CONTENTS

5. LIST MODE IN LIST FORM

The list mode is used to create, correct, and read a sequence program in list form.

The list mode functions are shown below.

5.1 Functions Available in the List Mode

The list mode functions consist of the following:

- List mode function
  - Write / Insert / Delete — Auxiliary functions
    - Main/sub switching — Switches the main/sub programs of a PC CPU. (see Section 5.3.3 (1))
    - Change
      - N/C, N/O conversion — Converts N/C, N/O contacts by specifying a device. (see Section 5.3.3 (2))
      - Batch device conversion — Converts the devices in a specified range. (see Section 5.3.3 (3))
      - T/C setting value change — Changes the T/C setting value. (see Section 5.3.3 (4))
      - Batch NOP write — Creates a new program or deletes an unnecessary list program. (see Section 5.3.3 (5))
      - Batch NOP insert — Specifies the number of steps and Inserts NOP. (see Section 5.3.3 (6))
      - Batch NOP delete — Deletes NOPs between instructions. (see Section 5.3.3 (7))
      - Memory capacity setting — Sets the memory capacity to other than the parameter mode. (see Section 5.3.3 (8))
    - Display
      - Contact coil list — Displays the device use state in a program by a specified device number. (see Section 5.3.3 (9))
      - Device use list — Displays the device use state in a program by a specified device. (see Section 5.3.3 (10))
    - File write — Writes a created list program to a file. (see Section 2.2.2)
  - Read — Auxiliary functions
    - Main/sub switching — Switches the main/sub programs of a PC CPU. (see Section 5.3.3 (1))
    - Change
      - N/C, N/O conversion — Converts N/C, N/O contact by specifying a device. (see Section 5.3.3 (2))
      - Batch device conversion — Converts the devices of a specified range. (see Section 5.3.3 (3))
      - T/C setting value change — Changes T/C setting value. (see Section 5.3.3 (4))
      - Batch NOP write — Creates a new program or deletes an unnecessary list program. (see Section 5.3.3 (5))
      - Batch NOP insert — Specifies the number of steps and Inserts NOP. (see Section 5.3.3 (6))
      - Batch NOP delete — Deletes NOPs between instructions. (see Section 5.3.3 (7))
      - Memory capacity setting — Sets the memory capacity to other than the parameter mode. (see Section 5.3.3 (8))
      - Copy — Copies the list programs of a specified range to a specified position. (see Section 5.4.2 (2))
      - Move — Moves the list programs of a specified range to a specified position. (see Section 5.4.2 (3))
      - Batch delete — Deletes the list programs of a specified range. (see Section 5.4.2 (4))
    - Display
      - Contact coil list — Displays the device use state in a program by a specified device number. (see Section 5.3.3 (9))
      - Device use list — Displays the device use state in a program by a specified device. (see Section 5.3.3 (10))
      - Display switching — Switches to the display with comments. (see Section 5.4.2 (14))
    - File write — Writes a created list program to a file. (see Section 2.2.2)

5.2 Common Operations in the List Mode

This Section explains the fundamental methods of inputting programming in the list form and restricted items in the ladder mode.

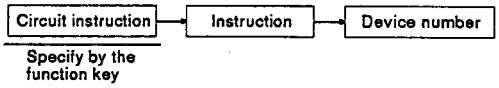
Make sure to read this section carefully before programming.

5.2.1 Common operations when inputting an instruction

The basic operation to input an instruction in the list mode is as follows:

(Instructions that need a set value and data instructions do not apply to this operation.)

Basic key operation



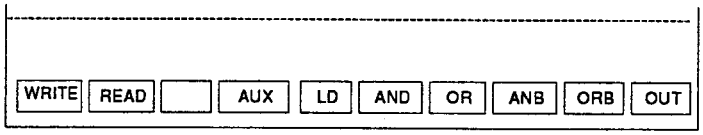
When inputting an instruction, use a function key to select a ladder instruction.

The methods of inputting an instruction and the allocation of function keys are common to all functions in this mode.

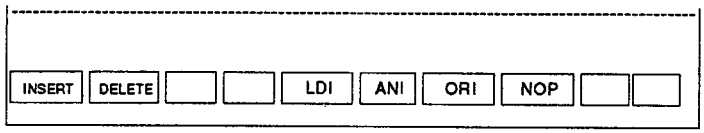
As shown below, the ladder symbol allocated to a function key is displayed on the bottom of the screen.

Function display when an instruction is input

(a) Normal



(b) With the [Shift] key



Function Key	Instruction	Ladder Symbol	Function Key	Instruction	Ladder Symbol
F5	LD		Shift + F7	ORI	
Shift + F5	LDI		F8	ANB	
F6	AND		Shift + F8	NOP	
Shift + F6	ANI		F9	ORB	
F7	OR		F10	OUT	

An example of a simple key operation is shown below.

Instruction		Key Operation
LD X001	X001 ⊣⊢	F5 X 1 Enter
OUT T1K100	K100 —(T1)—	F10 T 1 SP K 1 0 0 Enter
MOV D0 D1	MOV D0 D1	M O V SP D 0 SP D 1 Enter

(Section 5.3.1 gives an operation example)

(Keys which simplify operations)

Each function is allocated a function key to simplify operations when creating and displaying a sequence program.

Key Operation	Instruction	Key Operation	Instruction	Key Operation	Instruction	Key Operation	Instruction
Alt + F1	END	Alt + F4	BIN	Alt + F7	PLS	Alt + F10	MCR
Alt + F2	MOV	Alt + F5	SET	Alt + F8	PLF		
Alt + F3	BCD	Alt + F6	RST	Alt + F9	MC		

Key Operation	Instruction	Key Operation	Instruction
Ctrl + F1	File write	Ctrl + F7	Display switching of a program with a statement
Ctrl + F5	Display switching of a program with a comment 1	Ctrl + F8	Display switching deletion of a program with a note
Ctrl + F6	Display switching of a program with a comment 2	Shift + F11	Switching of the program formation (Ladder list)

Precautions when inputting an instruction

(1) Make sure to press the [SP] key between an instruction and a device number and between a device number and a set value.

(2) Make sure to press the [Enter] key after inputting an instruction.

(3) An instruction can be input by using an operation simplifying key instead of pressing a key.

(Section 2.2.3 gives shortening details.)

POINT

- **Input of devices X, Y, and B**

  The devices (X, Y, and B, etc.) to be expressed in hexadecimal are displayed in three hexadecimal digits. When writing data, zeros don't have to be inputted.

  Example:

  X 2 ⟶ X002
  (Input) (Display)

- **Correcting a key operation mistake**

  Move the cursor to the place to be corrected by using a [←] key. After correcting, input correct data.

- **Batch clear of display data of a key operation area**

  Press the [Ctrl] + [Y] keys to batch clear data displayed in a key operation area.

ADVICE

- **Input of the extension timer and the counter of an A2A and A3ACPU (T256~ and C256~)**

  It is necessary to input a set value to the timer and counter within the ranges of T0 to T255 and C0 to C255.

  However, it is not necessary to input a set value to the timer and the counter beyond T256 and C256 that can be set at A2A and A3ACPU.

  (If it is necessary to correct data, do so in the parameter mode.)

  Example 1: To input C1

  [F10] (–<>–) [C] [1] [SP] [K] [1] [0] [Enter]

  Input a set value.

  Example 2: To input T300

  [F10] (–<>–) [T] [3] [0] [0] [Enter]

  A set value is unnecessary.

  Pressing the [Enter] key automatically displays the device and device number set in the parameter.

  (see Sections 7.6.4(2) and 7.6.4(6))

- **Input the indexes of the contact and the coil of AnA and AnUCPU.**

  After inputting the indexes of the contact and the coil of AnA and AnUCPU, the listing is shown below.

Instruction	Key Operation
LD X000Z3	[F5] [X] [0] [Z] [3] [Enter]
OUT Y010V2	[F10] [Y] [1] [0] [V] [2] [Enter]

- **Key operation error message**

Error Description	Error Message
When writing a sequence program, the device and the device number that could not be specified were selected.	CANNOT INPUT DEVICE NUMBER
A command was written that caused a grammatical error.	COMMAND ERROR

5.3 Creating a Program in the List Form

This Section provides an explanation of how to write a program in the list form.

Programming in the list form can only be done by a list instruction. Therefore it is simpler and faster than a ladder form. A ladder form could be created by using a circuit diagram.

However, because a list form cannot be created by using a circuit diagram, it is necessary to be very careful about using correct grammar.

ADVICE

- **When creating a program, the same device is used two times.**

  Thus, when creating a program, if the following instruction of the same device is used two times or more, "COIL ALREADY USED. STEP = XX" is displayed.

  The same coil can be used two times or more.

  However, pay close attention to the operation of the program.

  When correcting the same coil, correct according to the indication of "STEP = XXX".

	Y	M	L	B	F	T	C
OUT	O	O	O	O	O	O	O
SET	O	O	O	O	O		
SFT	O	O	O	O	O		
PLS	O	O	O	O	O		
PLF	O	O	O	O	O		
SFTP	O	O	O	O	O		

Devices P and I are used for the same label check.

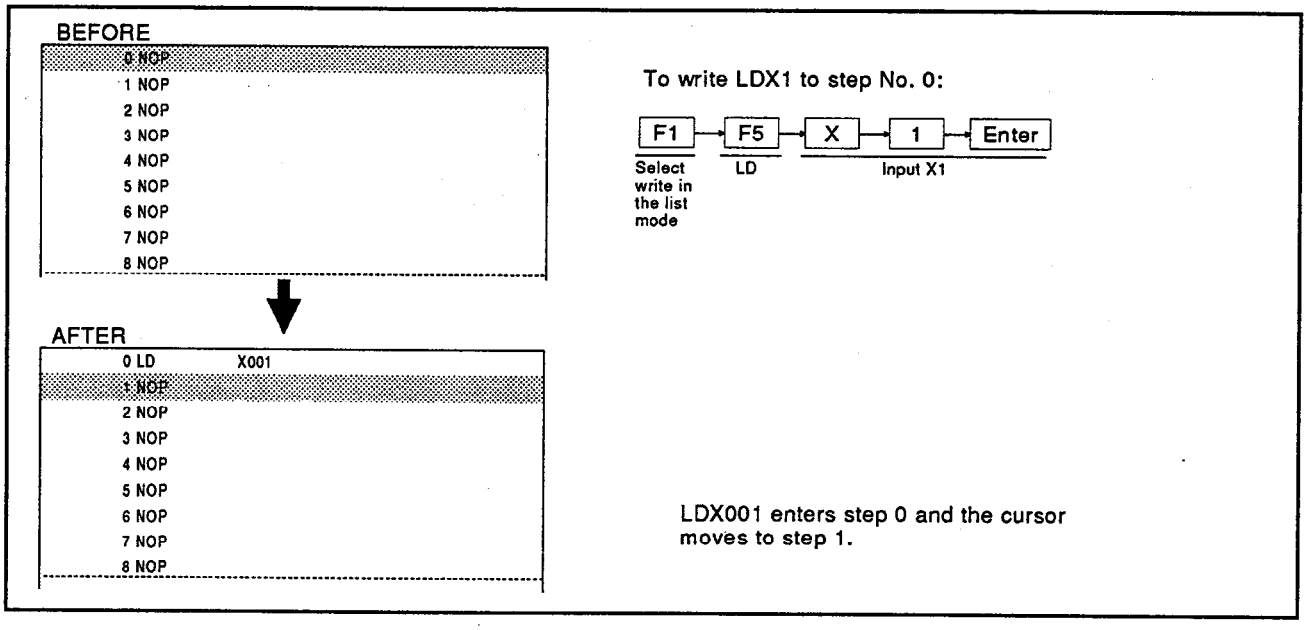
When the same label is specified, "LABEL ALREADY USED. STEP = XX" is displayed.

The same label cannot be written.

5.3.1 Creating a new program

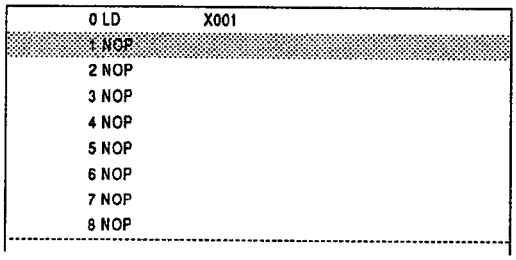
A program is created using an instruction list.

OPERATION EXAMPLE



OPERATING PROCEDURE

F1 → F5 → X → 1 → Enter



1 Select list (2) from the programming selection screen.

Then, the read function is automatically enabled.

A read list is displayed from step 0.

Press the [F1] key.

The writing function is now enabled and an instruction can be input.

5.3.2 Correcting an existing program

This Section explains how to correct a program in the list mode.

Correction

(1) Correction by an overwrite

(2) Correction by insertion

(3) Correction by deletion

5.3.2 (1) Correcting by overwriting an instruction to an existing program

An instruction is overwritten and corrected in an existing program.

OPERATION EXAMPLE

BEFORE

```
19 AND    Y070
20 AND    Y0AF
21 ORB
22 OUT    F102
25 LD     X2A0
26 AND    X31F
27 AND    X000
28 OUT    Y0B1
29 LD     X323
```

AFTER

```
21 ORB
22 OUT    F102
25 LD     X2A0
26 AND    X005
27 AND    X000
28 OUT    Y0B1
29 LD     X323

36 AND    Y390
          AND X5
COMPLETED
```

To overwrite AND X31F to AND X5 of step No. 26:

F1 → 2 → 6 → Enter → F6 → X → 5 → Enter

- F1: Select write in the list mode
- 2, 6, Enter: Read step No.26 to be corrected
- F6: AND instruction
- X, 5, Enter: Input device

OPERATING PROCEDURE

F1 → 2 → 6 → Enter

```
19 AND    Y070
20 AND    Y0AF
21 ORB
22 OUT    F102
25 LD     X2A0
26 AND    X31F
27 AND    X000
28 OUT    Y0B1
29 LD     X323
```

1 Input the step number of the instruction to be corrected after pressing the [F1] key.

The cursor is moved to the position of the specified step number.

F6 → X → 5

```
21 ORB
22 OUT    F102
25 LD     X2A0
26 AND    X31F
27 AND    X000
:
36 AND    Y390
          AND X5
```

2 Press the key for the instruction to be corrected.

Keyed-in data is displayed below the bottom step.

Enter

```
25 LD      X2A0
26 AND     X31F
27 AND     X000

36 AND     Y390
           AND X5
COMPLETED
```

3 Press the [Enter] key to input the new instruction.

When the correction is completed, the following message is displayed.

ADVICE

- **Specify a list instruction by using the cursor and display it in the keyed-in data area.**

  Move the cursor to the modified step number and press the [Enter] key.

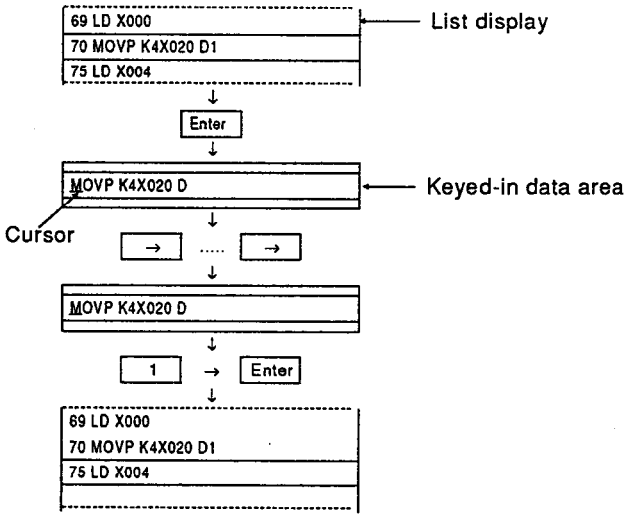
  Then, the keyed-in data area displays an existing list instruction.

  Data can be corrected in the keyed-in data area.

  However, this operation enables writing and an insertion function. When a keyed-in data area displays nothing, it is valid.

  (Example of correcting data)

  To change MOVP K4X020 D0 to MOVP K4X020 D1



5.3.2 (2) Inserting an instruction in an existing program

Insert a list instruction in a program.

OPERATION EXAMPLE

BEFORE

```
19 AND    Y070
20 AND    Y0AF
21 ORB
22 OUT    F102
25 LD     X2A0
26 AND    X31F
27 AND    X000
28 AND    X07F
29 LD     Y2A0
30 AND    Y2DF
```

AFTER

```
22 AND    Y000
24 OUT    F102
26 LD     X2A0
27 AND    X31F
28 AND    X000
29 AND    Y07F
30 AND    Y2A0

34 ORB
          AND Y0
COMPLETED. STEP NUMBER CHANGED.
```

To insert AND Y0 into step No. 22:

Shift+F1 → 2 → 2 → Enter → F6 → Y → 0 → Enter

Select insert in the list mode — Read step No. 22 to be inserted — AND instruction — Input device

OPERATING PROCEDURE

Shit+F1 → 2 → 2 → Enter

```
19 AND    Y070
20 AND    Y0AF
21 ORB
22 OUT    F102
25 LD     X2A0
26 AND    X31F
27 AND    X000
28 AND    X07F
29 LD     Y2A0
30 AND    Y2DF
```

1 When inserting and adding data to a program, press the key of the step number that is inserted after pressing the [Shift] + [F1] keys.

The cursor moves to the position of the specified step number.

F6 → Y → 0

```
27 AND    X000
28 AND    X07F
29 LD     Y2A0
30 AND    Y2DF
31 AND    Y000
32 AND    Y02F
33 ORB
34 OUT    F103
          AND Y0
```

2 Press the key of the instruction to be inserted.

Keyed-in data is displayed below the bottom step.

Enter

```
22 AND      Y000
23 OUT      F102
26 LD       X2A0
27 AND      X31F

34 ORB
            AND Y0
COMPLETED. STEP NUMBER CHANGED.
```

3 Press the [Enter] key to insert an instruction in a specified position.

When the insertion is completed, the following message is displayed.

POINT

- **Insertion by moving the cursor**

  The insertion operation is enabled by moving the cursor to a specified place by using the [↑], [↓], [Page Up], and [Page Down] keys instead of specifying a step number.

- **END check**

  If the number of steps increases during an insertion function, and the END and FEND instructions exceed the memory area, "END WILL BE DELETED. EXECUTE?" is displayed.

  Select "YES" to execute the insertion.

  Or select "NO" to stop the insertion.

  If an insertion is executed without erasing the END instruction, increase the memory capacity by using a memory capacity setting.

5.3.2 (3) Deleting an instruction from the existing program

The following operation deletes the list instruction of a specified step:

OPERATION EXAMPLE

BEFORE

```
27 AND    X000
28 AND    X07F
29 LD     Y2A0
30 AND    Y2DF
31 AND    Y000
32 AND    Y02F
33 ORB
34 OUT    F103
37 LD     X340
```

AFTER

```
30 AND    Y2DF
31 AND    X02F
32 ORB
33 OUT    F103

          31
COMPLETED. STEP NUMBER CHANGED.
```

To delete AND Y0 of step No. 31:

[Shift+F2] → [3] → [1] → [Enter] → [Enter]

Select delete in the list mode — Read step No. 31 to be deleted — Execute

OPERATING PROCEDURE

[Shit+F2] → [3] → [1] → [Enter]

```
27 AND    X000
28 AND    X07F
29 LD     Y2A0
30 AND    Y2DF
31 AND    Y02F
32 ORB
33 OUT    F103
36 LD     X340
37 AND    X38F
```

1 Input the step number of the list instruction to be deleted after pressing the [Shift] + [F2] keys.

The cursor moves to the position of the specified step number.

[Enter]

```
30 AND    X2DF
31 AND    X02F
32 ORB
33 OUT    F103

          31
COMPLETED. STEP NUMBER CHANGED.
```

2 The instruction of the specified step number is deleted.

The step number following the deletion is moved up.

When the operation is completed, the following message is displayed.

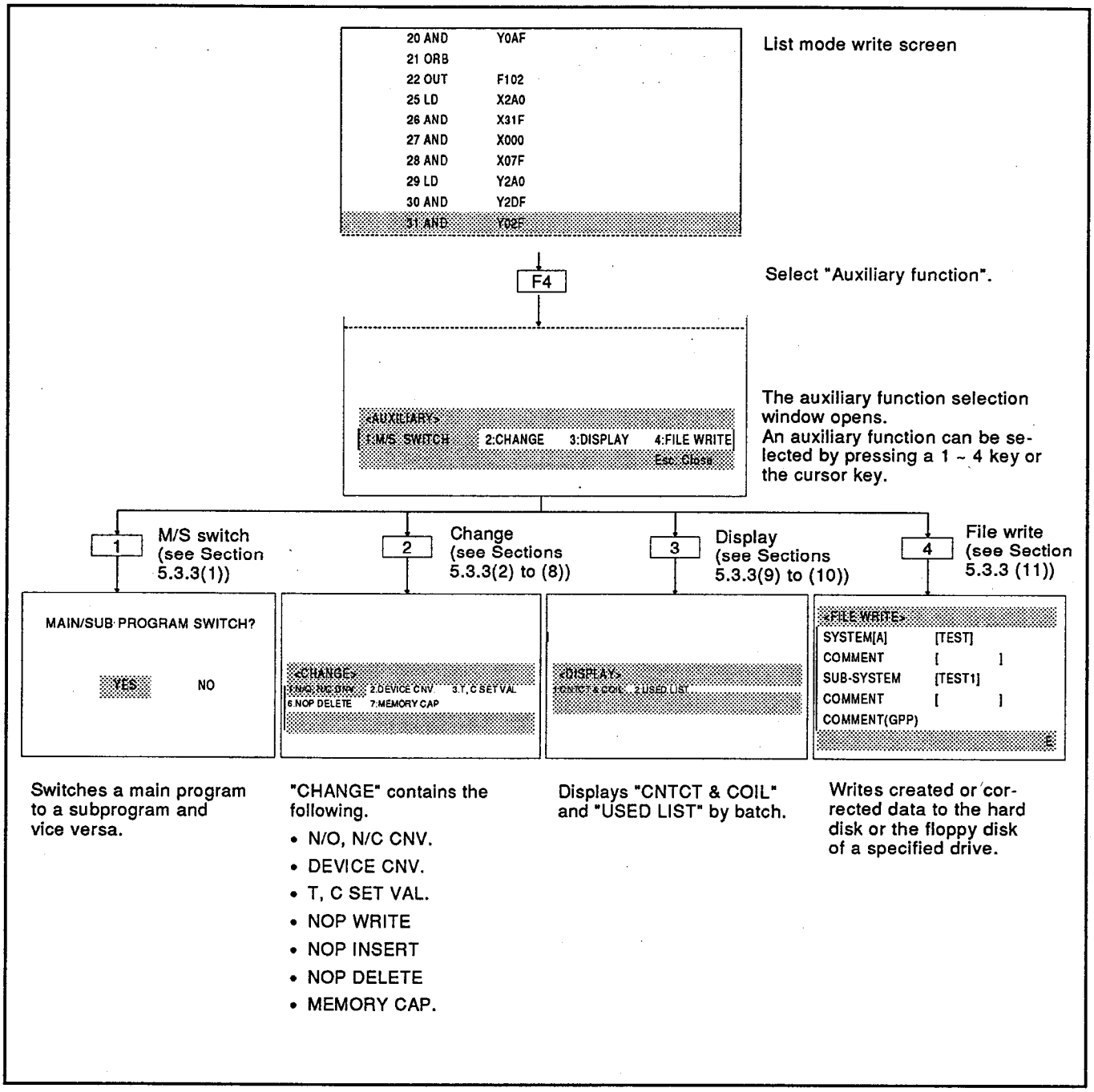
POINT

- **Insertion by moving the cursor**

  The insertion operation is enabled by moving the cursor to a specified place by using the [↑], [↓], [Page Up] and [Page Down] keys instead of specifying a step number.

5.3.3 Auxiliary functions are available for writing, inserting, and deleting

Auxiliary functions are available for writing, inserting, and deleting in the list mode.



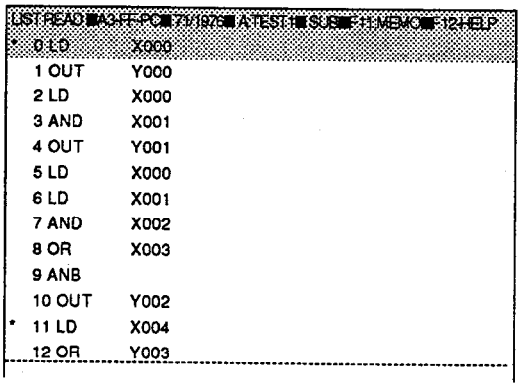
PC models	A0J	A0H	A1S	A1	A2	A2C	A3	A3H	A2A	A3A	A2U	A3U	A4U
	X	X	X	X	X	X	O	O	X	O	X	O	O

5.3.3 (1) Switching a main/sub program while creating or correcting a list

This function is used to switch a program to a subsequence program from the main sequence program in order to read the subsequence program when operating the main sequence program in the list mode.

In addition, a program can be switched to the main sequence program from a subsequence program in order to read the main sequence program when operating the subsequence program.

OPERATION EXAMPLE



To switch the main sequence program to a subsequence program:

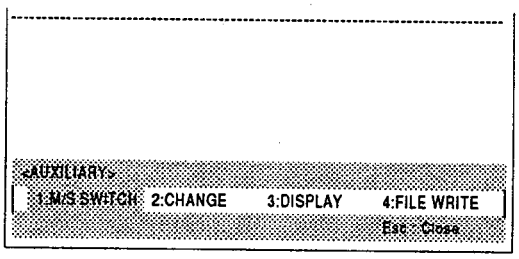
Before switching, write the main sequence program data to a file.

F4 → 1 → Enter → 2

F4: Select an auxiliary function
1: Select an M/S switch
Enter: Confirm the M/S switch (Select "YES")

OPERATING PROCEDURE

F4



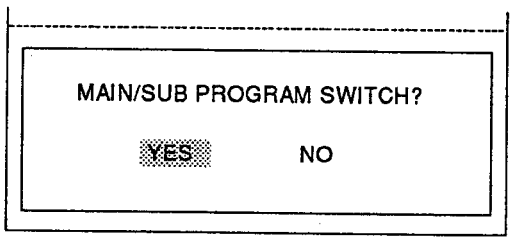
1 Select an auxiliary function.

The auxiliary function window opens.

REMARK

An auxiliary function can be selected by pressing a 1 ~ 4 key or the cursor key.

1

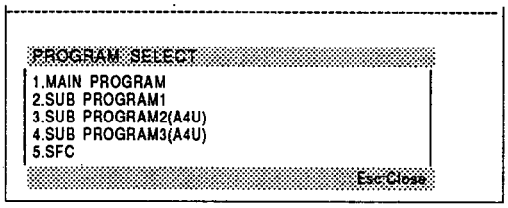


2 Select 1 (M/S SWITCH).

"MAIN/SUB PROGRAM SWITCH?" is displayed.

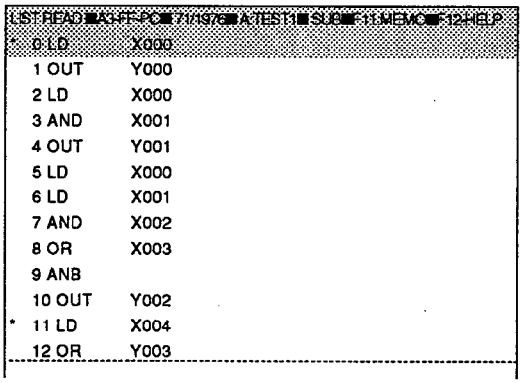
Select "YES".

Enter



3 Select "YES" to display the program selection screen. SUB PROGRAM 2 and SUB PROGRAM 3 can only be selected if the PC model is A4U.

2



4 Switch the displayed screen from the main sequence program to sub-sequence program 1. Switching is completed when, as shown to the left, the M/S switching display on the top line of the screen changes.

POINT

- **When there is no program to be switched**

  If the file (the file in which a subsequence program is stored) of a subsequence program does not have a program, even if file writing before switching it is selected, then the screen is switched to the new writing mode of a subsequence program (when switching it from the main sequence program to a subsequence program).

  If the file of a subsequence program does have a program, the list of the subsequence program is displayed from step 0.

- **Display when switching**

  When a subsequence program is switched to the main sequence program, the list of the main sequence program is displayed from step 0.

- **Abbreviated operation for M/S switching**

  It is possible to execute the M/S switching function by using the following key operation: [Alt] ([CTRL]) + [0] to [4].

  [Alt] ([CTRL]) + [0] ...Main sequence program display

  [Alt] ([CTRL]) + [1] ...Sub-sequence program 1 display

  [Alt] ([CTRL]) + [2] ...Sub-sequence program 2 display

  [Alt] ([CTRL]) + [3] ...Sub-sequence program 3 display

  [Alt] ([CTRL]) + [4] ...SFC program display

  (valid only when MELSAP 2 function is registered)

  These abbreviated key operations are possible when using the read function in list mode. If the PC model is other than A4U, it is not possible to select sub-sequence program 2 or sub-sequence program 3.

- **Condition of a statement and a note when switching M/S**

  When switching M/S, a statement and a note are switched simultaneously.

- **File writing before switching**

  If M/S switching is done without doing file writing after correcting the main sequence program (or a subsequence program), the data corrected with the main sequence (or subsequence) program is cleared.

- **Created data on M/S switching**

  When an M/S switching operation is executed, the program displayed on the screen is temporarily consigned to memory.

  Be sure to perform file writing before reading another file or ending the GPP function.

5.3.3 (2) Function used to change N/O contact to N/C, and N/C to N/O in a program

A specified device is changed from the N/O contact (-||-) to the N/C contact (-|/|-) or it is changed from the N/C contact to the N/O contact.

There are two ways of doing this changing. They are a batch change and a change with confirmation.

The following example explains the batch change.

