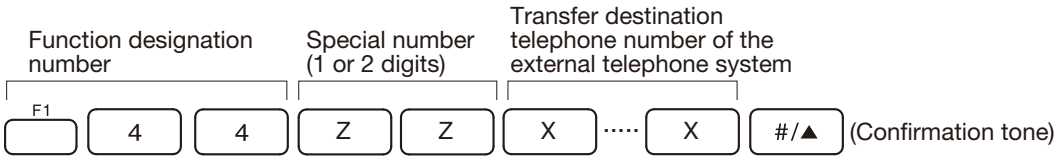
• **Setup**

Step 1. Press the following keys at the station to transfer to switch to Busy forwarding mode.

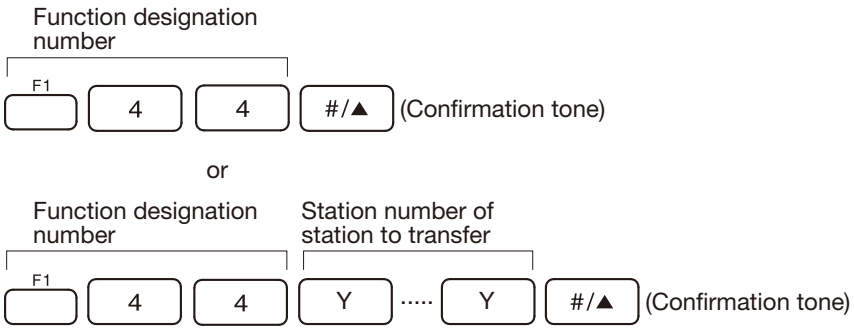
1-1. When the Busy forwarding destination is preset using the CX-1000 Setting software:



1-2. Designate an external telephone system as the transfer destination:



Step 2. To cancel Busy forwarding mode, perform the following key operations at the station to transfer.



[No response forwarding to external telephone system]

External telephone systems can be designated as the transfer destinations for No response forwarding (p. 3-23).
Calls received during conversations ("CALL TRANSFER (CX-OP1700/OP1500 ONLY)" on p. 3-17) can be no response transferred to the external telephone system.

Note

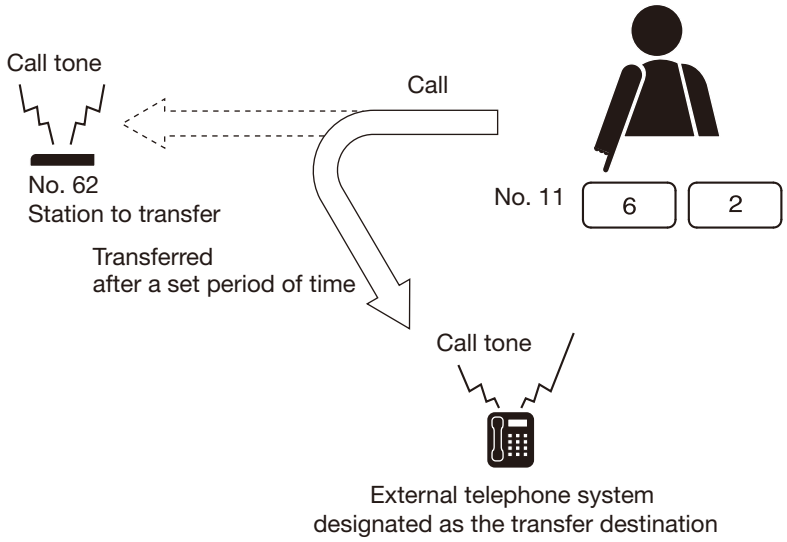
Calls received from an external telephone system are not transferred to the destination external telephone system, but only the station to transfer is called.

Tips

- Operate the station or use the CX-1000 Setting software to perform No response forwarding settings. (See "Setup" mentioned below and the separate Setting software instructions, "Transfer Operation Settings.")
- Use the CX-1000 Setting software to set the No response detection time. (See "Setup" mentioned below and the separate Setting software instructions, "Setting Calls, Responses, and Conversations.")
- Perform the settings for external telephone system calls in advance. Use the CX-1000 Setting software to enable external telephone system call capability for each station. (See the separate Setting software instructions, "Setting Calls, Responses, and Conversations.")
- Use the CX-1000 Setting software to set the external telephone special number. (See the separate Setting software instructions, "External Telephone System settings.")
- Even if the external telephone system to which a call is made is busy, the call is automatically shifted to the free external telephone system for which the same special number is set. Thereafter, the external telephone system connected last becomes the transfer destination.

• Operation when No response forwarding to external telephone system is set

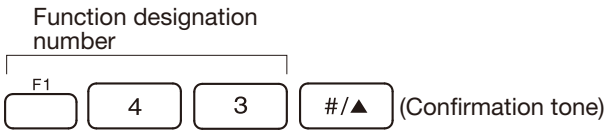
All calls to a station to transfer (e.g., No. 62) will be transferred to another designated external telephone system if they are not responded to within a specified period of time.



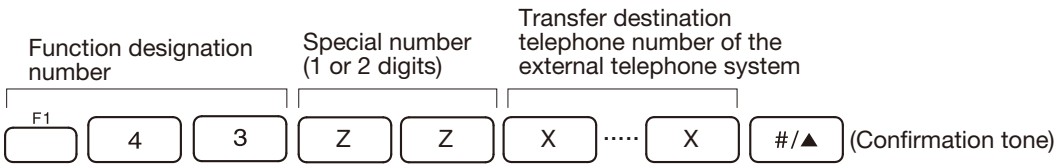
• Setup

Step 1. Press the following keys at the station to transfer to switch to No response forwarding mode.

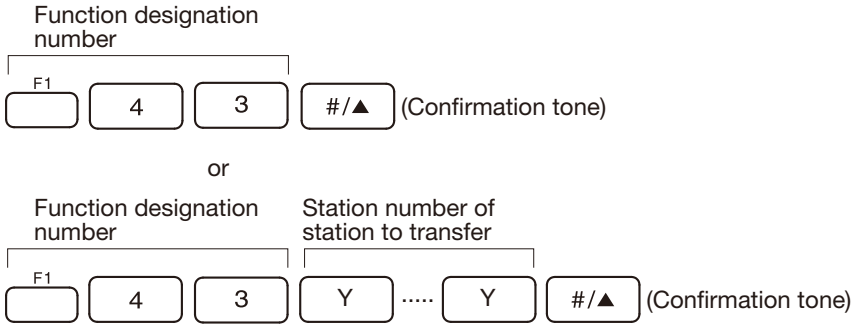
1-1. When the No response forwarding destination is preset using the CX-1000 Setting software:



1-2. When an external telephone system is designated as the transfer destination:



Step 2. To cancel No response forwarding mode, perform the following key operations at the station to transfer.



[Failover forwarding to external telephone system]

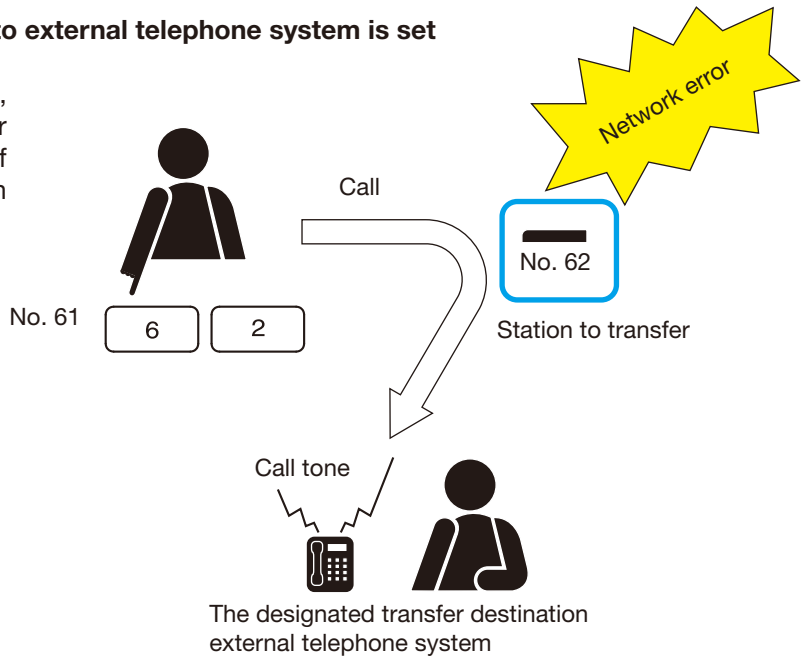
External telephone systems can be designated as the transfer destinations for Failover forwarding (p. 3-24). Calls received during conversations ("CALL TRANSFER (CX-OP1700/OP1500 ONLY)" on p. 3-17) can be failover-forwarded.

Tips

- Operate the station or use the CX-1000 Setting software to perform Failover forwarding settings. (See "Setup" on p. 6-12 or the separate Setting software instructions, "Transfer Operation Settings.")
- Perform the settings for external telephone system calls in advance. Use the CX-1000 Setting software to enable external telephone call capability for each station. (See the separate Setting software instructions, "Setting Calls, Responses, and Conversations.")
- Use the CX-1000 Setting software to set the special number.
  (See the separate Setting software instructions, "External Telephone System settings.")

• Operation when Failover forwarding to external telephone system is set

All calls to a station to transfer (e.g., No. 62) will be transferred to another designated external telephone system if an error occurs on the network to which the station is connected.



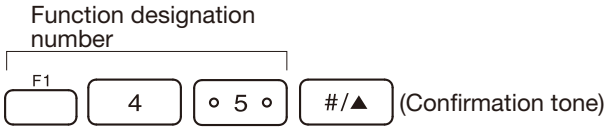
• **Setup**

Step 1. Press the following keys at the station to transfer to switch to Failover forwarding mode.

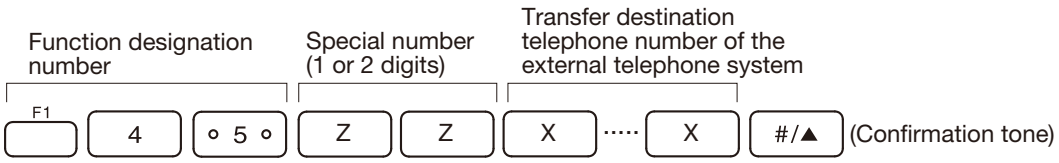
Note

Operate the keys when the station is able to communicate with the CX-SM1000.
Even if operations are performed after it is already unconnected and not communicating with the CX-SM1000, nothing changes.

