EXES 2000
INTERCOM SYSTEM

For _____
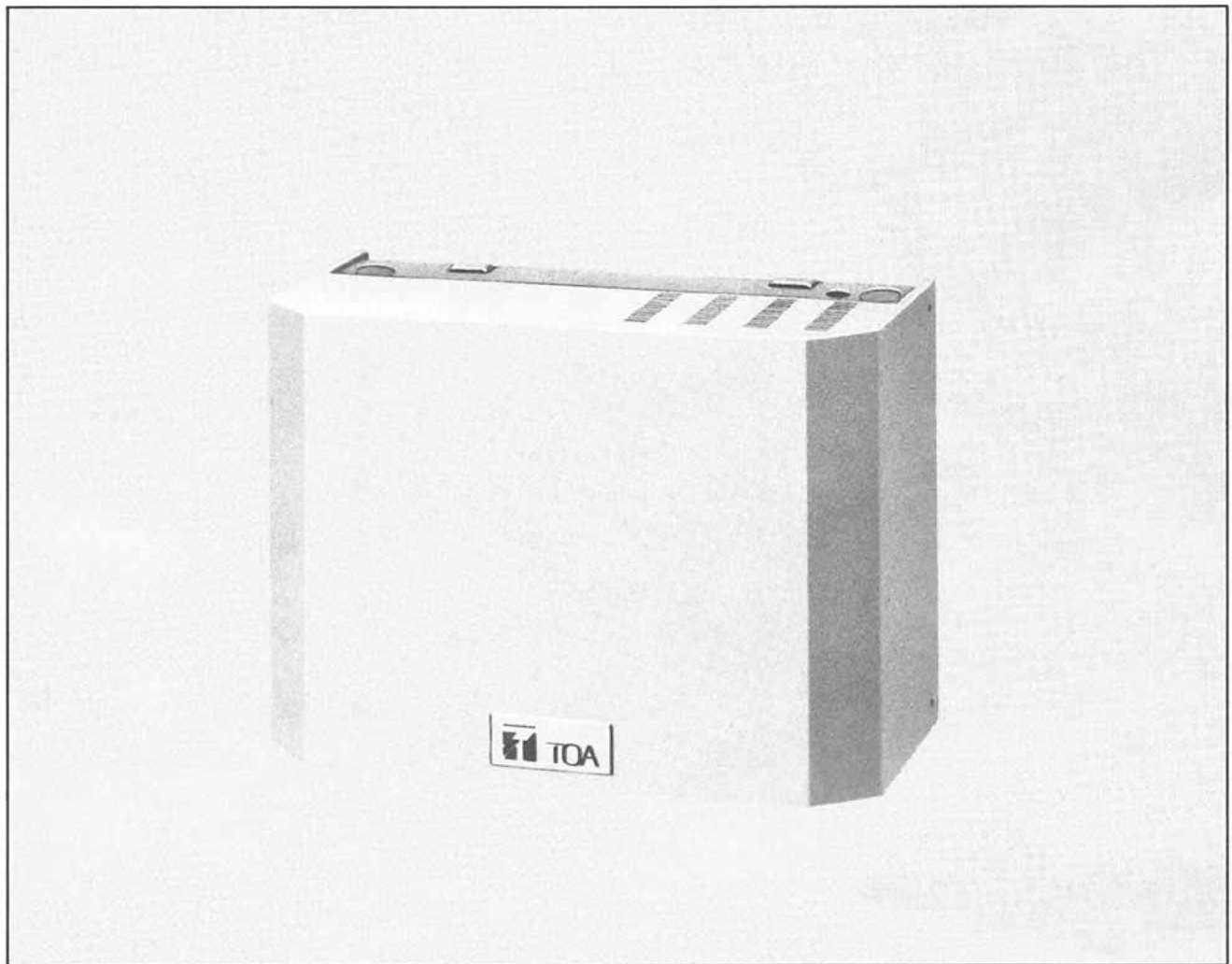
EXES-2000 INTERCOM SYSTEM

Fully Electronic Exchange

EX-200

INSTALLATION HAND BOOK

TOA Corporation
KOBE, JAPAN

This hand book forms part of installation manual for TOA EXES-2000 intercom system. Various functions and external equipment other than normal speech may be employed in the TOA EXES-2000 intercom system according to changing users' needs. To make such additional functions available, however, functions and equipment that satisfy customers' needs have to be properly selected after installing, wiring and connecting the equipment. In installing the system, read this hand book as well as Functions and Operating Instructions for EXES-2000 stations. For installation and adjustment of each station, refer to the operating manual attached to each station.

Contents

══ Part 1. Outlines of EXES-2000 system and related equipment ══

1. Description and features

The Toa EXES-2000 is a fully electronic intercom system, and has the following features:
- Wall mounted exchange.
- Easy system expansion and addition of functions thanks to the modular concept employed in the design of the exchange.
- Economical non-polar 2-wire system to connect between the exchange and each station.
- A great variety of stations to choose from.

2. Examples of system configuration

Notes

(1) The basic EX-200 exchange consists of one (1) central control unit and 2 line modem units. ⌞⌟ shows "option" or additional LM units used according to the user's requirements.

(2) When shown as ⟨A⟩↔⟨B⟩ A or B can be selected.

(3) ⊐⊏⊐⊏ shows Toa standard cable,
⟶╫⟶ shows one-pair cable.
⟶╫╫⟶ shows two-pair cable.
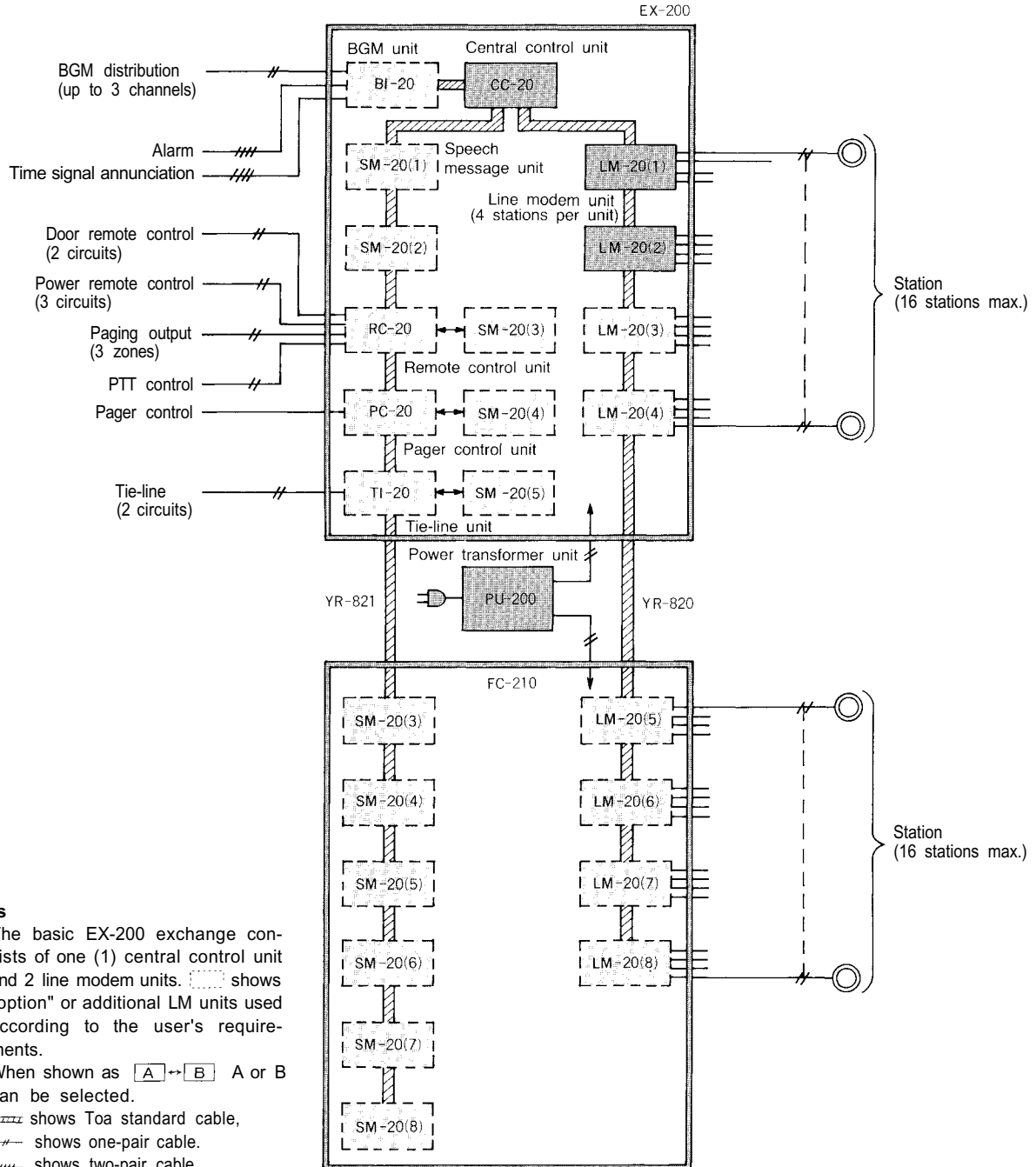
Central control unit CC-20:

This unit is comprised of a CPU that processes the exchange procedures, a speech link consisting of a voice switch circuit and a signal tone generating circuit, and a power circuit.

Line modem unit LM-20:

This unit is comprised of a circuit for sending out signals from the station to the speech path, a circuit to transmit signals from the speech link to the station, a receiver and a scanning circuit for dial data, and a terminal block. Wires from the station are connected directly to the terminal block on the LM unit. A maximum of 4 stations can be connected per LM unit, and up to 4 LM units can be mounted in the EX-200 and FC-210.

BGM unit BI-20:

This unit is comprised of a circuit to send out signals from BGM equipment, and alarm or time signals to the LM unit, a circuit that transmits control signals from the alarm or timer to the CPU, and a terminal block. The BI unit is mounted in the exchange from the bay solely intended for this unit.

Remote control unit RC-20:

This unit is formed from relays for door remote control, power remote control and PTT control, a circuit to activate these relays, and a terminal block. It is possible to use any bay for "option" unit to mount the RC-20 in the exchange.

Pager control unit PC20:

This unit has the control output to remotely operate the TR-321 or TR-322 pager controller as well as the serial data output that complies with ESPA standards. The PC-20 may be mounted in the exchange from any bay for "option" unit.

Speech message unit SM-20:

This unit includes a circuit to convert audio signals into digital signals, a memory storing the converted signals, and a circuit that converts digital signals into audio signals. A single SM unit has a memory covering 4 stations, and a control circuit. A maximum of 5 SM units can be mounted in the EX-200 exchange (in this event, no room is left for mounting the RC unit, PC unit and TI unit in the exchange), and up to 6 in the FC-210 cabinet. However, an entire system can only accept up to 8 of the SM-20 unit.

Tie-line unit TI-20:

This unit is comprised of DTMF transmitting and receiving circuits for exchanging dial data with the other exchange, and a circuit for transmitting voice signals.

Power transformer unit PU-200:

This unit supplies power to the EX-200 and the FC-210. Power output is 20V AC, 2.5 amperes for both exchanges.

Extension cabinet FC-210:

This unit is employed when a system has more than 16 stations or a number of "option" units are used. A maximum of 4 LM-20's and 6 "option" units can be mounted in the FC-210. Note that the YR-820 and YR-821 cables are necessary for adding the LM-20 and the "option" unit, respectively.

– 3 –

3. Installing and adjusting procedures

Follow the procedures below to install and adjust the EXES-2000 system:

```
          ┌─────────────────────────────────────┐
          │      Installation and adjustment      │
          └─────────────────────────────────────┘
                            │
          ┌─────────────────────────────────────┐
          │       Installation of equipment       │
          └─────────────────────────────────────┘
                            │
          ┌─────────────────────────────────────┐
          │          Cable installation           │
          └─────────────────────────────────────┘
                            │
          ┌─────────────────────────────────────┐
          │        Connection of equipment        │
          └─────────────────────────────────────┘
                            │
          ┌─────────────────────────────────────┐
          │ Selection of function by No. 24 programming │
          └─────────────────────────────────────┘
                            │
          ┌─────────────────────────────────────┐
          │       Speech and performance tests    │
          └─────────────────────────────────────┘
```
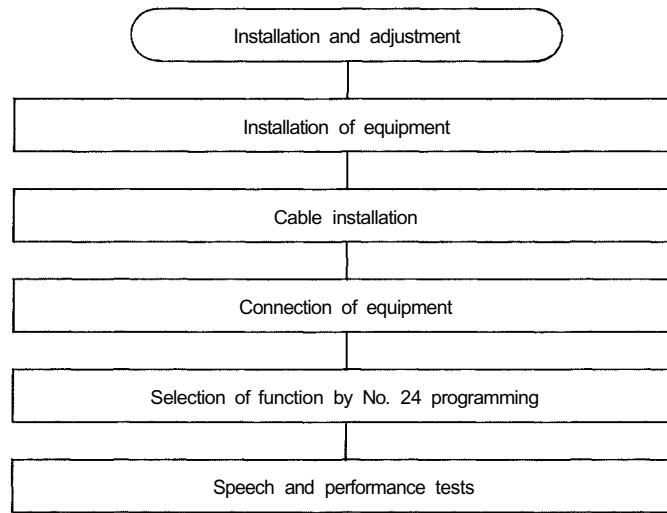
4. Installation of equipment

4-1 Selection of the place to install

Observe the following precautions in installing each equipment:
- Allow for weight exerted on the wall when mounting the exchange on it.
- Each equipment is to be so installed as to permit easy checkup and maintenance.
- When the PA paging or talk-back function is employed, keep the station and speaker as apart as possible from each other in order to avoid feedback.
- Do not install the exchange nor the station in the following locations:
  (A) Areas where unit is exposed to heat or sunlight.
  (B) Areas where metallic particles or dust are accumulated.
  (C) Areas close to chemicals or oil.
  (D) Areas of high moisture or near the window where unit may be splashed by rain water.
  (E) Areas close to high voltage equipment or where strong electric field exists.

4-2 Installation of the exchange

Follow the procedures below to install the EX-200 exchange:

① Unscrew 4 side screws to remove the top case.

② Fix the exchange on the wall using fixing holes provided on the bottom case.

30

Knock-out hole (for wiring)

230

25

160

65

370

Dimensions
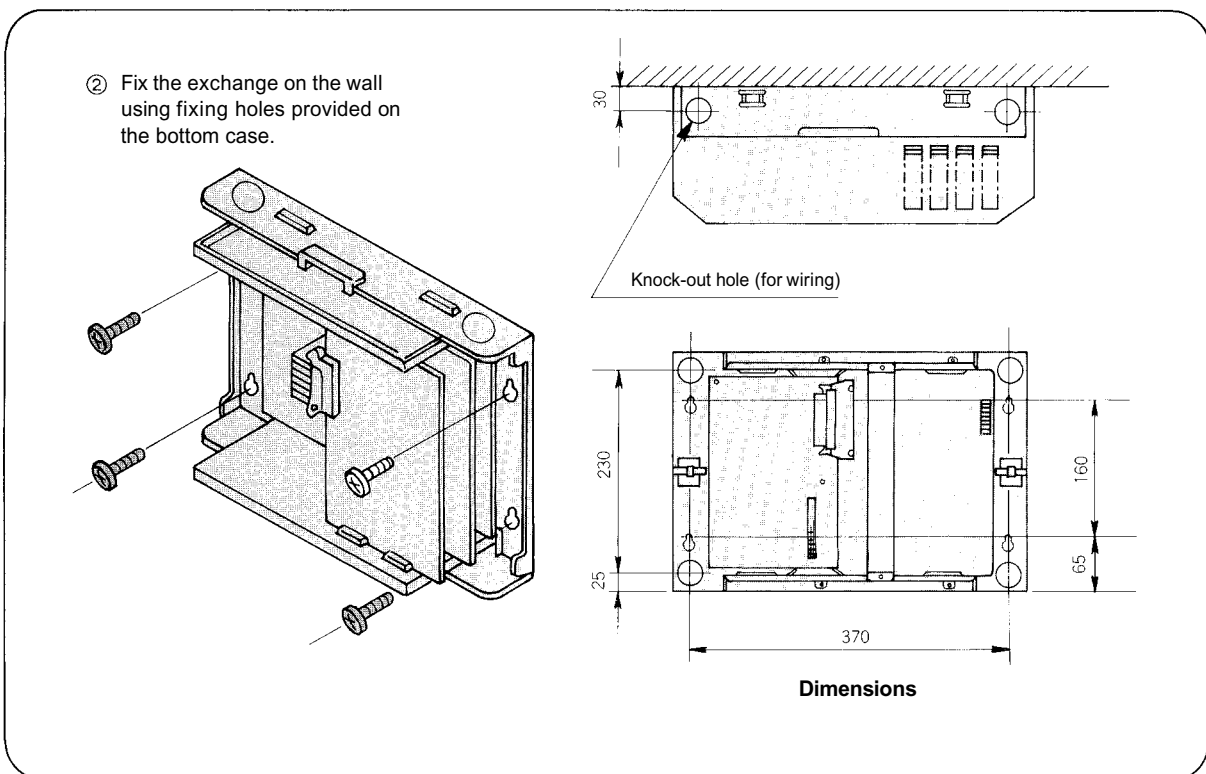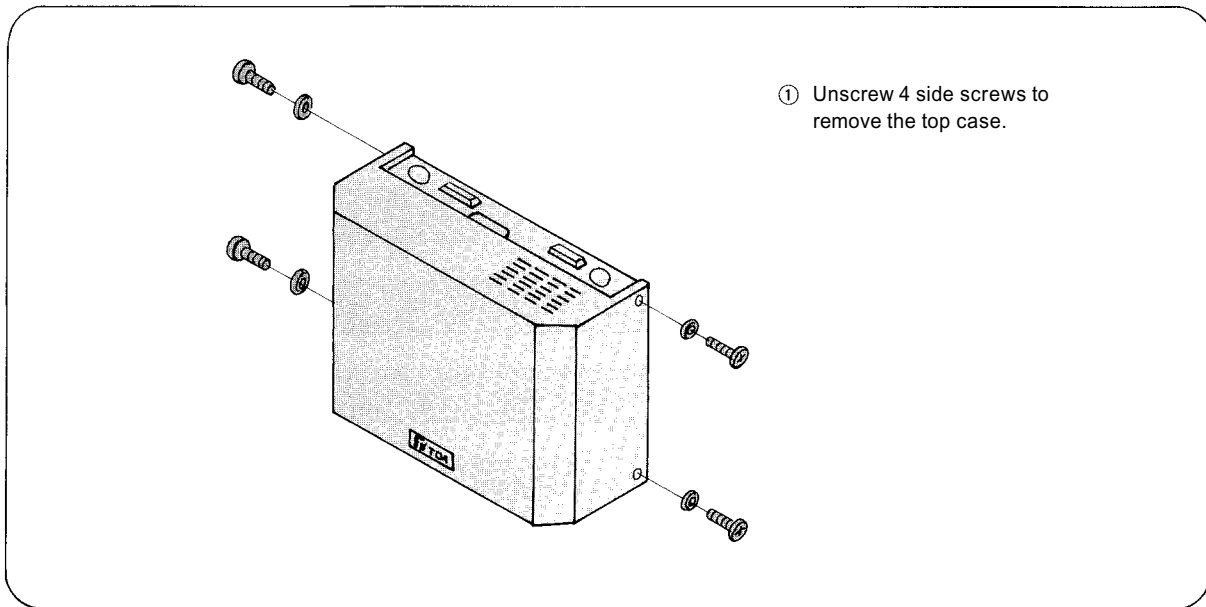
4-3 Installing FC-210 extension cabinet

• Follow the procedures below to install the FC-210 cabinet:

① Unscrew screws that hold the top case to a chassis at 4 places in the sides of a cabinet.

⬇

② Insert attached brackets (2 pieces) into bracket receptacles on the bottom case of the EX-200.

(EX-200)

Bracket
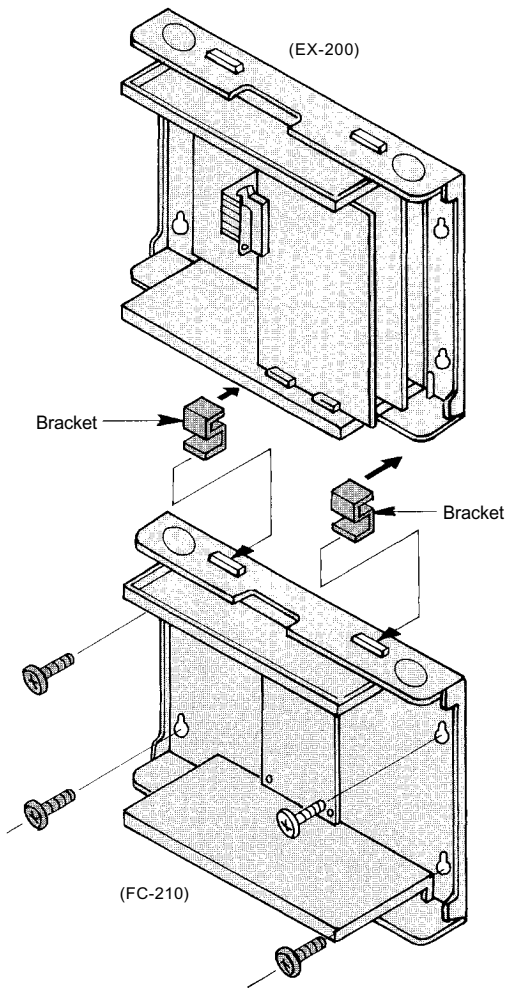
Bracket

(FC-210)

③ Fit bracket receptacles of the FC-210 into the brackets.

④ Fix the cabinet on the wall through fixing holes provided on its bottom case.

⑤ Connect the connector CN-5 on the CC-20 card mounted in the EX-200 to the connector CN-4 on the printed circuit board of the FC-210 using the attached GND connector.

⑥ Remove a rubber membrane of 2 bushings on the bottom case of the EX-200 and FC-210 to allow the cable entry.