OPERATION EXAMPLE

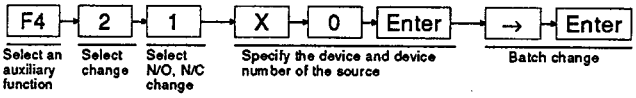
BEFORE

```
25 OUT   C0    K20
26 AND   Y041
27 LD    C0
28 OR    X000
29 RST   C0
32 RST   D1
```

AFTER

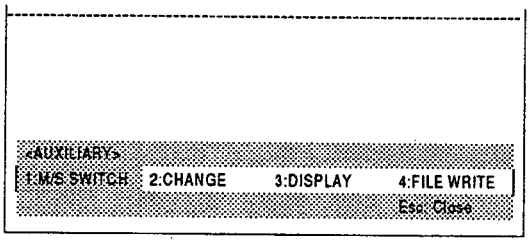
```
25 OUT   C0    K20
26 AND   Y041
27 LD    C0
28 ORI   X000
29 RST   C0
32 RST   D1

COMPLETED.  CHANGED=4 NOT CHANGED=0
```

To change a contact which uses X000 from N/O (-||-) to N/C (-|/|-) and vice versa:



OPERATING PROCEDURE

F4



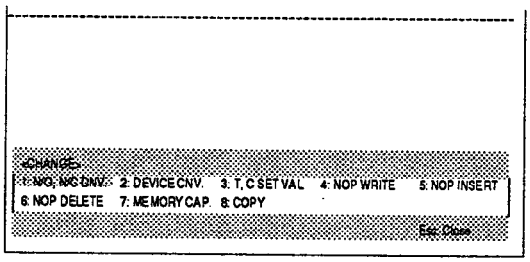
1 Select an auxiliary function.

The auxiliary function window opens.

REMARK

An auxiliary function can be selected by pressing a 1 to 4 key or the cursor key.

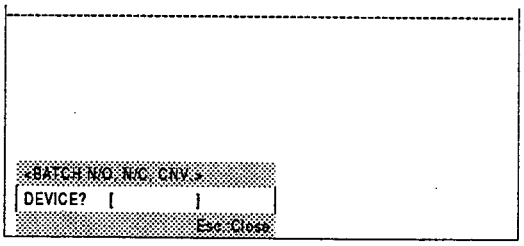
2



2 A window opens to select an auxiliary function.

Select 2 (change) from the window.

1

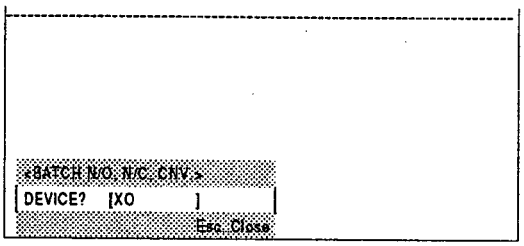


3 A window opens to select a change.

Select 1 (N/O, N/C CNV.) from the window.

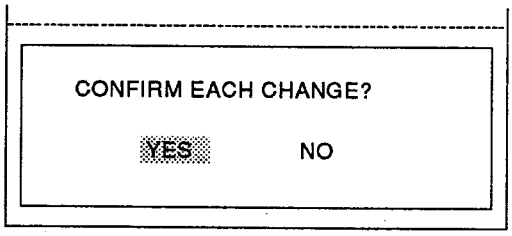
Then a window opens to begin to specify the device to be changed.

X → 0



4 Specify X000 used with a program, and execute the change.

Enter



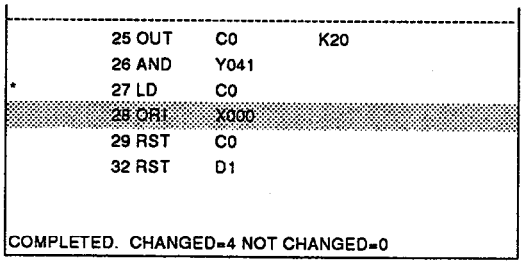
5 Select either batch change or each change after specifying the device to be changed.

[YES] : The program is changed with confirmation.

See the POINT below.

[NO] : The program is changed by a batch.

→ → Enter



6 Batch change is executed.

When the change has been executed, "COMPLETED" is displayed.

POINT

- **Select "YES"**
  (It is changed with confirmation.)

  A corresponding device is positioned in the center of an instruction list, and "CHANGE?" is displayed. Select "YES" to execute the change.

  "SEARCH NEXT? YES/NO" is displayed after selecting "NO" after executing the change.

  If YES is selected, the next device is searched and is displayed.

  The device is searched in the order of the step number.

  If a corresponding device does not exist, "COMPLETED." is displayed.

  If NO is selected, the operation is interrupted and is completed.

5.3.3 (3) Function used to convert devices to other devices in a program by batch

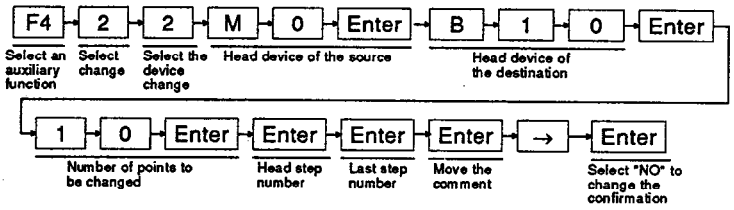
This function is used to convert a device used with a program into a specified device.

This function is useful for changing an I/O address.

OPERATION EXAMPLE

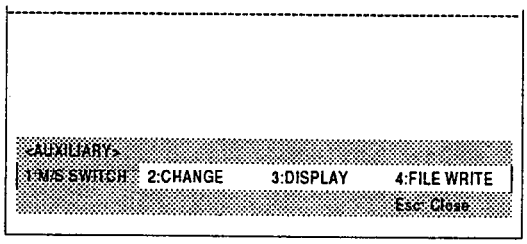
```
0 LD     X000
1 OUT    Y070
2 LD     X001
3 SET    M0
4 LD     X000
5 RST    M0
6 NOP
7 OUT    Y071
8 LD     X005
```

To change devices "M0 to M9" to devices "B10 to B19":



OPERATING PROCEDURE

F4



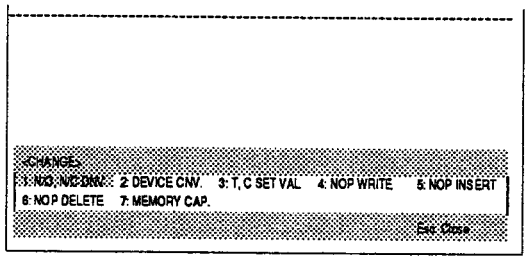
1 Select an auxiliary function.

The auxiliary function window opens.

REMARK

An auxiliary function can be selected by pressing a 1 to 4 key or the cursor key.

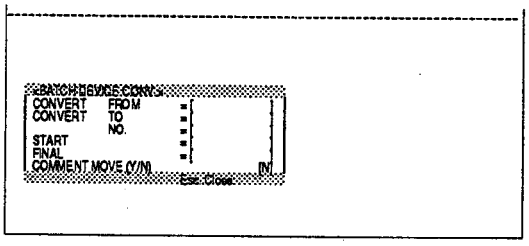
2



2 A window opens to select an auxiliary function.

Select 2 (change) from the window.

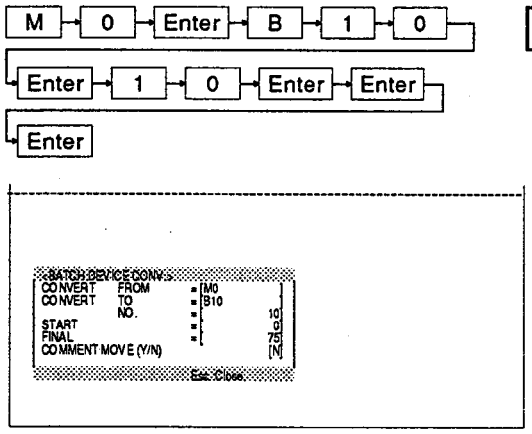
2



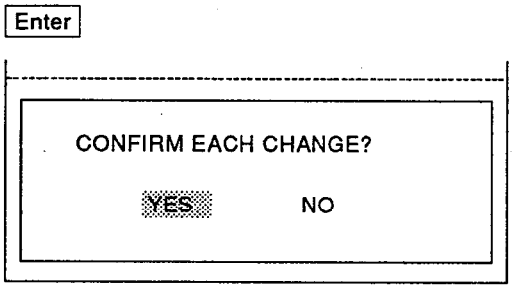
3 A window opens to select the change.

Select 2 (DEVICE CNV.) from the window.

Then, the "BATCH DEVICE CNV." setting window opens.



4 Input a source head device and a destination head device. Several devices can be converted in the order of a device number by specifying several device numbers.
A device name can be changed. (For example, M0 can be converted into B10.)
M0-M9 is converted into B10-B19 in the operation example.
When it is not necessary to specify the range of a program, the head step number and the last step number (step number in which the END instruction is positioned) of the current program can be automatically set by pressing the [Enter] key.
Type [Y] (move) or [N] (not move). This example assumes that [N] is selected.

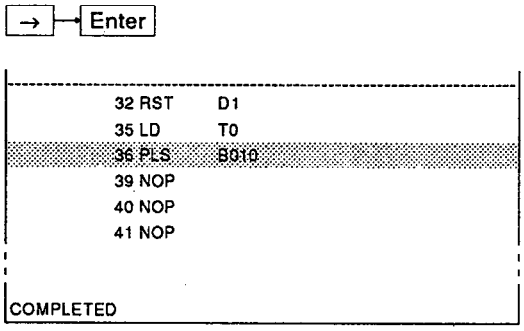


5 Select either batch change or change after specifying a device to be changed.

[YES] : The program is changed with confirmation.

See POINT.

[NO] : The program is changed by a batch.



6 The batch change is executed.

When the execution is done, "COMPLETED." is displayed.

POINT

- **Select "YES" (It is changed with confirmation.)**

  A corresponding device is positioned in the center of an instruction list, and "CHANGE?" is displayed. Select "YES" to execute a change.
  "SEARCH NEXT? YES/NO" is displayed if "NO" is selected after executing a change.
  When YES is selected, the next device is searched and is displayed. The device is searched in the order of a step number. If a corresponding device does not exist, "COMPLETED." is displayed. When NO is selected, the operation is interrupted and is completed.

- **Comments when a batch device conversion is executed**

  Comment movement "Y" is selected, and the batch device conversion is executed. If a comment is within a setting range, that comment is also converted simultaneously. In addition, a source device comment is cleared.
  A comment in M0 to M9 is converted into a comment in B10-B19 in the operation example, and any comment in M0-M9 is cleared.
  However, even if a comment is within the batch conversion setting range, the comment of a device that is not used with a program is not converted.
  If a destination device range is not allocated a comment range, a comment is not registered to the destination device. In addition, a source device comment is cleared.
  Comment data contains comment 1, comment 2, and extension comment.

POINT

- **Example when a device is not converted**

(1) If Y10 is converted into X10 (the conversion result is erroneous.)

MOV D0 K4Y10 → MOV D0 K4X10

Since Y10 cannot be converted into X10, "CANNOT USE THIS DEVICE WITH THIS COMMAND." is displayed.
A destination cannot be specified for input X by the MOV command.

(2) If X0 is converted into D0

LD X0 → LD D0

X, Y, M, L, B and F cannot be converted into D, W, R, A, Z and V.
A bit device cannot be converted into a word device. And, a word device cannot be converted into a bit device.

(3) If T is converted into C or when C is converted into T

OUT T → OUT C

OUT C → OUT T

Since this conversion processing cannot be done, "CANNOT USE THIS DEVICE WITH THIS COMMAND." is displayed.

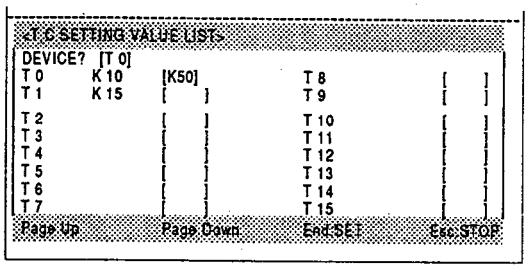
If a conversion result is logically correct, device conversion is done in batch.

5.3.3 (4) Function used to change a timer/counter setting value in a program by a batch operation

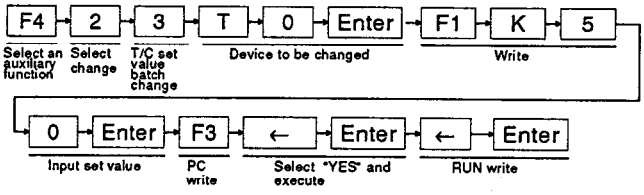
This function is used to change the set value of a timer and a counter used with a program.

The set value can be changed by a batch operation without searching the program for the place where the time and counter are used.

OPERATION EXAMPLE

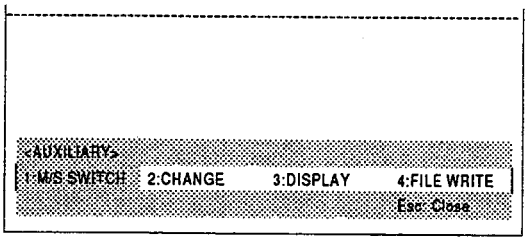


To change the value set at T0 to K50 in a sequence program during PC RUN:



OPERATING PROCEDURE

F4



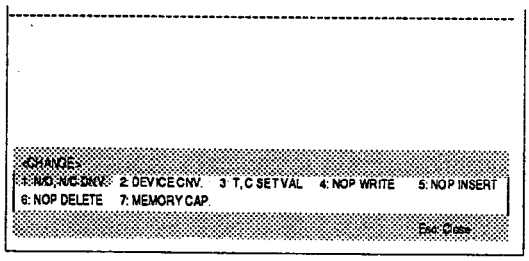
1 Select an auxiliary function.

The auxiliary function window opens.

REMARK

An auxiliary function can be selected by pressing a 1 to 4 key or the cursor key.

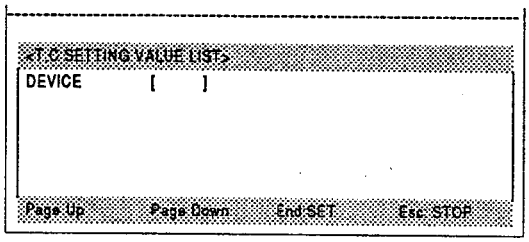
2



2 A window opens to select an auxiliary function.

Select 2 (change) from the window.

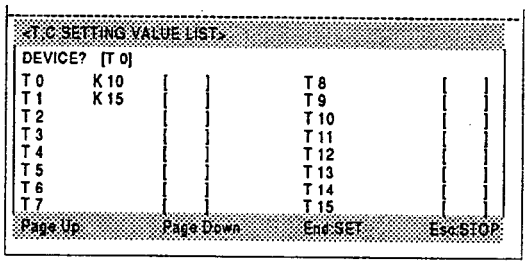
[3]



3 A window opens to select the change.

If "3: T, C SET VAL" is selected from the window, "T, C SETTING VALUE LIST" opens.

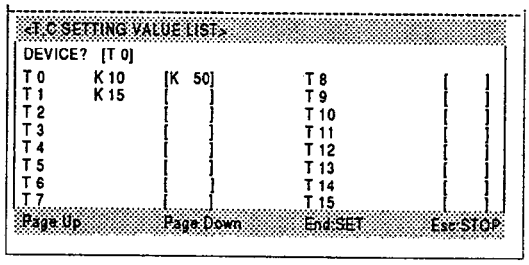
[T] → [0] → [Enter]



4 Specify a timer/counter number to change a set value.

16 points can be displayed by using the [Page Up] and [Page Down] keys after a display.

[F1] → [K] → [5] → [0] → [Enter]

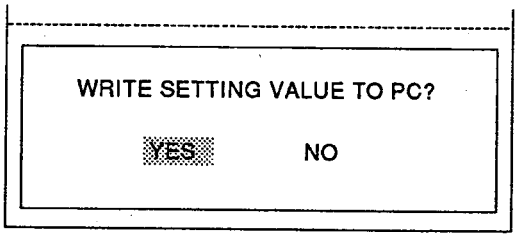


5 If the [F1] key is pressed, the cursor moves to the set value area.

Move the cursor to the place to be changed after the movement, and input a new set value.

- The set value can be changed from a constant (K) to an indirect specification (D), and the set value can be changed from an indirect specification (D) to a constant (K).

[F3] → [←]



6 Press the [F3] (PC write) key.

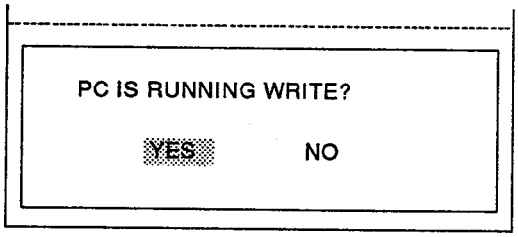
Because the writing to the PC is confirmed, a window opens.

Use the [←] key to select "YES" (execute).

REMARK

When the [End] key is pressed, only the internal memory is changed, and the batch change of the T/C set value is completed.

[Enter] → [←]



7 When the PC is in the RUN state, press the [Enter] key.

A window opens.

Use the [←] key to select "YES" (write).

If the PC is in the STOP state, the window is not opened, and writing is executed.

Enter

```
<T/C SETTING VALUE LIST>
DEVICE?  [T 0]
T 0     K 10    [K  50]        T 8          [     ]
T 1     K 15    [     ]        T 9          [     ]
T 2             [     ]        T 10         [     ]
T 3             [     ]        T 11         [     ]
T 4             [     ]        T 12         [     ]
T 5             [     ]        T 13         [     ]
T 6             [     ]        T 14         [     ]
T 7             [     ]        T 15         [     ]
Page Up        Page Down        End:SET        Esc:STOP
COMPLETED
```

8 Press the [Enter] key.

Writing to the PC is executed.

The sequence program in the PHP internal memory is also changed simultaneously.

When the writing has been executed, "COMPLETED." is displayed.

POINT

- **Changing the set value of a different device**

  When the [F2] read key is pressed, the device specification area becomes empty. Thus, another device can be input.

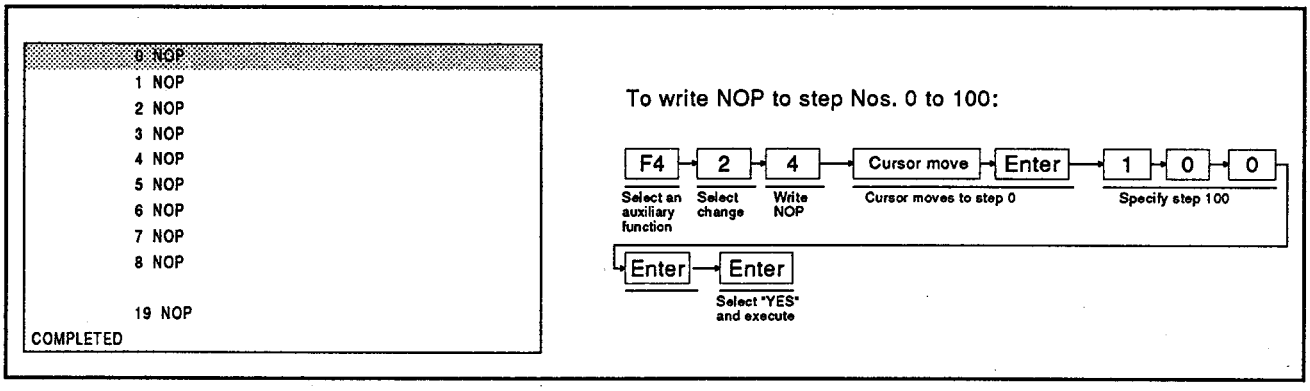
  A timer/counter number can be specified again to change a set value.

5.3.3 (5) The function used to write an NOP instruction to a specified part of a program or to the entire program

This function is used to do NOP writing (program range specification deletion) in the batch NOP range (program all clear) when writing a specification.

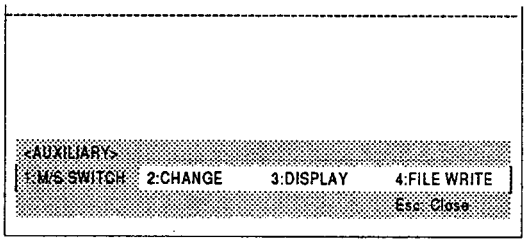
This function is valid when creating a new program or when deleting an unnecessary list program.

OPERATION EXAMPLE



OPERATING PROCEDURE

F4

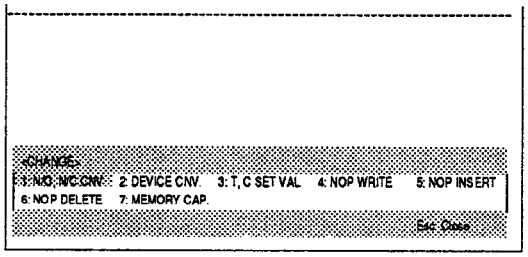


1 Select an auxiliary function. The auxiliary function window opens.

REMARK

An auxiliary function can be selected by pressing a 1 to 4 key or the cursor key.

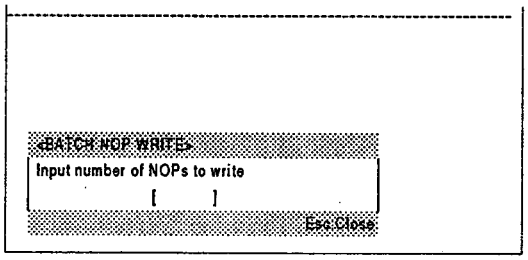
2



2 A window opens to select an auxiliary function.

Select 2 (change) from the window.

4 → ↑ / ↓ → Enter



3 The "CHANGE" window opens.

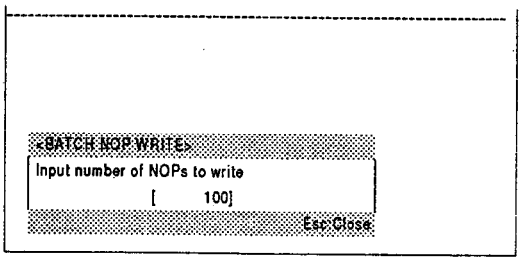
Select "4: NOP WRITE" from the window.

And then, use the [↑] and [↓] keys to move the cursor to the line where the NOP writing begins.

Press the [Enter] key.

A window opens to set the number of NOPs to write.

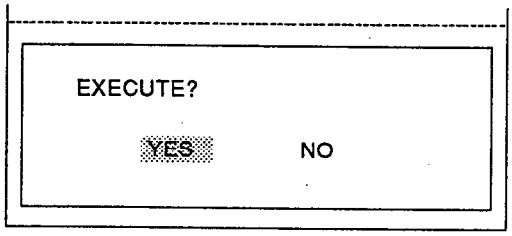
1 → 0 → 0



4 Set the number of NOPs to write.

When clearing all programs, specify the last number of a step.

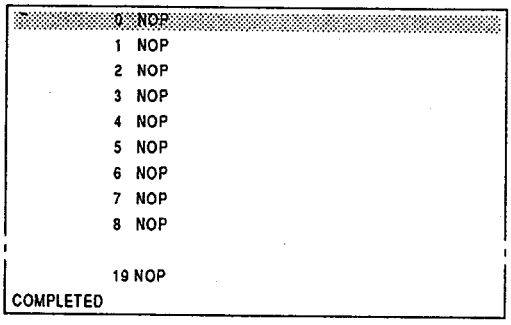
Enter



5 A window opens to confirm execution.

Select "YES" (execute).

Enter



6 Batch NOP writing is executed.

When the execution is completed, the screen is switched.

POINT

- **If the last step number in which an NOP is written is in the middle of an instruction**

  When the last step number in which an NOP is written is in the middle of an instruction, all corresponding instructions become NOPs.

  For example, in an instruction (five-step instructions) from step number 5 to step number 9, if the last step number 7 is specified by the NOP writing, NOP is written in all steps from step number 5 to step number 9.

- **Note and statement attached to the NOP writing step**

  If a note and a statement are attached to a step to be rewritten to a NOP, a window opens to confirm execution.

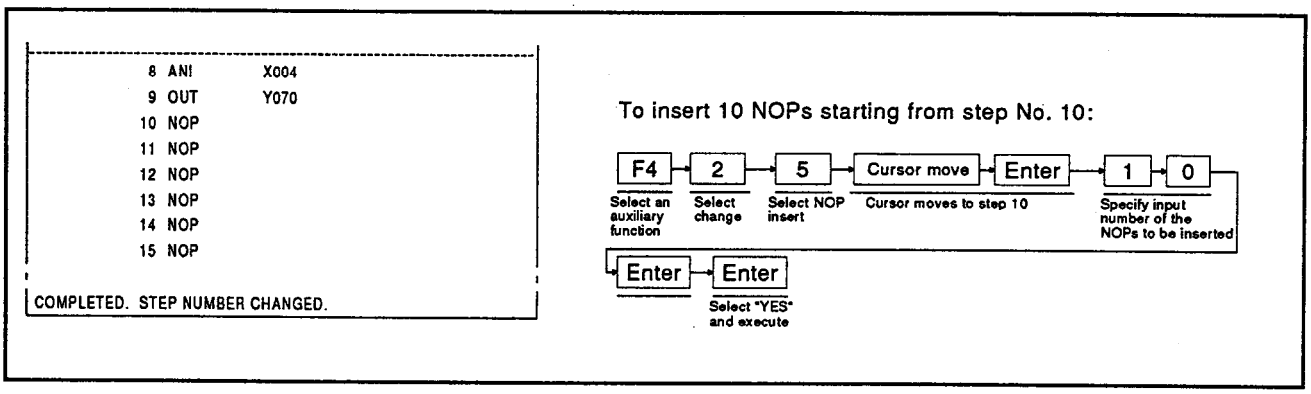
  Select "YES" to execute it. Select "NO" to interrupt the execution.

5.3.3 (6) Function used to continuously insert NOP instructions in a program

This function is used to insert all specified NOP instructions into a program.

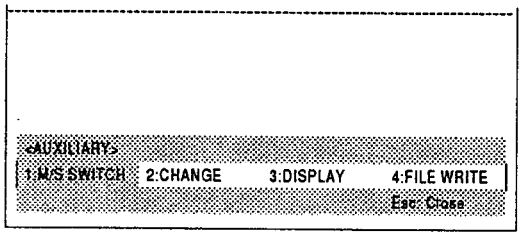
This function can divide a program into several parts according to the function of each part.

OPERATION EXAMPLE



OPERATING PROCEDURE

F4



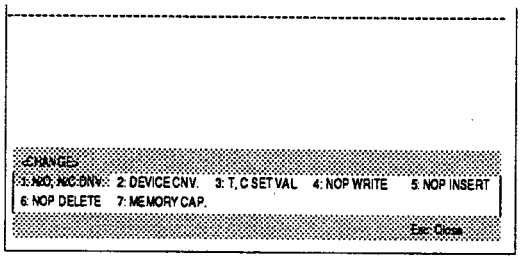
1 Select an auxiliary function.

The auxiliary function window opens.

REMARK

An auxiliary function can be selected by pressing a 1 to 4 key or the cursor key.

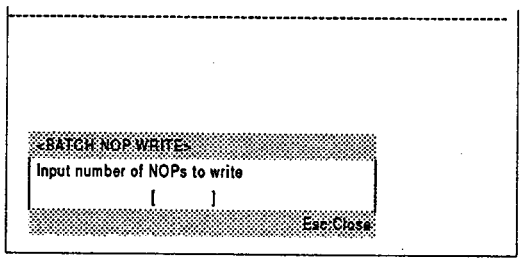
2



2 A window opens to select an auxiliary function.

Select 2 (change) from the window.

5 → ↑ / ↓ → Enter



3 "CHANGE" window opens.

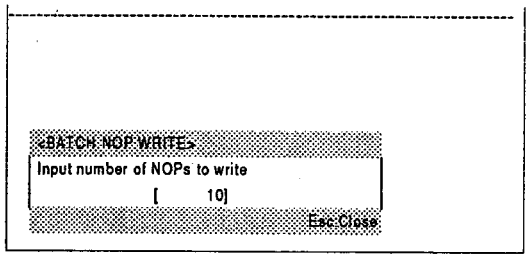
Select "5: NOP INSERT" from the window.

And then, use the [↑] and [↓] keys to move the cursor to the line where the NOP writing begins.

Press the [Enter] key.

A window opens to set the number of NOPs to insert.

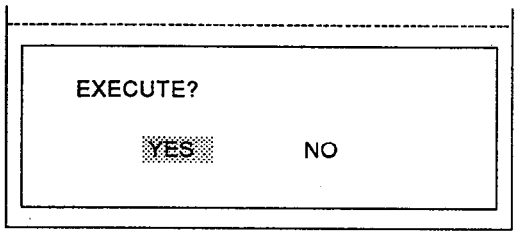
1 → 0



4 Set the number of NOPs to insert.

When clearing all programs, specify the last number of a step.

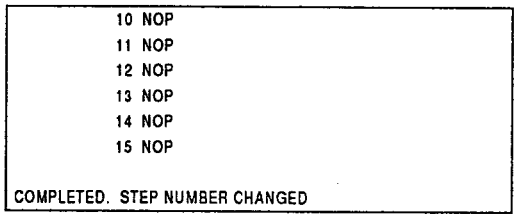
Enter



5 A window opens to confirm execution.

Select "YES" (execute).

Enter



6 Batch NOP writing is executed.

When execution is completed, the screen is switched.

5.3.3 (7) Function used to delete all NOPs in a program

This function is used so that program (0-END) deletes all NOP instructions.
A step number can be deleted by deleting the NOP instruction in the program.