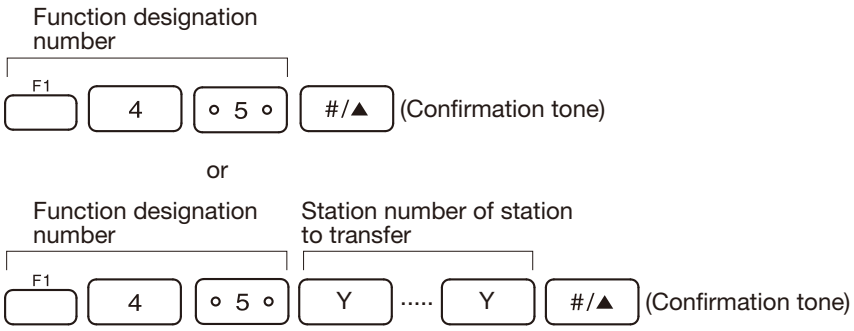
1-1. When the Failover forwarding destination is preset using the CX-1000 Setting software:



1-2. Designate an external telephone system as Failover forwarding destination:



Step 2. To cancel Failover forwarding mode, perform the following key operations at the station to transfer.



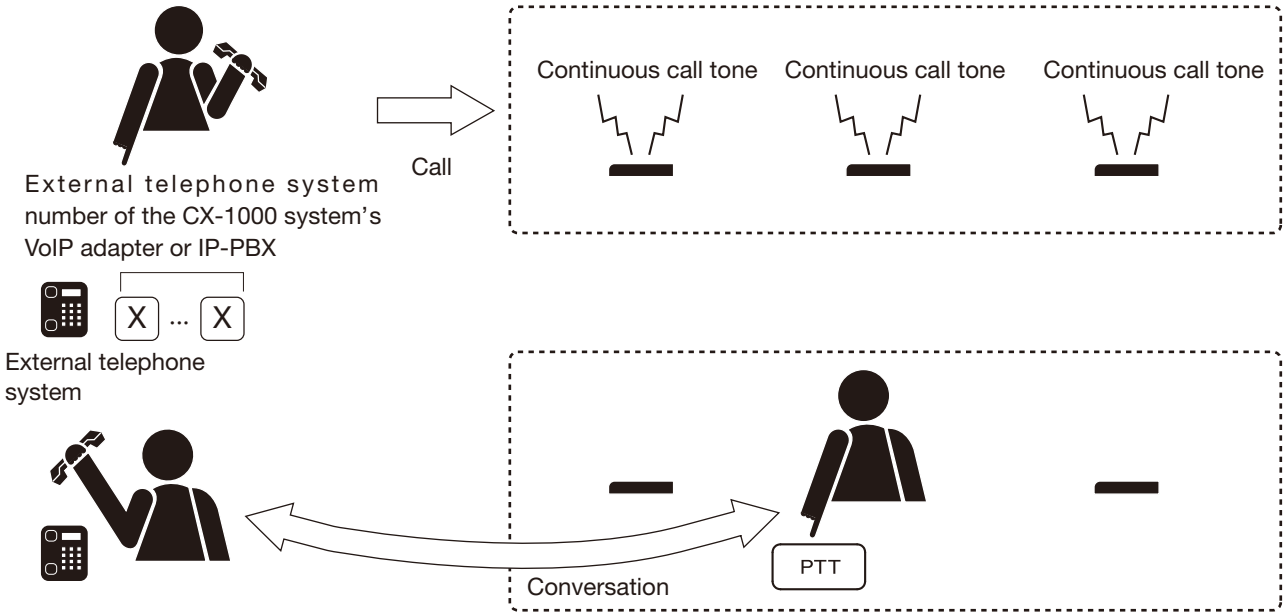
1.4. Incoming Calls From External Telephone System

Direct in line call and Direct inward dialing call functions allow the CX-1000 system to receive calls from an external telephone system.
The call tone that sounds when an incoming call is received from an external telephone system is different from other tones.

1.4.1. Direct-in line calls

When an incoming call is received from an external telephone system, the call tone sounds at the preset station. Station groups can also be set as call destinations.
Dial the external telephone system number of the VoIP adapter or IP-PBX in the CX-1000 system from external telephone systems.
The answering procedure is the same as when a call is received from a CX-1000 system station, either by lifting the handset or pressing the PTT key.

[Example of a call received by a station number group]



Tips

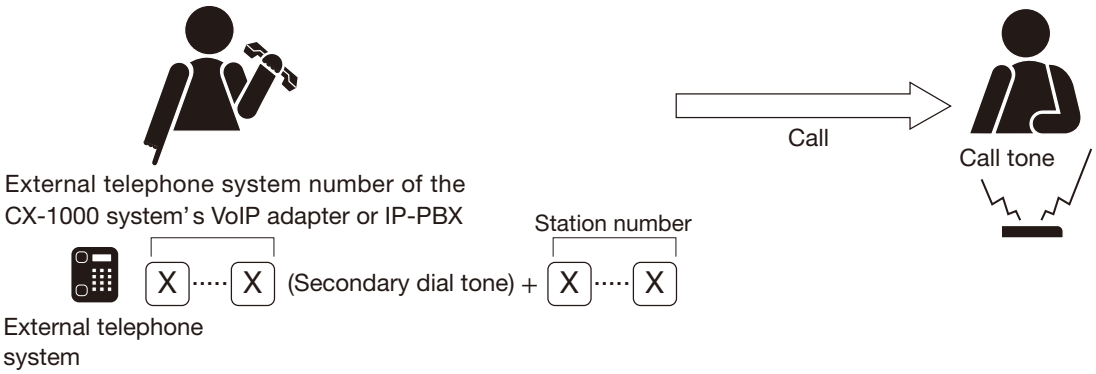
- Perform the setting to receive direct in line call in advance.
  Use the CX-1000 Setting software to set whether direct in line call can be received.
  (See the separate Setting software instructions, "External Telephone System settings.")
- Use the CX-1000 Setting software to designate the stations or station groups that will receive direct in line call. (See the separate Setting software instructions, "External Telephone System settings.")

1.4.2. Direct inward dialing call

Direct calls from external telephone system can be made by designating the desired receiving station number. From the external telephone system, dial the external telephone system number of the CX-1000 system's VoIP adapter or IP-PBX. After hearing the secondary dial tone (acknowledgment tone), dial the number of the desired station.
The answering procedure is essentially the same as when calls are received from a CX-1000 system station.

Notes

- If more than 5 seconds pass between dial operations, the call will be terminated.
- If more than 30 seconds pass without dial operation, the call will be switched to direct in-line operation.



Tip

Perform the setting to enable the Direct inward dialing call function in advance.
Use the CX-1000 Setting software to enable Direct inward dialing call function.
(See the separate Setting software instructions, "External Telephone System settings.")

1.5. External Telephone System Calls

1.5.1. DTMF

Conversations can be made using DTMF signals from an external telephone system.

Note

A VoIP adapter or IP-PBX capable of detecting in-band DTMF signals and converting the signal to SIP INFO is required.

Use either the VoIP adapter or IP-PBX to set the DTMF detection method. For more information about setting methods, please refer to the instruction manual for the VoIP adapter or IP-PBX.

1.5.2. Call termination by dial code

Conversations can be terminated by receiving a DTMF call termination code from an external telephone system.

Note

A VoIP adapter or IP-PBX capable of detecting in-band DTMF signals and converting the signal to SIP INFO is required.

Step: From the external telephone system, dial the call termination code [0] [0] [#] during a conversation.

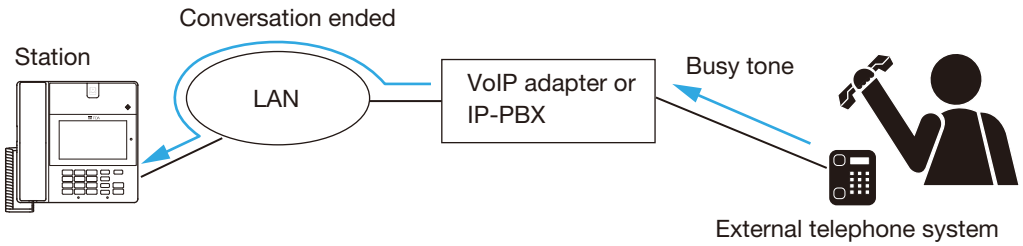


1.5.3. Busy tone detection

External telephone system conversations can be terminated by detecting a busy tone during conversation with the external telephone system.

Note

A VoIP adapter or IP-PBX that supports busy tone detection is required.



2. SIP PHONE CONNECTIONS

Perform settings following the setting method for each SIP phone.

Notes

- Calls cannot be manually transferred from the SIP phone to the CX-1000 Series stations.
- One-way conversations using the PTT key are not possible.

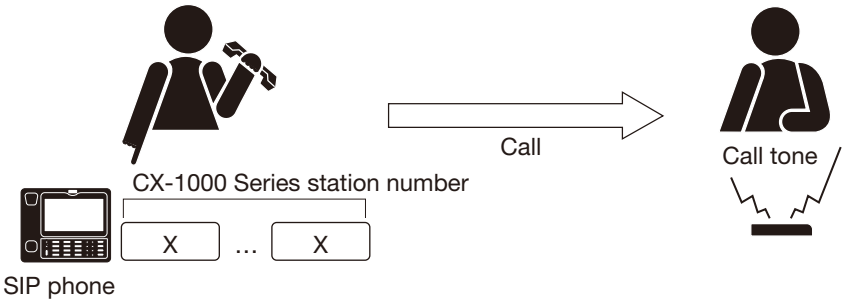
2.1. SIP Phone Calls (Individual Calls)

Calls can be made from a SIP phone to the desired CX-1000 Series stations. The called station's reception method is the same as for calls made from other CX-1000 Series stations.

Step: Dial the desired CX-1000 Series station number to enable conversation mode.

Tip

Refer to the SIP phone's instruction manual to enable conversation mode.



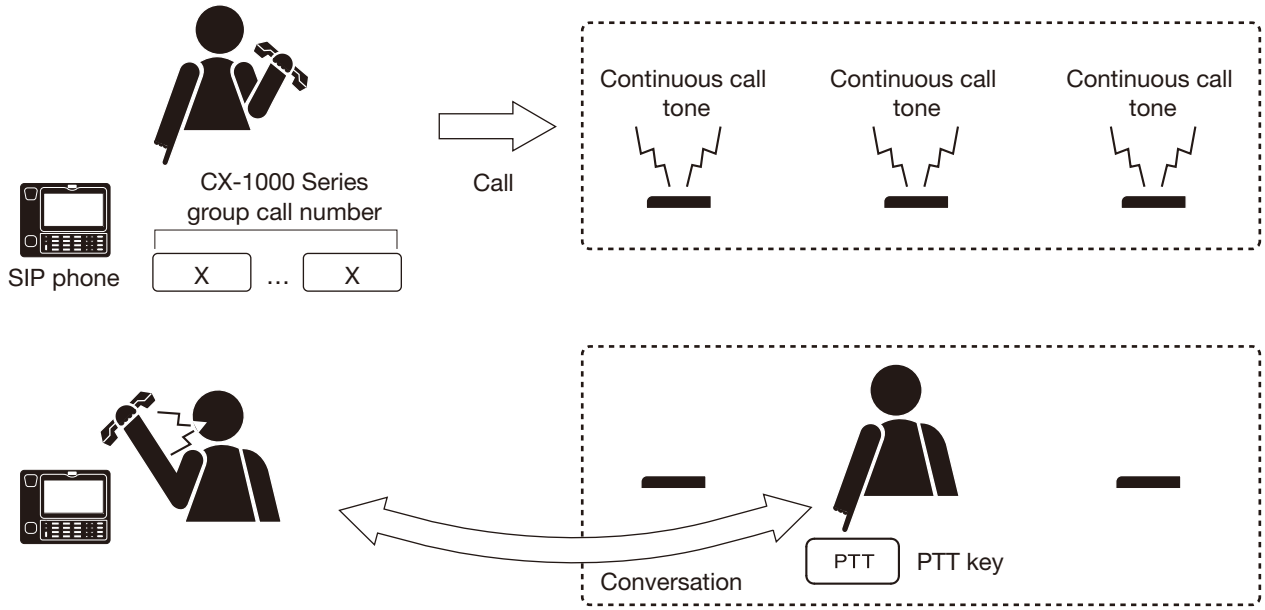
2.2. SIP Phone Calls (Group Calls)

Multiple CX-1000 Series stations can be simultaneously called by dialing a single group call number from the SIP phone. The call reception method at the called CX-1000 Series station is the same as for calls received from other stations.

