EXES 6000
INTERCOM SYSTEM

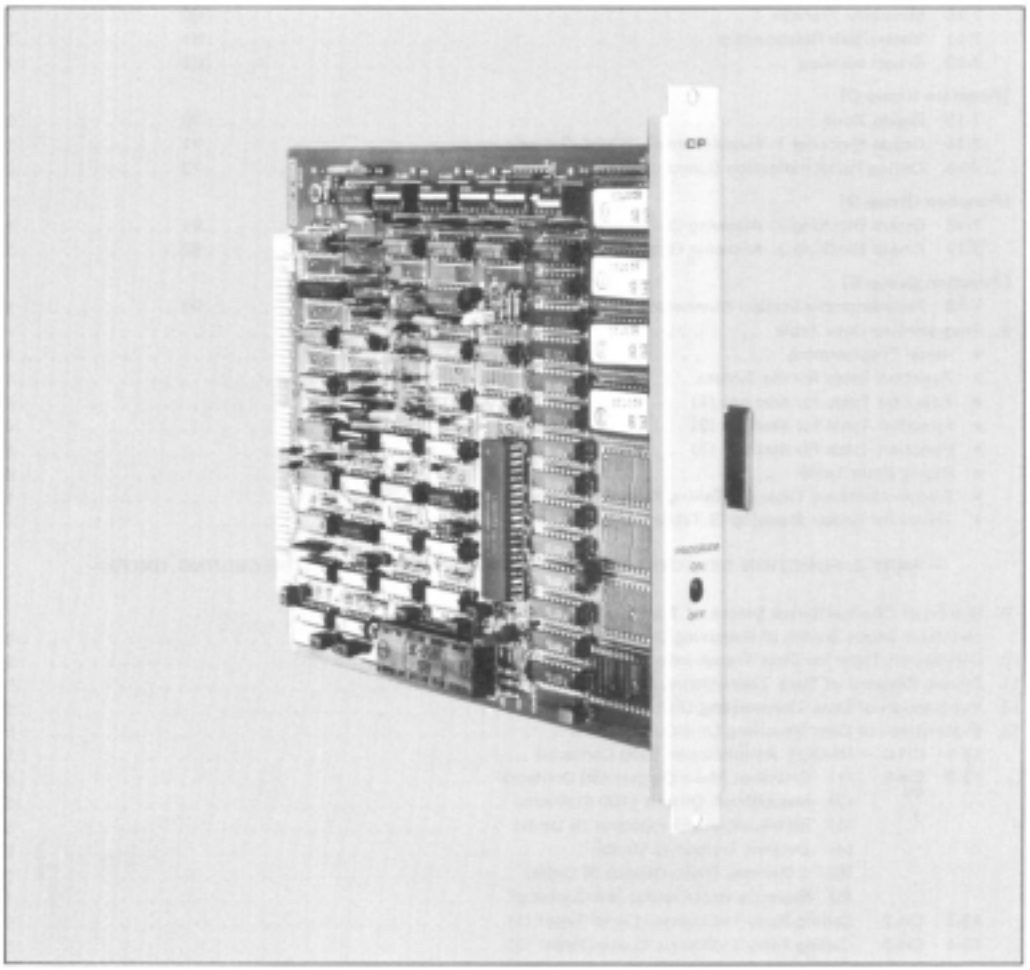
For _____

TOA EXES-6OOO INTERCOM SYSTEM

Central Processing Unit for Tie-line System

CP-63

INSTALLATION HAND BOOK



TOA Sound & Communications
TOA ELECTRIC CO., LTD.
KOBE, JAPAN

133-21-081-1

CONTENTS

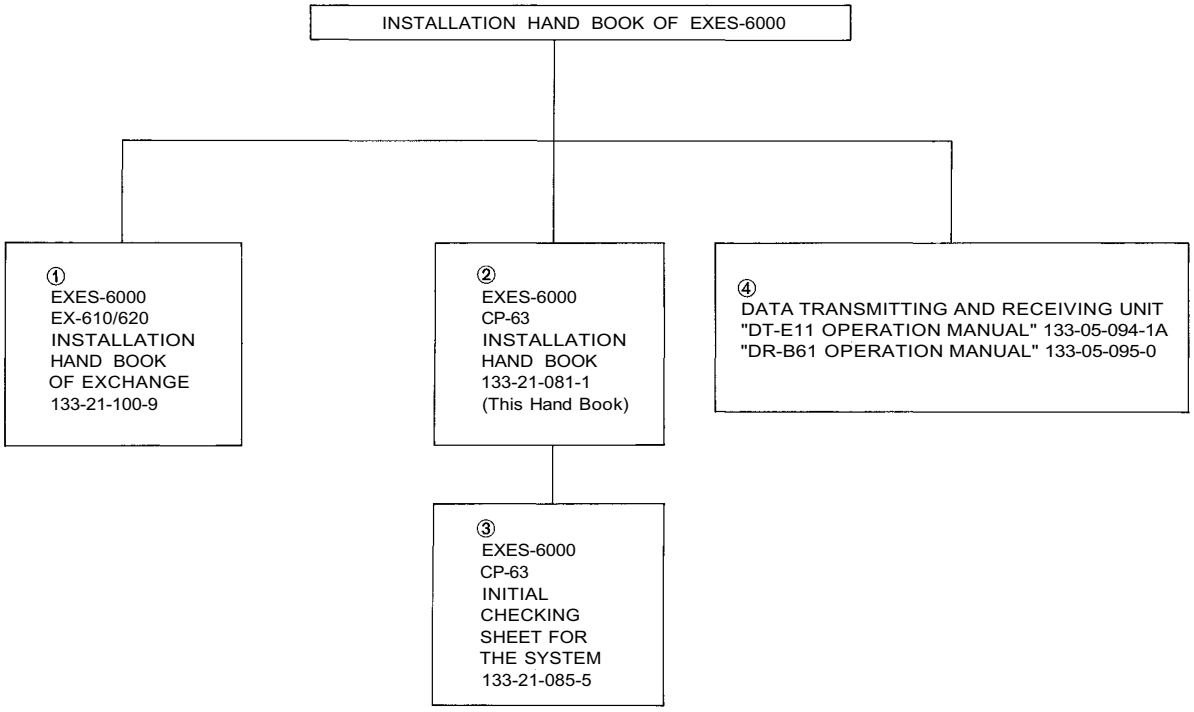
● INTRODUCTION TO THE INSTALLATION MANUAL FOR EXES-6000

This manual forms part of the Installation Manual for TOA INTERCOM SYSTEM EXES-6000.
You may add the CP-63 to your TOA INTERCOM SYSTEM EXES-6000, according to your specific needs, to obtain various other functions. Correct operation of these additional functions is not performed by simply connecting the additional equipments/devices.
Provision of such additional function requires the following:

(1) Connection of the additional equipment, as required.
(2) Selection of functions which satisfy your needs and setting up these functions in the respective equipment.

For (1) Connections of Equipment, etc., refer to " ① Installation Handbook of Model EX-610/620 EXCHANGE" or '' ④ Operation Manual of Data Transmitting and Receiving Units", etc.

This "Installation Handbook of CP-63" deals principally with (2) Selection of functions and setting up of respective equipment.
This Handbook also explains the connection method for the EXES-6000 Tie-line System using the CP-63 and the TI-62 units.
There are certain minimum installation requirements to be met even through you may not need many additional functions or additonal equipment, it is still necessary to read "2. Initial CP-63 Set Up (Page 12)". When you may use only some of the additional functions or equipments, it is not necessary to read instructions on unrequired functions. Make sure, however, that careful study of the necessary parts of this booklet should be done before proceeding further.



Manuals Necessary for Installation of Exchange

SYSTEMS OF EXES-6000	REQUIRED INSTALLATION HAND BOOK					
	① EX-610/620 INSTALLATION HAND BOOK OF EXCHANGE	CP-62 INSTALLATION HAND BOOK	CP-62 INITIAL CHECKING SHEET	② CP-63 INSTALLATION HAND BOOK	③ CP-63 INITIAL CHECKING SHEET	④ DATA TRANSMITTING AND RECEIVING UNIT OPERATION MANUAL
(A) Normal Conversation and Paging System	○	○	○			
(B) Normal Conversation and Paging System with Display and Control Functions	○	○	○			○
(C) Tie-line System with Normal Conversation and Paging Functions	○			○	○	
(D) Tie-line System with Normal Conversation, Paging, Display and Control Functions	○			○	○	○

● FUNCTIONS WHICH REQUIRE ADDITIONAL UNITS

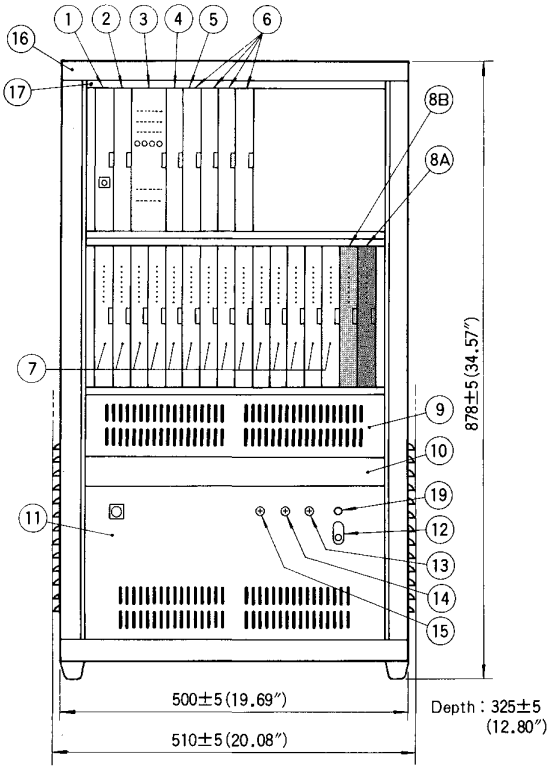
Those functions of the CP-63 which require either the addition of specific units or processing in existing units are as mentioned below. Before installation and adjustment of equipment, make sure to check your system.
(For Data Transmitting and Receiving units, refer to Part 2. "Function Selection for Data Transmitting and Receiving units" Page 49.)

Function	Additional Equipment Required	Unit Model Number	Remarks
Talk-Back from paging speaker	Talk-Back Unit	TK-12	Not yet available for sale.
Conference	Conference Unit	CL-62	Build this unit in all exchanges connected by tie-line. It is not possible to originate a conference from a station connected to the exchange without the CL unit but possible to participate in the conference from that station.
External PA Paging	Paging Interface Unit	PI-62	External PA Equipment is required.
Station Paging	Paging Interface Unit	PI-62	1. Wiring of "Station Paging Assignment" located at the back of the frame of the Exchange. 2. Cutting of LM-62 jumper wire to split station paging system.
Indication and Control	Data Transmitting Unit	DT-E11	The number that can be mounted on the cabinet-mount type exchange is one (1). Use the connection cable YR-806. When more than 2 pieces are mounted, we suggest you use rack-mount type exchange. For connection between the exchange and the DT-E11, use the YR-802, and the YR-803 for extension of the DT-E11 .
	Data Receiving Unit	DR-B61	Such devices as indicator, control unit etc. can be made by using this unit and 24V DC power supply.
Tie-line System	Tie-line Interface Unit	TI-62	Insert this unit into a slot intended for the PI unit No. 2 (Zone No. 8-15).

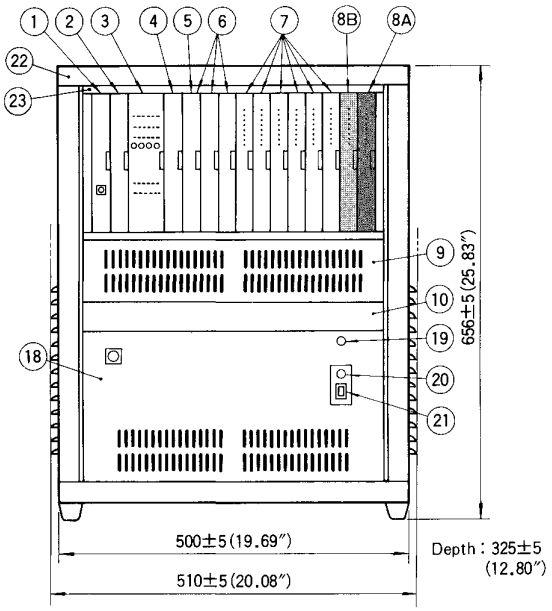
Example of Exchange Mounted on Intercom Cabinet Rack

(For Tie-line System Including All-Call Paging and 7 Individual Zone Paging unit and one Data Transmitting unit)

Exchange EX-620 (for 128 stations)



Exchange EX-610 (for 64 stations)



① Central Processing Unit CP-63

② Output Control Unit OC-62

③ Highway Control Unit HC-62

④ Signal Generating and Distributing Unit SG-62

⑤ Conference Link Unit CL-62 (In this location, DL-62 is also mountable.)

⑥ Duplex Link Unit DL-62

⑦ Line Modem Unit LM-62

(8A) Paging Interface Unit PI-62 (In this location, LM-62 is also mountable.) (Zone 0-7 with All-Call Paging)

(8B) Tie-line Interface Unit TI-62

⑨ Perforated Panel PF-022G *

⑩ Data Transmitting Unit DT-E11 (In the standard system, Perforated Panel PF-012G should come in this position.)*
Junction Cable YR-806 (Cable length: 1000mm) (YR-802 (Cable length: 400mm) is not available.)

Note.*
The Exchange Cabinet Rack CR-610 or CR-620 includes Perforated Panels PF-012G and PF-022G.

⑪ Power Supply Unit DS-620

⑫ Power Switch

⑬ AC Fuse

⑭ DC Fuse

⑮ Battery Fuse

⑯ Exchange Cabinet Rack CR-620

⑰ Exchange Frame FR-620

⑱ Power Supply Unit DS-610

⑲ Power Indication Lamp

⑳ Battery Power Indication Lamp

㉑ Buzzer Stop Switch

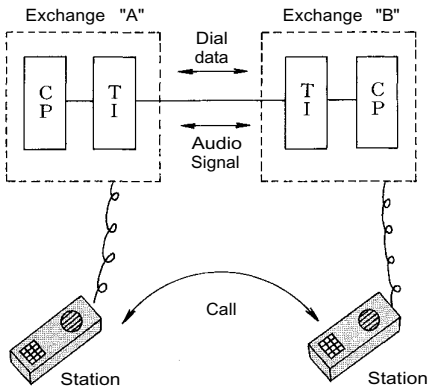
㉒ Exchange Cabinet Rack CR-610

㉓ Exchange Frame FR-610

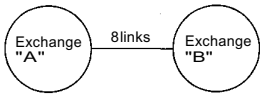
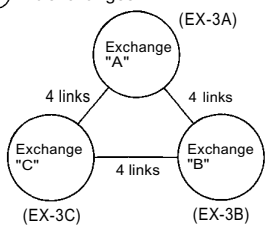
● TIE-LINE CONNECTION OF THE EXCHANGES

1. Function of the Central Processing Unit CP-63

To make communications between exchanges possible in the EXES-6000 system, the CP-63 and the Tie-line Interface Unit TI-62 are required in addition to the exchange EX-610 or the EX-620.
The TI-62 is the interface unit for transmitting and receiving audio signals and dial data signals between the exchanges.
After receiving dial signals from the station, the CP-63 transmits the dial data signals to the TI-62 and instructs it to make calls to the other exchange. The CP-63 also receives the dial data signals from the other exchange through the TI-62 and calls the station which is instructed to call by the other exchange.
Overall functions of the system using the Tie-line function are determined by programming made in the CP-63.



2. Number of stations, paging zones and links

Composition of exchange (s)	Maximum number of links within own exchange		Maximum number of links between tielined exchanges	Number of exchange	Maximum number of paging zones	Maximum number of stations			
						without Paging		With Paging (All call+7 zones)	
	EX-610	EX-620				EX-610	EX-620	EX-610	EX-620
① Without tie-lines 	12	16		1	All call +7zones	56	120	48	112
② 2exchanges 	12 *1	16 *1	8	1	All call +7zones	56	120	48	112
				2	All call +14zones	112	240	96	224
③ 3exchanges 	12 *1	16 *1	4 between each tielined link	1	All call +7zones	56	120	48	112
				3	All call +21zones	168	360	144	336

*1 The links within own exchange as well as the tie-line links are used in each tie-line communication.

*2 All call paging is provided to all the paging zones of all the exchanges connected by tie-line.

3. Numbering schedule for stations and paging zones

A. With personal number (Standard)

Type of exchange	Model	Numbering for stations		Numbering for paging zones	
		Without Paging	With paging (7 zones per exchange)	Paging zone per exchange	
				All call	Zone
Single Exchange (EX-1) Exchange "A" (EX-2A/3A)	EX-610	200~247, 256~263	200~247	00	01~07
	EX-620	200~311, 320~327	200~311		
Exchange "B" (EX-2B/3B)	EX-610	470~517, 526~533	470~517		08~14 (16~22) *
	EX-620	470~581, 590~597	470~581		
Exchange "C" (EX-3C)	EX-610	740~787, 796~803	740~787		15~21 (31~37) *
	EX-620	740~851, 860~867	740~851		

B. Without personal number

Type of exchange	Model	Numbering for stations		Numbering for paging zones	
		Without paging	With paging (7 zones per exchange)	Paging zone per exchange	
				All call	Zone
Single Exchange (EX-1) Exchange "A" (EX-2A/3A)	EX-610	100~147, 156~163	100~147	00	01~07
	EX-620	100~211, 220~227	100~211		
Exchange "B" (EX-2B/3B)	EX-610	400~447, 456~463	400~447		08~14 (16~22) *
	EX-620	400~511, 520~527	400~511		
Exchange "C" (EX-3C)	EX-610	700~747, 756~763	700~747		15~21 (31~37) *
	EX-620	700~811, 820~827	700~811		

Zone No. 16 through 22 and No. 31 through 37 are employed for Paging Numbering Schedule of 45 zones with 3 exchanges established in the system using the exchanges EX-610 and/or EX-620 and EX-630 (256 stations) connected by tie-line.

4. Reduction of the number of stations and paging zones which results from the use of the Tie-line Interface Unit TI-62.

1. Mounting one (1) piece of the TI-62 decreases the number of the LM-62 (the 7th or the 15th LM-62) by one (1).
2. Unless the PI-62 is used, the system can have up to 8 more stations by placing the LM-62 in the 8th or the 16th position.

<EX-610>

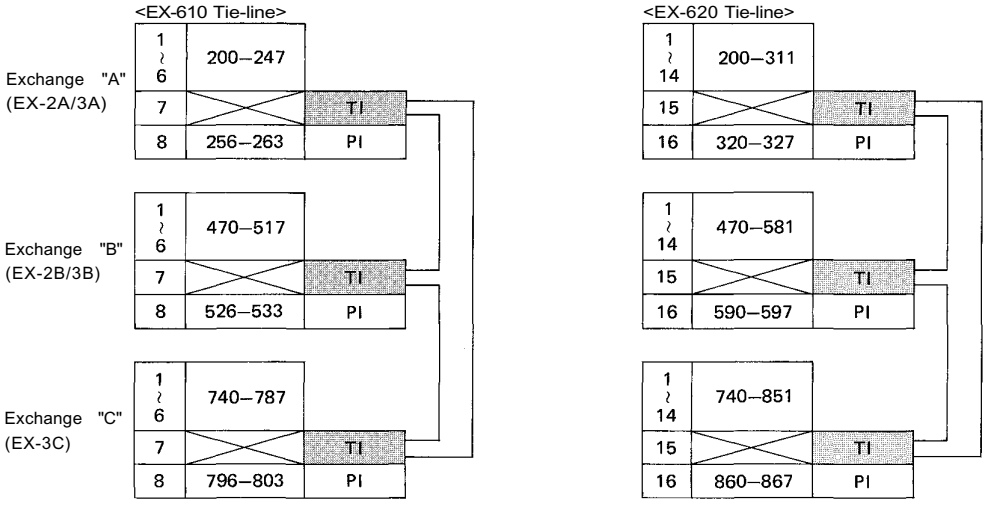
LM	Station No.	
1	200-207	
2	208-215	
3	216-223	
4	224-231	
5	232-239	
6	240-247	
7	248-255	TI
8	256-263	PI

<EX-620>

LM	Station No.	LM	Station No.	
1	200-207	9	264-271	
2	208-215	10	272-279	
3	216-223	11	280-287	
4	224-231	12	288-295	
5	232-239	13	296-303	
6	240-247	14	304-311	
7	248-255	15	312-319	TI
8	256-263	16	320-327	PI

Note.
LM: Line Modem Unit
PI : Paging Interface Unit
TI : Tie-line Interface Unit

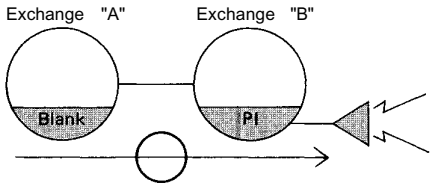
5. Block diagram for tielined exchanges.



6. The relationship between the PI unit and the LM unit

<The case where the tie-line system consisting of 2 or 3 exchanges has an exchange without the PI unit>
The case where it is necessary to make the paging call from the exchange without the PI unit to the other exchange (s).

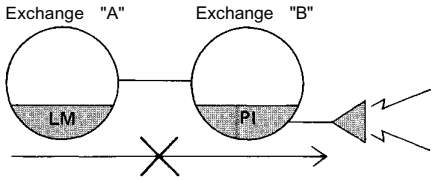
- Set "Paging" DIP switch (SW-B-4) to ON.
- You may not substitute the LM unit (LM8 or LM16) for the PI unit.
  EX-610: Max. 48 stations, EX-620: Max. 112 stations



paging call is possible

The case where the paging call is unnecessary from the exchange without the PI unit to the other exchange (s).

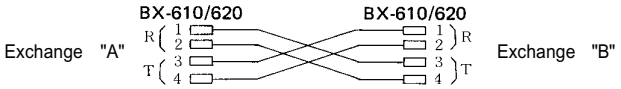
- Set "Paging" DIP switch (SW-B-4) to OFF.
- You may substitute the LM unit (LM8 or LM16) for the PI unit.
  EX-610: Max. 56 stations, EX-620: Max. 120 stations



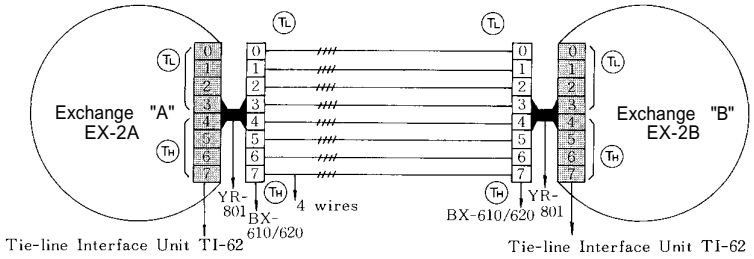
paging call is impossible

● WIRING FOR TIE-LINE CONNECTION OF THE EXCHANGES

- Each exchange can be connected by means of a cable with a diameter of 0.65mm (25.6 mils.) for a distance of up to 2km (5600 ft).
- Regarding the tieline links which are not used, turn off the DIP switch of each unused tieline link inside the Tie-line Unit TI-62.
- Connect "T" line (2 wires) of the 4 wires of each link to "R" line (2 wires) of the other exchange.
- The 2 wires of the "T" line and "R" line have no polarity.
  If the BX-610/620 is used, its terminals No. 1 and 2 are for the "R" line and No. 3 and 4 are for the "T" line.

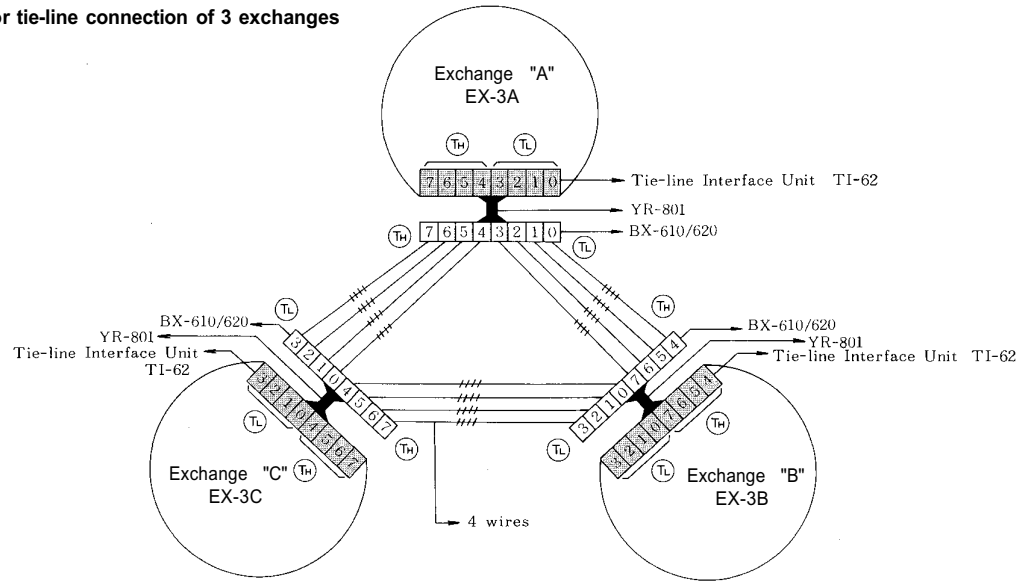


1. Wiring for tie-line connection of 2 exchanges



Note 1. Any combination of tie-line links between exchanges "A" and "B" is possible. But, in consideration of possible increase in the number of exchanges to be connected from 2 to 3 in the future, we suggest you connect ⓉL (link No. 0, 1, 2, 3) of exchange "A" to ⓉH (link No. 4, 5, 6, 7) of exchange "B".