OPERATION EXAMPLE

```
12 LD      X005
13 OUT     T0        K50
14 LD      X003
15 OR      Y072
16 ANI     X004
17 OUT     Y070

COMPLETED. STEP NUMBER CHANGED.
```

To delete an NOP instruction in a program:

F4 → 2 → 6 → Enter

F4	2	6	Enter
Select an auxiliary function	Select change	Select NOP delete	Select "YES" and execute

OPERATING PROCEDURE

F4

```
<AUXILIARY>
1:M/S SWITCH  2:CHANGE  3:DISPLAY  4:FILE WRITE
                                   Esc: Close
```

1 Select an auxiliary function.
The auxiliary function window opens.

REMARK

The auxiliary function can be selected by pressing a 1 to 4 key or the cursor key.

2

```
<CHANGE>
1:N/O, N/C CNV.  2: DEVICE CNV.  3: T, C SET VAL  4: NOP WRITE  5: NOP INSERT
6: NOP DELETE  7: MEMORY CAP.
                                   Esc: Close
```

2 A window opens to select an auxiliary function.
Select 2 (change) from the window.

6

```
DELETE ALL NOP?

YES        NO
```

3 "CHANGE" window opens.
Select "6: NOP DELETE" from the window.
Then, "DELETE ALL NOP" is displayed.
[YES] : execute
[NO] : not execute

Enter

```
12 LD      X005
13 OUT     T0        K50
14 LD      X001
15 OR      Y072
16 ANI     X004
17 OUT     Y070

COMPLETED. STEP NUMBER CHANGED
```

4 Press the [Enter] key to delete all NOP instructions in the program.

When the deletion is executed, "COMPLETED. STEP NUMBER CHANGED." is displayed.

REMARK

Even when the NOP is deleted by a batch operation, the NOPLF instruction is not deleted.

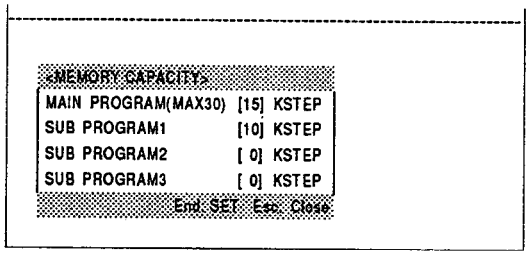
The NOPLF instruction is used to specify a page overflow line when a circuit diagram and an instruction list are printed.

5.3.3 (8) Function used to change the memory capacity of a program in the list mode

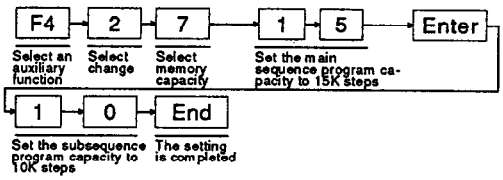
When a program is being created, and the program capacity is insufficient, the memory capacity can be changed in the list mode.

The main sequence program capacity and the subsequence program capacity can likewise be set with the parameter mode.

OPERATION EXAMPLE

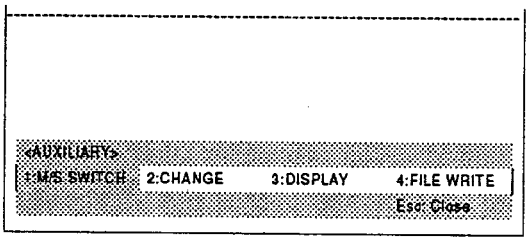


To set the main sequence program capacity to 15K steps and the subsequence program capacity to 10K steps:



OPERATING PROCEDURE

F4



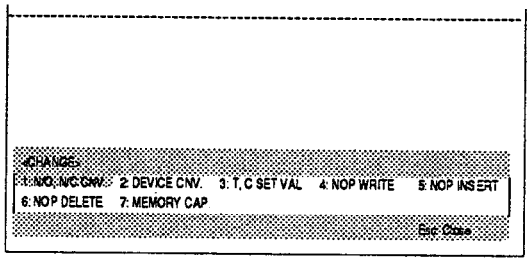
1 Select an auxiliary function.

The auxiliary function window opens.

REMARK

The auxiliary function can be selected by pressing a 1 to 4 key or the cursor key.

2



2 A window opens to select an auxiliary function.

Select 2 (change) from the window.

7 → 1 → 5 → Enter → 1 → 0

```
<MEMORY CAPACITY>
MAIN PROGRAM(MAX30)  [15] KSTEP
SUB PROGRAM1         [10] KSTEP
SUB PROGRAM2         [ 0] KSTEP
SUB PROGRAM3         [ 0] KSTEP
                 End: SET  Esc: Close
```

3 "CHANGE" window opens. Select "7: MEMORY CAP." from the window. Then, the "MEMORY CAPACITY" window opens.

Set the main sequence program capacity. Then, set the subsequence program capacity.

When setting only the subsequence program capacity without changing the main sequence program capacity, use the [↓] key to move the cursor to a subsequence program 1 to 3 capacity setting area.

If the PC model is other than A4U, it is not possible to select SUB PROGRAM 2 or SUB PROGRAM 3.

End

```
19 AND   Y070
20 AND   Y0AF
21 ORB
22 OUT   F102
25 LD    X2A0
26 AND   X31F
27 AND   X000
28 AND   X07F
29 LD    Y2A0
30 AND   Y2DF
```

4 Press the [End] key to complete the setting.

Point

- **Parameter area**

  When the memory capacity is changed by the auxiliary function, the description of a parameter area is automatically changed as well.

- **Is the program outside the range lost when reducing the program capacity?**

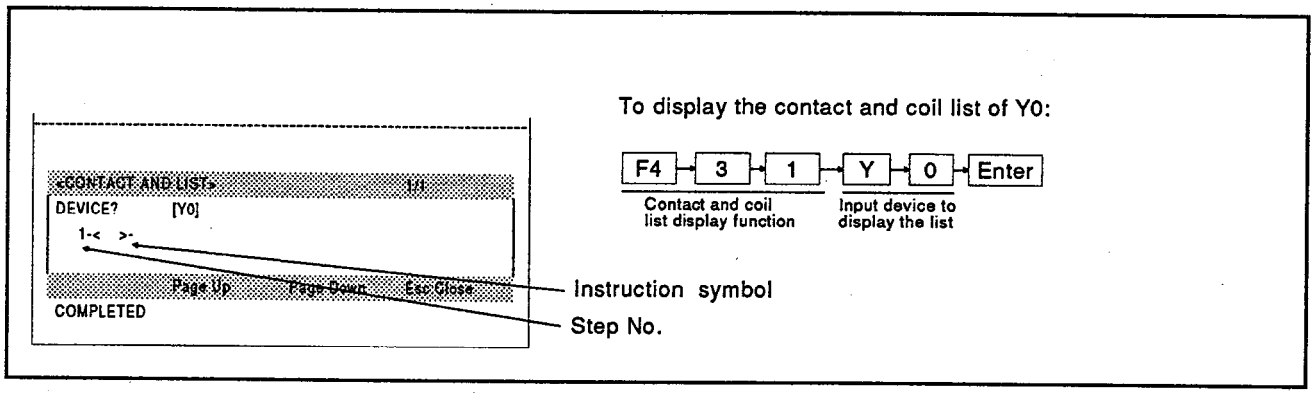
  If memory capacity is set smaller than a program capacity,a program will be lost if it is written to a file. Such a program will not be lost unless it is written to a file.

5.3.3 (9) Function used for displaying a condition by using a device in the program

Every specified device number can display a program use condition.

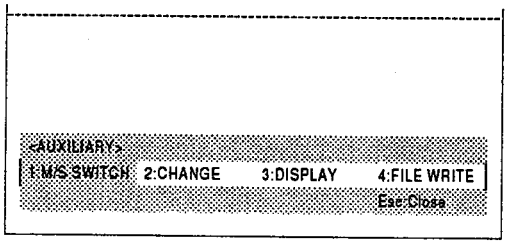
A utilized step number, a ladder symbol, and an instruction are displayed on a screen by specifying a device and a device number.

OPERATION EXAMPLE



OPERATING PROCEDURE

F4



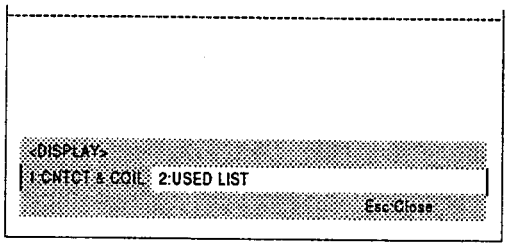
1 Select an auxiliary function.

The auxiliary function window opens.

REMARK

The auxiliary function can be selected by pressing a 1 to 4 key or the cursor key.

3



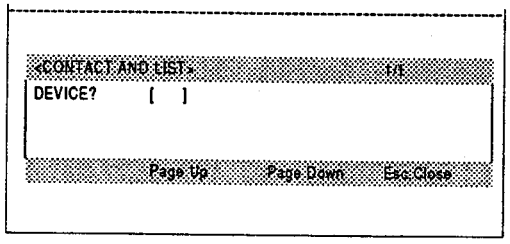
2 A window opens to select an auxiliary function.

Select "3: DISPLAY" from the window.

REMARK

This can be selected by pressing a 1 to 4 key or the cursor + the [Enter] key.

1



3 "DISPLAY" window opens.

Select "1: CNTCT & COIL" from the window.

Then, the "CONTACT AND COIL LIST" window opens.

Y → 0 → Enter

```
<CONTACT AND LIST>                    1/1
DEVICE?        [Y0]
  1-<  >-

        Page Up      Page Down    Esc Close
COMPLETED
```

4 Input the device to be searched.

For example, Y0 is searched.

When the search is executed, "COMPLETED." is displayed.

An instruction used in the step number for which a specified device is used, a ladder symbol, and a data instruction are displayed.

POINT

- **Applicable devices**

  Applicable devices "X, Y, B, M, L, F, T, C, R, W, D, P, N (for MC, MCR), V, Z, I, A0, A1" are searched.

  For example, when a digit ("K4X0") is specified by the MOV instruction, X000-X00F is displayed as a utilized device.

- **Display number of points**

  16 lists can be displayed.

- **How to interrupt a search**

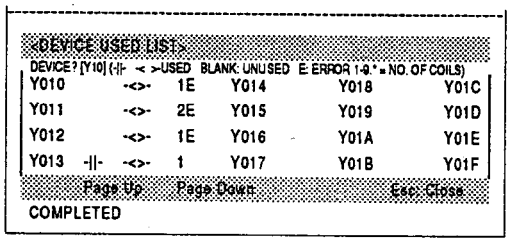
  If, while searching a device, the [Esc] key is pressed, the search is interrupted and the cursor moves to the device specification area.

5.3.3 (10) Function to display the device use state of a program

This function is used to display the device use state of every specified device in a program.

The used ladder symbol, the number, and the existence of an error are displayed on the screen by specifying a device.

OPERATION EXAMPLE



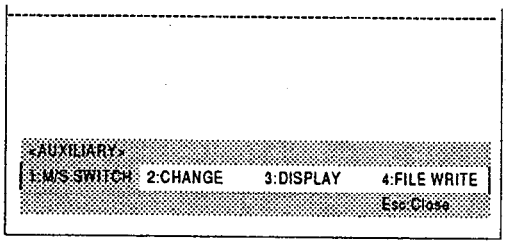
To display the device used list of Y10:

F4 → 3 → 2 → Y → 1 → 0 → Enter

Device used list display function — Input the head device

OPERATING PROCEDURE

F4



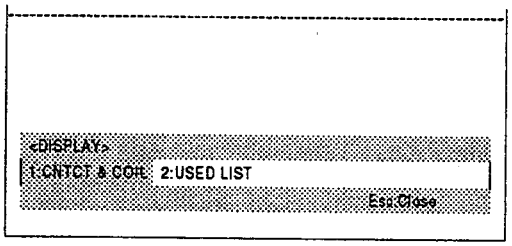
1 Select an auxiliary function.

The auxiliary function window opens.

REMARK

An auxiliary function can be selected by pressing a 1 to 4 key or the cursor key.

3



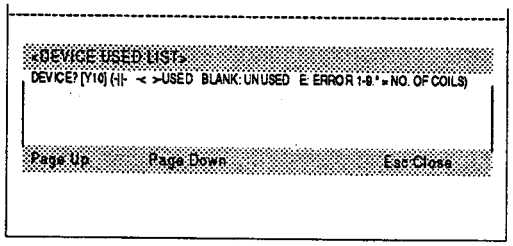
2 A window opens to Select an auxiliary function.

Select "3: DISPLAY" from the window.

REMARK

An auxiliary function can be selected by pressing a 1 to 4 key or the cursor key.

2



3 "DISPLAY" window opens.

Select "2: USED LIST" from the window.

Then, the "DEVICE USED LIST" window opens.

Y → 1 → 0 → Enter

```
<DEVICE USED LIST>
DEVICE? [Y10] -|-  -<>-  >-USED  BLANK: UNUSED  E: ERROR  1-9:* = NO. OF COILS)
Y010        -<>-  1E    Y014    Y018    Y01C
Y011        -<>-  2E    Y015    Y019    Y01D
Y012        -<>-  1E    Y016    Y01A    Y01E
Y013  -|-   -<>-  1     Y017    Y01B    Y01F
Page Up   Page Down                 Esc: Close
COMPLETED
```

4 Setting a corresponding device.

For example Y10 is searched.

When the search is executed, "COMPLETED" is displayed.

POINT

- **Device use list display list**

The –||– area, the –<>– area, and the error condition are displayed on the device use list as follows.

Device	–||– Area Display	–<>– Area Display	Error Condition
X	LD, LDI, OR, ORI, AND and ANI Software processing instruction source	Software processing instruction destination	(None)
Y	LD	OUT	
SP.M	LDI	SET	
M	OR	RST	
L	ORI		
S	AND		
B	ANI		
F	Software processing instruction source	Software processing instruction destination	
T			
C			
SP.D	Software processing instruction source	Software processing instruction destination Timer/counter setting value	
D			
W			
R			
P	P(pointer)	Software processing instruction	
N	MC	MCR	
I	I(Pointer)	–	(None)

–||–	–<>–	Error?
Absent	Absent	
Absent	Present	Error
Present	Absent	Error
Present	Present	

- **Applicable devices**

Applicable devices "X, Y, M, L, B, F, T, C, D, W, R, P, N, I" are searched.

- **Display specifications of a device use list**

(1) A device use list displays 16 points from the specified device. However, when a ladder with a comment is displayed, 8 points of the device use list with a comment are displayed.

(2) The number that a coil uses is indicated in a device use list. The number used by a coil is indicated to a maximum of 9. But * is displayed in the case of 10 or more.

- **How to interrupt a search**

If, while searching a device, the [Esc] key is pressed, the search is interrupted and the cursor moves to a device specification area.

- **Software instruction**

The software processing instruction is an instruction with two or more steps. For example, with —[MOV | K4X0 | D0]—, the range of X0 to XF is the source and D0 is the destination. As for comparison instruction >, =, <, a second word and a third word are displayed in the –||– area as sources. As for any other data instruction, the second word is the source and the third word is the destination.

- **An error indication**

The "E" (error) display results when the condition of using each device is checked. Even if "E" is displayed, the sequence program will operate normally.

5.3.3 (11) Function used to store data created in the list mode to the user file (see Section 2.2.2)

5.4 Reading an Existing Program List

5.4.1 Reading a program list

This Section explains how to read a program in the list mode.

Reading a program is the preparatory operation for executing any correction, insertion, addition, deletion, etc.

How to read a program is explained below.

(1) Reading by step number

(2) Reading by device number

(3) Reading by device number with a digit

(4) Reading by an instruction and a device number

(5) Reading by an instruction

5.4.1 (1) Reading a list by specifying a step number

A program list is read by specifying a step number.

OPERATION EXAMPLE

BEFORE

0	LD	X000
1	OUT	Y707
2	LD	X001
3	SET	M0
4	LD	X000
5	RST	M0
6	NOP	
7	OUT	Y071
8	LD	X005

AFTER

27	AND	X000
28	AND	X07F
29	LD	Y2A0
30	AND	Y2DF
31	AND	Y000
32	AND	Y02F
33	ORB	
34	OUT	F103
37	LD	X340

To read the program at step No. 31:

F2 → 3 → 1 → Enter

Select read in the list mode — Specify step No. 31 — Execute

OPERATING PROCEDURE

F2

0	LD	X000
1	OUT	Y707
2	LD	X001
3	SET	M0
4	LD	X000
5	RST	M0
6	NOP	
7	OUT	Y071
8	LD	X005

1 Press the [F2] key to select a read function.

3 → 1

```
0 LD      X001
1 OUT     Y707
2 LD      X001
3 SET     M0
4 LD      X000
5 RST     M0
6 NOP
31
```

2 Input the step number to be read.

The keyed-in data is displayed below the bottom step.

Enter

```
27 AND    X000
28 AND    X07F
29 LD     Y2A0
30 AND    Y2DF
31 AND    Y000
32 AND    Y02F
33 ORB
34 OUT    F103
37 LD     X340
```

3 Press the [Enter] key.

The cursor moves to the position of the specified step number.

Then, 20 lines of the list are displayed centering on the specified step number.

Next, press the [Enter] key.

The list of 20 lines that begins with the step number next to the displayed last step number is displayed.

5.4.1 (2) Reading a list by specifying a device number

A program list is read by specifying a device and a device number.

OPERATION EXAMPLE

BEFORE

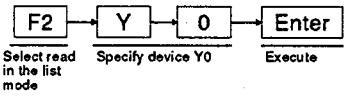
0	LD	X000
1	OUT	Y707
2	LD	X001
3	SET	M0
4	LD	X000
5	RST	M0
6	NOP	
7	OUT	Y071
8	LD	X005

AFTER

12	ANI	X004
13	OUT	Y070
14	LD	Y000
15	OR	Y073
16	ANI	X004
17	OUT	Y070
18	LD	T0
19	OUT	Y073

Y0

To read the program at device Y0:



OPERATING PROCEDURE

F2

0	LD	X000
1	OUT	Y707
2	LD	X001
3	SET	M0
4	LD	X000
5	RST	M0
6	NOP	
7	OUT	Y071
8	LD	X005

1 Press the [F2] key to select a read function.

Y → 0

0	LD	X001
1	OUT	Y707
2	LD	X001
3	SET	M0
4	LD	X000
5	RST	M0
6	NOP	

Y0

2 Input the step number to be read.
The keyed-in data is displayed below the bottom step.

Enter

```
12 ANI     X004
13 OUT     Y070
14 LD      Y000
15 OR      Y073
16 ANI     X004
17 OUT     Y070
18 LD      T0
19 OUT     Y073
      Y0
```

3 Press the [Enter] key.

The cursor moves to the position of a specified step number.

Then, 20 lines of the list are displayed centering on the instruction.

Next, press the [Enter] key.

The list of 20 lines centering on the next instruction with the same device and device number is displayed.

When all lists are displayed, "PROGRAM NOT FOUND" is displayed.

REMARK

If a specified device has Z and V indexes, the device number is read as a corresponding device.

5.4.1 (3) Reading a list by specifying a device number with a digit

A program list is read by specifying a device and a device number with a digit.

OPERATION EXAMPLE

BEFORE

```
0 LD      X000
1 OUT     Y707
2 LD      X001
3 SET     M0
4 LD      X000
5 RST     M0
6 NOP
7 OUT     Y071
8 LD      X005
```

AFTER

```
19 OUT    Y074
20 LD     X007
21 RST    C0
24 LD     X000
25 MOVP   K4X020    D0
30 LD     X001
31 NOP
32 NOP
33 NOP
```

To read the program at X21 by specifying a device with a digit:

F2 → X → 2 → 1 → SP → / → K → Enter

Select read in the list mode | Specify device X21 | Specify an instruction with a digit | Execute

OPERATING PROCEDURE

F2

```
0 LD      X000
1 OUT     Y707
2 LD      X001
3 SET     M0
4 LD      X000
5 RST     M0
6 NOP
7 OUT     Y071
8 LD      X005
```

1 Press the [F2] key to select a read function.

X → 2 → 1 → SP → / → K

```
0 LD      X000
1 OUT     Y707
2 LD      X001
3 SET     M0
4 LD      X000
5 RST     M0
6 NOP
:
X21 /K
```

2 Input the device and a device number to be read.

Press the [SP],[/], and [K] keys to search an instruction with a digit.

Keyed-in data is displayed below the bottom step.

Enter

```
19 OUT     Y074
20 LD      X007
21 RST     C0
24 LD      X000
25 MOVP    K4X020      D0
30 LD      X001
31 NOP
32 NOP
33 NOP
```

3 Press the [Enter] key.

The cursor moves to the position of the specified step number.

Then, 20 lines of list are displayed centering on the specified step number.

Next, press the [Enter] key.

The list of 20 lines including the next instruction, device, and device number (including an instruction with a digit) is displayed.

When all lists are displayed, "PROGRAM NOT FOUND" is displayed.

REMARK

When reading a data instruction containing a corresponding device, an instruction with a digit is searched.

For example, even if a device in X0 to XF is specified for an instruction with a digit, the MOV K4X0 DO instruction can be read.

5.4.1 (4) Reading a list by specifying an instruction and device number

A program list is read by specifying an instruction, a device, and a device number.

OPERATION EXAMPLE

BEFORE

0	LD	X000
1	OUT	Y707
2	LD	X001
3	SET	M0
4	LD	X000
5	RST	M0
6	NOP	
7	OUT	Y071
8	LD	X005

AFTER

27	AND	X000
28	AND	X07F
29	LD	Y2A0
30	AND	Y2DF
31	AND	X000
32	AND	Y02F
33	DRB	
34	OUT	F103
37	LD	X340

To read the program at AND X0:

F2 → F6 → X → 0 → Enter

Select read in the list mode — Specify AND X0 — Execute

OPERATING PROCEDURE

F2

0	LD	X000
1	OUT	Y707
2	LD	X001
3	SET	M0
4	LD	X000
5	RST	M0
6	NOP	
7	OUT	Y071
8	LD	X005

1 Press the [F2] key to select a read function.

F6 → X → 0

0	LD	X000
1	OUT	Y707
2	LD	X001
3	SET	M0
4	LD	X000
5	RST	M0
6	NOP	

AND X0

2 Input the device and the device number to be read.
Keyed-in data is displayed below the bottom step.

Enter

```
27 AND    X000
28 AND    X07F
29 LD     Y2A0
30 AND    Y2DF
31 AND    X000
32 AND    Y02F
33 DRB
34 OUT    F103
37 LD     X340
```

3 Press the [Enter] key.

The cursor moves to the position of a specified step number.

Then, 20 lines of list are displayed centering on a specified instruction, device and device number.

Next, press the [Enter] key.

A list of 20 lines including the next instruction, device, and device number is displayed.

If all lists are displayed, "PROGRAM NOT FOUND" is displayed.

REMARK

(1) When a specified device has Z and V indexes, the device number is read as a corresponding device.

(2) An instruction with a digit can be read by pressing the [SP], [/], and [K] keys after a device when reading an instruction, a device, and a device number.

5.4.1 (5) Reading a list by specifying an instruction

A program is read by specifying an instruction.

OPERATION EXAMPLE

BEFORE

```
0 LD      X000
1 OUT     Y707
2 LD      X001
3 SET     M0
4 LD      X000
5 RST     M0
6 NOP
7 OUT     Y071
8 LD      X005
```

AFTER

```
19 OUT    Y074
20 LD     X007
21 RST    C0
24 LD     X000
25 MOVP   K4X020    D0
30 LD     X001
31 NOP
32 NOP
33 NOP
```

To read a program by specifying an MOV instruction:

F2 → M → 0 → V → Enter

Select read in the list mode — Specify an MOV instruction — Execute

OPERATING PROCEDURE

F2

```
0 LD      X000
1 OUT     Y707
2 LD      X001
3 SET     M0
4 LD      X000
5 RST     M0
6 NOP
7 OUT     Y071
8 LD      X005
```

1 Press the [F2] key to select a read function.

M → 0 → V

```
0 LD      X000
1 OUT     Y707
2 LD      X001
3 SET     M0
4 LD      X000
5 RST     M0
6 NOP

          M0V
```

2 Input the device and device number to be read.
Keyed-in data is displayed below the bottom step.

REMARK

The MOV instruction can be specified by pressing the [Alt] + [F2] keys.

Enter

```
19 OUT     Y074
20 LD      X007
21 RST     C0
24 LD      X000
25 MOVP    K4X020        D0
30 LD      X001
31 NOP
32 NOP
33 NOP
```

3 Press the [Enter] key.

The cursor moves to the position of a specified step number.

Then, 20 lines of list are displayed centering on a specified instruction.

Next, press the [Enter] key.

A list of 20 lines including the same instruction is displayed.

If all lists are displayed, "PROGRAM NOT FOUND" is displayed.

REMARK

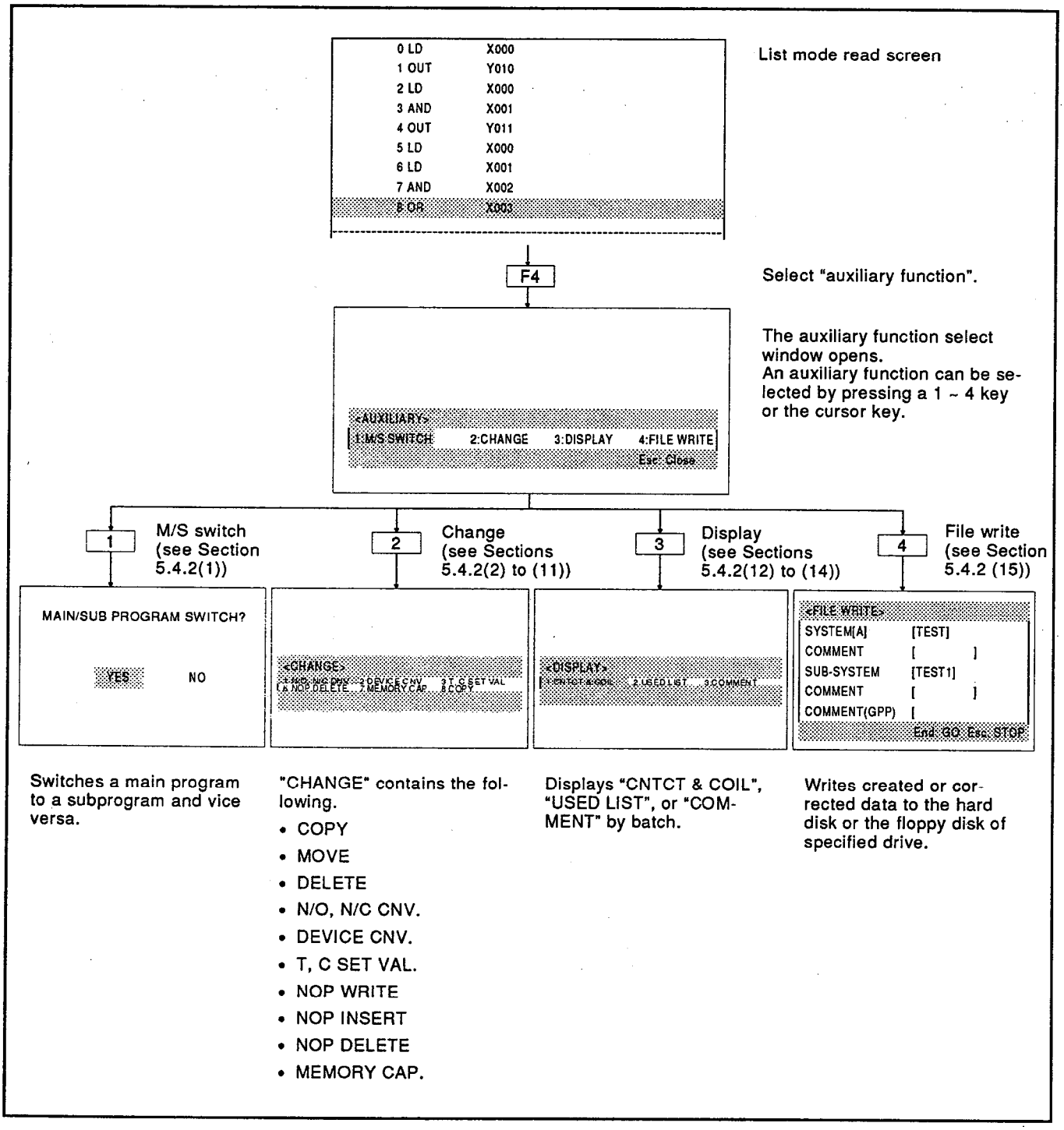
When a read is executed by an instruction, an instruction with double (D) and pulse (P) can be read.

Double (D) must be read with D.

When doing a read with D and P, only instructions with D and P are read.

5.4.2 Auxiliary functions available for writing, inserting, and deleting

Auxiliary functions are available for reading in the list mode.