Step: Dial the desired CX-1000 Series station group call number to enable conversation mode.

Tip

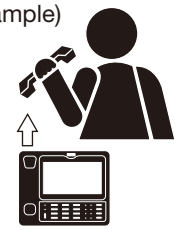
Refer to the SIP phone's instruction manual to enable conversation mode.



2.3. SIP Phone Call Response

Step: Answer the calls on a SIP phone.
Example: Lift the handset, etc.
Tip
For specifics on operation, refer to the SIP phone's instruction manual.

(Example)

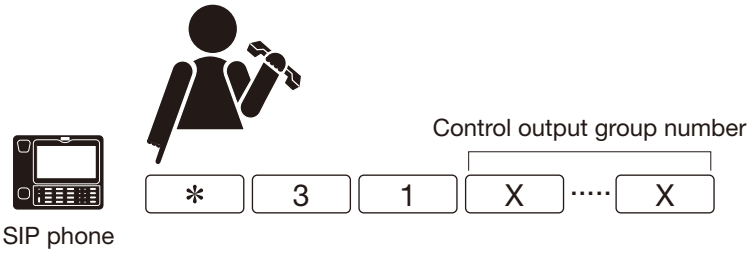


2.4. SIP Phone Control Output Operation (Contact Bridge)

Control output can be enabled and disabled using SIP phone dialing operations.

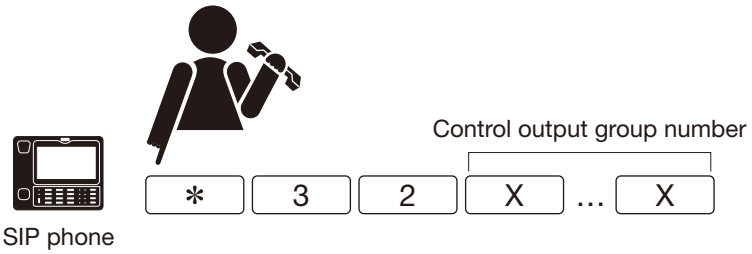
2.4.1. ON output

Step: Dial [*] [3] [1] [Control output group number] to enable conversation mode.
The control output turns on.
Tip
Refer to the SIP phone's instruction manual to enable conversation mode.



2.4.2. OFF output

Step: Dial [*] [3] [2] [Control output group number] to enable conversation mode.
The control output turns off.
Tip
Refer to the SIP phone's instruction manual to enable conversation mode.

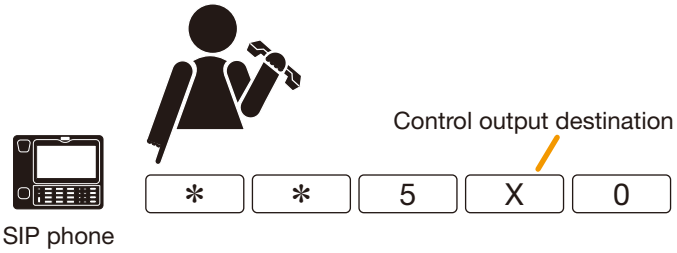


2.5. Door remote control from SIP phones

Using door remote control, control output can be turned on/off from an SIP phone during conversation via dial operations.

2.5.1. ON output

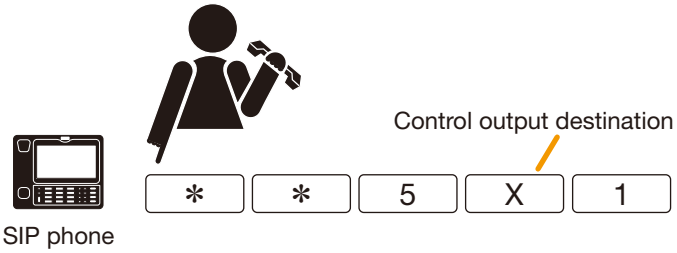
Step: During a call, dial as indicated below for the relevant door remote control output destination.
The control output turns on.



X= 1～5
1: Control output destination 1
2: Control output destination 2
3: Control output destination 3
4: Control output destination 4
5: Control output destination 5

2.5.2. OFF output

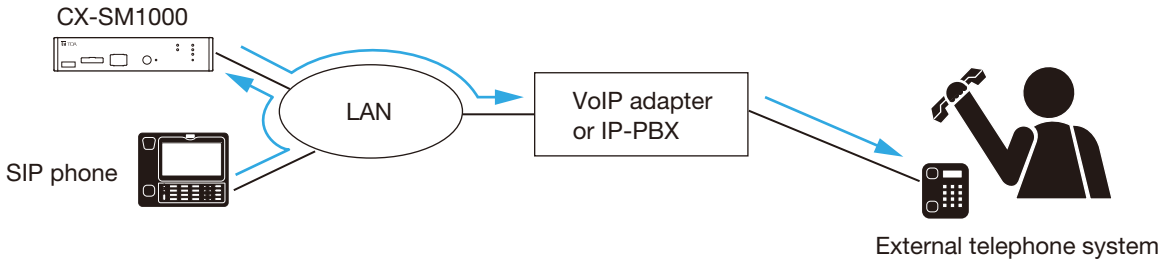
Step: During a call, dial as indicated below for the relevant door remote control output destination.
The control output turns off.



X= 1～5
1: Control output destination 1
2: Control output destination 2
3: Control output destination 3
4: Control output destination 4
5: Control output destination 5

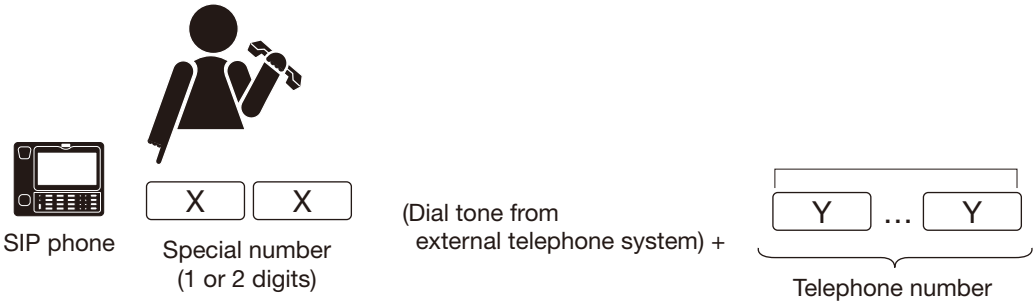
2.6. SIP Phone Connection to the External Telephone System

Calls can be made from a SIP phone to an external telephone system.



Step 1. Press the special number to enable conversation.
SIP phones can be connected to an external telephone system.
Tip
Refer to the SIP phone's instruction manual to enable conversation mode.

Step 2. Check for a dial tone, then dial the telephone number.
The external telephone system is called.

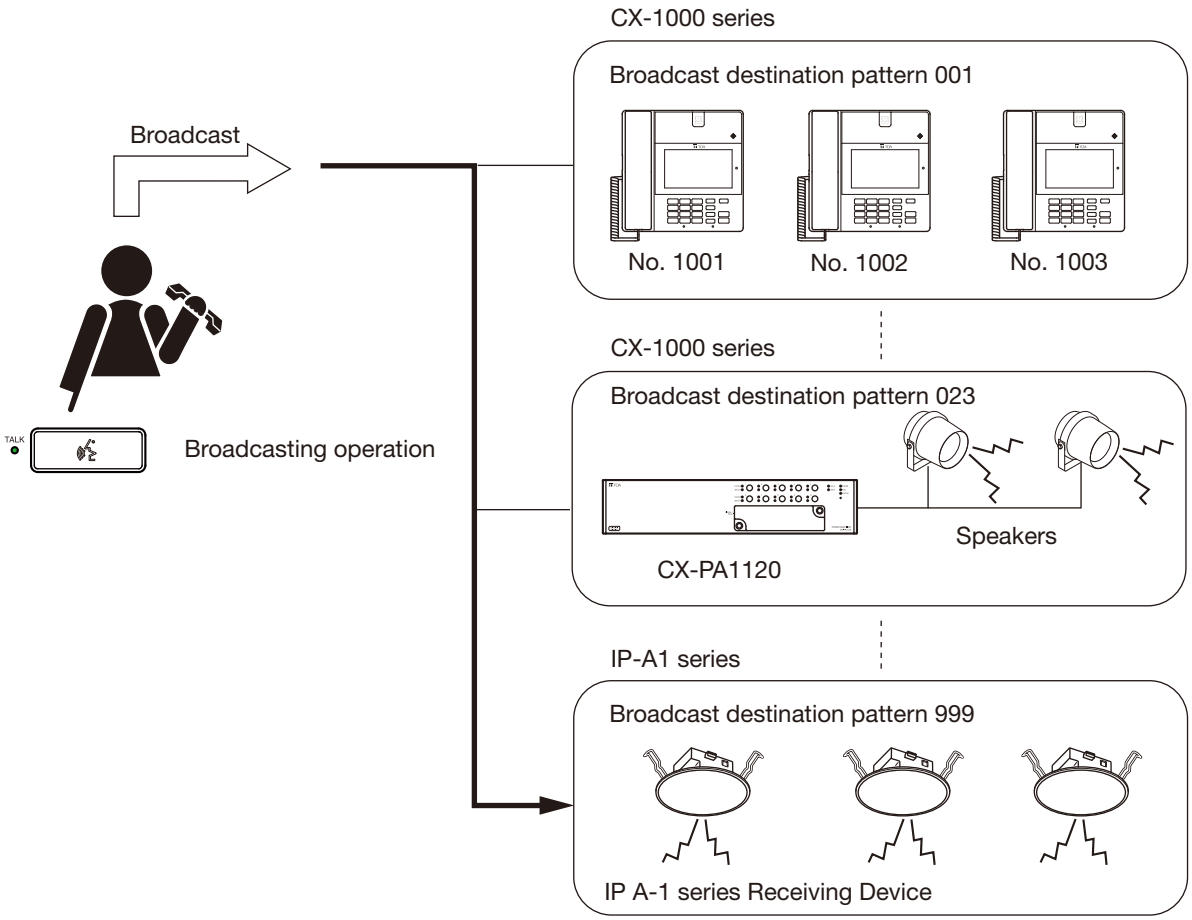


Tips

- Perform the settings for external telephone system calls in advance. Use the CX-1000 Setting software to enable external telephone system call capability for each station. (See the separate Setting software instructions, "Setting Calls, Responses, and Conversations.")
- Use the CX-1000 Setting software to set the special number. (See the separate Setting software instructions, "External Telephone System settings.")
- Even if the external telephone system to which a call is made is busy, the call is automatically shifted to the free external telephone system for which the same special number is set.