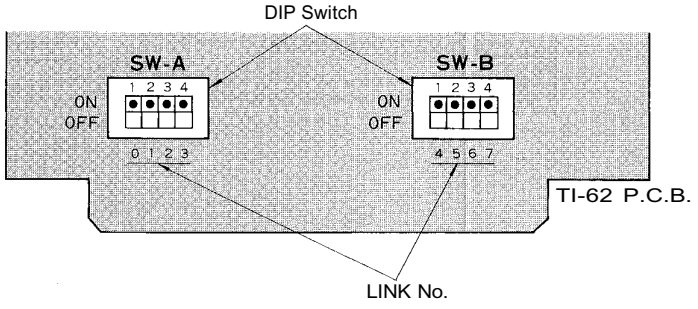
2. Wiring for tie-line connection of 3 exchanges



Note 2. Be sure to connect ⓉL (link No. 0, 1, 2,3) to ⓉH (link No. 4, 5, 6, 7) between the exchanges. Connection of ⓉH to ⓉH or ⓉL to ⓉL will lead to failure of proper operation of the system.

3. DIP Switch selection

1. Switching arrangements of DIP switches (E-1, E-2, E-3) in the CP-63 make each exchange to be of "EX-1" or "EX-2A" or "EX-2B" or "EX-3A" or "EX-3B" or "EX-3C" type.
2. In the event of the tieline link not to be used, turn off its corresponding DIP switch on the TI-62 unit.

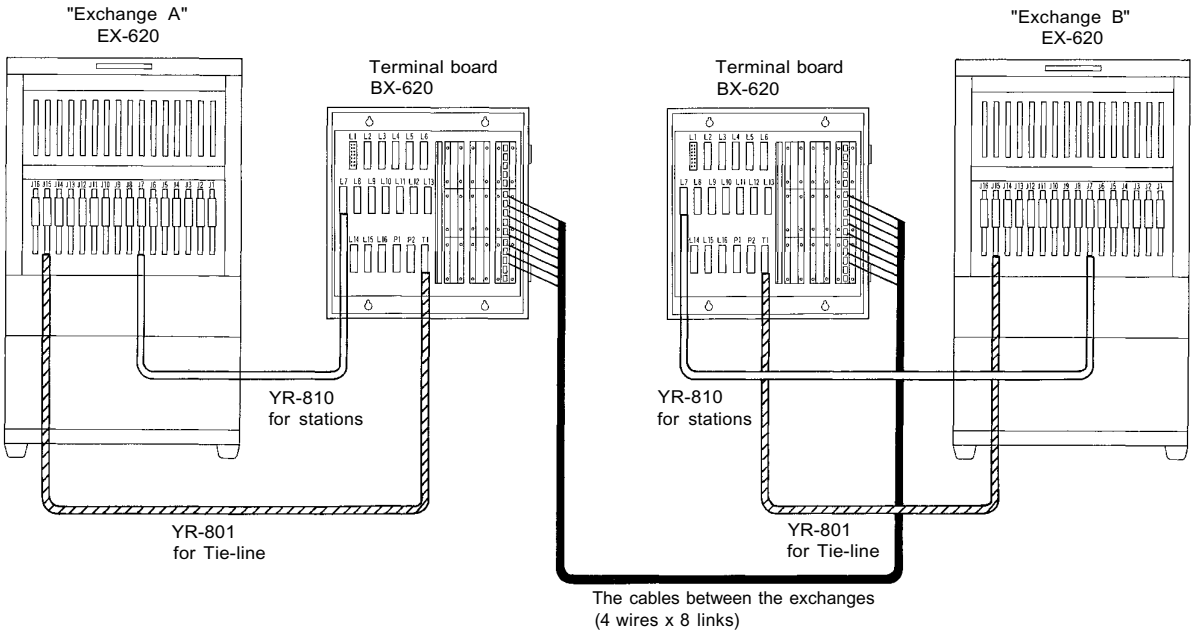


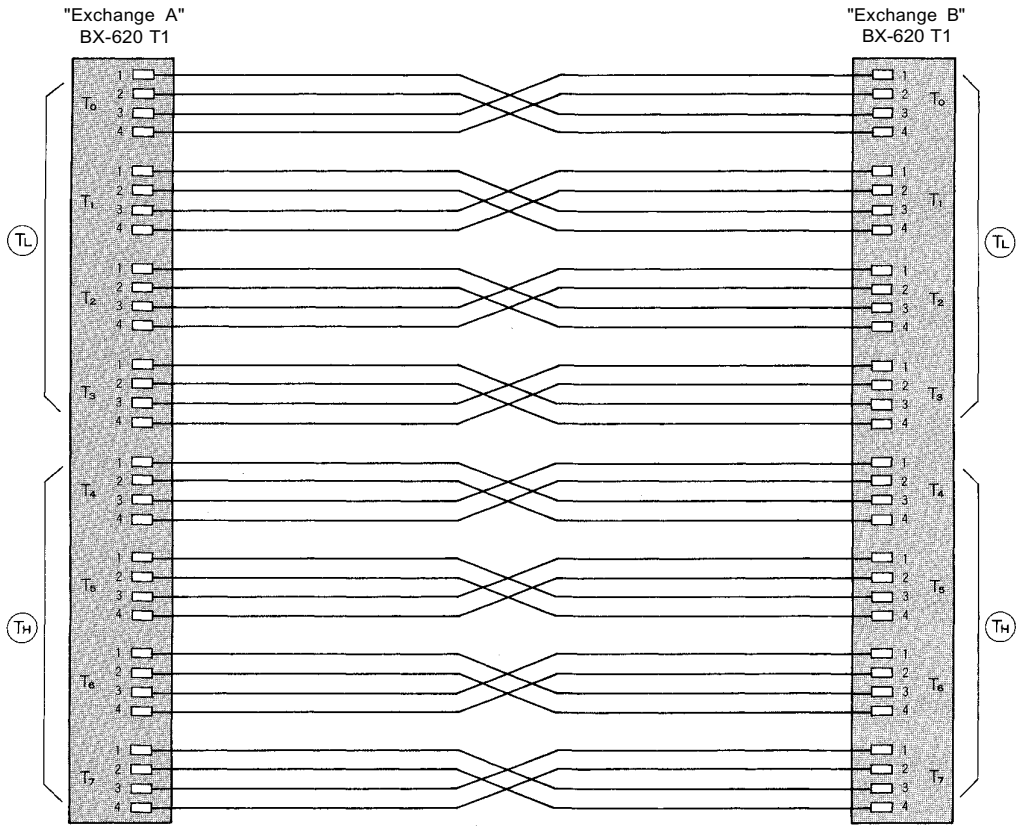
4. The Example of connection of EX-620 exchange

YR-801 must be connected to J15 for EX-620 exchange (for 128 stations), or to J7 for EX-610 exchange (for 64 station)

EX-620	BX-620
J15	T1

EX-610	BX-610
J7	T1



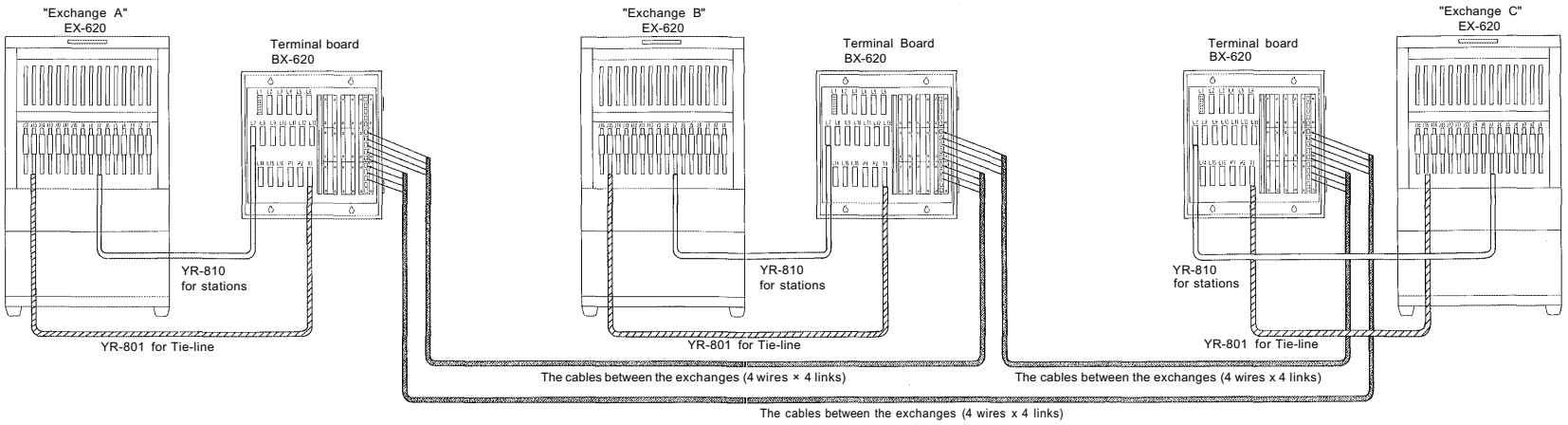


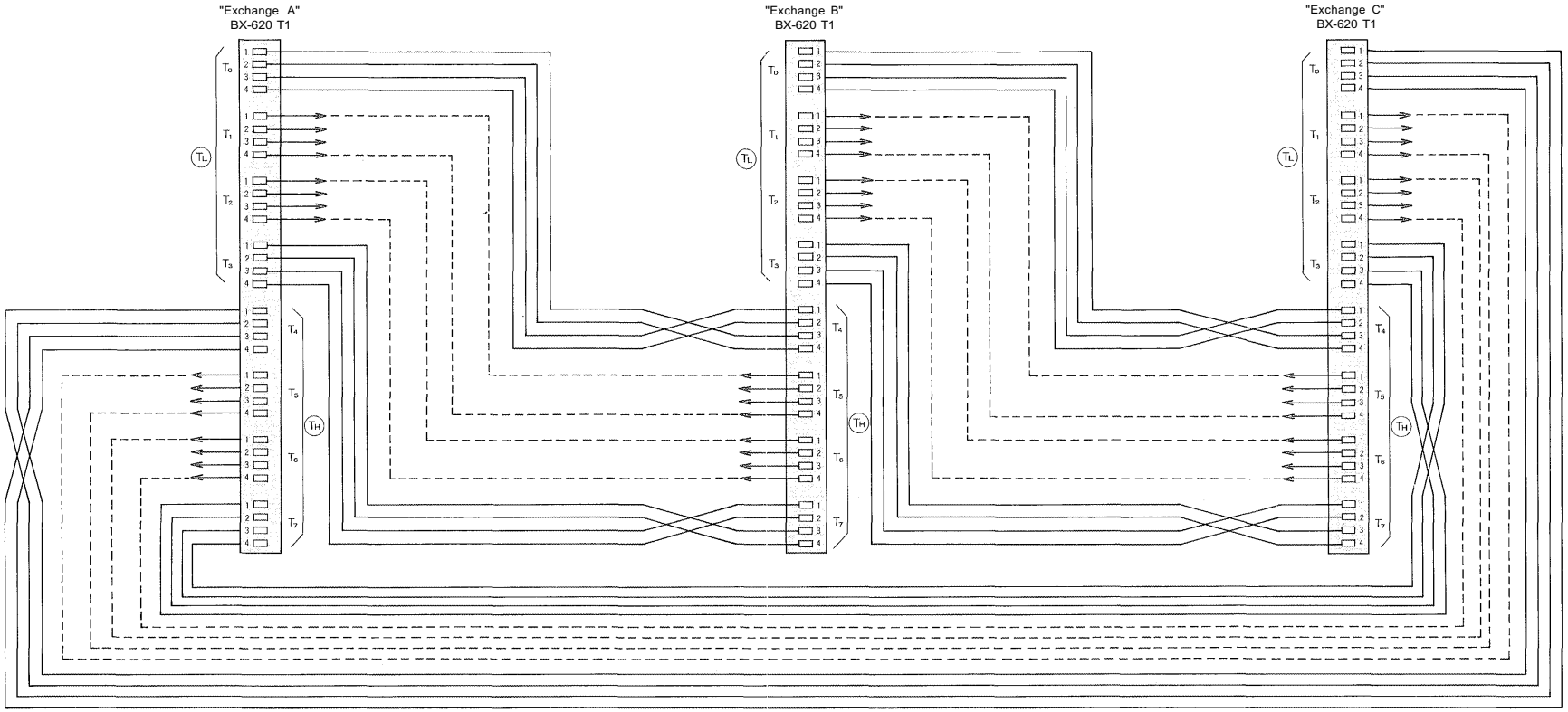
5. The Example of connection of EX-620 exchange

YR-810 must be connected to J15 for EX-620 exchange (for 128 stations), or to J7 for EX-610 exchange (for 64 station)

EX-620	BX-620
J15	T1

EX-610	BX-610
J7	T1





PART 1. OPERATING OF CP UNIT AND NO. 200 PROGRAMMING

1. PRECAUTIONS FOR INSTALLATION OF CP-63

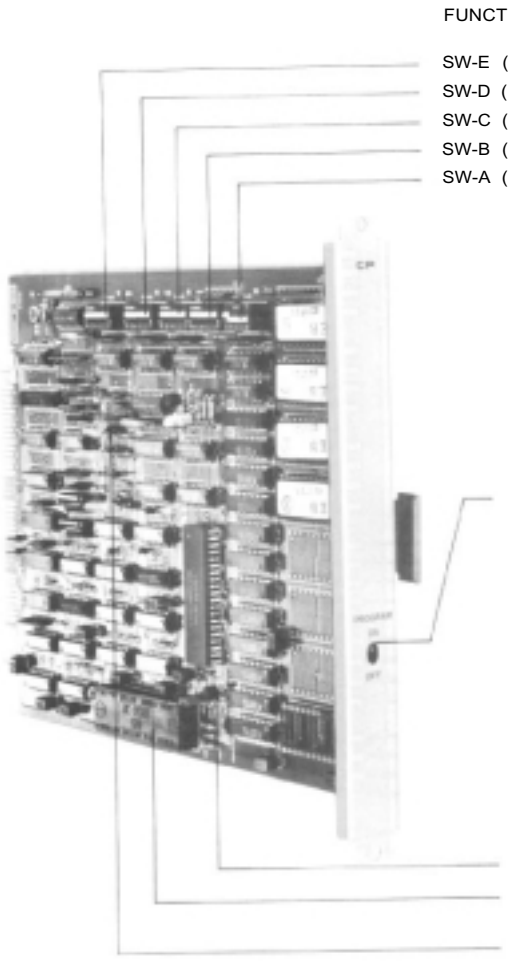
Please read following instructions carefully to ensure proper operation of the CP-63

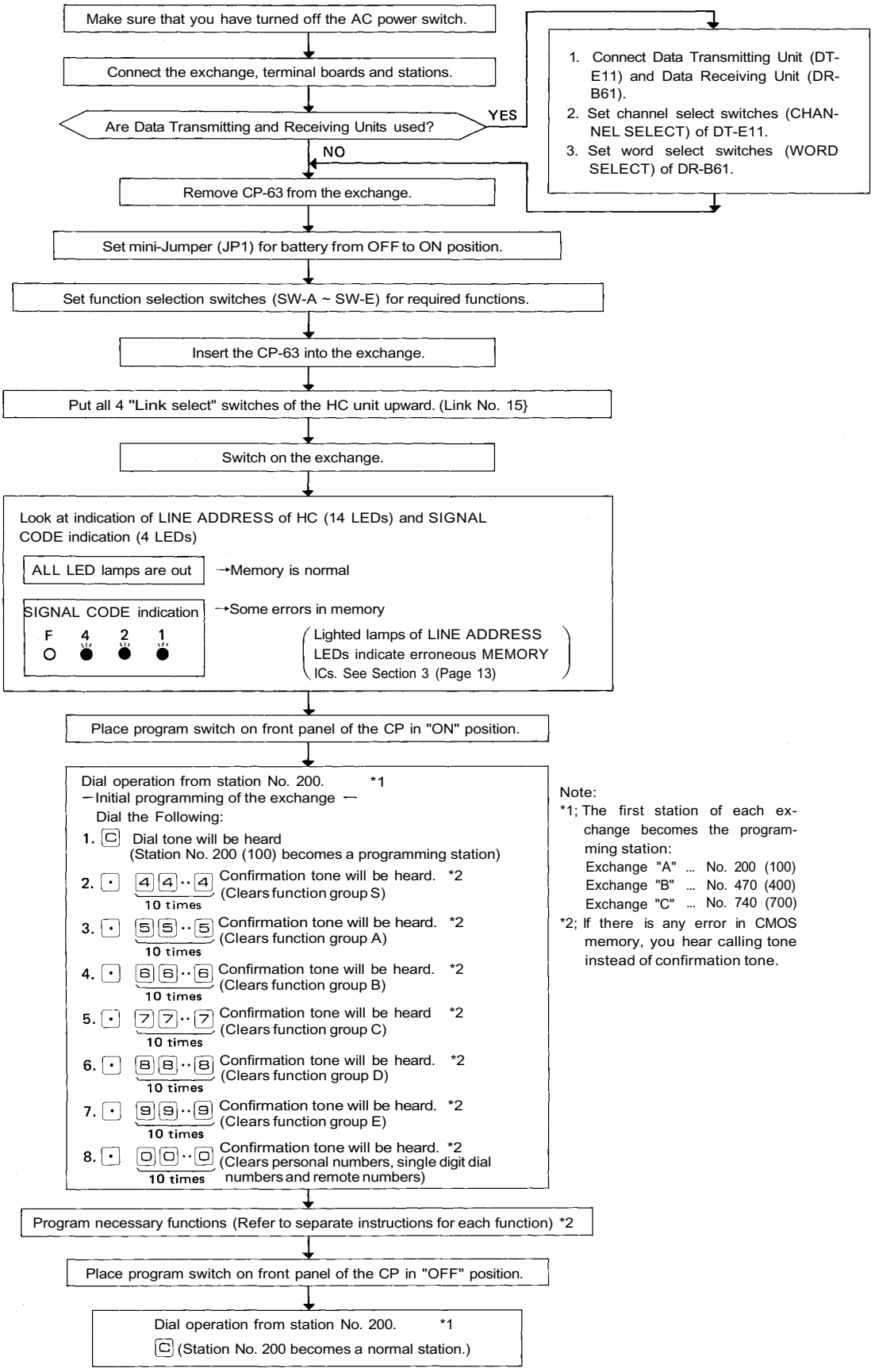
1. Be careful about damage by static electricity as the CP-63 incorporates CMOS IC's. Do not touch components and connectors.
2. Turn off the AC power switch when you take out or insert the CP-63 unit, or any other unit.
3. Always insert the CP-63 unit into the "CP" slot. Otherwise, there is a danger that the unit will be damaged.
4. Make sure mini-jumper for battery back-up is always placed in ON position each time it is used.
5. Incorrect setting of function select switches may lead to incorrect performance.
6. Even if you do not need programming functions, be sure to carry out initial programming and registration at station No.200 when you install the new unit. Otherwise, some other functions may not work properly.
7. The Ni-Cd battery GB50-3FA1 is capable of saving important memory registration data even at times of power failure.
   To keep the battery fully charged, do not cut the power off for long hours during the first 8 days after new installation. The CP-63 unit is capable of maintaining the programmed data for the period of 4 weeks after fully charged even in the event of long hours of power failure.
   (About 4 weeks (25°C), About 8 days (40°C)
8. We suggest you replace the soldered button battery GB50-3FA1 (115-42-031-9) with the new one according to the following list that shows an expected life span of the battery.
   Be sure to make the station No.200 programming after replacement of the battery.

● Expected Life Span of small Ni-Cd Battery

Ambient temperature of exchange	Ambient temperature of battery	Life span
0°C	10°C	About 5 years
25° C	35° C	About 4 years
40° C	50° C	About 2 years

9. When shipping the CP-63 unit independently, place the mini-jumper for battery back-up in "OFF" position. Cover the CP back with cardboard, wrap connector section in aluminium foil and put it in a conductive bag.





Note:
*1; The first station of each exchange becomes the programming station:
Exchange "A" ... No. 200 (100)
Exchange "B" ... No. 470 (400)
Exchange "C" ... No. 740 (700)
*2; If there is any error in CMOS memory, you hear calling tone instead of confirmation tone.

3. TROUBLE SHOOTING

3-1 Check of ROM & NMOS-RAM - No calls on the system.

1. Put the 4 "LINK SELECT" switches of the HC upward (Link No. 15 SELECT) and switch on the AC power of the exchange.
2. If there is no error, the indication lamps will not light.
3. In the event of a memory error, the lamps may light as shown in the example of Fig. 1.
4. The error indications will remain on until you use Link No. 15 for communications.

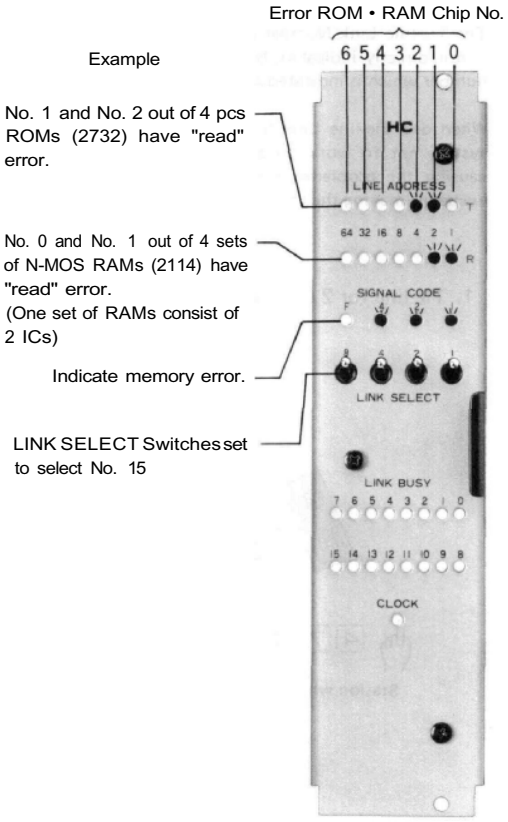


Fig. 1

3-2 Confirming of the CP normal working

If the CP, OC and HC are working normally, the HC's indication lamps of LINE BUSY, LINE ADDRESS and SIGNAL CODE go out.
When any of the lamps lies alight, it is possible that any of the CP, OC or HC is faulty.
Check first that the CLOCK lamp of the HC is lighting, then confirm that the CP is working normally by hearing the clicking sound of the PI unit's relay which is produced when the relay is activated through dial operation of the paging.
If the CP is found working normally, chances are that the HC is faulty, followed by the OC.

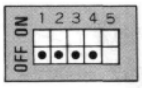
3-3 Check of CMOS-RAM (Programmed data memory)

You hear calling tone instead of confirmation tone, if there is CMOS memory error at the time of initial programming and registration using station No. 200, or at the time of registration to Single Digit Number or Personal Number or Remote Number.

3-4 Dial receiving test

1. Instead of the PI-62 unit, use the PIU-52A (a unit used in the EXES-5000 System) to check the dial receiving section of the CP also to check if the signal is correctly transmitted as dialed from the station to be tested.
2. If you place all "LINK SELECT" switches (1 ~ 4) of SW-A on the CP-63 in "OFF" position, conversation is impossible but the dial code from each station is indicated on the LED's of the PIU as dialed. Use this to find the cause of any fault of receiving dial information.
3. With use of the PI-62 unit fitted with no LED, you can also check that the CP receives the dial signal by hearing the click sound of the relay produced when it is activated.