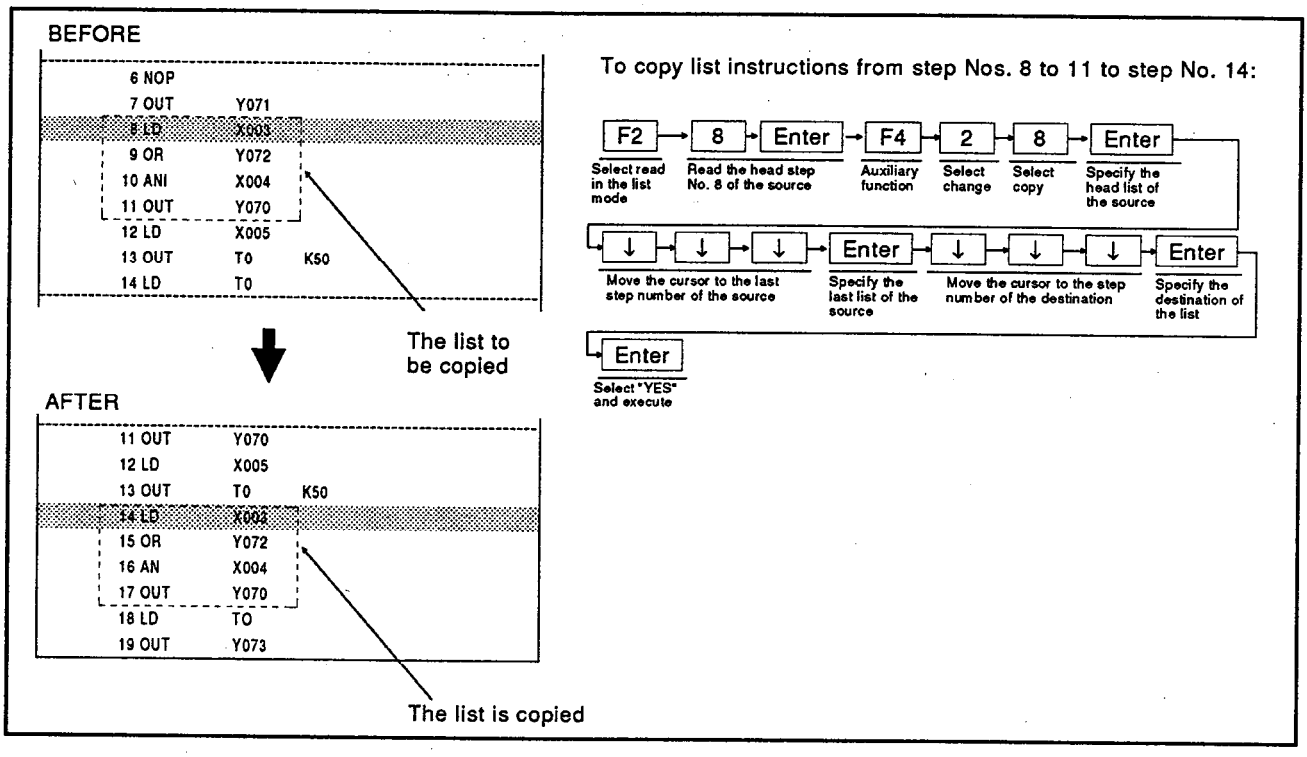


5.4.2 (1) Function used to switch the display of the main sequence program and a subsequence program while creating or copying a list (see Section 5.3.3(1))

5.4.2 (2) Function used to copy the program list of a specified range to a specified position

This function is used to copy a created list to a specified position in order to create a list pattern that is the same as a created list instruction.

OPERATION EXAMPLE



OPERATING PROCEDURE

F2 → 8 → Enter

```
6 NOP
7 OUT     Y071
8 LD      X003
9 OR      Y072
10 ANI    X004
11 OUT    Y070
12 LD     X005
13 OUT    T0      K50
14 LD     T0
```

1 Press the [F2] key. And then, input a source head step number to read.

The cursor moves to the specified step number.

F4

```
<AUXILIARY>
1:M/S SWITCH  2:CHANGE  3:DISPLAY  4:FILE WRITE
                                   Esc: Close
```

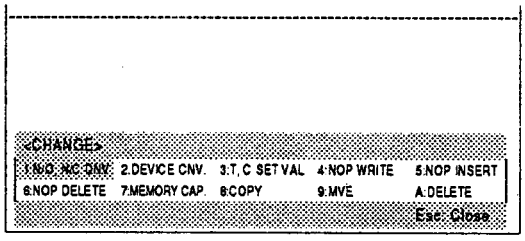
2 Press the [F4] key to Select an auxiliary function.

The auxiliary function window opens.

REMARK

An auxiliary function can be selected by pressing a 1 to 4 key or the cursor key.

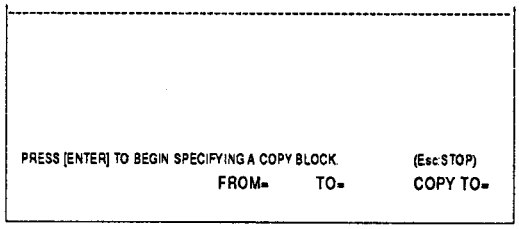
2



3 Select "2: CHANGE " from The auxiliary function window.

A change window opens.

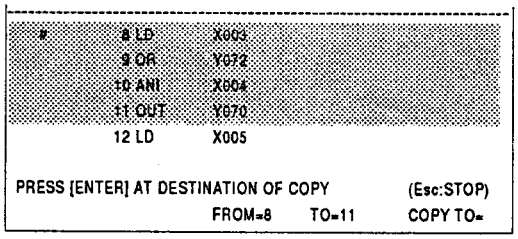
8



4 Select "8: COPY " from a change window.

The following message is displayed.

Enter → ↓ → ↓ → ↓ → Enter



5 Press the [cursor move] key to set the head list of a source and the last list of a source, then press the [Enter] key.

The message for the setting item is displayed on a screen.

Operate it according to the message.

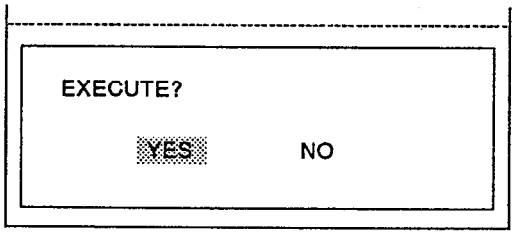
The source list is highlighted on the screen.

When the last list of the source is set, the following message is displayed.

REMARK

When specifying the head step number of the source and the step number of the destination, the cursor can be moved by using the [Page Up], [Page Down], [Step Number], and [Enter] keys.

↓ → ↓ → ↓ → Enter



6 Move the cursor to a destination list, and press the [Enter] key.

When the destination list is specified, the following message is displayed.

Enter

```
11 OUT    Y070
12 LD     X005
13 OUT    T0      K50
14 LD     X003
15 OR     Y072
16 ANI    X004
17 OUT    Y070
18 LD     TO
19 OUT    Y073
COMPLETED, STEP NUMBER CHANGED
```

7 Select "YES".

A copied list enters a specified position on the left screen.

When copying is completed, the following message is displayed.

REMARK

Step numbers after the inserted line will be automatically renumbered.

POINT

- **Notes and statements during copying**

  Even if a list is copied, notes and statements are not copied.

- **A point (P and I) is included in the list to be copied**

  When a pointer (P and I) is included in the range of a list to be copied, "CANNOT COPY." is displayed.

  After deleting a label, copy a list. Or copy a range that does not have a label.

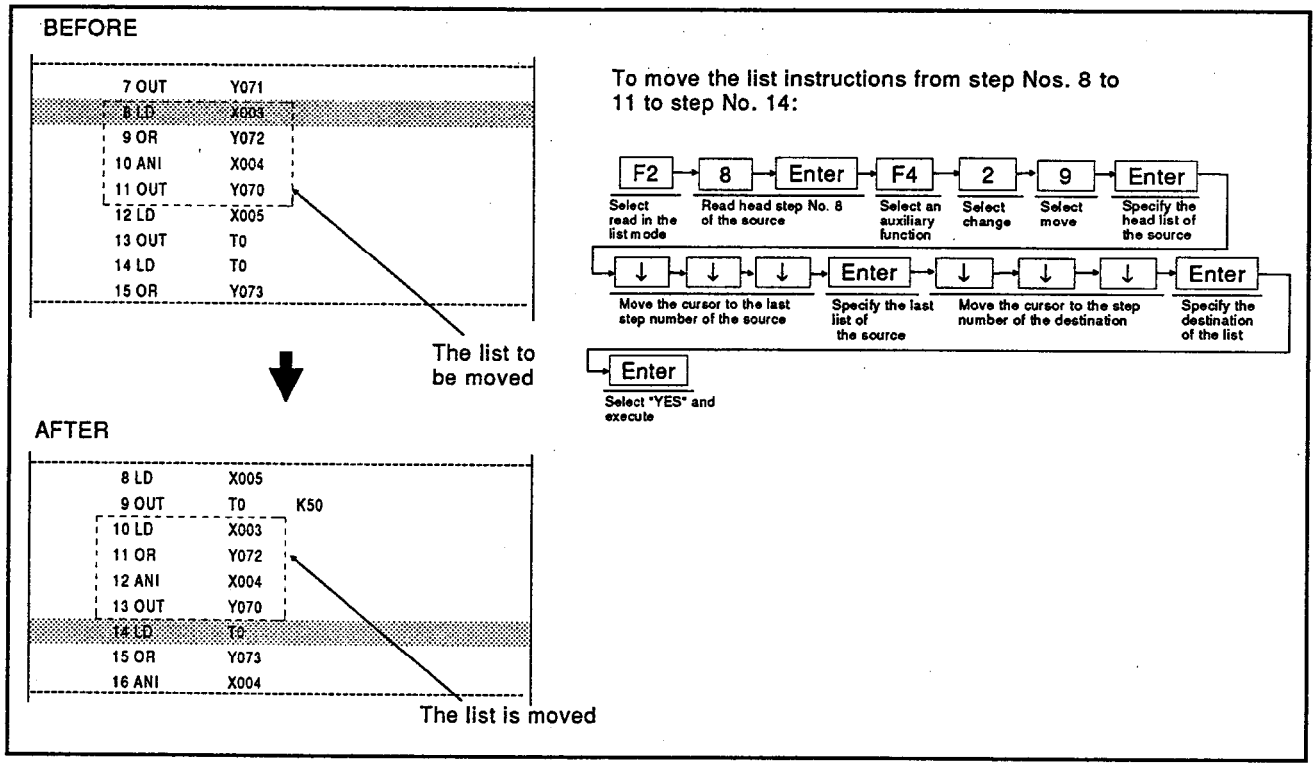
- **Interrupted setting**

  Setting is interrupted by pressing the [Esc] key, and the screen returns to a read function.

5.4.2 (3) Function used to move the program list of a specified range to a specified position

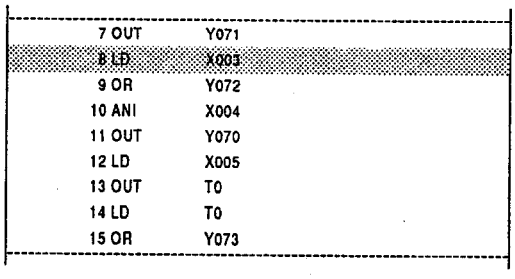
This function is used to move a created list to a specified position when changing the program composition.

OPERATION EXAMPLE



OPERATING PROCEDURE

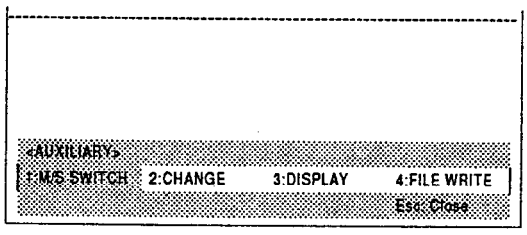
F2 → 8 → Enter



1 Press the [F2] key. And then, input the head step number of the source to move.

The cursor moves to the specified step number.

F4



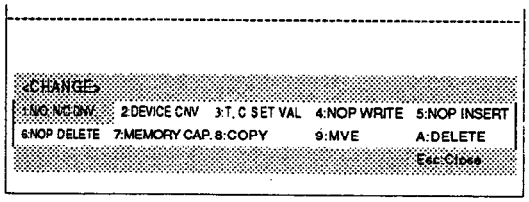
2 Press the [F4] key to Select an auxiliary function.

An auxiliary function window opens.

REMARK

An auxiliary function can be selected by pressing a 1 to 4 key or the cursor key.

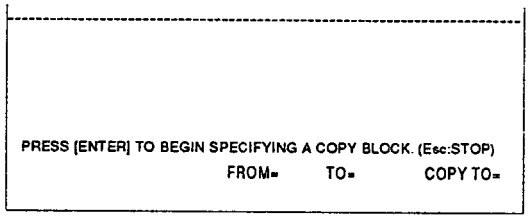
2



3 Select "2: CHANGE" from the auxiliary function window.

A change window opens.

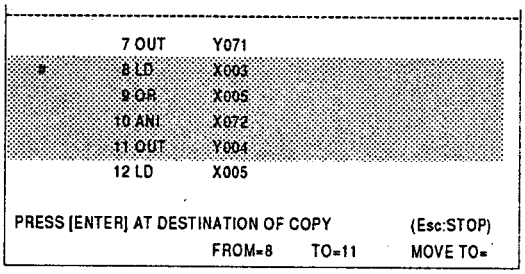
9



4 Select "9: MOVE " from the change window.

The following message is displayed.

Enter → ↓ → ↓ → ↓ → Enter



5 Press the [cursor move] key to set the head list of a source and the last list of a source, and press the [Enter] key.

The message for the setting item is displayed on a screen.

Operate it according to the message.

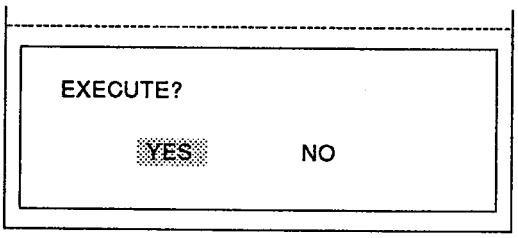
A source list highlights on the screen.

When the last list of a source is set, the following message is displayed.

REMARK

When specifying the head step number of a source and the step number of a destination, the cursor can be moved by using the [Page Up], [Page Down] key, a step number and the [Enter] key.

↓ → ↓ → ↓ → Enter



6 Move the cursor to a destination list, and press the [Enter] key.

When a destination list is specified, the following message is displayed.

Enter

```
 8 LD      X005
 9 OUT     TO      K50
10 LD      X003
11 OR      Y072
12 ANI     X004
13 OUT     Y070
14 LD      TO

COMPLETED
```

7 Select "YES".

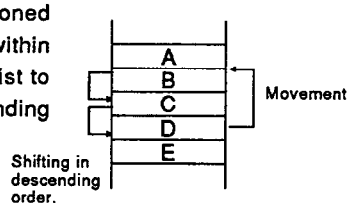
The specified list enters the specified position on the left hand side of the screen.

When the movement is completed, the following message is displayed.

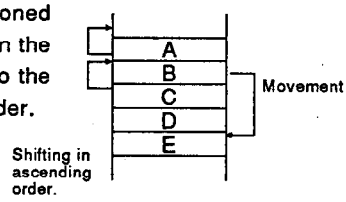
REMARK

Program after the movement

(1) When a destination list is positioned before a source list, the lists within the range from the destination list to the source list shift in descending order.



(2) When a destination list is positioned after a source list, the lists within the range from the destination list to the source list shift in ascending order.



POINT

- **Notes and statements during movement**

  When a list is moved, notes and statements also move.

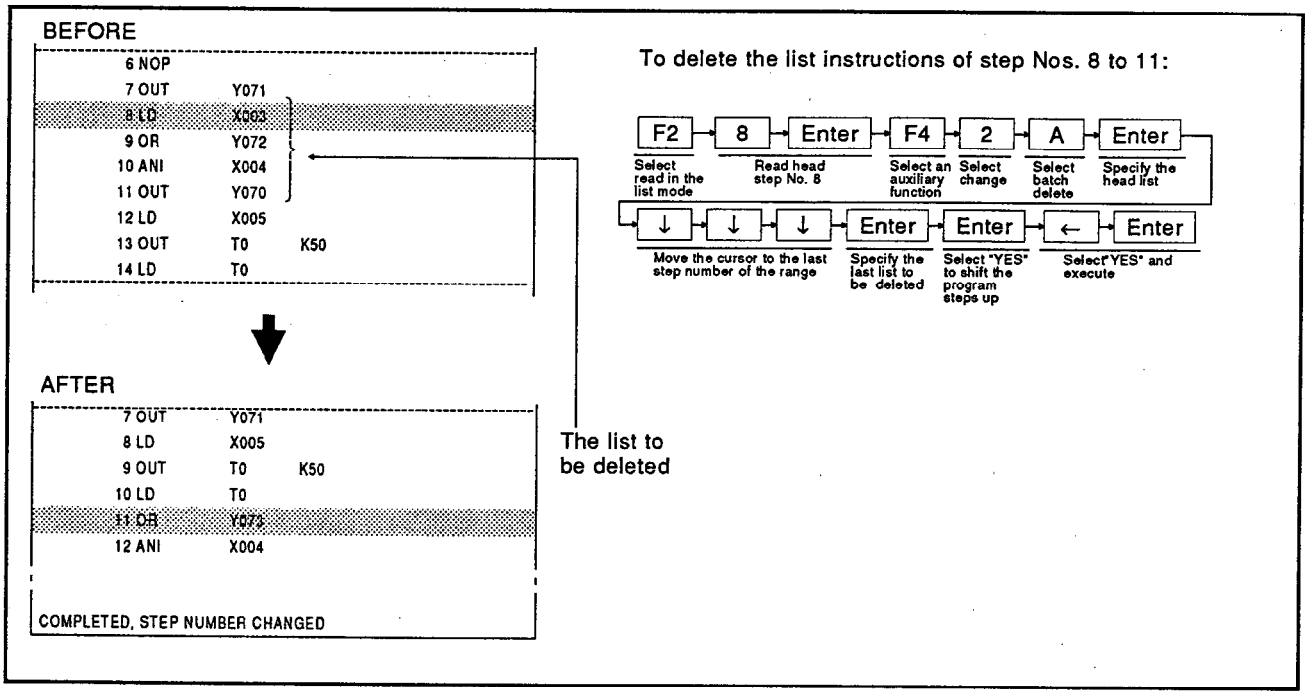
- **Interrupted setting**

  Setting is interrupted by pressing the [Esc] key, and the screen returns to a read function.

5.4.2 (4) Function used to delete the program list of a specified range

This function is used to delete several list instructions by specifying a range.

OPERATION EXAMPLE



OPERATING PROCEDURE

F2 → 8 → Enter

```
6 NOP
7 OUT     Y071
8 LD      X003
9 OR      Y072
10 ANI    X004
11 OUT    Y070
12 LD     X005
13 OUT    T0      K50
14 LD     T0
```

1 Press the [F2] key. Then, input the head step number of a source to delete.

The cursor moves to the specified step number.

F4

```
<AUXILIARY>
1:M/S SWITCH  2:CHANGE  3:DISPLAY  4:FILE WRITE
                                   Esc: Close
```

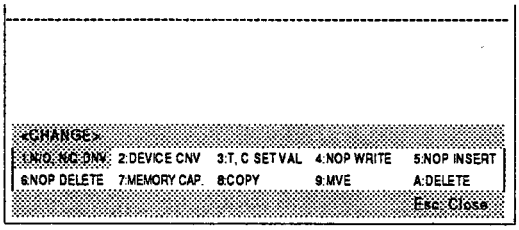
2 Press the [F4] key to Select an auxiliary function.

The auxiliary function window opens.

REMARK

An auxiliary function can be selected by pressing a 1 to 4 key or the cursor key.

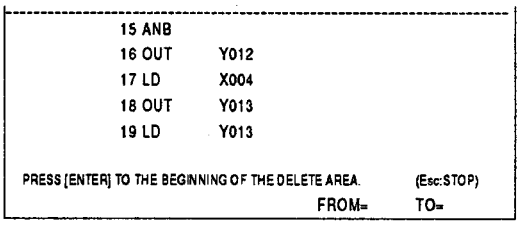
2



3 Select "2: CHANGE" from the auxiliary function window.

A change window opens.

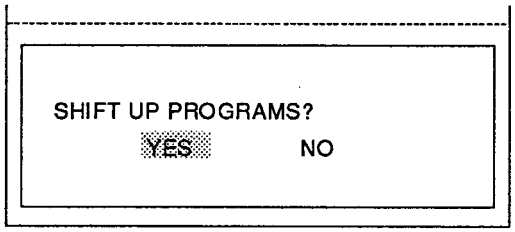
A



4 Select "A: DELETE" from the change window.

The following message is displayed.

Enter → ↓ → ↓ → ↓ → Enter



5 Press the [cursor move] key to set the head list of a source and the last list of a source, then press the [Enter] key.

An instruction message for the setting item is displayed on the screen.

Operate in accordance with the message.

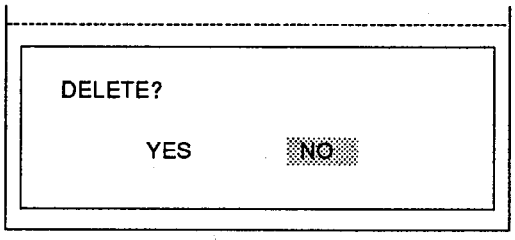
A source list is highlighted on the screen.

When the last list of a source is set, the following message is displayed.

REMARK

When specifying the head step number of a source and the step number of a destination, the cursor can be moved by using the [Page Up], [Page Down], [Step Number] and [Enter] keys.

Enter



6 Setting the program state after a deletion.

Select "YES" to shift up the step of a deleted list in the program after a batch delete.

Select "NO" to automatically write NOP of the step of a deleted list.

(The step number does not change.)

For example if "YES" is selected, the following message is displayed.

← Enter

```
 7 OUT     Y071
 8 LD      X005
 9 OUT     T0      K50
10 LD      T0
11OR       Y073
12 ANI     X004

COMPLETED, STEP NUMBER CHANGED
```

7 Select "YES".

The list of the specified range is deleted, and the step number is shifted up.

When the deletion is completed, the following message is displayed.

POINT

- **Notes and statements during deleting it**

  When a list is deleted, notes and statements are also deleted.

- **Interrupted setting**

  Setting is interrupted by pressing the [Esc] key, and the screen returns to a read function.

5.4.2 (5) Function used to change N/O contact to N/C, and N/C to N/O in a program (see Section 5.3.3(2))

5.4.2 (6) Function used to convert devices to other devices in a program by batch (see Section 5.3.3(3))

5.4.2 (7) Function used to change a timer/counter setting value in a program by batch (see Section 5.3.3(4))

5.4.2 (8) Function used to write an NOP instruction to the specified part of program or all of it (see Section 5.3.3(5))

5.4.2 (9) Function used to continuously insert an NOP instruction in a program (see Section 5.3.3(6))

5.4.2 (10) Function used to delete all NOPs in a program (see Section 5.3.3(7))

5.4.2 (11) Function used to change the memory capacity of a program in the list mode (see Section 5.3.3(8))

5.4.2 (12) Function used for the display of a state by using a device in the program (see Section 5.3.3(9))

5.4.2 (13) Function used to display the device step number and instruction of a program (see Section 5.3.3(10))

5.4.2 (14) Function used for switching to the program list display with a comment

This function is used to display a list read with a comment.

OPERATION EXAMPLE

BEFORE

0 LD	X000	
1 OR	M0	
2 MPS		
3 ANI	X001	
4 ANI	X002	
5 OUT	M0	
6 MPP		

AFTER

0 LD	X000	AUTO	RUN	START
1 OR	M0	IN	AUTO	RUN
2 MPS				
3 ANI	X001	AUTO	RUN	STOP
4 ANI	X002	EMERG STOP		
5 OUT	M0	IN	AUTO	RUN
6 MPP				
7 ANI	X005			
8 OUT	Y031			

To read a step number to display a list stored with comment 2:

F2 → 0 → Enter → F4 → 3 → 3 → 3

- F2: Select read in the list mode
- 0 Enter: Read step No. 0
- F4: Select an auxiliary function
- 3: Select display
- 3: Select the display switch
- 3: Select "with comment 2"

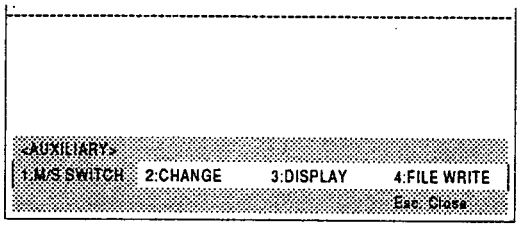
OPERATING PROCEDURE

F2 → 0 → Enter

0 LD	X000
1 OR	M0
2 MPS	
3 ANI	X001
4 ANI	X002
5 OUT	M0
6 MPP	

1 Press the [F2] key, and input a corresponding step number to read.

F4

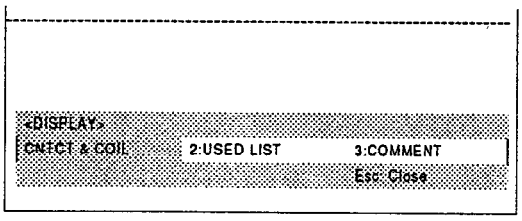


2 Press the [F4] key to Select an auxiliary function.
An auxiliary function window opens.

REMARK

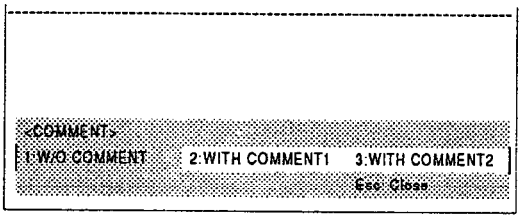
An auxiliary function can be selected by pressing a 1 to 4 key or the cursor key.

3



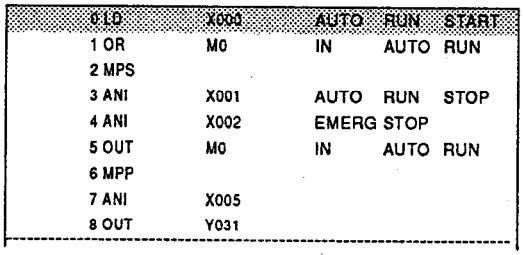
3 Select "3: DISPLAY" from the auxiliary function window.
A change window opens.

3



4 Select "3: COMMENT" from the window.
The following message is displayed.

3



5 Select the comment type to be displayed with a list.
For example, specify a "3: COMMENT 2".
Then, the comment is displayed on the screen.

REMARK

If a read function is switched to other functions (writing, insertion and deletion), it is set for display without a comment.

A display with a comment is valid only for a read function.

POINT

- **Switch the display by using the [Ctrl] key (in the ladder and list modes)**

  (1) Press the [Ctrl] + [F5] keys to switch "with/without comment 1".

  (2) Press the [Ctrl] + [F6] keys to switch "with/without comment 2".

  (3) Press the [Ctrl] + [F7] keys to switch "with/without statement".

  (The ladder block where a statement is set displays the "*" mark like a step number in the circuit diagram.)

  (4) Press the [Ctrl] + [F8] keys to switch "with/without note".

  (5) Press the [Ctrl] + [F9] keys to enable file writing.

- **Priority display of an extensive comment**

  A comment 1 and a comment 2 created by each device in the comment mode are displayed on the screen by selecting a display with a comment.

  However, an extensive comment capacity has been set, and when a comment range set in the extensive mode overlaps with a device created in a comment mode, the device comment created in an extensive comment mode is displayed.

5.4.2 (15) Function used to store data created in the list mode to the user file (see Section 2.2.2)

6. PROGRAMMING IN THE 3MICROCOMPUTER MODE

6.1 Functions Available in the Microcomputer Mode

The microcomputer mode is used to create a program by using a microcomputer command.

If a sequence program is complex, this function enables the creation of a program in the microcomputer mode and operation processing using the sequence program.

- Microcomputer mode function
  - Edit
    - Create ..... Creates a microcomputer program in internal memory .....(see Section 6.2.2).
    - Read ..... Reads hexadecimal data from internal memory .....(see Section 6.2.1).
    - Auxiliary function
      - Memory capacity setting ..... Sets the memory capacity in other than the parameter mode .....(see Section 6.2.3(1)).
      - Main/sub switching ..... Switches main/sub microcomputer programs of a PC CPU.....(see Section 6.2.3(2)).
      - File write ..... Writes created data to a file ....(see Section 2.2.2).

REMARK

(1) The microcomputer mode cannot be selected if the CPU model is an A2A, A3A, A0J2, A2U, A3U or A4U.

(2) When creating a program in the microcomputer mode, values are expressed in hexadecimal (00 to FF).

6.2 Creating a Microcomputer Program

6.2.1 Reading a program area by specifying an address

The address of the program area in internal memory is specified, and the description is read as hexadecimal data.

OPERATION EXAMPLE

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	SUM
0000	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0010	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0020	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0030	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0040	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0050	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0060	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0080	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0090	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
00A0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
00B0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
00C0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
00D0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
00E0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
00F0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
SUM	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00

To read the data of address 1000H:

F2 → 1 → 0 → 0 → 0 → Enter

Select read — Specify the address

OPERATING PROCEDURE

F2

<READ>
ADDRESS? [0000]
Esc Close

1 Select the microcomputer mode.

A dump list is displayed. Press the [F2] key to select a read function.

1 → 0 → 0 → 0 → Enter

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	SUM
1000	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
1010	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
1020	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
1030	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
1040	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
1050	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
1060	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
1070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
1080	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
1090	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
10A0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
10B0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
10C0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
10D0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
10E0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
10F0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00

2 Input the address to be read in hexadecimal, and press the [Enter] key.

The dump list begins with a multiple of 100 H (256).

Confirm whether a cursor moves to the specified address.

REMARK

The microcomputer program capacity is not set. When the microcomputer mode is selected, Microcomputer program capacity not set is displayed.

The dump list is not displayed.

ADVICE

- **Sum check**

  The sum check will executed horizontally and vertically, and the total will be checked.