30

200～300   200～300

Knock-out hole (for wiring)

(EX-200)

230

25

160

65

150

(FC-210)

160

370

Knock-out hole (for wiring)   **Dimensions**
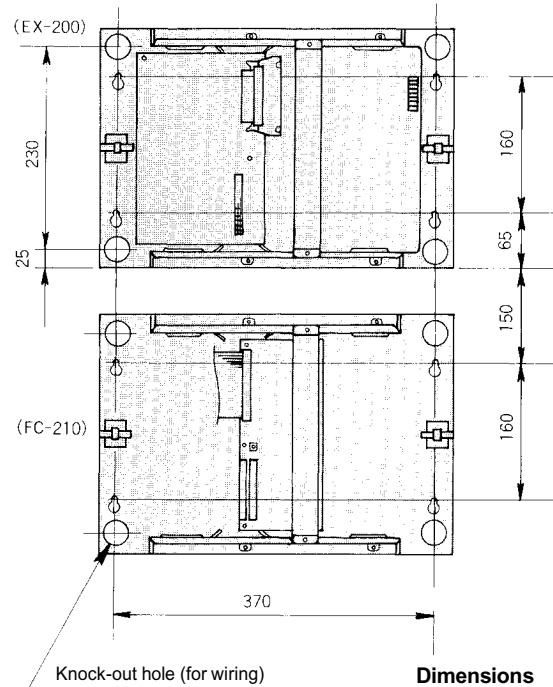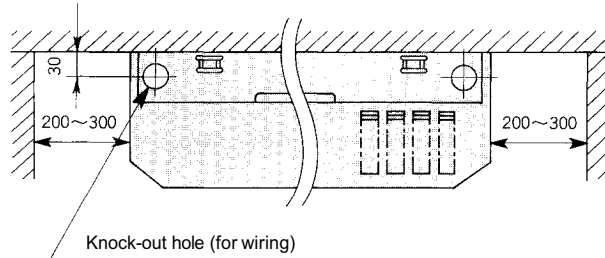
Note

(1) Since the YR-820 and YR-821 cables are to be used for connecting the FC-210 to the EX-200 exchange, there is a limit to spacing between the two units. You should allow for this limit and fix them according to dimensions shown at right when they are mounted on the wall.

(2) Allow for sufficient spacing for screwing and un-screwing the top cover when mounting on the wall.

— 6 —

4-4 Installation of PU-200 power supply unit

● Follow the procedures below to install the PU-200:

① Remove 4 case fixing screws and fit the attached wall mounting kit.

Case fixing screw

Wall mounting kit

② Fix on the wall. In the event that unit is mounted on the wall with wood screws, use the attached screws.

Dimensions

140

115

25
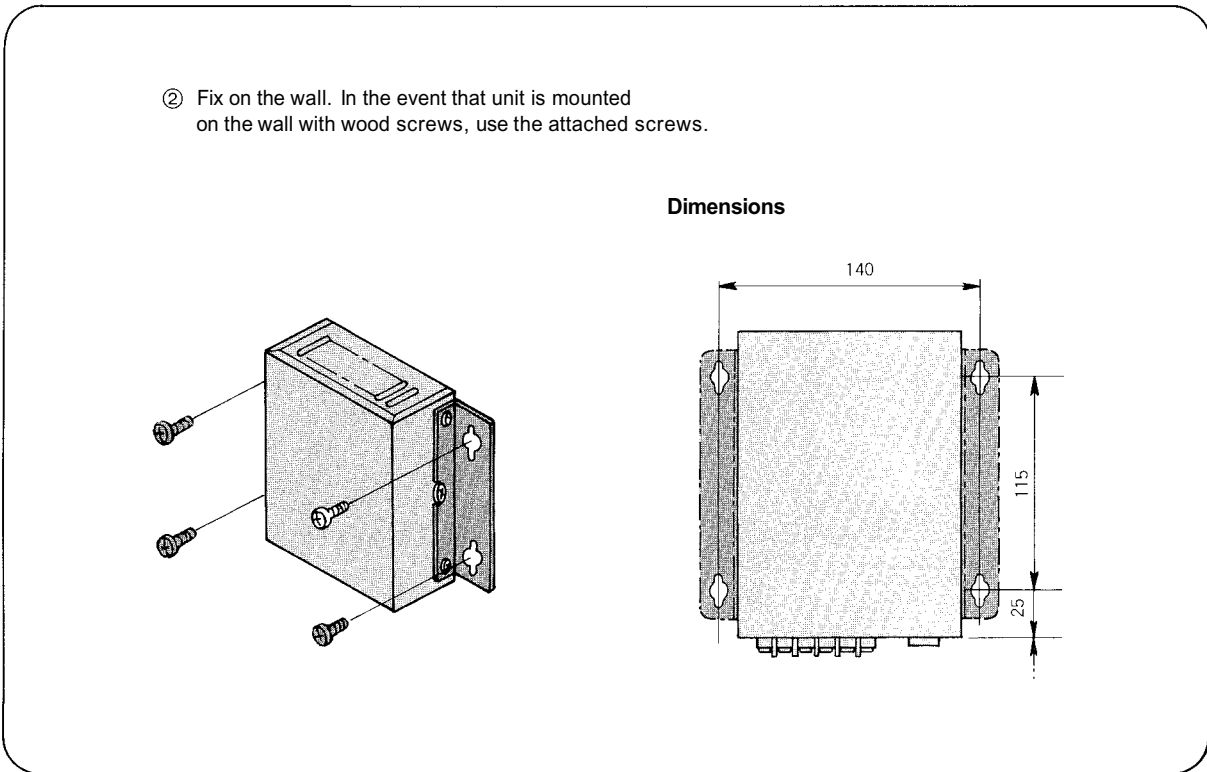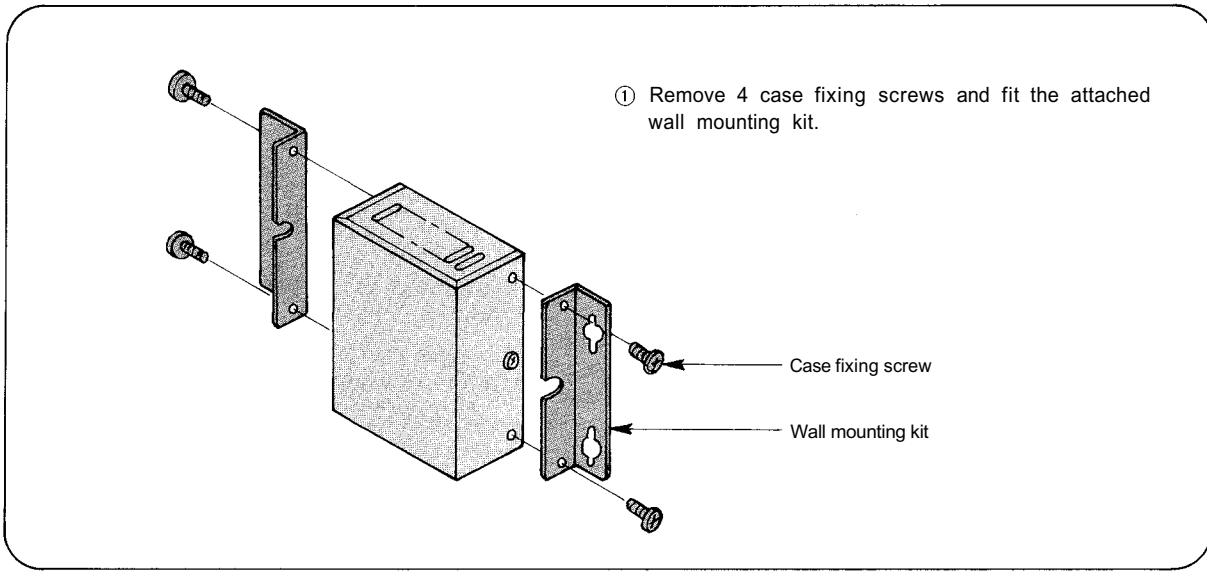
4-5 Installation of Stations

To install stations, make connections by using station jack model YC-601 (Wall-mounted type) or YC-603 (Flush-mounted type). Since the length of station cord is 3 meters (9.8 feet), the station jack needs to be mounted within this length.

- **Station jack YC-601 (Wall-mounted type)**
Mount this jack on a wall, pillar or desk. Utilize either knock-out holes provided on the top and the bottom of the case or a cable entry hole in the base for connecting the cables to the exchange.
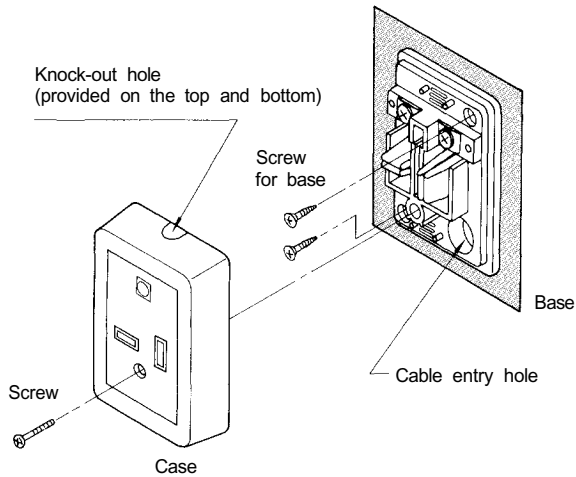
- **Station jack YC-603 (Flush-mounted type)**
Mount switch box and make piping and wiring arrangements before the station jack is installed.

Knock-out hole
(provided on the top and bottom)

Screw
for base

Base

Cable entry hole

Screw

Case

Wall

Base

Plate

Case

83.5 (3.29")

Screw
for box

Cable entry hole

Screw
for case

Switch box

Screw
for plate
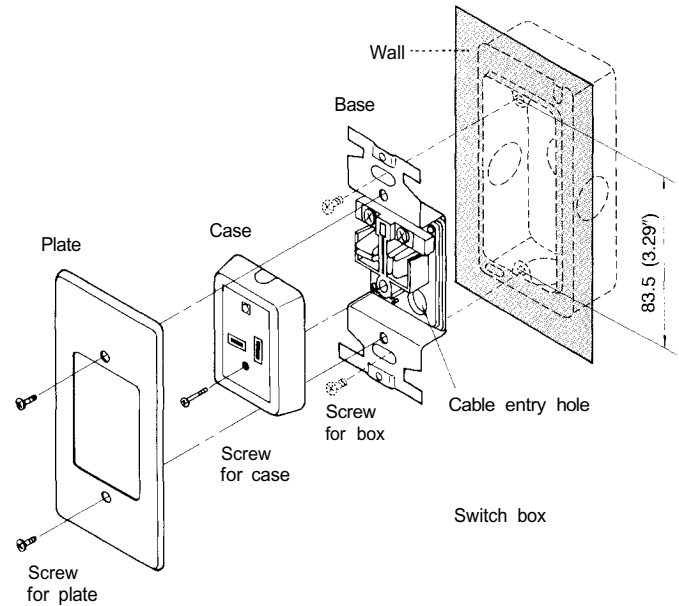
- **Other stations**
Please refer to instruction manual of each station.

5. Cable installation

5-1 Cable selection

- Use 2-conductor telephone or interphone cables for connection from the exchange to the station.
- Be sure to use a multi-pair twisted cable such as an indoor cable and CCP-(A)P cable when the connection is made via the external terminal board.
- Select appropriate cables according to the following table that shows the relationship between cable diameter and transmission distance.

Core diameter	Service distance
0.5 mm	1.0km (1.5km)
0.65mm	1.5km (2.5km)
0.9 mm	2.5km (3.5km)

Note

The figure in a parenthesis is the maximum cable length and shown at its left is the normal service distance. The system supplied from the factory is pre-wired for the normal service distance. To obtain the maximum cable length, replace the corresponding resistor R31, R39, R51 or R59 (390k ohms) on the LM unit corresponding to the line with that of 680k ohms. (See paragraph 6-10.)

5-2 Points to remember

- The multi-pair cable used for wiring of the EXES-2000 system must not be jointly used as a power cable or data transmitting cable for facsimile, etc.
- Do not connect an unused cable to the exchange.
- Do not connect an unused cable to a connection cable between the exchange and the station.
- When utilizing multi-core cables already in use for wiring, confirm they are twisted paired cables. Unless they are twisted cables, they may not be used due to interference between lines.
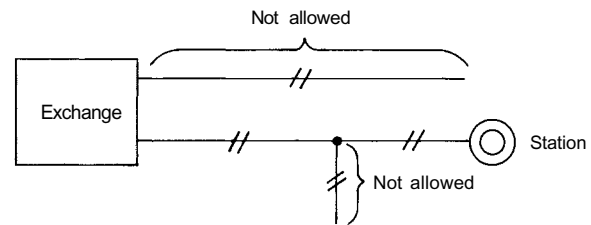
5-3 Wiring examples
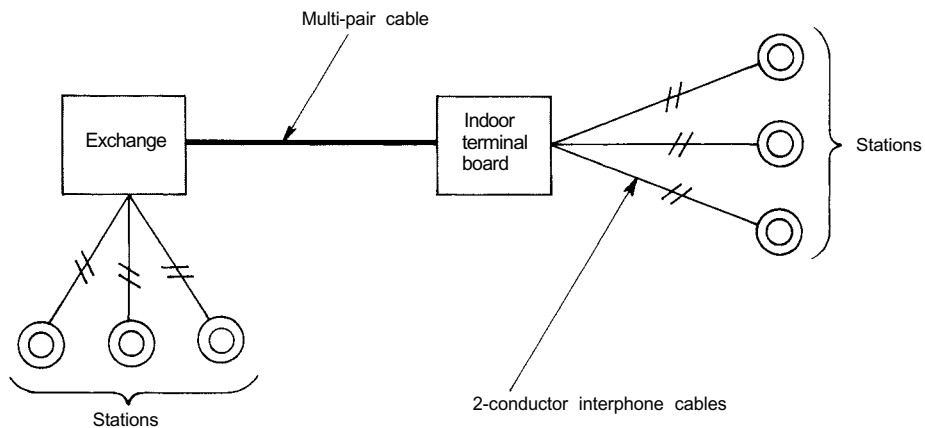
6. Connection of equipment

6-1 Addition of LM unit

A basic system using the EX-200 exchange is comprised of 8 stations (2 LM units). The LM unit needs to be added according to the following procedures when more stations are required.

(1) Establishment of the LM unit number

Set switches SW-1 and SW-2 on the LM unit to positions as shown in the table at right according to the station numbers connected to each LM unit. Since the LM units of a basic system are pre-set as No. 1 and No. 2 when supplied from the factory, the LM number has to be fixed only for the additional units.

LM unit No.	Station No.	Position of SW1/SW2	Remarks
1	20~23	1	Mounted in EX-200
2	24~27	2	Mounted in EX-200
3	28~31	3	Mounted in EX-200
4	32~35	4	Mounted in EX-200
5	36~39	1	Mounted in FC-210
6	40~43	2	Mounted in FC-210
7	44~47	3	Mounted in FC-210
8	48~51	4	Mounted in FC-210
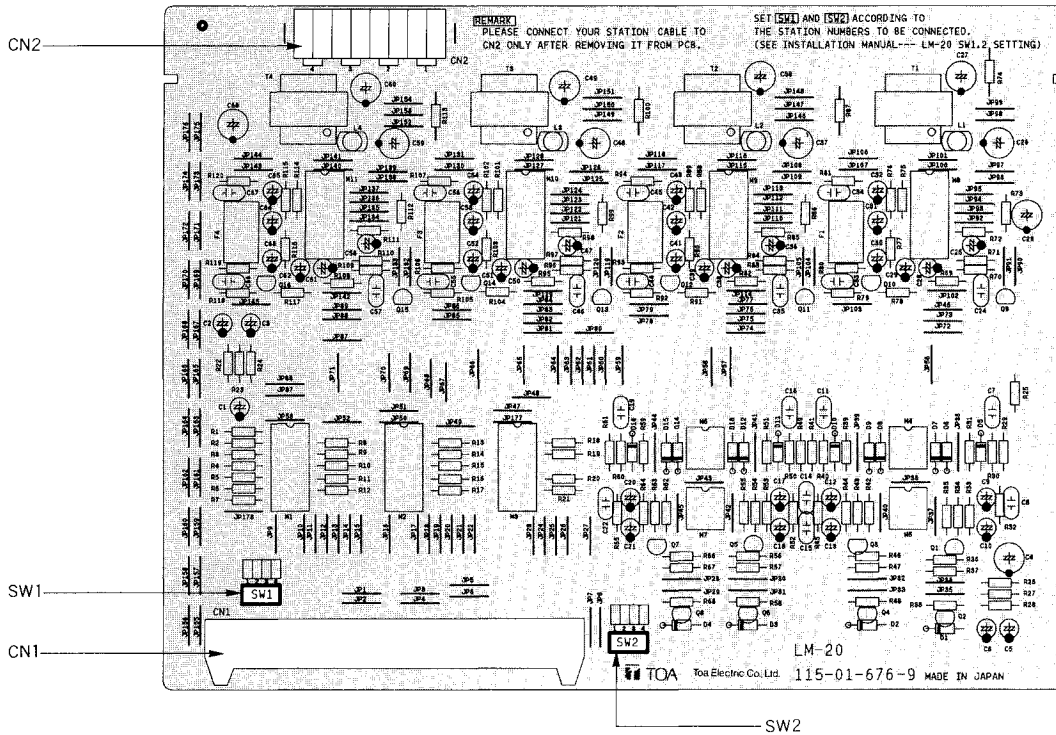
(2) Mounting LM unit
(For the system with up to 16 stations)

Insert the additional LM units into the exchange and connect CN1 of the LM unit to the LM unit connection cable.
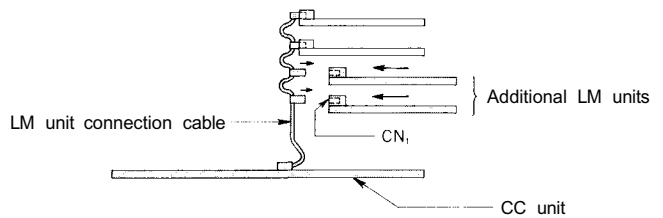
(More than 16 stations)

After connecting between the EX-200 and the FC-210 with the YR-820, mount the LM units. An earth wire of the YR-820 is to be connected to the earth terminal of the FC-210.

– 10 –
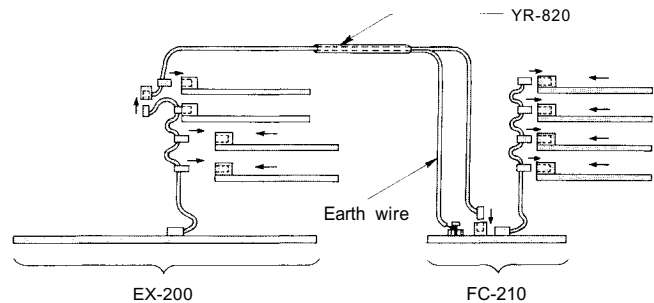
6-2 LM unit wiring

Follow the procedures below to connect a station cable to the terminal block CN 2 on the LM unit. The following list shows relationships between the CN 2 number and the station number.

LM No. CN2 No.	1	2	3	4	5	6	7	8
1	20	24	28	32	36	40	44	48
2	21	25	29	33	37	41	45	49
3	22	26	30	34	38	42	46	50
4	23	27	31	35	39	43	47	51

Note

Protectors attached to the LM units mounted in the exchange are shock absorbers used only during transit. Remove them at the time of installation.

③ Strip a covering from a cable and insert the conductor into the connector.

① Remove CN2.

④ Pull the screwdriver.

② Insert a screwdriver.

⑤ Mount the terminal block on the LM unit after completing cable connection.

– 11 –
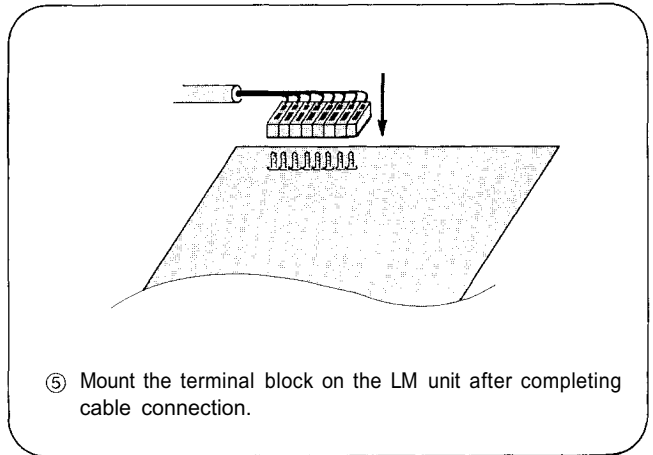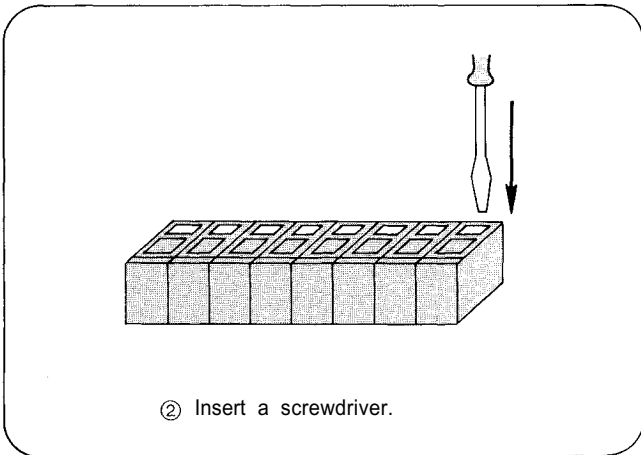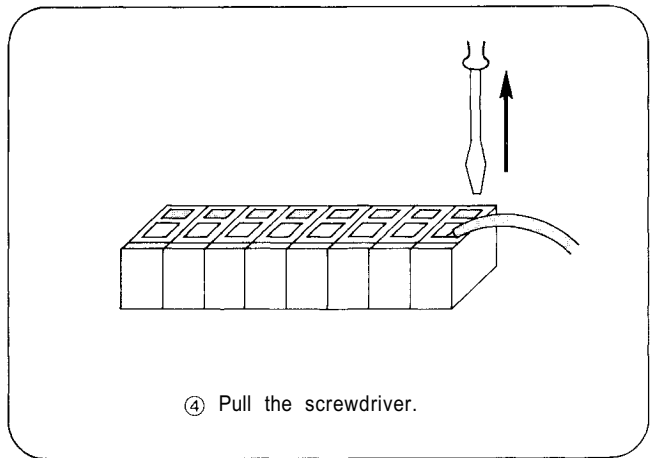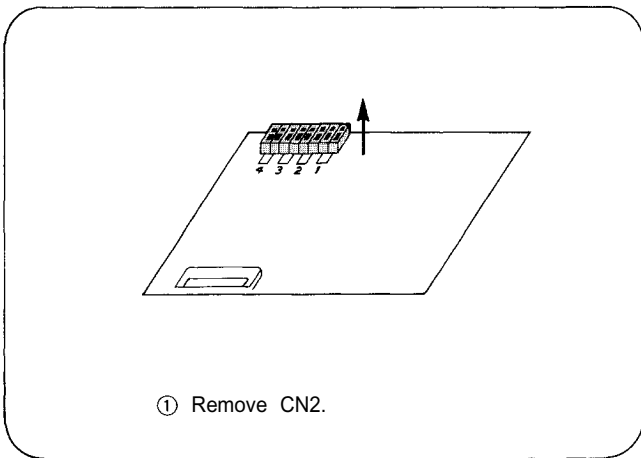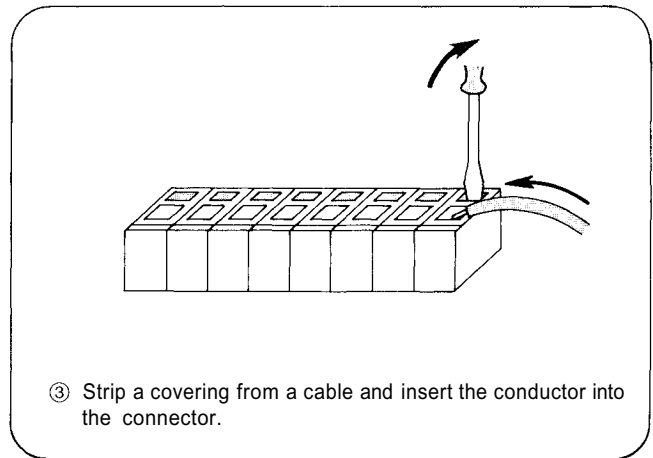
6-3 Connection of station plug to jack