Fig. 2 DIP switches (SW-A of the CP)



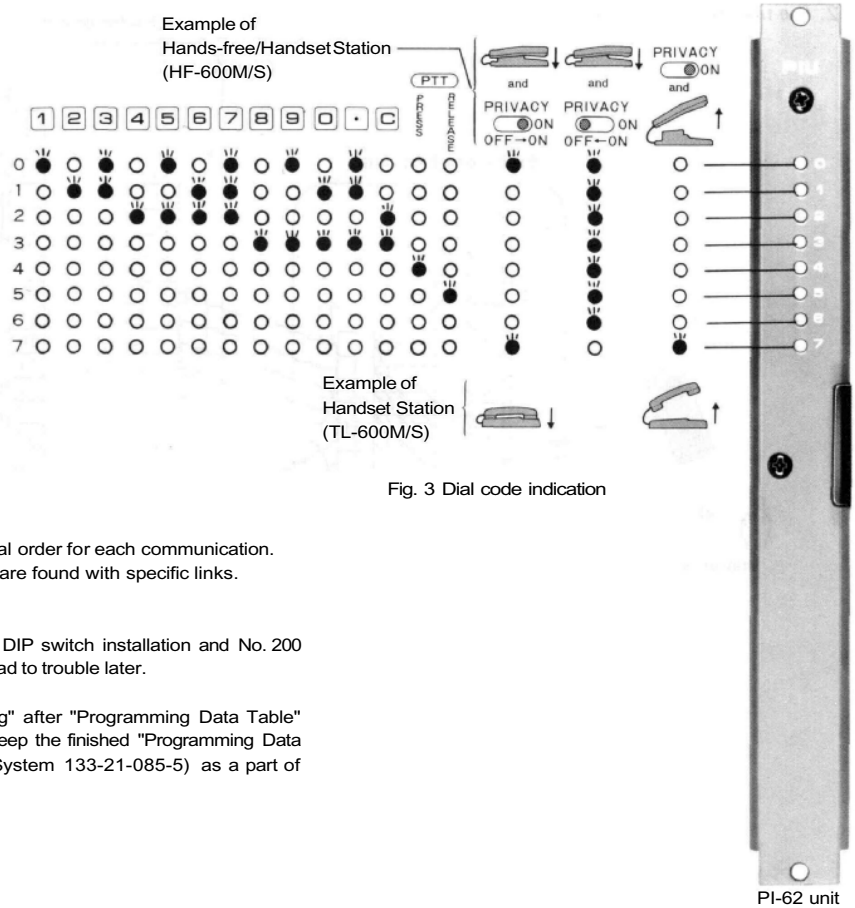


Fig. 3 Dial code indication

3-5 The order of link usage.

After power is on, links are used in numerical order for each communication.
Remember this to help you when problems are found with specific links.

Remarks:

1. Be sure to avoid mistake at the time of DIP switch installation and No. 200 Programming since such mistake may lead to trouble later.

2. Be sure to make "No. 200 Programming" after "Programming Data Table" (attached to this manual) is filled out. Keep the finished "Programming Data Table" (Initial Checking Sheet for the System 133-21-085-5) as a part of complete drawings for each installation.

PI-62 unit

3-6 The order of Tie-line link usage

The Tie-line Link Number which is used in calls between exchanges is not directly indicated, but you can possibly get it from the link number which is indicated on the HC-62.

When one Tie-line Link brings up some problems which cause the system not to work properly, try to find which link number is causing the problems from the indication on the HC-62 of the exchange making the call.

As Fig. 1 and Fig. 2 show, in the exchanges which make calls, the DL Link Number corresponds with TI Tie-line Link Number.

In the exchange which is called, the Tie-line Link Number of the TI Unit is fixed by connection between exchanges.

DL Links are used in numerical order.

1. Tie-line for 2 exchanges

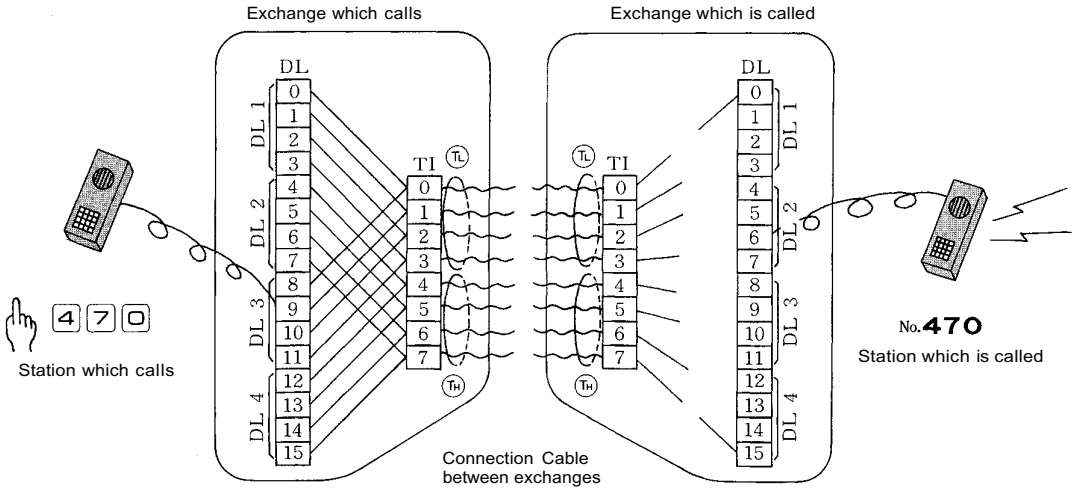


Fig. 1

2. Tie-line for 3 exchanges

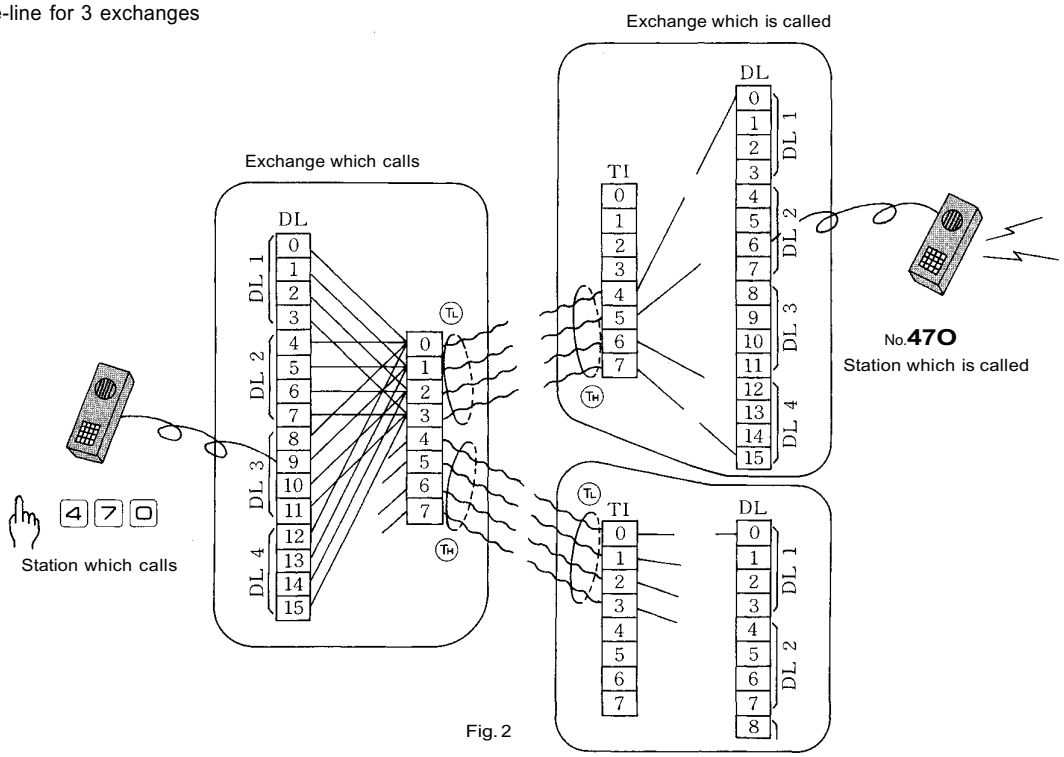


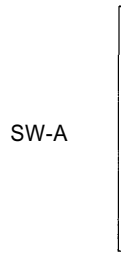
Fig. 2

Reference for Connection Link Number between DL and TI Link

Exchange which calls				Exchange which is called	
DL Link No	TI Tie-line Link Number			TI Tie-line Link Number	Tie-line Link
	2 Tie-lines	3 Tie-lines			
	To (TL), (TH)	To (TL)	To (TH)		
0	0	0	4	Fixed by Connection Cable between Exchanges	After power switch is on, Links are used in numerical order
1	1	1	5		
2	2	2	6		
3	3	3	7		
4	4	0	4		
5	5	1	5		
6	6	2	6		
7	7	3	7		
8	0	0	4		
9	1	1	5		
10	2	2	6		
11	3	3	7		
12	4	0	4		
13	5	1	5		
14	6	2	6		
15	7	3	7		

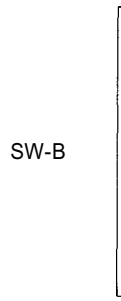
Note.
If the TI Tie-line Link which corresponds with the DL Link No. is already busy, then, the next Tie-line Link is automatically used.

4. CP-63 DIP SWITCHES FOR FUNCTION SELECTION



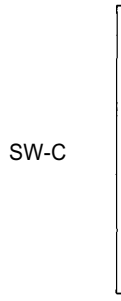
SW-A

Functions	Switch OFF	Switch ON
Link Selection; Link No. 0 ~ 3	Not Activate	Activate
Link Selection; Link No. 4 ~ 7	Not Activate	Activate
Link Selection; Link No. 8 ~ 1 1	Not Activate	Activate
Link Selection; Link No. 12 ~ 15	Not Activate	Activate
Time Interval Adjustment before Paging Pre-announcement tone	None	1 sec



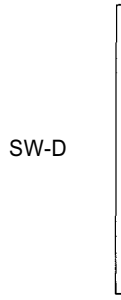
SW-B

1	Conference	Not Activate	Activate
2	Call Transfer, Paging during Normal Call	Not Activate	Activate *1
3	Exective Priority (High priority)	Not Activate	Activate
4	Paging	Not Activate	Activate
5	Secretary Transfer, Group Hunting	Not Activate	Activate
6	System Size Selection	EX-610	EX-620



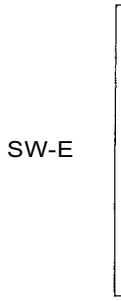
SW-C

1	Selectable Numbering Schedules 100-400-700/200-470 -740	No.200 (20)~	No. 100 (10)~
2	Selectable Dial Operation for Paging Response	[•] [9] [X] [X]	[•] [9]
3	Not used	(OFF)	—
4	Not used	(OFF)	—
5	Selectable Total Paging Zone Capacity 45/21	21 Zones	45 Zones *2
6	Not used	(OFF)	—



SW-D

1	Stations Allowed Access to All Call, Conference and General Purpose Control	Not Activate	Activate *1
2	Not used	(OFF)	—
3	Not used	(OFF)	—
4	Group Blocking	Not Activate	Activate
5	Programmable Station Numbering	Not Activate	Activate
6	Pager	Not Activate	Activate



SW-E

	1 x Exchange	2 x Exchange		3 x Exchange			
	EX-1	EX-2A	EX-2B	EX-3A	EX-3B	EX-3C	Exchange Selection
1	OFF	OFF	OFF	ON	ON	ON	
2	OFF	ON	OFF	ON	OFF	ON	
3	OFF	OFF	ON	OFF	ON	ON	
4	Memory of Calling Party Indication (Lamp type)			Without memory		With memory	*3
5	Tone of called Mode at Privacy Sw.ON			Privacy		Continuous calling	
6	Continuous Calling Tone (No. 200 Programming)			Not Activate		Activate	
	Functions			Switch OFF		Switch ON	

Note: *1 Be sure to place the SW-B-4 (Paging) switch in the ON position when Paging and its allied functions are used.

*2 "45 zones" made possible with 3 exchanges are used when EX-610/620 is connected to EX-630 (not yet available for sale) A: Zone 01 ~ 07, B: Zone 16 ~ 22, C: Zone 31 ~ 37

*3 When set to the "Active" position, the lamp continues to light to indicate all the stations that have called while the called party has been in the "Privacy" or "Busy" mode.

5. DIP SWITCH SELECTION AND STATION NO. 200 PROGRAMMING FOR EACH FUNCTION

No. 200 Programming should be proceeded in the following manner.

1. Write down the required data in "8. Programming Data Table (Page 42 ~ 47)".
2. Carry out the registration according to "6. Function Code Table for Station No. 200 Programming (Page 18 ~ 20)" and "7. Station No. 200 Programming for Each Function (Page 21 ~ 40)".

Function	Registration or Operation at Each Station	CP DIP Switch			No. 200 Programming		
		No.	Function	ON/OFF	Function Group	Function Code	Function
Single Digit Dialing	Single Digit Registration	—	—	—	—	—	—
Automatic Access to Paging	Single Digit Registration	—	—	—	A	54	Automatic Access to Paging
Master/Sub Relationship	—	—	—	—	B	61	Master/Sub Relationship
Privacy	Privacy SW ON	SW-E-5	Tone of Called Mode at Privacy SW ON	OFF	—	—	—
Continuous Calling Tone at Privacy Mode	Privacy SW ON	SW-E-5	Tone of Called Mode at Privacy SW ON	ON	—	—	—
Continuous Calling Tone One touch Response	—	SW-E-6	Continuous Calling Tone	ON	A	51	Continuous Calling Tone
Personal Number Call	Personal Number Registration	SW-C-1	Selectable Numbering Schedules	OFF	—	—	—
Remote Response	Remote Response Registration	SW-E-5	Tone of Called Mode at Privacy SW ON	ON			
		or SW-E-6	or Continuous Calling Tone	ON	A	51	Continuous Calling Tone
Call Transter	—	SW-B-2	Call Transfer, Paging during Normal Calls	ON			—
Paging during Normal Calls	—	SW-B-2	Call Transfer, Paging during Normal Calls	ON	—	—	—
		SW-B-4	Paging	ON			
		SW-A-5	Time Interval Adjustment before Paging Pre-announcement Tone	ON/OFF			
		SW-C-5	Paging Zones Capacity 45/21	ON/OFF			
		SW-C-2	Selectable Dial Operation for Paging Response	OFF			
				ON	C	70	Paging Zone
Group Hunting	—	SW-B-5	Secretary Transfer, Group Hunting	ON	B	62	Group Hunting
Secretary Transter	Privacy SW ON	SW-B-5	Secretary Transfer, Group Hunting	ON	B	60	Secretary Transter
Executive Priority (Highest Priority)	—	SW-B-3	Executive Priority (Highest Priority)	ON	A	50	Executive Priority
Conference	—	SW-B-1	Conference	ON	—	—	—
Paging	—	SW-B-4	Paging	ON	—	—	—
		SW-A-5	Time Interval Adjustment before Paging Pre-announcement Tone	ON/OFF			
		SW-C-5	Paging Zones Capacity 45/21	ON/OFF			
		SW-C-2	Selectable Dial Operation for Paging Response	OFF			
				ON	C	70	Paging Zone
Numbering Schedules of Tie-line System	—	SW-C-1	Selectable Numbering Schedules	ON/OFF	S	40	Numbering Schedules of Tie-line System
Programmable Station Numbering	—	SW-D-5	Programmable Station Numbering	ON	E	90	Programmable Station Numbering
Group Blocking	—	SW-D-4	Group Blocking	ON	C	71	Establishment of Each Groups
					D	81	Allowing Calls among Groups
					D	82	Allowing Access to Paging Zones
Programmable Restricted Access for Stations	—	SW-D-1	Stations Allowed Access to All Call, Conference and General Purpose Control	ON	A	52	Stations Allowed Access to All Call
					A	53	Stations Allowed Access to Conference
					A	56	Stations Allowed Access to One-shot Make Output
					A	57	Stations Allowed Access to Make/Break Output
					A	58	Stations Allowed Access to 8 Selectable/Decimal Output
					A	59	Station Allowed Access to 4 Decimal Digits Output
Selection of Calling Tone	—	—	—	—	S	41	Selection of Calling Tone
Selection of Paging Pre-announcement Tone Duration	—	—	—	—	S	42	Selection of Paging Pre-announcement Tone Duration
Time-out of Conversation	—	—	—	—	S	45	Time-out of Conversation
Time-out of Paging Call	—	—	—	—	S	46	Time-out of Paging Call
In/Out Annunciation	—	SW-C-1	Selectable Numbering Schedules	OFF	—	—	—
Calling Party Indication (Lamp Type)	—	SW-E-4	Memory of Calling Party Indication (Lamp Type)	ON/OFF	C	72	Group of Calling Party Indication
Pager	—	SW-D-6	Pager	ON	—	—	—

6. FUNCTION CODE TABLE FOR STATION NO. 200 PROGRAMMING

A. Clearance at one time

Function Group	Function	Function Code	Clearance of Function	Function Registration on All Stations	Clearance of Function by Function Group
S	Numbering schedules of Tie-line system	40	·40 0 Confirmation tone		·44···4 (10 times) Confirmation tone (Clears function group S)
	Selection of Calling Tone	41	·41 2 Confirmation tone		
	Selection of Paging Pre-announcement Tone	42	·42 2 Confirmation tone		
	Time-out of Conversation	45	·45 00 Confirmation tone		
	Time-out of Paging Call	46	·46 00 Confirmation tone		
A	Executive Priority	50	·5X (x: 0~4, 6~9) 00·····00 (10 times) Confirmation tone	·5X PTT PTT···PTT (10 times) Confirmation tone	·55···5 (10 times) Confirmation tone (Clears function group A)
	Continuous Calling Tone	51			
	Station Allowed Access to All Call	52			
	Stations Allowed Access to Conference	53			
	Automatic Access to Paging	54			
	Stations Allowed Access to One Shot Make Output	56			
	Stations Allowed Access to Make/ Brake Output	57			
	Stations Allowed Access to 8 Selectable/ Decimal Output	58			
	Stations Allowed Access to 4 Decimal Digits Output	59			
B	Secretary Transfer	60	·6X (x: 0, 1, 2) 00·····00 (10 times) Confirmation tone		·66···6 (10 times) Confirmation tone (Clears function group B)
	Master/Sub	61			
	Group Hunting	62			
C	Paging Responce, Paging Priority	70	·7X (x: 0, 1, 2) 00·····00 (10 times) Confirmation tone		·77···7 (10 times) Confirmation tone (Clears function group C)
	Group Blocking of Each Group	71			
	Group of Calling Party Indication	72			
D	Group Blocking: Allowing Calls Among Groups	81	·8X (x: 1, 2) 00·····00 (10 times) Confirmation tone		·88···8 (10 times) Confirmation tone (Clears function group D)
	Group Blocking: Allowing Access to Paging Zones	82			
E	Programable Station Numbering	90	·90 00·····00 (10 times) Confirmation tone		·99···9 (10 times) Confirmation tone (Clears function group E)
*	Personal Number Single Digit Dialing Remote Response	—			·00···0 (10 times) Confirmation tone (Clears functions of Personal No., Single Digit Dialing and Remote Response)

Note: *Can be registered at each station.

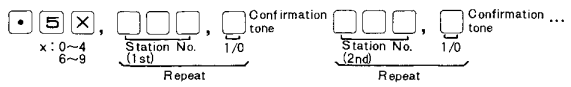
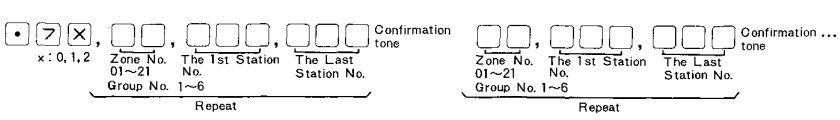
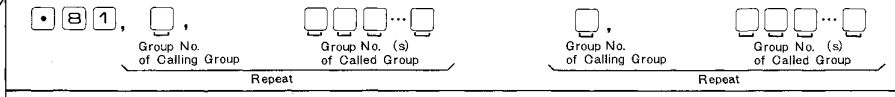
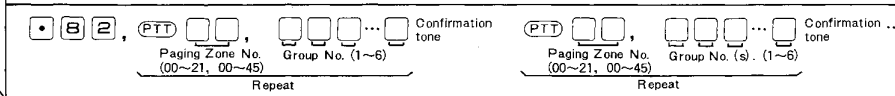
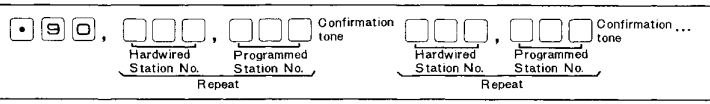
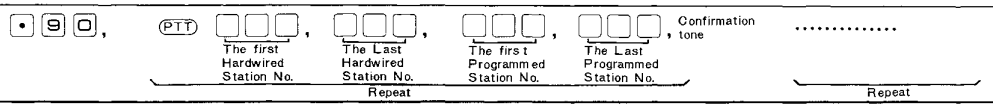
FUNCTION CODE TABLE FOR STATION NO. 200 PROGRAMMING

B. Programming of System

<table>
<tr><th>Function Group</th><th>Function</th><th>Function Code</th><th>Remarks</th><th>Operating for Programming</th><th>Initially Programmed Mode</th></tr>
<tr><td rowspan="5">S</td><td rowspan="2">Numbering Schedules of Tie-line System
(First station number set-up in each exchange)</td><td rowspan="2">40</td><td>The following standard station numbering schedules of the exchanges A, B and C are obtainable. (Hardwired station number)
<table><tr><td>SW-C-1</td><td>A</td><td>B</td><td>C</td></tr><tr><td>OFF</td><td>200~</td><td>470~</td><td>740~</td></tr><tr><td>ON</td><td>100~</td><td>400~</td><td>700~</td></tr></table></td><td>• 4 0 0</td><td rowspan="2">Standard Station Numbering A/B/C= 200/470/740 or A/B/C= 100/400/700</td></tr>
<tr><td>The first station number of each exchange in order of the exchanges, A, B and C can be set as any of the following numbers:
100/200/300/400/500/600/700/800/900
(Hardwired station number)</td><td>• 4 0 ☐ ☐ ☐
First Station No. of Exchange "A" 1 ~ 8 (First digit)
First Station No. of Exchange "B" 2 ~ 9 (First digit)
First Station No. of Exchange "C" 3 ~ 9 (First digit)</td></tr>
<tr><td>Selection of Calling Tone</td><td>41</td><td>Two different calling tones, single note tone or trill note tone, are available in selection for the Hands-free system except the continuous calling tone.</td><td>• 4 1 ☐
0: Without Calling Tone
1: Single Note Tone (0.2 sec.)
2: Trill note Tone (0.3 sec.)</td><td>Trill note Tone (0.3 sec.)</td></tr>
<tr><td>Selection of Paging Pre-announcement Tone Duration</td><td>42</td><td>You can select the length of time of paging pre-announcement tone.</td><td>• 4 2 ☐
0: Without Paging pre-announcement Tone
1: Paging Pre-announcement Tone (1 sec.)
2: Paging Pre-announcement Tone (2 sec.)</td><td>Paging Pre-announce-ment Tone (2 sec.)</td></tr>
<tr><td>Time-out Conversation</td><td>45</td><td>Programming is possible so that stations can be disconnected automatically from the speech path in the unit of Minute and the Hurry-up Signal Tone can be heard 10 seconds before the disconnection.</td><td>• 4 5 ☐☐
00: Without Time-out function
01~99: Length limited (minute)</td><td>Without Time-out</td></tr>
<tr><td>Time-out Paging Call</td><td>46</td><td>Programming is possible so that stations can be disconnected automatically from the Paging circuit in the unit of Minute and the Hurry-up Signal Tone can be heard 10 seconds before the disconnection.</td><td>• 4 6 ☐☐
00: Without Time-out function
01~99: Length limited (minute)</td><td>Without Time-out</td></tr>
</table>

FUNCTION CODE TABLE FOR STATION NO. 200 PROGRAMMING

C. Programming of each Function

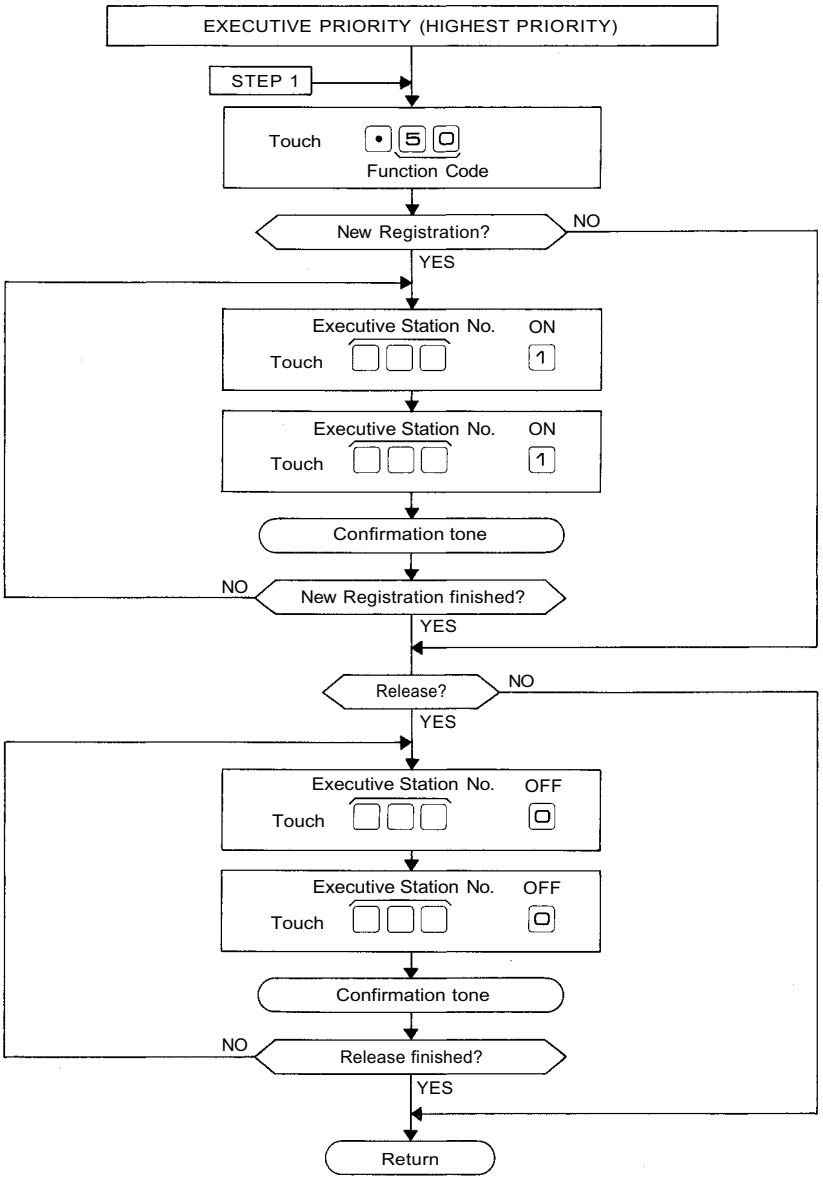
Function Group	Function	Function Code	1st Parameter	2nd Parameter	3rd Parameter	4th Parameter	OPERATING FOR PROGRAMMING
A	Executive Priority	50	Station No.	ON/OFF (1/0)			
	Continuous Calling Tone	51	Station No.	ON/OFF (1/0)			
	Station Allowed Access to All Call	52	Station No.	ON/OFF (1/0)			
	Stations Allowed Access to Conference	53	Station No.	ON/OFF (1/0)			
	Automatic Access to Paging	54	Station No.	ON/OFF (1/0)			
	Stations Allowed Access to One-Shot Make Output	56	Station No.	ON/OFF (1/0)			
	Stations Allowed Access to Make/ Break Output	57	Station No.	ON/OFF (1/0)			
	Stations Allowed Access to 8 Selectable/ Decimal Output	58	Station No.	ON/OFF (1/0)			
	Stations Allowed Access to 4 Decimal Digits Output	59	Station No.	ON/OFF (1/0)			
B	Secretary Transfer	60	Executive Station No.	Secretary Station No.			
	Master/Sub	61	Sub Station No.	Mater Station No.			
	Group Hunting	62	Main station No.	Transfered Station No.			
C	Paging Zone	70	Zone No. (01~21 / 01~45)	The First Station No. of the Zone	The Last Station No. of the Zone		
	Group Blocking: Establishment of Each Group	71	Group No. (1~6)	The First Station No. of the Group	The Last Station No. of the Group		
	Group of Calling Party Indication	72	Group No. (1~6)	The First Station No. of the Group	The Last Station No. of the Group		
D	Group Blocking: Allowing Calls Among Groups	81	Calling Group No. (1~8)	Called Group No.(s) (Plural) (1~8)			
	Group Blocking: Allowing Access to Paging Zones	82	Paging Zone No. of Paged Group (00~21, 00~45)	Paing Group No.(s) (Plural) (1~6)			
E	Programable Station Numbering	90	Hardwired Station No. *1	Programmed Station No. *2			
			The First Hardwired Station No. *1	The Last Hardwired Station No. *1	The First Programmed Station No. *2	The Last Programmed Station No. *2	

*1 Station No.'s except Programmed Station No.'s are Hardwired Station No.'s No. 100~/200~/300~/400~/470~/500~/600~/700~/740~/800~/900~.