- **How to scroll a dump list**

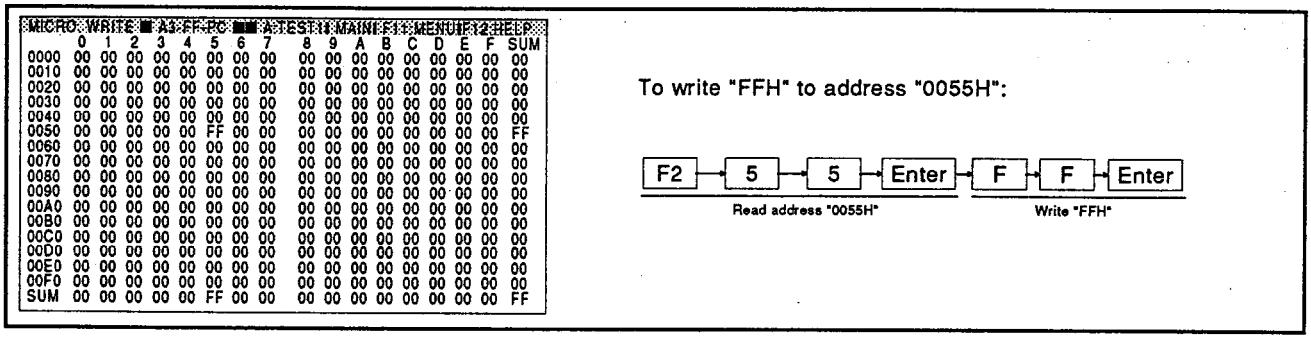
  The next page and the previous page are displayed by using the [Page Up] and [Page Down] keys.

  (1 screen is scrolled.)

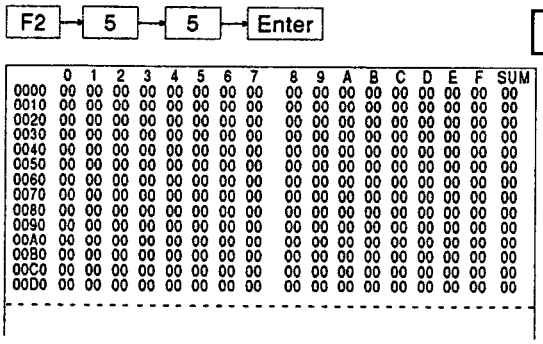
6.2.2 Writing a program in machine language

The address of the program area in internal memory is specified, and a program is created in machine language.

OPERATION EXAMPLE



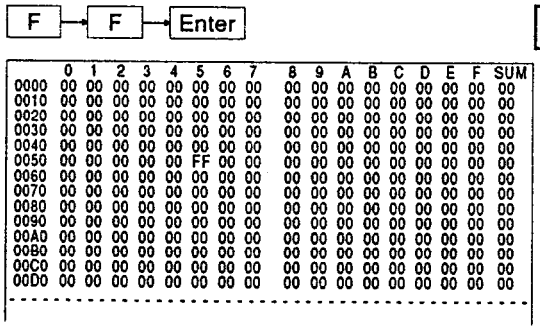
OPERATING PROCEDURE



1 Select the microcomputer mode.

Press the [F2] (read) key to read an address where data is written. The address can be specified by moving the cursor.

Confirm whether the cursor has moved to an address to be written.



2 Write (machine language) data.

Execute a sum check to confirm whether correct (machine language) data was written.

When the writing is completed, the following screen appears.

ADVICE

- **Data input position**

  Input (machine language) data on the screen.

- **Cursor movement**

  Use an arrow key to move the cursor.

  Use the [→] key to move the cursor to the front of the next line.

  Use the [←] key to move the cursor to the end of the previous line.

  If the cursor is at the top of the screen, use the [↑] key to move the cursor to the bottom of the screen.

  If the cursor is at the bottom of the screen, use the [↓] key to move the cursor to the top of the screen.

- **Changing an address**

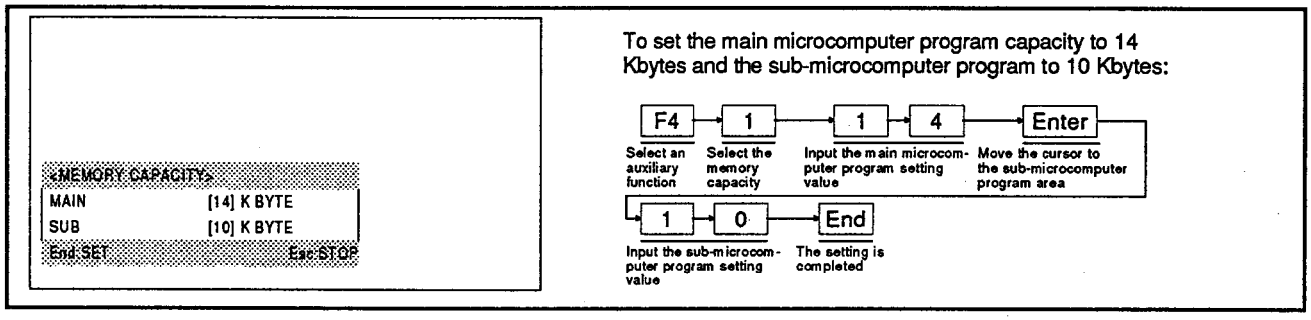
  When changing an address to write data, press the [F2] (read) key to input an address to be read, then press the [Enter] key.

6.2.3 Auxiliary functions available in the microcomputer mode

6.2.3 (1) Function used to change the memory capacity of a microcomputer program in the microcomputer mode

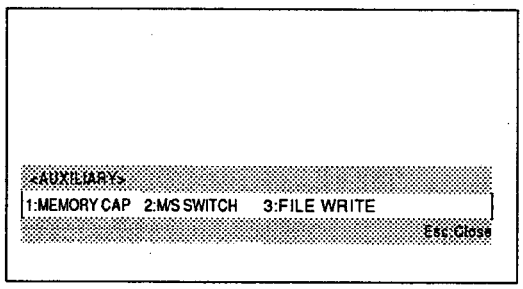
When a program is being created, and the program capacity is insufficient, the program capacity is set except in the parameter mode.

OPERATION EXAMPLE



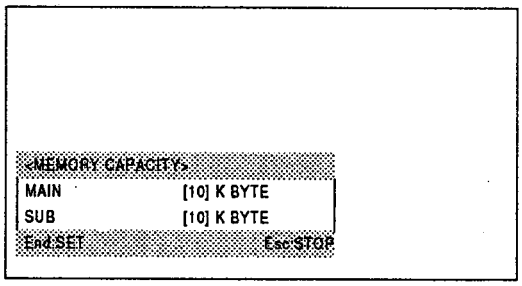
OPERATING PROCEDURE

F4



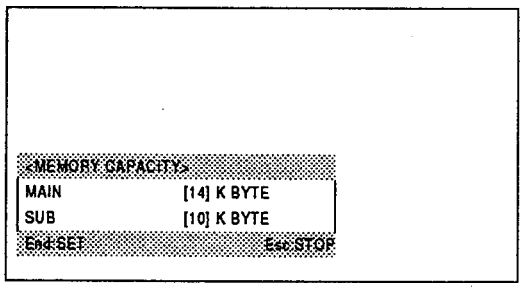
1 Press the [F4] key to open the auxiliary function selection window.

1



2 Select "1: MEMORY CAP." from the auxiliary function. Then, the memory capacity setting window opens.

1 → 4 → Enter → 1 → 0



3 Input a main/sub-microcomputer program capacity to set or change it.

The main microcomputer program capacity can be set without setting a sub-microcomputer program. Likewise, a sub-microcomputer program capacity can be set without setting the main microcomputer program.

End

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	SUM
0000	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0010	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0020	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0030	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0040	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0050	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0060	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0080	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0090	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
00A0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
00B0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
00C0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
00D0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
00E0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
00F0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
SUM	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00

4 Confirm the setting, and press the [End] key to complete the memory capacity setting.

REMARK

(1) The set memory capacity is set to the memory capacity of the parameter mode.

(2) When the memory capacity setting is completed, a dump list is displayed from address "000H".

POINT

- **Condition for executing the memory capacity setting of an auxiliary function**

  Set the sub-microcomputer program capacity to a capacity greater than 2K bytes in the parameter mode before setting or changing.

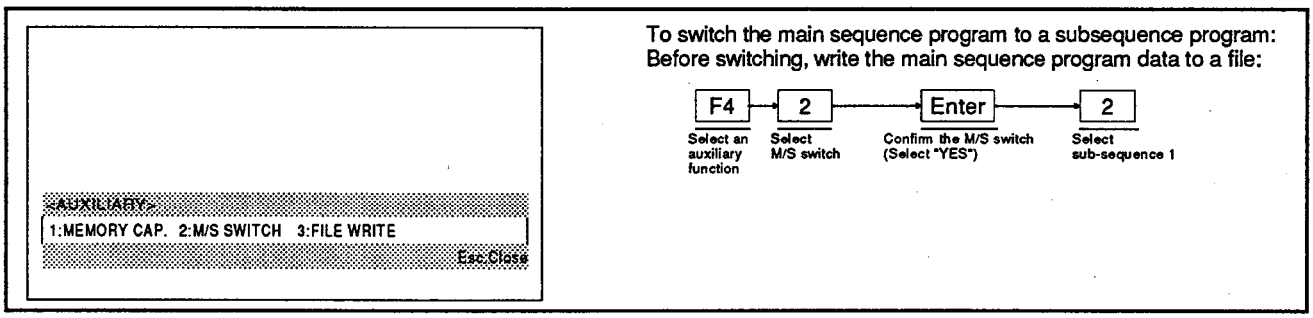
PC models	A0J	A0H	A1S	A1	A2	A2C	A3	A3H	A2A	A3A	A2U	A3U	A4U
	X	X	X	X	X	X	O	O	X	X	X	X	X

6.2.3 (2) Switching main/sub microcomputer programs in the microcomputer mode

This function is used to switch a program to a sub-microcomputer program from the main microcomputer program in order to read a sub-microcomputer program when operating the main microcomputer program in the microcomputer mode.

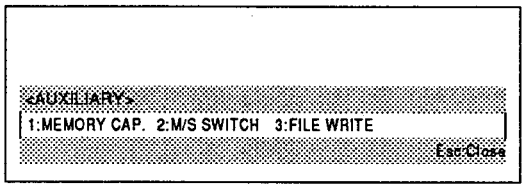
Likewise, a program can be switched to the main microcomputer program from a sub-microcomputer program in order to read the main microcomputer program when operating a sub-microcomputer program.

OPERATION EXAMPLE



OPERATING PROCEDURE

F4

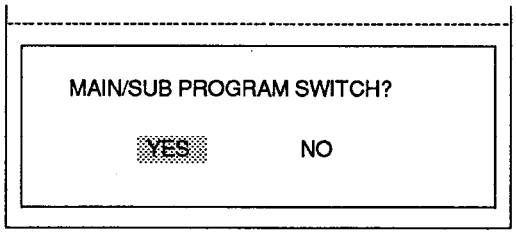


1 Select an auxiliary function. The auxiliary function window opens as shown.

REMARK

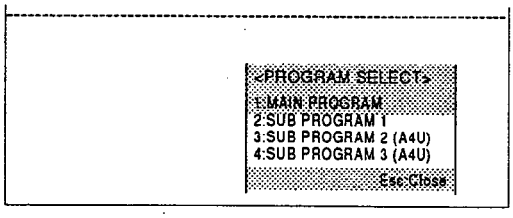
The auxiliary function can be selected by pressing a 1 – 3 key or moving the cursor key.

2



2 Select 2 (M/S SWITCH). "MAIN/SUB PROGRAM SWITCH?" is displayed.

Enter → Enter → Enter



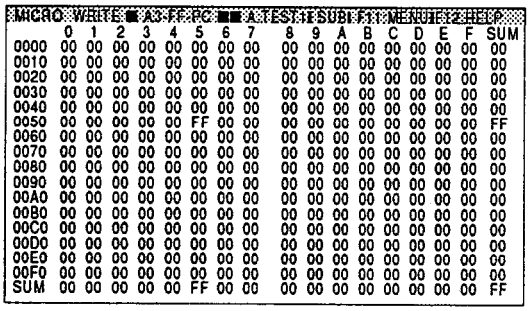
3 Select "YES" to display the program selection screen.

Select the microcomputer program to be switched to on the program selection screen. As an example, switch to the sub microcomputer program display.

REMARK

SUB PROGRAM 2 and SUB PROGRAM 3 cannot be selected in the microcomputer program M/S switching operation.

2



4 Switch the displayed screen from the main microcomputer program to the sub microcomputer program.

Switching is completed when, as shown to the left, the M/S switching display on the top line of the screen changes.

POINT

- **When there is not a program to be switched**

  If the file (the file in which a sub-microcomputer program is stored) of a sub-microcomputer program does not have a program, even if file writing before switching it is selected, then the screen is switched to the writing mode of a sub-microcomputer program (when switching it from the main microcomputer program to a sub-microcomputer program). If the file of a sub-microcomputer program does have a program, the list of the sub-microcomputer program is displayed from step 0000H

- **Display when switching**

  When a sub-microcomputer program is switched to the main microcomputer program, data of the main microcomputer program is displayed from address "000H".

- **File writing before switching**

  When M/S switching is done without doing file writing after correcting the main microcomputer program (or sub-microcomputer program), data corrected with the main microcomputer program (or sub-microcomputer program) is cleared.

6.2.3 (3) Function used to store data created in the microcomputer mode to the user file (See Section 2.2.2)

7. PARAMETER MODE SETTING

When the GPP function is used, set the parameter before selecting the mode. In the parameter setting, the function that can properly work for the CPU is selected and the applicable device range is determined.

This section describes how to set parameters. (The user's manual and programming manual of the CPU module utilized give details on how to find the values to be set as the parameters.)

7.1 Parameter Mode Functions

The following functions are available in the parameter mode.

- Parameter mode function
  - Memory capacity setting
    - Program capacity ..... Sets the capacity of sequence programs and microcomputer programs. .....(see Section 7.2)
    - Comment capacity ..... Sets the capacity of comments to be used in sequence programs. .....(see Section 7.2)
    - Extension comment capacity ..... Sets the capacity of comments to be used in sequence programs. .....(see Section 7.2)
    - File register capacity ..... Sets the number of file register points. .....(see Section 7.2)
    - Sampling trace ..... Used to determine if the sampling trace is executed. .....(see Section 7.2)
    - Status latch ..... Used to determine if the status latch for each memory is executed. .....(see Section 7.2)
  - Latch range setting ..... Specifies the latch range of devices M, B, T, C, and D. .....(see Section 7.3)
  - Network/Link setting
    - (Other than AnUCPU)
      - Link setting ..... Setting the number of link stations, inputs, outputs, link relays, link registers, and WDT. .....(see Section 7.4)
    - (AnUCPU)
      - Data link parameter setting ..... Setting the various parameters for configuring a network system. .....(see Section 7.5)
        - Number of modules setting ..... Setting the number of network modules, the head I/O number, the network module model, and the network No. ..... (see Section 7.5.1)
        - Network refresh parameter setting ..... Establishing the correspondence between the CPU link devices and link module link devices. ..... (see Section 7.5.2)
        - MELSECNET II setting ..... Setting the number of link stations, inputs, outputs, link devices, and WDT. ..... (see Section 7.5.3)
        - Common/remote I/O parameter setting ..... Setting the total number of link stations, WDT, and link device transmission range. ..... (see Section 7.5.4)
        - Setting station specific parameters ..... Setting allocations for additional link devices without changing the program . ..... (see Section 7.5.5)
        - I/O allocations ..... System I/O allocations for MELSECNET/10 remote I/O stations (set in 0, 16, 32, 48, or 64 point units, including vacant slots). ..... (see Section 7.5.6)
        - Transfer parameters for data link ..... Setting the link device send/receive range for communication between networks. ..... (see Section 7.5.7)
        - Network parameter selection ..... Confirming and selecting network parameter setting statuses. ..... (see Section 7.5.8)
      - Routing parameter setting ..... Setting the transmission route for transient transmission in a multi-tier network. ..... (see Section 7.5.9)
  - I/O allocation ..... Allocates inputs and outputs on the system (the allocation unit must be selected from 0, 16, 32, 48, or 64 bits) and registers the module model name. .....(see Section 7.6)

Auxiliary	Step relay setting	Sets the step relay range setting.	(see Sections 7.7.1 and 7.7.2 (1))
	Watchdog timer setting	Sets the watchdog timer (available only for the A0J2H, A1, A2, or A3CPU).	(see Section 7.7.2 (6))
	Timer setting	Sets the ranges of the 100 msec (low speed), 10 msec (high speed), and 100 msec(retentive) timers.	(see Sections 7.7.2 (2) and 7.7.4 (2))
	Interrupt counter setting	Sets the range of the counter used in interrupt programs.	(see Sections 7.7.2 (5) and 7.7.4 (5))
	Counter setting	Sets the number of counters to be used (available only for the AnA or AnU).	(see Section 7.7.4 (6))
	RUN-PAUSE setting	Sets the RUN-PAUSE contact point.	(see Section 7.7.2 (3))
	Operation mode when an error occurs	Sets the operation mode (stop or continue) when such events as a blown fuse and operation, I/O module verification, function, and module operation errors occur.	(see Section 7.7.2 (7))
	Annunciator indication mode	Used to determine if the annunciator indicator is working.	(see Section 7.7.2 (8))
	STOP - RUN output mode	Sets the output status when the CPU switches from STOP to RUN.	(see Section 7.7.2 (4))
	I/O control setting	Sets the input/output control mode (available only for the A3HCPU).	(see Section 7.7.2 (9))
	Remote I/O / remote terminal setting	Sets the operation contents and communication method of the remote input/output and remote terminal (available only for the A2CCPU).	(see Section 7.7.3 (7))
	MELSECNET/MINI automatic refresh setting	Used for automatic input/output refreshing in the MELSECNET/MINI.	(see Section 7.7.4 (9))
All clear	Parameter all clear	Resets the parameter data registered in internal memory to the default data. (AnUCPU)	(see Section 7.8)
Network parameter write		Writes the set network parameter data to a file (AnUCPU).	(Section 2.2.2)
File write		Writes the set parameter data to the file. (models other than AnUCPU)	(see Section 2.2.2)

IMPORTANT

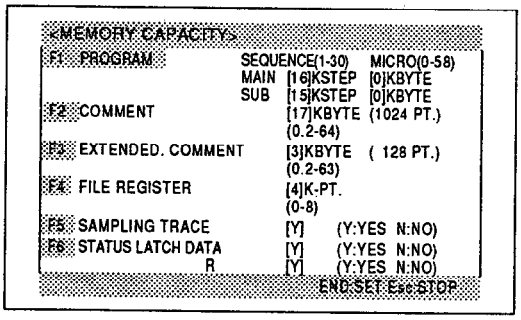
- In the parameter mode, be sure to press the [End] key to complete a setting.

  If another operation screen is called without doing the above-mentioned operation, the set data will be aborted.

7.2 Setting of the Memory Capacity for Creating Programs and Writing Comments

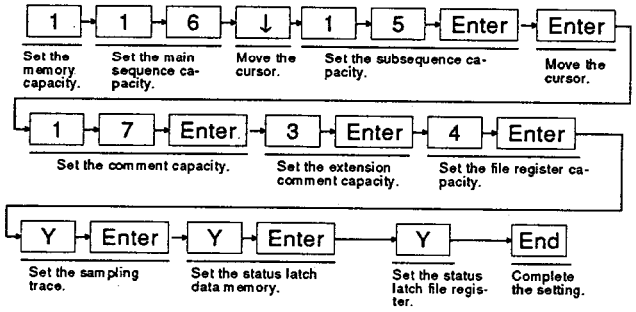
This section describes how to set the capacity of sequence programs and microcomputer programs in the main program and sub program areas, the comment capacity, the extension comment capacity, and the file register capacity, and how to determine if the sampling trace and the status latch are executed.

OPERATION EXAMPLE



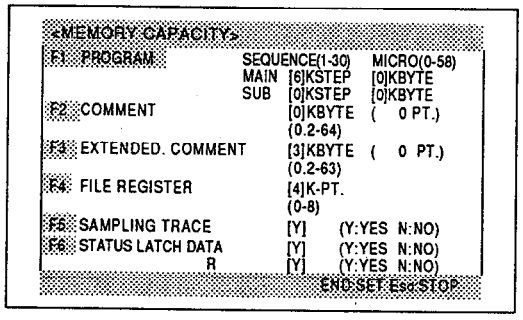
To set the program capacity (main sequence: 16K steps, sub-sequence: 15K steps, microcomputer: 0 for main and sub respectively), comment capacity (1024 points), extension comment capacity (128 points), file register capacity (4K points), sampling trace (YES), status latch (both data memory and file register are set to YES),

(when an A0J2H, A1S, A2C, A2N(F), A3N(F), A3V, A73, A3H, or A3MCPU is used):



OPERATING PROCEDURE

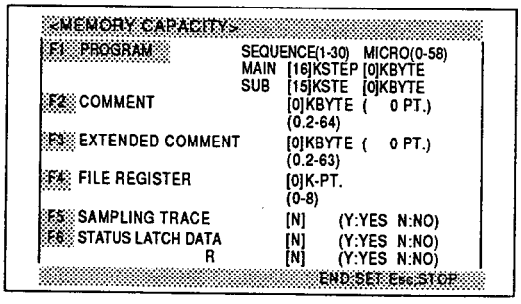
1



1 Select "1: MEMORY CAPACITY" from the parameter menu window.

The memory capacity setting window opens.

1 → 6 → ↓ → 1 → 5 → Enter → Enter



2 Set the program capacity.

Press the [Enter] key to go on to the next page.

Use the [→], [←], [↓], or [↑] keys to move the cursor between the fields.

Set the parameters in the corresponding fields.

In the case of an AnUCPU, since the setting capacity for the network parameters (see Section 7.5) takes up some of the main program area, the main program capacities that can be set are those indicated in the table below.

PC model	Settable main program capacity (K steps)
A2U	Maximum of 14
A3U, A4U	Maximum of 30 – (network parameter capacity* (Kbytes) ÷ 2)

* The network parameter capacity is set in the range 0 to 16 Kbytes depending on the setting capacity.

REMARKS

(1) To set the microcomputer capacity, the sequence program capacity needs 1K steps or more.
(2) Sequence program capacity is set by 1K steps. Microcomputer program capacity is set by 2K bytes.
1K steps = 2K bytes.

1 → 7 → Enter

```
<MEMORY CAPACITY>
F1 PROGRAM          SEQUENCE(1-30)   MICRO(0-58)
                    MAIN [16]KSTEP   [0]KBYTE
                    SUB  [15]KSTEP   [0]KBYTE
F2 COMMENT          [17]KBYTE (1024 PT.)
                    (0.2-64)
F3 EXTENDED COMMENT [0]KBYTE  (   0 PT.)
                    (0.2-63)
F4 FILE REGISTER    [0]K-PT.
                    (0-8)
F5 SAMPLING TRACE   [N]      (Y:YES N:NO)
F6 STATUS LATCH DATA [N]     (Y:YES N:NO)
                R   [N]      (Y:YES N:NO)
                                END:SET Esc:STOP
```

3 Set the comment capacity.

The allowable comment capacity ranges from 0 to 64K bytes.

It is set in units of 1K bytes. The capacity can be set to 0, or 2 to 64K bytes.

When the capacity is set, the number of comments is automatically calculated and displayed in parentheses to the right of the input field.

REMARK

$$\text{Necessary byte length} = \frac{\text{Number of comments}}{64} + 1 \text{ (k bytes)}$$

Use the above formula to find the set value.
If the calculation involves a decimal, round off the value to an integral number.

3 → Enter

```
<MEMORY CAPACITY>
F1 PROGRAM          SEQUENCE(1-30)   MICRO(0-58)
                    MAIN [16]KSTEP   [0]KBYTE
                    SUB  [15]KSTEP   [0]KBYTE
F2 COMMENT          [17]KBYTE (1024 PT.)
                    (0.2-64)
F3 EXTENDED COMMENT [0]KBYTE  ( 128 PT.)
                    (0.2-63)
F4 FILE REGISTER    [0]K-PT.
                    (0-8)
F5 SAMPLING TRACE   [N]      (Y:YES N:NO)
F6 STATUS LATCH DATA [N]     (Y:YES N:NO)
                R   [N]      (Y:YES N:NO)
                                END:SET Esc:STOP
```

4 Set the extension comment capacity. (extension comment 1)

The capacity can be set to either 0, or 2 to 63K bytes. It is set in units of 1K bytes.

When the capacity is set, the number of comments is automatically calculated and displayed in parentheses to the right of the input field.

REMARK

- The necessary byte length can be found in the same way as indicated above.

- Comment capacity setting for extension comments 2 to 4 is not necessary.

4 → Enter

```
<MEMORY CAPACITY>
F1 PROGRAM          SEQUENCE(1-30)   MICRO(0-58)
                    MAIN  [16]KSTEP  [0]KBYTE
                    SUB   [15]KSTEP  [0]KBYTE
F2 COMMENT                [17]KBYTE  (1024 PT.)
                          (0.2-64)
F3 EXTENDED COMMENT       [0]KBYTE   ( 128 PT.)
                          (0.2-63)
F4 FILE REGISTER          [0]K-PT.
                          (0-8)
F5 SAMPLING TRACE         [N]        (Y:YES N:NO)
F6 STATUS LATCH DATA      [N]        (Y:YES N:NO)
                R         [N]        (Y:YES N:NO)
                                END:SET Esc:STOP
```

5 Set the file register capacity.

The capacity is set in units of 1K points.

1K points correspond to 1024 points of file registers.

REMARK

PC Models	Capacity
A0J2H, A1S	4K points (Max.4096 points)
A2C	
A2N(F)	
A3N(F), A3V, A73	8K points (Max.8192 points)
A3H, A3M	
A2A, A3A	
A2U, A2US, A3U, A4U	

Y → Enter

```
<MEMORY CAPACITY>
F1 PROGRAM          SEQUENCE(1-30)   MICRO(0-58)
                    MAIN  [16]KSTEP  [0]KBYTE
                    SUB   [15]KSTEP  [0]KBYTE
F2 COMMENT                [17]KBYTE  (1024 PT.)
                          (0.2-64)
F3 EXTENDED. COMMENT      [3]KBYTE   ( 128 PT.)
                          (0.2-63)
F4 FILE REGISTER          [4]K-PT.
                          (0-8)
F5 SAMPLING TRACE         [Y]        (Y:YES N:NO)
F6 STATUS LATCH DATA      [N]        (Y:YES N:NO)
                R         [N]        (Y:YES N:NO)
                                END:SET Esc:STOP
```

6 Determine if the sampling trace is executed.

Select Y (YES) to execute it.

The default value is set to N (NO).

Y → Enter → Y

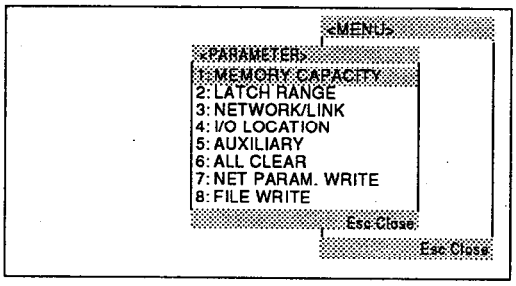
```
<MEMORY CAPACITY>
F1 PROGRAM          SEQUENCE(1-30)   MICRO(0-58)
                    MAIN  [16]KSTEP  [0]KBYTE
                    SUB   [15]KSTEP  [0]KBYTE
F2 COMMENT                [17]KBYTE  (1024 PT.)
                          (0.2-64)
F3 EXTENDED COMMENT       [3]KBYTE   ( 128 PT.)
                          (0.2-63)
F4 FILE REGISTER          [4]K-PT.
                          (0-8)
F5 SAMPLING TRACE         [Y]        (Y:YES N:NO)
F6 STATUS LATCH DATA      [Y]        (Y:YES N:NO)
                R         [Y]        (Y:YES N:NO)
                                END:SET Esc:STOP
```

7 Determine if the status latch is executed for the data memory and file register memory.

Select Y (YES) to execute it.

The default value is set to N (NO).

End



8 Press the [End] key to complete the memory capacity setting.

The window closes. The parameter menu appears; or

Press the [Esc] key to cancel the setting (the set contents are aborted).

REMARK

When all items are set, pressing the [Enter] key moves the cursor to the next item.
When some items are set, the items not to be set are skipped by pressing the [F1], [F2], [F3], [F4], [F5], or [F6] key.

POINT

- **A0J2CPU program capacity setting**

  The A0J2CPU uses all memory areas but the sequence program capacity as microcomputer areas.

  However, the microcomputer area is supported by a utility software package.

- **0 setting for subprogram capacity**

  It is not possible to set the capacity of a subprogram that is currently being edited to "0".

  To set a subprogram capacity to 0, make the setting when editing a program other than the subprogram whose capacity is to be set to "0".

- **Precautions when doing comment capacity setting**

  (1) In internal memory, any CPU can set the comment capacity to 64K bytes and create a 4032-point comment on any CPU.

  But the A0J2CPU can register only a 95-point comment data of F0 to F94. The A1(N)CPU can register only a 128-point comment of F0 to F127.

  (2) In internal memory, any CPU can set the extension comment capacity to 63K bytes and create a 3968-point comment on any CPU.

  Only the AnA, AnUCPU can be registered to the CPU.

ADVICE

- **Window**

  The values in parentheses indicates the allowable setting range.
  The figures in the square brackets [ ] are set values.

  The default values appear on the initial screen.

- **The window indication varies for each CPU**

  The window indication depends on the model of CPU used.

  Operation examples when the A3(N), A3V, A73, A3H, or A3MCPU is used.