HF-210M

2-pin plug
YC-602

Cover

2-pin jack
YC-601 (or YC-603)

CN2

Notes
(1) Use 4"×2" back box for YC-603.
(2) Terminals 1 and 2 inside the jack have no polarity.
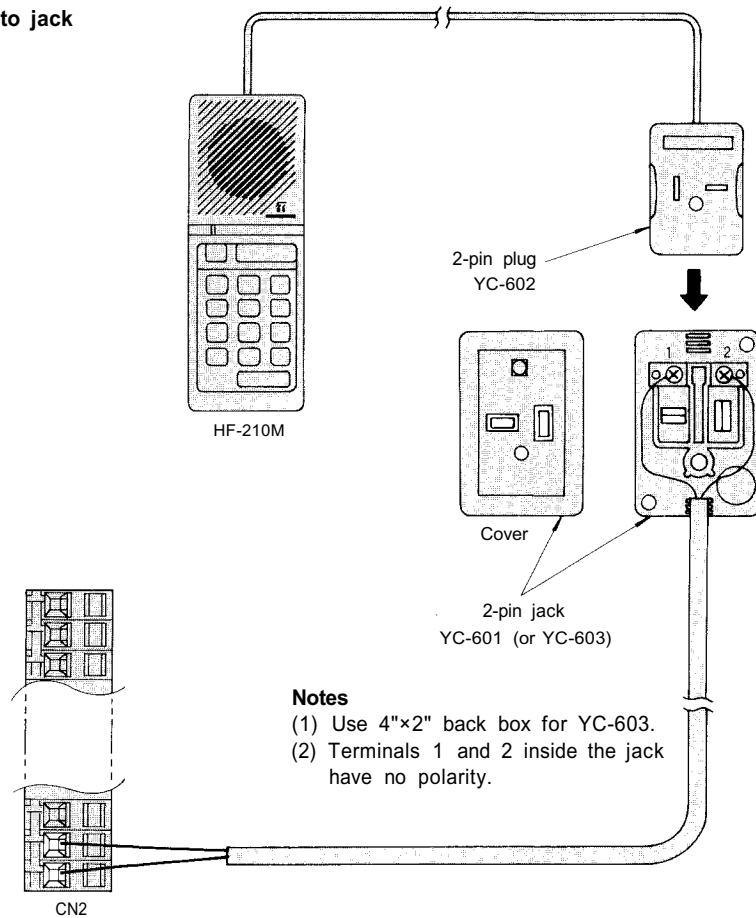
6-4 Mounting option unit

(1) BI unit

Insert the BI unit into its exclusive bay and connect its connector to CN4 on the CC unit.

(LM unit)
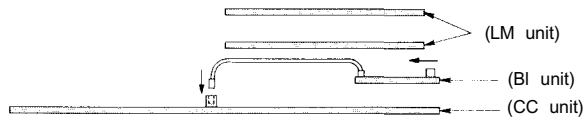
(BI unit)

(CC unit)

(2) Mounting other option units than the BI unit

Option units other than the BI-20 are all connected to the CC unit via a common bus and so, any bay can be used to mount them so far as it is not the one solely intended for the BI unit. The EX-200 exchange has 5 bays for option units, while the FC-210 has 6 bays. Insert the option units in order, stating with the bay closest to the CC unit, and connect the connector as illustrated below.

YR-821

Earth wire

EX-200
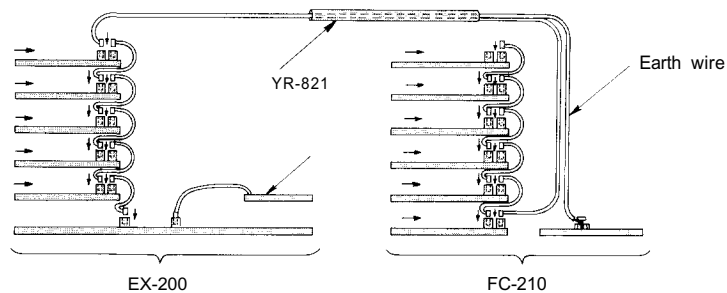
FC-210

Notes
(1) No YR-821 cable is needed when a maximum of 5 option units is mounted.
(2) Connect an earth wire of the YR-821 to the earth terminal of the FC-210.

– 12 –

6-5 BI unit connection

AL (Alarm starting input) ⎫
TM (Timer starting input) ⎬ Input impedance: 1k ohms, Input voltage: 5V to 24V DC

ALS (Alarm signal input) ⎫
IMS (Timer signal input) ⎪
BS0 (BGM input 1) ⎬ Input impedance: 10k ohms, Input level: -10 dBv
BS1 (BGM input 2) ⎪
BS2 (BGM input 3) ⎭
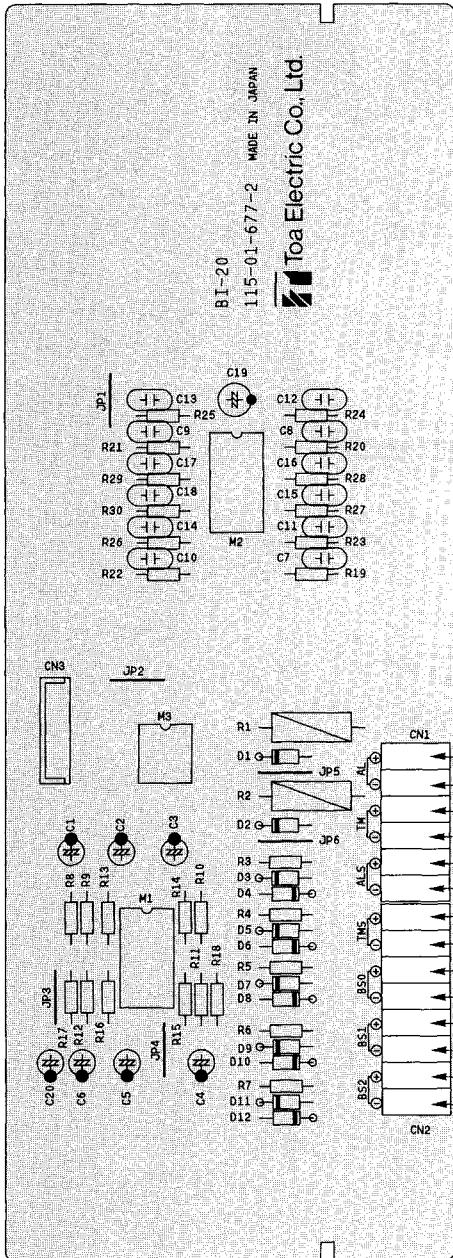
Note
Cut a jumper wire to connect each input.

<Activation of alarm>   5V~24

<Activation of timer>   5V~24

<Alarm signal>   Alarm tone, etc.

<Timer signal>   chime, time annunciation, etc.

<BGM channel 1>   BGM equipment No. 1

<BGM channel 2>   BGM equipment No. 2

<BGM channel 3>   BGM equipment No. 3
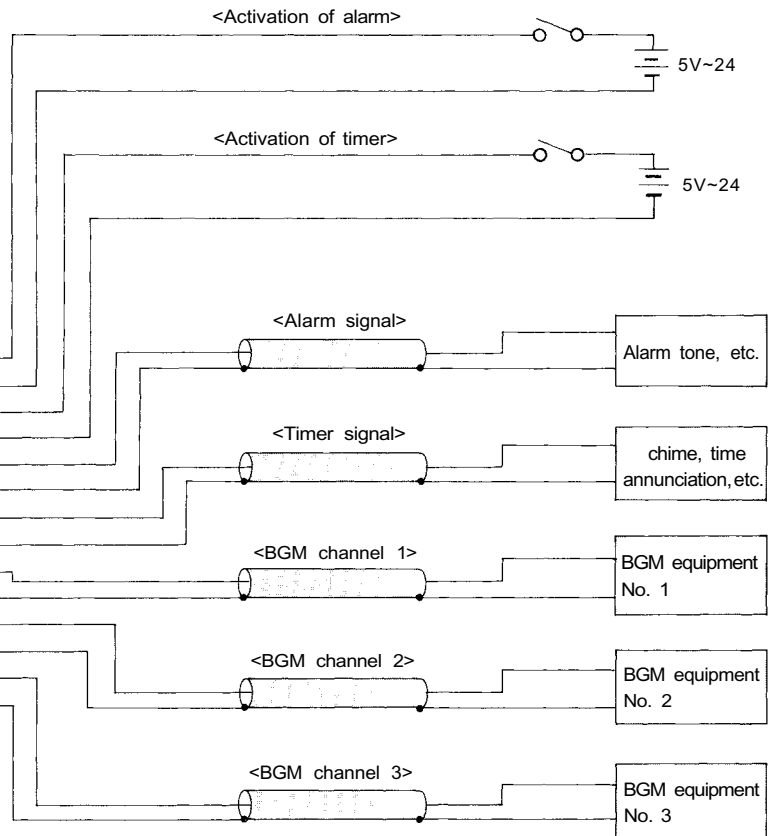
6-6 RC unit connection

PR1 (Power remote control 1/general purpose control 1)
PR2 (Power remote control 2/general purpose control 2)
PR3 (Power remote control 3/general purpose control 3)
DR1 (Door remote control 1)
DR2 (Door remote control 2)
PTT.C (PTT control)

Maximum contact capacity: 125VA (125V AC or 30V DC 1A)

P1 (Audio signal output for paging zone 1)
P2 (Audio signal output for paging zone 2)
P3 (Audio signal output for paging zone 3)

Output: −10 dBv (unbalanced)

– 14 –
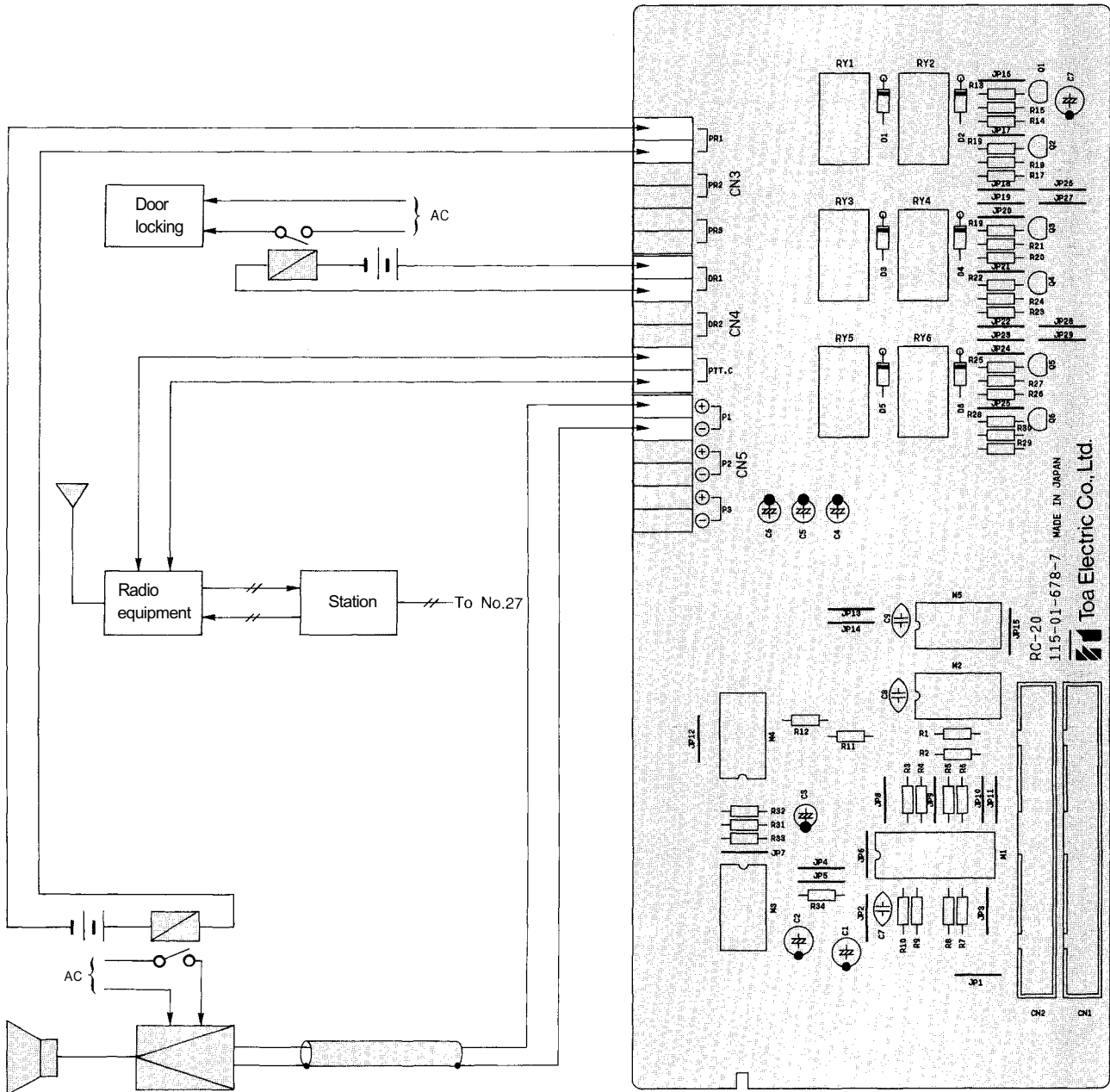
6-7 PC unit connection

PG0, PG1-PG11 (parallel data output for pager control) : Outputs solely intended for TR-321 controllers.

SERIAL OUTPUT (serial data output for pager control) : Maximum contact capacity: 125 VA (125V AC or 30V DC 1A)
Data transmitting speed: 10 pps (To comply with ESPA standards)
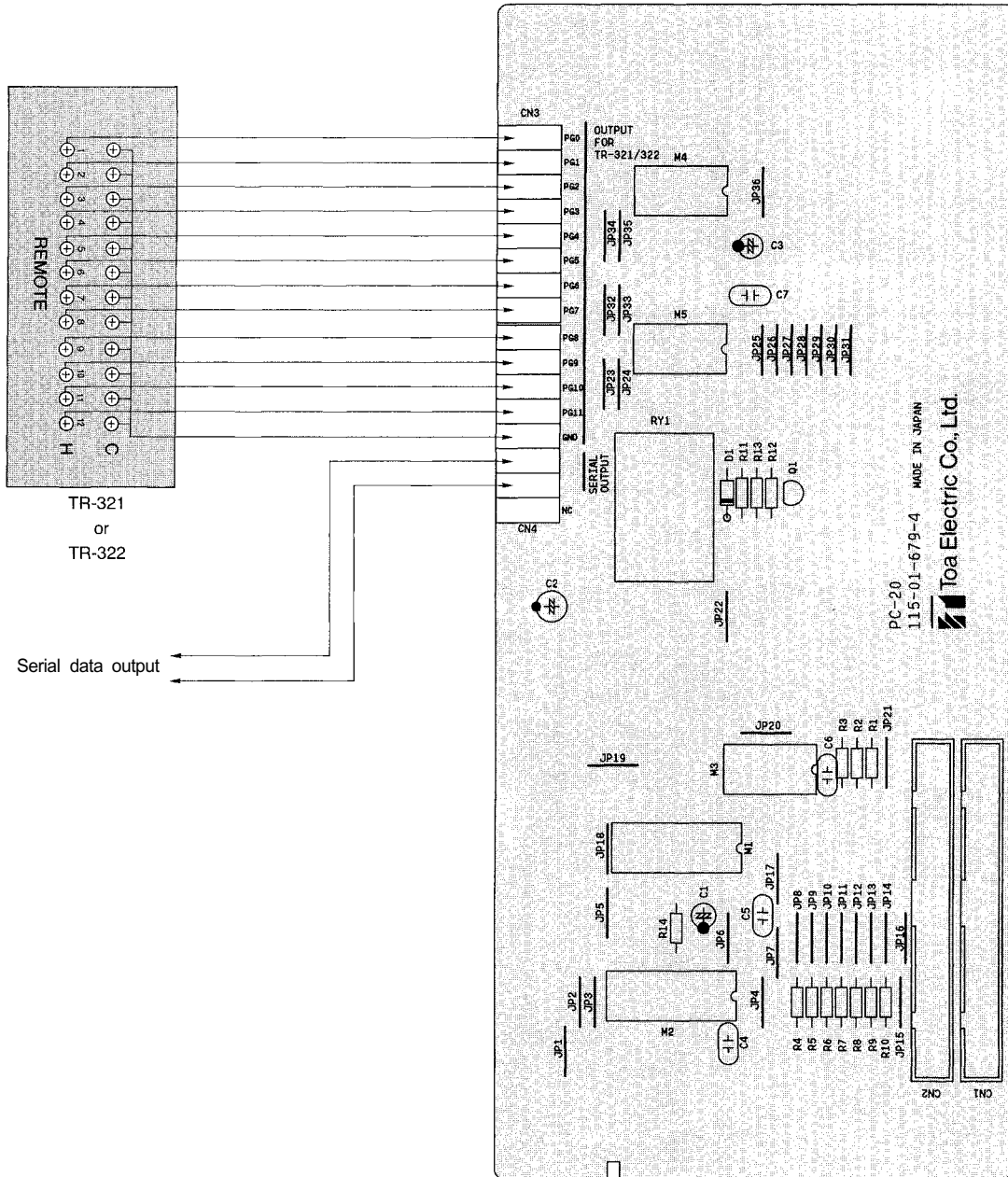
6-8 TI unit connection

1-2:   Lines for station No.25

3-4:   Lines for station No.26

5-6:   Tie-line output −10dBm
7-8:   Tie-line input −10dBm   } No. 25

9-10:   Tie-line output −10dBm
11-12 Tie-line input −10dBm   } No. 26

Exchange A

To station No. 25 of exchange A

To station No. 26 of exchange A

Exchange B

Exchange C

To station
No. 25 of exchange C

To station
No. 26 of exchange C

To station No. 26 of exchange B

To station No. 25 of exchange B
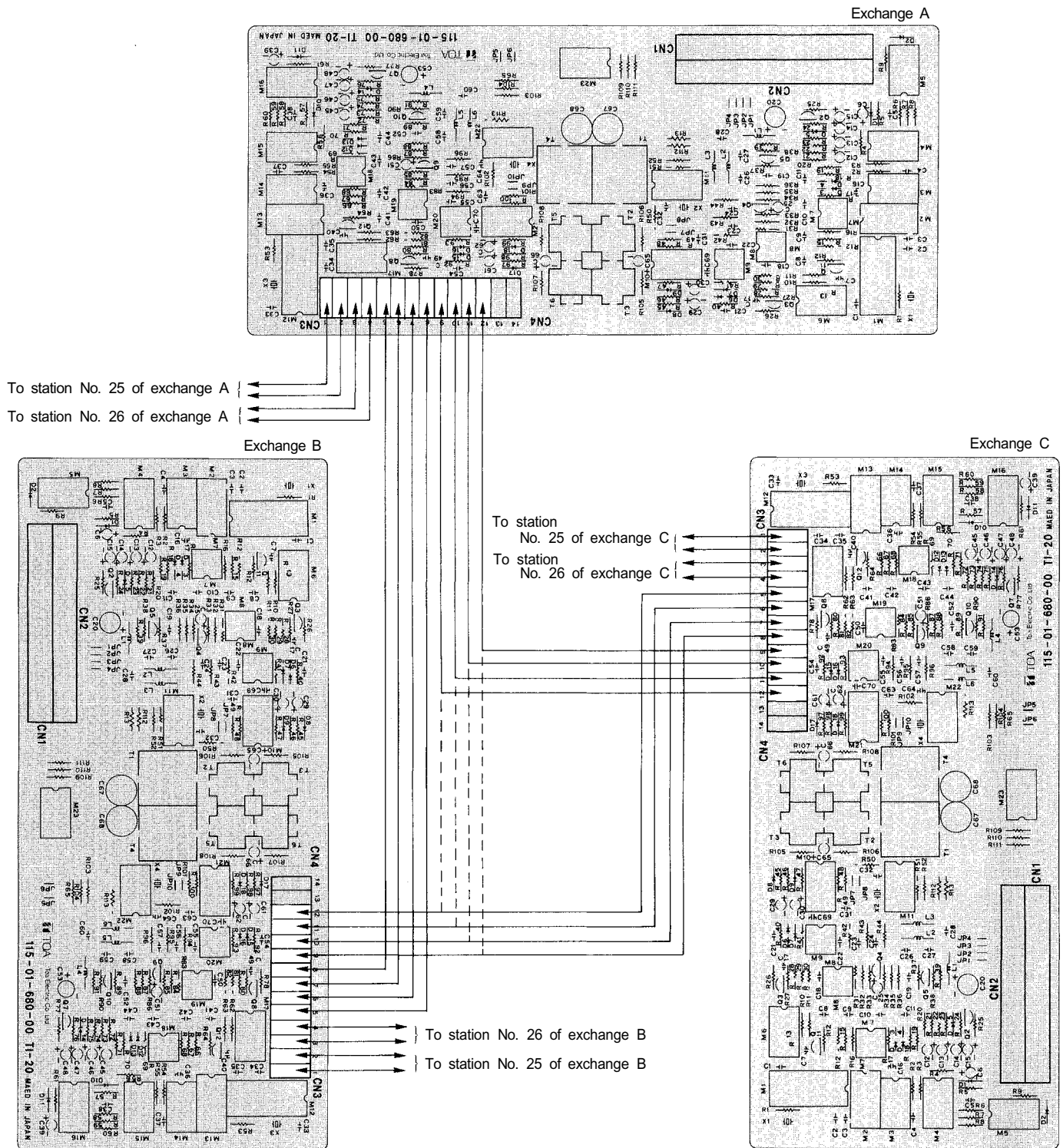
Note
Dotted lines stand for wiring when two exchanges are connected.

6-9 SM unit number setting

A maximum of 8 SM units may be used in a system. Establish each unit number by operating SW1 switch.

