# EXES 2000

## INTERCOM SYSTEM

# Functions and Operating Instructions

**TOA Corporation**
KOBE, JAPAN

TOA

This handbook explains the functions and operating procedures of stations for the EXES-2000 intercom system.

While all the stations and functions are described in this booklet, your system does not employ all of such functions. You may only read instructions on the functions that are incorporated in your system.

Part 1. Basic speech functions, their operating procedures and all functions.

Part 2. Functions and operating procedures of system for a maximum of 32 stations.

# ● Contents

● **Introduction to the "Functions and Instructions" for stations for EXES-2000.**

## Part 1

**Basic speech functions, their operating procedures and all functions**

# 1. Type of stations

**(1) HF-200M/HF-200MB**
Desk/surface-mounted handsfree/handset master station
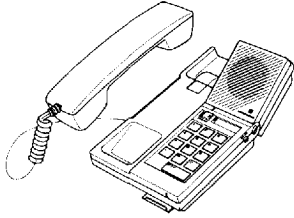
**(2) HF-210M/HF-210MB**
Desk/surface-mounted handsfree master station

**(3) TL-600M**
Desk/surface-mounted handset operated master station
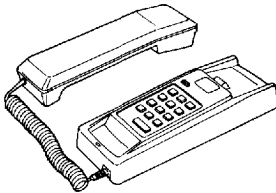
**(4) TL-600S**
Desk/surface-mounted handset operated substation
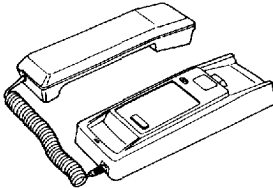
**(5) TL-610M**
Desk-top type handset operated master station
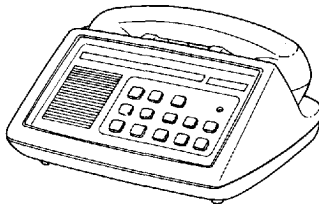
**(6) TL-620M**
Surface-mounted handset operated master station

**(7) HF-640S**
Door station

**(8) HF-670M**
Industrial-use handsfree master station

**(9) HF-660M**
Desk/surface-mounted handsfree/handset master station

**HF-200M + YC-230M**

**HF-200M + YC-230S**

**HF-210M + YC-240M**

**HF-210M + YC-240S**

# 2. Speech function

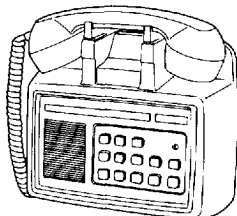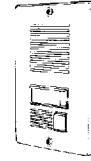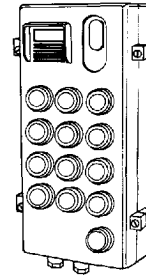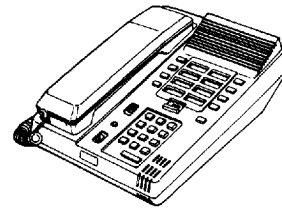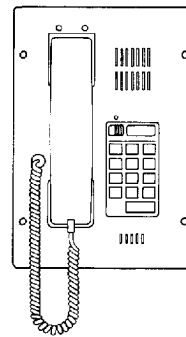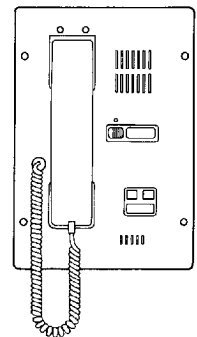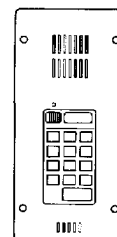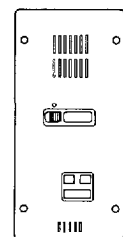| | Functions | Descriptions | Stations | | Privacy SW |
|---|---|---|---|---|---|
| | | | **Without Privacy SW** | **With Privacy SW** | |
| **Calling** | Dialing | Calls can be made by dialing station number. Even if the Privacy SW is on, calling is possible. | HF-670M | HF-660M HF-200M HF-200MB HF-210M HF-210MB HF-220MB | ON/OFF |
| | One-touch dialing | Substations can make a call to the designated master stations by one-touch dialing. Calling is possible even if the Privacy SW is on. | HF-640S | — | ON/OFF |
| | Dialing after picking up handset and (*1) confirming dial tone | Calls can be made by dialing keys after picking up the handset and confirming the dial tone. | TL-600M TL-610M TL-620M | HF-660M HF-200M HF-200MB HF-220MB | ON |
| | Calling by picking up handset (*1) | Substations can make a call to the designated master stations just by picking up the handset. | TL-600S | — | ON |
| **Voice** | Voice calling | While calling by continuous calling tone or privacy tone, voice can be sent by pressing [PTT] key. | All stations except HF-640S | | ON/OFF |
| **Receiving** | Hands-free calling and conversation | Dialing station number causes a brief call tone to be sounded in both calling and called stations and permits handfree conversation. | HF-640S HF-670M | HF-660M HF-200M HF-200MB HF-210M HF-210MB HF-220MB | OFF |
| | One-touch response to continuous call (*1) | The party who was called by a continuous call tone can respond to the call and begin handsfree conversation by pressing the [0] ~ [9] , [•] or [C] key. | HF-640S HF-670M | HF-660M HF-200M HF-200MB HF-210M HF-210MB HF-220MB | OFF |
| | Privacy | When calls are unwanted, turn on Privacy SW. A brief Privacy tone sounds when called. By turning off Privacy SW or touching any key ( [0] ~ [9] , [•] , [C] key) or picking up the handset, the incoming call may be connected. | — | HF-660M HF-200M HF-200MB HF-210M HF-210MB HF-220MB | ON |
| | Handset response to continuous call (in Privacy mode) (*1) | When called by continuous calling tone, conversation is possible by picking up the handset. | TL-600M/S TL-610M TL-620M | HF-660M HF-200M/MB HF-220MB | ON |
| | One-touch response to continuous call (in Privacy mode) (*1) | Response can be made just by touching any one of [0] ~ [9] , [•] or [C] keys without picking up the handset when called by continuous calling tone. | — | HF-660M HF-200M HF-200MB HF-210M HF-210MB HF-220MB | ON |
| **Speech methods** | Voice switch conversation | Handsfree conversation may be achieved. | HF-640S HF-670M | HF-660M HF-200M HF-200MB HF-210M HF-210MB HF-220MB | ON/OFF |
| | Simplex conversation by Press-to-talk key | Continuously pressing [PTT] allows one-way conversation from a party who presses [PTT]. Releasing the [PTT] key will reverse the one-way conversation flow. | HF-670M | HF-660M HF-200M HF-200MB HF-210M HF-210MB HF-220MB | ON/OFF |
| | Fully duplex conversation | If at least either party uses the handset, the conversation is fully duplex. | TL-600M/S TL-610M TL-620M HF-640S HF-670M | HF-660M HF-200M HF-200MB HF-210M HF-210MB HF-220MB | ON/OFF |

*1) No. 24 programming must be established.      – 3 –

# 3. Station operation

## 1) Handset Master Station Model TL-600M/TL-610M/TL-620M



TL-600M

TL-610M

TL-620M

### <Making a call>
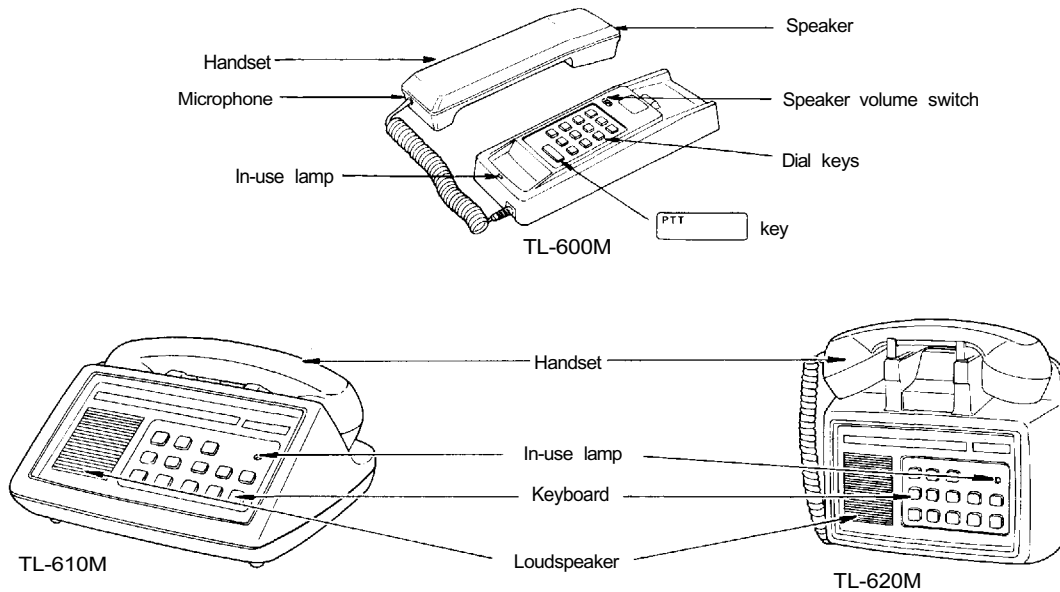
1. Pick up the handset and dial the station number after hearing dial tone.
2. Begin to speak after the calling tone has been heard.
3. When you hear a busy tone, simply wait without hanging up the handset. As soon as the line becomes free, your call is automatically connected.
4. By pressing the [PTT] key while the continuous call tone is ringing, a one-way voice call can be made.
5. Hang up the handset or depress the [C] key to terminate the conversation.

### <Responding to a call>

6. When you were called by the continuous calling tone or voice through your station speaker, respond to the call by picking up the handset.

**Note.**

1) Call tone volume may be adjusted by means of a 2-stage volume selector (SP. VOL) switch.
2) No. 24 programming must be established before using these stations.

## 2) Handset substation Model TL-600S



### <Making a call>

1. Picking up the handset makes a call to the designated master station.
2. Begin to speak after the calling tone stops.
3. When you hear a busy tone, simply wait without hanging up the handset. As soon as the line becomes free, your call is automatically connected.
4. It is possible to place a one-way voice call by pressing the [PTT] key while the call tone is sounding.
5. Hang up the handset to terminate the conversation.
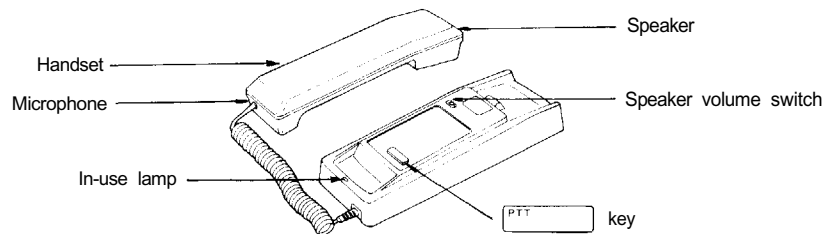
### <Responding to a call>

6. When you were called by the continuous calling tone or voice through your station speaker, respond to the call by picking up the handset.

**Note.**

1) Call tone volume may be adjusted by means of a 2-stage volume selector (SP. VOL) switch.
2) No. 24 programming must be set up before using this station.

## 3) Hands-free Master Station Model HF-210M/210MB/670M

Speaker

In-use lamp

Speaker volume switch

Dial keys

Microphone

Privacy switch

PTT key

HF-210M

HF-670M

**<Making a call>**
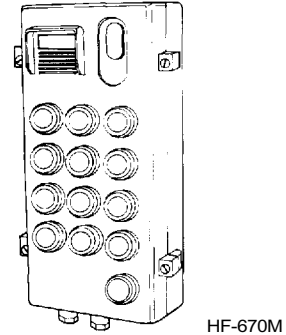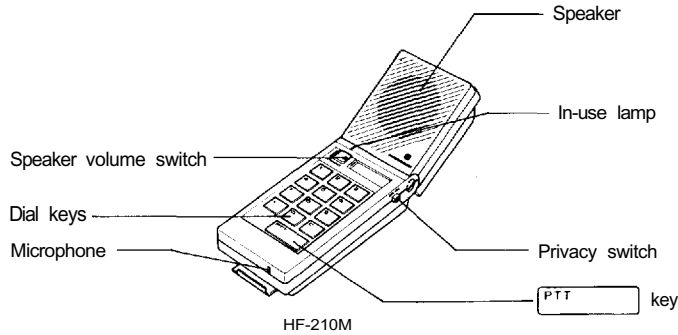
1. Dial the station number. (Dialing can be accomplished even when your station is in the Privacy mode.)

2. Begin to speak after the calling tone has been heard.

3. When the line is busy, simply wait. As soon as the line becomes free, your call is automatically connected.

4. Continuously depressing the [PTT] key while the continuous call tone or Privacy tone is being heard allows a one-way voice call through the station speaker of the called party.

5. When the called party is in a high noise level area, by depressing the [PTT] key one-way conversation to that party can be achieved. Releasing the [PTT] key will reverse the one-way conversation flow.

6. To terminate the conversation, depress the [C] key.

**<Responding to a call>**

7. In the case that the Privacy switch is in the OFF position, respond to the call after the calling tone stops.

8. When the Privacy switch is in the ON position, a brief Privacy tone sounds each time there is an incoming call and it is refused.
To respond touch-dial any key ( [1]~[9]、[0]、[•]、[C] ,) other than the [PTT] key while being called, (a maximum of 5 seconds).