  (1) When an A2(N)/A0J2H/A1S/A2CCPU is used:

```
<MEMORY CAPACITY>
F1 PROGRAM          SEQUENCE(1-8)    MICRO(0-14)
                    MAIN [6]KSTEP    [0]KBYTE
F2 COMMENT                [0]KBYTE   (   0 PT.)
                          (0.2-64)
F3 EXTENDED COMMENT       [0]KBYTE   (   0 PT.)
                          (0.2-63)
F4 FILE REGISTER          [4]K-PT.
                          (0-4)
F5 SAMPLING TRACE         [N]        (Y:YES  N:NO)
F6 STATUS LATCH DATA      [N]        (Y:YES  N:NO)
                R         [N]        (Y:YES  N:NO)
                                END:SET Esc:STOP
```

  (2) When an A1CPU is used:

```
<MEMORY CAPACITY>
F1 PROGRAM          SEQUENCE(1-6)    MICRO(0-10)
                    MAIN [6]KSTEP    [0]KBYTE
F2 COMMENT                [0]KBYTE   (   0 PT.)
                          (0.2-64)
F3 EXTENDED COMMENT       [0]KBYTE   (   0 PT.)
                          (0.2-63)
                                END:SET Esc:STOP
```

  (3) When an A0J2CPU is used:

```
<MEMORY CAPACITY>
F1 PROGRAM          SEQUENCE         MICRO
                    MAIN [3]KSTEP    NO
                         (1-7)
F2 COMMENT                [0]KBYTE   (   0 PT.)
                          (0.2-64)
F3 EXTENDED COMMENT       [0]KBYTE   (   0 PT.)
                          (0.2-63)
                                END:SET Esc:STOP
```

  (4) When an AnA/AnU CPU is used (other than A4UCPU):

```
<MEMORY CAPACITY>
F1 PROGRAM          SEQUENCE(1-14)   MICRO
                    MAIN [6]KSTEP    [0]KBYTE
F2 COMMENT                [0]KBYTE   (   0 PT.)
                          (0.2-64)
F3 EXTENDED COMMENT       [0]KBYTE   (   0 PT.)
                          (0.2-63)
F4 FILE REGISTER          [0]K-PT.
                          (0-8)
                                END:SET Esc:STOP
```

  (5) When an A4UCPU is used:

```
<MEMORY CAPACITY>
F1 PROGRAM          SEQUENCE(1-30)   MICRO(0-58)
     MAIN (MAX30)   [ 6]KSTEP        [ 0]KBYTE
     SUB 1          [ 0]KSTEP
     SUB 2          [ 0]KSTEP
     SUB 3          [ 0]KSTEP
F2 COMMENT          [ 0]KBYTE   (   0 PT.)
                    (0.2-64)
F3 EXTENDED COMMENT [ 0]KBYTE   (   0 PT.)
                    (0.2-63)
F4 FILE REGISTER    [ 0]K-PT.
                    (0-8)
                                END:SET Esc:CLOSE
```

- **Setting data clear**

  Press the [F10] key.

  "SET PARAMETER TO DEFAULT VALUES? YES/NO" appears on the display screen.

  Select "YES" to reset the parameter setting data in the memory capacity setting to the default data.

IMPORTANT

- **A0J2CPU setting data**

  If the microcomputer area contains a utility software package (SW0C-UTLP), "YES" will appear in the microcomputer column.

  If the sequence program capacity is changed while "YES" appears on the display, the utility software data will be destroyed.

  If this happens, the utility data must be rewritten.

- **Note on setting the extension comment capacity for an AnA or AnUCPU**

  When the PC model is AnA/AnU, the set extension comment capacity is included in the total memory capacity for parameters.
  If the PC model is other than AnA/AnU, the set extension comment capacity is not included in the memory capacity for parameters and is allocated to the capacity of the internal memory of the peripheral device.

Reference | Setting ranges and default values

Setting ranges and memory capacity default values are shown below.

Setting range and items differ in PC models.

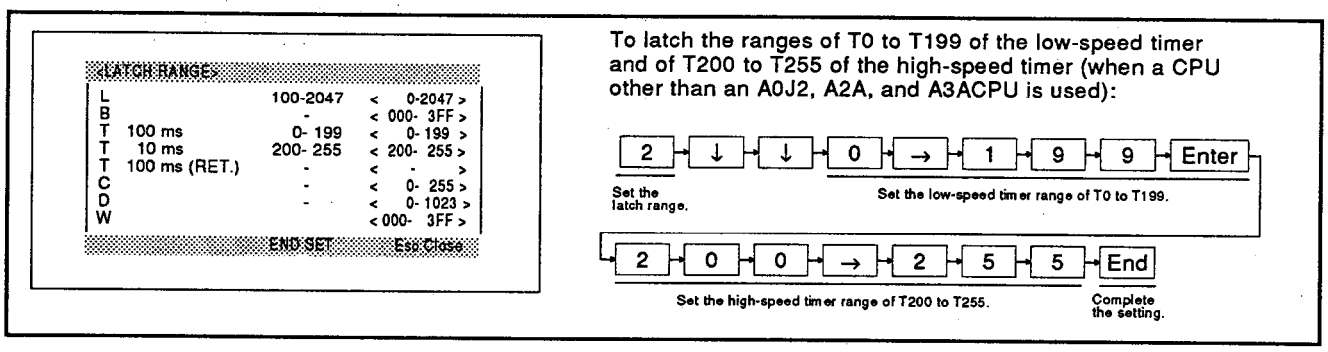
Item		PC Models	A0J2	A1N(F)	A2N(F)	A3N(F) A3V A73	A3H A3M	A0J2H A1S A1SJ	A2C A2CJ A52G	A2A A2U A2US	A3A A3U	A4U
Main	Sequence	Setting ranges	1 to 7K steps	1 to 6K steps	1 to 14K steps	1 to 30K steps		1 to 8K steps		1 to 14K steps	1 to 30K steps	
		Default values	3K steps	6K steps	6K steps	6K steps		6K steps		6K steps	6K steps	
	Microcomputer	Setting ranges	—	0 to 10K bytes	0 to 26K bytes	0 to 58K bytes		0 to 14K bytes		0 to 26K bytes	0 to 58K bytes	
		Default values	Unavailable	0K bytes	0K bytes	0K bytes		0K bytes		0K bytes	0K bytes	
Sub	Sequence	Setting ranges	—			0 to 30K bytes		—			0 to 30K steps	0 to 30K steps × 3
		Default values	—			0K step		—			0K step	0K step
	Microcomputer	Setting ranges	—			0 to 58K bytes		—				
		Default values	—			0K bytes		—				
File register		Setting ranges	—		0 to 4K points (Max.4096 points)	0 to 8K points (Max.8192 points)		0 to 4K points (Max.4096 points)		0 to 8K points (Max.8192 points)		
		Default values	—		0K points	0K points		0K points		0K points		
Comment		Setting ranges	0.2 to 64K bytes (Max.4032 points)		0.2 to 64K bytes (Max.4096 points)							
		Default values	64K bytes		0K byte							
Extension comment		Setting ranges	0.2 to 63K bytes (Max.3968 points)									
		Default values	0K bytes									
Sampling trace		Setting ranges	—	Y/N						* —		
		Default values	—	N						* —		
Status latch	Device memory	Setting ranges	—	Y/N						* —		
		Default values	—	N						* —		
	File register	Setting ranges	—	Y/N						* —		
		Default values	—	N						* —		

* The AnA/AnUCPU status latch and sampling trace are set in the online mode.

7.3 Setting the Device Range to be Latched

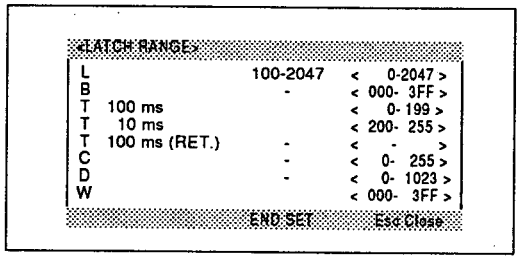
This section describes how to set the latch ranges to be applied to the internal relay (M), link relay (B), timer (T), counter (C), data register (D), link register (W), etc.

OPERATION EXAMPLE



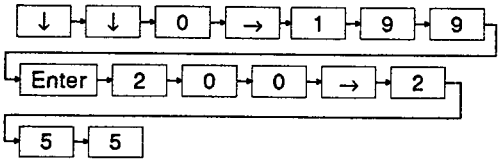
OPERATING PROCEDURE

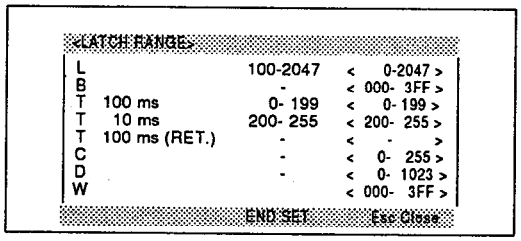
2



1 Select "2: LATCH RANGE" from the parameter window.

The latch setting window opens.





2 Move the cursor to the device to be set.

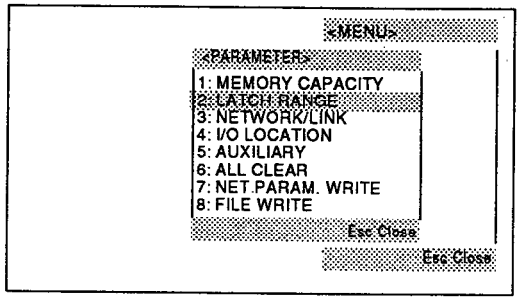
Type a number in the latch-starting number field.

Press the [→] or [Enter] key.

Type a number in the last latch number field.

To delete the setting range, move the cursor to the corresponding item and press the [Delete] key.

End



3 Press the [Enter] key to complete the setting.

The window closes.

The parameter menu re-appears; or

Press the [Esc] key to cancel the setting (the set data is aborted).

ADVICE

- **When an AnA/AnUCPU is used:**

  The timer setting range is divided into two parts:

  The two ranges of T0 to T255 and T256 to T2047 are applied to the timer. The ranges of C0 to C255 and C256 to C1023 are applied to the counter.

```
<LATCH RANGE>
L                    1000-2047   <   0-8191 >
B                                <  000- FFF >
T  100 ms            -           <   0- 199 >
T   10 ms            -           <  200 - 255 >
T  100 ms (RET.)     -           <   -      >
C                    -           <   0- 255 >
D                    -           <   0- 6143 >
W                    -           <  000- FFF >
T  100 ms            -           <   -      >
T  10 ms             -           <   -      >
T  100 ms(RET.)      -           <   -      >
C                    -
                 END SET          Esc Close
```

  For an AnUCPU, the setting ranges for B, W, and D devices are as follows:
  B/W: <000 - 1FFF> D: <0 - 8191>

- **Set data clear**

  Press the [F10] key.

  "SET PARAMETER TO DEFAULT VALUES? YES/NO" appears.

  Select "YES" to reset the parameter setting data to the default data.

- **When an A0J2CPU is used**

  (1) The latch range can be set for the following devices.

  1) Internal relay: M0 to M2047 (the latch range is set in field (L).
  2) Link relay: B0 to 3FF
  3) Timer
     Low-speed (100 msec) timer: T0 to T79
     High-speed (10 msec) timer: T80 to T119
     Retentive timer: T120 to T127
  4) Counter : C0 to C127
  5) Data register : D0 to D511
  6) Link register : W0 to 3FF

  (2) Set the latch range as follows:

  1) No latch : No devices are latched.
  2) 1/2 latch : Only the latter half of each device is latched.
  3) All latch : All devices are latched.

  (3) The default value is 1/2.

  (4) The latch range is set by using the [F1], [F2], or [F3] key.

  The latch range of each device is automatically displayed.

  (5) When the latch range of the step relay (S) is set by using the parameters (auxiliary function).

  Selecting "no latch" results in no devices being latched;

  Selecting "1/2 latch" or "all latch" results in devices S1536 to S2047 being latched.

  (6) Press the [End] key to complete the setting. The parameter menu reappears.

POINT

- **Relationship between the latch relay (L) and the step relay (S)**

  If the ranges of the latch relay and the step relay overlap, the most recent set data will be valid.

- **Relationship between the timer setting and the latch range**

  (1) After setting the ranges of the 10 msec, 100 msec, and retentive timers using the parameter auxiliary, the timer latch range must be set.

  If the setting data is outside the range set in the timer setting mode, the "DEVICE NUMBER OUT OF RANGE" message will appear.

  Be sure to confirm the allowable setting range in parentheses.

  (2) When the setting range is changed in the timer setting mode after executing the latch range setting, the latch setting data will be forced to be inside the allowable range.

PC models	A0J	A0H	A1S	A1	A2	A2C	A3	A3H	A2A	A3A	A2U	A3U	A4U
	X	O	O	O	O	O	O	O	O	O	X	X	X

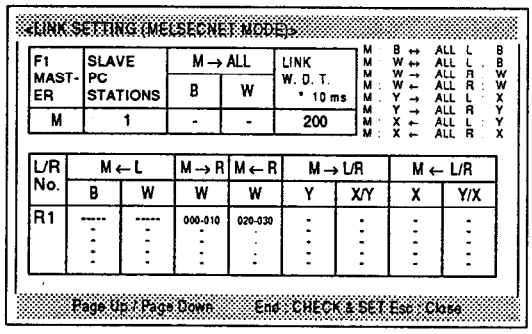
7.4 Setting Communications Contents for Each Station When a Link System is Used

Sets communications contents of the master station (M) and remote I/O station (R) when a link system is used.

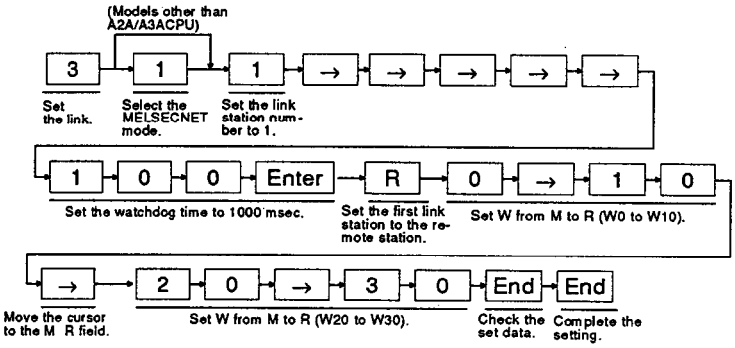
7.4.1 Setting link when the MELSECNET mode is selected

Sets communications contents of the master (M) and remote (R) station/local station (L) before using the link system.

OPERATION EXAMPLE

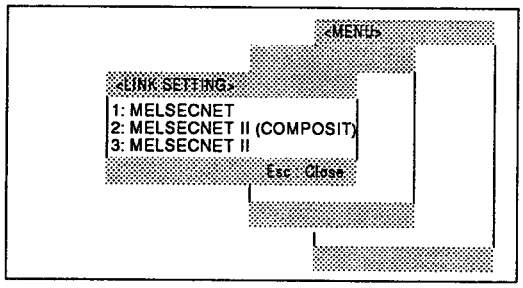


To set the link station to 1, watchdog time to 1000 msec, W (from M to R) to W0 through W10, and W (from R to M) to W20 through W30 respectively:



OPERATING PROCEDURE

3



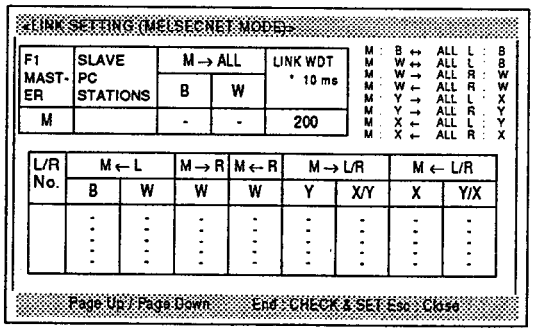
1 Select "3: NETWORK/LINK" from the parameter menu window.

If an A2A/A3ACPU is used as the CPU, the network setting window opens.

In this case, type 1 (MELSECNET mode).

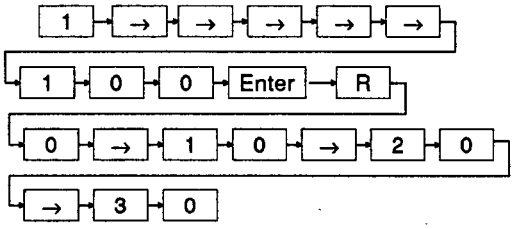
When the CPU used is not an A2A/A3ACPU, this window does not appear (the link setting window opens).

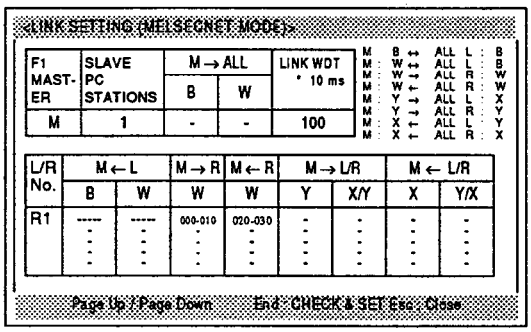
1



2 Select the MELSECNET mode (available for the A2A/A3ACPU).

The link setting window opens.





3 Sets the link ranges from the total number of link stations.

Move the cursor as described below.

1) [←] and [→]:

   Used for moving the cursor left and right.

2) [↑] and [↓]:

   Used for moving the cursor up and down (only when the cursor is located in the columns of L/R Nos.).

3) [Enter]:

   Used for completing the setting on each line and moving the cursor to the beginning of the next line.

   When the remote I/O (R) or local station data input on each line in the columns of L/R Nos. is completed, the input data is checked.

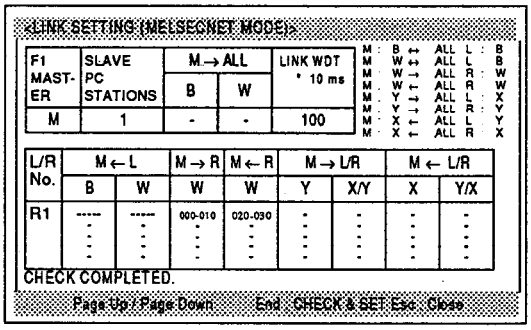
   When the input data is correct, the cursor goes to the beginning of the next line.

   If an error exists in the input data, an error message will appear and the cursor will flash at the field where the error is.

4) [F1]:

   Used for moving the cursor to the setting field of the total number of stations to be linked.

End



4 When data for all stations to be linked is set, press the [End] key to complete the setting.

While "Under checking" is displayed, the set data is checked.

End

5 If there are no errors in the data, "CHECK COMPLETED" appears.

Press the [End] key to register the data to the parameter area.

If an error exists in the data located in the L/R No columns, the field containing the error will be highlighted.

If this happens, input correct data, and press the [End] key.

ADVICE

- **Data input for more than five station**

  Data input for up to 5 stations can be done on the screen. If data input for more than five stations is done, press the [↓] or [Page Down] key after inputting the fifth station data.

  Press the [Page Up] key to return to the previous page.

- **Other error checks to set the link**

  1) When the [Enter] key is pressed to set the local station:* Checks if the total number of bytes of W and B from L to M exceeds 1024.

  2) When the [Enter] key is pressed to set the remote station

     Checks if the total number of bytes of W and Y from M to R and of W and X from R to exceeds 512.

     The following checks are common in items 1) and 2).

     Check if the remote I/O stations are not numbered from 0.

     Check if the number of master station devices is not the same as remote I/O device.

  3) When the [End] key is pressed:

     - There is a station for which L/R specification is not set.
     - The total number of bytes of B, W, and Y from M to all L is 1024 or more.
     - B and W between M and all L overlaps with B and W between M and all R in addresses 0 to 7FF.
     - There is a remote I/O station for which slot allocation has not been done after completing the I/O allocation in the link setting;

       In the link setting, the last I/O number of the last-numbered remote station is not the same as the last number set in the I/O allocation;

       Any of these items must be corrected and rechecked.

REMARK

A point of W equals two bytes. With regard to B, X, and Y, 16 points are equal to two bytes.

- **Insertion and deletion of station number**

  When the system configuration is changed, a station number can be inserted and deleted.

  How to insert/delete a station number is described below.

  1) Press the [Insert] key in the L/R No. setting column to insert a station number on the line where the cursor is located.

     The total number of stations to be linked increases by one.

  2) Press the [Delete] key in the L/R No. setting column to delete a station number on the line where the cursor is located.

     The total number of stations to be linked decreases by one.

     When the setting data is changed in the last part of the L/R No. setting columns:

     Return to the first half;

     Complete the setting of the first half;

     Press the [F8] key to return to the latter half; and

     Change the data of the latter half.

  3) Be sure to press the [End] key to complete the insertion/deletion.

     If another operation screen is called without pressing the [End] key, the changed data will be aborted.

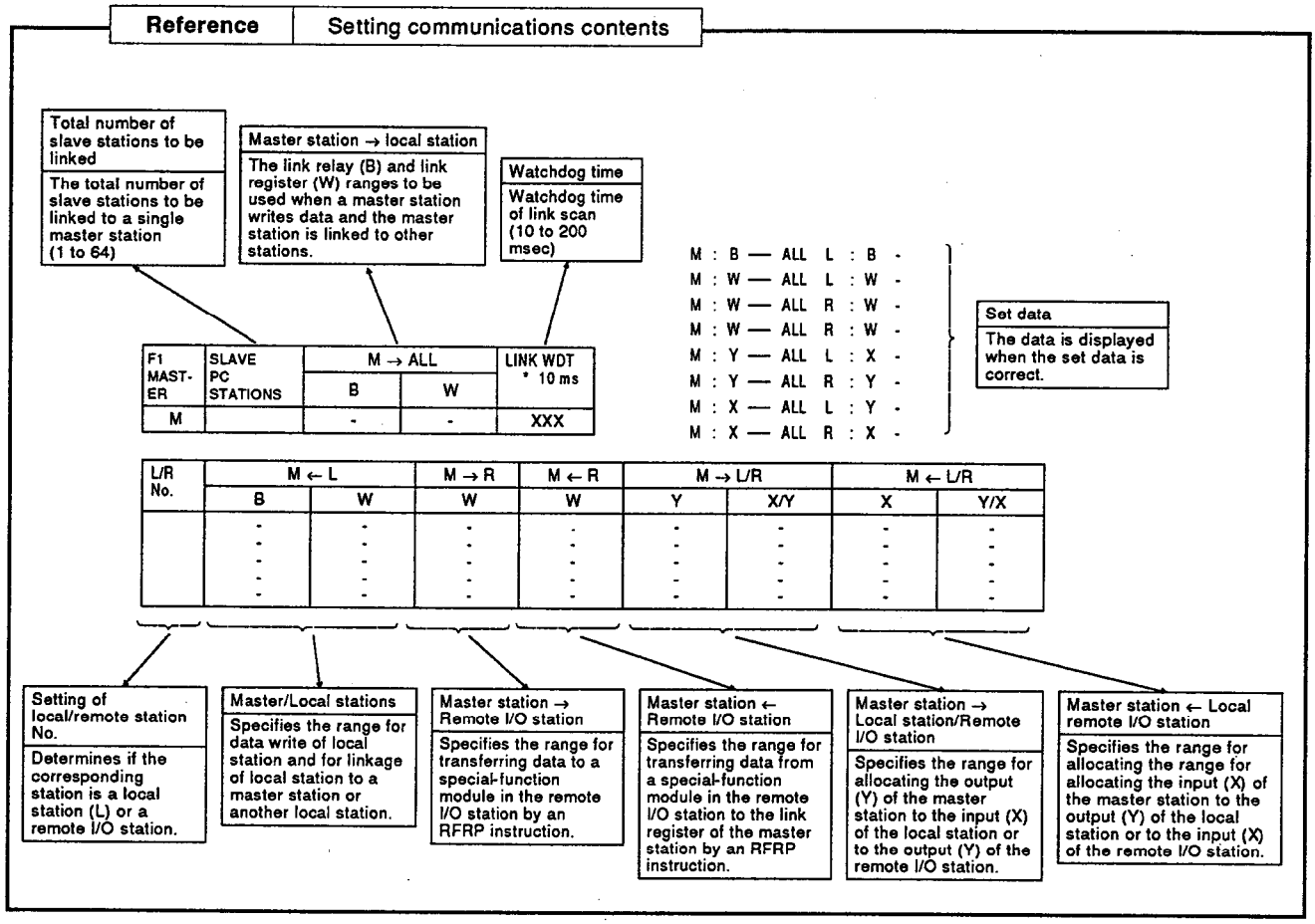
- **Clearing all registered link setting data**

  1) Press the [F10] key.

  2) Select "YES" in response to the prompt.

  3) Press the [End] key to complete the operation.

     Internal memory is also cleated.



POINT

- **Selecting from the mode selecting screen**
  - [1] MELSECNET mode

    Select this mode when an A0J2H, A1S, A1, A2, A2C, A3, or A3H is used as the master station in the link system.
  - [2] MELSECNET II (MULTI) mode

    Select this mode when an A2A/A3ACPU is used as the master station and the local stations (L) includes other type modules in the link system.
  - [3] MELSECNET II

    Only A2A/A3ACPU modules make up the link system.

PC models	A0J	A0H	A1S	A1	A2	A2C	A3	A3H	A2A	A3A	A2U	A3U	A4U
	X	X	X	X	X	X	X	X	O	O	X	X	X

7.4.2 Link setting when the MELSECNET II (COMPOSIT) is selected

The MELSECNET II (COMPOSIT) mode is available only for the A2A/A3ACPU.

In the MELSECNET II mode, two areas can be allocated to B and W respectively.

Press the [F8] key to switch the input screen (between the first screen and the last screen).

Other setting operations are the same as for the MELSECNET mode.

Key input in L/R No. setting columns

The following key operations are valid in the L/R No. columns (only on the first screen).

(1) [F5] or [L] : When a station is set as a local station.

(2) [F6] or [R] : When a station is set as a remote I/O (R).

(3) [F7] or [*] : When a station is set as a MELSECNET II location station (L II).

MELSECNET II data of the first and latter halves when switching between MELSECNET II and MELSECNET

	First Data	Last Data
MNET II → MNET	M ← L M → L From the data set in MNET II, BW and X/Y can be also used in MNET.	The data in the last part remains until the [End] key is pressed. The data will be redisplayed when switching from MNET TO MNET II.
MNET II ← MNET	M ← L From the data set in MNET, BW can be also used in MNET II.	The last part contains no data. The data is displayed when switching from M to L.

REMARK

(1) When the first half is displayed, press the [F8] key to go on to the latter half. When the latter half is displayed, press the [F8] key to go on to the first half.
During input operation, devices of 0 to 3FF in the first half and of the last device number + 1 to FFF (0 when the first part is zero point) in both halves is checked.

(2) Other setting operations are the same as the MELSECNET mode.

7.4.3 Link setting when the MELSECNET II mode is selected

The MELSECNET II mode is available only for the A2A/A3ACPU.

In the MELSECNET II mode two areas can be allocated to B and W respectively.

Press the [F8] key to switch the input screen (between the first screen and the last screen).

Other setting operations are the same as for the MELSECNET mode.

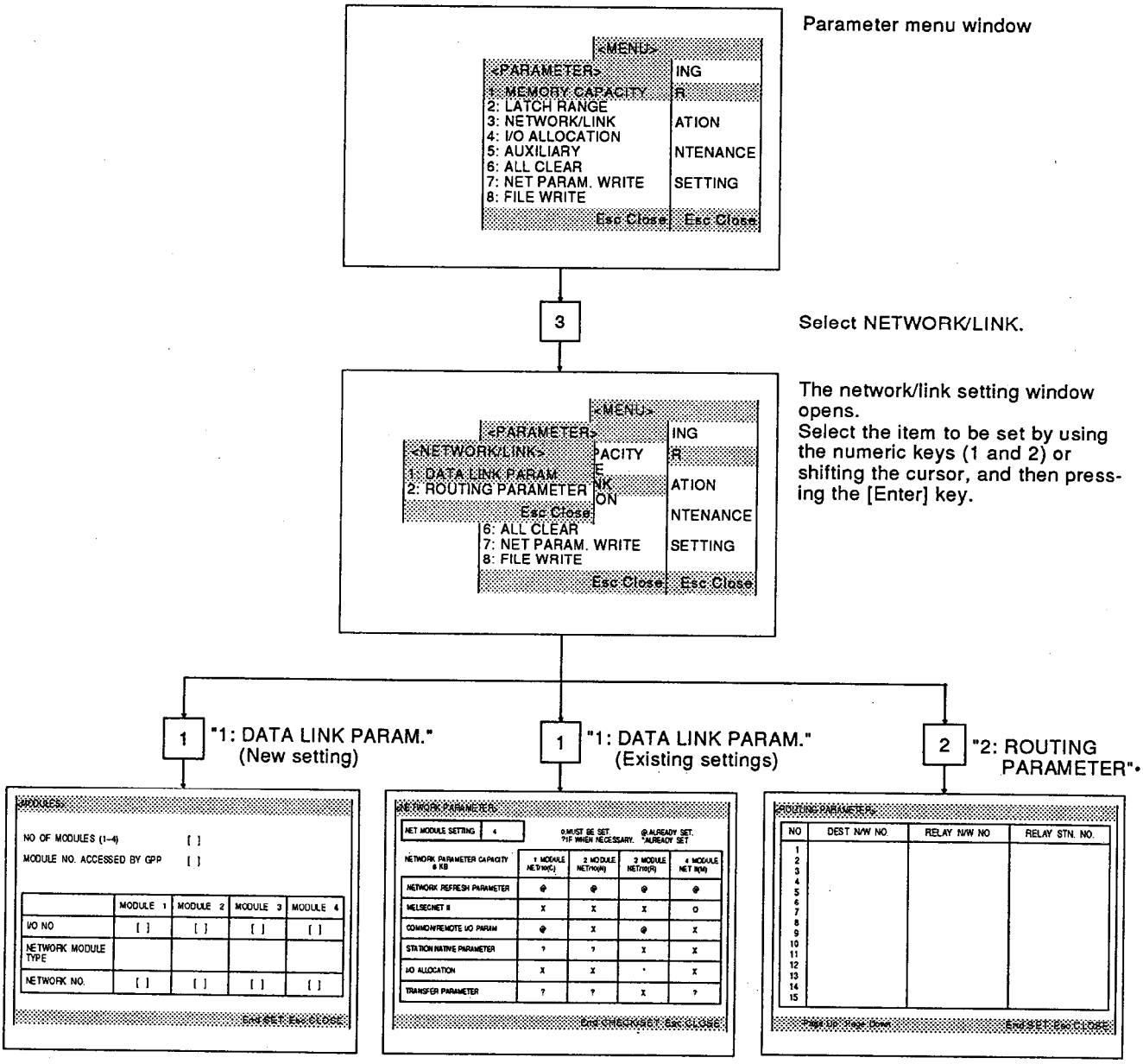
REMARK

(1) When the first half is displayed, press the [F8] key to go on to the latter half. When the latter half is displayed, press the [F8] key to go on to the first half.(1)

(2) The CPU automatically verifies if a MELSECNET is utilized as the master using the PC type data initially set.