3. BROADCASTING TO EXTERNAL SYSTEMS

Broadcasts to IP-A1 series can also be made via the network. Select the line for the IP-A1 series as the broadcast destination. Broadcasting operations are the same as for normal broadcasts to CX-1000 Series devices.



Tip
The IP-A1 series must be preset as the broadcast destination using the CX-1000 Setting software. (See the separate Setting software instructions, "BROADCAST SETTINGS.")

Chapter 7

OTHER FUNCTION

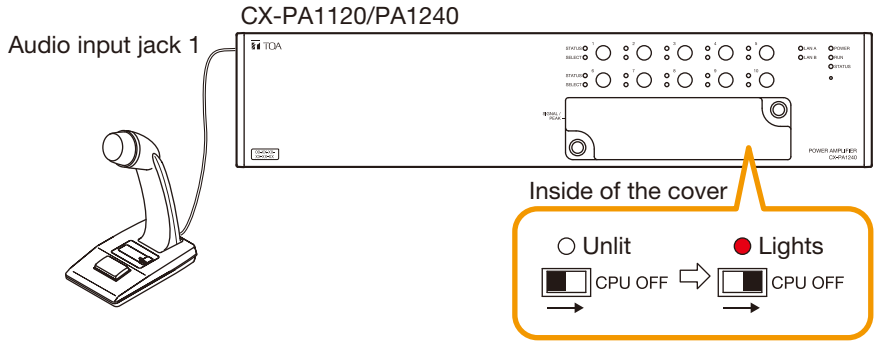
1. ALL-CALL BROADCASTS USING THE CPU OFF SELECTOR SWITCH

When normal broadcast cannot be made due to system failure or similar malfunctions, only all-call broadcast by individual amplifiers can be performed using the following operation:
This is a broadcast made by bypassing the CPU that normally operates in the CX-PA1120 or CX-PA1240.
The CPU OFF function is unrelated to the settings performed using the CX-1000 Setting software.
The CX-PA1120 or CX-PA1240 must be installed in the system and a microphone must be connected to Audio input jack 1.

Notes

- Use this broadcasting function only when normal broadcasting is not possible.
- When CPU OFF is selected, all attenuator/control output channels are enabled.
- Since all control outputs of the CX-PA1120/PA1240 are also used for attenuator control, selecting CPU OFF while external equipment is connected to the control output terminals may result in the unintended operation of the external equipment. External devices must not be connected to the attenuator/control output terminals for the purposes of control output use when CPU OFF is selected.

Step 1. Open the CX-PA1120's/PA1240's front cover and set the CPU OFF selector switch to its CPU OFF position.
The CPU OFF indicator lights, enabling broadcasts.



Step 2. Speak into the microphone connected to the CX-PA1120's/PA1240's rear-mounted Audio input jack 1.
The announcement is output through all speakers connected to the CX-PA1120/PA1240 in operation.

Tips

- Both speaker and recording outputs will bypass the speaker and recording output volume controls.
- Signals entered into Audio input 1 do not bypass audio input volume control.

2. PRIORITY CONTROL

Priorities can be assigned to both call and broadcast functions.
All functions are processed in order of priority.
For example, when multiple broadcasts or a broadcast and a call are simultaneously initiated, the one with the higher priority is allowed to proceed.
Additionally, when multiple calls are made simultaneously, they are displayed on the standby screen in order of "Selective Response" priority.

2.1. Determining Priority

2.1.1. Priority

The lower the number, the higher the priority.

Priority High ↑ Priority Low	Emergency	1 – 80	Emergency broadcasts:	41 – 60
			Emergency message broadcasts:	61 – 80
	Normal	81 – 160	Relief call:	81 – 100
			Normal conversation:	101 – 120
			All-clear message broadcasts:	121 – 140
			General broadcast:	121 – 140
			Background music broadcast:	141 – 160

Tips
- Priorities are set using the CX-1000 Setting software. (See the separate Setting software instructions, "PRIORITY SETTINGS.")
- Priorities can also be set to the same level.

2.1.2. First-in-first-out, last-in-first-out

Either "First-In-First-Out" or "Last-In-First-Out" priority can be set for multiple functions having the same priority.

First-In-First-Out (FIFO)	The first initiated call or broadcast takes priority. No other calls or broadcasts with the same priority are allowed through until the first-initiated call or broadcast terminates.
Last-In-First-Out (LIFO)	The most recently initiated call or broadcast takes priority.

Note
Wide area broadcasts always work on a first-in, first-out basis, regardless of this setting.

Tip
Set the priority using the CX-1000 Setting software. (See the separate Setting software instructions, "Setting First-In-First-Out and Last-In-First-Out Priorities to the Same Priority.")

2.1.3. Station priority and operation

The CX-OP1700/CL1750/OP1500/CL1550 give top priority to user operations, which however do not necessarily override any other incoming calls or broadcasts of different priorities.

- Any currently broadcasting station continues broadcasting even after having received a higher priority call or broadcast.
- Stations currently receiving calls or broadcasts are still able to call or broadcast on their own, regardless of priority.
- If a station currently on a call receives a higher priority broadcast, that call will be terminated and switched to the higher-priority broadcast. However, even if a higher priority call is received, the current call will continue uninterrupted.
- If the station placing the call receives a higher-priority broadcast, the call is terminated and switched to the broadcast. However, even if a higher priority call is received, the current call operation will continue uninterrupted.

2.2. Priority Call

2.2.1. Relief call

This is the highest priority calling method in Normal mode. Different priorities can be set for individual call stations. Calls from stations with call priorities set to 81 – 100 will be "Relief Calls".

Tip

Priorities are set using the CX-1000 Setting software. (See the separate Setting software instructions, "Setting Priority for Each Conversation.")

3. TIME-OUT

To limit the amount of time used in calls or broadcasts, or to prevent users from forgetting operations to end calls or broadcasts and leaving them continued, the following 3 types of time limits are available:
When the set time has elapsed, stations automatically return to standby state.

1. Call time
2. Conversation time
3. Broadcast time

3.1. Call Time-out

The maximum time available for calls placed to another party can be set. If the other party does not respond within the Call time limit, the station will automatically return to Standby mode.

Tip
Use the CX-1000 Setting software to set the "Call time-out" for the source station. (See the separate Setting software instructions, "Setting Calls, Responses, and Conversations.")

3.2. Conversation Time-out

A maximum time limit for conversations can be set. The conversation will automatically be terminated when the time limit is reached.

Tip
Use the CX-1000 Setting software to set the "Conversation time-out" for each station.
Of the time limits respectively set for a calling station and a called station, the shorter one will be the time limit for the calls of both stations. (See the separate Setting software instructions, "Setting Calls, Responses, and Conversations.")

3.3. Broadcast Time-out

A maximum time limit for broadcasts can be set. The broadcast will automatically be terminated when the time limit is reached.

Note
Broadcast time-out does not apply to emergency broadcasts.

Tip
Set the "Broadcast time-out" for each audio input using the CX-1000 Setting software. (See the separate Setting software instructions, "Audio Input Setting.")

4. EXTERNAL EQUIPMENT CONTROL

4.1. Control Output

4.1.1. Calling station display

The control output can be turned ON or OFF in conjunction with the call operating status when a conversation is in progress or when a call is received while a conversation is in progress.
By installing a lamp type indication board* at the specified station, conversation partners and calling stations that made calls to the specified station during conversation can be displayed on the board.
The indication board can be shared among multiple stations (up to 4 stations) to indicate which station within the group has been called.

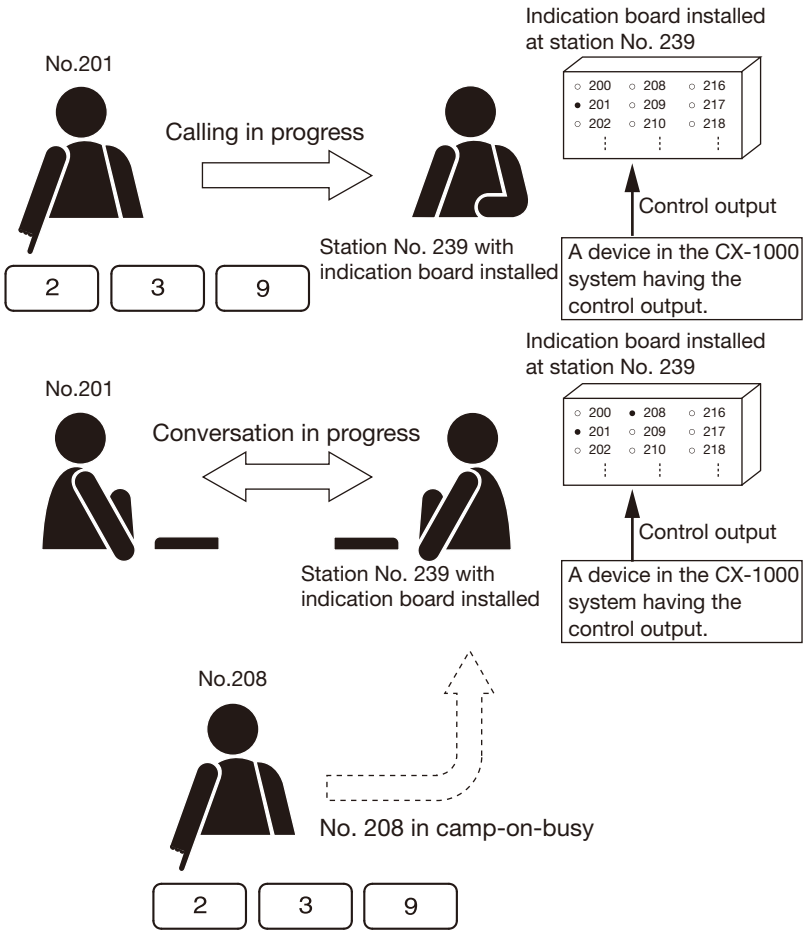
* The indication board must be manufactured separately by utilizing the control output of the device in the CX-1000 system.

Note
This function cannot be used for calls from the external telephone system.

Tip
Set the Calling station display settings using the CX-1000 Setting software. (See the separate Setting Software instructions, "Originator Display Settings.")

[Example of the Calling station display]
This example shows operations when the calling station display is set for "Outgoing/Ongoing."

- When a station with the indication board installed is called, the lamp for the calling station lights. The lamp goes out when a response is made to the call and the conversation is terminated.
- Even if the station with the indication board installed is on another line when it is called, the lamp for the calling station (i.e. station in camp-on-busy mode) lights.
- The lamp goes out when the party at the station in camp-on-busy mode cancels the call.