**Note.**
1) Speaker volume may be adjusted by means of the 2-stage volume selector (VOL) switch.
2) The HF-670M needs an external PA speaker because it has no built-in speaker nor Privacy switch.

## 4) Hands-free Substation

Speaker

In-use lamp

Speaker volume switch

Privacy switch

Dial keys

Microphone

PTT key

HF-210M+YC-200

HF-210M+YC-240S

### \<Making a call\>
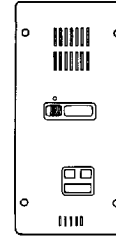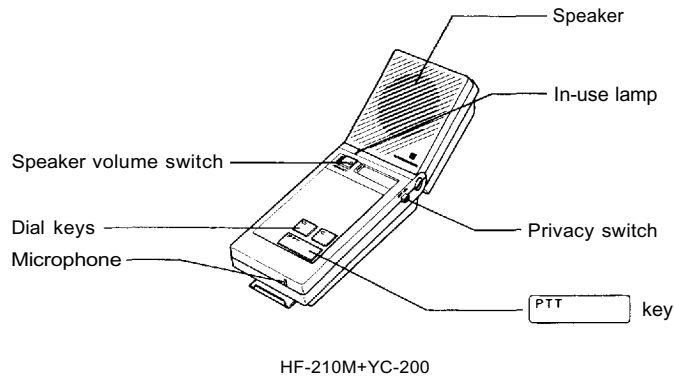
1. Touching the ▢ key calls the designated master station regardless of the position of the Privacy switch.

2. Begin to speak after the calling tone has been heard.

3. When the line is busy as indicated by a busy tone simply wait. As soon as the line becomes free, the call is automatically connected.

4. Continuously depressing the PTT key while the continuous call tone or Privacy tone is being heard allows a one-way voice call through the station speaker of the called party.

5. When the called party is in a high noise level area, by depressing the PTT key one-way conversation to that party can be achieved. Releasing the PTT key will reverse the one-way conversation flow.

6. To terminate the conversation, depress the ▢ key.

### \<Responding to a call\>

7. In the case that the Privacy switch is in the OFF position, respond to the call after the calling tone stops.

8. When the Privacy switch is in the ON position, a brief Privacy tone sounds each time there is an incoming call and it is refused.
   To respond, touch dial the ▢ or ▢ key within 5 seconds after the call has been established.

**Note.**
   Speaker sound volume may be adjusted by means of the 2-stage volume selector (VOL) switch.

## 5) Door Substation Model HF-640S
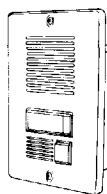
HF-640S

### \<Making a call\>

1. Pressing a button calls the specified master station.

2. Speak when a calling tone stops.

3. When a busy tone is heard, simply wait. You are put through the master station as soon as its line is freed.

4. If there is no response even after a calling tone has stopped, press the button again and again. The calling tone is sounded each time the button is pressed.

5. Conversation or continuous calling tone is terminated unless the button is pressed every 20 seconds.

## 6) Hands-free/Handset Master Station Model HF-200M/200MB/220MB/660M (With Auto-Dialer)



HF-200M



HF-660M

**<Making a call>**
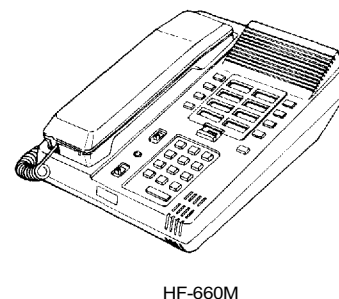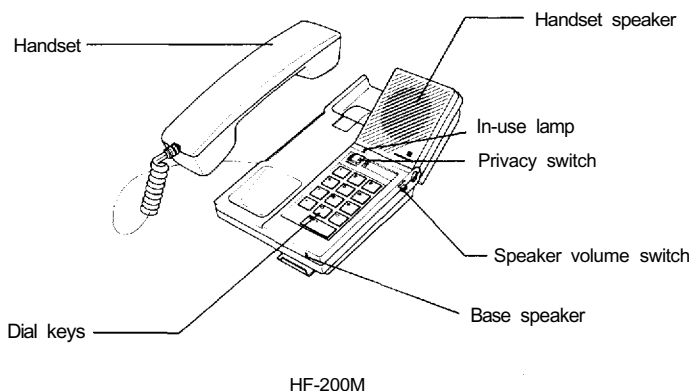
1. Hands-free conversation may be made by simply dialing the station number.

2. When it is desirable to use the handset, dial after picking up the handset or first pick up the handset and then dial.

3. Begin to speak after the calling tone has been heard.

4. When you hear a busy tone simply wait. As soon as the line becomes free, your call is automatically connected.

5. It is possible to make a one-way voice call by pressing the [PTT] key while a busy tone or Privacy tone is audible.

6. When either party is in a high noise level area during handsfree conversation, the other party can send his voice by picking up the handset or continuously depressing the [PTT] key while talking. Depressing the [PTT] key allows one-way conversation and releasing it reverses the one-way conversation flow.

7. To terminate the conversation, hang up the handset or depress the [C] key.

**<Responding to a call>**

8. When desiring a handsfree response to the call received with the Privacy switch set to OFF, just speak into the mic after the call tone stops, Pick up the handset and begin to speak when the handset conversation is desirable.

9. In the case that the Privacy switch is in the ON position, a brief Privacy tone will sound each time there is an incoming call and all incoming calls are refused.
To respond, depress any key ( [1]~[9], [0], [•], [C] ,) other than the [PTT] key or pick up the handset while the line is still connected. The call is cancelled when no response is made within 5 seconds after the call establishment.

**Note.**
1) The sound volume of the handset speaker may be adjusted by means of the 2-stage volume selector (VOL) switch. (Three-step control for the HF-660M)
2) For calls or responses made from the station registered as handset operated station by No. 24 programming, refer to the section Handset operated master stations (TL-600M/610M/620M).

# 7) Hands-free/Handset Substation

Handset

Handset speaker

In-use lamp

Privacy switch

Speaker volume switch

Base speaker

Dial keys

HF-200M+YC-200

HF-200M+YC-230S

**\<Making a call\>**
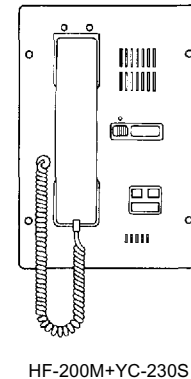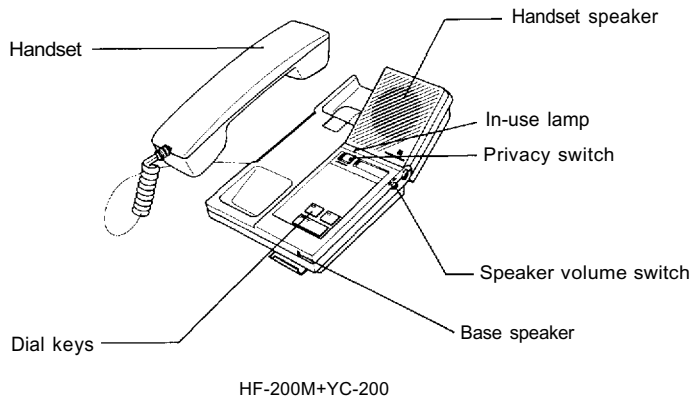
1. Touching the ☐ key allows a handsfree call to the designated master station.

2. When it is desirable to use the handset, lift the handset and press the ☐ key or first press the ☐ key and then pick up the handset.

3. Begin to speak after the calling tone has been heard.

4. When the called party is busy, just wait. You can be put through as soon as the line is free.

5. It is possible to transmit a one-way message by depressing the ⌑PTT key while the call tone is ringing or Privacy tone is heard.

6. When either party is in a high noise level area during handsfree conversation, the other party can send his voice by using the handset or continuously depressing the ⌑PTT key while talking. Depressing the ⌑PTT key allows one-way conversation from the party who depresses it, and seleasing the key reverses the one-way conversation flow.

7. To terminate the conversation, hang up the handset or depress the ☐ key.

**\<Responding to a call\>**

8. When desiring a handsfree response to the call received with the Privacy switch set to OFF, just speak into the mic after the call tone stops. Pick up the handset and begin to speak when the handset conversation is desirable.

9. In the case that the Privacy switch is in the ON position, a brief Privacy tone will sound each time there is an incoming call and all incoming calls are refused.
To respond, depress the ☐ or ☐ key or pick-up the handset while the line is still connected. The call is automatically cancelled when no response is made within 5 seconds after the call has been placed.

**Note.**

1) The sound volume of the handset speaker may be adjusted by means of the 2-stage volume selector (VOL) switch.

2) For calls or responses made from the station registered as handset operated station by No. 24 programming, refer to section 2) Handset substation (TL-600S).

# 8) Hands-free/Handset Master Station with Auto-Dialer Model HF-660M

Handset ———

Registration mode switch ———

Privacy/in-use lamp ———

Privacy switch ———

PTT key ———

——— Loudspeaker

——— Auto-Dialer keys

——— Page selector switch

——— Entry key

——— Dial keys

——— Hands-free microphone

### <Making a call>
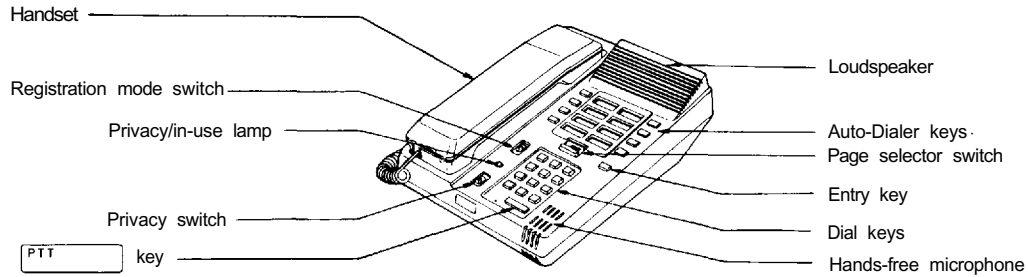
1. Place the registration mode switch (REGISTER) in the OFF position.

2. A maximum of 16 station numbers each for page A and B may be programmed into this station. It is possible to call such a programmed station by one-touch dialing the Auto-dialer key or by normally dialing the station number. Connecting the **AK-024** auto-dialer key unit allows 24 more station numbers to be registered for one-touch dialing.

### Note.

1. Call tone volume can be adjusted by means of the 3-stage selector (SP VOL) switch.

2. For instructions on how to call and respond without using the Auto-Dialer, refer to section 6 Handsfree/handset master stations (HF-200M/200MB/220MB/660M).

### <How to make Registration at Auto-Dialer>

ON / OFF REGISTER — Registration mode switch → A / B — Page selector switch → $A_1 \sim A_8$ $B_1 \sim B_8$ — Auto-Dialer keys → ✕ ✕ ⋯ ✕ — Desired number (13 digits Max.) → ENTER — Entry key → ON / OFF REGISER
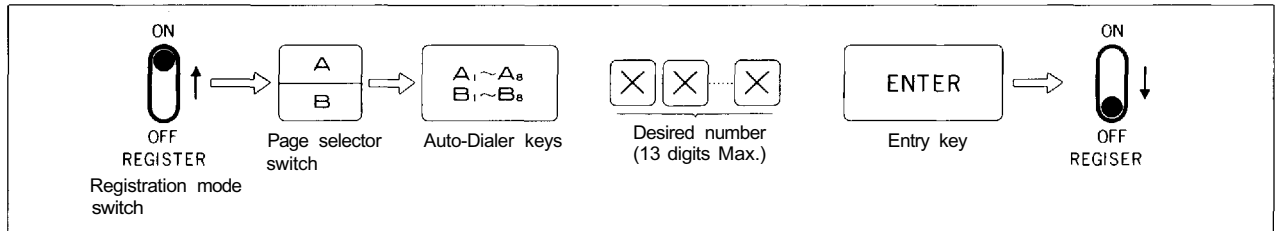
1. Set the registration mode switch (REGISTER) to ON. The Privacy/is-use lamp comes on green and a confirmation tone is heard.

2. Place the page selector switch in either Ⓐ or Ⓑ position.

3. Press the Auto-Dialer key ( $A_1 \sim A_8 \sim B_1 \sim B_8$ ), to be used.

4. Register the desired number through dial key ( $1 \sim 9$ , $0$ , $\bullet$ , $C$ ) operation (13 digits Max.)

5. Press the entry key ( ENTER ). The confirmation tone is again heard and registration is completed.

6. Repeat the procedures described in (2) through (5) each time registration is made.

7. To cancel the registration, press the Auto-Dialer key ( $A_1 \sim A_8 \sim B_1 \sim B_8$ ) and the entry key ( ENTER ).