*2 Programmed Station No.'s are No. 200~999/No. 100~999.

7. STATION NO. 200 PROGRAMMING FOR EACH FUNCTION

7-1 EXECUTIVE PRIORITY (FUNCTION CODE 50) (HIGHEST PRIORITY)



NOTES

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

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

   Be sure to depress the PTT key steadily.

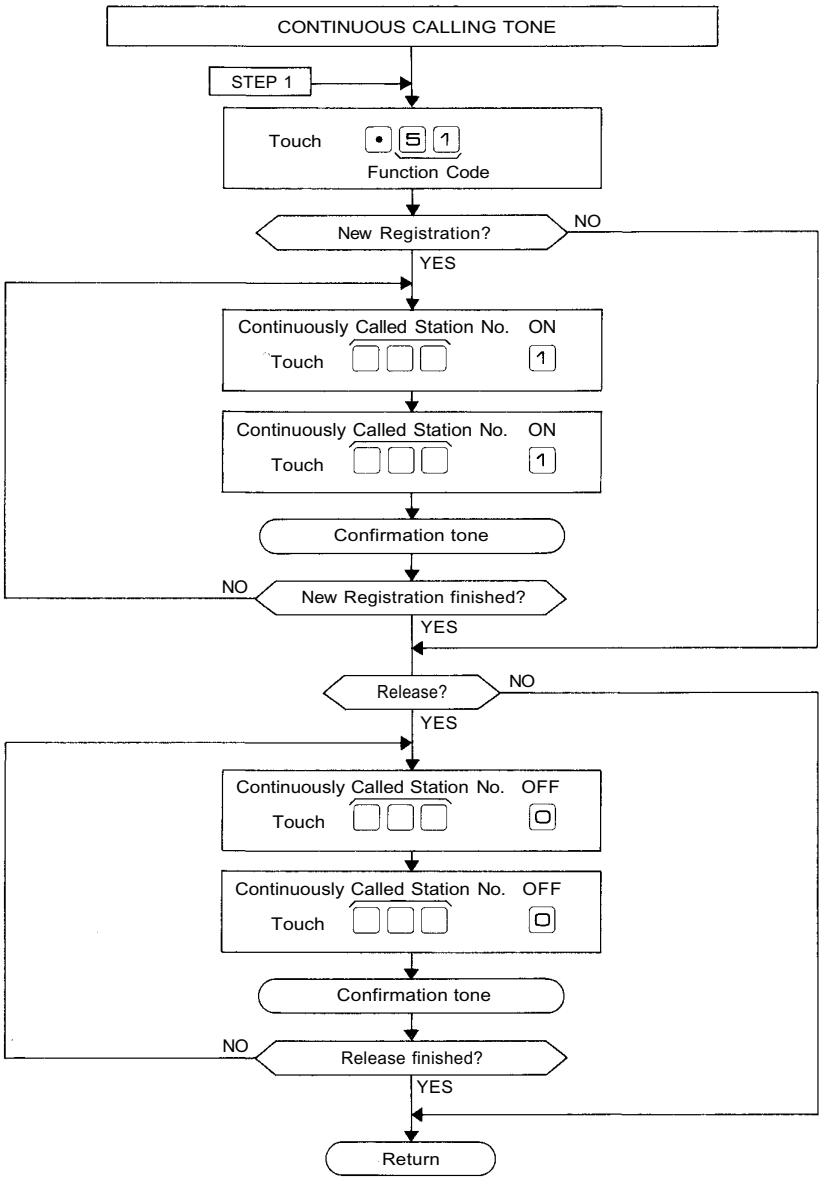
2. To release at one time the data programmed into all the stations for this function,

   Touch • 5 0 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.)

4. CP DIP switch B-3 must be "ON" to employ this function.

7-2 CONTINUOUS CALLING TONE (FUNCTION CODE 51)



NOTES

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

   Touch • 5 1 (PTT) (PTT) ··· (PTT) (Confirmation tone will be heard.)
   10 times

   Be sure to depress the (PTT) key steadily.

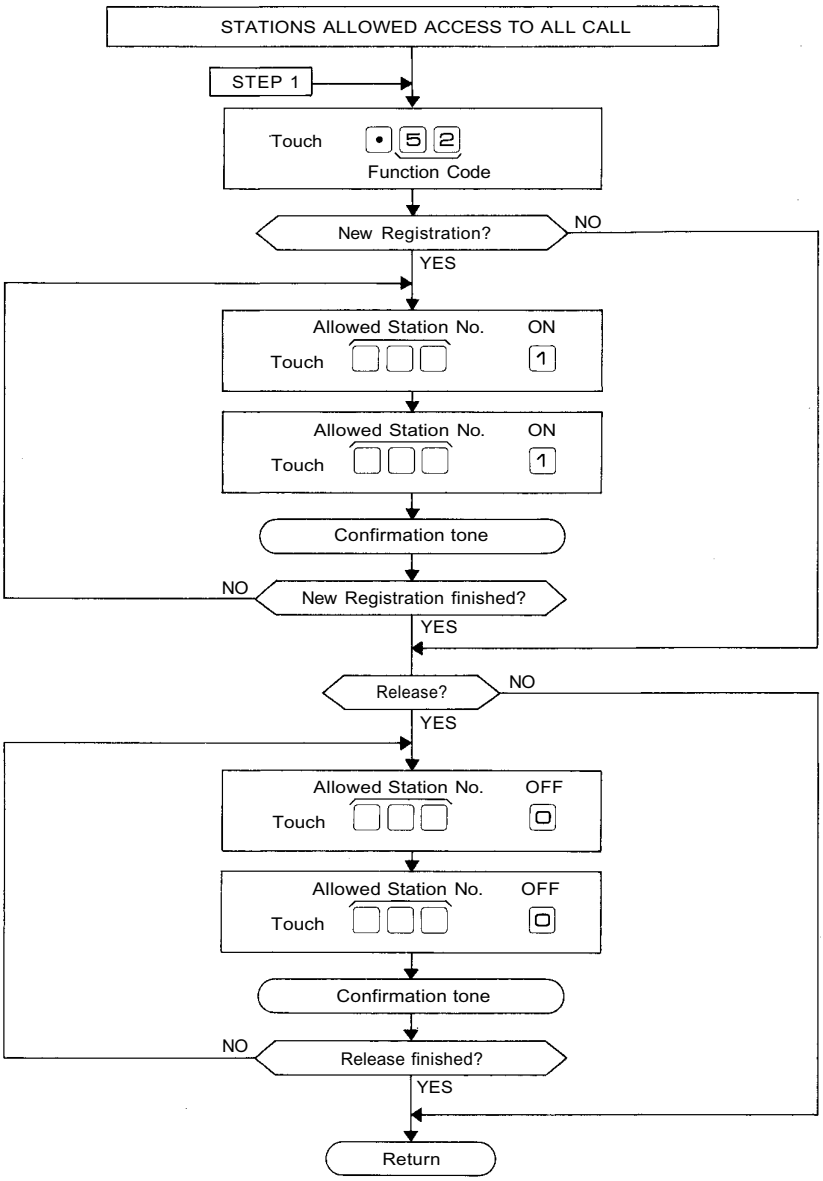
2. To release at one time the data programmed into all the stations for this function,

   Touch • 5 1 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.)

4. CP DIP switch E-6 must be "ON" to employ this function.

7-3 STATIONS ALLOWED ACCESS TO ALL CALL (FUNCTION CODE 52)



NOTES

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

   Touch • 5 2 (PTT) (PTT) ··· (PTT) (Confirmation tone will be heard.)
   10 times

   Be sure to depress the (PTT) key steadily.

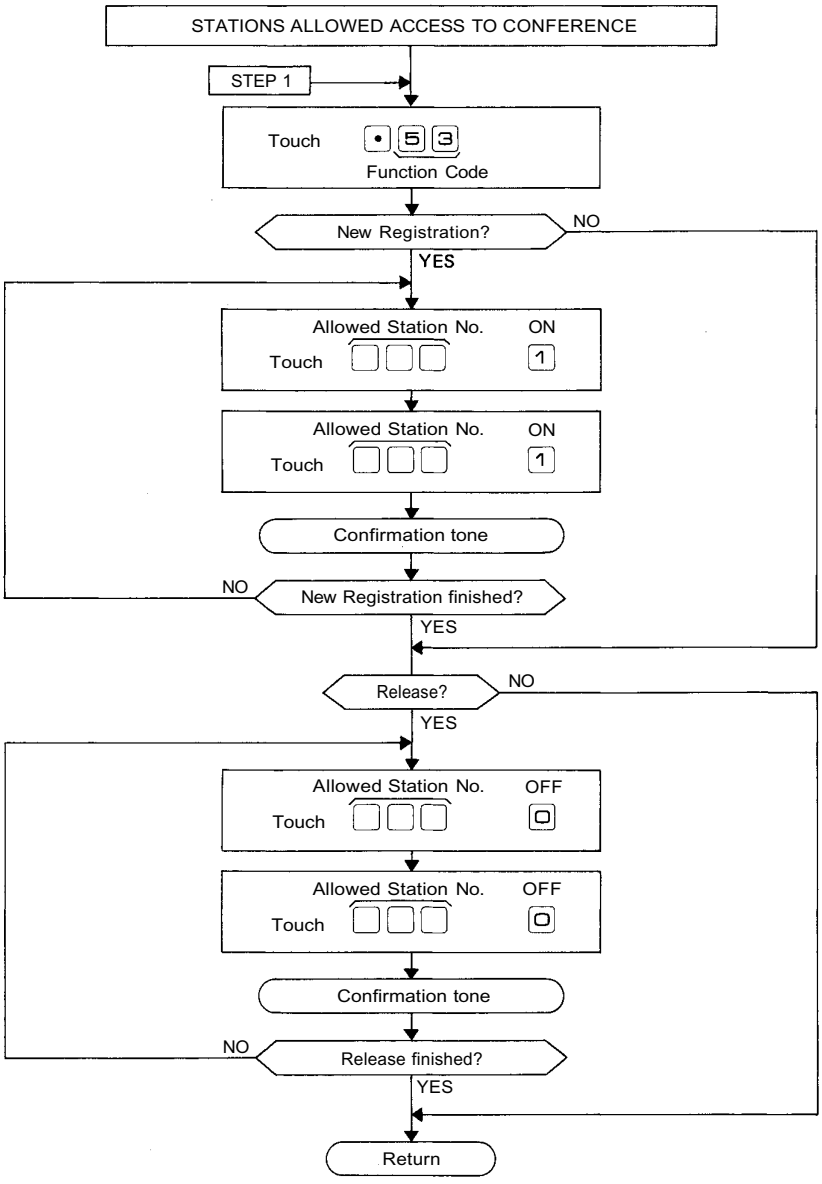
2. To release at one time the data programmed into all the stations for this function,

   Touch • 5 2 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.)

4. Programming is necessary only if CP DIP switch D-1 is "ON".

7-4 STATIONS ALLOWED ACCESS TO CONFERENCE (FUNCTION CODE 53)



NOTES

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

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

   Be sure to depress the (PTT) key steadily.

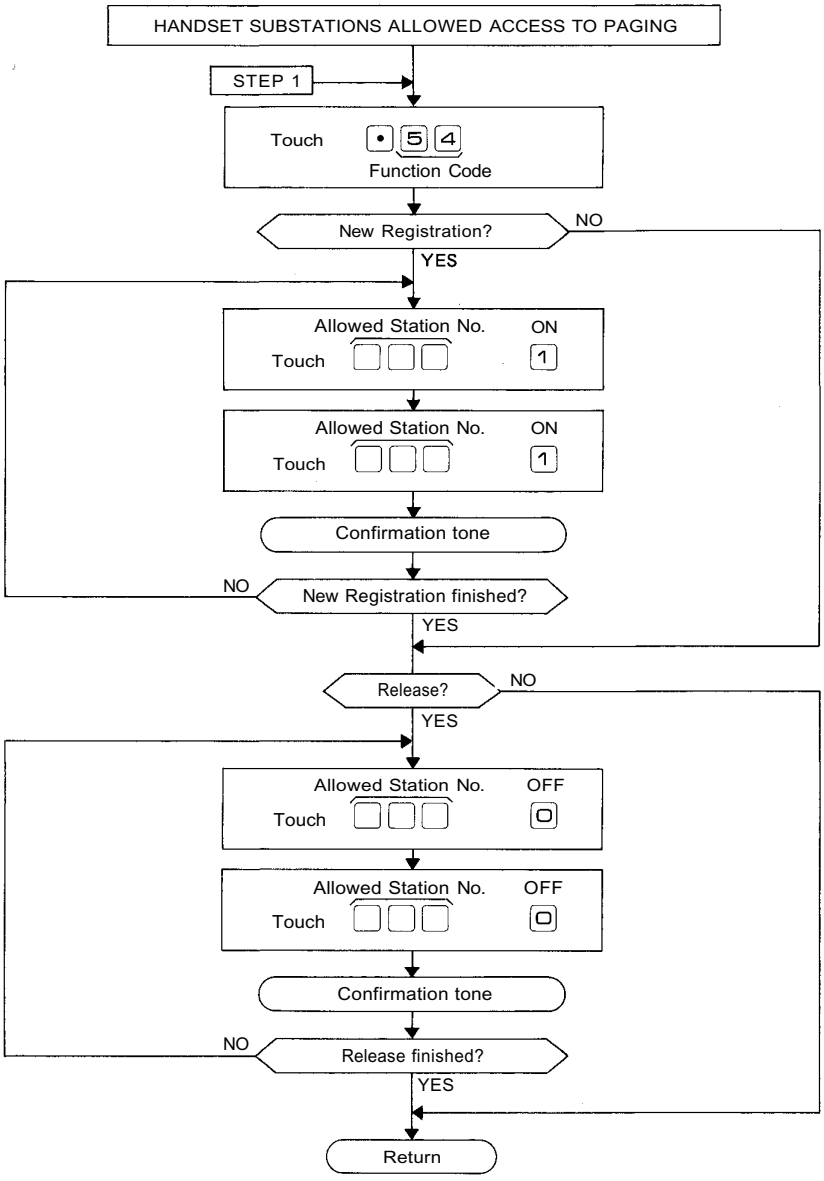
2. To release at one time the data programmed into all the stations for this function.

   Touch • 5 3 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.)

4. Programming is necessary only if CP DIP switch D-1 is "ON". Switch B-1 must be "ON" to employ this function.

7-5 AUTOMATIC ACCESS TO PAGING (FUNCTION CODE 54)



NOTES

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

   Touch • 5 4 (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 4 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.)

COMPLEMENTARY NOTES

(1) Automatic Access to Paging

This function facilitates Paging / Paging response from a Substation TL-600S. Just picking up the Handset of Sub-station automatically activates Paging or Paging Response mode.

(2) Required Programming for Automatic Access to Paging from Handset Substation.

2-1) First, connect a Master Station HF-600M or TL-600M in place of a Substation TL-600S.
2-2) Program at that station a necessary function for Single Digit Dialing such as Paging, Paging Response, Personal Number Call or etc.
2-3) Then, replace the Master Station with a Substation TL-600S.
2-4) Program "Automatic Access to Paging from Handset Substation (Function Code 54)" at the Station No. 200 according to the programming instructions.

(3) Single Digit Dialing and Automatic Access to Paging

By programming "Single Digit Dialing" at any master station, a single touch of the dial ▢ activates "Station Call", "Personal Number Call", "Paging" or "Paging Response" mode. But in using a TL-600S and a HF-600S, "Automatic Access to Paging from Handset Substation" function cannot be adopted only by programming "Single Digit Dialing" at the station. It also requires the programming for Function Code 54 at No. 200 Station.

(4) A call to Master Station from Handset or Hands-free/ Handset Substation

"Master/Sub Relationship (Function Code 61)" can be programmed into Handset Substation TL-600S or Hands-free/ Handset Substation HF-600S etc., where you can call the relative Master Station by a single touch of the dial ▢, or by picking up the Handset.

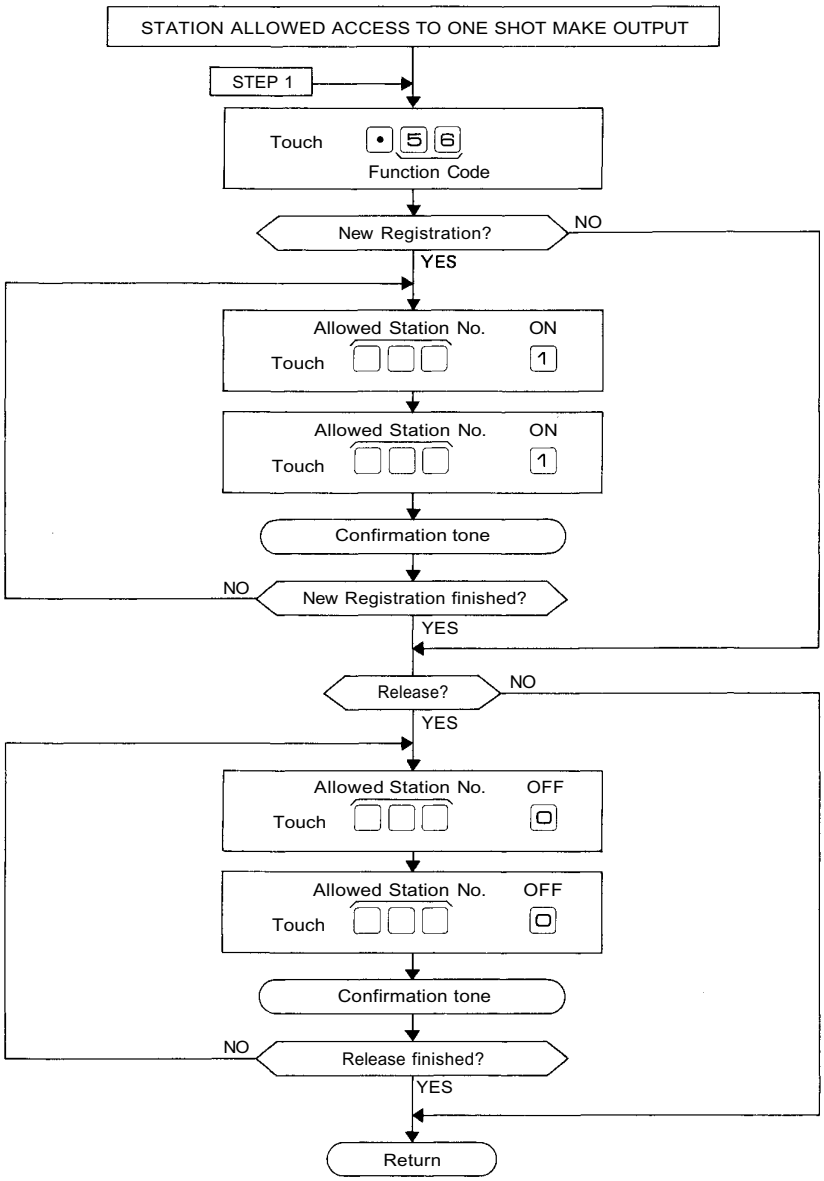
In activating a mode with Hands-free/Handset Substation HF-600S by picking up the Handset, "Privacy" switch on the Station is to be "ON" position.

(5) Call by Dialing ▢ & Picking up the Handset

Function	Necessary Programming	Call to Master Station		Paging Call, Paging Response or Personal Number Call	
		By dialing ▢ at HF-620S or HF-600S	By picking up Handset at TL-600S or HF-600S (Privacy SW. ON)	By dialing ▢ at HF-620S or HF-600S	By picking up Handset at TL-600S or HF-600S (Privacy SW. ON)
Single Digit Dialing *1	Single Digit Registration at Station	(○)	×	○	×
Master/sub Relationship *2	Programming at Station No. 200 (Function Code 61)	○	○	×	×
Automatic Access to Paging Paging (or Calling) from Handset Substation *1	1. Single Digit Registration at Station 2. Programming at Station No.200 (Function Code 54)	(○)	(○)	○	○

Note. ○ : Possible
× : Impossible
(○) : Possible but usually Not to be used
*1 : Possible across the tie-lined exchange.
*2 : Impossible across the tie-lined exchange

7-6 STATIONS ALLOWED ACCESS TO ONE-SHOT MAKE OUTPUT (FUNCTION CODE 56)



NOTES

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

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

   Be sure to depress the (PTT) key steadily.