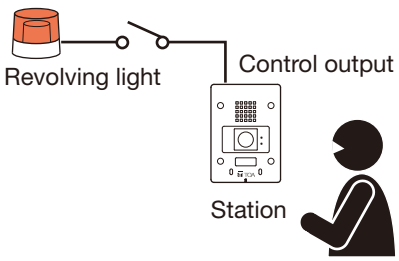
4.1.2. Call-linked control output

When the CX-OP1700/OP1500/ CL1750/CL1550 places a call or is in conversation, the control output can be turned ON or OFF in conjunction with call operations.
The linked control output destination can be set while in "Outgoing/Ongoing" mode.
For example, a revolving light or camera can be controlled in conjunction with the reception of a call or start of a conversation.

Tip

Use the CX-1000 Setting software to set the linked control output for each station. (See the separate Setting software instructions, "Setting the Basic Operations for Each Device.")

[Example of a station linked to a revolving light]



4.1.3. Broadcast-linked control output

Control outputs can be turned ON or OFF in conjunction with the start of a broadcast.

Tip

Use the CX-1000 Setting software to set the linked control output for each station. (See the separate Setting software instructions, "Setting the Basic Operations for Each Device.")

4.2. Audio Output

4.2.1. Attenuator control output

The attenuator control output of the CX-PA1120 or CX-PA1240 can be turned ON or OFF in conjunction with Emergency priority broadcast output.

Tip

This ON/OFF operation is linked with the line status where an Emergency broadcast or an Emergency message broadcast is output. Set this function using the CX-1000 Setting software in advance.
(See the separate Setting software instructions, "Audio Output Settings.")

5. AUDIO NOTIFICATIONS

5.1. Audio Notifications

5.1.1. Conversation notification tone

Outputs a brief signal tone from the speaker during conversations.
When an incoming call is received in Automatic mode, the called party may not notice the call if the caller waits for a response without making a sound. This function sends a signal tone to let the called party know that a call is incoming

Tip
Use the CX-1000 Setting software to enable the conversation notification tone. (See the separate Setting software instructions, "General Call Settings.")

5.2. Chime

A chime can be played before the start of a broadcast and after it finishes.

Tips
- Use the CX-1000 Setting software to set the chime. The chime selected in Call-progress tones/chimes setting is used for the microphone announcement made by the Broadcast key. (See the separate Setting software instructions, "Localized Call-progress Tones/chimes Settings" and "General Broadcast Settings.")
- The time from broadcast start operation to chime output can be set using the CX-1000 Setting software. (See the separate Setting software instructions, "Audio Input Setting.")
- The chime can also be broadcast independently as a single sound source. (See the separate Setting software instructions, "EVENT ACTIVATION SETTINGS.")

6. PROGRAM TIMER

6.1. Timer Event Activation

The start and end of a broadcast, change in sound volume, control output, etc. can be activated at specified times.
Set one timer-controlled action as an event and combine the events to create a daily program. Daily programs can be further assigned to weekly and calendar settings. Settings for up to a period of 2 years can be registered for operation.

Tip
Use the CX-1000 Setting software to set the Timer event activation. (See the separate Setting software instructions, "PROGRAM TIMER SETTING.")

6.2. Pattern Change

The Timer operation pattern can be temporarily changed by either control input or Direct key operation.
When changing with the Direct key, follow the procedure below:

Step 1. Press the Direct key set for the Timer operation pattern change.
The setting will change to the Daily program assigned to the Direct key.

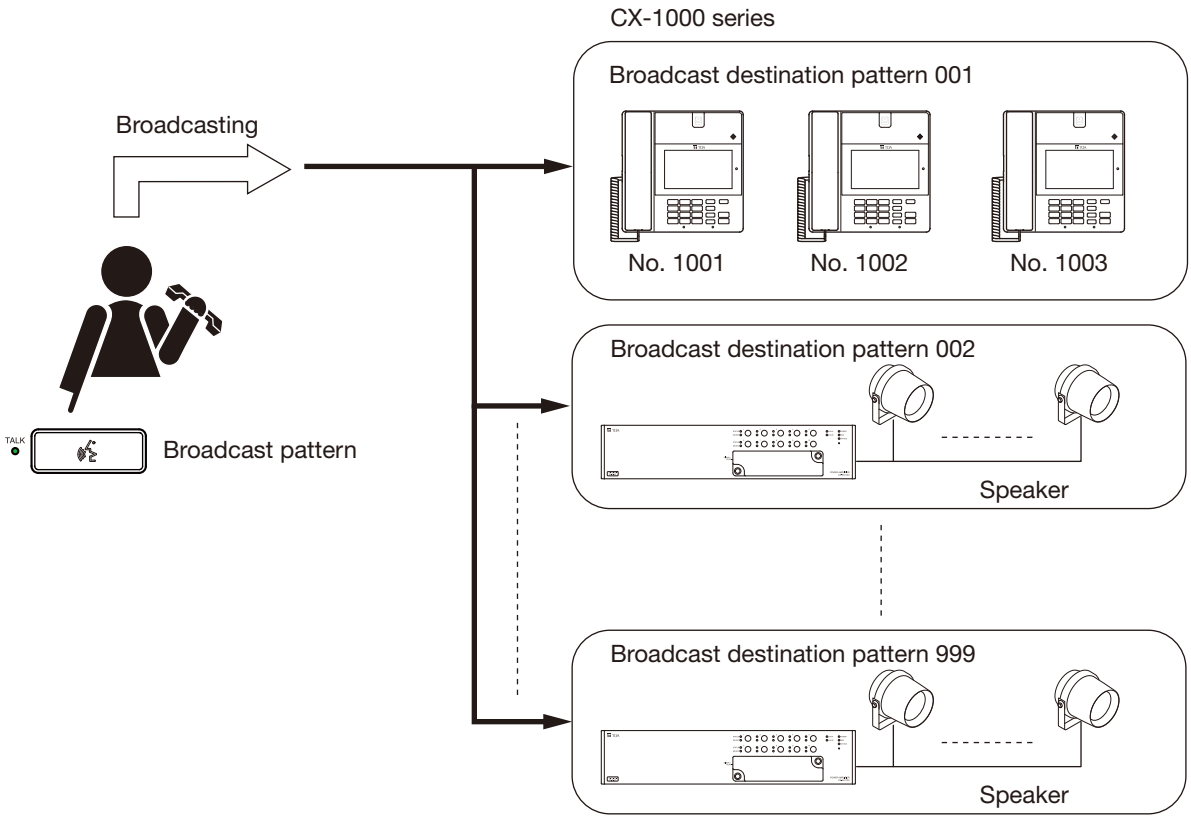
Step 2. Press the same Direct key again.
The setting will revert to the weekly program before the change.

7. WIDE AREA BROADCAST

The CX-1000 system offers 2 types of broadcasting: Normal and Wide Area.
Setting the broadcast type to Wide Area allows broadcasts to be made to up to 200 devices, or more than 500 lines at a time, for a maximum of 2999 lines.

Notes

- The system requires an environment in which multicast packets can be transmitted over all network paths from the broadcast transmission devices to the broadcast reception devices.



- Unlike when broadcasting is set to "Normal broadcast", output may be interrupted at the start or end of a broadcast.
- For Wide Area broadcast, set the broadcast transmission and reception devices in the same multicast group.

Tip

Use the CX-1000 Setting software to set the broadcast type. (See the separate Setting software instructions, "Overall Broadcast Settings.")

8. AUDIO RECORDING

Audio-only conversations, video conversations and broadcasts can all be recorded.

Notes

- Video conversation images cannot be recorded; only the voices can be recorded.
- Use Windows 10 and Windows 11 shared folders for file servers.
- Audio recordings cannot be played back on CX-1000 series devices. Access the file server from a PC and use an audio player application for playback.

9. TIME ADJUSTMENT

9.1. NTP Time Synchronization

Synchronize the system's internal clock with the NTP server. The CX-SM1000 connects to a preset NTP server, then corrects the time at activation and once a day thereafter.

9.2. Time Correction

9.2.1. 0 second correction

Resets the system's clock to 0 seconds.
Assign the time correction function to the control input in order to correct the CX-SM1000's clock.
If the clock reads between 0 and 29 seconds, the minute will reset to 0 seconds. If between 30 and 59 seconds, the clock will reset to the following minute.

Tip

Use the CX-1000 Setting software to set the control input. (See the separate Setting software instructions, "EVENT ACTIVATION SETTINGS.")

9.2.2. Automatic daylight saving time correction

Daylight saving time will automatically be applied in accordance with the preset time zone.

Tip

Use the CX-1000 Setting software to set the time zone. (See the separate Setting software instructions, "DNS/NTP/ICMP Settings.")

10. CHANGING AUDIO SCENES

Combinations of signal processing parameters (input gain, compressor, EQ, etc.) can be saved as audio scenes for the entire system.
Up to 8 audio scenes can be registered, and audio scenes can be switched using the control input, Direct keys, or the timer.

Tips

- Use the CX-1000 Setting software for audio scene setting. (See the separate Setting software instructions, "AUDIO SCENE SETTINGS.")
- Use the CX-1000 Setting software to assign functions to the control input and other keys. (See the separate Setting software instructions, "EVENT ACTIVATION SETTINGS.")
- At the Emergency mode, Audio Scene Emergency is forcibly applied.

11. Device Replacement

When replacing a device with a new one due to device failure or other reasons, the new device can be used by performing only the minimum required settings, such as the IP address, without writing the system settings to the device.

Note

Only when replacing the CX-SM1000, which controls the entire system, is it necessary to write the settings to the new CX-SM1000.

[For devices other than CX-SM1000]

Step 1. Set the same IP address, subnet mask, and default gateway as the device to be replaced on the new device.
Perform the IP address, subnet mask, and default gateway settings using the CX-1000 Setting software. (See the separate Setting software instructions, "DEVICE DETECTION AND NETWORK SETTINGS.")

Step 2. Disconnect the LAN cable of the device to be replaced from the system.

Step 3. Insert the LAN cable into the new device and connect it to the system.
When the status indicator of the new device changes to green lit, device replacement is complete.

[For CX-SM1000]

Set the same IP address, subnet mask, and default gateway as the device to be replaced on the new device. Perform the IP address, subnet mask, and default gateway settings using the CX-1000 Setting software. (See the separate Setting software instructions, "DEVICE DETECTION AND NETWORK SETTINGS.")

Step 1. Disconnect the LAN cable of the device to be replaced from the system.

Step 2. Insert the LAN cable into the new device and connect it to the system.

Step 3. Upload the setting file to the new device.
Prepare an SD card containing the setting file, and upload it from the SD card to the new device.
(See "Uploading and Downloading Using an SD Card" on p. 9-2.)

Tip

Settings can also be uploaded using the Setting software.

Note

When replacing the CX-SM1000, the system stops until the new device becomes usable.