8. Shift the registration mode switch back to OFF, and the lamp goes out and the station is put in the speech made.

# 4. All functions of EXES-2000

| No. | Classifi-cation | Functions | Basic functions | Selectable functions (No. 24 programming must be established) | Additional functions |
|-----|-----------------|-----------|-----------------|---------------------------------------------------------------|----------------------|
| 1 | | Camp-on-busy | ○ | | |
| 2 | | Busy call-back | ○ | | |
| 3 | | Mic off | ○ | | |
| 4 | | Master-sub relationship | | ○ | |
| 5 | | Privacy/Camp-on-privacy | ○ | | |
| 6 | Call | Continuous call tone station (*1) | | ○ | |
| 7 | | Handset operated station (*2) | | ○ | |
| 8 | | Press to talk | ○ | | |
| 9 | PTT | Talkback | | | ○ |
| 10 | | Press-to-talk control | | | ○ |
| 11 | | Personal number call | ○ | | |
| 12 | | Conference | ○ | | |
| 13 | | Call transfer | ○ | | |
| 14 | Transfer | Call forwarding | | ○ | |
| 15 | | Secretary transfer | | ○ | |
| 16 | | Hurry up | ○ | | |
| 17 | | Executive (Highest) priority | | ○ | |
| 18 | | Station paging (all-call paging + 3 zone paging calls) and its response (*3) | | ○ | |
| 19 | Paging | PA paging call-up (all-call paging + 3 zone paging) and its response (*3) | | ○ | ○ |
| 20 | | Selected station paging | | ○ | |
| 21 | | Emergency all-call paging | | ○ | |
| 22 | | PA paging & power remote/3-channel general purpose control | | ○ | ○ |
| 23 | Selection | Time-Out of paging call (no limit/20 seconds) | | ○ | |
| 24 | | Speech message hurry up recording (with/without) | | ○ | |
| 25 | | 3-channel BGM | | ○ | ○ |
| 26 | | Alarm and time signal | | ○ | ○ |
| 27 | | Pager calling and response | | | ○ |
| 28 | | Door remote control (2 circuits) | | ○ | ○ |
| 29 | | Speech message | | ○ | ○ |
| 30 | | Tie-line | | ○ | ○ |

**Note.**

XX/YY shows either XX (function) or YY (function) can be selected.

*1 The station having its Privacy switch in the OFF mode can select either a "brief" call tone or "continuous" call tone. (The station without the Privacy switch is the same as one having its Privacy switch in OFF.)

*2 With the Privacy switch in the ON position, either the "Privacy tone" or "continuous tone" can be selected. (The handset operated station is always in the same Privacy state as the station whose Privacy switch is set to OFF.

*3 Each paging channel can be either station paging or PA paging or combined station and PA paging.

# Part 2

## Functions and operating procedures of system for a maximum of 32 stations

# 1. Dial operations of EXES-2000

| Classifi-cation | Functions | Operating procedures |
|---|---|---|
| **Speech** | Press to talk | `PTT` One-way conversation　　`6` Normal two-way conversation |
| | Response to call by continuous call tone | `1` ~ `9`, `0`, `•` or `C` |
| | Privacy | `ON PRIVACY` Privacy mode　　　`PRIVACY` Non-privacy mode |
| | Secretary transfer | `ON PRIVACY` Secretary transfer mode　`PRIVACY` Cancellation of secretary transfer |
| | Master/substation | `0` (Lift handset in the event of handset station.) |
| | Personal number registration | `6` `1` `X` `X` (Confirmation tone)　　Personal number |
| | Personal number cancellation | `•` `1` `X` `X` (Confirmation tone)　　Personal number |
| | Personal number call | `1` `X` `X`　　Personal number |
| | Registration of call forwarding | `6` `X` `X` (Confirmation tone)　Station number call is to be transferred to. (Only cancelled from originally assigned station.) |
| | Mic off | `7`　　Press `7` again to restore original conversation |
| | Hurry up | `X` `X`　Press `9` when called station is busy. |
| | Executive priority | `X` `X`　Press `9` `9` when called station is busy. |
| | Registration of busy call back | `X` `X`　Press `6` (confirmation tone) when called station is busy.　×× = Station number or personal number |
| | Response to busy call back | `1` ~ `9`, `0`, `•` or `C` |
| | Call transfer | `X` `X` → `C` Transfer　→ `•` `•` Return to original conversation.　×× = Station number or personal number |
| **Paging** | All call paging + individual 3-zone paging | `8` `X`　× = 0(all-call) or 1 through 3-zone paging |
| | Selected station paging | `8` `4` `X` `X` ···· `X` `X` `PTT`　×× = Station number |
| | Paging response | `9` `X`　　1 through 3 (zone paging)　4 (selected station paging) |
| | Emergency all-call paging | `•` `8` |
| | Response to emergency all call paging | `•` `9` |
| **Conference** | Conference call | `•` `5` `X` `X`　×× = Station number or personal number |
| | Conference entry clear | `•` `•` |
| **Additional functions** | 2-circuit door remote control | `5` `X` (Confirmation tone) × = 2 or 3 |
| | 3-line general purpose control | `5` `X` (Confirmation tone) × = 4 through 9 |
| | 3-channel BGM | `7` `X`　× = 0 (OFF), 1~3 (channel) |
| | Pager call | `X` `X` plus `8` (Confirmation tone) ××=Station number (pager receiver number)　`•` `7` `X` `X` (Confirmation tone) ×× = 00~99 |
| | Pager response | `•` `4` `X` `X`　××=00~99 |
| | Speech message recording | `•` `2` |
| | Recorded message playback | `•` `3` |
| | Recorded message erasure | `•` `6` (Confirmation tone) |
| | Speech message mode registration | `6` `0` `X` (Confirmation tone) × = 0~2 |
| | Speech message | `ON PRIVACY` (Called party's message)　`PRIVACY` (Caller's message)　`PTT` (Play back) |
| | Tie-line | `2` `5` Call tone `X` `X`　`2` `6` Call tone `X` `X`　(×× = Station number or personal number of other exchange) |

The personal number range: 1××:100~131
×× = Station number or personal number

# 2. Function description

## 1) Privacy

Shift Privacy Switch to ON.
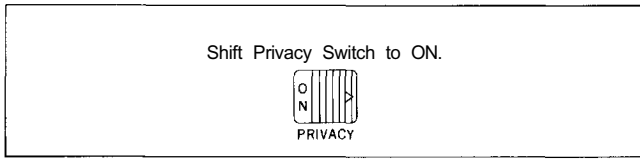
When a party does not wish to accept incoming calls, this function may be employed to refuse them. With the Privacy switch in the ON position, a continuous privacy tone will be sounded for 5 seconds in the station making the call, and at the same time, a brief privacy tone will sound twice in the station called, indicating a call attempt is being made.

It is possible to call the other party from the station in the privacy mode.

Shift privacy switch back to the left
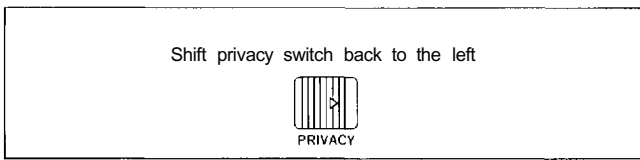
To restore a station in the "Privacy" mode to a normal condition, and thus ready to receive calls.

During the "Privacy" mode, while the calling station has the [PTT] bar depressed, the privacy tone stops and the caller can transmit a one way message.
When the [PTT] bar is released, the normal "Privacy" mode is resumed.

Two tones
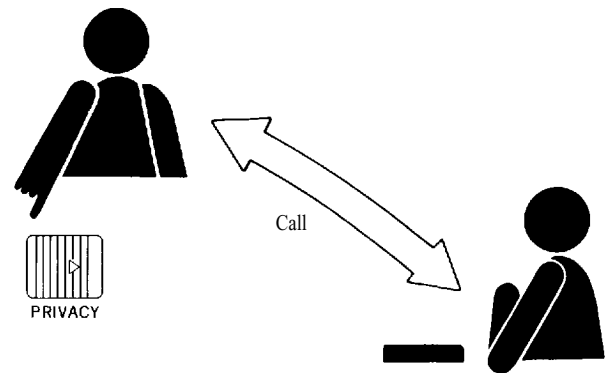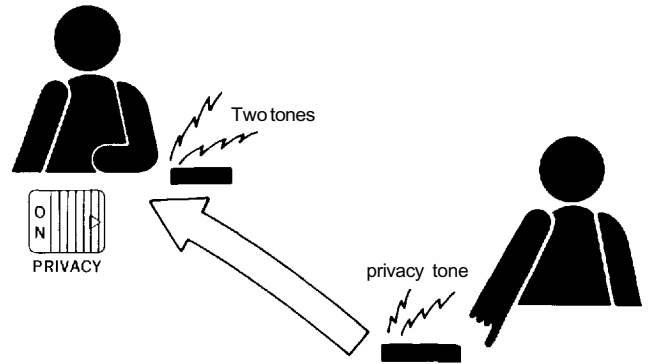
privacy tone

Call

## 2) Camp-on privacy

When the party you are calling has his station on privacy mode, by simply waiting you will automatically "camp-on" the line. (Privacy tone sounds continuously.) As soon as the Privacy mode is released, or as soon as he dials any one of $\boxed{0}$ ~ $\boxed{9}$, $\boxed{\bullet}$ or $\boxed{C}$ key, or as soon as he picks up a handset of his station, you will be automatically connected.

Automatic

PRIVACY

PRIVACY

or

$\boxed{1}$~$\boxed{9}$、$\boxed{0}$、$\boxed{\bullet}$、$\boxed{C}$

or
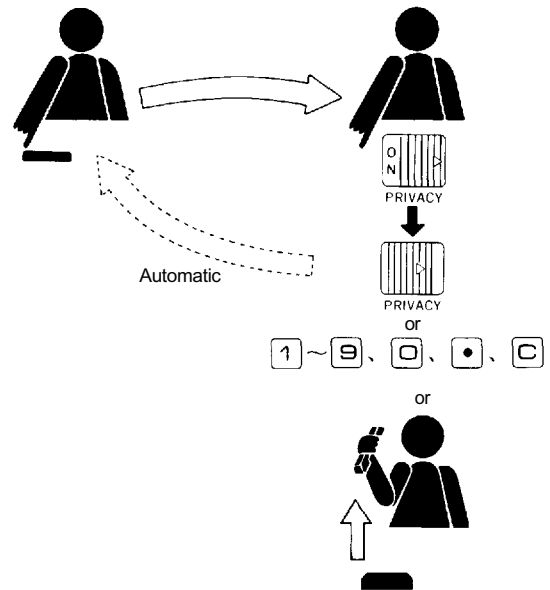
## 3) Press-to-Talk

This function is activated when the

PTT $\boxed{\text{P T T}}$ (Press-To-Talk Bar)

is continuously depressed after completion of calling tone or during hands-free conversation. This allows one-way conversation from the party depressing the function key. When the key is released, one-way conversation is reversed.
Employed when a person in a high noise level area is called by a person in a quiet area, or when no particular response is required, or when simple announcements are made. In such cases, one-way conversation flow can be used.

One-way conversation is activated while the press-to-talk bar is continuously depressed.

As long as the press-to-talk bar is depressed by either party, the voice of the party using this function has dominance. When the key is released, the other party has dominance.

If both parties depress the press-to-talk bar, the voice of the party who depressed the bar last will have dominance.

PTT

Pushing key
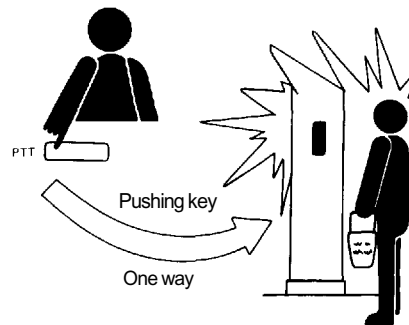
One way

| Depress |
|---|
| $\boxed{6}$ |
| to return to ordinary hands-free 2-way conversation. |

**Note.**
One-way conversation is impossible even if the $\boxed{\text{P T T}}$ bar is depressed when at least either party uses a handset.

## 4) Mic Off

Touch dialing of $\boxed{7}$

during a conversation turns off that station's microphone.

This function is used when for some reason it is desirable to stop a conversation temporarily.

Touch dialing of $\boxed{7}$

again cancels the Mic-Off function, and the conversation can be resumed.

When it is desirable to resume the conversation interrupted with the mic off function, the function may be cancelled by the party who operated the mic-off.

Call

Again

Call

Depress $\boxed{7}$ key to cancel the MIC OFF

---
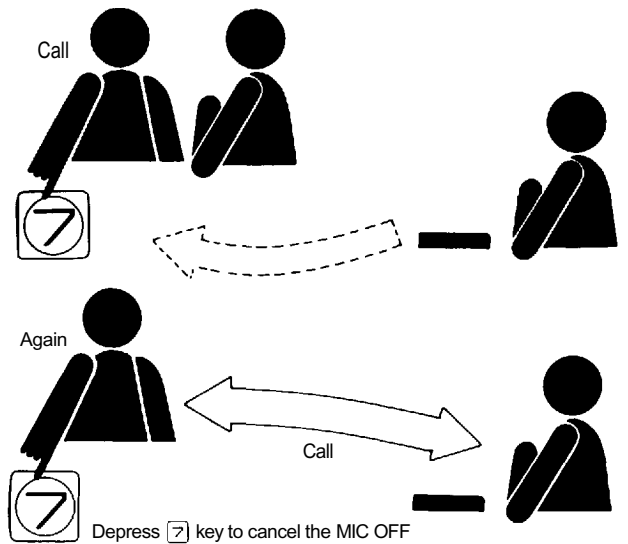
## 5) Call Forwarding

This function, when used, needs to be selected at the programing station No. 24 at time of system installation. When you will be away from your station and wish all incoming calls to be rerouted to a different destination you are going to move to, you can do so by registering that station number before you leave.