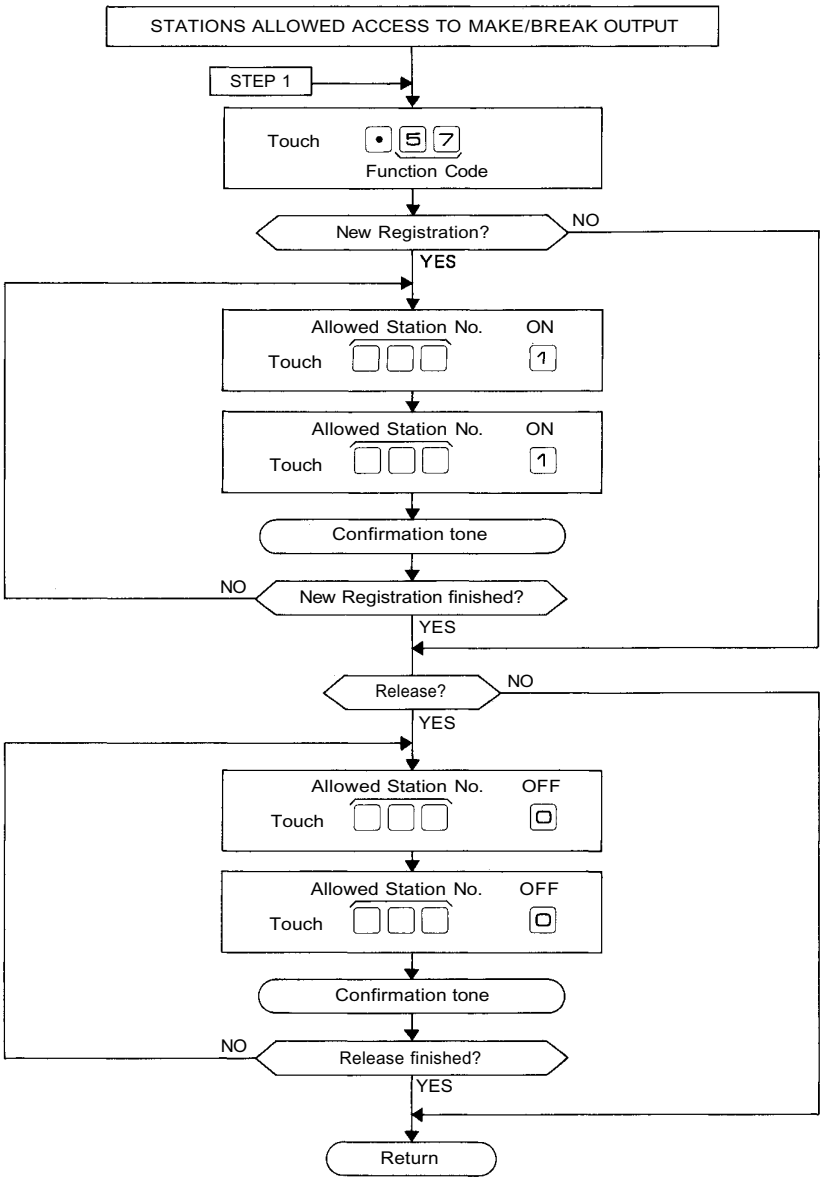
2. To release at one time the data programmed into all the stations for this function.

   Touch • 5 6 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.)

4. Programming is necessary only if CP DIP switch D-1 is "ON".

7-7 STATIONS ALLOWED ACCESS TO MAKE/BREAK OUTPUT (FUNCTION CODE 57)



NOTES

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

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

   Be sure to depress the (PTT) key steadily.

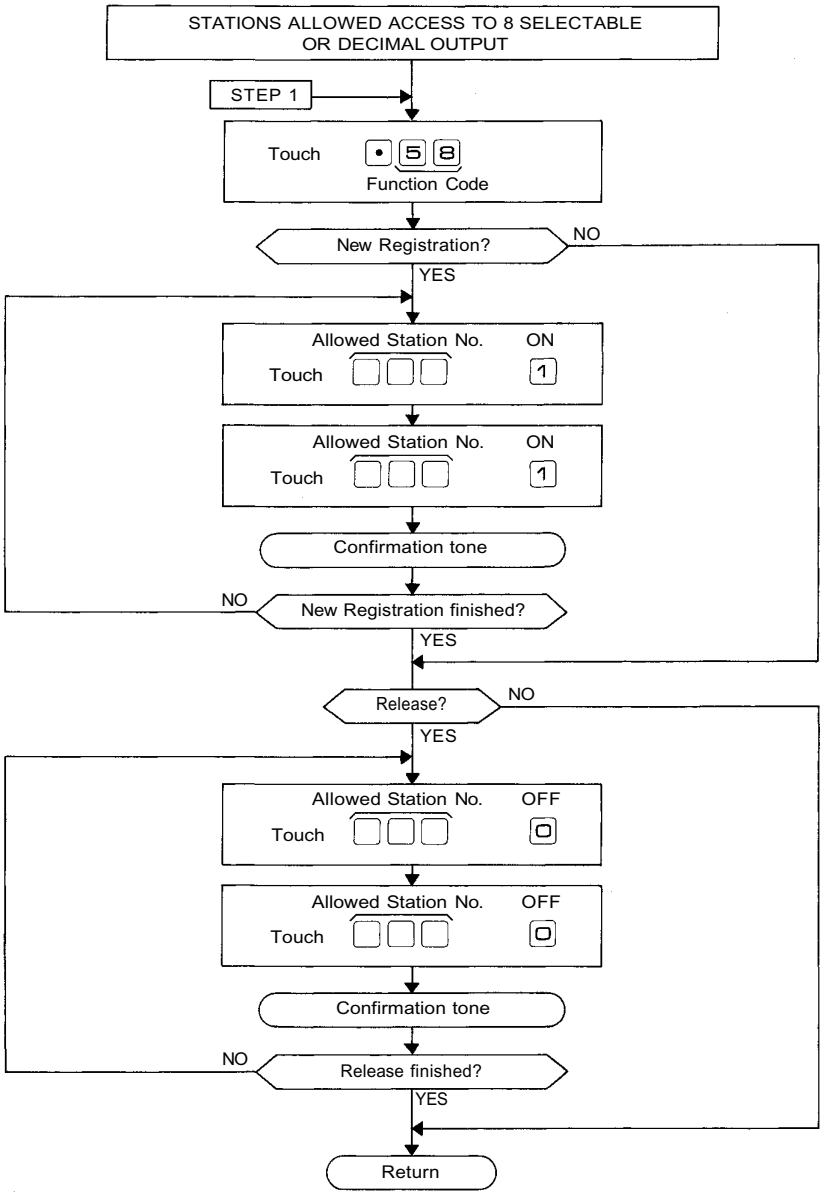
2. To release at one time the data programmed into all the stations for this function.

   Touch • 5 7 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.)

4. Programming is necessary only if CP DIP switch D-1 is "ON".

7-8 STATIONS ALLOWED ACCESS TO 8 SELECTABLE OR DECIMAL OUTPUT (FUNCTION CODE 58)



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.

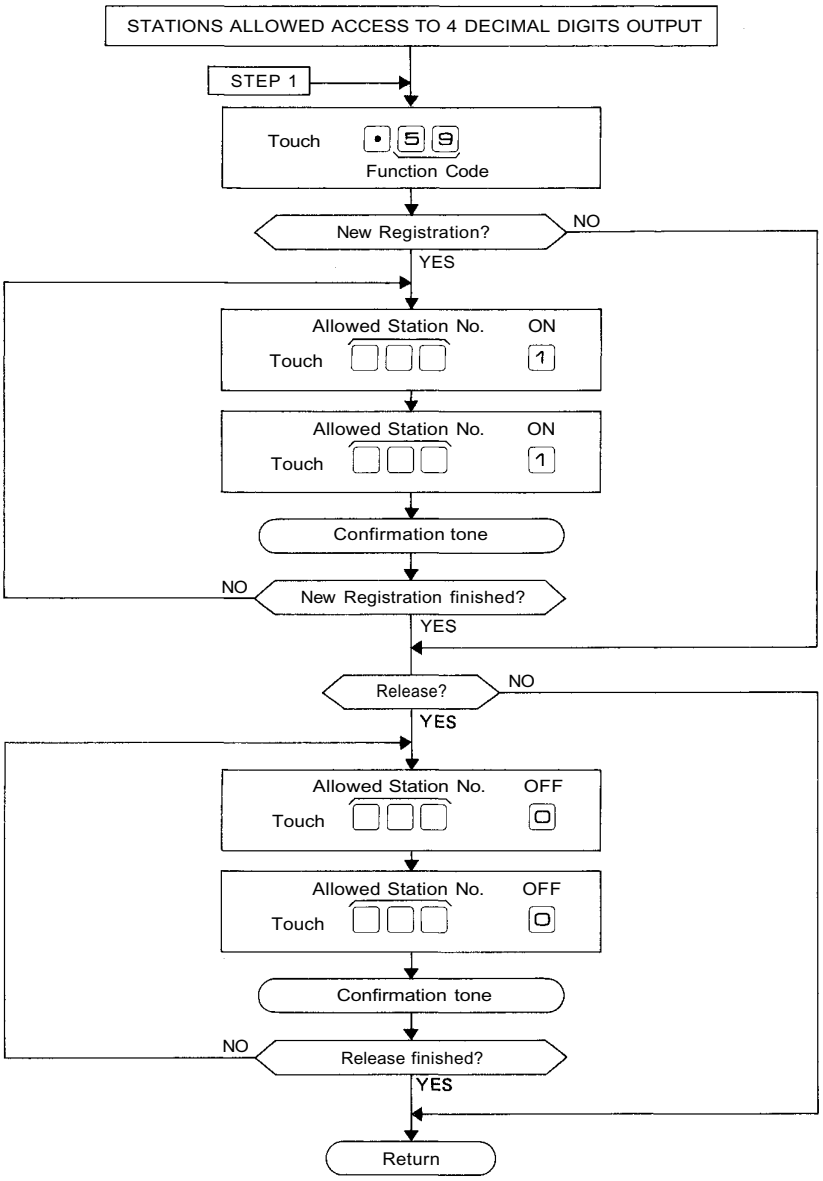
2. To release at one time the data programmed into all the stations for this function,

   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.)

4. Programming is necessary only if CP DIP switch D-1 is "ON".

7-9 STATIONS ALLOWED ACCESS TO 4 DECIMAL DIGITS OUTPUT (FUNCTION CODE 59)



NOTES

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

   Touch • 5 9 (PTT) (PTT) ··· (PTT) (Confirmation tone will be heard.)
   10 times

   Be sure to depress the (PTT) key steadily.

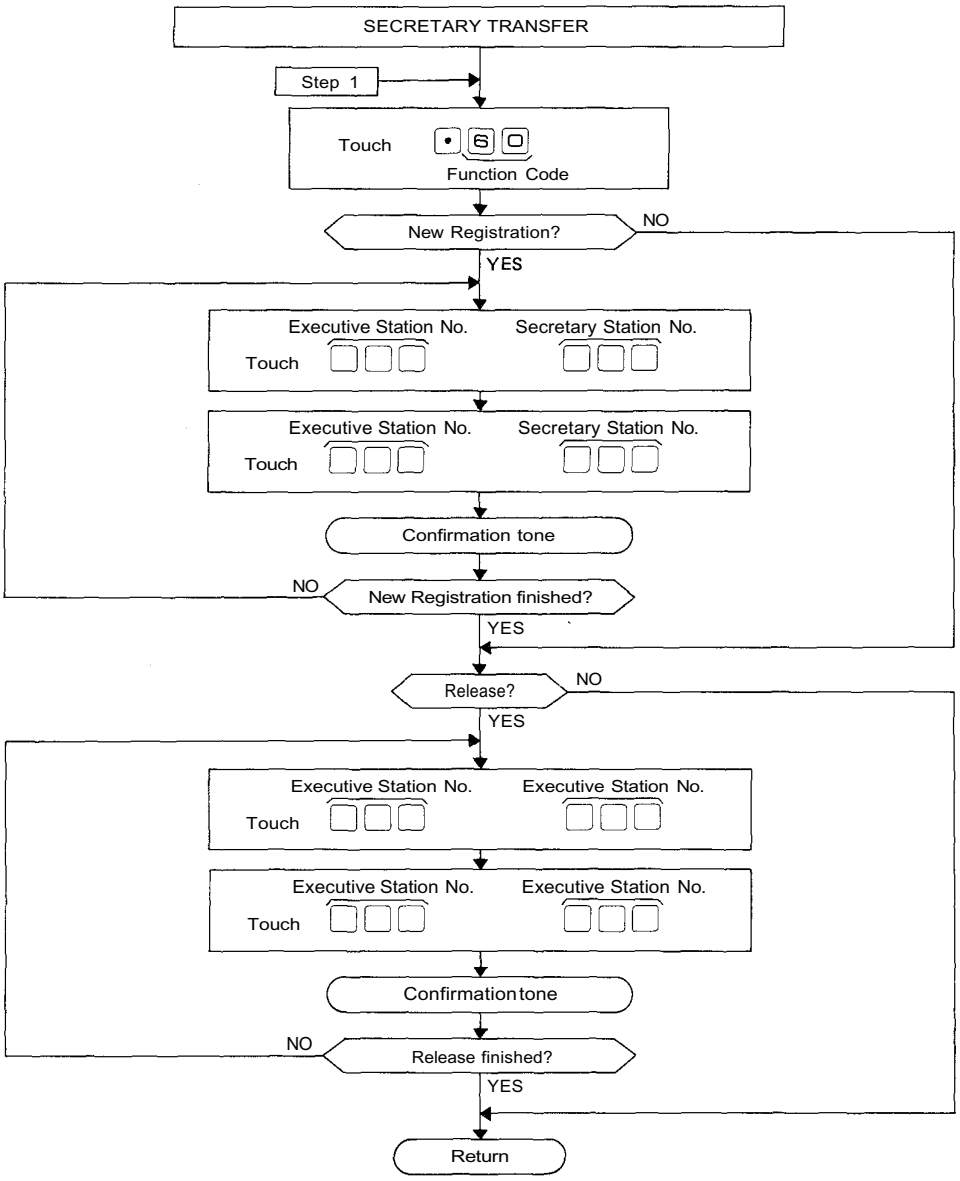
2. To release at one time the data programmed into all the stations for this function,

   Touch • 5 9 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.)

4. Programming is necessary only if CP DIP switch D-1 is "ON".

7-10 SECRETARY TRANSFER (FUNCTION CODE 60)



NOTES

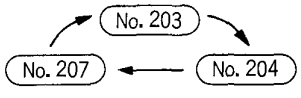
1. To release at one time the data programmed into all the stations for this function,

   Touch • 6 0 0 0 .... 0 (Confirmation tone will be heard.)
   10 times

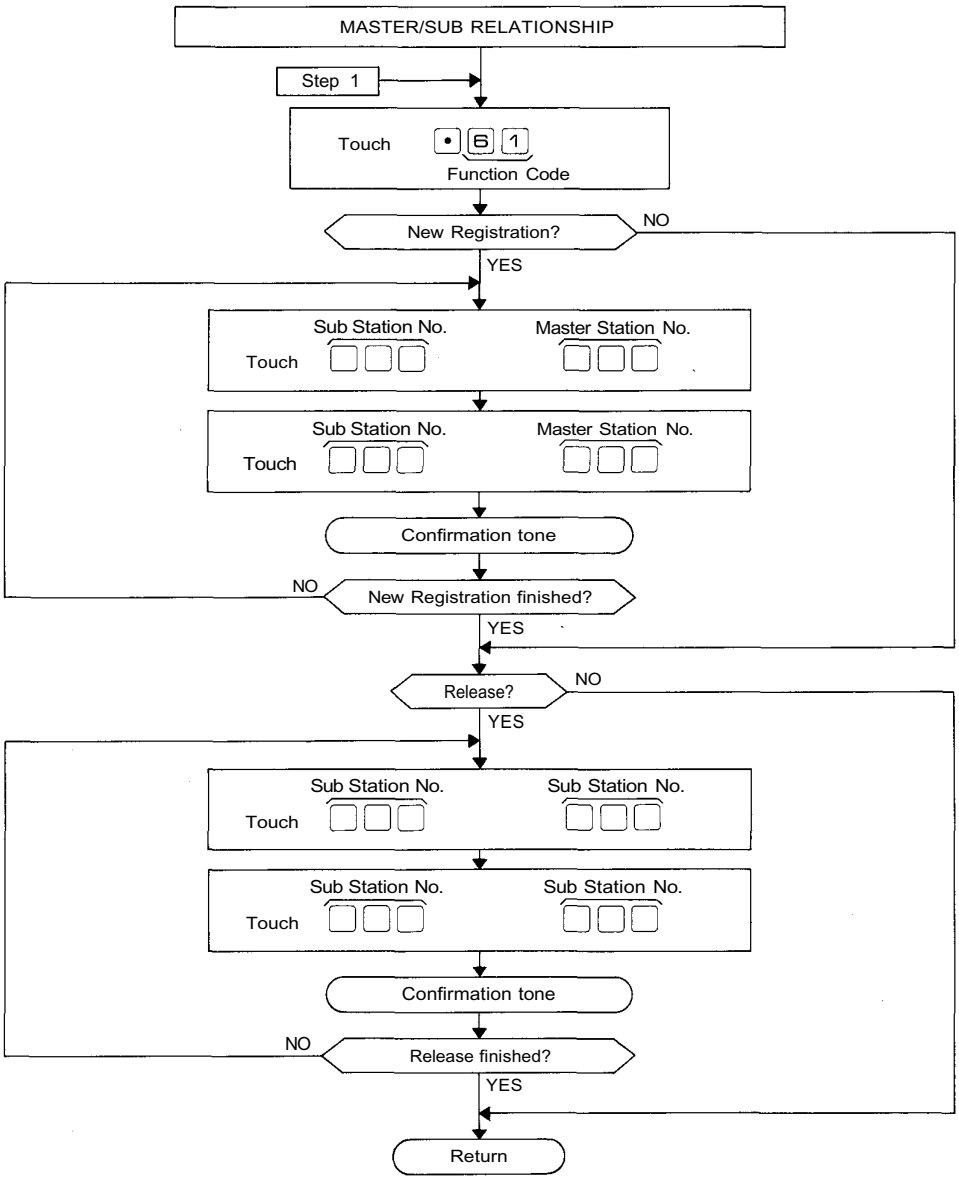
2. Re-start at Step 1 when mis-dialing occurs.
   (All other registrations remain valid.)

3. Switch B-5 must be "ON" to employ this function.

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



7-11 MASTER/SUB RELATIONSHIP (FUNCTION CODE 61)



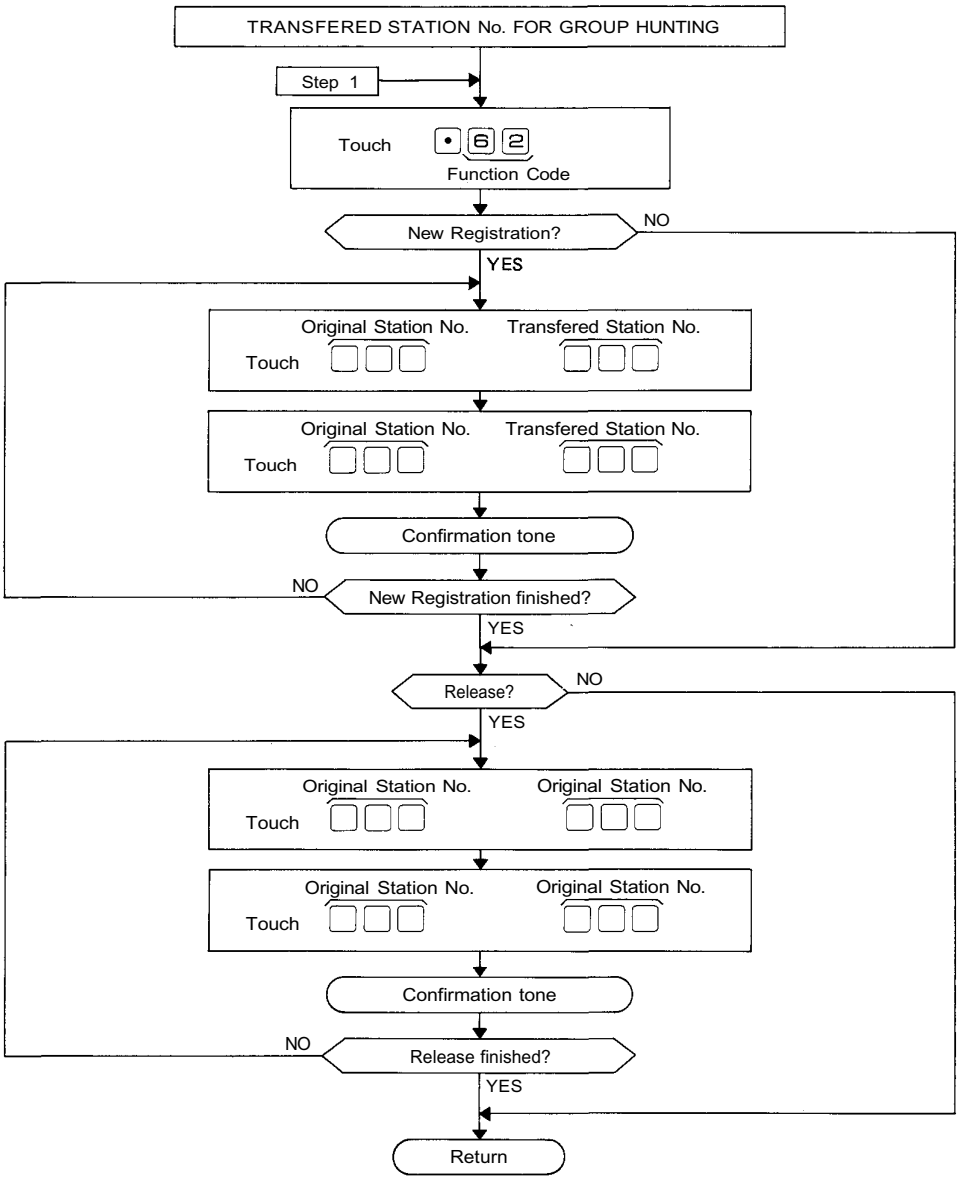
NOTES

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

   Touch • 6 1 0 0 ···· 0 (Confirmation tone will be heard.)
   10 times

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

7-12 GROUP HUNTING (FUNCTION CODE 62)



NOTES

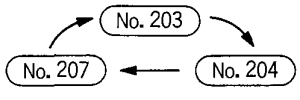
1. To release at one time the data programmed into all the stations for this function,

   Touch • 6 2 0 0 .... 0 (Confirmation tone will be heard.)
   10 times

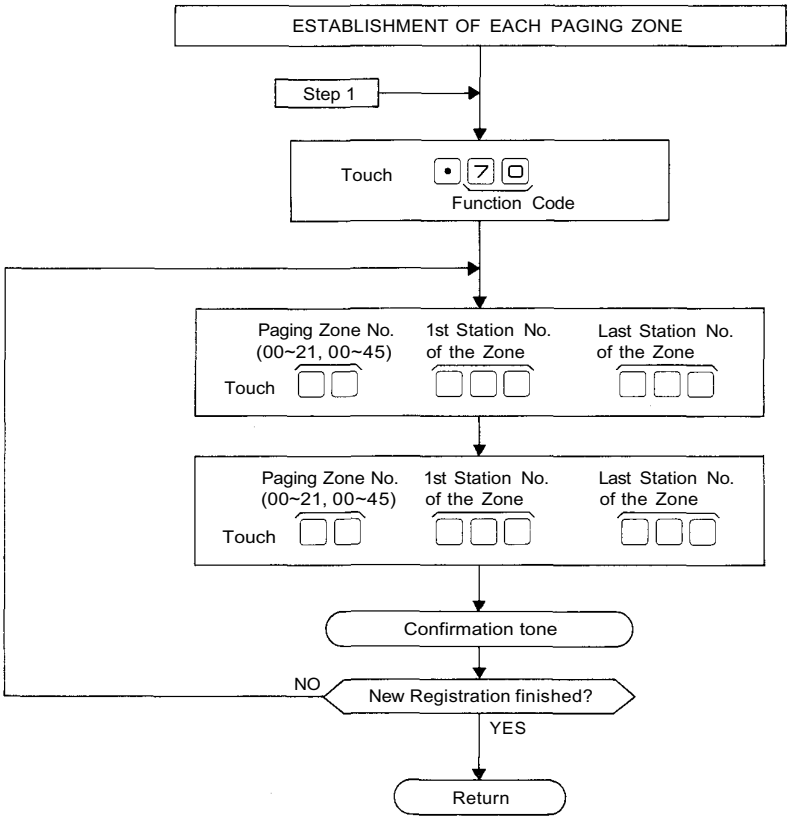
2. Re-start at Step 1 when mis-dialing occurs.
   (All other registrations remain valid.)

3. Switch B-5 must be "ON" to employ this function.

4. Programming of Group Hunting can be made in a daisy chain method. For their examples, refer to the following sketch.



7-13 PAGING ZONE (FUNCTION CODE 70)



NOTES

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

   Touch [•] [7] [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. Switch B-4 must be "ON" to employ this function.

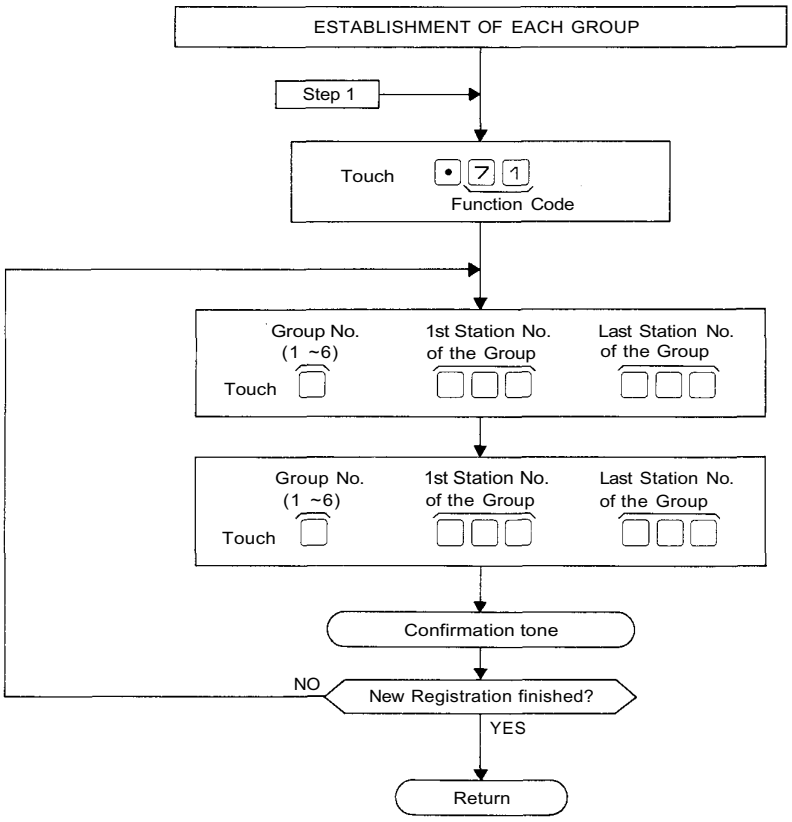
4. In the case "Paging Response Without Zone Number" mode ([•] [0], [•] [9]) is selected by the DIP Switch SW-C-2 this registration is essential.