1st card

2nd card

3rd card

4th card

5th card

6th card

7th card

8th card

SW 1

6-10 Connection for speaker station

When the speaker station function is employed, cut the corresponding resistor leads as well as jumper wires according to the following table.

LM No.	Station No.			
1	20	21	22	23
2	24	25	26	27
3	28	29	30	31
4	32	33	34	35
5	36	37	38	39
6	40	41	42	43
7	44	45	46	47
8	48	49	50	51
Resistor to cut	R74	R87	R100	R113
Resistor to set service distance	R31	R39	R51	R59
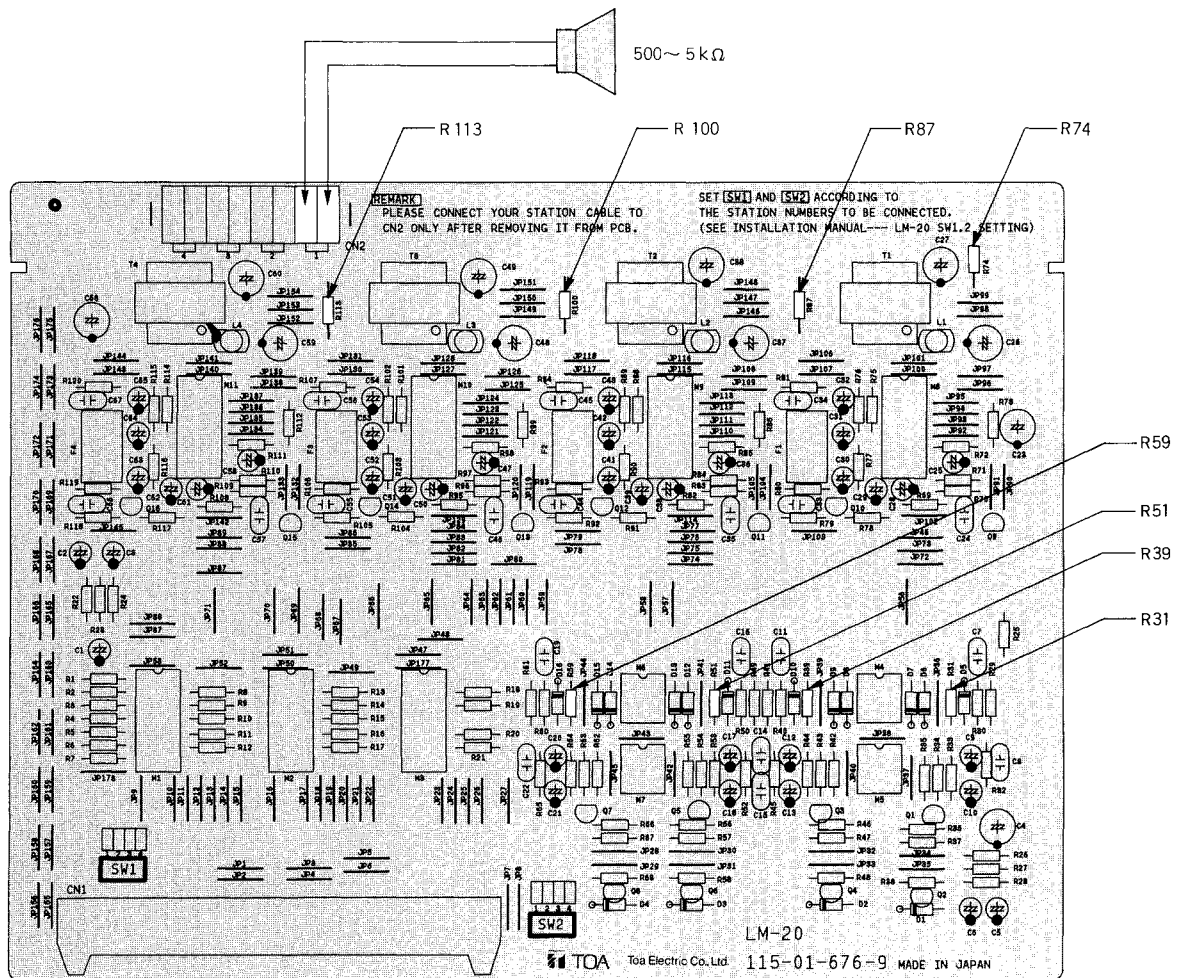
6-11 Connection of power source
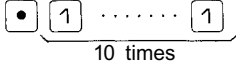
Connect CN1 on the CC unit and CN3 on the FC-210 printed circuit board to AC output of the PU-200 or to the external power supply. Also, connect CN5 on the CC unit to CN4 on the FC-210 printed circuit board with the attached connection cable.

DC24V±10%
+ 2 A

Note

Select the desired voltage by means of the voltage selector. The voltage selector is pre-set to 120V or 240V when supplied from the factory.

Voltage selector

(PU-200)

(FC-210)

DC24V
±10%
2 A
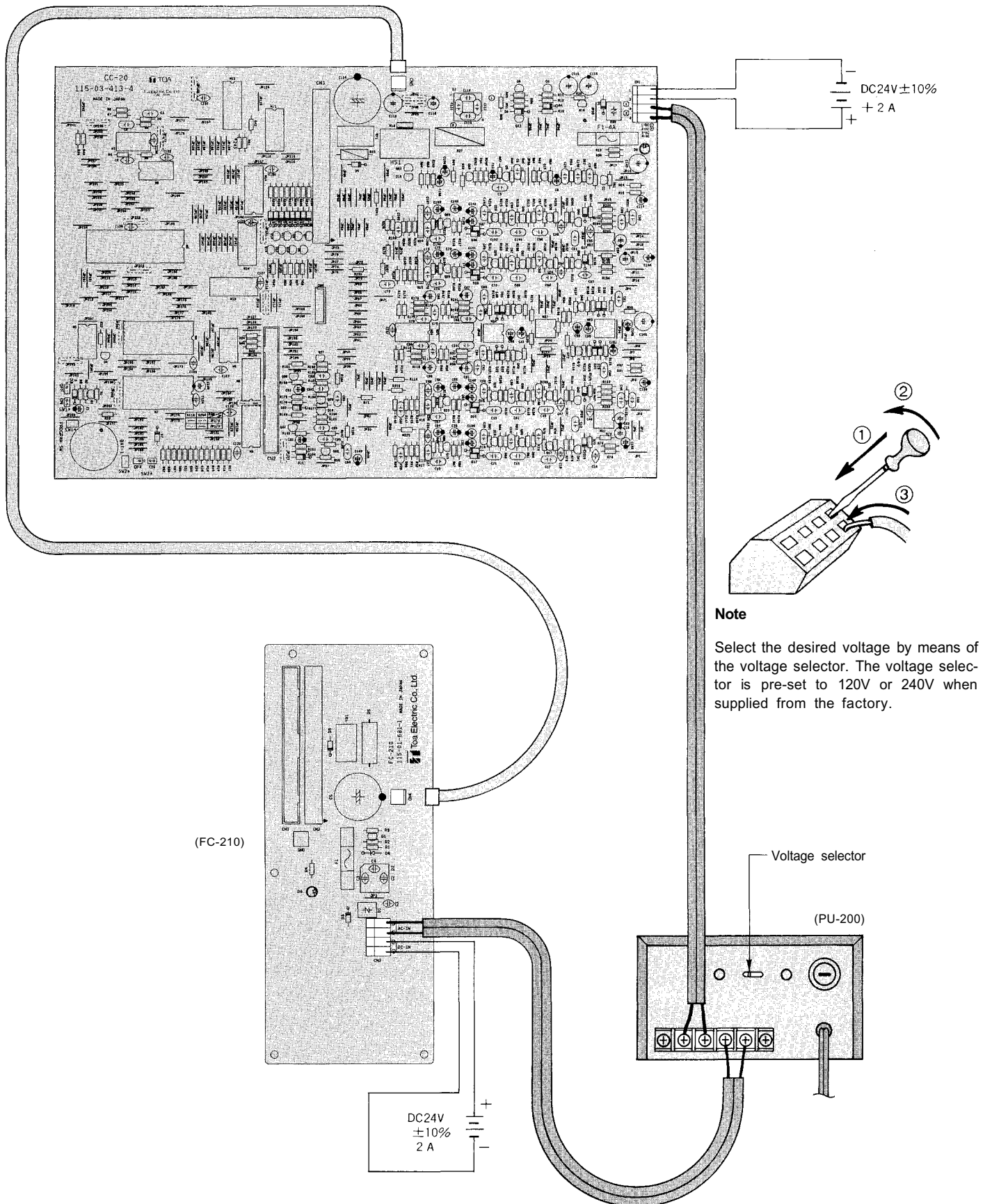
7. Initial set-up and programming (No. 24 programming)

Functions the EXES-2000 system has besides basic functions include selectable functions capable of being freely selected by station No. 24 programming, and additional functions that can be obtained by connecting optional equipment. To make the selectable function or additional function available, establish No. 24 programming after making initial set-up. Once these procedures have been completed, the initial set-up is no longer required when adding the equipment or changing the function. All the functions available from the EXES-2000 are shown in the table on page 21.

7-1 Procedures of initial set-up and No. 24 programming

(1) Turn on SW2 switch of the memory backup battery on the CC unit.

(2) Verify that the exchange is correctly wired and each module unit is correctly mounted in the exchange. Then plug the power cord of the PU-200 in a wall AC outlet.

(3) Confirm that the power indicator lamp of the CC unit in the EX-200 and the one on the FC-210 both come on.

(4) Connect the station to No. 24 connector of the LM unit in the exchange and confirm that a brief tone is audible continuously. The brief tone is a warning tone to indicate that the initial set-up has not yet been made.

(5) Place SW1 program switch on the CC unit in the ON position.

(6) Confirm a dial tone is heard when depressing $\boxed{C}$ of No. 24 station.

(7) Confirm that a confirmation tone is heard by dialing

$$\boxed{\bullet} \underbrace{\boxed{1} \cdots\cdots \boxed{1}}_{\text{10 times}}$$

(This procedure is not needed in the event of the addition or change of the function.)

(8) Register functions according to instructions on dial operation in section 7-2. Record all the functions of each station in the station function table on page 40, which is to be retained for the system maintenance purposes.

(9) Set SW1 program switch on the CC unit to OFF.

LIST OF FUNCTION AVAILABLE FROM EXES-2000 SYSTEM

No.	Classifi-cation	Function	Basic function	Selectable functions (No.24 programming must be established)	Additional functions
1.		Camp-on-busy	○		
2.		Busy call-back	○		
3.		Mic off	○		
4,		Muster sub relationship		○	
5.	Call	Privacy/Camp-on-privacy	○		
6.		Continuous call tone station (1*)		○	
7.		Handset operated station (2*)		○	
8.	PTT	Press-to-talk			○
9.		Talkback			○
10.		Press-to-talk control			○
11.		Personal number call	○		
12.		Conference	○		
13.	Transfer	Call transfer	○		
14.		Call forwarding		○	
15.		Secretary transfer		○	
16.		Hurry up	○		
17.		Executive (Highest) priority		○	
18.	Paging	Station paging call-up (all-call paging + 3 zone paging calls) and its response (3*)		○	
19.		PA paging call-up (all-call paging + 3 zone paging) and its response (3*)		○	○
20.		Selected station paging		○	
21.		Emergency all-call paging		○	
22.	Selection	PA paging & power remote/3-channel general purpose control		○	○
23.		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 that ××/YY (Example. with/without of Item No. 24) shows either ×× or YY can be adopted.

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.

- The CC unit incorporates a CMOS IC. Particular care is to be taken about its damage static electricity causes when you make switch settings.

- Lithium battery is used for a memory backup battery BAT-1, which maintains the important data stored in a memory during power outage. A life span of the lithium battery largely varies depending on ambient temperature and a space of time that the exchange was used. To be on a safe side, therefore, we suggest that the battery be replaced every 3 years. Be sure to set up No. 24 programming again after its replacement.

SW1

Lithium battery ———————— SW2
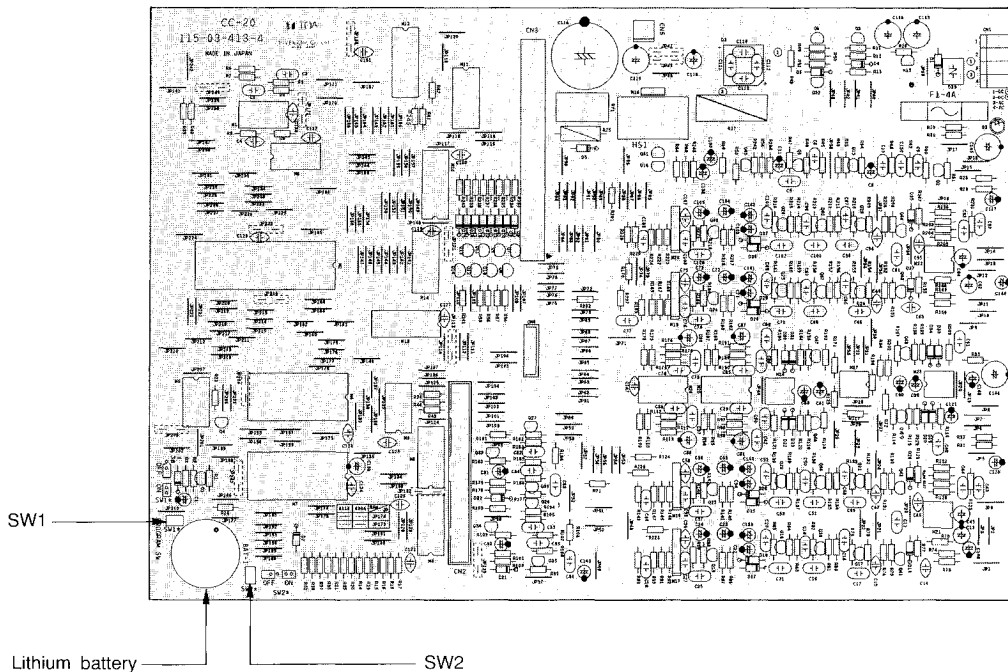
7-2 Registration of each function

1 Dial operations to select functions

Functions	Dial operations	
	Available	Not available
General purpose control (*1)	⊡ 4 0 1	⊡ 4 0 0
Time out of paging (20 seconds)	⊡ 4 1 1	⊡ 4 1 0
No. 25 tie-line	⊡ 4 2 1 (⊡ 4 2 2 (*2))	⊡ 4 2 0
No. 26 tie-line	⊡ 4 3 1 (⊡ 4 3 2 (*2))	⊡ 4 3 0
BGM/alarm/time annunciation (BI-20)	⊡ 4 5 1	⊡ 4 5 0
Speech message hurry-up tone	⊡ 4 6 1	⊡ 4 6 0
Call forwarding	⊡ 4 7 1	⊡ 4 7 0

(*1) General purpose control and PA paging are alternative functions. So dialing as to select general purpose control will automatically deprive the system of the PA paging function.
(*2) Depress dial keys as shown in a parenthesis when the "tie-lined" exchange is the EX-610/620/630.
(*3) Making initial settings puts the system in the "not available" mode.

– 22 –

2. HIGHEST EXECUTIVE PRIORITY

```
┌─────────────────────────────────────────────────┐
│           HIGHEST  EXECUTIVE  PRIORITY           │
└─────────────────────────────────────────────────┘

        ┌─ STEP 1 ─┐
                    ↓
        ┌─────────────────────────────────┐
        │  Touch    [•] [5] [0]            │
        │           Function Code          │
        └─────────────────────────────────┘
                    ↓
          < New Registration? >────── NO ──┐
                    │ YES                   │
                    ↓                       │
        ┌─────────────────────────────────┐│
        │       Executive Station No.      ││
        │  Touch    [ ][ ]         [1]     ││
        └─────────────────────────────────┘│
                    ↓                       │
        ┌─────────────────────────────────┐│
        │       Executive Station No.      ││
        │  Touch    [ ][ ]         [1]     ││
        └─────────────────────────────────┘│
                    ↓                       │
        (        Confirmation tone       ) │
                    ↓                       │
    NO ─< New Registration finished? >     │
                    │ YES                   │
                    ↓←──────────────────────┘
          < Release? >────── NO ──┐
                    │ YES         │
                    ↓             │
        ┌─────────────────────────────────┐│
        │       Executive Station No.      ││
        │  Touch    [ ][ ]         [0]     ││
        └─────────────────────────────────┘│
                    ↓                       │
        ┌─────────────────────────────────┐│
        │       Executive Station No.      ││
        │  Touch    [ ][ ]         [0]     ││
        └─────────────────────────────────┘│
                    ↓                       │
        (        Confirmation tone       ) │
                    ↓                       │
    NO ─< Release finished? >              │
                    │ YES                   │
                    ↓←──────────────────────┘
            (     Return     )
```
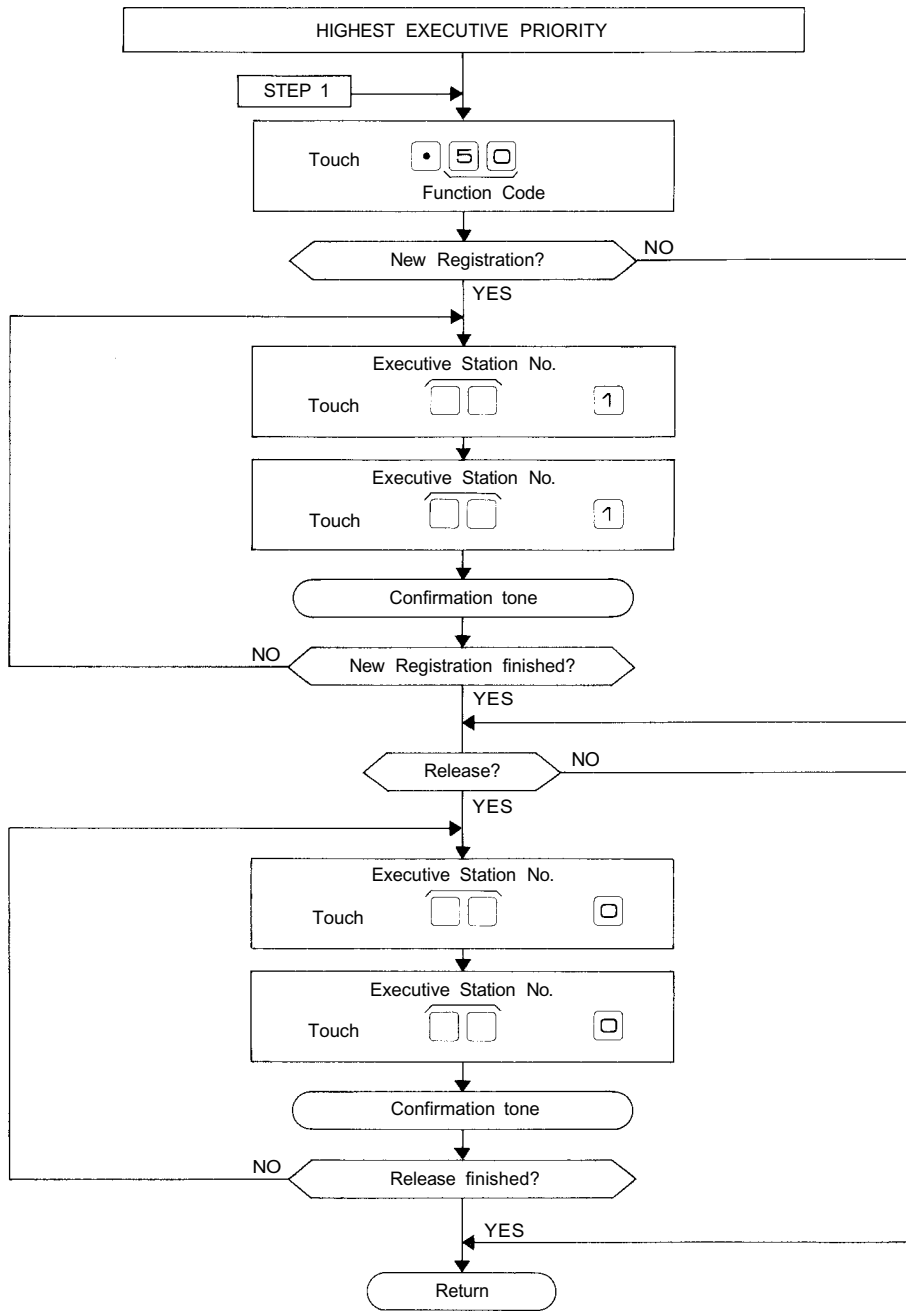
NOTES

1. To allow all the stations to have this function,

   Touch [•] [5] [0] (PTT)(PTT) ··· (PTT)   (Confirmation tone
                      └─── 10 times ───┘   will be heard.)

   Be sure to depress the (PTT) key steadily.

2. To release at one time the data programmed into all the stations for this function,

   Touch [•] [5] [0] [0] [0] ···· [0]   (Confirmation tone
                   └─── 10 times ───┘   will be heard.)

3. Re-start at Step 1 when mis-dialing occurs.
   (All other registrations remain valid.)

– 23 –

3. CONTINUOUS CALLING TONE

```
┌─────────────────────────────────────────────┐
│          CONTINUOUS  CALLING  TONE          │
└─────────────────────────────────────────────┘
                      │
              ┌──────────┐
              │  STEP 1  │
              └──────────┘
                      │
        ┌─────────────────────────────┐
        │  Touch    [•] [5] [1]        │
        │           Function Code     │
        └─────────────────────────────┘
                      │
        ┌──────────────────────────────┐   NO
        │      New Registration?       ├──────┐
        └──────────────────────────────┘      │
                      │ YES                    │
        ┌─────────────────────────────┐        │
        │  Continuously Called Station No.│     │
        │  Touch    [ ][ ]        [1]  │        │
        └─────────────────────────────┘        │
                      │                         │
        ┌─────────────────────────────┐        │
        │  Continuously Called Station No.│     │
        │  Touch    [ ][ ]        [1]  │        │
        └─────────────────────────────┘        │
                      │                         │
        (    Confirmation  tone    )            │
                      │                         │
   NO   ┌──────────────────────────────┐        │
   ┌────┤  New  Registration  finished?│        │
   │    └──────────────────────────────┘        │
   │                  │ YES                      │
   │                  │←─────────────────────────┘
        ┌──────────────────────────────┐   NO
        │          Release?            ├──────┐
        └──────────────────────────────┘      │
                      │ YES                    │
        ┌─────────────────────────────┐        │
        │  Continuously Called Station No.│     │
        │  Touch    [ ][ ]        [0]  │        │
        └─────────────────────────────┘        │
                      │                         │
        ┌─────────────────────────────┐        │
        │  Continuously Called Station No.│     │
        │  Touch    [ ][ ]        [0]  │        │
        └─────────────────────────────┘        │
                      │                         │
        (    Confirmation  tone    )            │
                      │                         │
   NO   ┌──────────────────────────────┐        │
   ┌────┤     Release  finished?       │        │
   │    └──────────────────────────────┘        │
   │                  │ YES                      │
   │                  │←─────────────────────────┘
                (    Return    )
```

NOTES

1. To allow all the stations to have this function,

   Touch [•] [5] [1] (PTT) (PTT) ··· (PTT)   (Confirmation tone
                      └──── 10 times ────┘   will be heard.)