● **Registering Call Forwarding function**

To program this function, touch-dial $\boxed{6}$ plus the station number of the new destination. (Confirmation tone is heard.) The registration of this function may only be made at the original station and any previous programming made for this function is automatically cancelled each time the new programming is made.

● **Cancelling Call Forwarding program**

Touch-dial $\boxed{6}\boxed{\times}\boxed{\times}$

Your original station number

at your assigned station.

**Note.**

Before a call is automatically rerouted to the station registered with Call Forwarding function, a brief confirmation tone sounds at the original station, indicating that a call has been made and is going to be put through to the registered station.

● **Registration of Call Forwarding**

$\boxed{6}\boxed{2}\boxed{2}$

Destination Station No.

Call

Station No. 22

Station No. 21

$\boxed{2}\boxed{1}$

No. 23
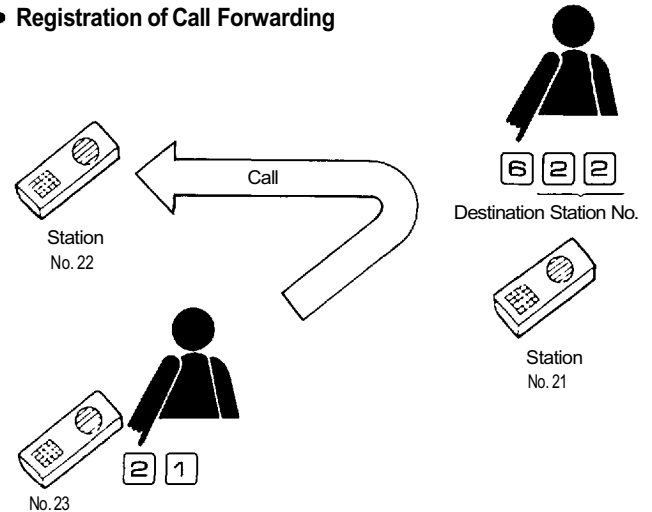
● **Cancellation of Call Forwarding**

$\boxed{6}\boxed{2}\boxed{1}$

Original Station No.

Station No 22

Call

Station No21

$\boxed{2}\boxed{1}$

No 23
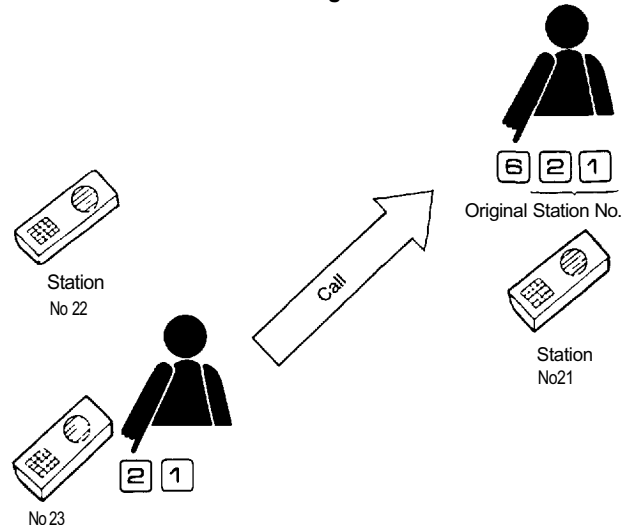
## 6) Hurry up

When a person called is busy as indicated by the busy tone, one-touch dialing ⑨ transmits a "hurry-up" tone to him and his conversation partner, reminding them to shorten the call. This tone is also audible at the calling station.

After the hurry-up tone has been sounded for about one second, it returns to the busy tone again in the calling station, while the state before the conversation was interrupted is restored between the interrupted parties.

**Note.**

> No hurry-up tone is heard in the called station that is making a paging call or receiving a station paging call.

Busy tone   Original conversation

Hurry up tone
Hurry up tone   Hurry up tone   Hurry up tone
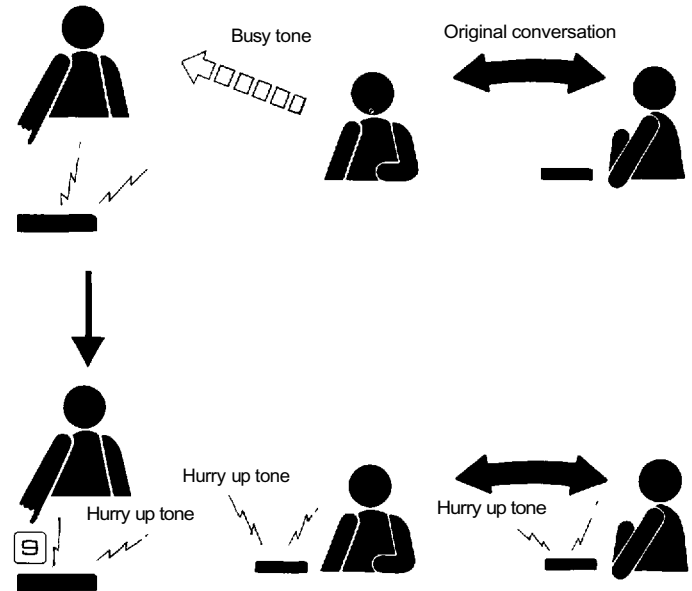
## 7) Camp-on-Busy

When the party you are calling is on another line by simply waiting you automatically "Camp-On" the line for 20 seconds. (Busy tone sounds continuously.) As soon as the line is freed, you will be automatically connected.

After call

Busy tone

Conversation
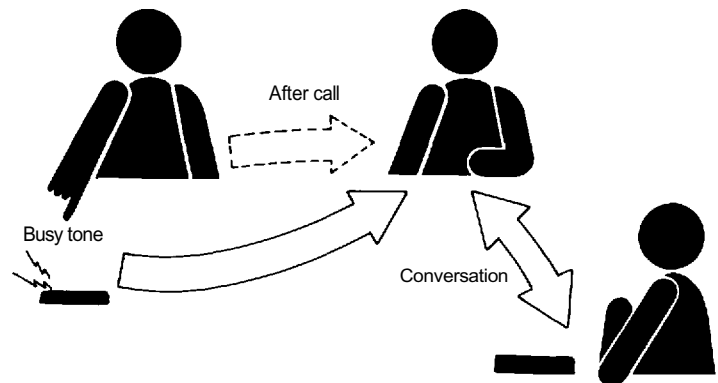
## 8) Busy call back

When the called station is busy, dialing ⬡6⬡ permits this function to be registered and terminates the call after a confirmation tone. As soon as the line is freed, the calling party is called by the distinctive "busy-call-back" tone that sounds for 10 seconds. By one-touch dialing any one of ⬡1⬡~⬡9⬡、⬡0⬡、⬡•⬡ or ⬡C⬡ key during the 10-second period, the calling party can be connected to the called party.

The disadvantage of the camp-on-busy function is that a link is occupied and busy tone is heard from your station all the way while you are waiting. This problem can be avoided by using the busy call back function that can improve the availability of speech paths as well as enables you to wait without being annoyed by "noisy" busy tone.

You can only register one (1) busy station for this function. Once the function has been programmed into your station, you are put in the simple "busy waiting" mode even when you depress  6 in an attempt to register other busy stations for this function.

It is possible to make or receive other calls while waiting after this function has been programed. However, if you are still using your station for conversation with the third party when the busy station registered for this function is freed, the registered busy call back function will be cancelled.

Camp-on-busy is prior to busy call back.

● **Registration**

Busy tone

Conversation

6

Calling station

Called station

● Line has been freed.

Busy call back tone

Calling station

Calling

☒

(Any key other than PTT )
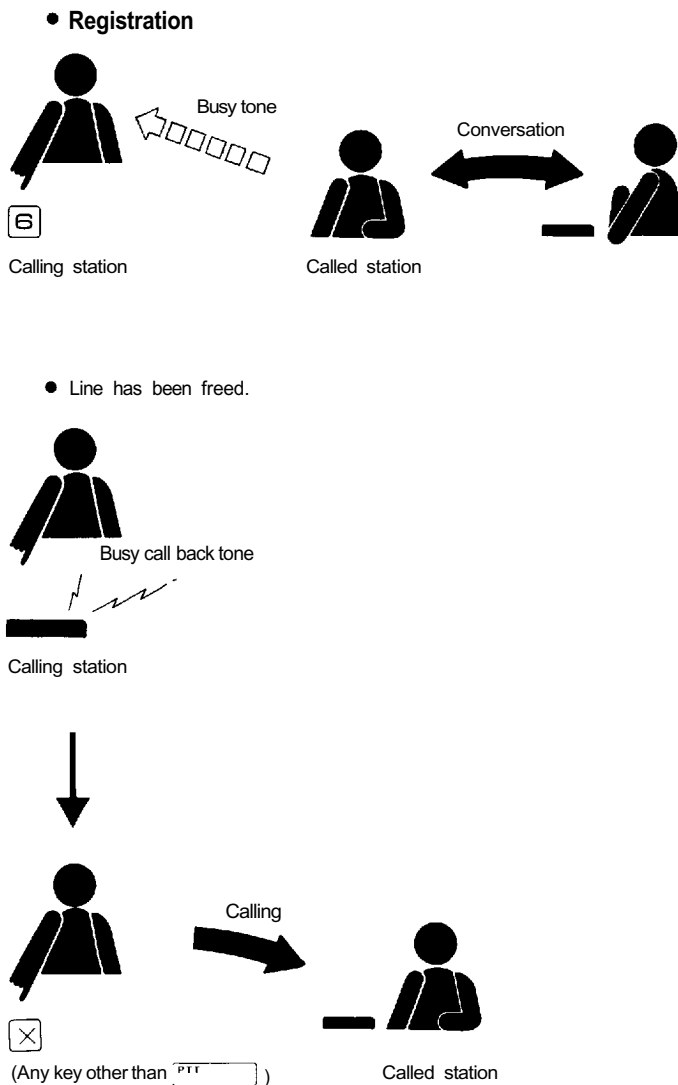
Called station

# 9) Call Transfer

## Call Transfer from Called Station

During the conversation, first dial

$\boxed{\times}\boxed{\times}$

(the Station Number of the person the call is to be transferred to).
The original call is then held, while the third party is called and asked
whether he will accept the call. If he agrees to accept the call, dial

$\boxed{\text{C}}$  or hang up a handset

and the transfer will be completed.

This function allows called party to transfer that call to another
station. The party to whom the call is to be transferred may be
called using either the station number or the personal number.

## Call Hold and Call Back from Calling or Called Station

During the conversation, first dial

$\boxed{\times}\boxed{\times}$

(the Station Number of the third party).
The original party is then placed on hold as the third party is called.
Upon completion of the conversation with the third party,
the party called touch-dials

$\boxed{\bullet}\boxed{\bullet}$

or the third party touch-dials

$\boxed{\bullet}\boxed{\bullet}$ or $\boxed{\text{C}}$

or replaces a handset.
This allows the original conversation to resume.

The Transfer function is combined with the Call holding function.

When two parties are talking, either one can be temporarily
placed on hold to permit the calling of another station. As soon
as the conversation with the third party is over, the original
conversation can be resumed.

The third party can be called by using either the station number
or his personal number.