5. Zone number series of each exchange in Tie-line system.

Type of exchange \ Model	EX-610/620	EX-610/620 (tie-lined to EX-630)	EX-630
Exchange "A"	No. 01~07	No. 01~07	No. 01~15
Exchange "B"	No. 08~14	No. 16~22	No. 16~30
Exchange "C"	No. 15~21	No. 31~37	No. 31~45

7-14 GROUP BLOCKING 1 : ESTABLISHMENT OF EACH GROUP (FUNCTION CODE 71)

GROUP BLOCKING 1



NOTES

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

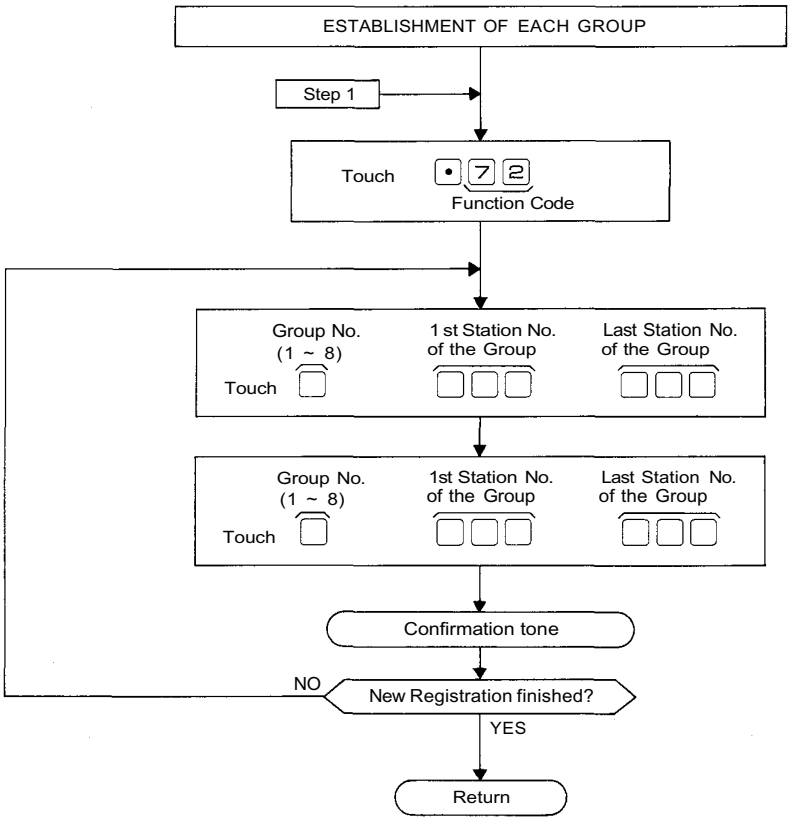
   Touch [•] [7] [1] [0] [0] ···· [0] (Confirmation tone will be heard.)
   10 times

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

3. CP DIP switch D-4 must be "ON" to employ this function.

7-15 CALLING PARTY INDICATION (LAMP TYPE) (FUNCTION CODE 72)

Registration of station number(s) having indication panel.



NOTES

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

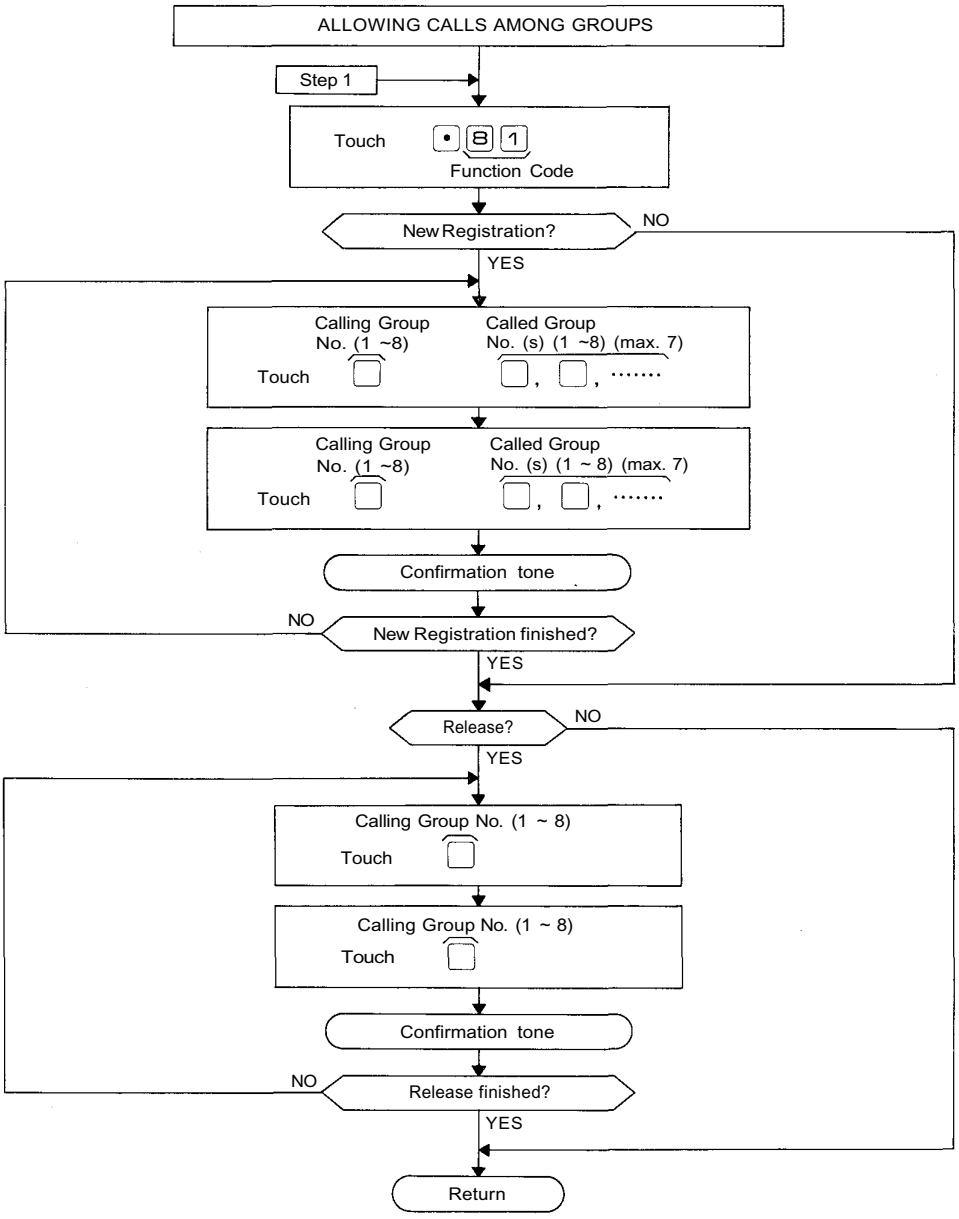
   Touch • 7 2 0 0 ···· 0 (Confirmation tone will be heard.)
   10 times

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

3. When the Indication Panel belongs to only one (1) station, you should write the station number in both "First Station No. "and "Last Station No." columns.

7-16 GROUP BLOCKING 2 : ALLOWING CALLS AMONG GROUPS (FUNCTION CODE 81)

GROUP BLOCKING 2



NOTES

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

   Touch • 8 1 0 0 .... 0 (Confirmation tone will be heard.)
   10 times

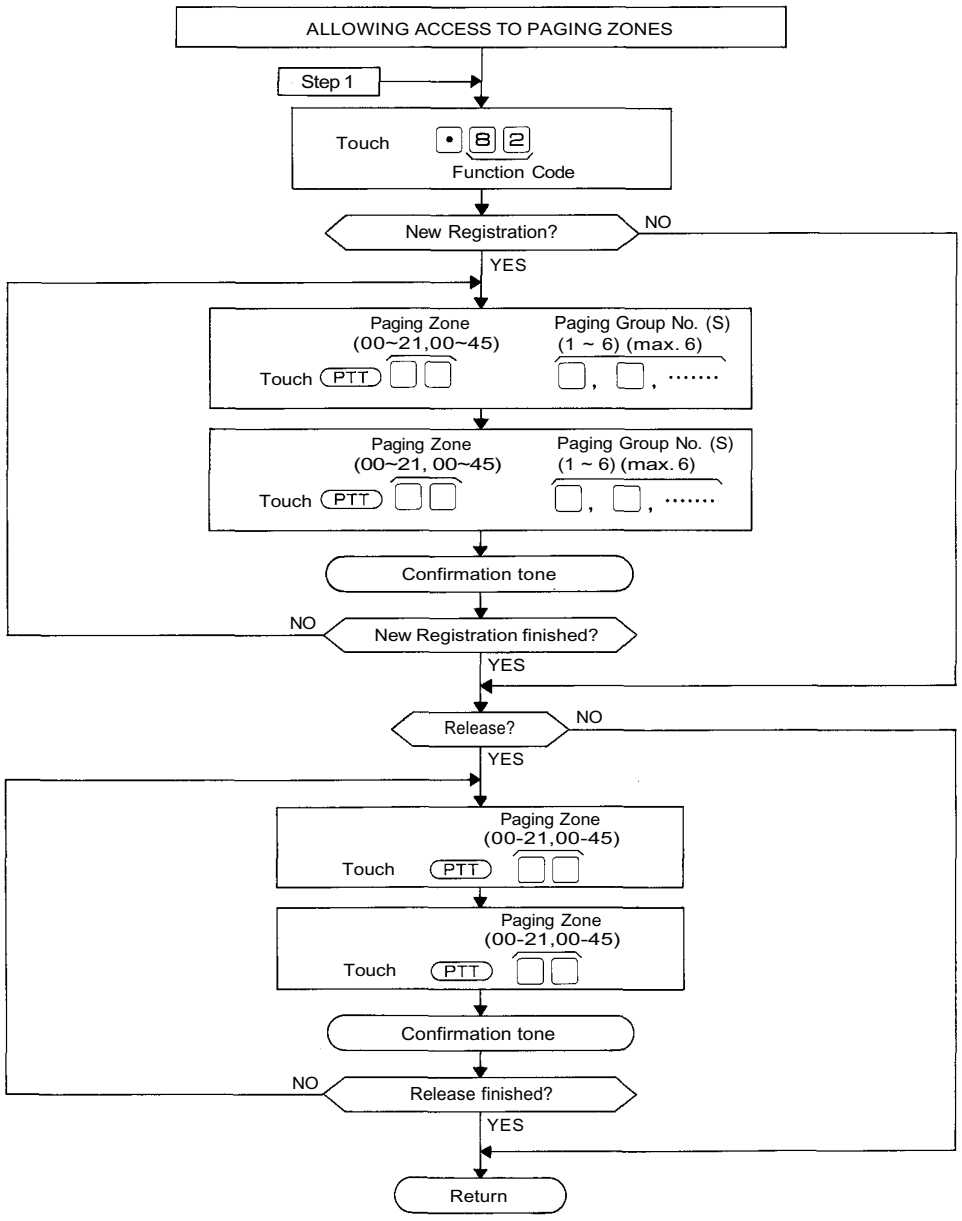
2. Re-start at Step 1 when mis-dialing occurs (All other registrations remain valid.)

3. Do not register a Group to call itself.

4. CP DIP switch D-4 must be "ON" to employ tins function.

7-17 GROUP BLOCKING 3 : ALLOWING GROUP ACCESS TO PAGING (FUNCTION CODE 82)

GROUP BLOCKING 3



NOTES

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

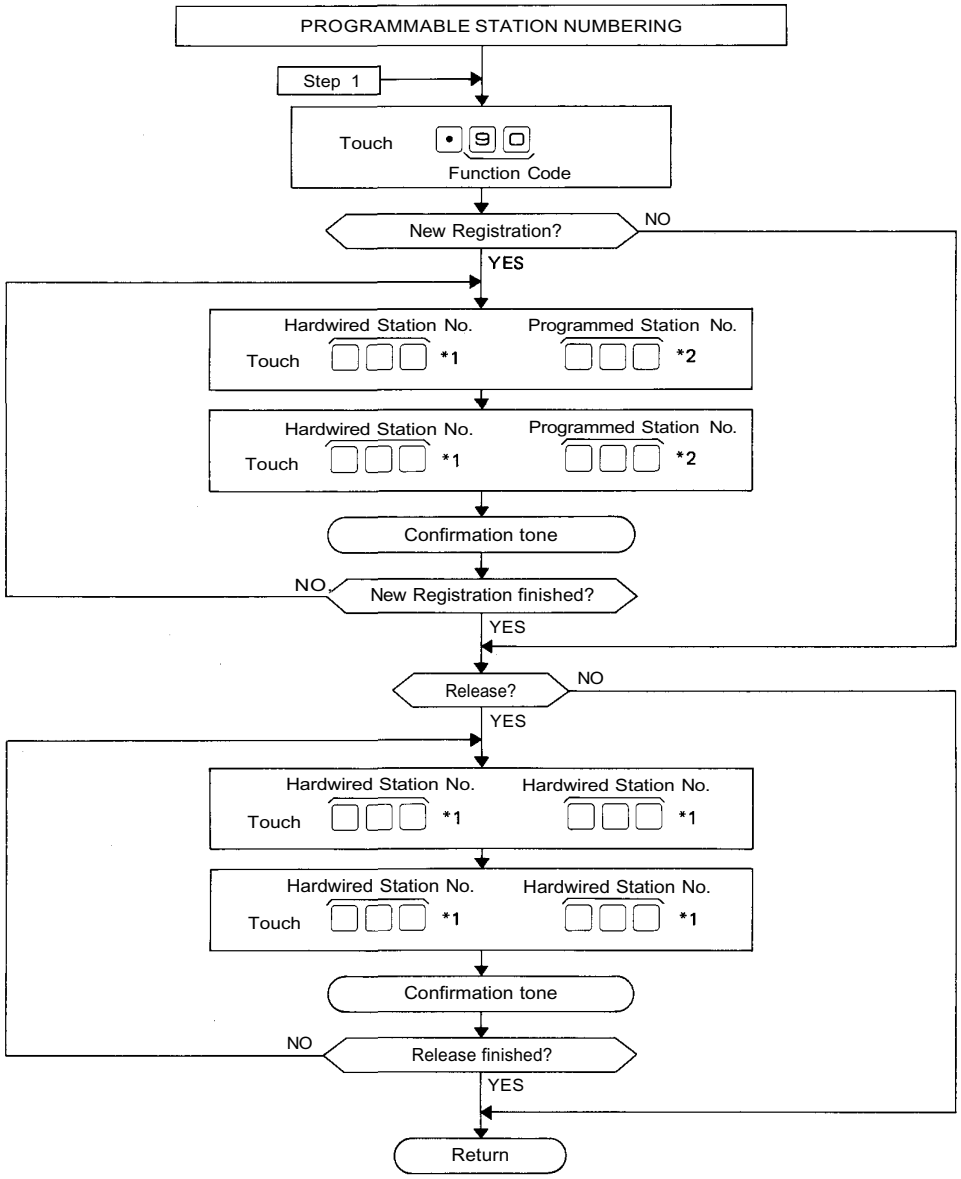
   Touch • 8 2 0 0 ···· 0 (10 times) (Confirmation tone will be heard.)

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

3. CP DIP switch D-4 must be "ON" to employ this function.

7-18 PROGRAMMABLE STATION NUMBERING (FUNCTION CODE 90)

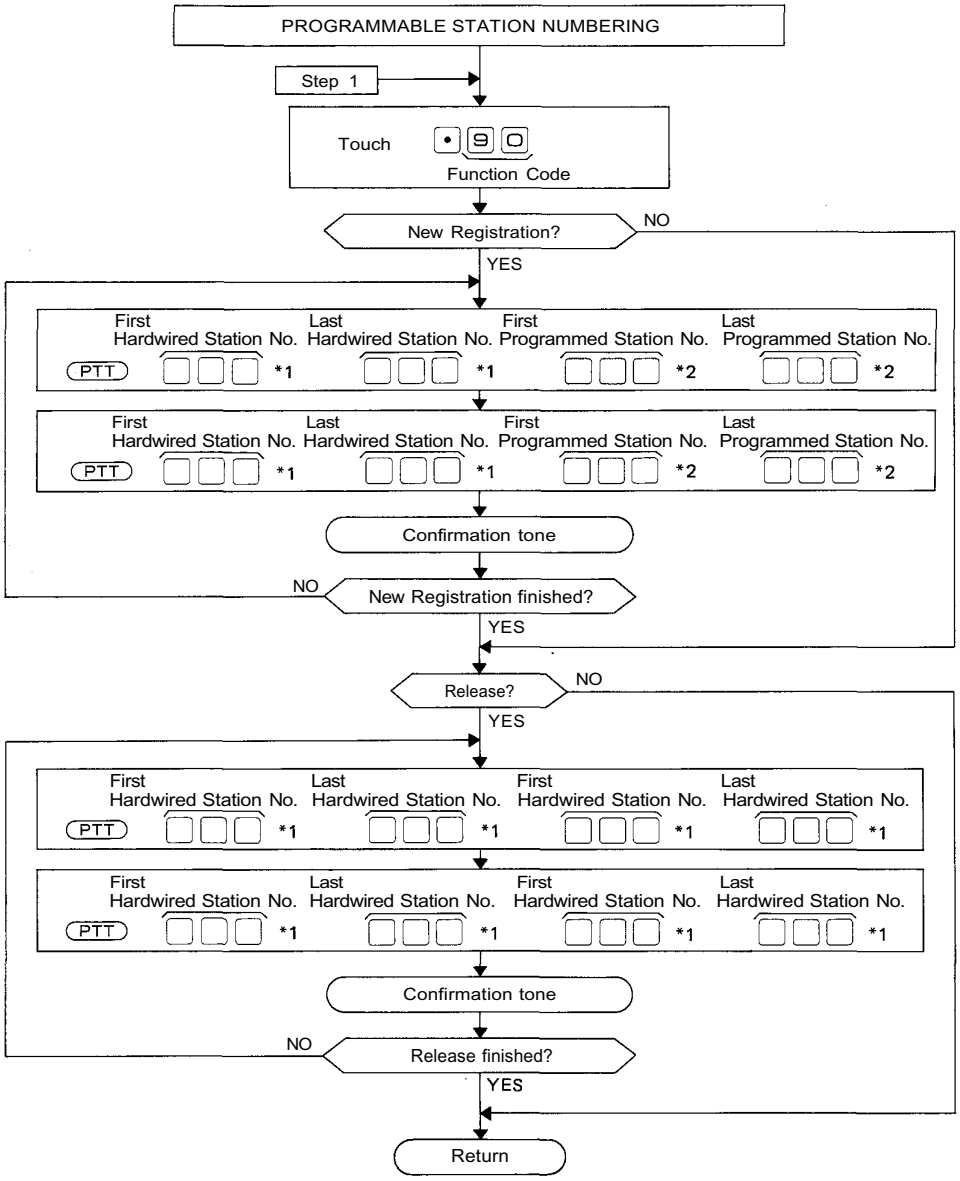
A. Programming of Single Station Number



NOTES

1. To release all registered Programmed Station No.'s at one time,
   Touch • 9 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. Any one Programmed Station No. cannot be assigned to more than one Hardwired Station.
4. CP DIP switch D-5 must be "ON" to employ this function.

B. Programming of Serial Station Numbers



NOTES

1. To release all registered Programmed Station No.'s at one time,

   Touch ... (Confirmation tone will be heard.)
   10 times

2. Any one Programmed Station No. cannot be assigned to more than one Hardwired Station.

3. CP DIP switch D-5 must be "ON" to employ this function.

C. Restriction of programmable station numbering

Each station number can be programmable in the station number series of the exchanges A, B and C that have been determined by the function of the "Selectable First Station Number" (Page 19).

Restriction of station numbers (*1) and (*2)

<Example 1> With personal number(Standard)

Exchange	Hardwired Station No.	Programmed Station No.
A	200~327	200~469
B	470~597	470~739
C	740~867	740~999

<Example 2> Without personal number

Exchange	Hardwired Station No.	Programmed Station No.
A	100~227	100~399
B	400~527	400~699
C	700~727	700~999

<Example 3>

Exchange	Hardwired Station No.	Programmed Station No.
A	200~327	200~399
B	400~527	400~599
C	600~727	600~799

8. PROGRAMMING DATA TABLE

• INITIAL PROGRAMMING

Note. (Mark *)
The first station of each exchange becomes the Programming Station:
Exchange "A" . . . . . No. 200 (100)
Exchange "B" . . . . . No. 470 (400)
Exchange "C" . . . . . No. 740 (700)

Initial Programming of the Exchange

1. Place program switch on front panel of the CP "ON"
   Dial operation from station No. 200 (100). *
2. [C] Dial tone will be heard (Station No. 200 (100) becomes a programming station)
3. [•] [4][4]··[4] (10 times) Confirmation tone will be heard (Clears function group S)
4. [•] [5][5]··[5] (10 times) Confirmation tone will be heard (Clears function group A)
5. [•] [6][6]··[6] (10 times) Confirmation tone will be heard (Clears function group B)
6. [•] [7][7]··[7] (10 times) Confirmation tone will be heard (Clears function group C)
7. [•] [8][8]··[8] (10 times) Confirmation tone will be heard (Clears function group D)
8. [•] [9][9]··[9] (10 times) Confirmation tone will be heard (Clears function group E)
9. [•] [0][0]··[0] (10 times) Confirmation tone will be heard.
   (Clears personal numbers, single digit dial numbers and remote numbers)
10. Program necessary functions.
    (Refer to separate instructions for each function)
11. Place program switch on front panel of the CP in "OFF" position.
12. [C] (Station No. 200 (100) becomes a normal station.) *

Clearance of Each Function at a Time

[•][X][X] (Function Code) [0][0]····[0][0] (10 times) Confirmation tone

Establishment of Function on All Stations at a Time

[•][5][X] (Function Code) (PTT)(PTT)·····(PTT) (10 times) Confirmation tone

< PROGRAMMING DATA TABLE 1 >

Function Table for the System ·40, □A, □B, □C ·4X, □ (X : 1, 2) ·4X, □□ (X : 5, 6)

Function Group	Function	Function code	Registered data	Note of Registration	Initial programming
S	Numbering schedules of tie-line system	40	A ___ 00 B ___ 00 C ___ 00	Select the head number of stations in each exchange from among the followings: 100, 200, 300, 400, 500, 600, 700, 800 or 900	A/B/C= 200/470/740 or A/B/C= 100/400/700
	Selection of Calling Tone	41	___	0: Without Calling Tone 1: Single tone (0.2 sec.) 2: Calling tone (0.3 sec.)	1: Calling Tone (0.3sec.)
	Selection of Paging Pre-announcement Tone	42	___	0: Without Paging Pre-announcement Tone 1 : Paging Pre-announcement Tone (1 sec.) 2: Paging Pre-announcement Tone (2 sec.)	2: Paging Pre-announcement Tone (2 sec.)
	Time-out of conversation	45	___ ___	00: Without Time-out function 01 ~ 99: Length limited (min.)	00: Without Time-out
	Time-out of Paging call	46	___ ___	00: Without Time-out function 01 ~99: Length limited (min.)	00: Without Time-out

< PROGRAMMING DATA TABLE 2>

Function Table for Stations (1)

[•][5][X], [ ][ ][ ], [ ] (X : 0~4, 6~9 / Station No. / 1/0)

[•][6][X], [ ][ ][ ], [ ][ ][ ] (X : 0, 1, 2 / Station No. (1st) / Station No. (2nd))

[•][9][0], (PTT) [ ][ ][ ], ([ ][ ][ ]), [ ][ ][ ], ([ ][ ][ ]) (The 1st Station No. / The Last Station No. / The 1st Station No. / The Last Station No.)