Chapter 8

FAILURE DETECTION

1. SELF-CHECK

1.1. Scheduled Self-check and Manual Check

The system automatically performs daily self-inspections at a preset time. This is referred to as a Scheduled self-check. Notification is provided for any abnormality detected in the audio line, Call buttons, etc., by buzzer, LCD, and indicators.
Self-check can also be manually performed by way of a station or browser operation. This is called Manual check. Before starting Manual check, select the inspection items to be executed from among those intended for Self-check.

[List of failures detected during self-check]

Failure Detection Points	Failure Detection Details	Target models									
		CX-SM1000	CX-OP1700	CX-CL1750	CX-OP1500	CX-CL1550	CX-RM1700	CX-AF1062	CX-PA1120	CX-PA1240	CX-CC1016
Hands-free MIC/SP	Is the audio line working properly?	—	✓	✓	✓	✓	—	—	—	—	—
Call button*1	Is the Direct key left depressed?	—	—	✓	—	✓	—	—	—	—	—
Amplifier*2	Are the audio input and output working properly?	—	—	—	—	—	—	—	✓	✓	—
External Storage	Is the CX-SM1000 capable of recognizing the file server?	✓	—	—	—	—	—	—	—	—	—

*1 Failures may not be detected if such abnormalities as a defective Direct key contact occur.
*2 Amplifier failures can be detected only by Manual check.

Notes

- If a CX-OP1700/OP1500/CL1750/CL1550 is nearby, the microphone may pick up inspection audio source sounds intended for another device, which could prevent the Hands-Free Microphone and speaker from being properly inspected.
  When performing inspections of the hands-free microphone and the speaker, be sure that other devices are located at some distance from them. If the distance between the two cannot be increased, set the hands-free microphone and the speaker to not perform inspections.
- Do not press any keys while the inspection audio source is sounding, as this may result in a hands-free microphone and a speaker appearing to be faulty. If a key is pressed during inspection, and they are determined to be faulty, please repeat the manual inspection.

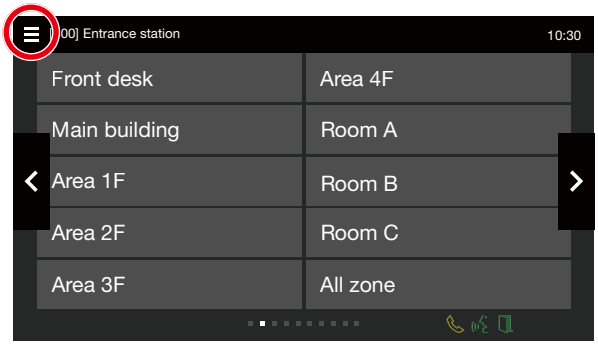
Tips

- Use the CX-1000 Setting software to preset whether or not periodic inspections will be performed and the time they will be performed. (See the separate Setting software instructions, "Self-Check Setting.")
- Use the CX-1000 Setting software to preset which devices will undergo Failure Detection.
  (See the separate Setting software instructions, "Surveillance Check Points Setting.")
- The CX-SM1000, CX-OP1700, CX-RM1700 and CX-OP1500 can all be notified of a failure by buzzer or LCD. The CX-CL1750, CX-CL1550, CX-AF1062, CX-PA1120/PA1240, and CX-CC1016 can all be visually notified of failure occurrences by indicator.
  (See "FAILURE ACCEPTANCE AND FAILURE RESET" on p. 8-7.)
  Prior to operation, use the CX-1000 Setting software to assign the Failure acceptance or Failure reset functions to the Direct keys. (See the separate Setting software instructions, "EVENT ACTIVATION SETTINGS.")

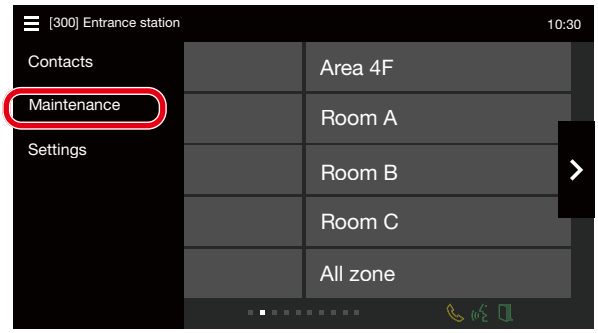
1.2. Manual Check

Manual check can be performed via independent station operation.

1.2.1. When using the CX-OP1700 or CX-RM1700

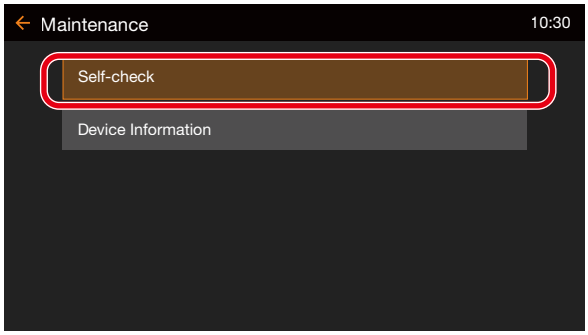


Step 1. Press the Menu button.



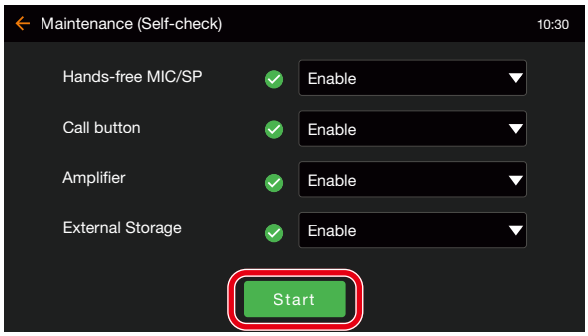
The Menu is displayed.

Step 2. Press the "Maintenance".



The Maintenance menu screen is displayed.

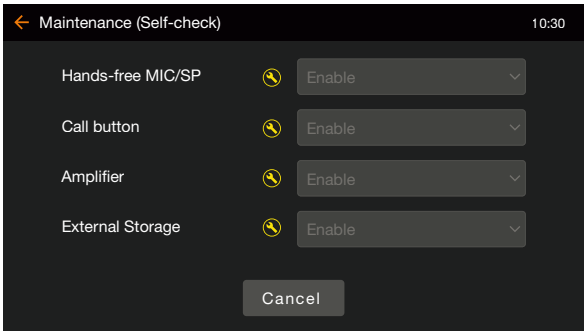
Step 3. Press the "Self-check."



The "Self-check" screen is displayed.

Step 4. Set the items to be inspected.
Press the rightmost ▼ button to set the desired inspection items to "Enable."

Step 5. Press the "Start" button
Self-check starts.



During Self-check, the status of each inspected item is indicated by an icon.

: Passed

: Inspection in progress

: Cancelled

: Skipped

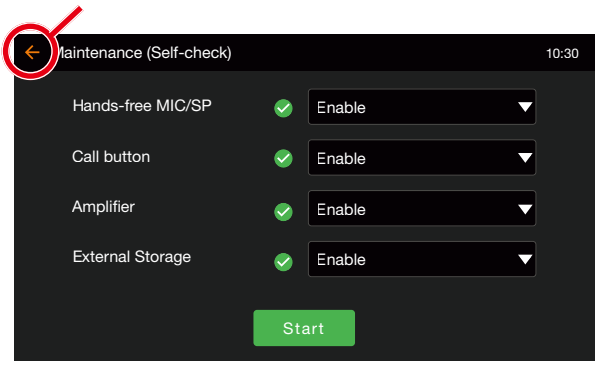
: Error

Tip

To cancel the Self-check, press the "Cancel" button. However, only the station that initiated Self-check can stop it.

When Self-check is complete, the inspection results are displayed for all items inspected.

Back button



Step 6. Press the Back button several times to return the display to the Standby screen.

1.2.2. When using the CX-OP1500

Step 1. Press Function Key 2, the [0] key, and the [0] key again in sequence on the standby screen.
The LCD displays the menu.

Step 2. Press [#/▲] key or [1] key.

Step 3. Press [#/▲] key or [1] key.
The Self-check item screen is displayed.
Set whether or not to execute for each of the following 4 inspection items:
1: MIC/SP
2: Key [CL]
3: Amp
4: Storage

Step 4. Press the [↓] or [↑] key to move the cursor to the item to be set.

Step 5. Press the [#/▲] key or the Dial key corresponding to the item number.
The setting screen is displayed.

Step 6. Press the [↓] or [↑] key to move the cursor to the content to be set.

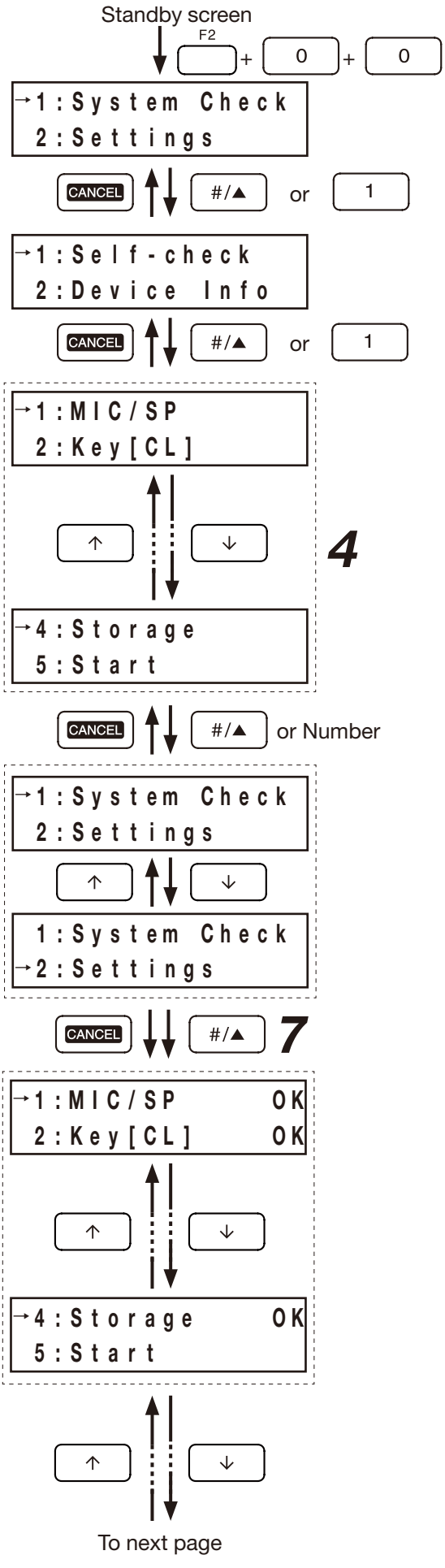
Step 7. Press [#/▲] key

Contents are confirmed and the display returns to the Self-check item screen.

Tip
Pressing the Cancel key without pressing the [#/▲] key causes the display to return to the Self-check screen without changing the settings.

Step 8. Repeat **Steps 4 – 7**.

Step 9. Press the [↓] or [↑] key to move the cursor to [5: Start].