● **Call Back**

Called Station  or  Third Party  or

Called Station  Calling Stating

Original Call

Third Party

Call

Called Station  Calling Station

Called Station

$\boxed{\times}\boxed{\times}$

Transferred Station Number

Called Station  Calling Station

Holding

Call

Third Party

● **Transfer**  Called Station  or

Called Station  Calling Station

Call

Third Party
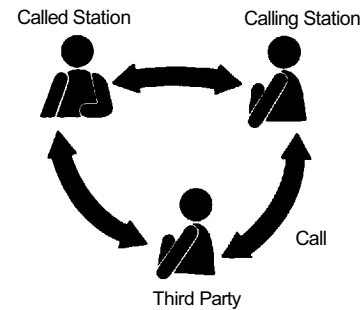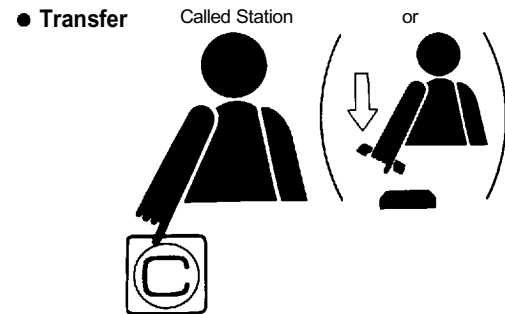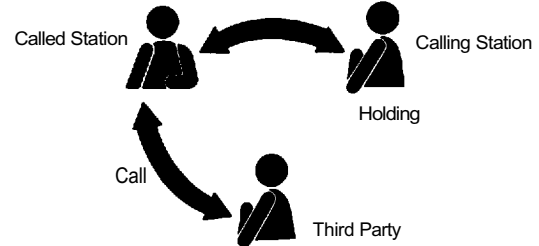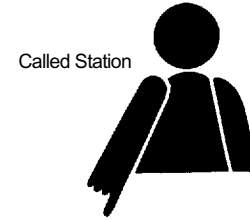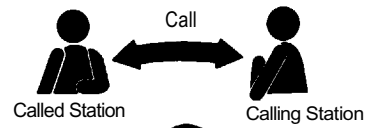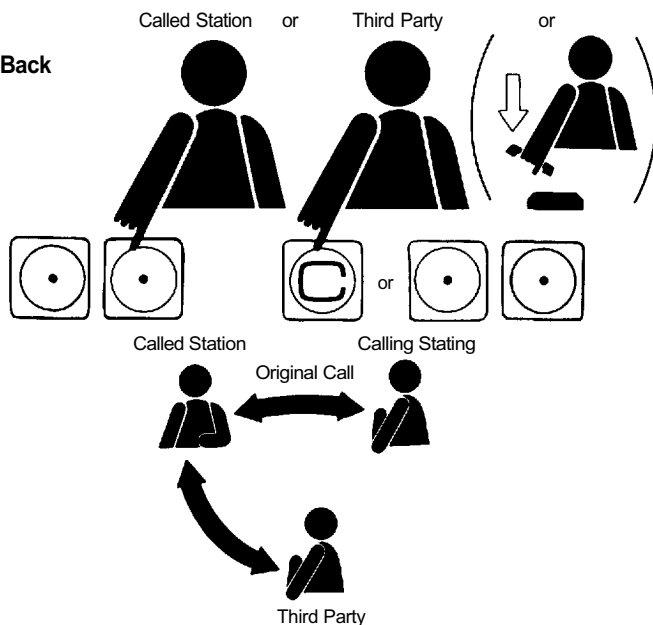
# 10) Conference

A conference call can be made with up to 4 persons. For a conference under this function the other participants may be called either through their station number or Personal Number.

> The person who proposes the conference may dial
>
> [ • ] [ 5 ] [ ✕ ] [ ✕ ]
>
> (Station Number of the 1st participant)
>
> After receiving 2nd person's consent, he may then dial
>
> [ • ] [ 5 ] [ ✕ ] [ ✕ ]
>
> (2nd participant)
>
> After receiving 3rd person's consent, he may now dial
>
> [ • ] [ 5 ] [ ✕ ] [ ✕ ]
>
> (the last participant)

At this point, the 4-man conference may begin.
Only the person who proposed the conference can hold a handsfree conference, while the other participants have to depress [ PTT ] to speak.

**Note:**
1) Only the person who proposed the conference can call the other participants.
2) All the participants except the person who originated the conference have to depress [ PTT ] even when they speak with their station handset lifted.

> It is possible to propose the conference during normal conversation if either party dials
>
> [ • ] [ 5 ] [ ✕ ] [ ✕ ]   (2nd participant)

> A person wishing to drop out of the conference should dial
>
> [ C ]   or hang up a handset
>
> at his station.

Any of the participants who wish to drop out during the conference may do so as long as it's not the party who originated the conference.

> The function is cancelled and the normal mode is restored when the person who arranged the conference dials
>
> [ • ] [ • ]
>
> The conference is terminated when the party who arranged the conference dials
>
> [ C ]   or hangs up a handset
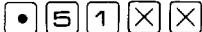
When the conference has been terminated by the party who originated it, the other participants cannot continue the conference.

- Conference call can be made with up to 4 persons.



The person who proposes the conference.

[ PTT ]

The person who proposes the conference.
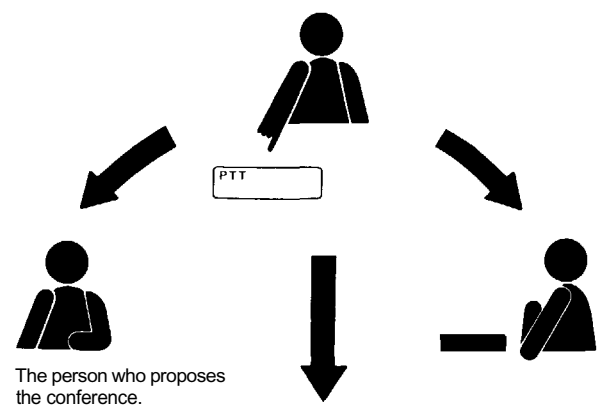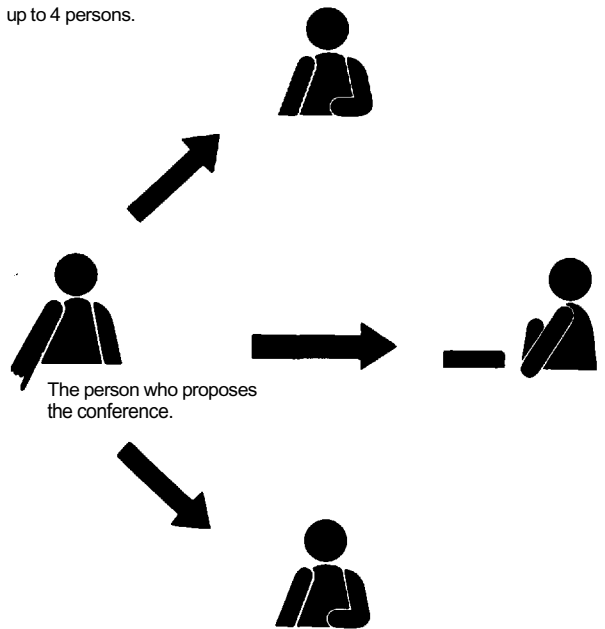
- Dialing of conference member.

[ • ] [ 5 ] [ ✕ ] [ ✕ ]
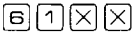
Station number of the participant.

[ • ] [ 5 ] [ 1 ] [ ✕ ] [ ✕ ]

Personal number of the participant.

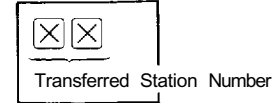- The participants may be called either through their Station number or Personal number.
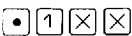
# 11) Personal Number Call

A personal number may be registered at any master station which the person to whom the number is assigned expects to be. A party wishing to receive personal number calls at a specific station may register his number at that station by dialing

$$\boxed{6}\,\boxed{1}\,\boxed{\times}\,\boxed{\times} \quad \text{(confirmation tone)}$$
Personal Number

"Personal" number which may be programmed to any master station in the system. This personal number, which is completely independent of station numbers, may be programmed at any master station, and any previous programming of that same number at any other station is automatically cancelled. When the party calling has dialed the number to which he wishes to speak, the call is then routed to the station at which the Personal Number was last registered. Up to 32 personal numbers may be registered per station. The numbers which may be assigned in this group are 100 through 131.

Personal number programming can also be cancelled at any station by merely dialing:

$$\boxed{\bullet}\,\boxed{1}\,\boxed{\times}\,\boxed{\times} \quad \text{(confirmation tone)}$$
Personal Number

When anyone having a personal number leaves the office, he merely cancels the programming of his personal number. With the personal number cancelled, any incoming calls to that number will be answered by a dial tone, indicating that he is not available.

● **Registration**

Personal Number

● **Personal Number Call**

Personal Number

Call

Station where the personal number is registrated.
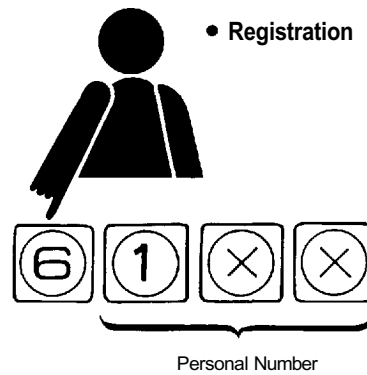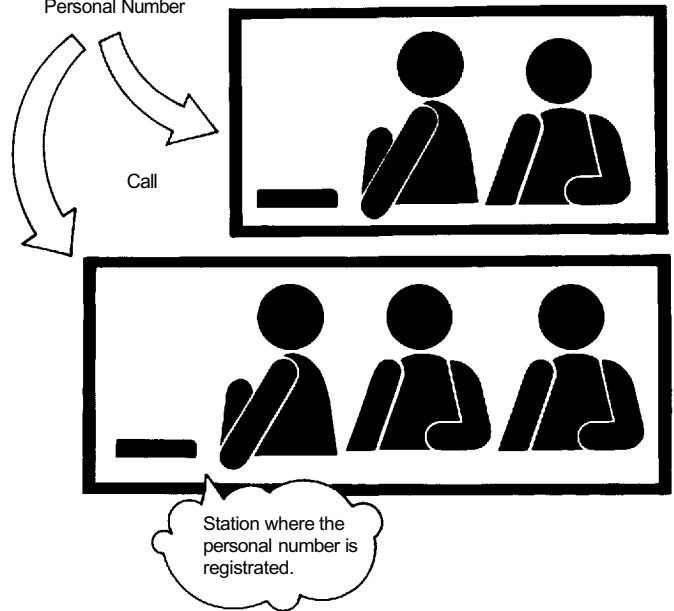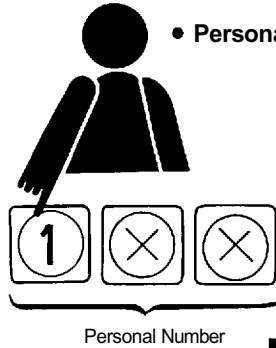
● **Cancellation (At any station)**
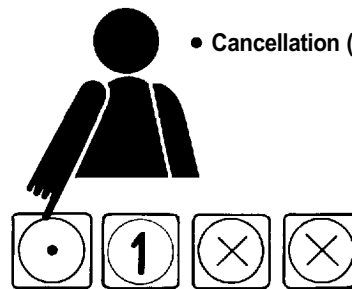
## 12) Master/Sub relationship

Master/substation associations are set up by using station No.24 as the programming station. Once these relationships have been established, substations can then contact their designated master stations by simply touch-dialing

□

If handset substation is used, substations can be connected to their designated master stations by simply picking up a handset.

Substations can initiate calls only to specific master stations. This is done by single touch-dialing, and will only connect the substation to one specific master.
Several substations can be connected with a single specific master station.

● Master Station

● Substation

Touch-dial to
call master station

Handset substation
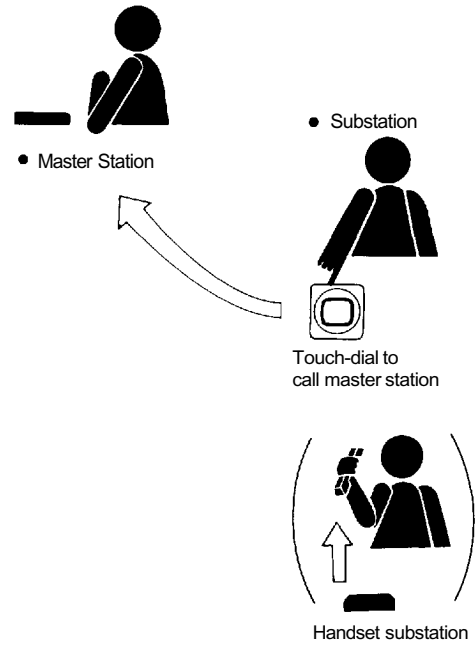
## 13) Highest Executive Priority

This function is available for those stations specifically programmed for this function at station No.24. When the called party is busy, dial $9$ $9$ . Depressing the first $9$ key sends a Hurry-up tone for 1 second. Depress another $9$ key while the hurry-up tone is being sounded, and the call is put through, terminating the original conversation.

When the called station is busy, this function allows forced interruption for priority conversation.

Original Conversation

Busy Tone

Priority    Priority Call

Conversation Over
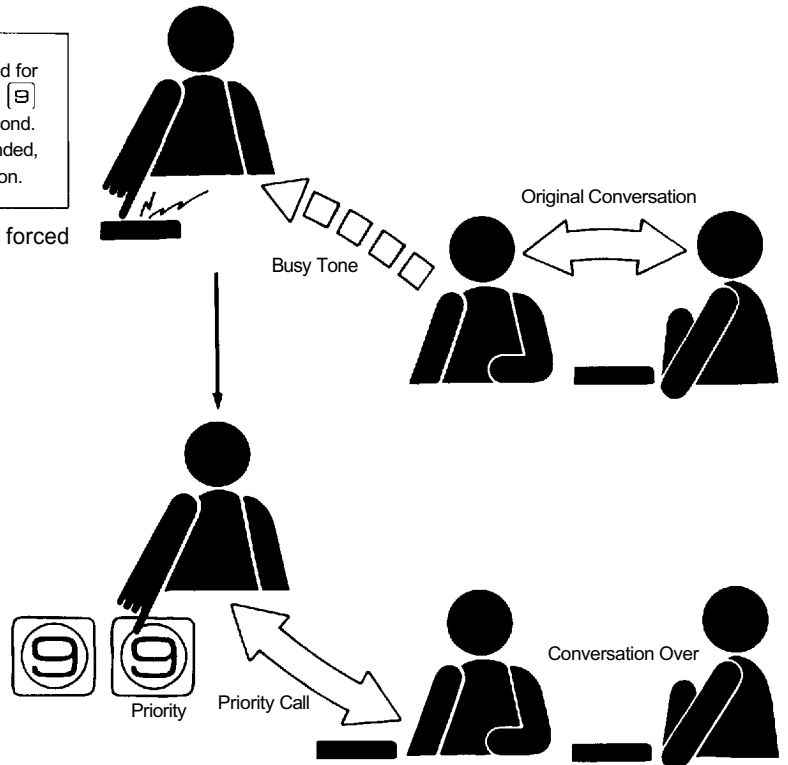
## 14) Secretary Transfer

This function is only available when a specified station is programmed for this purpose with use of Station No.24 in the programming mode. Automatic transfer of incoming calls from an executive to his secretary is accomplished by placing the Privacy switch on his station in the ON position.