Function Group			A									B			C			E
Function / Function Code / Hardwired Station No. / Type of Exchange			Executive Priority (Highest Priority)	Continuous Calling Tone	Stations Allowed Access to All Call	Stations Allowed Access to Conference	Automatic Access to Paging	Stations Allowed Access to One Shot Output	Stations Allowed Access to Make/Break Output	Stations Allowed Access to 1/8 Select (or Decimal) Output	Stations Allowed Access to 4 Decimal Digits Output	Secretary Station No. *1	Master Station No. *1	Transferred Station No. for Group Hunting *1	Paging Zone No.	Group No. for Group Blocking	Group No. for Calling Party Indication	Programmed Station No.
A	B	C	50	51	52	53	54	56	57	58	59	60	61	62	70	71	72	90
200(100)	470(400)	740(700)																
201(101)	471(401)	741(701)																
202(102)	472(402)	742(702)																
203(103)	473(403)	743(703)																
204(104)	474(404)	744(704)																
205(105)	475(405)	745(705)																
206(106)	476(406)	746(706)																
207(107)	477(407)	747(707)																
208(108)	478(408)	748(708)																
209(109)	479(409)	749(709)																
210(110)	480(410)	750(710)																
211(111)	481(411)	751(711)																
212(112)	482(412)	752(712)																
213(113)	483(413)	753(713)																
214(114)	484(414)	754(714)																
215(115)	485(415)	755(715)																
216(116)	486(416)	756(716)																
217(117)	487(417)	757(717)																
218(118)	488(418)	758(718)																
219(119)	489(419)	759(719)																
220(120)	490(420)	760(720)																
221(121)	491(421)	761(721)																
222(122)	492(422)	762(722)																
223(123)	493(423)	763(723)																
224(124)	494(424)	764(724)																
225(125)	495(425)	765(725)																
226(126)	496(426)	766(726)																
227(127)	497(427)	767(727)																
228(128)	498(428)	768(728)																
229(129)	499(429)	769(729)																
230(130)	500(430)	770(730)																
231(131)	501(431)	771(731)																
232(132)	502(432)	772(732)																
233(133)	503(433)	773(733)																
234(134)	504(434)	774(734)																
235(135)	505(435)	775(735)																
236(136)	506(436)	776(736)																
237(137)	507(437)	777(737)																
238(138)	508(438)	778(738)																
239(139)	509(439)	779(739)																
240(140)	510(440)	780(740)																
241(141)	511(441)	781(741)																
242(142)	512(442)	782(742)																

<PROGRAMMING DATA TABLE 3>

Function Table for Stations (2)

[•][5][X], [ ][ ][ ], [ ]
X : 0~4, 6~9 — Station No. — 1/0

[•][6][X], [ ][ ][ ], [ ][ ][ ]
X : 0, 1, 2 — Station No. (1st) — Station No. (2nd)

[•][9][0], (PTT) [ ][ ][ ], ([ ][ ][ ]), [ ][ ][ ], ([ ][ ][ ])
The 1st Station No. — The Last Station No. — The 1st Station No. — The Last Station No.

For Tie-line Unit → (EX-610)

For Paging Unit

Function Group			A									B			C			E
Function / Function Code / Hardwired Station No. / Type of Exchange			Executive Priority (Highest Priority)	Continuous Calling Tone	Stations Allowed Access to All Call	Stations Allowed Access to Conference	Automatic Access to Paging	Stations Allowed Access to One Shot Output	Stations Allowed Access to Make/Break Output	Stations Allowed Access to 1/8 Select (or Decimal) Output	Stations Allowed Access to 4 Decimal Digits Output	Secretary Station No. *1	Master Station No. *1	Transferred Station No. for Group Hunting *1	Paging Zone No.	Group No. for Group Blocking	Group No. for Calling Party Indication	Programmed Station No.
A	B	C	50	51	52	53	54	56	57	58	59	60	61	62	70	71	72	90
243 (143)	513 (443)	783 (743)																
244 (144)	514 (444)	784 (744)																
245 (145)	515 (445)	785 (745)																
246 (146)	516 (446)	786 (746)																
247 (147)	517 (447)	787 (747)																
248 (148)	518 (448)	788 (748)																
249 (149)	519 (449)	789 (749)																
250 (150)	520 (450)	790 (750)																
251 (151)	521 (451)	791 (751)																
252 (152)	522 (452)	792 (752)																
253 (153)	523 (453)	793 (753)																
254 (154)	524 (454)	794 (754)																
255 (155)	525 (455)	795 (755)																
256 (156)	526 (456)	796 (756)																
257 (157)	527 (457)	797 (757)																
258 (158)	528 (458)	798 (758)																
259 (159)	529 (459)	799 (759)																
260 (160)	530 (460)	800 (760)																
261 (161)	531 (461)	801 (761)																
262 (162)	532 (462)	802 (762)																
263 (163)	533 (463)	803 (763)																
264 (164)	534 (464)	804 (764)																
265 (165)	535 (465)	805 (765)																
266 (166)	536 (466)	806 (766)																
267 (167)	537 (467)	807 (767)																
268 (168)	538 (468)	808 (768)																
269 (169)	539 (469)	809 (769)																
270 (170)	540 (470)	810 (770)																
271 (171)	541 (471)	811 (771)																
272 (172)	542 (472)	812 (772)																
273 (173)	543 (473)	813 (773)																
274 (174)	544 (474)	814 (774)																
275 (175)	545 (475)	815 (775)																
276 (176)	546 (476)	816 (776)																
277 (177)	547 (477)	817 (777)																
278 (178)	548 (478)	818 (778)																
279 (179)	549 (479)	819 (779)																
280 (180)	550 (480)	820 (780)																
281 (181)	551 (481)	821 (781)																
282 (182)	552 (482)	822 (782)																
283 (183)	553 (483)	823 (783)																
284 (184)	554 (484)	824 (784)																
285 (185)	555 (485)	825 (785)																

<PROGRAMMING DATA TABLE 4>

Function Table for Stations (3)

[•][5][X], [ ][ ][ ], [ ]
X : 0~4, 6~9 — Station No. — 1/0

[•][6][X], [ ][ ][ ], [ ][ ][ ]
X : 0, 1, 2 — Station No. (1st) — Station No. (2nd)

[•][9][0], (PTT) [ ][ ][ ], ([ ][ ][ ]), [ ][ ][ ], ([ ][ ][ ])
The 1st Station No. — The Last Station No. — The 1st Station No. — The Last Station No.

Function Group			A									B			C			E
Function / Function Code / Hardwired Station No. / Type of Exchange			Executive Priority (Highest Priority)	Continuous Calling Tone	Stations Allowed Access to All Call	Stations Allowed Access to Conference	Automatic Access to Paging	Stations Allowed Access to One Shot Output	Stations Allowed Access to Make/Break Output	Stations Allowed Access to 1/8 Select (or Decimal) Output	Stations Allowed Access to 4 Decimal Digits Output	Secretary Station No. *1	Master Station No. *1	Transferred Station No. for Group Hunting *1	Paging Zone No.	Group No. for Group Blocking	Group No. for Calling Party Indication	Programmed Station No.
A	B	C	50	51	52	53	54	56	57	58	59	60	61	62	70	71	72	90
286 (186)	556 (486)	826 (786)																
287 (187)	557 (487)	827 (787)																
12 288 (188)	558 (488)	828 (788)																
289 (189)	559 (489)	829 (789)																
290 (190)	560 (490)	830 (790)																
291 (191)	561 (491)	831 (791)																
292 (192)	562 (492)	832 (792)																
293 (193)	563 (493)	833 (793)																
294 (194)	564 (494)	834 (794)																
295 (195)	565 (495)	835 (795)																
13 296 (196)	566 (496)	836 (796)																
297 (197)	567 (497)	837 (797)																
298 (198)	568 (498)	838 (798)																
299 (199)	569 (499)	839 (799)																
300 (200)	570 (500)	840 (800)																
301 (201)	571 (501)	841 (801)																
302 (202)	572 (502)	842 (802)																
303 (203)	573 (503)	843 (803)																
14 304 (204)	574 (504)	844 (804)																
305 (205)	575 (505)	845 (805)																
306 (206)	576 (506)	846 (806)																
307 (207)	577 (507)	847 (807)																
308 (208)	578 (508)	848 (808)																
309 (209)	579 (509)	849 (809)																
310 (210)	580 (510)	850 (810)																
311 (211)	581 (511)	851 (811)																
15 (—)		T_0																
(—)		T_1																
(—)		T_2																
(—)		T_3																
(—)		T_4																
(—)		T_5																
(—)		T_6																
(—)		T_7																
16 320 (220)	590 (520)	860 (820)																
321 (221)	591 (521)	861 (821)																
322 (222)	592 (522)	862 (822)																
323 (223)	593 (523)	863 (823)																
324 (224)	594 (524)	864 (824)																
325 (225)	595 (525)	865 (825)																
326 (226)	596 (526)	866 (826)																
327 (227)	597 (527)	867 (827)																

For Tie-line Unit (EX-620) / For Paging Unit

<PROGRAMMING DATA TABLE 5>

Paging Zone Table

[•][7][0], [ ][ ], [ ][ ][ ], [ ][ ][ ]
Zone No. 01~21 / The 1st Station No. / The Last Station No.

Function Code 70	Paging Zone				First Station No.	Last Station No.
	Department	A	B	C		
		01	08(16)	15(31)		
		02	09(17)	16(32)		
		03	10(18)	17(33)		
		04	11(19)	18(34)		
		05	12(20)	19(35)		
		06	13(21)	20(36)		
		07	14(22)	21(37)		

Station Numbers Table for Calling Party Indication (Lamp Type)

[•][7][2], [ ], [ ][ ][ ], [ ][ ][ ]
Group No. 1~8 / The 1st Station No. / The Last Station No.

Function Code 72	Calling Party Indication		First Station No.	Last Station No.
	Name	Group No.		
		1		
		2		
		3		
		4		
		5		
		6		
		7		
		8		

Note. When the indication panel belongs to only one (1) station, you should write the station number in both "First Station No." and "Last Station No." columns.

<PROGRAMMING DATA TABLE 6>

Table for Group Blocking (3 Tables)

① Group Blocking for each Group

[•][7][1], [ ], [ ][ ][ ], [ ][ ][ ]
Group No. 1~8 / The 1st Station No. / The Last Station No.

Function Code 71	Group	No.	First Station No.	Last Station No.
		1		
		2		
		3		
		4		
		5		
		6		

② Group Blocking among Groups

[•][8][1], [ ], [ ][ ][ ]…[ ]
Group No. of Calling Parties 1~8 / Group No. (s) of Called Parties 1~8

Function Code 81	Calling Group No. \ Called Group No.	1	2	3	4	5	6	EX-3X (TL) / EX-2X (TL+TH)	EX-3X (TH)	Others
	1	⊙								⊙
	2		⊙							⊙
	3			⊙						⊙
	4				⊙					⊙
	5					⊙				⊙
	6						⊙			⊙
	EX-3X (TH) / EX-2X (TL+TH) 7							⊠	⊠	⊙
	EX-3X (TH) 8							⊠	⊠	⊙
		⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙

Note. : EX-3X: EX-3A, EX-3B, EX-3C, EX-2X: EX-2A, EX-2B ⊙: No need to register.

<PROGRAMMING DATA TABLE 7>

③ Group Blocking for Paging Groups

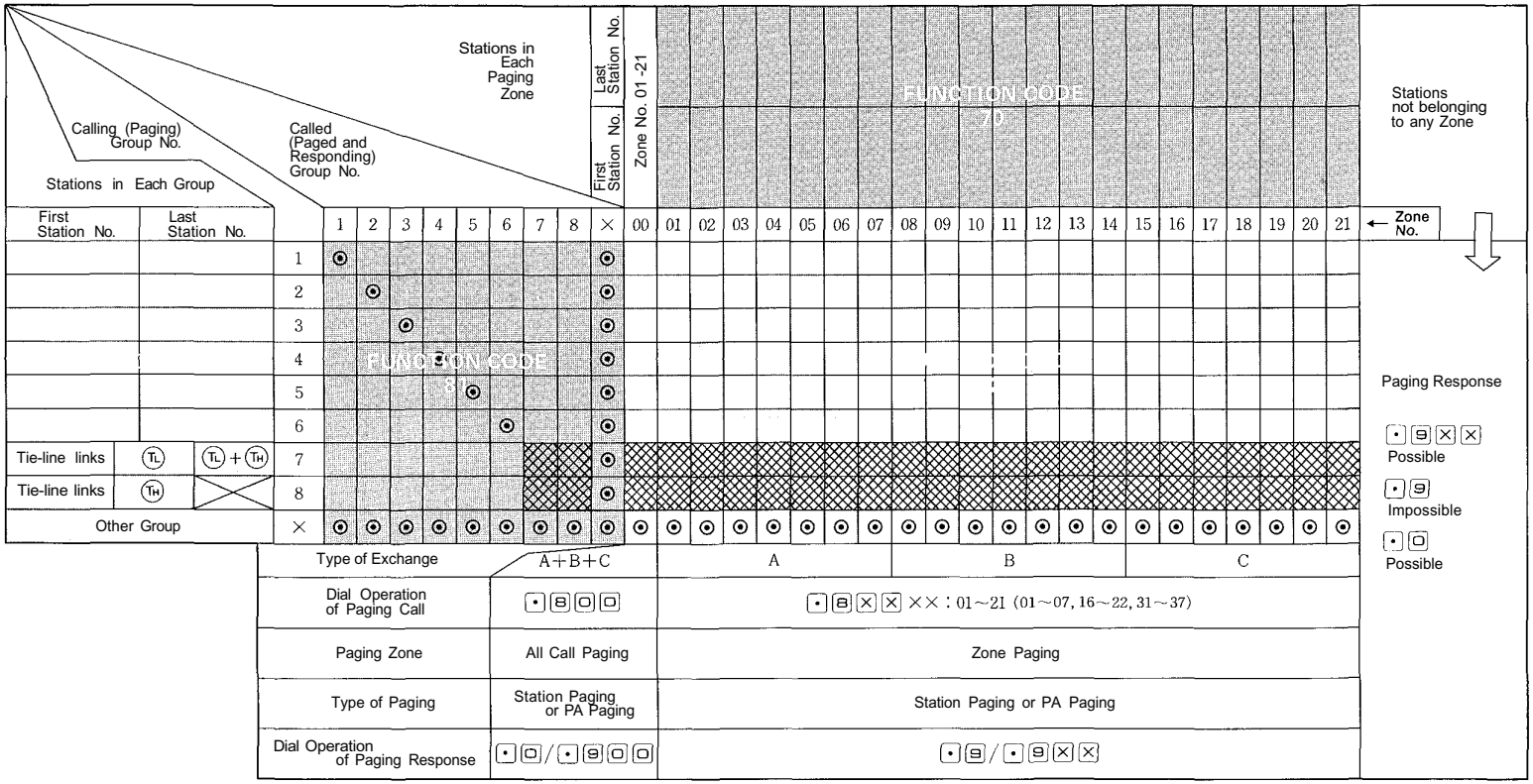
•82, PTT □□, □□□…□
Paging Zone No. (00~21, 00~45) Group No.

Function Code 82	Paging Zone			Paging Group No.						Others	
		Department	No.	1	2	3	4	5	6		
	All Call		00							⊙	
	Individual Paging Zones		01							⊙	Exchange A (EX-610/620)
			02							⊙	
			03							⊙	
			04							⊙	
			05							⊙	
			06							⊙	
			07							⊙	
			08							⊙	Exchange A (EX-630)
			09							⊙	
			10							⊙	
			11							⊙	
			12							⊙	
			13							⊙	
			14							⊙	
			15							⊙	
			8(16)							⊙	Exchange B (EX-610/620)
			9(17)							⊙	
			10(18)							⊙	
			11(19)							⊙	
			12(20)							⊙	
			13(21)							⊙	
			14(22)							⊙	
			23							⊙	Exchange B (EX-630)
			24							⊙	
			25							⊙	
			26							⊙	
			27							⊙	
			28							⊙	
			29							⊙	
			30							⊙	
			15(31)							⊙	Exchange C (EX-610/620)
			16(32)							⊙	
			17(33)							⊙	
			18(34)							⊙	
			19(35)							⊙	
			20(36)							⊙	
			21(37)							⊙	
			38							⊙	Exchange C (EX-630)
			39							⊙	
			40							⊙	
			41							⊙	
			42							⊙	
			43							⊙	
			44							⊙	
			45							⊙	

⊙ : No need to register.

● Summary Table of Group Blocking (Function Code 71, 81, 82) and Paging Zone (Function Code 70)

Note. ⊙ : indicates that registration is not necessary,
× : indicates stations not belonging to any group.

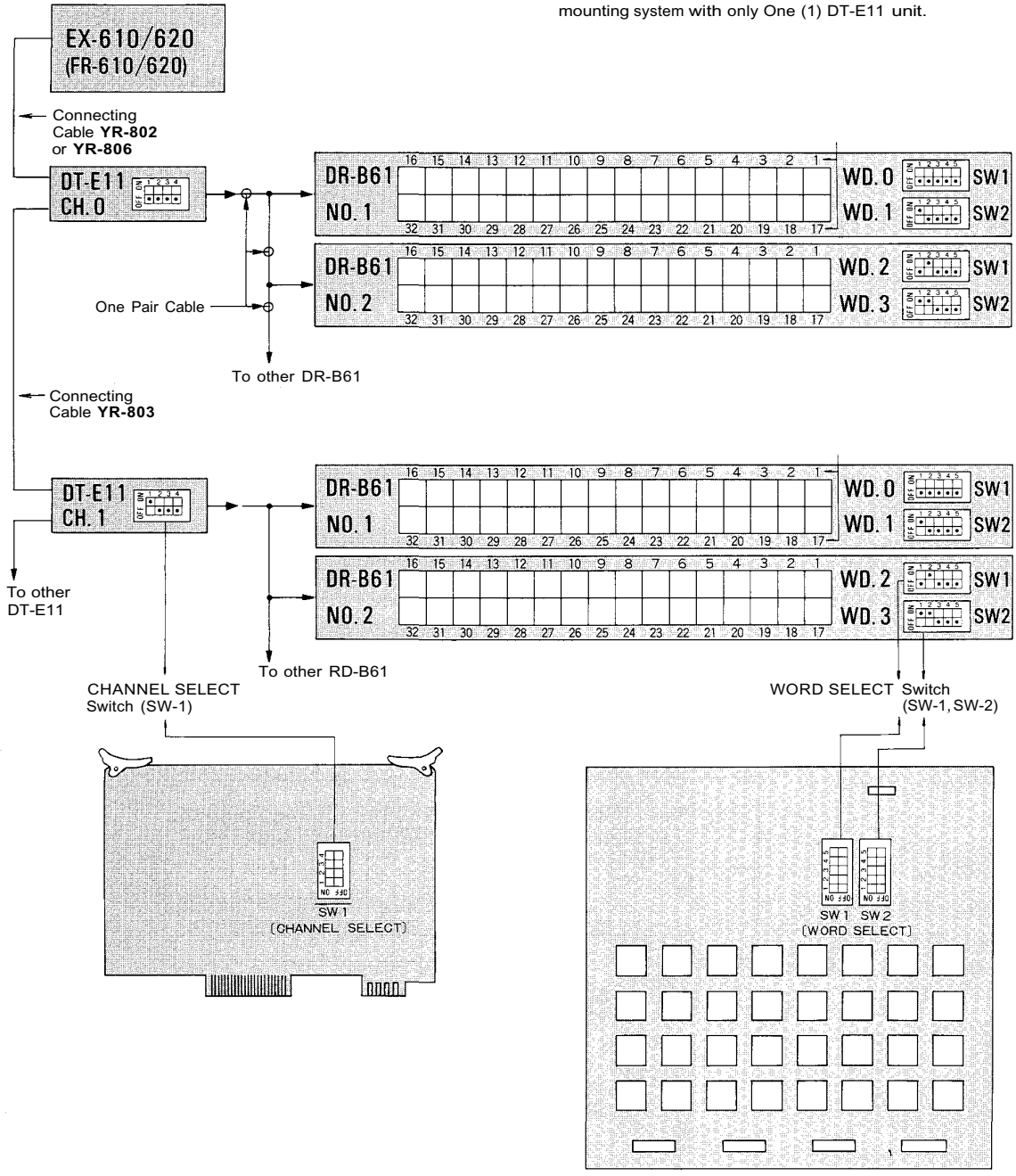


PART 2. FUNCTION SELECTION FOR DATA TRANSMITTING AND RECEIVING UNITS

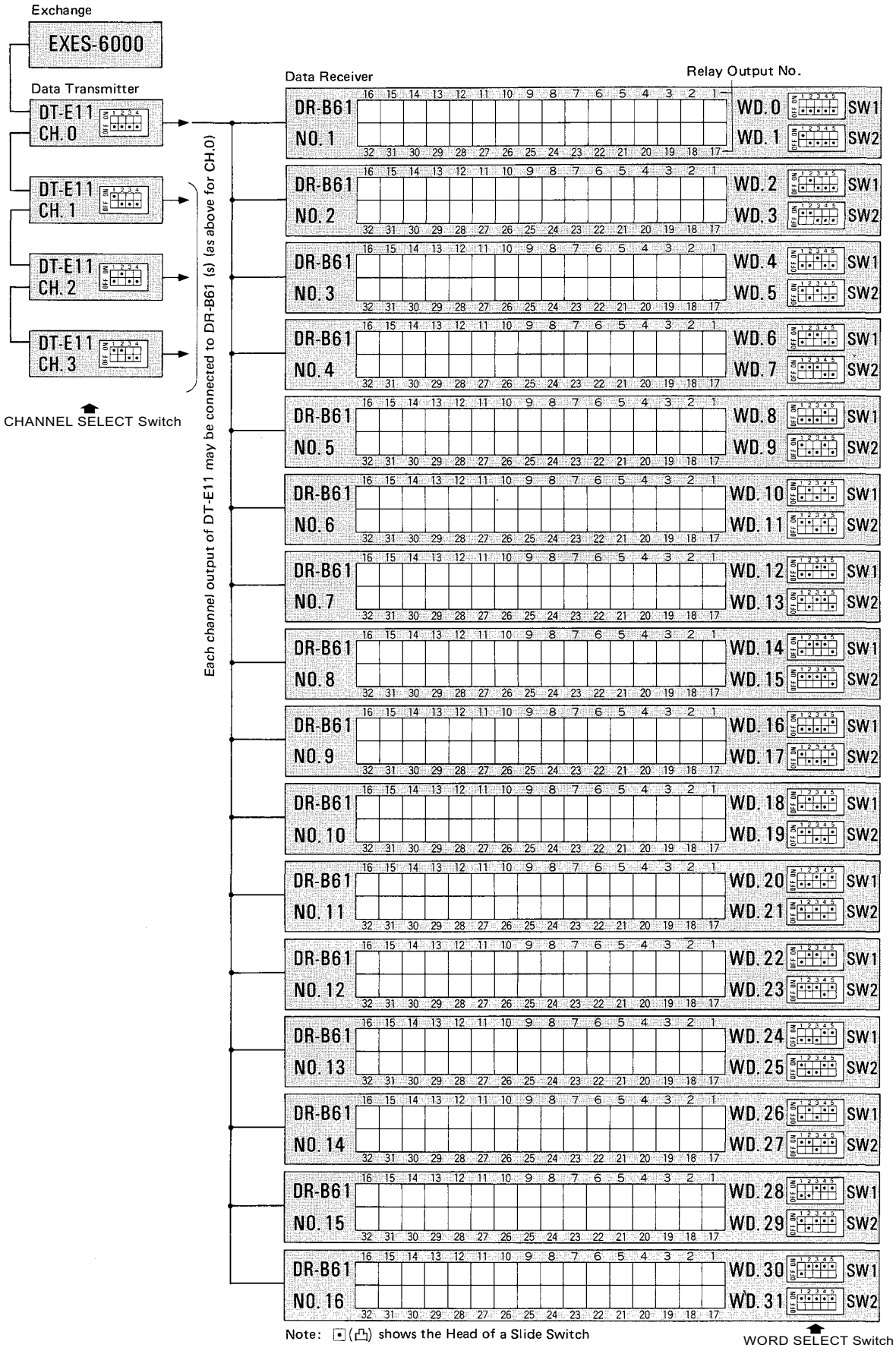
9. SETTING OF CHANNEL SELECT SWITCH OF TRANSMITTING UNIT (DT-E11) AND WORD SELECT SWITCH OF RECEIVING UNIT (DR-B61)

NOTE

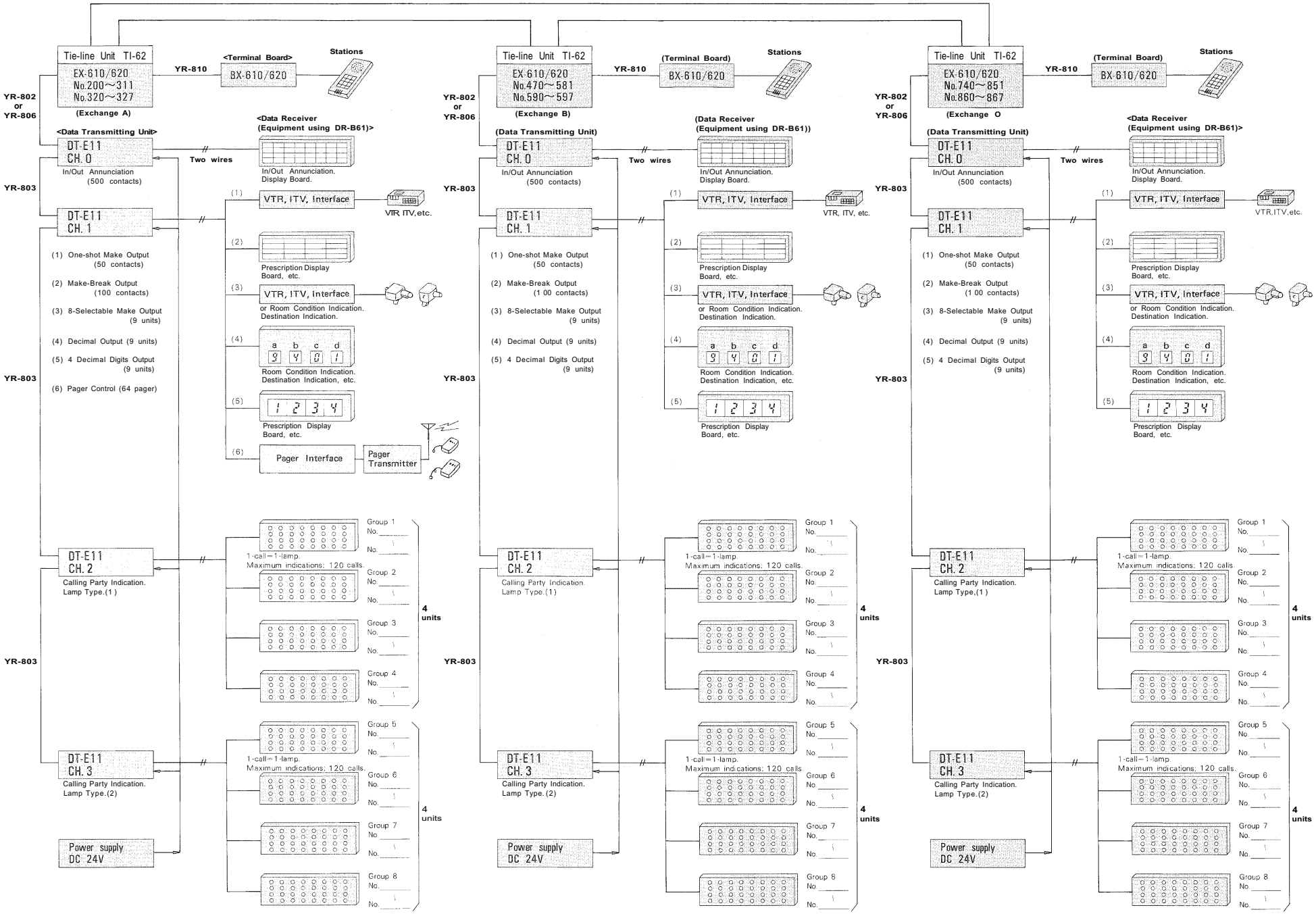
1. Connect the DT-E11 and DR-B61 to Exchange correctly. (Refer to operation manuals of DT-E11 and DR-B61).
2. Set the function select switches (DIP SWITCH) on CP-63 correctly and be sure to enter initial programming and function registration at programming station No.200.
3. Remove the front panel of Data Transmitting Unit (DT-E11) and take out the printed circuit board. Then set the channel select switches located on the printed circuit board, according to the necessary functions such as IN/OUT Annunciation, Calling Party Indication etc,and replace in the Unit.
   (Refer to 13. Explanation of Data Transmitting Unit Output Data, Page 53).
4. The DT-E11 sends out 512 bit data (16 bit x 32 words) to control relays on Data Receiving Unit (DR-B61). Therefore set the two word select switches on DR-B61, according to necessary output mode. SW-1 is for Relay No.1 to No.16 and SW-2 is for Relay No.17 to No.32. See Page 51 for details.
   (Refer to Explanation of Date Receiving Unit Output Channels.)
5. Connecting Cable YR-802 is used for the Rack mounting system. Connecting Cable YR-806 is used for the Standard Cabinet mounting system with only One (1) DT-E11 unit.