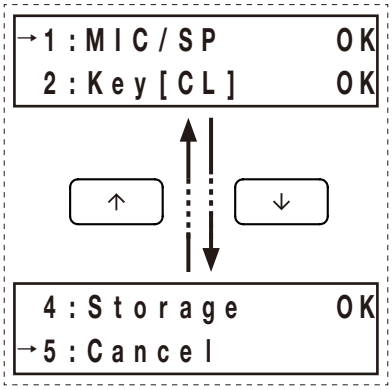
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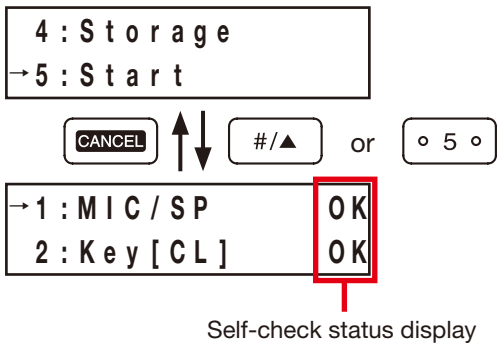
From previous page

Step 10. Press [#/▲] key or [5] key.
Self-check starts and the screen with the self-check item "1: MIC/SP" selected appears.
Self-check status is displayed on the right side of each item, while the display changes in real time.

Display	Self-check status
OK (default)	When power is turned ON
RUN	Self-check in progress
NONE	Cancelled (Self-check not performed.)
SKIP	Skipped (Self-check could not be started, or was stopped due to a call, announcement, or stop request.)
OK	Self-check ended normally.
FAIL	Error (Self-check ended abnormally.)

Tip
During self-check, the fifth self-check item changes from "5: Start" to "5: Cancel." Self-check can be cancelled by selecting "5: Cancel."





2. FAILURE ACCEPTANCE AND FAILURE RESET

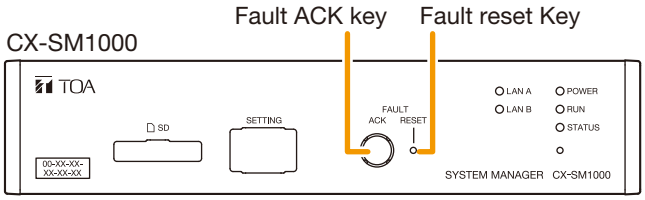
When a failure is detected, notification is provided by the buzzer, LCD, and indicator.
When the failure is acknowledged, the buzzer is stopped and the indicator switches from flashing to steadily lit.
When the failure reset operation is executed, either the indicator or the LCD's Failure display goes out.

Tip

When the Fault ACK key on the CX-SM1000 is the control input, all Failure detection output patterns in the system are accepted at once. When using any other key, only the Failure detection output pattern assigned to that key is accepted.

[CX-SM1000 operation example]

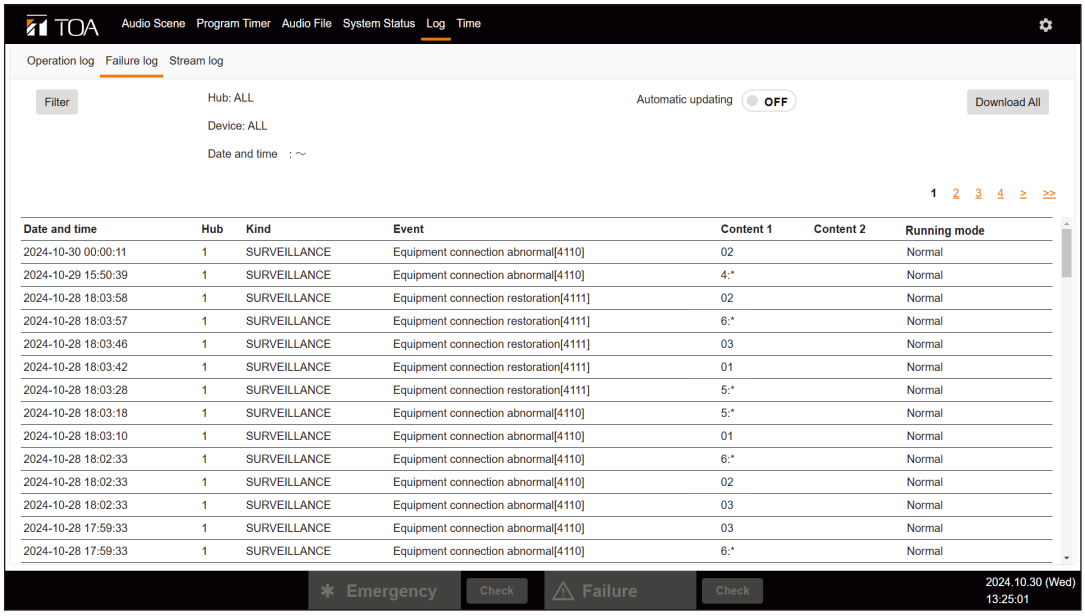
When a system failure is detected, the CX-SM1000 sounds a buzzer tone and the status indicator flashes yellow.



Step 1. Press Fault ACK key.
The buzzer stops and the status indicator turns yellow.

Step 2. Locate the cause, then remove it.
Open the PC's browser and connect to the CX-SM1000, then navigate to "System Status" → "Device" or "Log" → "Failure log" to check the failure details. Refer to the separate maintenance manual for details.

[Example]



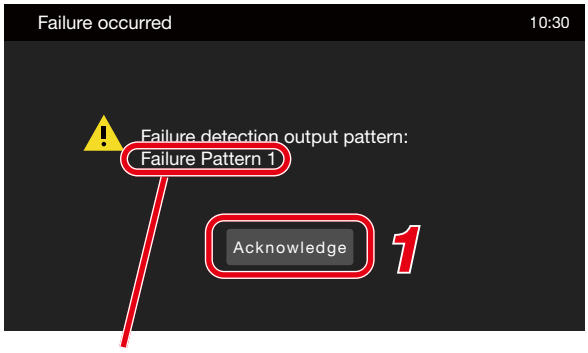
If the cause of the failure is found, repair the failed part.

Step 3. If the Failure display continues even after the failure has been corrected, press the Fault reset key.
The Failure indicator goes out and the unit returns to normal.

[CX-OP1700/RM1700 operation example]

If a failure occurs in a device which assigned to the CX-OP1700/RM1700's Direct key in Failure detection output pattern, the CX-OP1700/RM1700 sounds a buzzer tone and the Failure screen appears on the LCD.

Step 1. Check the details of the failure and press the Ackowledge button.



Failure detection output pattern name

The display returns to the standby screen.

Step 2. Eliminate the cause of the failure.

Step 3. If the failure indication continues even after the failed part has been repaired, press the Failure Reset-assigned Direct key.

[CX-OP1500 operation example]

If a failure occurs in a device which assigned to the CX-OP1500's Direct key in Failure detection output pattern, the CX-OP1500 sounds a buzzer tone.

Step 1. Press the Failure Acceptance-assigned Direct key.
The buzzer stops sounding.

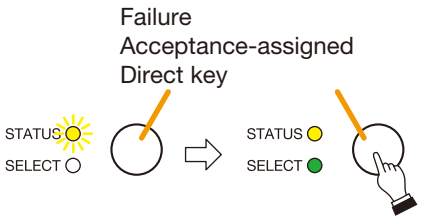
Step 2. Locate the cause, then remove it.
Check for and repair the failed part assigned to the key.

Step 3. If the failure indication continues even after the failed part has been repaired, press the Failure reset Direct key.
The unit returns to normal.

[CX-AF1062/PA1120/PA1240 operation example]

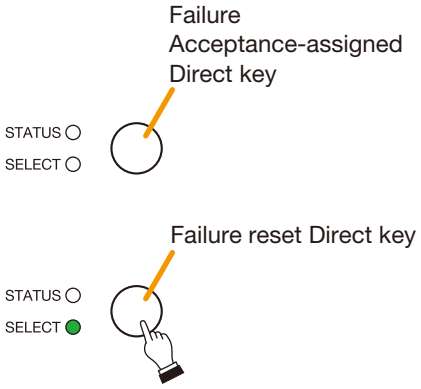
If a failure occurs in a device which assigned to the Direct key in Failure detection output pattern, the Status indicator next to that Direct key flashes yellow.

Step 1. Press the Direct key with the status indicator flashing yellow.
The flashing indicator changes to steadily lit.



Step 2. Locate the cause, then remove it.
Check for and repair the failed part assigned to the key.

Step 3. If the failure indication continues even after the failed part has been repaired, press the Failure reset Direct key.
The unit returns to normal.



Chapter 9

REGISTERING AND EXPORTING DATA

1. Uploading and Downloading Using an SD Card

By using an SD card, setting data can be uploaded and downloaded, and history data can be downloaded.

Notes

- Be sure to use an SD card listed in the Verified SD Cards list. The list is available from the PRODUCTS DATA DOWNLOAD site (https://www.toa-products.com/).
  Open the browser on your PC, enter the above URL, search the model number "CX-SM1000" on the displayed screen and then download.
- Once Setting switch 1 or 2 has been turned OFF, be sure to remove the SD card.

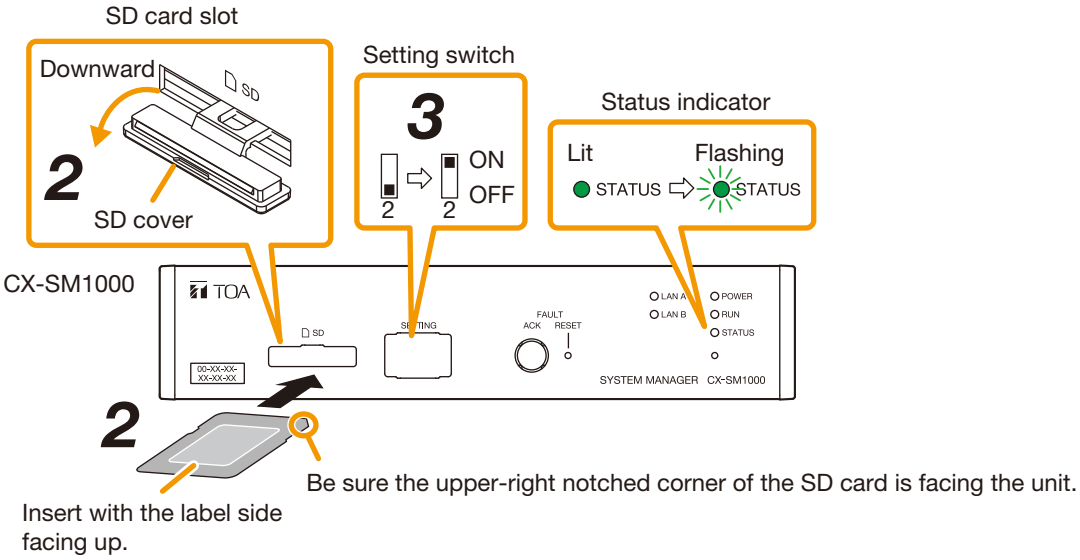
Tip

Upload and download can also be performed via the network.
For details, refer to "UPLOADING THE SETTINGS FILE" and "DOWNLOADING SETTING FILES" in the separate Setting software instructions.