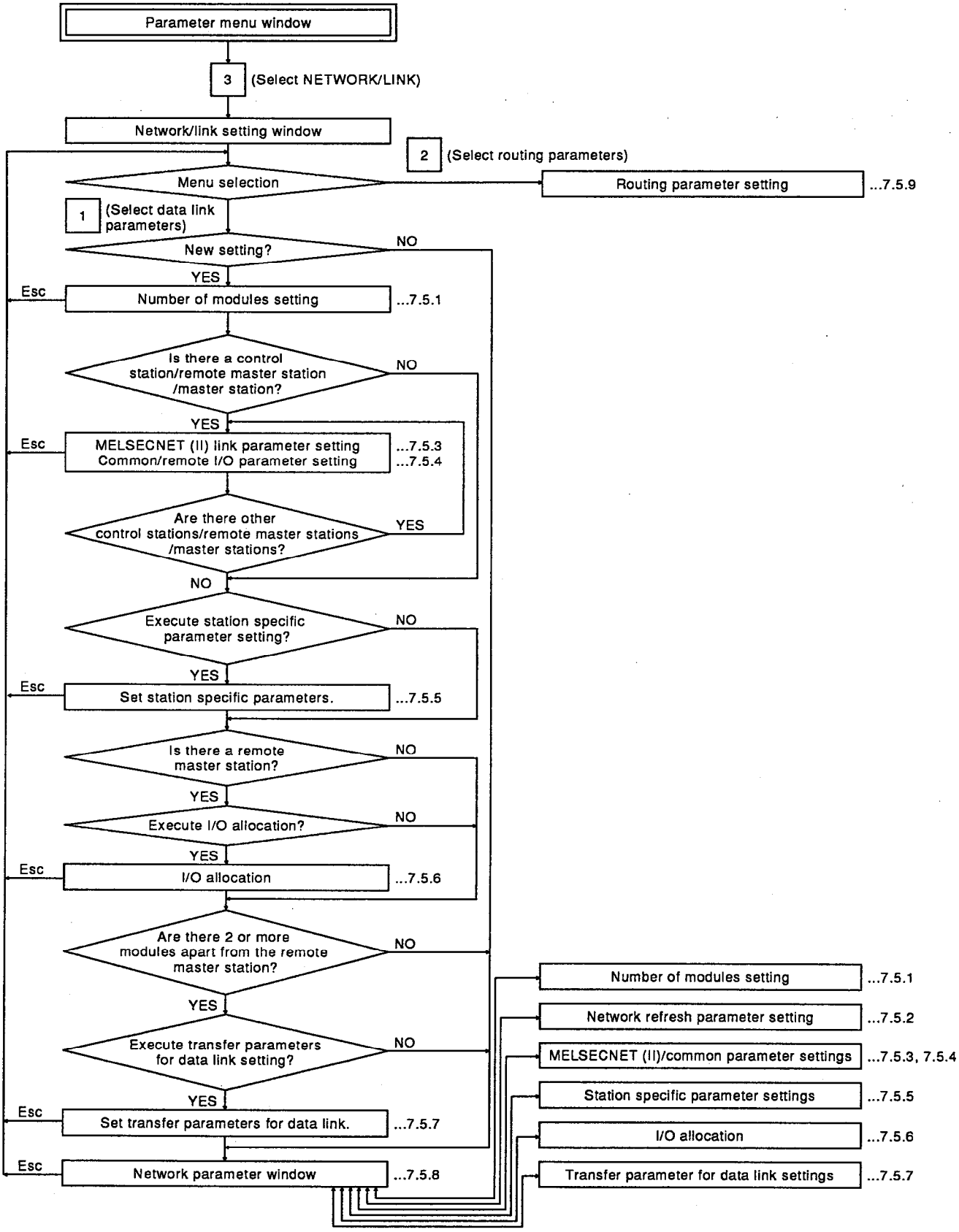
7.5 Setting Communications Contents for Each Station and Network when a Network System is Used

This section describes the network/link setting operation used when configuring a MELSECNET/10 network system or a MELSECNET (II) or MELSECNET/B data link system with an AnUCPU.
The operation flow when setting the data link parameters in the network/link settings differs according to whether settings are to be made for the first time or settings have already been made.
The explanations of setting methods in this section (Sections 7.5.1 through 7.5.7), deal with the operations after the relevant parameter setting window has been displayed.
For details on the operation up to the point where the relevant parameter window is displayed, see the processing flow in the "POINT" below.



POINT

- **Network/link setting processing flow when the PC model is AnU**

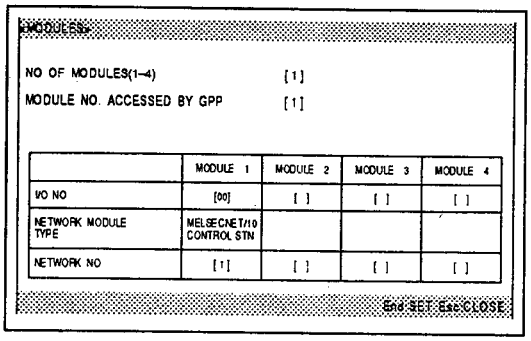


- **About network parameter settings**
  For details on each type of parameter, refer to the MELSECNET/10 Network System Reference Manual (PC-to-PC Network)/(Remote I/O Network).

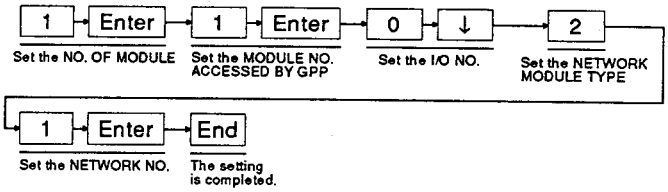
7.5.1 Setting the number of network modules

This operation sets information relating to the mounted network modules (MELSECNET/10) or data link modules (MELSECNET(II)) when a data link is operated using an AnUCPU.
When setting the data link parameters for the first time, it is essential to set the module information using this operation.
Data can be confirmed and modified after being set by using the operation in Section 7.5.8.

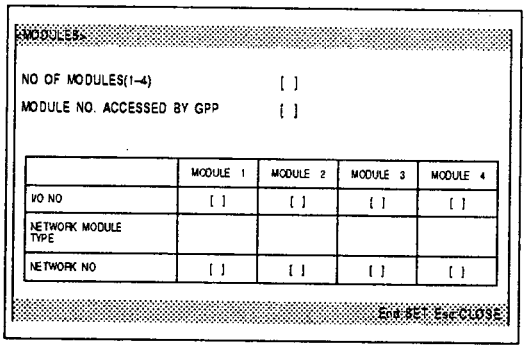
OPERATION EXAMPLE



To make the following settings: NO. OF MODULES = 1, MODULE NO. ACCESSED BY GPP= 1, I/O NO. = 0, NETWORK MODULE TYPE = MELSECNET/10 (control station), NETWORK NO. = 1:



EXPLANATION

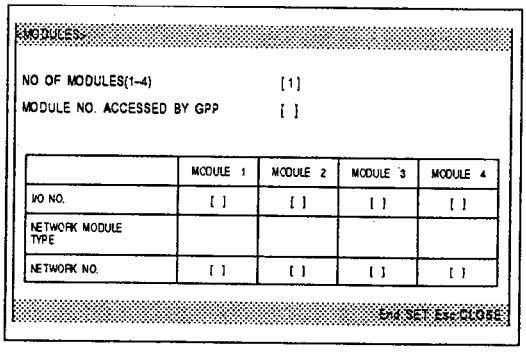


1 Select "1: DATA LINK PARAM." from the network/link setting window; the MODULES window opens.

REMARK

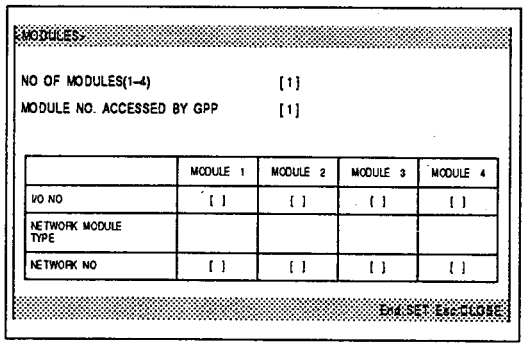
If the number of modules settings have already been made, the network parameter window (see Section 7.5.8) opens instead of the the MODULES window.
To enable number of modules setting when the network parameter window is displayed, press the [F1] key.

1 → Enter



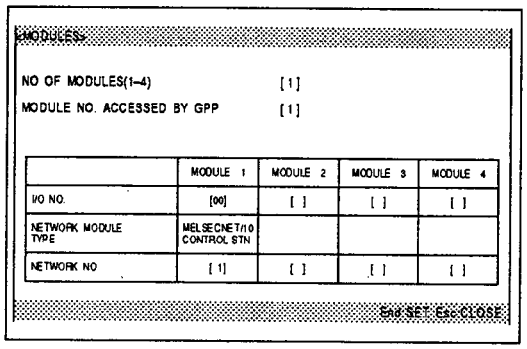
2 Set the NO. OF MODULES (1 to 4).
This setting determines the number of network modules or data link modules that can be mounted to one CPU.

1 → Enter



3 Set the MODULE NO. ACCESSED BY GPP.
This setting determines the network that will be accessed when a peripheral device that is not compatible with MELSECNET/10 is accessed using the other station access function, by specifying the module No. of the module to which that network is connected.

0 → ↓ → 2 → 1 → Enter



4 Set the I/O NO., NETWORK MODULE TYPE, and NETWORK NO.

I/O NO.: Set the most significant two digits of the head I/O number for the relevant network module.

NETWORK MODULE TYPE:
Select one of the network types listed below by specifying the corresponding number.
1: MELSECNET/10 (default parameter)
2: MELSECNET/10 (CONTROL STATION)
3: MELSECNET/10 (NORMAL STATION)
4: MELSECNET/10 (REMOTE I/O MASTER)
5: MELSECNET II (MASTER STATION)
6: MELSECNET II (LOCAL STATION)

REMARK

When MELSECNET II (MASTER STATION) is selected, the mode is selected in accordance with the MELSECNET II link settings (see Section 7.5.3).

NETWORK NO.: If the network module in question is compatible with MELSECNET/10, set the network number of the network in which that module is connected.

End

5 Complete setting by pressing the [END] key.

POINT

- **Number of modules settings and parameter capacity**
  When the PC model is A3U or A4U, if it is not possible to secure a sufficient memory area for the network parameters when setting the number of network modules settings for the first time or when increasing the number of modules, the message "NETWORK PARAMETER CAPACITY IS INSUFFICIENT" will be displayed and setting will not be possible.
  When setting the memory capacity in the parameters, decrease the main program capacity and preserve the network parameter capacity.
  If the PC type is A2U, since the maximum main program capacity is 14 Ksteps (28 Kbytes), 32 Kbytes is allocated as the network parameter capacity and the above restriction does not apply.

- **Transition to data link parameter setting screen after completing the number of modules settings**
  On completion of the number of modules settings (for a first time setting), the window for setting the required data link parameters in accordance with the set module information is automatically displayed, enabling the parameters to be set.
  It is possible to select whether or not to set those data link parameters whose setting is not essential by using the setting confirmation windows.

- **Confirming and modifying data link parameter settings**
  When setting data link parameters for the first time, the settings from the number of modules settings through to the settings for transfer parameters for data link (see Section 7.5.7) are made in one unbroken sequence, and after all the data link parameters have been set the network parameter window is displayed.
  To confirm or modify the data link parameter settings, select the relevant parameter item from the network parameter window. (See Section 7.5.8)

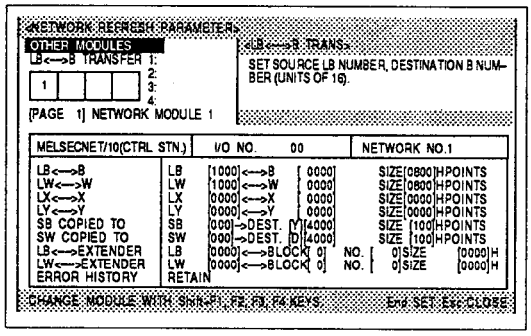
7.5.2 Establishing correspondence between the PC CPU link devices and network module link devices

This operation sets the range for transfer of the link devices (LB, LW, LX, LY) and data link communication status devices (SB, SW) of network modules and data link modules to the link devices (B, W, X, Y) etc. of the PC CPU.
Since default values are already set for the network refresh parameters in accordance with the number of modules settings, no setting window is displayed even when setting the parameters for the first time.
To set the network refresh parameters, display the network refresh parameter setting window by following the operation in Section 7.5.8 after setting the other network parameters.

7.5.2.(1) Establishing correspondence with MELSECNET/10 (PC-to-PC network) link devices

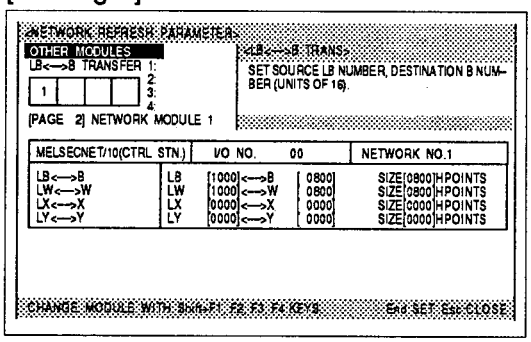
OPERATION EXAMPLE

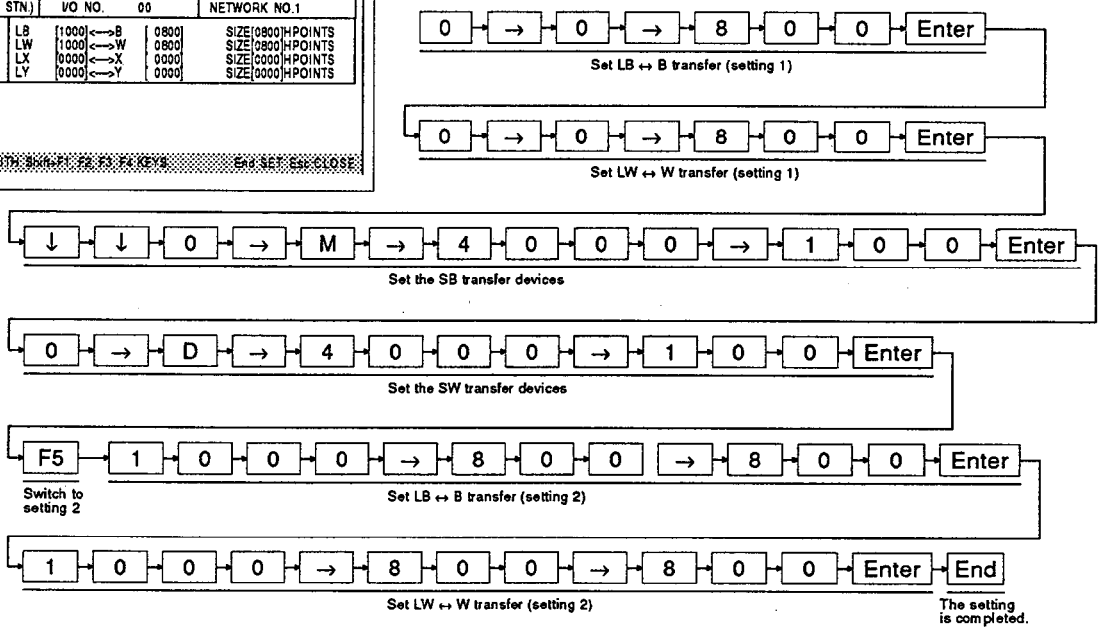
[Setting 1]



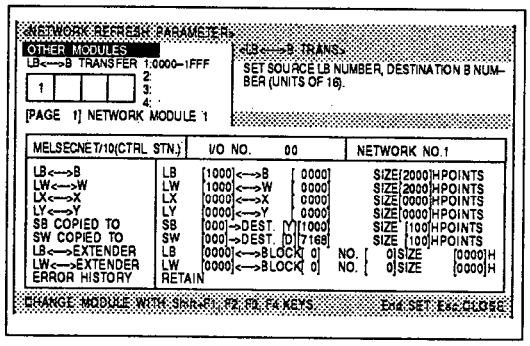
The operation for setting the following network refresh parameter settings is presented below:
[Setting 1]
LB head = 0, B head = 0, LB ↔ B transfer size = 800H points
LW head = 0, W head = 0, LW ↔ W transfer size = 800H points
SB head = 0, SB transfer destination = M4000,
SB transfer size = 100H points
SW head = 0, SW transfer destination = D4000,
SW transfer size = 100H points
[Setting 2]
LB head = 1000, B head = 800, LB ↔ B transfer size = 800H points
LW head = 1000, W head = 800, LW ↔ W transfer size = 800H points

[Setting 2]

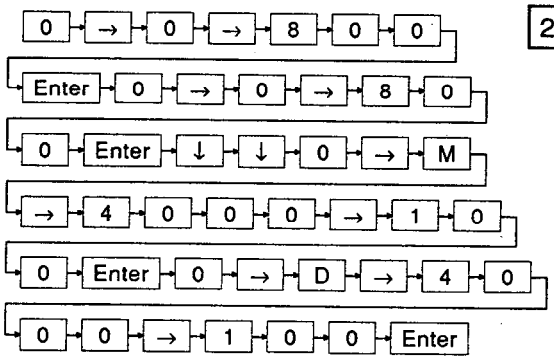




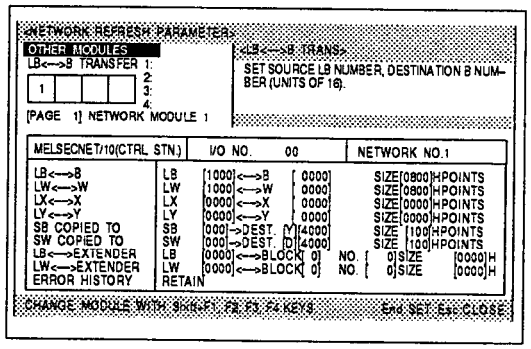
EXPLANATION



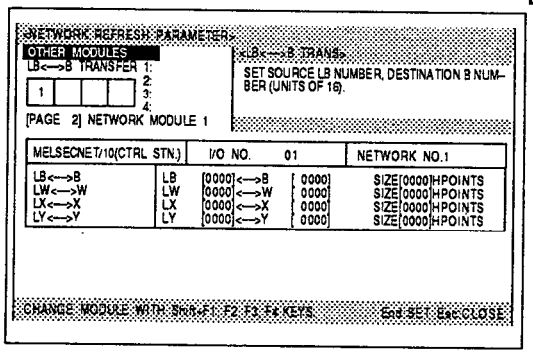
1 In the network parameter window, locate the cursor at the network refresh parameter field for a network module at a MELSECNET/10 master station or normal station, and press the [Enter] key; the network refresh parameter window opens.



2 Set the device range for setting 1.



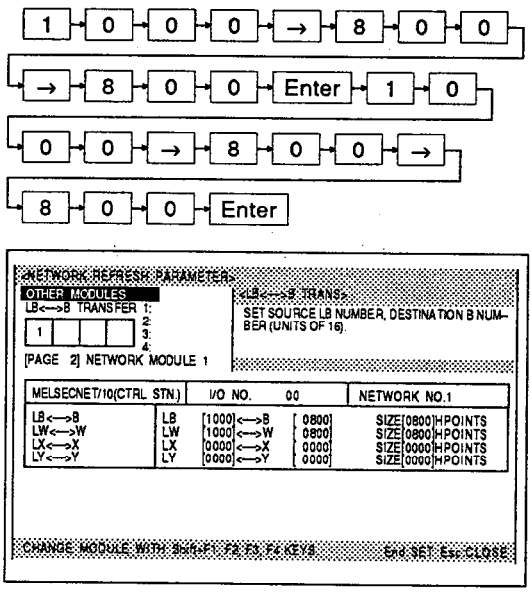
F5



3 Switch the window to setting 2.

REMARK

To switch from the window for setting 2 back to the window for setting 1, press the [F5] key again.



4 Set the device range for setting 2.

End

5 Complete setting by pressing the [END] key.

ADVICE

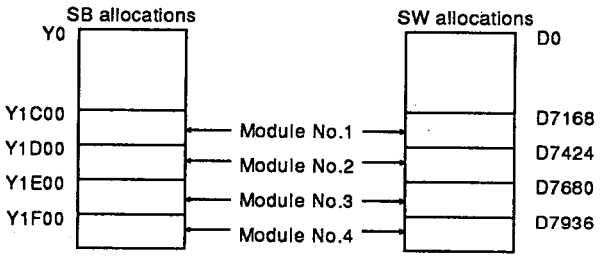
◦ **Changing module numbers**

Setting of the network refresh parameters of other network modules can be enabled by pressing one of keys [F1] to [F4] while holding down the [Shift] key.

[Shift] + [F1]: Module No.1
[Shift] + [F2]: Module No.2
[Shift] + [F3]: Module No.3
[Shift] + [F4]: Module No.4

◦ **Default values for SB/SW transfer devices**

The ranges shown below (256 points each) are allocated to the modules as the default point ranges for the SB/SW transfer devices in the network refresh parameters.



POINT

• **Setting 1 and setting 2**

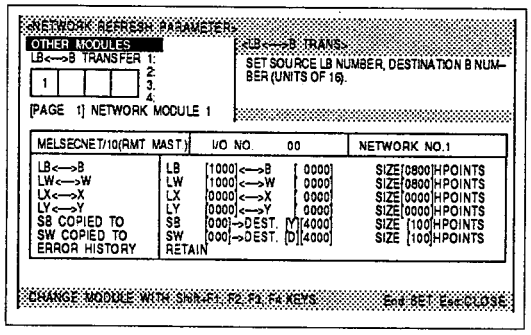
Network module link devices can be transferred to CPU module link devices in two separate areas. The first transfer area is called "setting 1" and the second transfer area is called "setting 2".

• **Clearing all network refresh parameter settings**

All the set network refresh parameter settings (including those for other modules) can be cleared by pressing the [F10] (clear) key in the network refresh parameter window.

7.5.2.(2) Establishing correspondence with MELSECNET/10 (remote I/O network) link devices

OPERATION EXAMPLE



The operation for setting the following network refresh parameter settings is presented below:
LB head = 0, B head = 0, LB ↔ B transfer size = 800H points
LW head = 0, W head = 0, LW ↔ W transfer size = 800H points
SB head = 0, SB transfer destination = M4000,
SB transfer size = 100H points
SW head = 0, SW transfer destination = D4000,
SW transfer size = 100H points

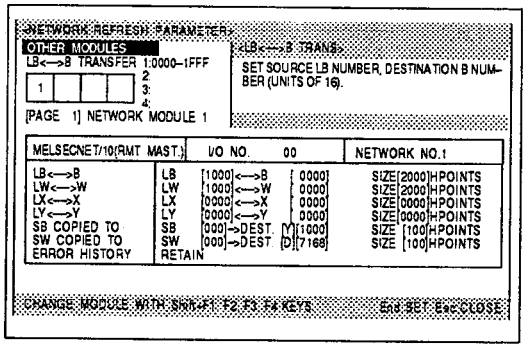
0 → 0 → 8 0 0 Enter
Set LB ↔ B transfer (setting 1)

0 → 0 → 8 0 0 Enter
Set LW ↔ W transfer (setting 1)

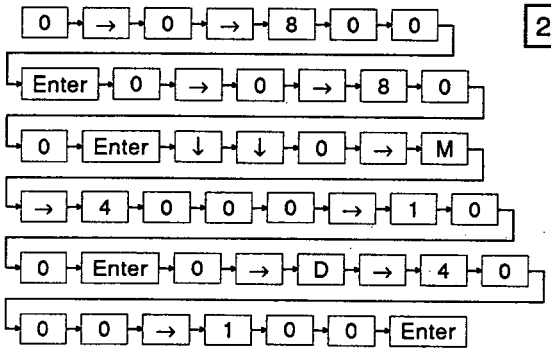
↓ ↓ 0 → M → 4 0 0 0 → 1 0 0 Enter
Set the SB transfer devices

0 → D → 4 0 0 0 → 1 0 0 Enter End
Set the SW transfer devices
The setting is completed.

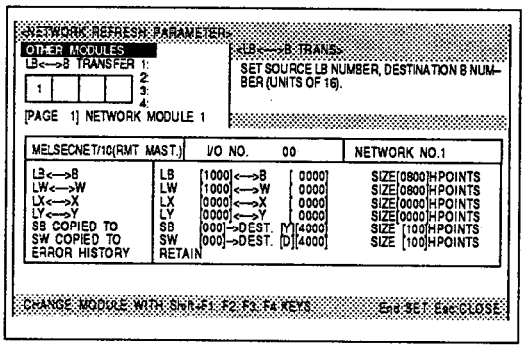
EXPLANATION



1 In the network parameter window, locate the cursor at the network refresh parameter field for a network module at a MELSECNET/10 remote master station, and press the [Enter] key: the network refresh parameter window opens.



2 Set the head number and transfer range for each device.



End

3 Complete setting by pressing the [END] key.

ADVICE

- **Changing module numbers**

  Setting of the network refresh parameters of other network modules can be enabled by pressing one of keys [F1] to [F4] while holding down the [Shift] key.

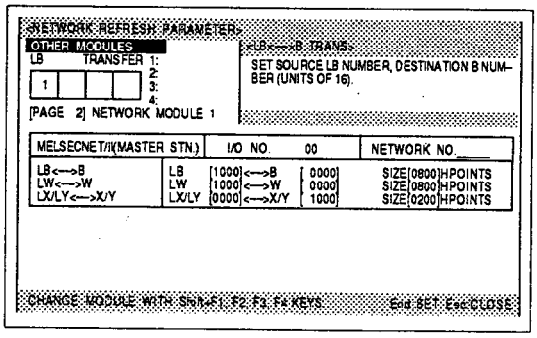
  [Shift] + [F1] : Module No.1
  [Shift] + [F2] : Module No.2
  [Shift] + [F3] : Module No.3
  [Shift] + [F4] : Module No.4

- **Clearing all network refresh parameter settings**

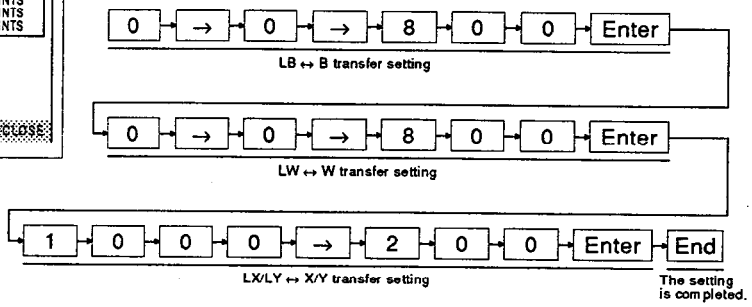
  All the set network refresh parameter settings (including those for other modules) can be cleared by pressing the [F10] (clear) key in the network refresh parameter window.

7.5.2.(3) Establishing the correspondence with MELSECNET II link devices

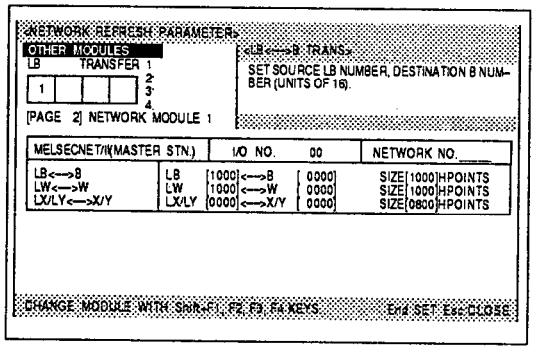
OPERATION EXAMPLE



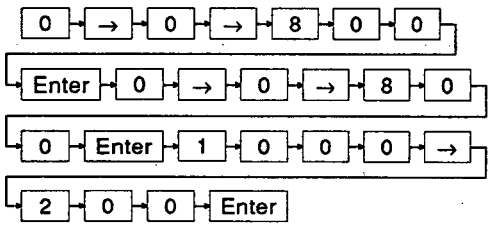
The operation for setting the following network refresh parameter settings is presented below:
LB head = 0, B head = 0, LB ↔ B transfer size = 800H points
LW head = 0, W head = 0, LW ↔ W transfer size = 800H points
X/Y head = 1000, LX/LY ↔ X/Y transfer size = 200H points



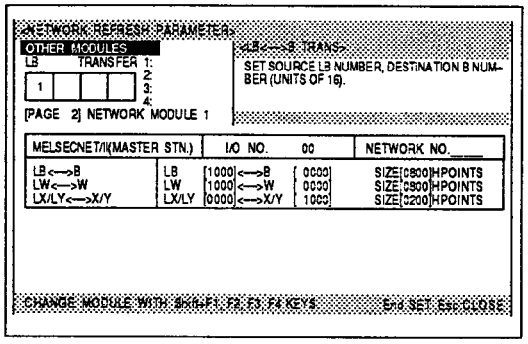
EXPLANATION



1 In the network parameter window, locate the cursor at the network refresh parameter field for a link module at a MELSECNET II master station or local station, and press the [Enter] key; the network refresh parameter window opens.



2 Set the head No. and transfer range for each device.



End

3 Complete setting by pressing the [END] key.

ADVICE

- **Changing module numbers**

  Setting of the network refresh parameters of other network modules can be enabled by pressing one of keys [F1] to [F4] while holding down the [Shift] key.