10. DIP SWITCH TABLE FOR DATA TRANSMITTING AND RECEIVING UNITS



11. SYSTEM DIAGRAM OF DATA TRANSMITTING AND RECEIVING UNITS (When the exchanges are connected by means of tie-line.)



12. EXPLANATION OF DATA TRANSMITTING UNIT OUTPUT CHANNELS

CHANNEL SELECTION	FUNCTIONS	DESCRIPTION	APPLICATION
CH.0 	IN/OUT Annunciation	Personel in and out registration can be accomplished at any Master station by using personal numbers. Max. 500 IN/OUT annunciations may be done. (All the 3 exchanges provided the same indication)	• IN/OUT Annunciation
CH.1 	(1) One-shot Make Output (50 contacts)	One-shot make contacts can be available at any Master station. *1	• ITV camera selection • VTR control
	(2) Make/Break Output (100 contacts)	Make/Break contacts can be available at any Master station. *1	• Door Remote • IN/OUT Annunciation
	(3) 8 Selectable Make Output (9 unit blocks)	One contact out of 8 selectable make outputs is obtained. "Clear" operation makes ail 8 relays break. *1	• Destination indication • VTR control
	(4) Decimal Output (9 unit blocks)	10 Selectable Decimal Outputs are available with 7 segments LEDs. *1	• Room condition indication.
	(5)4 Decimal digits output (9 unit blocks)	Indicate by 7 segments LEDs. *1	• Prescription annunciation
	(6) Pager Control Output (64 contacts)	Make output (64 contacts) are available for pager control. *2	• Pager
CH.2 	Calling Party Indication (1) (One Station; One Lamp)	Max. 120-Calling station numbers can be indicated when designated called station with Display Board is called. The numbers of called stations having an indication panel can be programmed at No. 200 station. (Only the calling stations within the same exchange can be indicated by a lamp)	• The group number of called station(s). No. 1 ~ 4
CH.3 	Calling Party Indication (2) (One Station; One Lamp)		• The group number of called station(s). No. 5 ~ 8

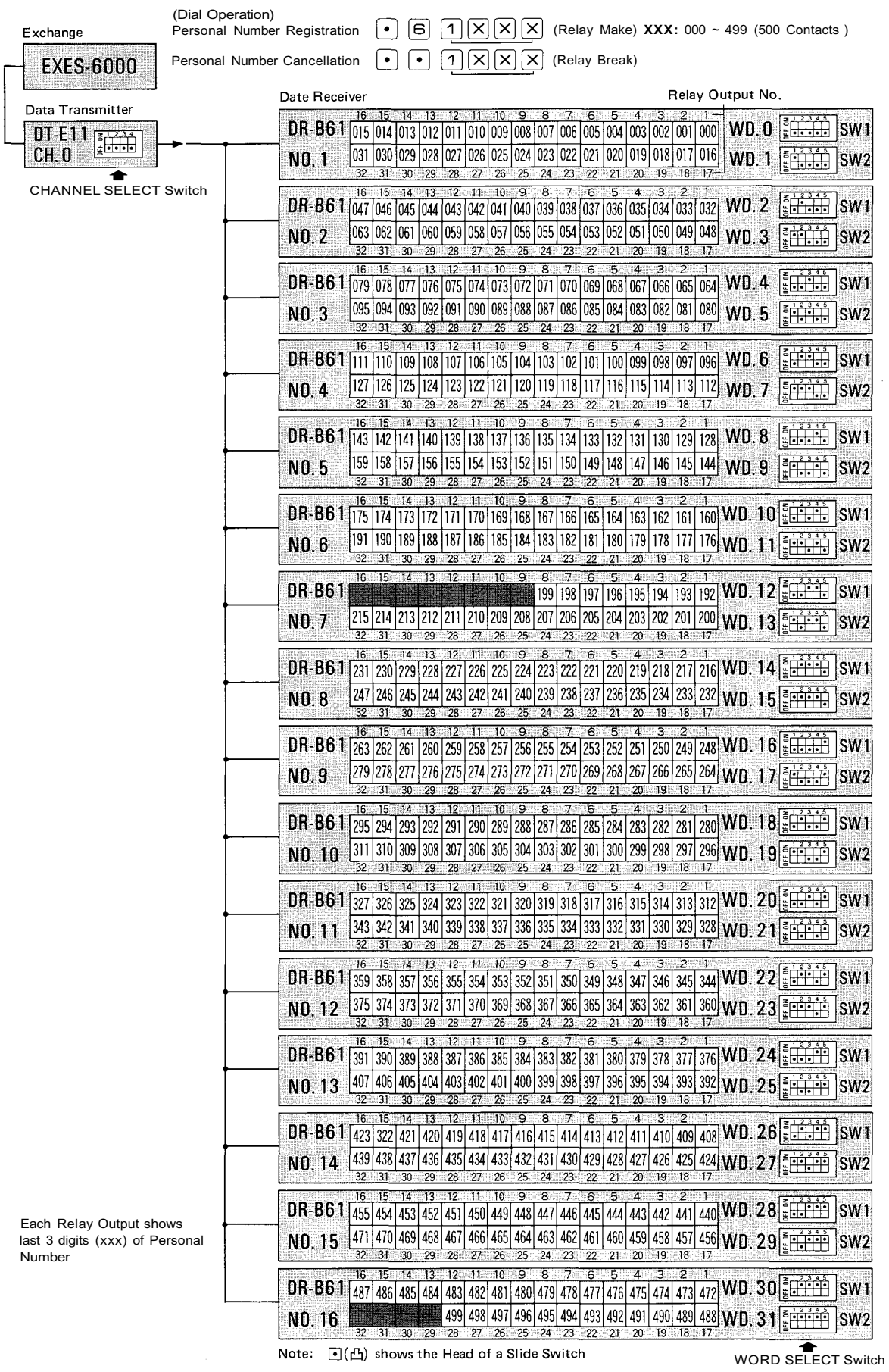
Note.

*1.Each exchange has an independent control system, and it is impossible to control the Data Transmitting Unit of the other exchange form the station connected to the different exchange.

*2. Can only be connected to the exchange A (Station No. 200 ~ 327). It is impossible to call the pagers from any station not connected to the exchange A. However, the response to a pager call is possible from any station regardless of the exchange it is connected to.

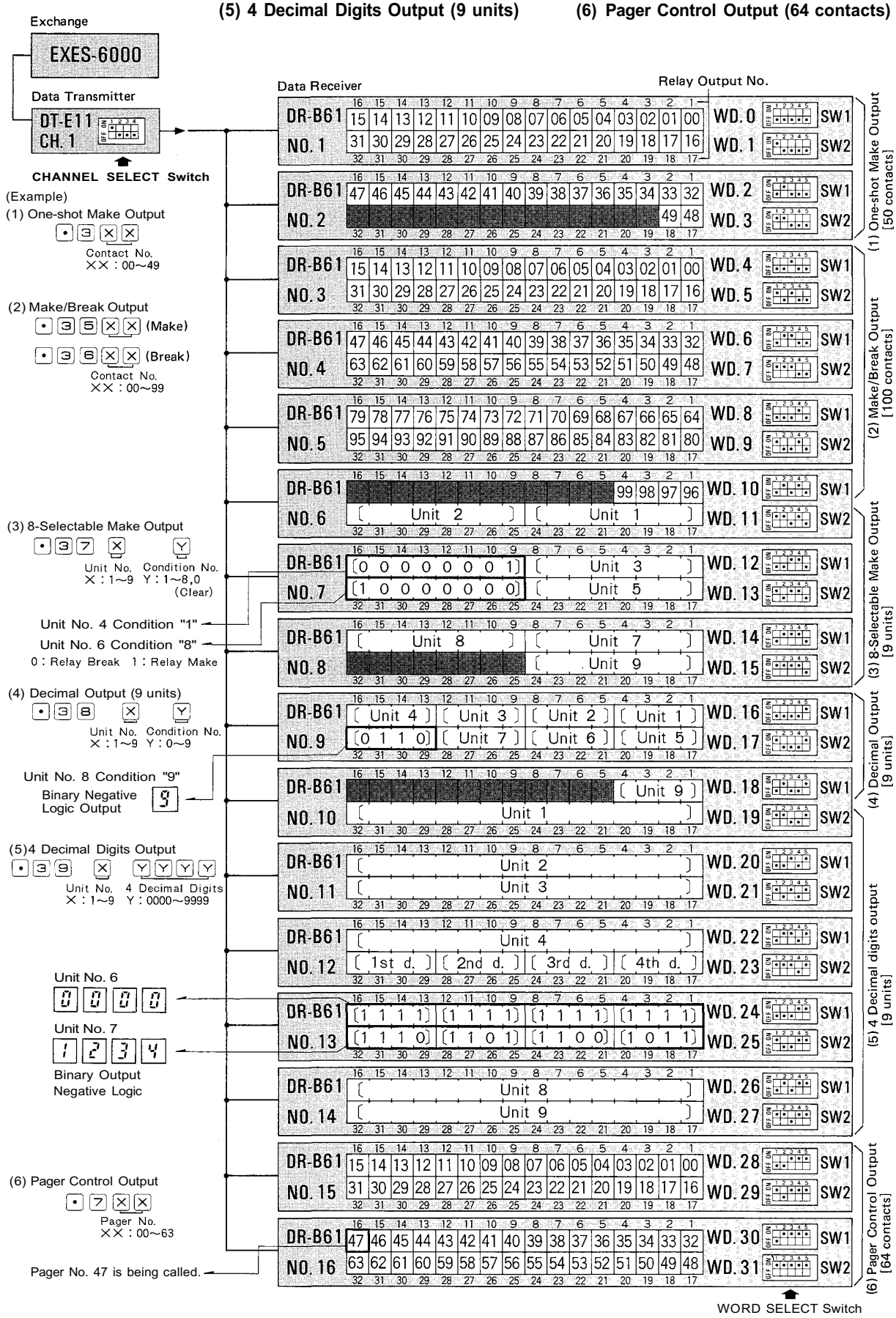
13. EXPLANATION OF DATA RECEIVING UNIT OUTPUT DATA

13-1 Channel 0 (CH. 0) In/Out Annunciation



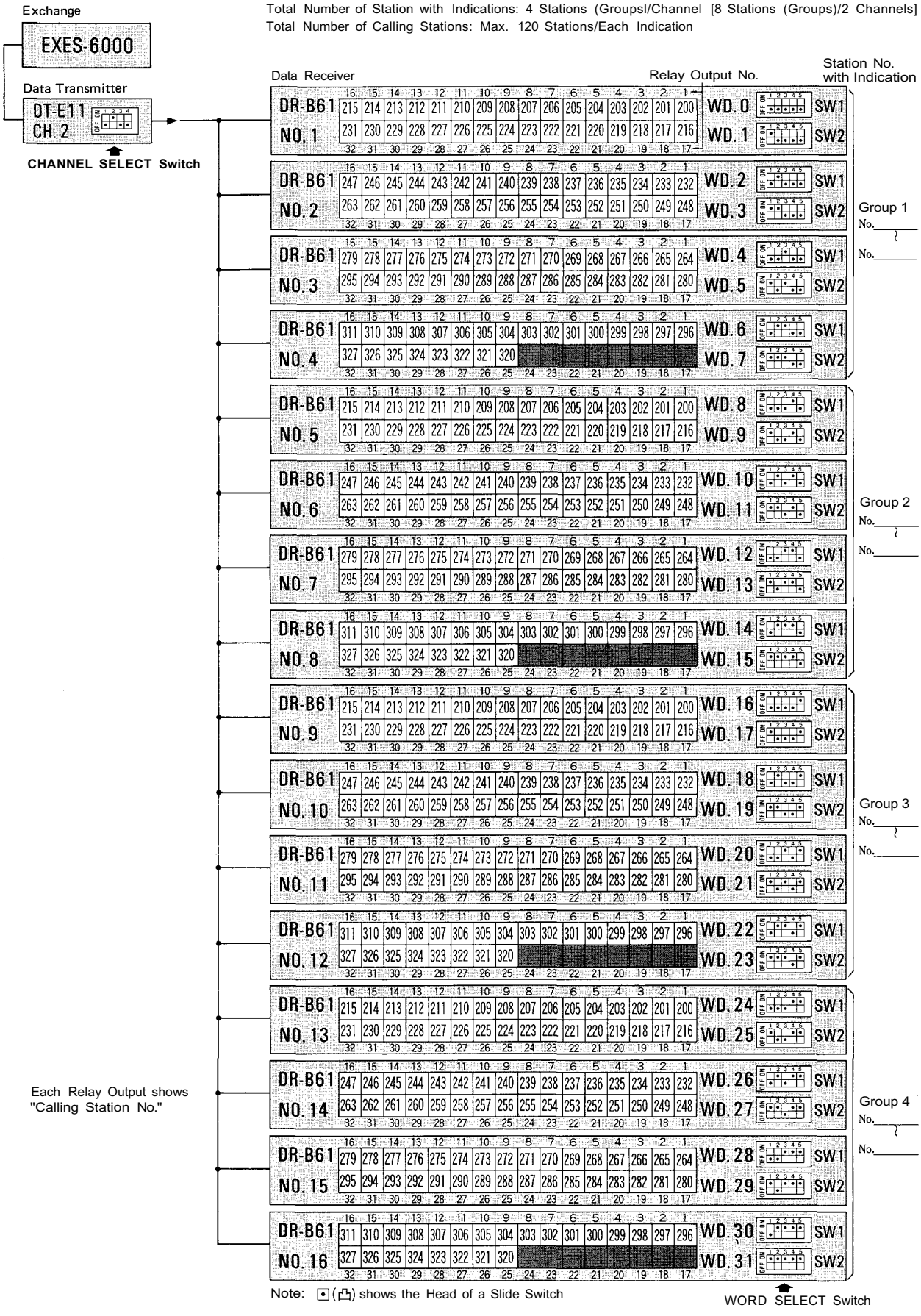
13-2 Channel 1 (CH. 1)

(1) One-shot Make Output (50 contacts)
(2) Make/Break Output (100 contacts)
(3) 8-Selectable Make Output (9 units)
(4) Decimal Output (9 units)
(5) 4 Decimal Digits Output (9 units)
(6) Pager Control Output (64 contacts)

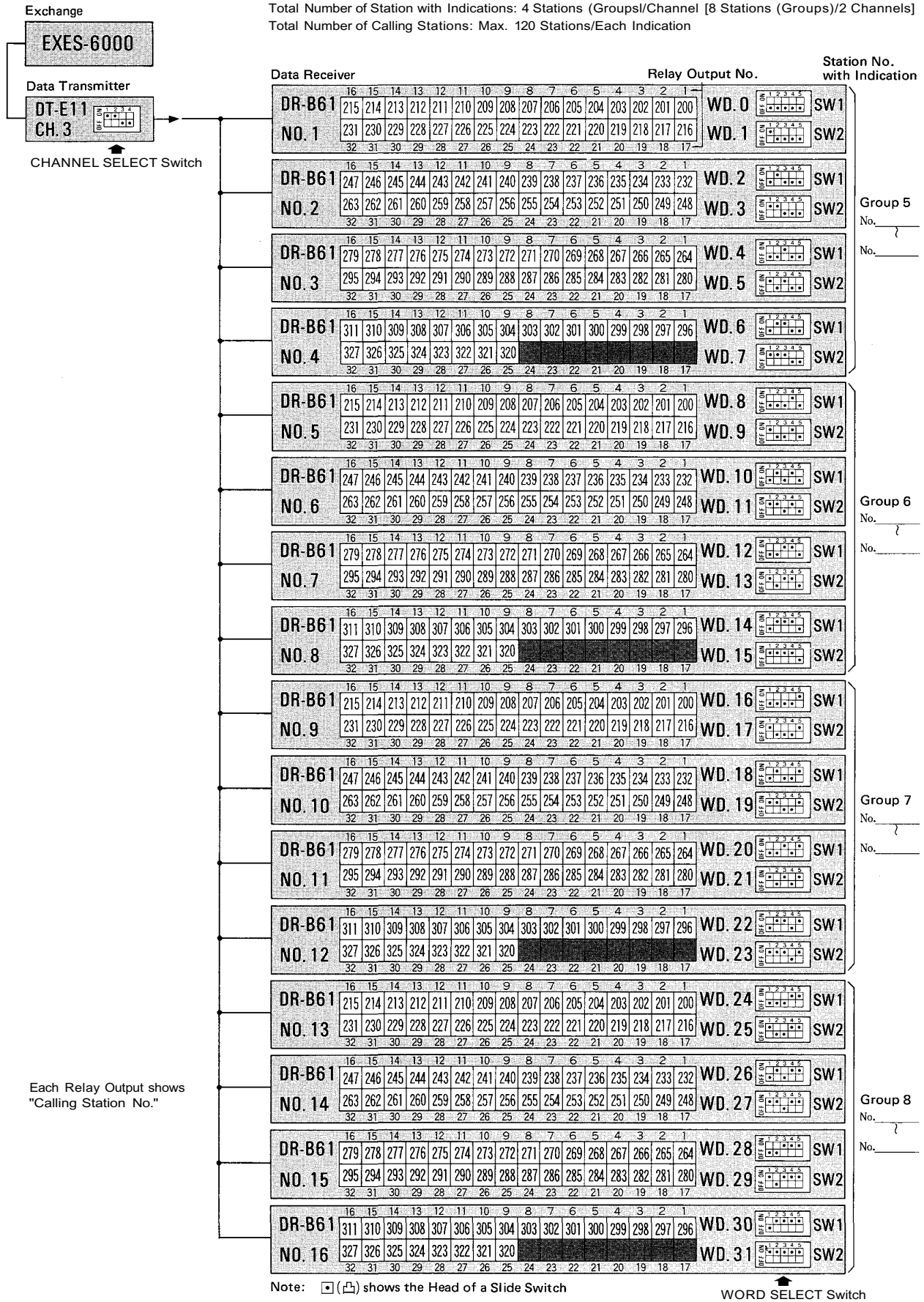


13-3 Channel 2 (CH. 2) Calling Party Indication (Lamp Type) (1)

Each "Calling Station" or "Waiting Station" is shown by Each Lamp of Indication.
Total Number of Station with Indications: 4 Stations (Groupsl/Channel [8 Stations (Groups)/2 Channels]
Total Number of Calling Stations: Max. 120 Stations/Each Indication



13-4 Channel 3 (CH. 3) Calling Party Indication (Lamp Type) (2)

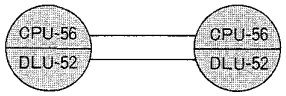
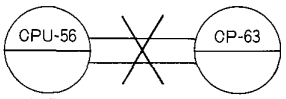
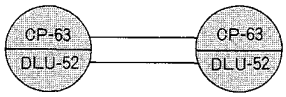
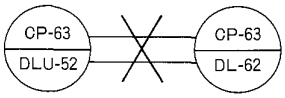
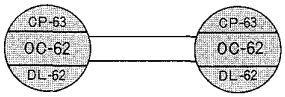
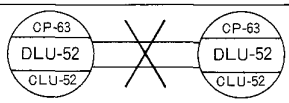
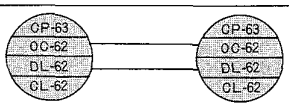


Appendix. Instructions for building the CP-63 in the EXES-5000

1. The CPU-55/56 differ from the CP-62/63 in dial operation.

Function	CPU-55	CPU-56	CP-62	CP-63
Continuous Calling Tone One-touch Response	PTT	PTT, 1~9, 0, •	1~9, 0, •, C	
8 Selectable Make Output	• 3 7 X Y X: 1 ~ 9, Y: 0~ 7		• 3 8 X Y X: 1 ~ 9, Y: 1 ~ 8, 0 (Clear)	• 3 7 X Y X: 1 ~ 9, Y: 1 ~ 8, 0 (Clear)

2. Set the DIP switch SW-E-5 (change-over of Privacy and Continuous Calling Tone) to OFF (Privacy). Set the other DIP switches according to the necessity.
3. The "Automatic Access to Paging" function is not available from the EXES-5000 system. You, therefore, need not program the "Automatic Access to Paging" function (Function Code No. 54) referred to in Function Code Table for Station NO No. 200 Programming.
4. Module units necessary for the tie-line system.

Function	Exchange "A"	Exchange "B"	Possible or impossible	Reason	Necessary module units
All functions			Possible		• It is impossible to use both the CPU-56 and the CP-63 in the same system.
			Impossible		
Conversation			Possible		• DLU-52 or • DL-62, OC-62 • It is impossible to use both the CPU-56 and the CP-63 in the same system.
			Impossible	2 voice switch passes	
			Possible	1 voice switch passes	
Conference			Impossible	3 voice switch passes	• CL-62, DL-62, OC-62
			Possible	1 voice switch passes	

Note.

1. To ensure the complete speech functions (perfect simultaneous speech, calls and responses made by means of a handset, etc.) that the stations of EXES-6000 system can have, 2-wire stations as well as the LM-62 is necessary.
2. The exchange using the frame FR-510 or FR-520 allows for no tie-line connection to the other exchange. The tie-line connections are only possible among the exchanges using the frame FR-510A, FR-520A, FR-510B, FR-520B, FR-610 or FR-620.
3. For the following module units, you may use whichever you proper: SGD-52A and SG-62 (the SG-62 is necessary when the LM-62 is used.)
   PIU-52A and PI-62
   TI-52 and TI-62
4. When the CP-63, OC-62 and DL-62 are used in the tie-line system, the speech link of the calling exchange is in the full duplex mode, while voice switches cause the speech link of the called exchange to be in the automatic alternative speech mode.

TOA ELECTRIC CO, LTD.
KOBE, JAPAN