   Be sure to depress the (PTT) key steadily.

2. To release at one time the data programmed into all the stations for this
   function,

   Touch [•] [5] [1] [0] [0] ···· [0]   (Confirmation tone
                    └── 10 times ──┘   will be heard.)

3. Re-start at Step 1 when mis-dialing occurs.
   (All other registrations remain valid.)

4. STATIONS ALLOWED ACCESS TO PAGING
(All stations are registered for this function when initial set-up is made)

```
┌─────────────────────────────────────────────────────┐
│          STATIONS ALLOWED ACCESS TO PAGING           │
└─────────────────────────────────────────────────────┘
                         │
              ┌────────┐ │
              │ STEP 1 │─┘
              └────────┘
                         │
              ┌──────────────────────────────┐
              │  Touch    [•] [5] [2]         │
              │        Function Code          │
              └──────────────────────────────┘
                         │
              ╱─────────────────────╲   NO
              ╲  New Registration?   ╱──────────┐
                         │                       │
                        YES                      │
              ┌──────────────────────────────┐  │
              │       Allowed Station No.     │  │
              │  Touch  [ ][ ]        [1]     │  │
              └──────────────────────────────┘  │
                         │                       │
              ┌──────────────────────────────┐  │
              │       Allowed Station No.     │  │
              │  Touch  [ ][ ]        [1]     │  │
              └──────────────────────────────┘  │
                         │                       │
              (  Confirmation tone  )            │
                         │                       │
        NO    ╱──────────────────────────╲      │
      ┌───────╲ New Registration finished? ╱     │
      │                  │                        │
      │                 YES                       │
      │                  │◄──────────────────────┘
      │       ╱─────────────────╲   NO
      │       ╲    Release?      ╱─────────┐
      │                │                    │
      │               YES                   │
      │       ┌──────────────────────────┐ │
      │       │    Allowed Station No.    │ │
      │       │  Touch [ ][ ]      [0]    │ │
      │       └──────────────────────────┘ │
      │                │                    │
      │       ┌──────────────────────────┐ │
      │       │    Allowed Station No.    │ │
      │       │  Touch [ ][ ]      [0]    │ │
      │       └──────────────────────────┘ │
      │                │                    │
      │       (   Confirmation tone   )     │
      │                │                    │
      │  NO  ╱──────────────────────╲       │
      └──────╲   Release finished?   ╱      │
                       │                     │
                      YES◄──────────────────┘
                       │
              (    Return    )
```

NOTES

1. To allow all the stations to have this function,

    Touch [•] [5] [2] (PTT) (PTT) ··· (PTT)   (Confirmation tone
                        ╰──── 10 times ────╯   will be heard.)

    Be sure to depress the (PTT) key steadily.

2. To release at one time the data programmed into all the stations for this function,

    Touch [•] [5] [2] [0] [0] ···· [0]   (Confirmation tone
                       ╰── 10 times ──╯   will be heard.)

3. Re-start at Step 1 when mis-dialing occurs. (All other registrations remain valid.)

– 25 –

5. STATIONS ALLOWED ACCESS TO EMERGENCY CALL

```
┌─────────────────────────────────────────────────────┐
│        STATIONS  ALLOWED  ACCESS  TO  EMERGENCY  CALL │
└─────────────────────────────────────────────────────┘
                          │
        ┌─────────┐       │
        │ STEP 1  │───────▶
        └─────────┘       │
                          ▼
        ┌─────────────────────────────────────┐
        │  Touch     •  5  3                   │
        │            Function  Code            │
        └─────────────────────────────────────┘
                          │
                          ▼
              ◁ New  Registration? ▷────── NO ──────┐
                          │                          │
                        YES                          │
                          │                          │
        ┌─────────────────▼───────────────────┐      │
        │           Allowed  Station  No.      │      │
        │  Touch        [ ][ ]          1      │      │
        └─────────────────────────────────────┘      │
                          │                          │
        ┌─────────────────▼───────────────────┐      │
        │           Allowed  Station  No.      │      │
        │  Touch        [ ][ ]          1      │      │
        └─────────────────────────────────────┘      │
                          │                          │
        ┌─────────────────▼───────────────────┐      │
        │           Confirmation  tone         │      │
        └─────────────────────────────────────┘      │
                          │                          │
        NO ──◁ New  Registration  finished? ▷        │
                          │                          │
                        YES                          │
                          ▼◀─────────────────────────┘
              ◁ Release? ▷────── NO ──────┐
                          │                │
                        YES                │
                          │                │
        ┌─────────────────▼───────────┐    │
        │        Allowed  Station  No. │    │
        │  Touch     [ ][ ]        0   │    │
        └─────────────────────────────┘    │
                          │                │
        ┌─────────────────▼───────────┐    │
        │        Allowed  Station  No. │    │
        │  Touch     [ ][ ]        0   │    │
        └─────────────────────────────┘    │
                          │                │
        ┌─────────────────▼───────────┐    │
        │       Confirmation  tone     │    │
        └─────────────────────────────┘    │
                          │                │
        NO ──◁ Release  finished? ▷         │
                          │                │
                        YES                │
                          ▼◀───────────────┘
                   ( Return )
```

NOTES

1. To allow all the stations to have this function,

   Touch   • 5 3 (PTT)(PTT)···(PTT)   (Confirmation tone
                 10 times   will be heard.)

   Be sure to depress the (PTT) key steadily.

2. To release at one time the data programmed into all the stations for this function,

   Touch   • 5 3 0 0 ···· 0   (Confirmation tone
               10 times   will be heard.)

3. Re-start at Step 1 when mis-dialing occurs. (All other registrations remain valid.)

6. HANDSET STATION REGISTRATION

```
┌─────────────────────────────────────────────┐
│        HANDSET STATION  REGISTRATION         │
└─────────────────────────────────────────────┘
                      │
          ┌────────┐  │
          │ STEP 1 ├──┘
          └────────┘
                      ▼
          ┌─────────────────────────────────┐
          │  Touch   [•][5][4]              │
          │         Function Code           │
          └─────────────────────────────────┘
                      │
                 ◇ New Registration? ◇───── NO ────┐
                      │                            │
                     YES                           │
                      ▼                            │
          ┌─────────────────────────────────┐      │
          │         Handset Station No.     │      │
          │  Touch   [ ][ ]        [1]      │      │
          └─────────────────────────────────┘      │
                      │                            │
          ┌─────────────────────────────────┐      │
          │         Handset Station No.     │      │
          │  Touch   [ ][ ]        [1]      │      │
          └─────────────────────────────────┘      │
                      │                            │
            (  Confirmation tone  )                │
                      │                            │
  NO ─── ◇ New Registration finished? ◇            │
                      │                            │
                     YES                           │
                      ▼◄───────────────────────────┘
                 ◇ Release? ◇───── NO ────┐
                      │                   │
                     YES                  │
                      ▼                   │
          ┌─────────────────────────────────┐      │
          │         Handset Station No.     │      │
          │  Touch   [ ][ ]        [0]      │      │
          └─────────────────────────────────┘      │
                      │                            │
          ┌─────────────────────────────────┐      │
          │         Handset Station No.     │      │
          │  Touch   [ ][ ]        [0]      │      │
          └─────────────────────────────────┘      │
                      │                            │
            (  Confirmation tone  )                │
                      │                            │
  NO ─── ◇ Release finished? ◇                     │
                      │                            │
                     YES                           │
                      ▼◄───────────────────────────┘
               (    Return    )
```

NOTES

1. To allow all the stations to have this function,

   Touch [•][5][4] (PTT)(PTT) ··· (PTT)   (Confirmation tone
                    ‹——— 10 times ———›   will be heard.)

   Be sure to depress the (PTT) key steadily.

2. To release at one time the data programmed into all the stations for this
   function,

   Touch [•][5][4][0][0] ···· [0]   (Confirmation tone
                ‹—— 10 times ——›   will be heard.)

3. Re-start at Step 1 when mis-dialing occurs.
   (All other registrations remain valid.)

7. STATIONS ALLOWED ACCESS TO DOOR REMOTE CONTROL AND GENERAL PURPOSE CONTROL

```
┌─────────────────────────────────────────────────────────────────────┐
│ STATIONS ALLOWED ACCESS TO DOOR REMOTE CONTROL AND GENERAL PURPOSE CONTROL │
└─────────────────────────────────────────────────────────────────────┘

                    ┌────────┐
                    │ STEP 1 │
                    └────────┘

          ┌──────────────────────────────────┐
          │  Touch    • 5 6                   │
          │         Function Code             │
          └──────────────────────────────────┘

          <  New Registration?  >──── NO ────┐
                   │ YES                       │
          ┌──────────────────────────────────┐│
          │        Allowed Station No.        ││
          │  Touch    □ □          1          ││
          └──────────────────────────────────┘│
          ┌──────────────────────────────────┐│
          │        Allowed Station No.        ││
          │  Touch    □ □          1          ││
          └──────────────────────────────────┘│
          (        Confirmation tone         )│
    NO ──< New Registration finished? >        │
                   │ YES                       │
          <  Release?  >──── NO ──────────────┤
                   │ YES                       │
          ┌──────────────────────────────────┐│
          │        Allowed Station No.        ││
          │  Touch    □ □          0          ││
          └──────────────────────────────────┘│
          ┌──────────────────────────────────┐│
          │        Allowed Station No.        ││
          │  Touch    □ □          0          ││
          └──────────────────────────────────┘│
          (        Confirmation tone         )│
    NO ──< Release finished? >                 │
                   │ YES                       │
          (        Return        )◄───────────┘
```

NOTES

1. To allow all the stations to have this function,

   Touch   • 5 6 (PTT) (PTT) ··· (PTT)   (Confirmation tone
                   └─── 10 times ───┘   will be heard.)

   Be sure to depress the (PTT) key steadily.

2. To release at one time the data programmed into all the stations for this function,

   Touch   • 5 6 0 0 ···· 0   (Confirmation tone
                └── 10 times ──┘   will be heard.)

3. Re-start at Step 1 when mis-dialing occurs. (All other registrations remain valid.)

8. STATIONS ALLOWED ACCESS TO SPEECH MESSAGE

```
┌─────────────────────────────────────────────────┐
│      STATIONS ALLOWED ACCESS TO SPEECH MESSAGE   │
└─────────────────────────────────────────────────┘
                        │
              ┌─────────┐
              │ STEP 1  │
              └─────────┘
                        │
         ┌──────────────────────────────┐
         │  Touch    • 5 7              │
         │           Function Code      │
         └──────────────────────────────┘
                        │
              New Registration? ───── NO ──────────┐
                        │ YES                       │
         ┌──────────────────────────────┐          │
         │        Allowed Station No.    │          │
         │  Touch    ☐☐          1       │          │
         └──────────────────────────────┘          │
                        │                           │
         ┌──────────────────────────────┐          │
         │        Allowed Station No.    │          │
         │  Touch    ☐☐          1       │          │
         └──────────────────────────────┘          │
                        │                           │
              ( Confirmation tone )                 │
                        │                           │
   NO ──── New Registration finished?               │
                        │ YES                       │
                                                    │
              Release? ───── NO ───────────────────┐│
                        │ YES                       ││
         ┌──────────────────────────────┐          ││
         │        Allowed Station No.    │          ││
         │  Touch    ☐☐          0       │          ││
         └──────────────────────────────┘          ││
                        │                           ││
         ┌──────────────────────────────┐          ││
         │        Allowed Station No.    │          ││
         │  Touch    ☐☐          0       │          ││
         └──────────────────────────────┘          ││
                        │                           ││
              ( Confirmation tone )                 ││
                        │                           ││
   NO ──── Release finished?                        ││
                        │ YES                       ││
                  ( Return ) ←──────────────────────┘┘
```

NOTES

1. To allow all the stations to have this function,

   Touch • 5 7 (PTT) (PTT) ··· (PTT)   (Confirmation tone
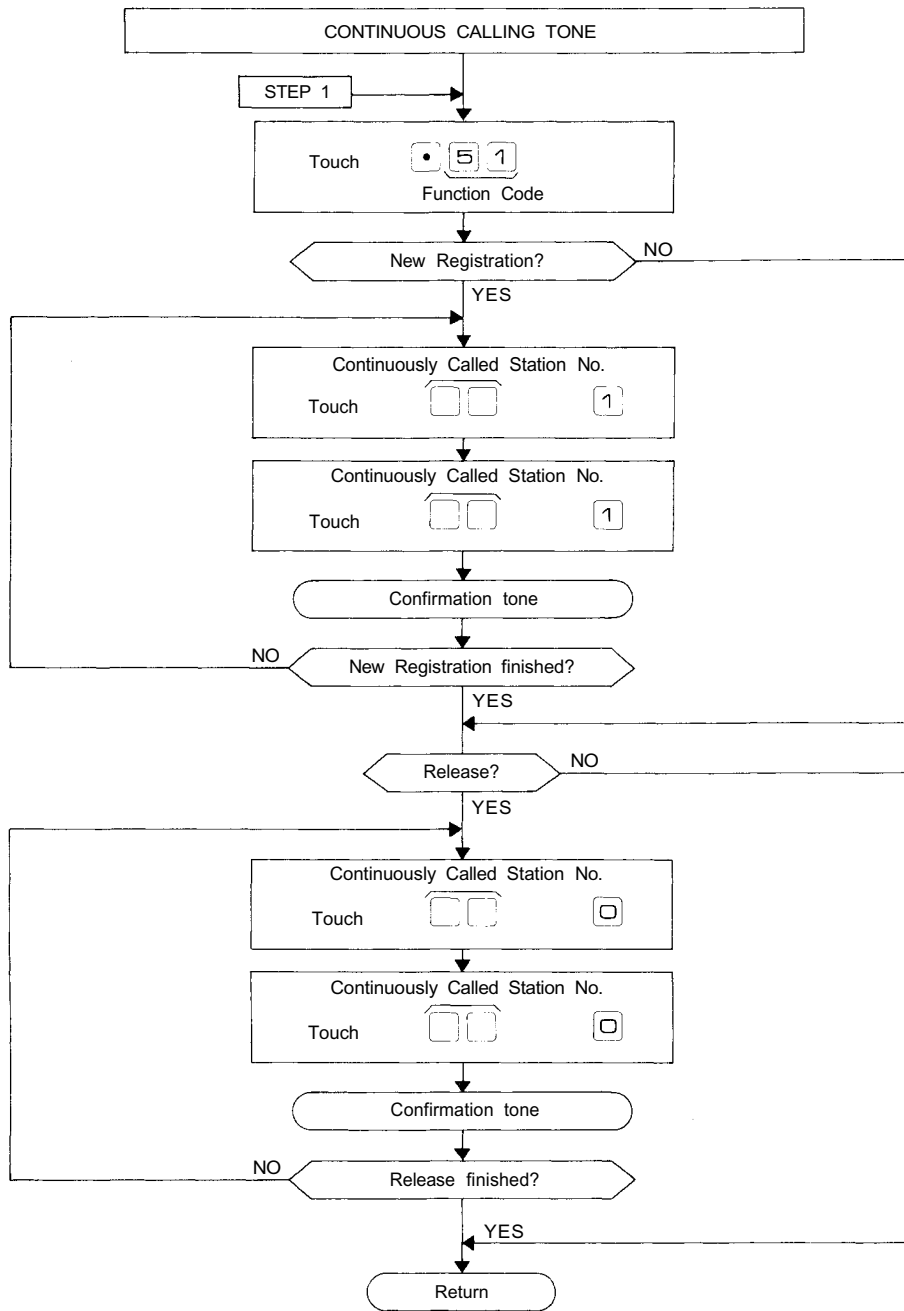   └──────10 times──────┘   will be heard.)

   Be sure to depress the (PTT) key steadily.

2. To release at one time the data programmed into all the stations for this function,

   Touch • 5 7 0 0 ···· 0   (Confirmation tone
          └──10 times──┘   will be heard.)

3. Re-start at Step 1 when mis-dialing occurs. (All other registrations remain valid.)

– 29 –

9. DOOR SUBSTATION REGISTRATION

```
                    ┌─────────────────────────────────────────┐
                    │      DOOR  SUBSTATION  REGISTRATION      │
                    └─────────────────────────────────────────┘
                                        │
              ┌──────────┐              │
              │  STEP 1  │──────────────┤
              └──────────┘              ▼
                    ┌─────────────────────────────────────────┐
                    │    Touch      •  5  8                    │
                    │               Function  Code             │
                    └─────────────────────────────────────────┘
                                        │
                        ◁───────────────────────────▷   NO
                        ◁       New  Registration?   ▷───────────┐
                        ◁───────────────────────────▷            │
                                        │ YES                    │
                 ┌──────────────────────▼                        │
                 │      ┌─────────────────────────────────────┐  │
                 │      │        Allowed  Station  No.         │  │
                 │      │  Touch      ☐ ☐          1          │  │
                 │      └─────────────────────────────────────┘  │
                 │                      │                         │
                 │      ┌─────────────────────────────────────┐  │
                 │      │        Allowed  Station  No.         │  │
                 │      │  Touch      ☐ ☐          1          │  │
                 │      └─────────────────────────────────────┘  │
                 │                      │                         │
                 │          (   Confirmation  tone   )           │
                 │                      │                         │
                 │  NO  ◁──────────────────────────────▷         │
                 └──────◁    New  Registration  finished?  ▷      │
                        ◁──────────────────────────────▷         │
                                        │ YES                     │
                                        ◀─────────────────────────┘
                        ◁───────────────────────────▷   NO
                        ◁          Release?          ▷───────────┐
                        ◁───────────────────────────▷            │
                                        │ YES                    │
                 ┌──────────────────────▼                        │
                 │      ┌─────────────────────────────────────┐  │
                 │      │        Allowed  Station  No.         │  │
                 │      │  Touch      ☐ ☐          0          │  │
                 │      └─────────────────────────────────────┘  │
                 │                      │                         │
                 │      ┌─────────────────────────────────────┐  │
                 │      │        Allowed  Station  No.         │  │
                 │      │  Touch      ☐ ☐          0          │  │
                 │      └─────────────────────────────────────┘  │
                 │                      │                         │
                 │          (   Confirmation  tone   )           │
                 │                      │                         │
                 │  NO  ◁──────────────────────────────▷         │
                 └──────◁     Release  finished?     ▷            │
                        ◁──────────────────────────────▷         │
                                        │ YES                     │
                                        ◀─────────────────────────┘
                              (       Return       )
```