> This position allows a secretary to accept all incoming calls placed to an executive. In this condition, no Privacy tone is sounded in the executive's station even when there is an incoming call.

For the executive to accept calls directed to his station, he simply moves the privacy switch to the left, or OFF position.

> It is also possible for the executive to accept calls at his station.

There is no limit to the number of Executive/Secretary pairings. A plural of executives may be programmed into one same secretary's station.

When a secretary who is already programmed for this function wishes another secretary to accept all incoming calls directed to an executive, station No.24 programming of another secretary should be set up in the exchange. Then, the calls can be rerouted to another secretary if the executive and the secretary first registered place their Privacy switches in the ON position.

Adoption of "Transfer" allows rerouting of the call transferred to the secretary back to the executive's station.

> When a secretary answering the call dials
>
> ☒☒
>
> Executive's station number
>
> the privacy tone sounds for five seconds in both the executive's and secretary's stations, while placing a caller on hold. If the executive shifts the privacy switch to the left position, or depresses any key (☐ ~ ☐, ☐, ●, ☐), or picks up a handset, he can talk with the secretary. If the call held is to then be transferred back to the executive's station, the secretary is to touch-dial ☐ or to hang up a handset, and the original calling station will be connected to the executive's station.
>
> To restore the original conversation between the secretary and the calling station, the secretary dials ●● or the executive depresses ☐ or ●● or replaces his station handset.



Secretary dials ☐ or ☒☒ (Executive)
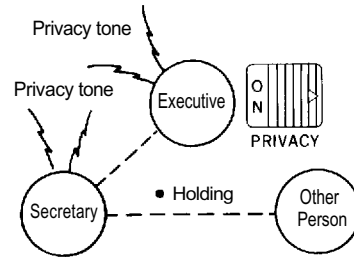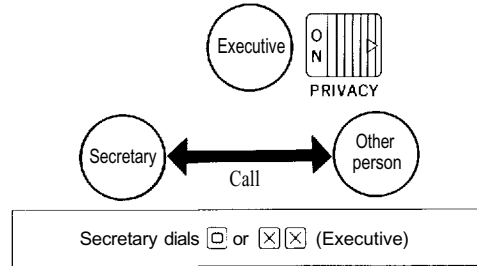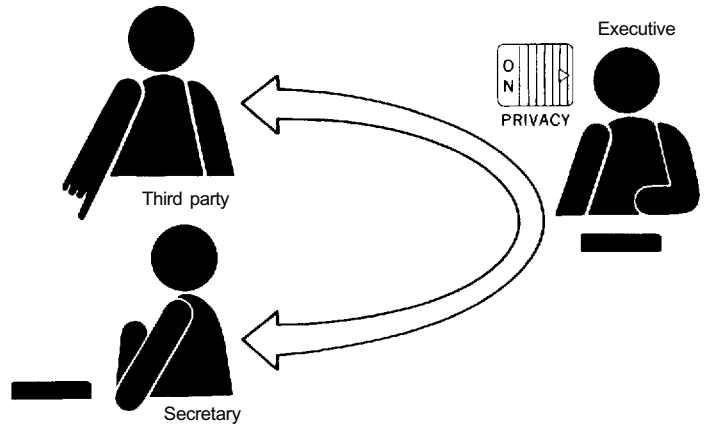
Executive PRIVACY or depresses any of the keys ☐ ~ ☐, ☐, ●, ☐ or picks up a handset
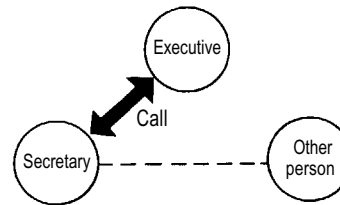
● Call Transfer

Secretary dials ☐ or hangs up a handset

● Call Back

Secretary dials ●●
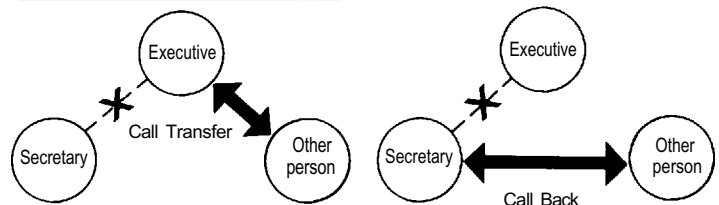
# 15) Continuous Calling Tone

Station No. 24 programming must be established to allow specific stations to be called by a continuous calling tone.



Continuous calling tone

Continuous calling call

Continuous calling tone

---

When the station registered for this function receives calls, a calling tone continues till the called party depresses

$\boxed{1}$ ~ $\boxed{9}$ 、 $\boxed{0}$ 、 $\boxed{\cdot}$ or $\boxed{C}$

(except $\boxed{\text{PTT}}$ key)

---

1. When calls cannot be answered immediately or when it is difficult to hear a normal calling tone due to high background noise, the station should be provided with the continuous calling tone function.

2. When the caller depresses the $\boxed{\text{PTT}}$ bar while the continuous calling tone sounds, he can make a one-way voice call to the called person. When the $\boxed{\text{PTT}}$ bar is released, the continuous calling tone returns.

Conversation

(Any key other than $\boxed{\text{PTT}}$ )

## <Comparison of calling tones>
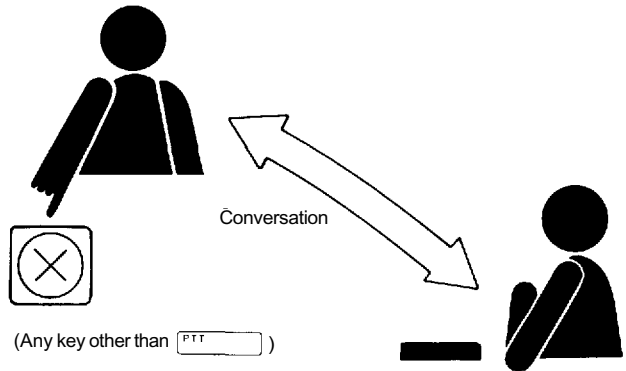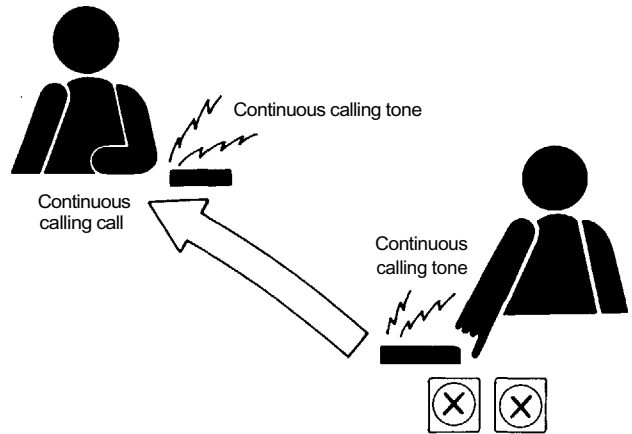
| Type of stations (Specific station provided with "Continuous calling tone" function by station No. 24 programming) | Nature of calling tone | |
|---|---|---|
| | Privacy switch in OFF position | Privacy switch in ON position |
| Non-programmed station (standard) | Single "trill" calling tone (Call is put through immediately after calling tone) | Privacy tone |
| Programmed station | Continuous calling tone | Privacy tone |
| Station registered as handset station | Single "trill" calling tone (Call is put through immediately after calling tone) | Continuous calling tone |
| Responding to a call made by continuous calling tone | Depress any dial key other than $\boxed{\text{PTT}}$ key. | 1. Depress any dial key other than $\boxed{\text{PTT}}$ key. 2. Pick up a handset. 3. Shift Privacy switch to OFF. |

# 16) Station paging

At the time of system installation, station No.24 programming has to be established for programming specific stations as operating station for station paging or emergency all-call paging. It is also necessary to group stations for each individual paging zone.

A variety of station paging modes allows paging over a wide area from any station. (It is possible to limit paging stations to specific stations.) Station paging modes include
1. all-call paging, individual zone paging and selected station paging, all of which are for calling desired station groups, and
2. emergency all-call paging given the highest priority and for calling over the entire area.

1. All-call paging, individual zone paging and selected station paging

## (1) All-call paging and individual zone paging

Dial
⌐8⌐ ⌐×⌐ (0 through 3. 0: All-call. 1 through 3: Zone number) from the paging operation station, and the desired station group can be paged. To wait for a response after terminating paging, depress ⌐C⌐ or replace a station handset. When it is desirable to wait for the response without terminating paging, dial ⌐7⌐ (Mic off) while waiting.
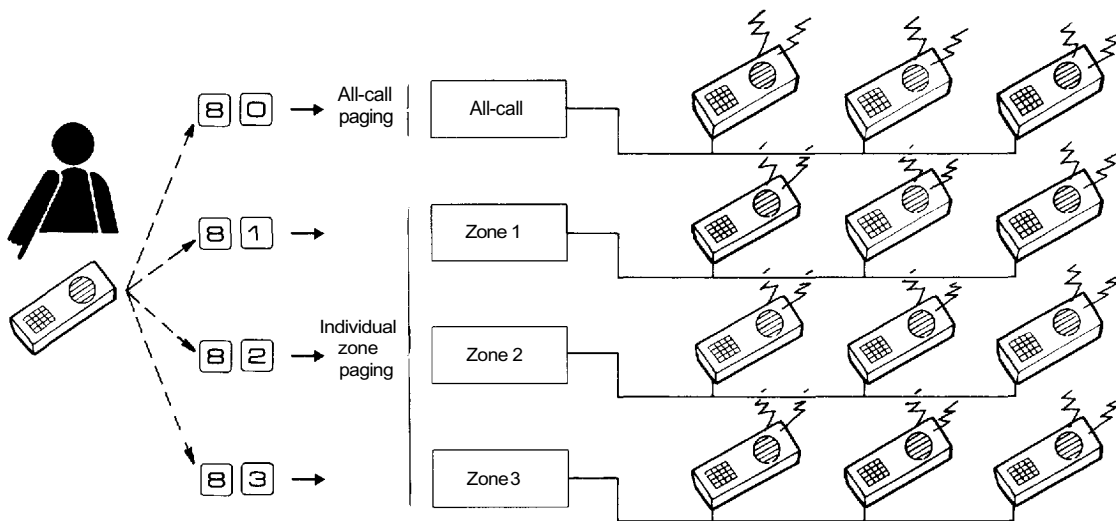


Group paging assignment

| Station No. | All-call | Zone 1 | Zone 2 | Zone3 |
|---|---|---|---|---|
| 20 | ○ | ○ | × | ○ |
| 21 | ○ | × | ○ | ○ |
| 22 | × | ○ | ○ | × |
| 23 | ○ | ○ | × | × |
| 48 | ○ | × | ○ | × |
| 49 | ○ | × | × | ○ |
| 50 | ○ | × | × | ○ |
| 51 | ○ | ○ | × | ○ |

## (2) Selected station paging call

```
Dial
     8 4 X X · · · · · X X  PTT
          └─────┬─────┘
          station numbers
and all the selected station can be paged.
```
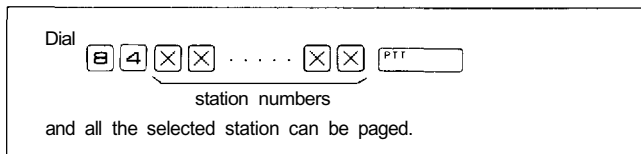
This function is convenient when it is desirable to page only specified stations. (In the case of normal station paging, all the stations of the paged zone are called.)

**Note.**
1) All-call paging takes precedence of individual zone paging that is equal to selected station paging in priority. When there is all-call paging during zone or selected station paging, zone or selected station paging is terminated.
2) When the station in the busy mode is paged, the conversation is interrupted to allow the paging call to go through. In this event, a holding tone is transmitted to the conversation partner of the paged party if that partner's station is not within the same station group of the paged party. The original conversation is restored immediately after the paging call is finished.
3) Dialing is even possible from the station that is being paged through station paging. This, however, terminates the paging call.
4) When the station that is being paged through station paging is called, a busy tone is heard from the calling station.