1.1. Uploading Data from an SD Card to the CX-SM1000

Step 1. Use the CX-1000 Setting software to perform settings in advance and save the Settings data to the SD card.
Refer to the separate Setting software instructions for details on how to save Settings data.

Step 2. Insert the SD card into the CX-SM1000.
Open the SD slot cover and fully insert the SD card.



Step 3. Move Setting switch 2 of the CX-SM1000 from the OFF position to the ON position.
After checking SD card status, upload preparation will begin and the status indicator will start flashing green slowly. When preparation is complete, the flashing will become faster and uploading from the SD card will begin. Upload is complete when the status indicator changes from flashing green to green lit.

Important

Do not insert or remove the SD card or operate the setting switches while the status indicator is flashing green. Doing so may corrupt the setting data.

Step 4. After the status indicator changes from flashing green to green lit, return Setting switch 2 of the CX-SM1000 to the OFF position.

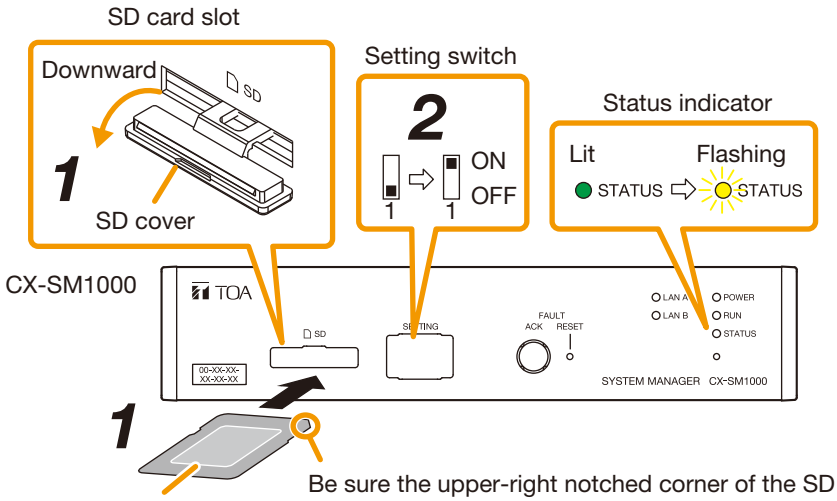
Step 5. After returning Setting switch 2 of the CX-SM1000 to the OFF position, remove the SD card from the CX-SM1000.
Lightly press in the SD card, remove it, then replace the SD slot cover.

Note

Do not forcibly pull out the SD card.
Also, do not pull out the SD card while the setting switch is in the ON position.
Doing so may result in damage.

1.2. Downloading Data from the CX-SM1000 to an SD Card

Step 1. Insert the SD card into the CX-SM1000.
Open the SD slot cover and fully insert the SD card.



Step 2. Move Setting switch 1 of the CX-SM1000 from the OFF position to the ON position.
After checking SD card status, download preparation will begin and the status indicator will start flashing yellow slowly. When preparation is complete, the flashing will become faster and downloading to the SD card will begin. Download is complete when the status indicator changes from flashing yellow to yellow lit.

Important

Do not insert or remove the SD card or operate the setting switches while the status indicator is flashing yellow.
Doing so may corrupt the setting data.

Step 3. After the status indicator changes from flashing yellow to yellow lit, return Setting switch 1 of the CX-SM1000 to the OFF position.
After returning Setting switch 1 of the CX-SM1000 to the OFF position, the status indicator will change from yellow lit to green lit.

Step 4. After returning Setting switch 1 of the CX-SM1000 to the OFF position, remove the SD card from the CX-SM1000.
Lightly press in the SD card, remove it, then replace the SD slot cover.

Note

Do not forcibly pull out the SD card.
Also, do not pull out the SD card while the setting switch is in the ON position.
Doing so may result in damage.

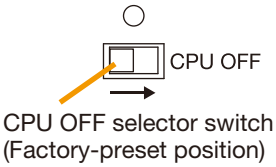
Tip

When downloading from the CX-SM1000 to an SD card, a setting file and log files are saved.
Setting file:
cx1000settings_yyyymmddhhmmss.cxsd is generated under cx1000.
(Example: cx1000settings_20260331191011.cxsd)
Log files:
A log folder is generated under the cx1000 folder, and an operation log file and a failure log file are generated in the log folder.
The operation log file is generated with the filename format: cx1000_yyyymmddhhmmss_op.log
(Example: cx1000_20260331191011_op.log)
The failure log file is generated with the filename format: cx1000_yyyymmddhhmmss_fa.log
(Example: cx1000_20260331191011_fa.log)

Chapter 10

IF TROUBLE OCCURS

1. IF TROUBLE OCCURS

Symptom	Checkpoints	Solution
Units don't work.	Is the power source correctly connected?	The unit does not work with PoE power supply. Correctly connect the specified AC adapter and power cable.
	Are all front indicators on the device dark?	Turn ON the power.
	Are all front indicators on the device lit or flashing?	See Chapter 2, "INDICATOR STATUS AND LCD" and take correct action.
	Is the CPU OFF selector switch of the CX-PA1120 or CX-PA1240 set to the CPU OFF position?	Set the CPU OFF selector switch to the factory default settings, as shown in the figure below.  CPU OFF selector switch (Factory-preset position)
Station doesn't work.	Does the PoE switching hub produce sufficient power?	Use a PoE switching hub rated to power all connected stations.*1
	Is the specified AC adapter being used?	Use the AD-1215P or AD-1210P AC Adapter or its equivalent.
	Is the status indicator dark?	Turn ON the power.
	Is the status indicator flashing?	See Chapter 2, "INDICATOR STATUS AND LCD," and take correct action.
The CX-1000 Setting software cannot detect devices.	Are all devices connected to the same network as the PC running the CX-1000 Setting software?	Devices on another network cannot be detected via the router. Be sure that all are connected to the same LAN (Local Area Network).
	Is virus protection software being used?	Temporarily disable the virus protection software.
Cannot connect the CX-SM1000 to the CX-1000 Setting software.	Is the PC running the CX-1000 Setting software properly connected to the network and correctly set up?	Recheck the PC's IP address, subnet mask and default gateway, and be sure that the PC is correctly connected to the network.*2
	Are the CX-SM1000's IP address, subnet mask, default gateway and port number all correctly set?	Perform device detection and properly set the IP address, subnet mask and default gateway.*2
	If another network is connected via the router, is the router correctly connected?	Check with the network administrator to ensure that the router is correctly set.
The SIP phone or VoIP adapter isn't working.	Are the SIP ID, password, SIP server (CX-SM1000), etc. all correctly set?	Ensure that all are properly set. For details, refer to the instruction manual of the SIP phone.
	Is the codec properly set?	Codecs other than G.722 and G.711 (μ-law and a-law) are not supported. For details, refer to the instruction manual of the SIP phone.
The maintenance screen can't be displayed using the browser.	Is the PC set to perform settings with the browser correctly connected to the network? Also, is the browser set correctly?	Recheck the PC's IP address, subnet mask and default gateway, and be sure that the PC is correctly connected to the network.*2
	Is the browser set to operate via a proxy?	If the browser is set to operate via a proxy, the screen may not display correctly. Consult the network administrator.

Symptom	Checkpoints	Solution
No system response, even when the Direct key is pressed.	Are the Direct keys correctly set using the CX-1000 Setting software?	Properly set the functions and names to be assigned to the Direct keys, and upload the settings.
	Is the LCD being touched correctly? (CX-OP1700 and CX-RM1700 only.)	Take care not to touch any areas other than those of the Direct key when touching that key.
	Is the Direct key being firmly pressed?	Be sure to press the Direct key fully to the end.
Control output doesn't work.	Is this set correctly using the CX-1000 Setting software?	Properly set the functions to be assigned to the control output and upload the settings.*2
An error occurs even during outgoing calls.	Are all devices registered correctly?	Correctly set the model name, IP address, and station number when registering each device.*2
	Is one-touch dialing registration set for the Direct key? (For all devices with one-touch dialing registered to the Direct key.)	Be sure to also register the number to be dialed with one-touch dialing.*2
	When making an outgoing call, is the broadcast being transmitted using the device's built-in audio source?	Please wait until the broadcast transmission is complete before operating the device.
Cannot receive calls.	Is the status indicator on?	Wait until the status indicator lights up. If it does not light up, be sure the station number is set correctly.*2
No sound output or distorted sound.	Is the handset's cable correctly connected?	Connect correctly.
	Is the headset correctly connected?	Connect correctly.
	Is each unit correctly connected to the amplifiers, speakers, etc.?	Connect correctly.
	Is the audio input/output volume correctly set?	Adjust the audio input/output volume as needed.*1
	Is the audio input level selector switch correctly set?	Correctly set the audio input level selector switch.*1
	Are all audio settings correct?	Be sure the compression method and sampling frequency are set correctly.*2
	Is the other party's microphone (handset) correctly connected?	Be sure the other party's handset is correctly connected.
	Is the other party's hands-free microphone opening blocked?	Remove any objects blocking the opening for the other party's microphone.
	Is the headset mute turned on?	Turn off the mute. For details, refer to the instruction manual of the headset.
	Is multicast being used for broadcast streaming?	Data may not have been transferred to the other network via the router. Consult the network administrator or use unicast.
	Is the Emergency control input terminal connected correctly?	If the Emergency control input is enabled but the Emergency control input terminal is not properly connected, the signal will be attenuated to -∞. Connect it correctly, or adjust the setting for Emergency control input as required.
Clicking noises or interruption of audio detected.	Is the network congested? Please check the stream log.	Consult the network administrator when congestion is confirmed.

Symptom	Checkpoints	Solution
No sound output from the station handset.	Is the handset correctly connected to the station?	Correctly connect the handset.
Video conversation can't be established.	Is a CX-1000 series station being used?	Video conversations are only possible with CX-1000 series stations.
	Is the system set for video use using the CX-1000 Setting software?	Set correctly and upload settings.*2
No camera image displayed.	Is anything obstructing the front of the camera?	Remove any obstructions.
	Do the CX-side settings match the camera-side settings?	Match the camera-side settings with the CX-side settings. If the CX-side compression format is H.264 while the camera-side compression format is H.265, the camera image will not be displayed.*2
Device's LINK/ACT, SPEED, or LAN indicator does not light up or flash.	Is the LAN cable correctly connected?	Connect the correct type of cable to the appropriate port.
	Is a 100BASE-TX–compatible switching hub being used?	Use only a 100BASE-TX-compatibe switching hub.
	Is the switching hub power ON?	Turn ON the switching hub.
Certain devices have stopped functioning, and a message indicating abnormal temperature was displayed on the station's LCD, or the CX-SM1000's web maintenance display.	Is the device in close proximity to any high temperature devices or exposed to direct sunlight? Also, is the station performing video calls or receiving IP camera video for long periods of time?	Check the installation environment by, for example, moving the device away from heat sources or avoiding direct exposure to sunlight. If a video call or IP camera video reception is currently in progress, temporarily stop it and leave the device at rest for a while.

*1 For details, refer to the separate CX-1000 Installation manual.
*2 For details, refer to the separate CX-1000 Setting software instructions.

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