NOTES

1. To allow all the stations to have this function,

   Touch • 5 8 (PTT) (PTT) ··· (PTT)   (Confirmation tone
                 ‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾   will be heard.)
                       10 times
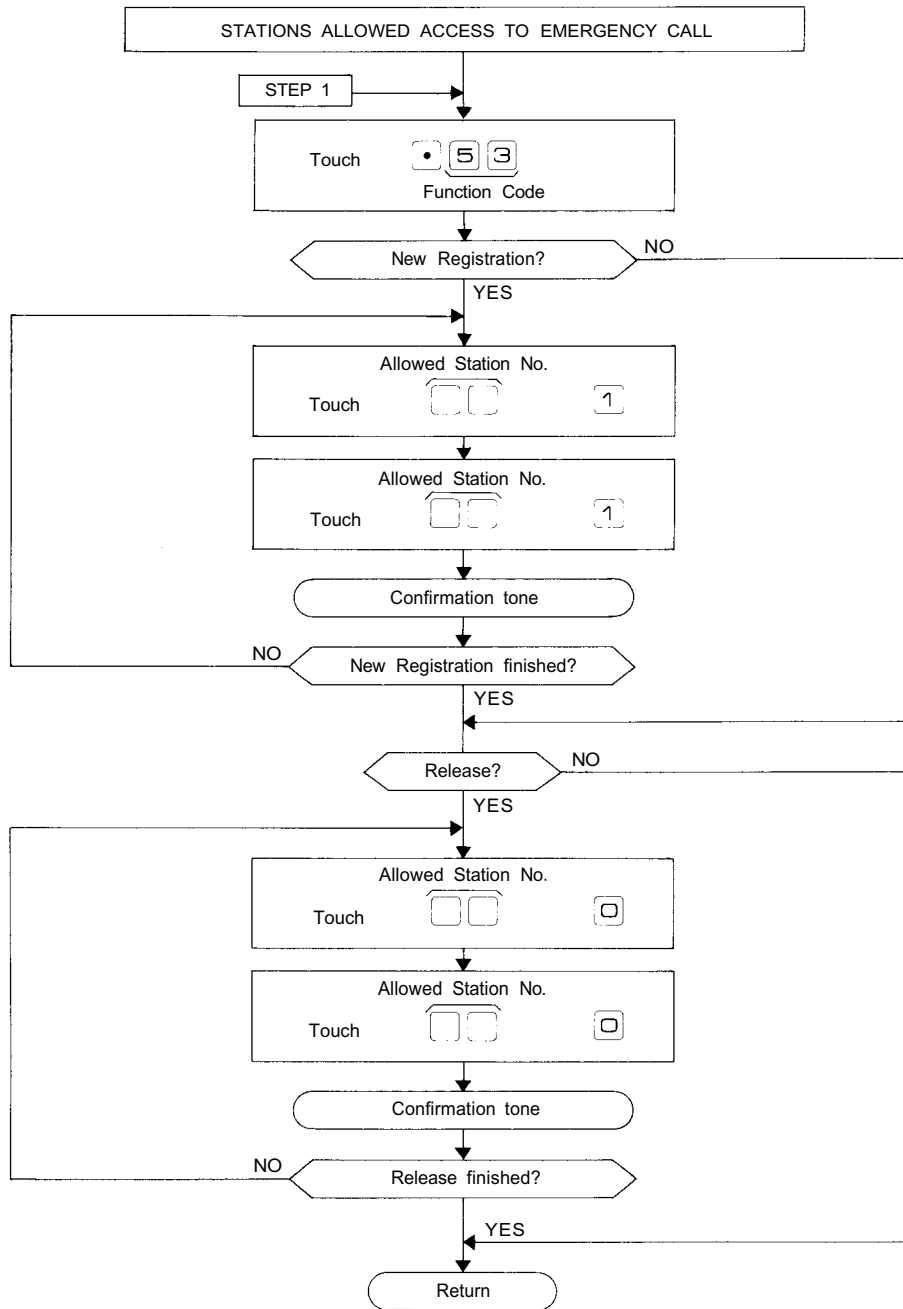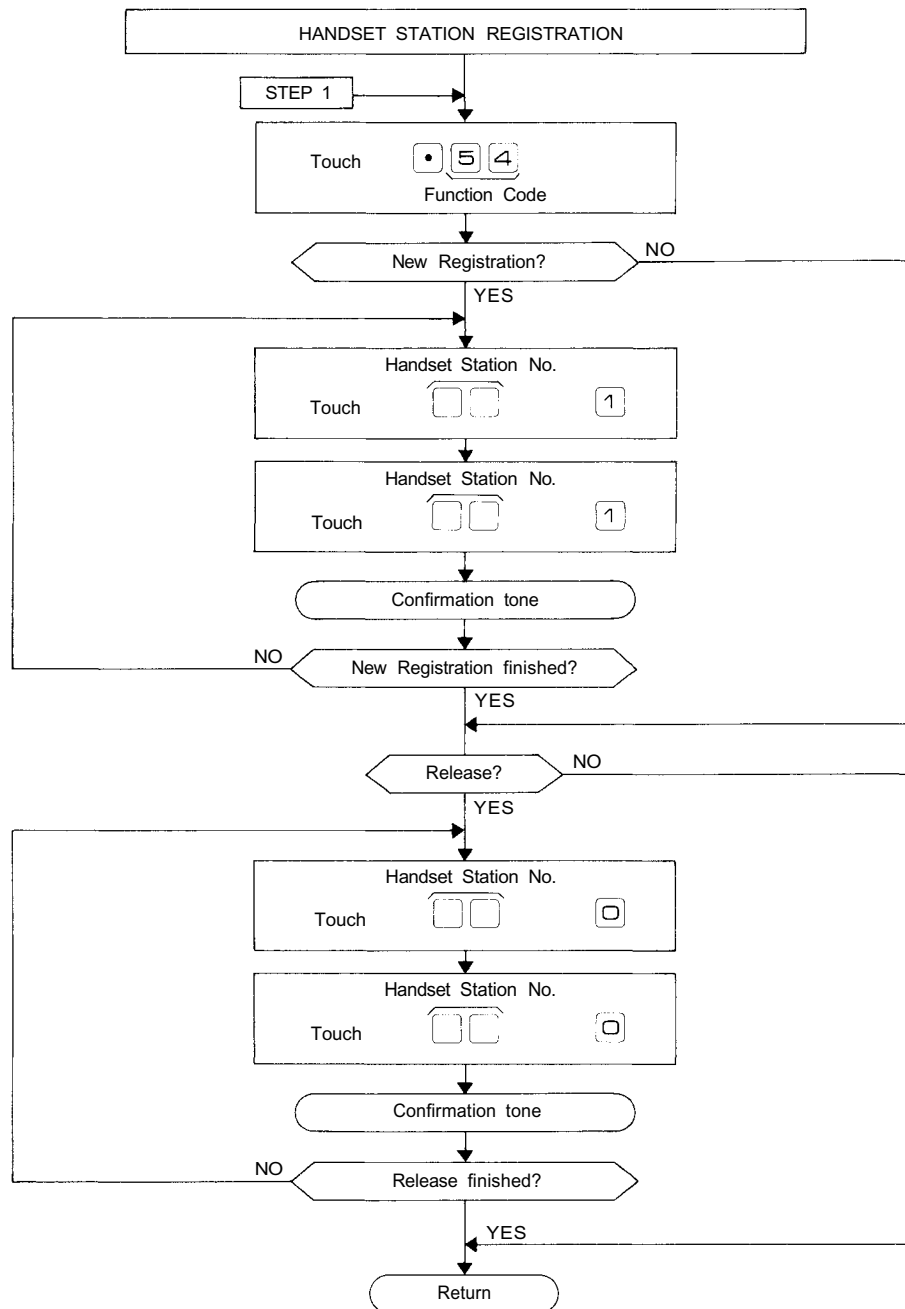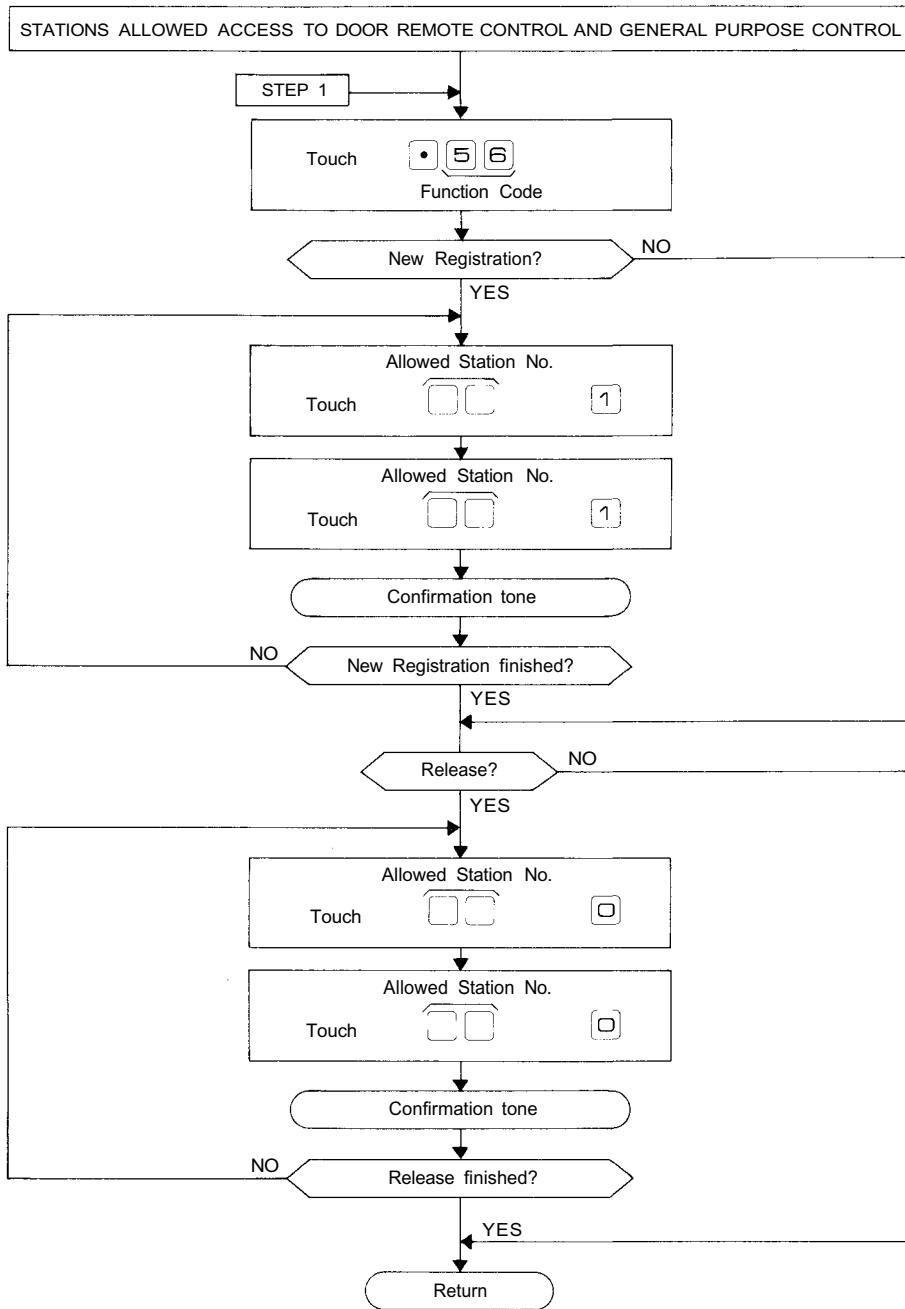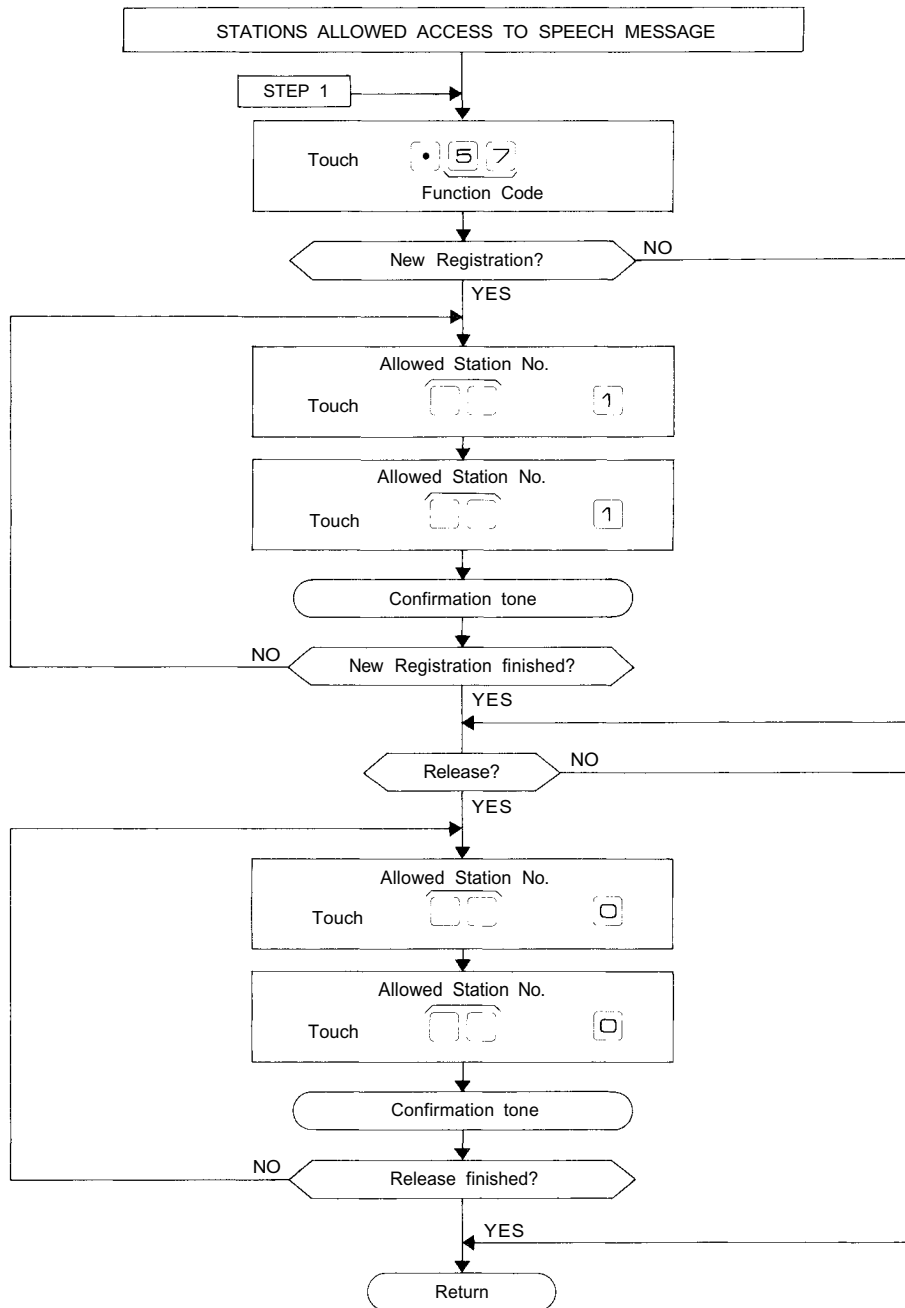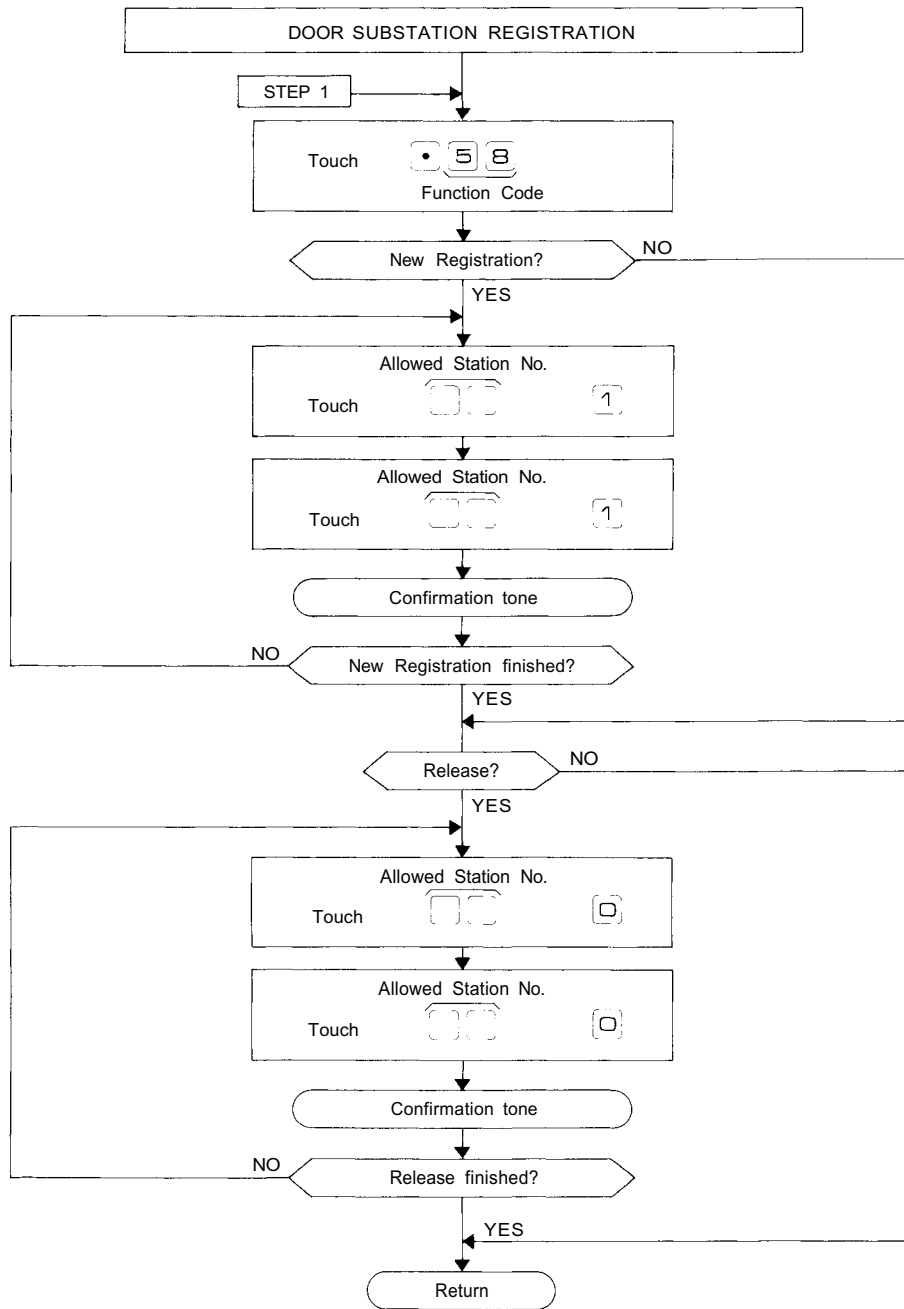
   Be sure to depress the (PTT) key steadily.

2. To release at one time the data programmed into all the stations for this function,

   Touch • 5 8 0 0 ···· 0   (Confirmation tone
                ‾‾‾‾‾‾‾‾‾‾   will be heard.)
                 10 times

3. Re-start at Step 1 when mis-dialing occurs. (All other registrations remain valid.)

– 30 –

10. SECRETARY TRANSFER
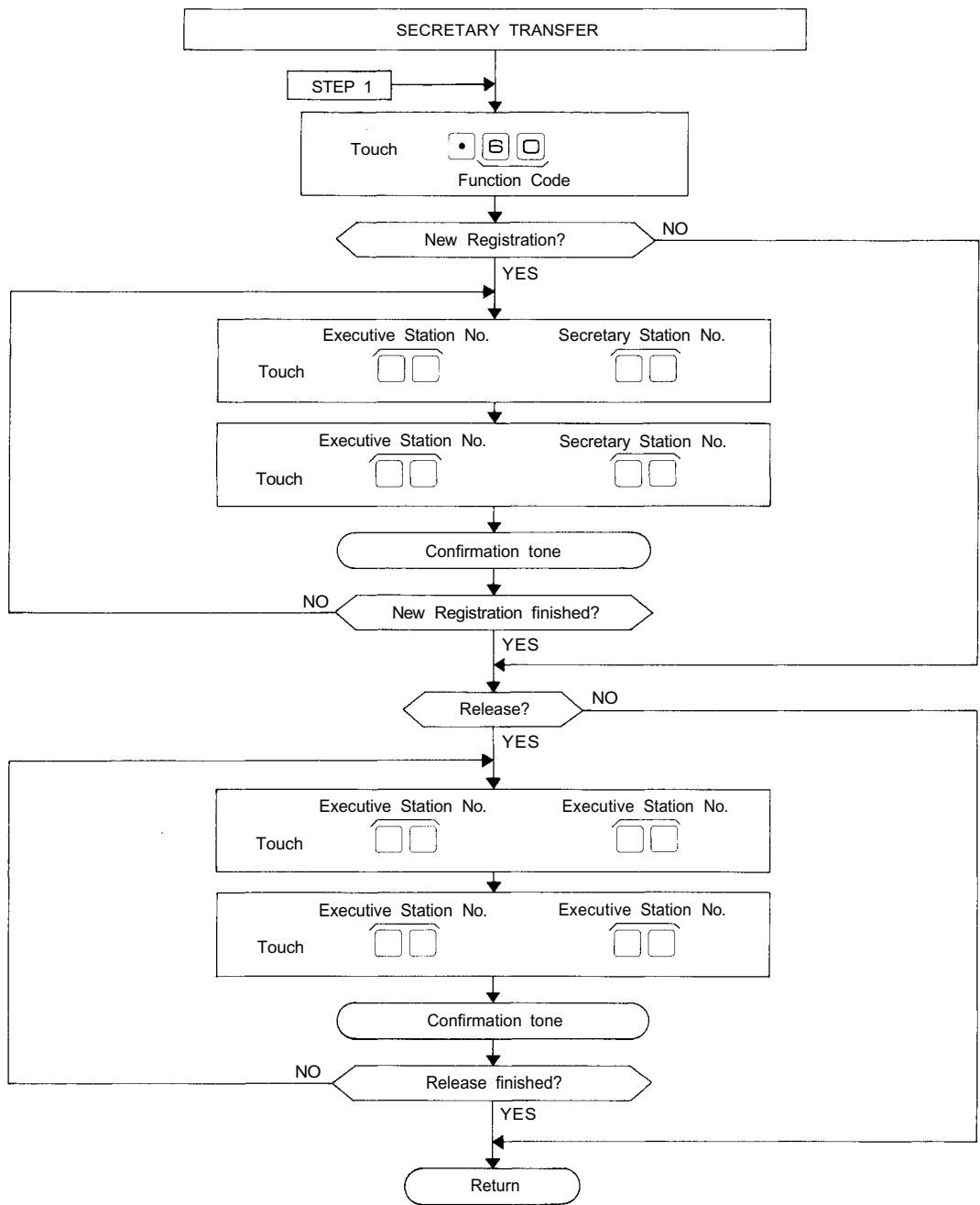
```
┌─────────────────────────────────────────────────┐
│              SECRETARY  TRANSFER                 │
└─────────────────────────────────────────────────┘
                      │
              ┌──────────┐
              │  STEP 1  │────────────┐
              └──────────┘            ▼
        ┌─────────────────────────────────────┐
        │  Touch    [•][6][0]                  │
        │           Function  Code            │
        └─────────────────────────────────────┘
                      │
              ┌───────────────────┐     NO
              ⟨  New  Registration? ⟩────────────┐
              └───────────────────┘              │
                      │ YES                       │
        ┌─────────────────────────────────────┐  │
        │      Executive Station No.  Secretary Station No. │
        │  Touch    [ ][ ]            [ ][ ]   │  │
        └─────────────────────────────────────┘  │
                      │                           │
        ┌─────────────────────────────────────┐  │
        │      Executive Station No.  Secretary Station No. │
        │  Touch    [ ][ ]            [ ][ ]   │  │
        └─────────────────────────────────────┘  │
                      │                           │
              ( Confirmation  tone )              │
                      │                           │
        NO   ⟨ New  Registration  finished? ⟩     │
        ┌─────────────────────────────────────┐  │
        │                  │ YES                │  │
        │                  ◄──────────────────────┘
        │          ┌───────────────┐     NO
        │          ⟨   Release?     ⟩────────────┐
        │          └───────────────┘            │
        │                  │ YES                 │
        │  ┌─────────────────────────────────┐  │
        │  │  Executive Station No.  Executive Station No. │
        │  │  Touch  [ ][ ]          [ ][ ]  │  │
        │  └─────────────────────────────────┘  │
        │                  │                     │
        │  ┌─────────────────────────────────┐  │
        │  │  Executive Station No.  Executive Station No. │
        │  │  Touch  [ ][ ]          [ ][ ]  │  │
        │  └─────────────────────────────────┘  │
        │                  │                     │
        │          ( Confirmation  tone )        │
        │                  │                     │
        └── NO ⟨ Release  finished? ⟩            │
                           │ YES                 │
                           ◄─────────────────────┘
                     (  Return  )
```

NOTES

1. To release at one time the data programmed into all the stations for this function,

   Touch [•][6][0][0][0] ···· [0]   (Confirmation tone
                └──────────┘   will be heard.)
                 10 times
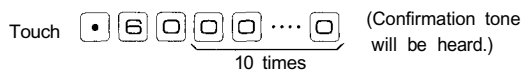
2. Re-start at Step 1 when mis-dialing occurs.
   (All other registrations remain valid.)