Selected station paging

```
8 4   2 3   3 5   4 8   PTT
Station No. Station No. Station No.
```

## (3) Paging response
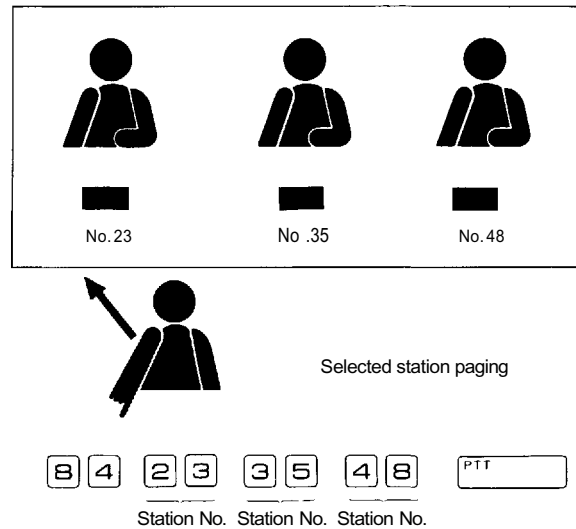
The paged party can respond to the page by dialing from the nearest station  9 0  (All-call paging response),  9 X  (1 through 3. Zone paging response) or  9 4  (Selected station paging response).
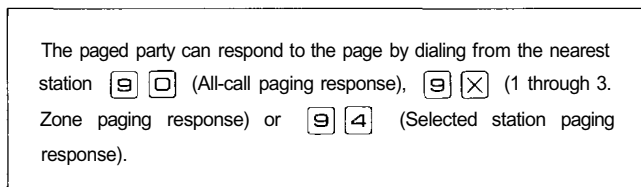
**Note.**
Those paged during conversation and wishing to quickly answer from the interrupted station should depress  C  or replace a handset before dialing for response.

## 2. Emergency all-call paging

Dialing  • 8  from the specific station programmed for this function places a highest-priority paging call that covers all paging zones. Depress  7  (Mic off) and wait if the response is required. By dialing  • 9  from the nearest station, the paged party can make the response.
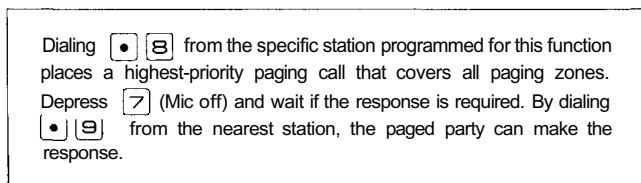
**Note.**
1) Making the emergency all-call paging terminates all other paging calls or conversation.
2) It is impossible to terminate the emergency all-call paging while waiting for the response. The paging party has to wait for the response without terminating it.
3) Even during the emergincy all-call paging, the following functions may be operated from the station so long as it is not the station which initiated the emergency all-call paging.
   A) Response to the emergency all-call paging
   B) Selection of desired BGM program
   C) Door remote control
   D) General purpose control

## 17) BGM

This function requires No. 24 programming at the time of system installation.

A maximum of 3 BGM channels is available to each station when external BGM equipment are connected to the system.

Depress 7 X (channels No. 1 through No. 3), and selected BGM is provided from each station. To cut BGM, dial 7 0 .

**Note.**
1) It is possible to make or receive a call even while the station is used for BGM. In this event, BGM is automatically disconnected.
2) Disconnected BGM is restored as soon as paging or call is finished.
3) BGM channel may be selected regardless of whether all the links are occupied.

BGM equipment 1

BGM equipment 2

BGM equipment 3
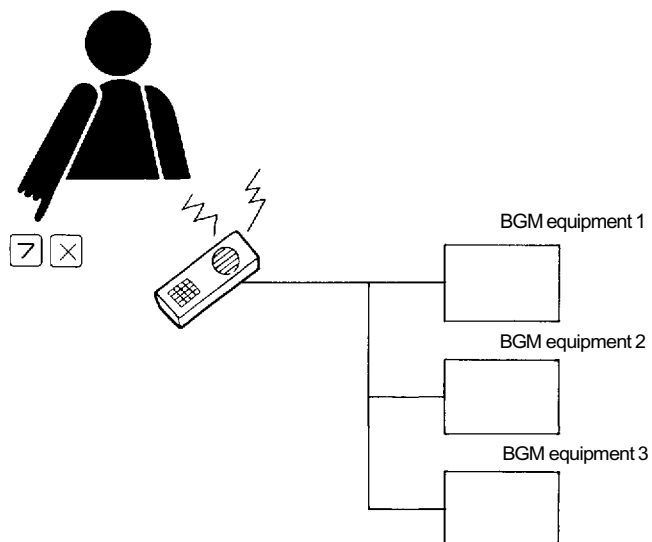
## 18) Alarm and time information

Station No.24 programming has to be set up to register specific stations for this function. When there is an alarm or time information signal input in the exchange, an alarm or time information signal is distributed from each such specific station, overriding all other functions in operation including BGM service. After the signal has been sent out, the BGM service is resumed.

**Note.**
1) It is impossible to make or receive a call while this function is being operated.
2) Use the external equipment for the activation input or each signal.

# 19) Pocket pagers

It is possible to call a pager receiver from the station.
(1) If the receiver number and station number are identical.

> When there is no response from the called party, dial $\boxed{8}$ (confirmation tone) and the called party's receiver may be called.

**Note.**
 1) This dial operation may be used only when the station number was first called.
 2) It is impossible to call the pager when the call is made during conference, mic off or call transfer operation.

(2) If the receiver number and station number are not identical.
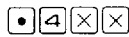
> To call, depress
>
> $\boxed{\bullet}\ \boxed{7}\ \boxed{\times}\ \boxed{\times}$    (confirmation tone)
>
> (00-99: receiver number)

This dial operation is employed to call the receivers No.0 to No.19 or No.52 to No.99 or when the receiver number is not equal to the station number. Note that this dial operation is impossible from the station in use for conversation.

The station which called the receiver waits for the response being disconnected from the speech path after the confirmation tone is heard. It can receive a call from the other station while waiting.

> Dialing
>
> $\boxed{\bullet}\ \boxed{4}\ \boxed{\times}\ \boxed{\times}$
>
> (called party's receiver number 00 through 99)
> from any master station enables the called party to respond to the call.

Pager transmitter

$\boxed{\times}\ \boxed{\times}\ \boxed{8}$
$\boxed{\bullet}\ \boxed{7}\ \boxed{\times}\ \boxed{\times}$
Pager call

Pager receiving call

Response call

$\boxed{\bullet}\ \boxed{4}\ \boxed{\times}\ \boxed{\times}$
Response
(From the nearest station)

**Note.**
 1) Since there are 4 pager calling lines, 4 receivers can be called at the same time. The called person is to answer within 1 minute after the call has been received, or the call is disconnected from the pager calling line.
 2) When there is no idle pager calling line or the called receiver is busy, a busy tone sounds 3 times in the caller's station and the call is terminated.
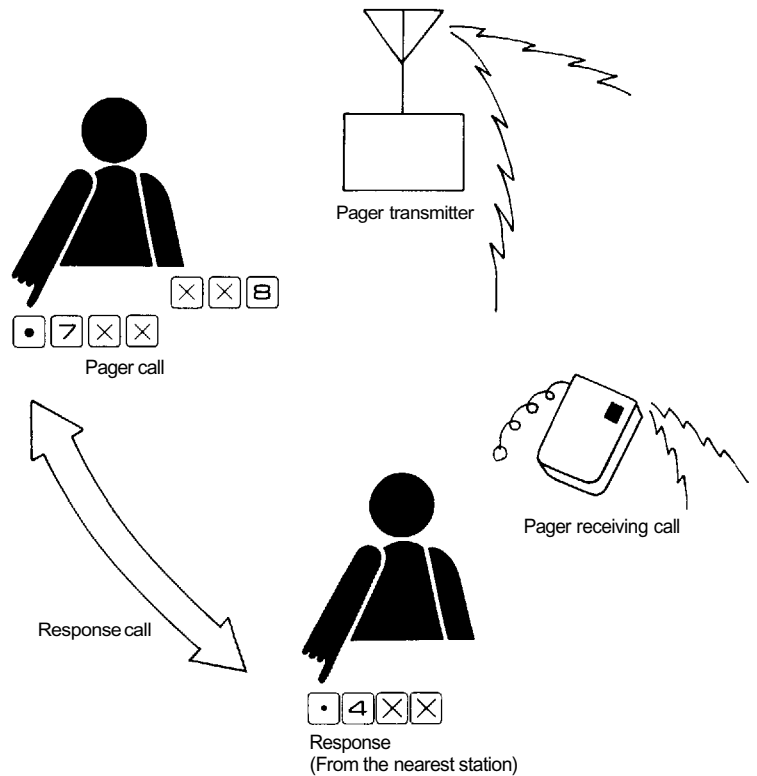
## 20) Door Remote Control

Door-lock release can be controlled from stations registered for this function with use of No.24 station as Programming station.

Dial [5][2] and the one-shot make relay output of zone 1 output is generated for approx. 3 seconds.
Dial [5][3] and the make relay output of zone 2 is generated for approx. 3 seconds.

**Note.**
1) It is also passible to remotely control the door-lock release from the busy station or even when all the links are busy.
2) Stations registered for this function may also be used for operating "General purpose control".

Example



---
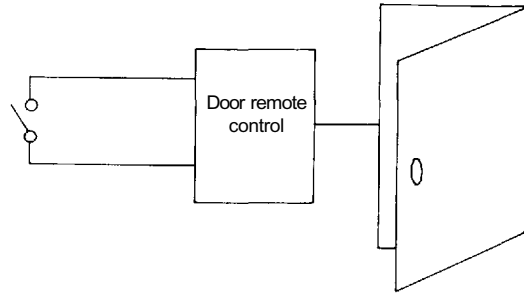
## 21) Press-to-talk control

Call station No. 27.
One way conversation is activated while the press-to-talk bar is continuously depressed, same as the press-to-talk (selected simple) function, and a relay is activated with continuous make-contact.
One way conversation is reversed when the press-to-talk bar is released, and the relay is activated with break-contact.

**Note.**
It is possible to use a relay make output for door-lock release control or for controlling Radio transmitting/receiving through interface.



PTT

One way conversation
Pushing key
Release
One way conversation

control

No. 27
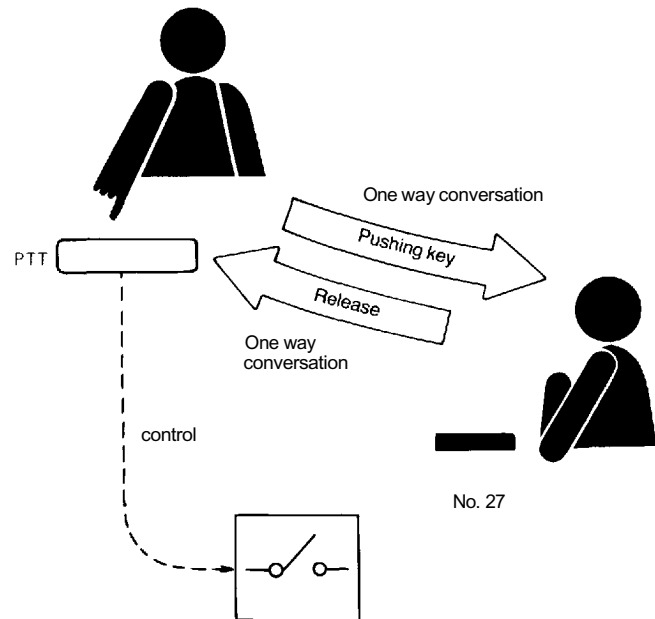
## 22) PA paging

At the time of system installation, No.24 programming has to be established to allow this function. (External PA paging cannot be used together with General purpose control.)

1. With this function in use, it is possible to place paging over the desired zone through stations and external PA speakers.

2. PA paging includes
   (1) Individual zone paging
   (2) all-call paging, and
   (3) emergency all-call paging.
   Although the selected station paging function is included in station paging, PA paging does not have it. (Refer to the section "Station paging" for operations.

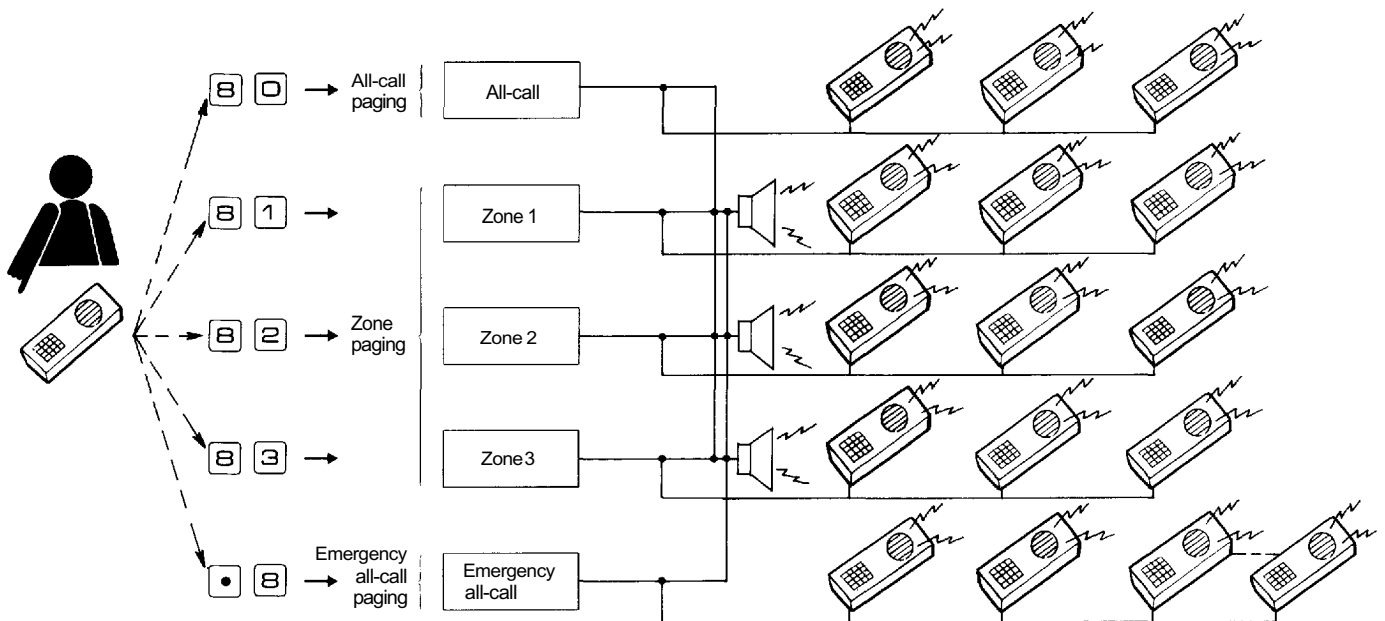3. It is possible to use only external PA speakers to make individual zone paging or all-call paging. In this event, no station conversation is interrupted. (Registered station group assignment has to be cancelled by using No.24 programming.)



## 23) Simplified Paging

If an external speaker is connected instead of a station, and the caller dials that station number to page, simplified paging can be made without the PA amplifier.

Dial
[8][4][×][×] (station No.) and page with [PTT]
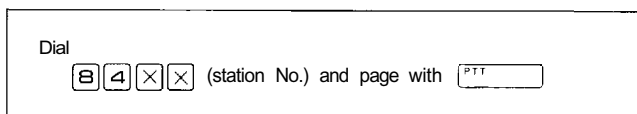
**Note.**
That Simplified Paging is accomplished by using the selective paging function. Refer to the section "Selective Paging" for details.



Simplified paging

External speaker connected to the line for station (No. 23)

[8][4][2][3] [PTT]
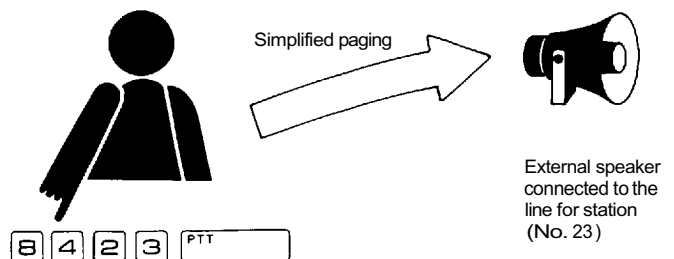
## 24) General purpose control

At the time of system installation, No.24 programming must have been set up to allow this function. (It is impossible to use both PA paging and general purpose control in the same system.) Also, specific station have to be registered for door remote/general purpose control.

External equipment can be controlled with 3 relays.

| | | | |
|---|---|---|---|
| 1. Dialing | 5 4 | makers a relay (A) contact continuously. |
| 2. Dialing | 5 5 | breaks a relay (A) contact |
| 3. Dialing | 5 6 | makers a relay (B) contact continuously. |
| 4. Dialing | 5 7 | breaks a relay (B) contact |
| 5. Dialing | 5 8 | makers a relay (C) contact continuously. |
| 6. Dialing | 5 9 | breaks a relay (C) contact |

**Note.**
1) This function may be operated even when all the speech links are occupied.
2) It is also possible to operate Door Remote Control from the station registered to operate General Purpose Control.

---

## 25) Speech message

No.24 programming has to be set up for registering this function.

With the speech message function in use, the message can be recorded for 32 seconds. There are a file for recording the called party's message ("response" message) distributed to the caller automatically, and another file used by the caller for recording his message after listening to the response message. The called party records his response message using the speech message function and sets the Privacy switch to ON before being away from his assigned station. This permits the recorded message to be automatically given to the party who made a call. The caller, if necessary, records his own message, which the called party can hear by shifting the Privacy switch back to OFF after coming back to his station.

**1. Recording the response message.**

By dialing [•] [2] from the station registered for this function the response message can be recorded for a certain period of time. Depress [•] [3] to monitor the recorded message. Placing the Privacy switch in the ON position automatically sends the message to the calling party.

**Note.**
Recording of the response message is finished when a brief single tone is heard. Depressing [C] or replacing a handset before the brief tone sounds will erase all the previous messages.

<Recording>

Speech message file

• 2

<Playback>

Speech message file

• 3

Speech message file

X X
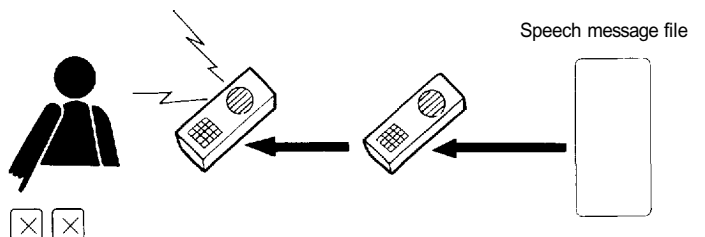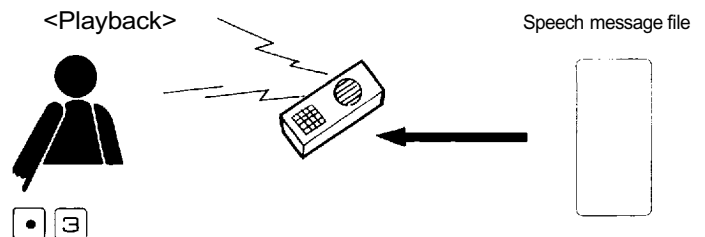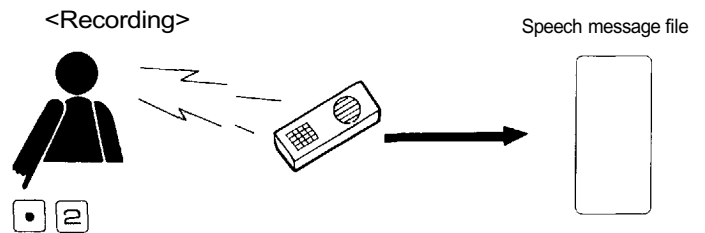
## 2. Recording the caller's message.

When the caller hears the response message, he dials ⊡ ②
after the message is over. This affords him an 8-second
recording duration. The recorded message can be checked by
depressing ⊡ ③ . If the recorded message must be
changed, repeat the procedure from the beginning after erasing
the previously recorded message by depressing ⊡ ⑥
(confirmation tone is sounded).

**Note.**
1) When, during conference, mic off or call transfer operation,
   the caller holds his conversation partner and calls the station
   registered for the speech message function, the original
   conversation is automatically resumed as soon as the
   response message is provided to the caller.
2) When a brief single tone is heard immediately after dialing
   ⊡ ②, this means no file is left over for recording the
   caller's message. Depress Ⓒ or hang up a handset.
3) When, during recording of the caller's message, the
   recording is interrupted by paging, etc., repeat the proce-
   dure from the beginning after depressing ⊡ ⑥ .
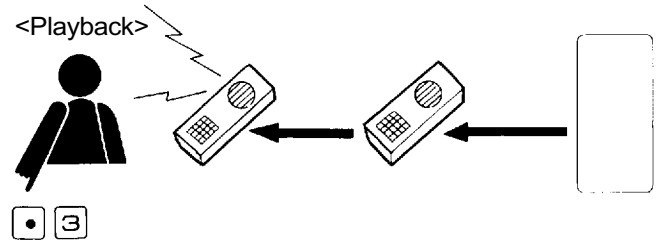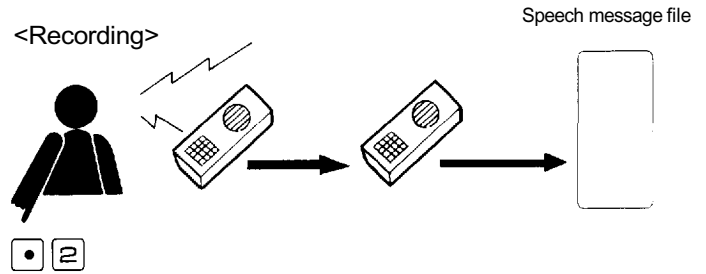
## 3. Playing back the recorded caller's message.

To play back the recorded messages from the parties who
made calls, set the Privacy switch to OFF. Depressing the
PTT key allows the called party to hear the message again.
By dialing ⊡ ⑥ all the messages can be erased.

**Note.**
1) A brief tone sounds every one minute in the station at which
   the message from the caller has been recorded. (Set the
   Privacy switch to OFF to stop it.)
2) Once the Privacy switch has been shifted from ON to OFF,
   the recorded response message is erased.
3) Shifting the Privacy switch back to OFF sometimes causes
   the busy tone to sound. This indicates that the caller is in the
   process of either listening to the recorded response mes-
   sage or recording his message in the called station. In this
   event, just wait, and the call can be connected as soon as
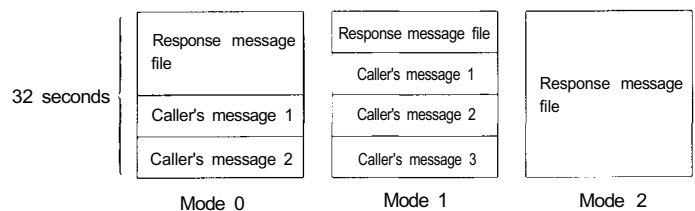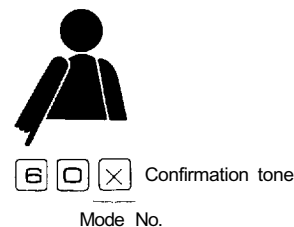   the caller finishes the recording or listening.
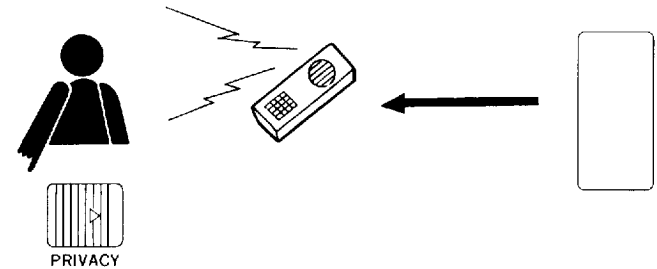
## 4. Registering the mode.

Three different modes are available in selection for receding the
response message. Recording time for the caller's message is 8
seconds (fixed) per message.

Desired mode can be registered by dialing ⑥⓪✕
(mode No.0 through No.2) (confirmation tone)

    Mode No.0 ........................ 16 seconds for response message.
                                    2×8 seconds for caller's message.
    Mode No.1 .......................... 8 seconds for response message.
                                    3×8 seconds for caller's mes-
                                    sage.
    Mode No.2 ........................ 32 seconds for response message.

Note that the speech message function is preset to mode No.0
when the system is shipped from the factory.



Speech message file

&lt;Recording&gt;

⊡ ②

&lt;Playback&gt;

⊡ ③

PRIVACY

⑥ ⓪ ✕  Confirmation tone

Mode No.

| 32 seconds | Response message file | Response message file | Response message file |
|---|---|---|---|
| | | Caller's message 1 | |
| | Caller's message 1 | Caller's message 2 | |
| | Caller's message 2 | Caller's message 3 | |
| | Mode 0 | Mode 1 | Mode 2 |

## 26) Tie-line

At the time of system installation, No.24 programming must be established.

Dial ② ⑤ or ② ⑥ (number preprogrammed to identify the other exchange), and the exchange of the desired station is called. By further depressing ✕ ✕ (station number) the call can be put through to the desired station.

Exchange A   Exchange B   Calling tone

②⑤
or
②⑥

✕✕
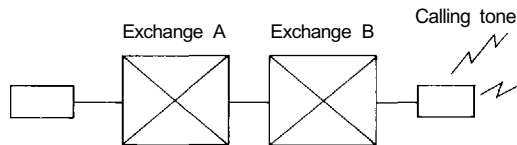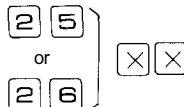
## 27) Points to remember

1) When, in dialing, all of the numbers are not dialed within 5 seconds, the station is automatically disconnected from the speech path. In this instance, the dialing process will have to be repeated from the beginning. (This function is employed to improve the availability of speech paths.)

2) Dialing while all the links (2 links) are busy causes a warning tone to be sounded, indicating that neither normal calls nor paging can be placed. Note that the following functions can be operated even when the system is in the link-busy mode (no warning tone sounds).

1. BGM selection
2. Door remote control
3. General purpose control
4. Emergency all-call paging
5. Response to the paging party waiting for the response without temporarily disconnecting his station from the speech path.

3) In the event that an error has been made when dialing for transfer or conference at the start or during conversation, dial ●. This will restore the condition before the error was made, allowing the caller to make a correction without interrupting the call.

4) To terminate conversation, dial Ⓒ or replace a station handset.

**TOA**