3. Programming of Secretary Transfer can be made in a daisy chain method. For their examples, refer to the following sketch.

```
              ( No. 23 )
           ↗            ↘
    ( No. 27 )        ( No. 24 )
           ↖            ↙
```

– 31 –

11. MASTER/SUB RELATIONSHIP

```
┌─────────────────────────────────────────────────────┐
│              MASTER/SUB  RELATIONSHIP                │
└─────────────────────────────────────────────────────┘
                           │
        ┌─────────┐        │
        │ STEP 1  │───────▶│
        └─────────┘        │
                           ▼
        ┌──────────────────────────────────┐
        │  Touch    [•][6][1]               │
        │           Function  Code          │
        └──────────────────────────────────┘
                           │
                  ╱─────────────────╲    NO
                 ⟨  New  Registration? ⟩──────────┐
                  ╲─────────────────╱             │
                           │ YES                  │
                           ▼                      │
        ┌──────────────────────────────────┐      │
        │        Sub Station No.   Master Station No. │
        │  Touch    [ ][ ]          [ ][ ]  │      │
        └──────────────────────────────────┘      │
                           │                      │
        ┌──────────────────────────────────┐      │
        │        Sub Station No.   Master Station No. │
        │  Touch    [ ][ ]          [ ][ ]  │      │
        └──────────────────────────────────┘      │
                           │                      │
                 (  Confirmation tone  )          │
                           │                      │
        NO       ╱──────────────────────╲         │
       ┌────────⟨  New  Registration finished? ⟩  │
       │         ╲──────────────────────╱         │
       │                  │ YES                   │
       │                  ▼                       │
       │          ╱────────────╲    NO            │
       │         ⟨   Release?    ⟩────────────────┤
       │          ╲────────────╱                  │
       │                  │ YES                   │
       │                  ▼                       │
       │  ┌──────────────────────────────────┐    │
       │  │     Sub Station No.   Sub Station No. │
       │  │ Touch  [ ][ ]          [ ][ ]    │    │
       │  └──────────────────────────────────┘    │
       │                  │                       │
       │  ┌──────────────────────────────────┐    │
       │  │     Sub Station No.   Sub Station No. │
       │  │ Touch  [ ][ ]          [ ][ ]    │    │
       │  └──────────────────────────────────┘    │
       │                  │                       │
       │         (  Confirmation tone  )          │
       │                  │                       │
       │  NO     ╱──────────────────╲             │
       └────────⟨  Release finished?  ⟩           │
                 ╲──────────────────╱             │
                          │ YES                   │
                          ▼◀─────────────────────┘
                 (     Return     )
```
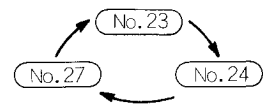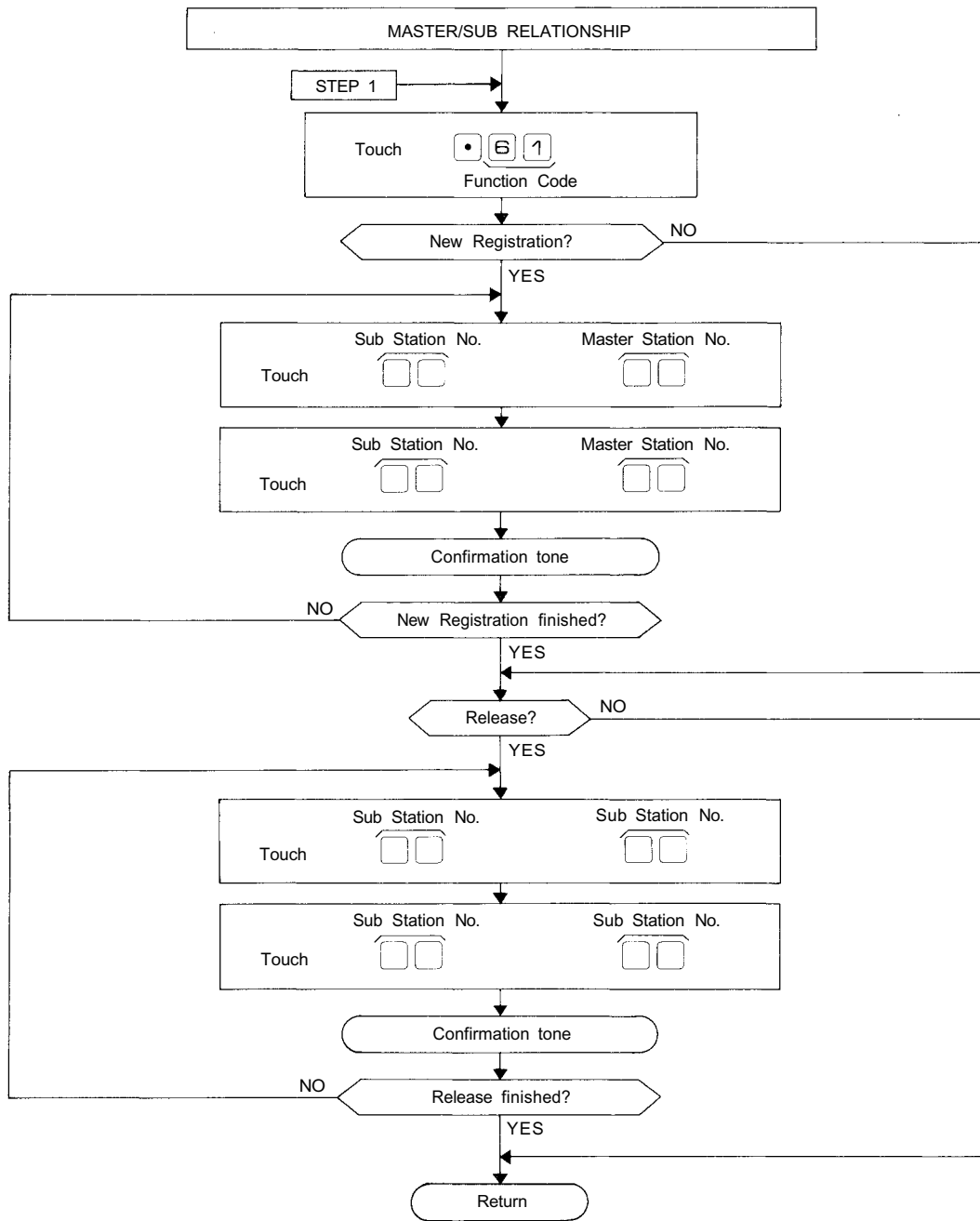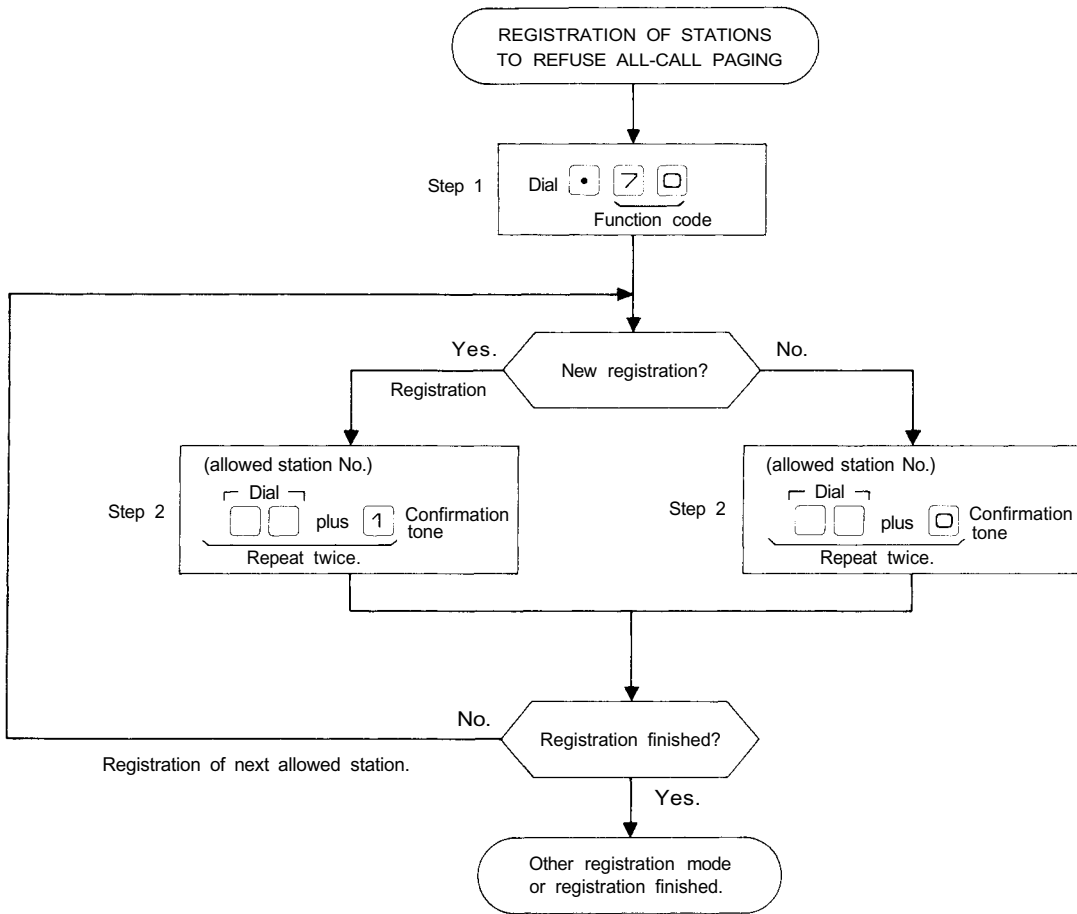
NOTES

1. To release at one time the data programmed into all the stations for this function,

   Touch [•][6][1][0][0] ···· [0] (Confirmation tone
                  ╰──10 times──╯   will be heard.)

2. Re-start at Step 1 when mis-dialing occurs. (All other registrations remain valid.)

– 32 –

12. REGISTRATION OF STATIONS TO REFUSE ALL-CALL PAGING

```
        ┌─────────────────────────────┐
        │  REGISTRATION OF STATIONS    │
        │  TO REFUSE ALL-CALL PAGING   │
        └─────────────────────────────┘
                      │
                      ▼
Step 1    Dial [•] [7] [0]
                 Function code
                      │
                      ▼
   Yes.    ◇ New registration? ◇    No.
Registration │                   │
             ▼                   ▼
Step 2                     Step 2
(allowed station No.)      (allowed station No.)
┌─ Dial ─┐                 ┌─ Dial ─┐
[ ][ ] plus [1] Confirmation   [ ][ ] plus [0] Confirmation
        tone                           tone
Repeat twice.              Repeat twice.
             │                   │
             └───────┬───────────┘
                     ▼
   No.     ◇ Registration finished? ◇
             │                Yes.
Registration of next          │
allowed station.              ▼
        ┌─────────────────────────────┐
        │  Other registration mode     │
        │  or registration finished.   │
        └─────────────────────────────┘
```

NOTES

1. All the stations are registered for this function when initial set-up is made.

2. To cancel at one time the data programmed into all the stations for this function,

   Dial [•] [7] [0] [0][0] · · · · · · [0][0]   (Confirmation tone will be heard.)
   _____
        10 times

3. To register all the stations for this function,

   Dial [•] [7] [0] (PTT)(PTT) · · · · · (PTT)(PTT)   (Confirmation tone will be heard.)
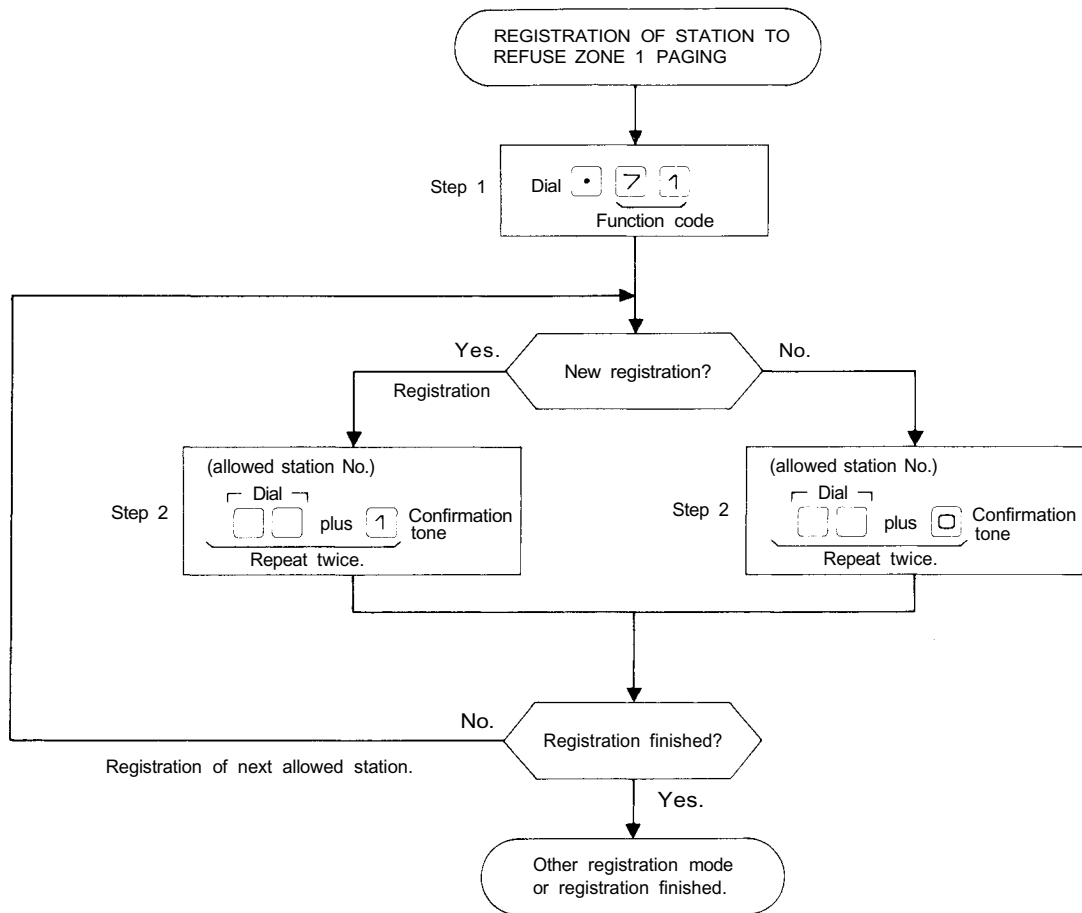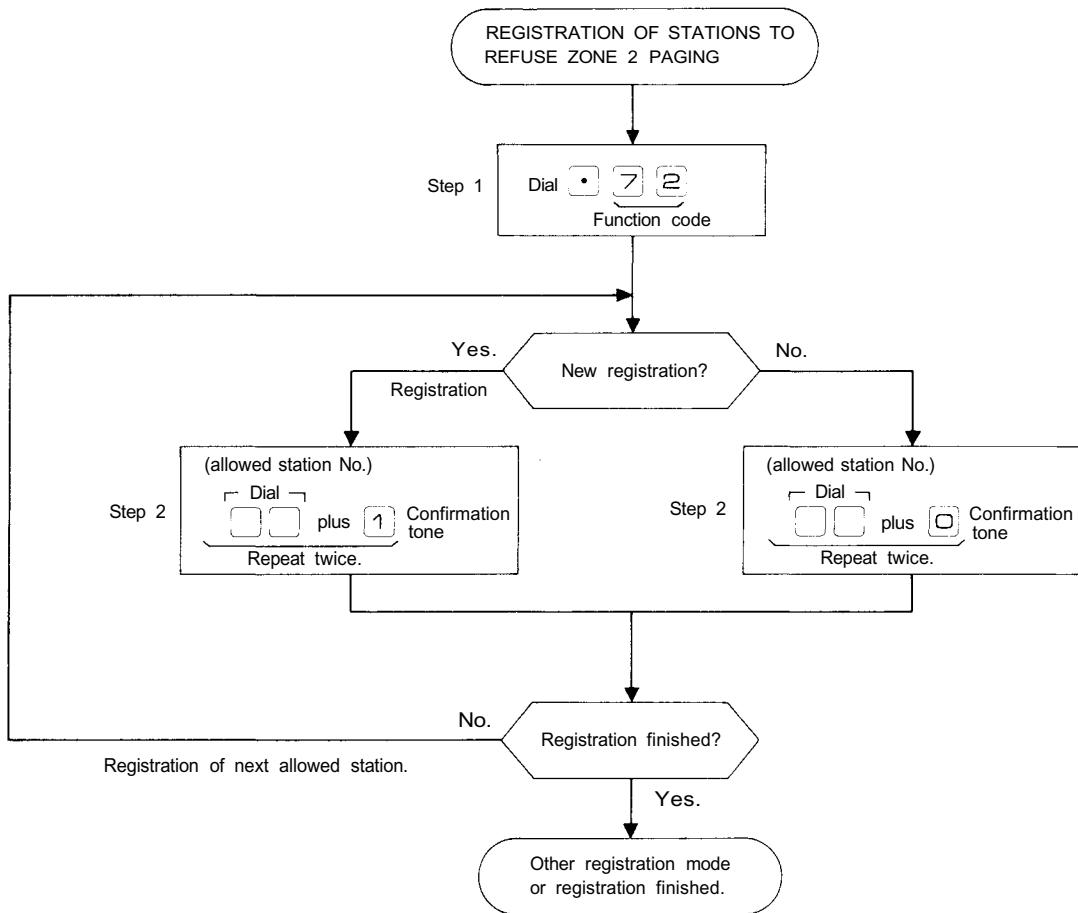   _____
            10 times

   Depress the (PTT) key steadily.

4. To register stations having consecutive station numbers for this function,

   First station No.   Last station No.

   Dial [•] [7] [0] [X][X]   [X][X]
   _____
              Repeat twice.

5. Re-start at Step 1 when mis-dialing occurs. (All other registrations remain valid.)

– 33 –

13. REGISTRATION OF STATION TO REFUSE ZONE 1 PAGING

```
            ┌─────────────────────────────┐
            │  REGISTRATION OF STATION TO  │
            │   REFUSE ZONE 1 PAGING       │
            └─────────────────────────────┘
                          │
                          ▼
Step 1      ┌──────────────────────────────┐
            │  Dial  [•] [7] [1]           │
            │        Function code         │
            └──────────────────────────────┘
                          │
                          ▼
        Yes.  ╱───────────────────────╲  No.
        ◄─────┤    New registration?   ├─────►
Registration  ╲───────────────────────╱
        │                                      │
        ▼                                      ▼
Step 2  ┌──────────────────────┐   Step 2  ┌──────────────────────┐
        │ (allowed station No.)│           │ (allowed station No.)│
        │  ┌─ Dial ─┐          │           │  ┌─ Dial ─┐          │
        │  [ ][ ] plus [1]     │           │  [ ][ ] plus [0]     │
        │            Confirmation│         │            Confirmation│
        │            tone       │           │            tone      │
        │  Repeat twice.        │           │  Repeat twice.       │
        └──────────────────────┘           └──────────────────────┘
                │                                   │
                └───────────────┬───────────────────┘
                                ▼
   No.  ╱────────────────────────────╲
  ◄─────┤    Registration finished?   ├
        ╲────────────────────────────╱
Registration of next allowed station.
                                │ Yes.
                                ▼
                    ┌──────────────────────────┐
                    │  Other registration mode │
                    │  or registration finished.│
                    └──────────────────────────┘
```

NOTES

1. All the stations are registered for this function when initial set-up is made.

2. To cancel at one time the data programmed to all the stations for this function,

   Dial [•] [7] [1] [0][0] ······ [0][0]   (Confirmation tone will be heard.)
                    └──── 10 times ────┘

3. To register all the stations for this function,

   Dial [•] [7] [1] (PTT)(PTT) ····· (PTT)(PTT)   (Confirmation tone will be heard.)
                    └──────── 10 times ────────┘
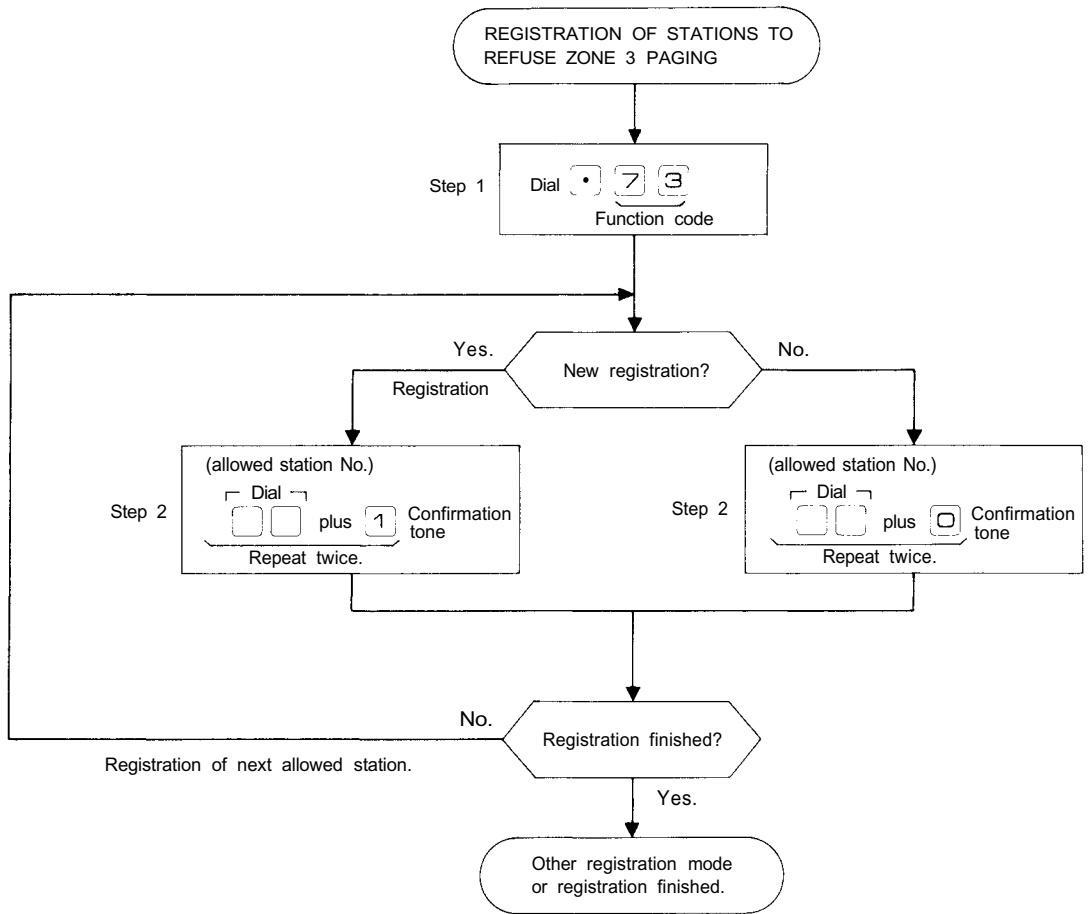
   Depress the (PTT) key steadily.

4. To register stations having consecutive station numbers for this function,

                    First station No.   Last station No.
   Dial [•] [7] [1]   [X][X]   [X][X]
                    └────── Repeat twice. ──────┘

5. Re-start at Step 1 when mis-dialing occurs. (All other registrations remain valid.)

– 34 –

14. REGISTRATION OF STATIONS TO REFUSE ZONE 2 PAGING

```
                    ┌──────────────────────────────┐
                    │ REGISTRATION OF STATIONS TO   │
                    │ REFUSE ZONE 2 PAGING          │
                    └──────────────────────────────┘
                                  │
                                  ▼
Step 1              ┌──────────────────────────────┐
                    │ Dial  [·] [7] [2]             │
                    │       └─ Function code ─┘     │
                    └──────────────────────────────┘
                                  │
                                  ▼
         Yes.      ╱─────────────────────╲      No.
      Registration ╲   New registration?  ╱
                    ╲─────────────────────╱
            │                                    │
            ▼                                    ▼
Step 2  ┌────────────────────────┐   Step 2  ┌────────────────────────┐
        │ (allowed station No.)  │           │ (allowed station No.)  │
        │  ┌ Dial ┐              │           │  ┌ Dial ┐              │
        │  [  ][  ] plus [1] Conf.│          │  [  ][  ] plus [0] Conf.│
        │           tone          │          │           tone          │
        │  └─ Repeat twice. ─┘    │          │  └─ Repeat twice. ─┘    │
        └────────────────────────┘           └────────────────────────┘
            │                                    │
            └─────────────┬──────────────────────┘
                          ▼
         No.     ╱─────────────────────────╲
                 ╲   Registration finished?  ╱
                 ╲─────────────────────────╱
   Registration of next          │
   allowed station.              ▼ Yes.
                    ┌──────────────────────────────┐
                    │ Other registration mode       │
                    │ or registration finished.     │
                    └──────────────────────────────┘
```

NOTES

1. All the stations are registered for this function when initial set-up is made.

2. To cancel at one time the data programmed to all the stations for this function,

   Dial [·] [7] [2] [0][0] ······ [0][0] (Confirmation tone will be heard.)
                    └── 10 times ──┘

3. To register all the stations for this function,

   Dial [·] [7] [2] (PTT)(PTT) ····· (PTT)(PTT) (Confirmation tone will be heard.)
                    └──── 10 times ────┘
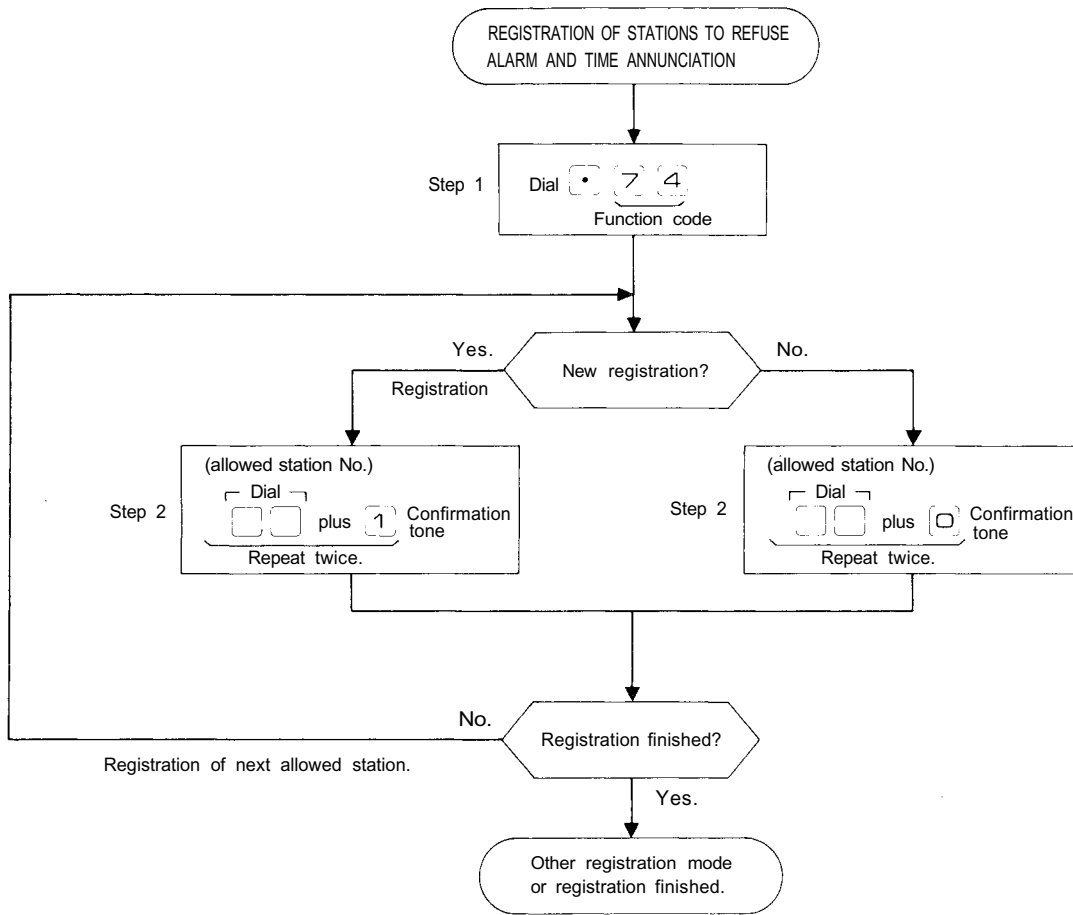
   Depress the (PTT) key steadily.

4. To register stations having consecutive station numbers for this function,

   First station No.   Last station No.

   Dial [·] [7] [2] [X][X]   [X][X]
                    └── Repeat twice. ──┘

5. Re-start at Step 1 when mis-dialing occurs. (All other registrations remain valid.)

– 35 –

15. REGISTRATION OF STATIONS TO REFUSE ZONE 3 PAGING

NOTES

1. All the stations are registered for this function when initial set-up is made.

2. To cancel at one time the data programmed to all the stations for this function,

    Dial $\boxed{\bullet}$ $\boxed{7}$ $\boxed{3}$ $\underbrace{\boxed{0}\boxed{0}\cdots\cdots\boxed{0}\boxed{0}}_{\text{10 times}}$ (Confirmation tone will be heard.)

3. To register all the stations for this function,

    Dial $\boxed{\bullet}$ $\boxed{7}$ $\boxed{3}$ $\underbrace{(\text{PTT})(\text{PTT})\cdots\cdots(\text{PTT})(\text{PTT})}_{\text{10 times}}$ (Confirmation tone will be heard.)

    Depress the (PTT) key steadily.

4. To register stations having consecutive station numbers for this function,

    $$\text{First station No.}\quad\text{Last station No.}$$
    Dial $\boxed{\bullet}$ $\boxed{7}$ $\boxed{3}$ $\underbrace{\boxed{\times}\boxed{\times}\qquad\boxed{\times}\boxed{\times}}_{\text{Repeat twice.}}$

5. Re-start at Step 1 when mis-dialing occurs. (All other registrations remain valid.)

16. REGISTRATION OF STATIONS TO REFUSE ALARM AND TIME ANNUNCIATION

NOTES

1. All the stations are registered for this function when initial set-up is made.

2. To cancel at one time the data programmed into all the stations for this function,

   Dial $\boxed{\cdot}\boxed{7}\boxed{4}$ $\underbrace{\boxed{0}\boxed{0}\cdots\cdots\boxed{0}\boxed{0}}_{10\ times}$ (Confirmation tone will be heard.)

3. To register all the stations for this function,

   Dial $\boxed{\cdot}\boxed{7}\boxed{4}$ $\underbrace{\text{(PTT)}\text{(PTT)}\cdots\cdots\text{(PTT)}\text{(PTT)}}_{10\ times}$ (Confirmation tone will be heard.)

   Depress the (PTT) key steadily.

4. To register stations having consecutive station numbers for this function,

   First station No.   Last station No.

   Dial $\boxed{\cdot}\boxed{7}\boxed{4}$ $\underbrace{\boxed{\times}\boxed{\times}\qquad\boxed{\times}\boxed{\times}}_{Repeat\ twice.}$

5. Re-start at Step 1 when mis-dialing occurs. (All other registrations remain valid.)

8. Performance Test

After finishing station No.24 programming, perform operation tests from each station. Write down the test results in "Initial Checking Sheet".

8-1 Speech and Function Tests

1. Speech Test
* Under the normal condition, make conversation using the stations connected to the exchange and check the sound volume and sound quality.
* According to the operation environment (surrounding noise, echo, installed location, etc.), the microphone sensitivity or speaker volume needs to be adjusted for hands-free conversation.
* When the paging function is employed, adjust the gain of the paging amplifier or change the installed location of the speakers and stations to eliminate feed-back.

<Method of Speech test>

(1) Hands-free conversation

1. Call the other station.
2. Start conversation about 50 cm away from each station to check the sound quality and its volume.
3. Confirm that the automatic voice switching allows for smooth conversation.
4. When the other station is in a very noisy area, the voice switches are liable to fail to work properly, causing the voice from the station in a quiet area to be interrupted. In this case, adjust microphone sensitivity and speaker sound volume according to the operating instructions contained in a package of each station.

Noisy area	Quiet area
Station A	Station B
Voice from station B is interrupted.	Surrounding noise at station A has dominance. (Voice from station B is almost impossible.)
↓	↓
Press PTT key to talk and release it to listen.	Speak loudly or Press PTT key to talk.

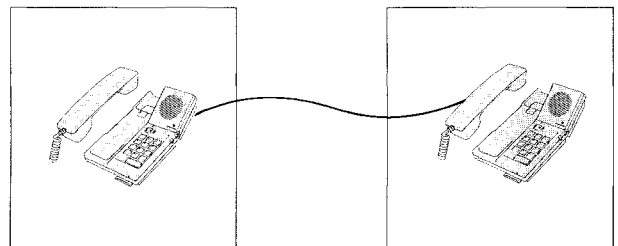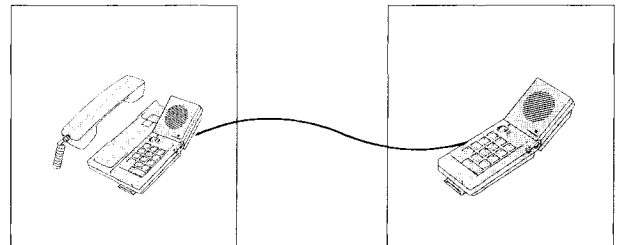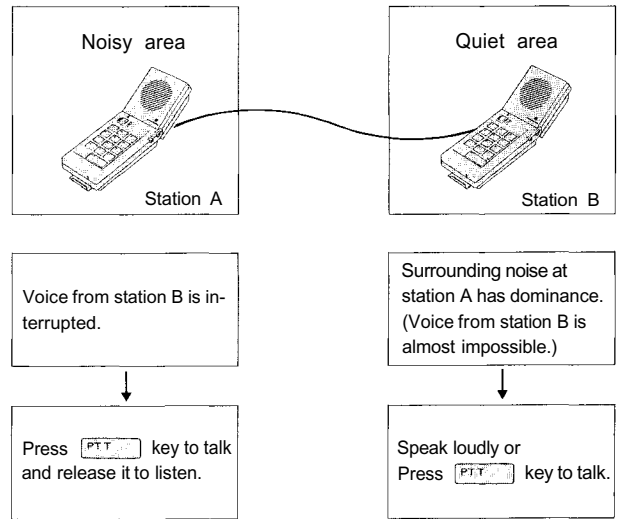#### (2) Conversation between a handset station and a handsfree station

1. Call the other station.
2. Start conversation and check the sound quality and sound volume and also confirm that simultaneous conversation is possible.
3. When feed-back occurs, adjust the microphone sensitivity or speaker volume of the hands-free station.
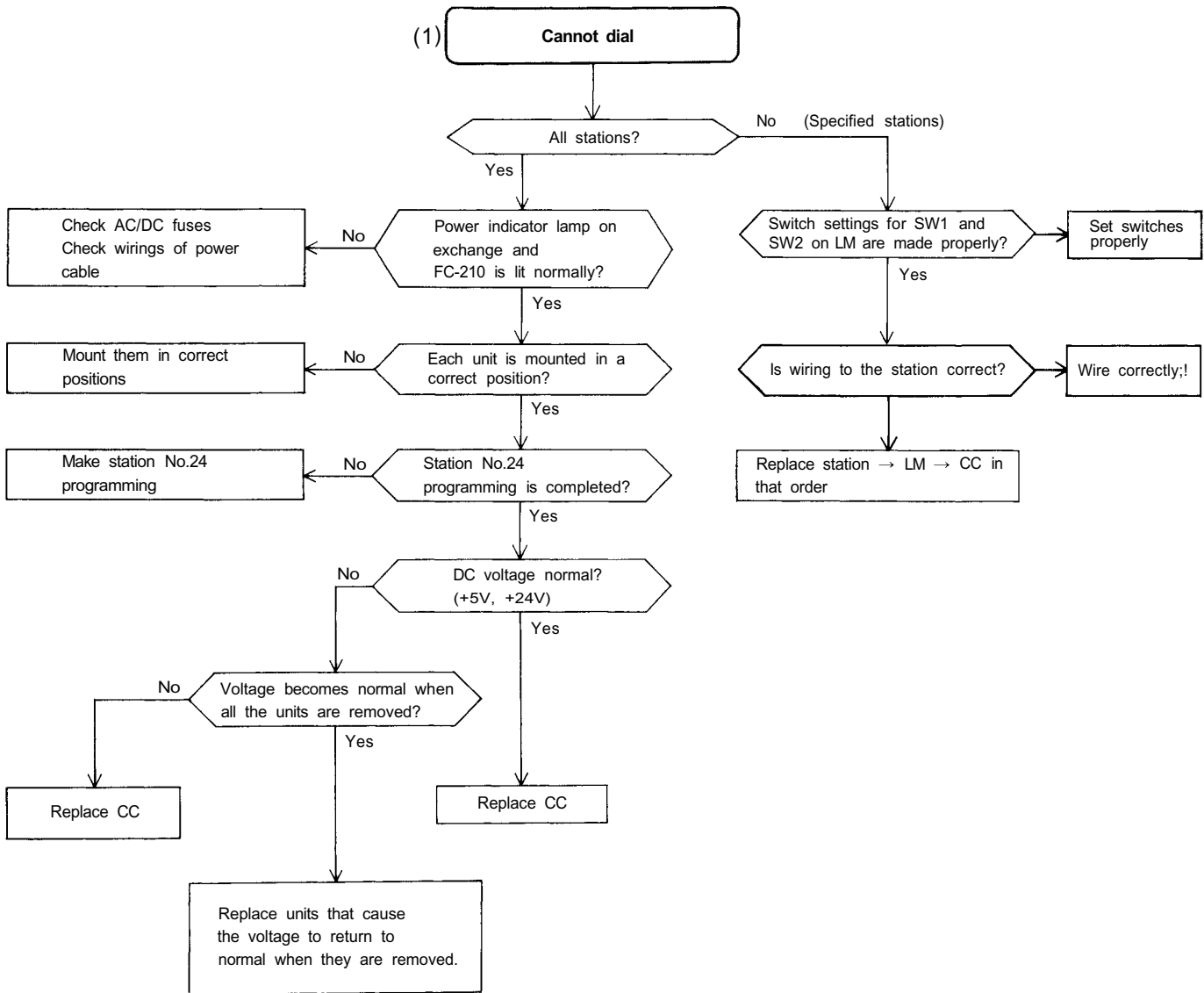

(3) Handset conversation

1. Call the other station.
2. Start conversation and check the sound quality and sound volume and also confirm that simultaneous conversation is possible.
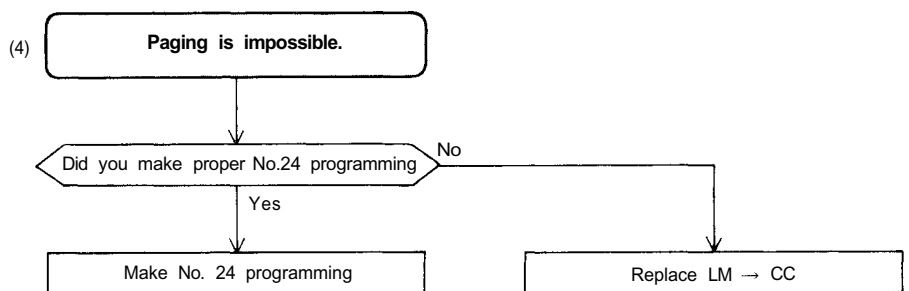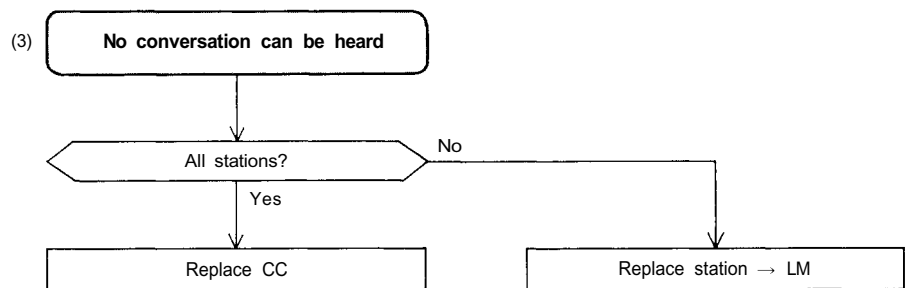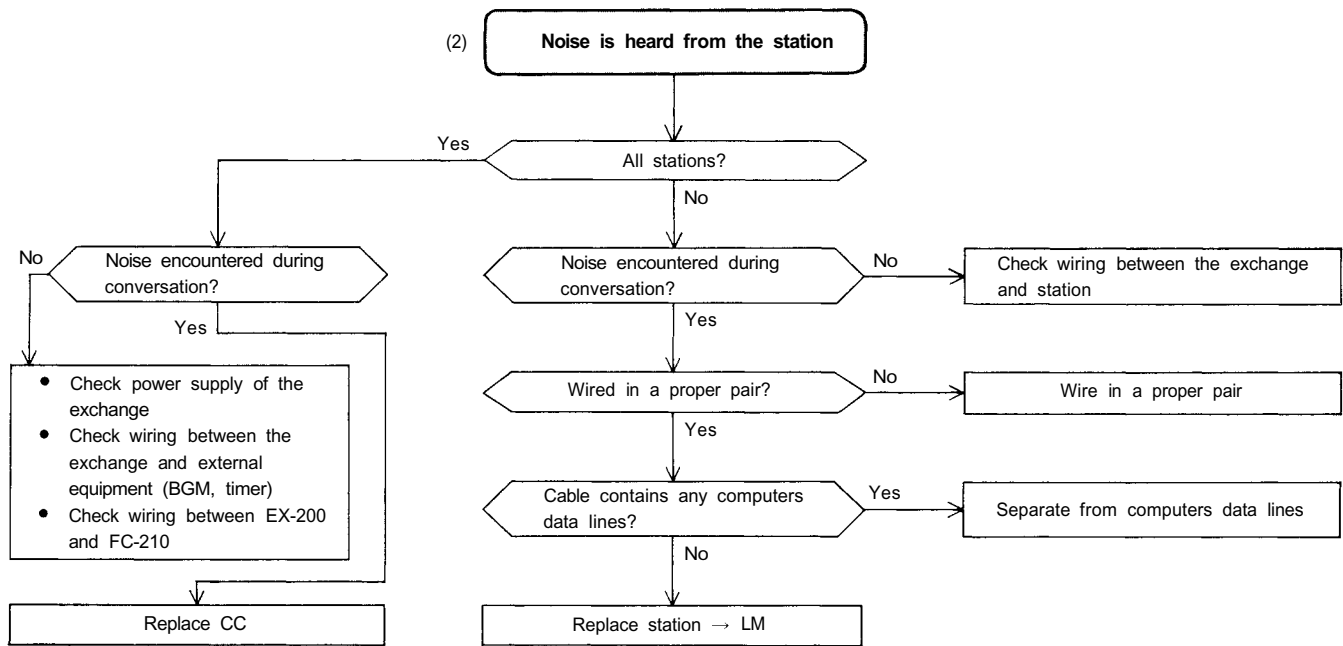

2. Function Test
Confirm that each function works properly by performing tests according to operation manual.

– 38 –

8-2. Trouble-shooting at the time of installation

(1) **Cannot dial**

```
                    All stations? ──No── (Specified stations)
                         │Yes                      │
                         ▼                          ▼
Check AC/DC fuses    Power indicator lamp on    Switch settings for SW1 and ──No── Set switches
Check wirings of ──No── exchange and            SW2 on LM are made properly?       properly
power cable          FC-210 is lit normally?              │Yes
                         │Yes                              ▼
                         ▼                          Is wiring to the station ──No── Wire correctly;!
Mount them in        Each unit is mounted in a    correct?
correct ──────No──── correct position?                    │
positions                │Yes                             ▼
                         ▼                          Replace station → LM → CC in
Make station No.24   Station No.24                 that order
programming ──No──── programming is completed?
                         │Yes
                         ▼
              No── DC voltage normal?
               │   (+5V, +24V)
               │        │Yes
               ▼        │
No── Voltage becomes normal when
 │   all the units are removed?
 │        │Yes
 ▼        │              ▼
Replace CC│          Replace CC
          ▼
    Replace units that cause
    the voltage to return to
    normal when they are removed.
```

(2) **Noise is heard from the station**

All stations?

— Yes →

Noise encountered during conversation? — No

— Yes →

- Check power supply of the exchange
- Check wiring between the exchange and external equipment (BGM, timer)
- Check wiring between EX-200 and FC-210

Replace CC

Noise encountered during conversation? — No → Check wiring between the exchange and station

— Yes →

Wired in a proper pair? — No → Wire in a proper pair

— Yes →

Cable contains any computers data lines? — Yes → Separate from computers data lines

— No →

Replace station → LM

(3) **No conversation can be heard**

All stations? — No → Replace station → LM

— Yes →

Replace CC

(4) **Paging is impossible.**

Did you make proper No.24 programming — No → Replace LM → CC

— Yes →

Make No. 24 programming

(5) Other troubles

- Additional functions cannot be operated.
  → Wrong wiring. Wrong DIP switch settings. Error in No. 24 programming.
- Selectable functions cannot be operated.
  → Error in No. 24 programming.

9. FUNCTION TABLE FOR STATIONS

Function Table for Stations

Function / Hardwired Station No. / Name	Highest Executive Priority	Continuous Calling Tone	Stations Allowed Access to paging	Handset Station Registration	Stations Allowed Access to Emergency All-Call paging	Stations Allowed Access to Door Remote Control and General Purpose Control	Speech message	Door Substation	Secretary Station No.	Master Station No.	Stations to refuse incoming all-call paging.	Stations to refuse zone 1 paging	Stations to refuse zone 2 paging	Stations to refuse zone 3 paging	Stations to refuse alarm and time annunciations.
20															
21															
22															
23															
24															
25															
26															
27															
28															
29															
30															
31															
32															
33															
34															
35															
36															
37															
38															
39															
40															
41															
42															
43															
44															
45															
46															
47															
48															
49															
50															

10. STATION DATA TABLE

Station Data Table

Item / Station No. / Name		Type of stations	Check if conversation can be made normally.			
	20					
	21					
	22					
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					
	45					
	46					
	47					
	48					
	49					
	50					

Download from Www.Somanuals.com. All Manuals Search And Download.

TOA

Free Manuals Download Website

http://myh66.com

http://usermanuals.us

http://www.somanuals.com

http://www.4manuals.cc

http://www.manual-lib.com

http://www.404manual.com

http://www.luxmanual.com

http://aubethermostatmanual.com

Golf course search by state

http://golfingnear.com

Email search by domain

http://emailbydomain.com

Auto manuals search

http://auto.somanuals.com

TV manuals search

http://tv.somanuals.com