  [Shift] + [F1] : Module No.1
  [Shift] + [F2] : Module No.2
  [Shift] + [F3] : Module No.3
  [Shift] + [F4] : Module No.4

- **Clearing all network refresh parameter settings**

  All the set network refresh parameter settings (including those for other modules) can be cleared by pressing the [F10] (clear) key in the network refresh parameter window.

PC models	A0J	A0H	A1S	A1	A2	A2C	A3	A3H	A2A	A3A	A2U	A3U	A4U
	X	X	X	X	X	X	X	X	X	X	O	O	O

7.5.3 Setting the communications contents for each station when a MELSECNET II data link system is configured with an AnUCPU

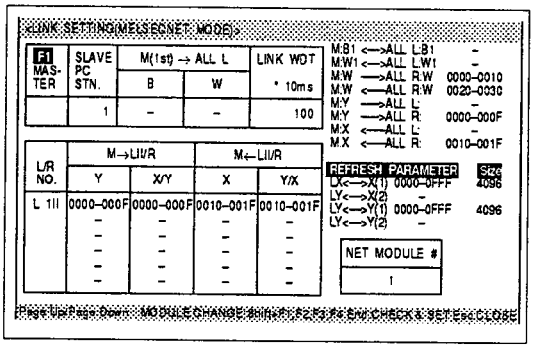
This section describes the procedure for setting the communications contents for the master station (M), local stations (L), and remote I/O stations (R) when a MELSECNET II data link system is configured with an AnUCPU.

> When an AnUCPU is used, since network refresh parameters are required even when configuring a MELSECNET system, 2 Kbytes of main program capacity are taken up.
> Consequently, when using an A3U or A4UCPU, the main program capacity is decreased by 1 Ksteps.

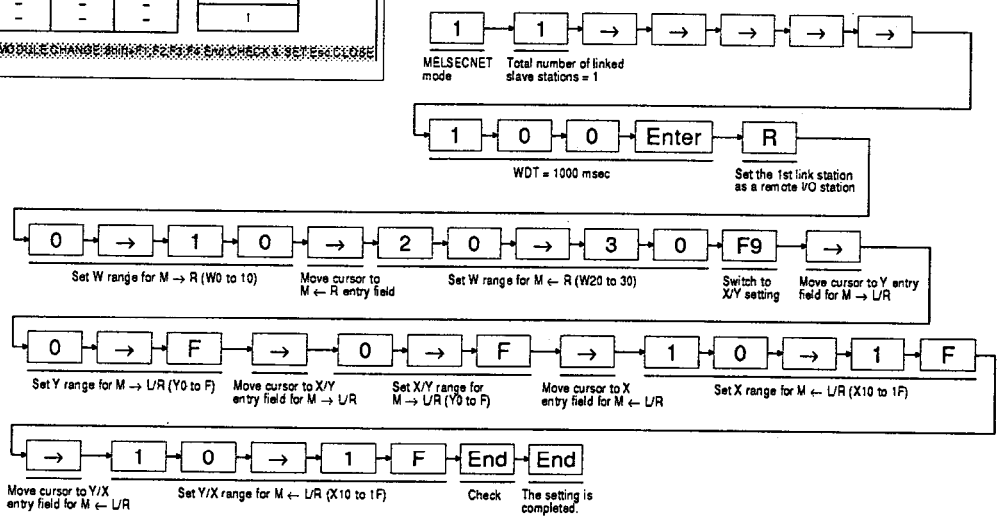
7.5.3.(1) Link setting method when the MELSECNET mode is selected

This operation sets the contents of communication between the master station (M) and local stations (L)/remote I/O stations (R) in advance when configuring a data link system.

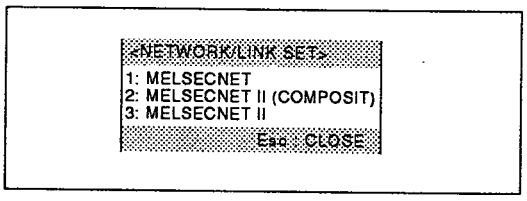
OPERATION EXAMPLE



The operation for making the following settings is presented below:
Total number of linked slave stations = 1,
WDT = 1000 msec,
W range for M → R = W0 to 10
W range for M ← R = W20 to 30
Y range for M → L/R = Y0 to F
X/Y range for M → L/R = Y0 to F
X range for M ← L/R = X10 to 1F
Y/X range for M ← L/R = X10 to 1F

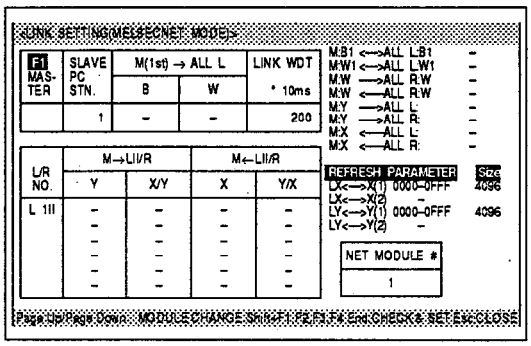


EXPLANATION

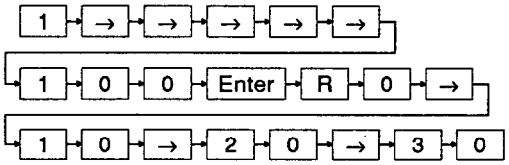


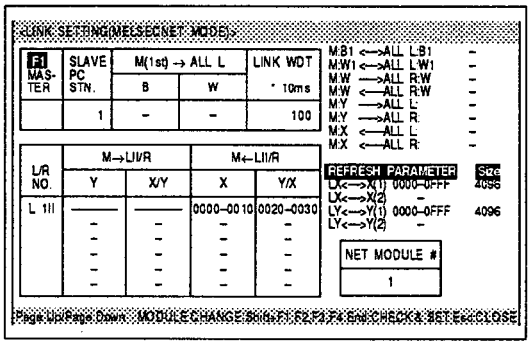
1 When the [End] key is pressed after setting the master station for a MELSECNET II system in the MODULES window, or when the [Enter] key is pressed after moving the cursor to the MELSECNET II entry field for MELSECNET II (MASTER STATION) in the network parameter window, the network/link setting window opens.

1



2 Select the MELSECNET mode.
The link setting (MELSECNET mode) window opens.



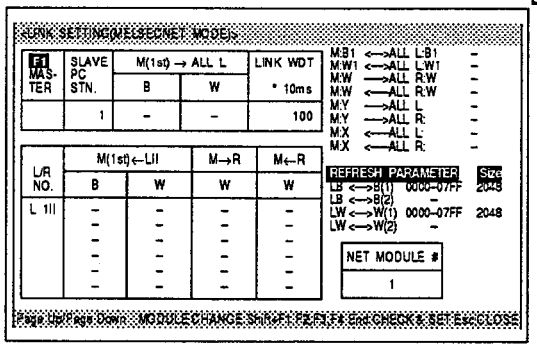


3 Make the link range settings sequentially in the left/right direction, starting from the total number of linked slave stations.

Use the following keys to move the cursor in the left/right direction within a line, and on completing the settings on one line.

1) [←], [→].....Used to move the cursor in the left/right direction within a line.
2) [↑], [↓].....Used to move the cursor in the vertical direction (only in the L/R No. column).
3) [Enter]..... Pressed on completing the settings on one line. The cursor moves to the left end of the next line. When data input for a local station (L) or remote I/O station (R) is completed on an L/R No. line, the input data is checked.
   - If the data is correct the cursor moves to the left end of the next line.
   - If there is a mistake in the data an error message is displayed and the cursor flashes at the location of the error.
4) [F1].....Moves the cursor to the number of linked slave stations field.

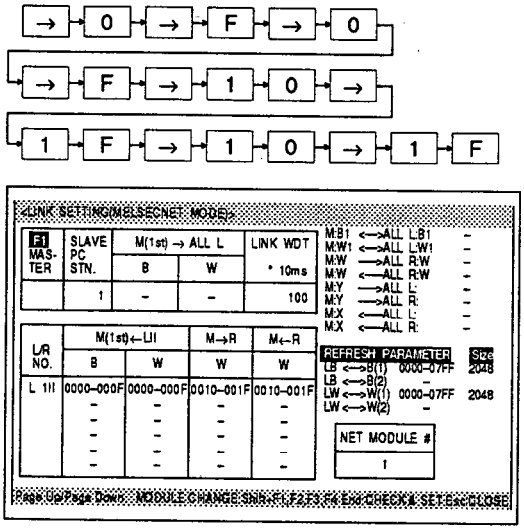
F9



4 After completing the B/W settings, press the [F9] key to make the X/Y setting.
The X/Y side link setting (MELSECNET mode) window will be displayed.

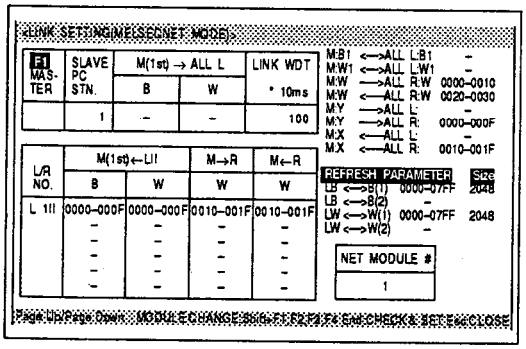
REMARK

On the X/Y side link setting (MELSECNET mode) window, the total number of linked slave stations, the M -> all L device range, and the WDT can be set and changed.
To change a setting, press the [F1] key.



5 Make the X, Y link range settings sequentially in the left/right direction, starting from the L/R No. column. The key operation is the same as that for the B/W side link setting (MELSECNET mode) window.

End



6 After completing data setting for all stations, press the [End] key.
"CHECKING" will be displayed and all the set data will be checked.
If all the data is correct, the message "CHECK COMPLETED" will be displayed.

End

7 Press the [End] key after setting all the data: the data will be registered in the parameter area.
If there is a mistake in the data in one of the columns, the erroneous data will be highlighted. Input the correct data and press the [End] key.

ADVICE

◦ **Data input for more than 6 stations**

Data can be input for a maximum of 6 stations (slave stations) on one screen. If the total number of link stations exceeds 6, either press the [↓] key or [Page Down] after inputting the data for the 6th station; this will enable data input for the next (7th) and following stations. Use [Page Up] to return to the previous screen.

◦ **Details of other error checks during link setting**

1) When [Enter] is pressed for L station setting:
   - The total of the numbers of bytes set for B and W devices for M ← L and Y devices for M ← L is higher than 1024 bytes.
2) When [Enter] is pressed for an R station setting:
   - The total of the numbers of bytes set for W and Y devices for M → R and W and X devices set for M ← R is higher than 512 bytes.

In the case of both 1) and 2):
The I/O numbers for the remote I/O station do not start from 0.
The numbers of points set at the master station and remote I/O stations are not the same.

3) When the [End] key is pressed:
   - There is a station for which no L/R attribute has been set.
   - The total of the numbers of bytes set for the B, W, and Y devices for M → All L is 1024 bytes or greater.
   - The B and W settings for M ↔ All L and M ↔ All R overlap in the range where W is 0 to 33F and Y is 0 to 7FF.
   - When the link settings are made after having set the I/O allocations, allocations are not made for all slots although there are remote I/O stations, or the last value in the I/O numbers of the highest number remote station set in the link settings does not match the last value set in the I/O allocations.
   If any of the above errors occur, correct the set data and recheck it.

REMARK

For W devices, 1 point = 2 bytes. For B, X, and Y devices, 16 points = 2 bytes.

◦ **Insertion/deletion of station numbers**

Station numbers can be inserted and deleted to reflect changes made to the system, etc. The method for insertion/deletion is presented below:

1) Press the [Insert] key while the cursor is in the L/R No. setting column to insert a station number in the line on which the cursor is located; the total number of link stations increases by one.
2) Press the [Delete] key while the cursor is in the L/R No. setting column to delete the station number in the line on which the cursor is located; the total number of link stations will decrease by one.
   If the change is made on the second half setting screen, return to the first half setting screen and, after completing the first half data, press the [F8] key to switch back to the second half screen and modify the second half data.
3) Always press the [End] key on completing an insert or delete operation. If another mode is selected without having pressed the [End] key the data before the insertion or deletion will remain registered.

◦ **Clearing all the registered link setting data**

1) Press the [F10] (clear) key.
2) Select "YES" in the dialog box to clear the data.
3) Press [End] on completion of the setting. The internal memory is also cleared.

◦ **Settings in each field**

The contents of the settings made in each setting field in the link setting window are the same as network/link settings for PC models other than AnUCPU.
For details on the setting contents, see the [REMARK] in Section 7.4.1.

POINT

- **Mode selection in the network link setting window**
  - [1] MELSECNET mode
    Selected for a link system in which an A0J2H, A1S, A1, A2, A2C, A3, or A3H is used as the master station.
  - [2] MELSECNET II composite mode
    Selected for a link system in which the master station is an AnA or AnUCPU and both AnA/AnUCPUs and other CPU models are used as the local stations, or there are remote I/O stations.
  - [3] MELSECNET II mode
    Selected for link systems in which the master station and all local stations are AnAs or AnUCPUs.

PC models	A0J	A0H	A1S	A1	A2	A2C	A3	A3H	A2A	A3A	A2U	A3U	A4U
	X	X	X	X	X	X	X	X	X	X	O	O	O

7.5.3.(2) Link setting method when the MELSECNET II composite mode is selected

With MELSECNET II, B and W devices can be set at two locations: use the [F8] key to switch between the first half and second half B and W data and set it.
The other setting operations are the same as for the MELSECNET mode.

Key inputs in the L/R No. setting field

The following key inputs are valid in the L/R No. setting field (setting is only possible on the first half screen).
1) [F5] or [L].....Used to set a local station (L)
2) [F6] or [R].....Used to set a remote I/O station (R)
3) [F7] or [*].....Used to set a MELSECNET II local station (L II)

Fate of MELSECNET II first half/second half data when switching between MELSECNET II and MELSECNET

	First Half Data	Second Half Data
MNET II → MNET	M ← L, M → L: BW and X/Y setting data can be used without alteration. If the MNET II settings reach B/W400 or higher, the final value will be 3FF.	Remains until checked by pressing the data End key. Redisplayed on switching from MNET to MNET II.
MNET II ← MNET	M ← L The BW setting data can be used without alteration.	This data is not set. Displayed when M → L switching is executed.

REMARK

(1) Pressing the [F8] key displays the second half data if the first half data is currently displayed and the first half data if the second half data is currently displayed.
A check on the following device numbers is executed on input: first half 0 to 3FF, (second/first half final device number + 1) to FFF (or 0 if the first half is 0 points).
(2) Other setting operations are the same as for the MELSECNET mode.

PC models	A0J	A0H	A1S	A1	A2	A2C	A3	A3H	A2A	A3A	A2U	A3U	A4U
	X	X	X	X	X	X	X	X	X	X	O	O	O

7.5.3.(3) Link setting method when the MELSECNET II mode is selected

Since B and W devices are set at two locations, the settings are made by switching between the first and second half B and W areas by using the [F8] key.
Other setting operations are the same as for the MELSECNET mode.

REMARK

(1) Pressing the [F8] key displays the second half data if the first half data is currently displayed and the first half data if the second half data is currently displayed.
(2) It is automatically determined whether the master station is MELSECNET from the PC model given in the initial settings.

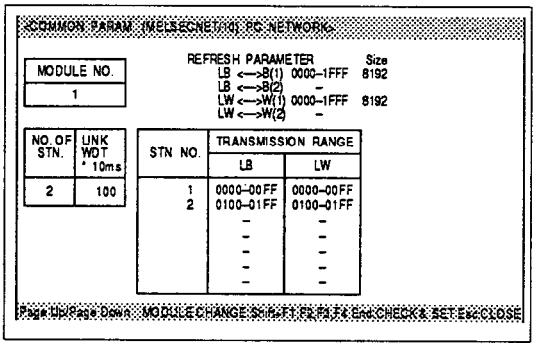
7.5.4 Setting the network configuration specifications

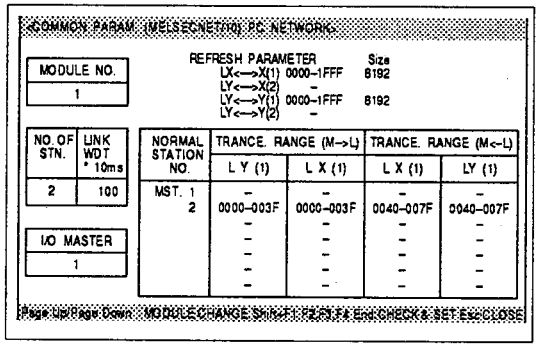
This section describes the operations for setting the ranges of LB/LW and LX/LY devices that can be transmitted by each station in a network and the settings relating to transient transmission and communication errors.

7.5.4.(1) Setting the configuration specifications for a PC-to-PC network

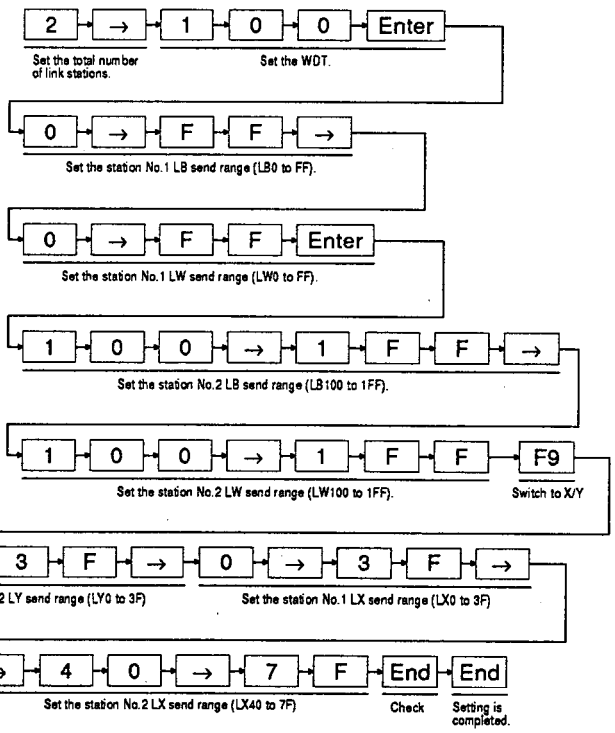
(a) Set the total number of link stations, WDT, and the communication range for each station.

OPERATION EXAMPLE

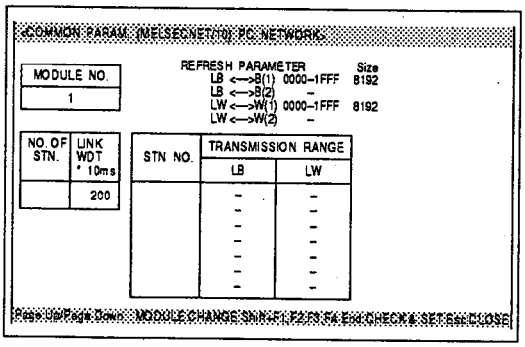




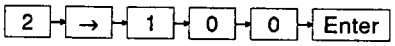
The operation for making the following settings is presented below:
Total number of link stations = 2, WDT = 1000 msec
LB/LW send range for station No.1 = LB: 0 to FF, LW: 0 to FF
LB/LW send range for station No.2 = LB: 100 to 1FF, LW: 100 to 1FF
Block 1 setting = I/O master station: station No.1
LX/LY send/receive range for station No.2 =
(M→L) LY(1): 0 to 3F, LX(1): 0 to 3F
(M←L) LX(1): 40 to 7F, LY(1): 40 to 7F
Block No.2 setting = none

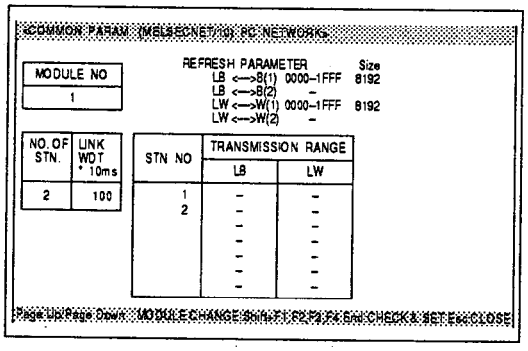


EXPLANATION



1 When a MELSECNET/10 control station has been set in the number of modules settings, the common parameters (MELSECNET/10) for a PC-to-PC network have to be set. The COMMON PARAM. (MELSECNET/10) PC NETWORK window automatically opens in accordance with the set order of module No. positions after the number of modules settings.

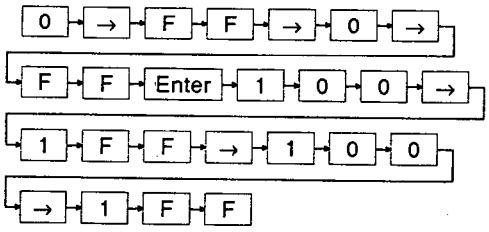


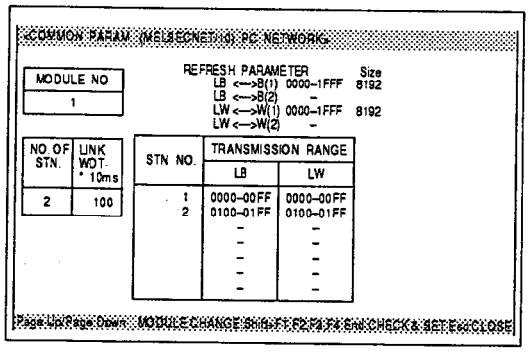


2 Set the total number of link stations and the WDT.

Total number of link stations: set the total number of stations connected in the network.
Optical loop system....1 to 64
Coaxial bus system....1 to 32

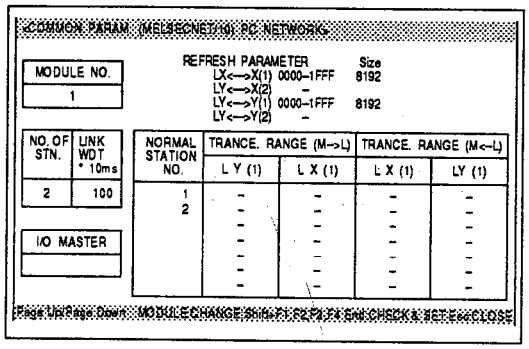
WDT: Set the time used to judge whether or not communication between the control station and normal stations is normal in 10 msec units (10 to 4000 msec).
Setting range: 1 to 400





3 Set the LB and LW send ranges for each station.

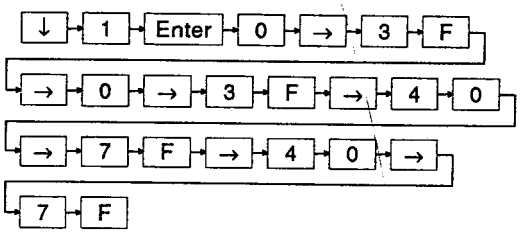
F9



4 Switch to the LX, LY send range window by pressing the [F9] key.

REMARK

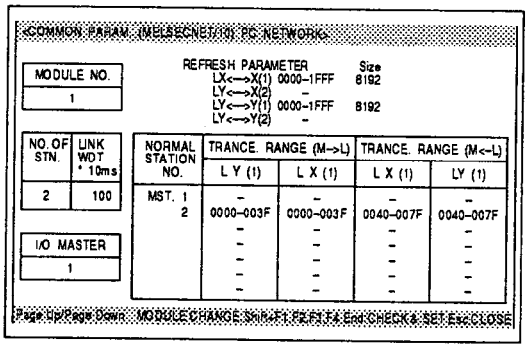
To switch from the LX, LY send range window to the LB, LW send range window, press the [F9] key again.



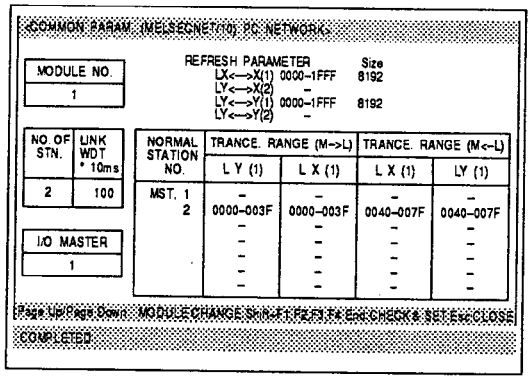
5 Set the LX, LY send ranges for the I/O master station and each station.

REMARK

In the I/O MASTER field, set the station number of the station that is to be the master station for X/Y communication.
Any station that is an AnUCPU can be set as the I/O master station, regardless of whether it is a control station or a normal station.



End



6 After completing the data settings for each station, press the [End] key.
The message "CHECKING" is displayed and all the set data is checked. If all the data is correct the message "CHECK COMPLETED" is displayed.

End

7 Press the [End] key again to complete setting.
Pressing the [Esc] key cancels the setting.

ADVICE

◦ **Changing module numbers**

Setting of the common parameters (PC-to-PC network) of other network modules can be enabled by pressing one of keys [F1] to [F4] while holding down the [Shift] key.

[Shift] + [F1] : Module No.1
[Shift] + [F2] : Module No.2
[Shift] + [F3] : Module No.3
[Shift] + [F4] : Module No.4

POINT

- **Block 1 and block 2 when setting LX/LY send ranges**

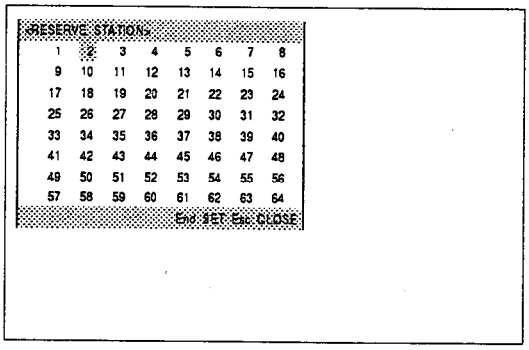
  The LX/LY send range can be set in two separate blocks: block 1 and block 2.
  The display can be switched between the block 1 settings and the block 2 settings by pressing the [F3] key.
  Set the allocations for the LX/LY send ranges for each station in 16-point units; do not overlap block 1 and block 2.

- **I/O master station setting**

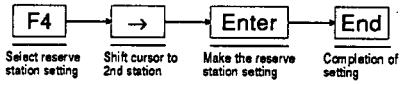
  I/O master stations can be set in two places: in block 1 and in block 2.

(b) Reserve station setting
This operation is used to set the station number and send range for a station that is to be connected in the future in advance, making it a reserve station, and also to set stations that are actually connected as reserve stations.

OPERATION EXAMPLE

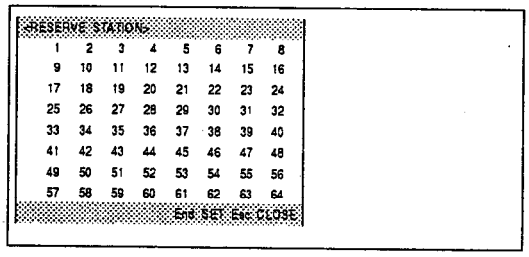


To set station No.2 as a reserve station:



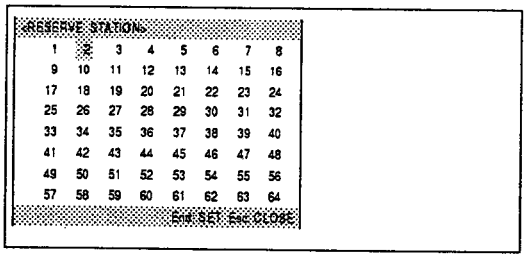
EXPLANATION

F4



1 Press the [F4] key while the COMMON PARAM. (MELSECNET/10) PC NETWORK window is displayed. The reserve station setting window opens.

→ Enter



2 Move the cursor to the station number to be designated as the reserve station and press the [Enter] key.
The station number will be highlighted and the reserve station designation completed.
If the cursor is moved to the position of a station number that has already been designated and the [Enter] key pressed, the reserve station designation will be cancelled.

End

3 Complete setting by pressing the [End] key.
Pressing the [Esc] key cancels the setting. (The set data is not registered.)

POINT

- **Reserve station setting when setting the send range for each station**

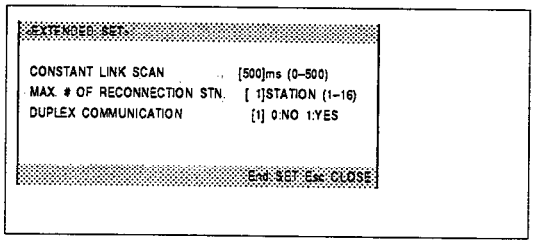
  Reserve stations can be also be set/cancelled by pressing the [F2] key when setting the send range for each station.

- **Reserve station setting for the I/O master station**

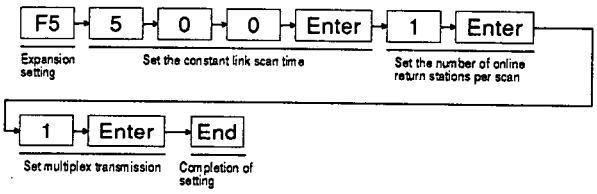
  It is not possible to set the station set as the I/O master station as a reserve station.

(c) Expansion setting
This operation sets the settings relating to transient transmission.

OPERATION EXAMPLE

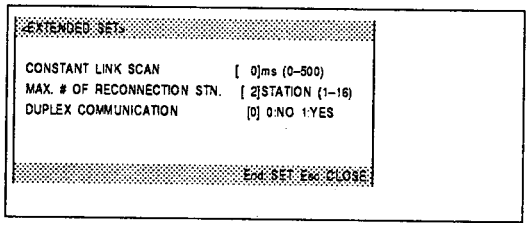


To make the following settings,
Constant link scan = 500 msec
Maximum number of online return stations per scan = 1
Multiplex transmission = ON
Follow the procedure below:

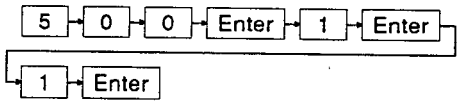


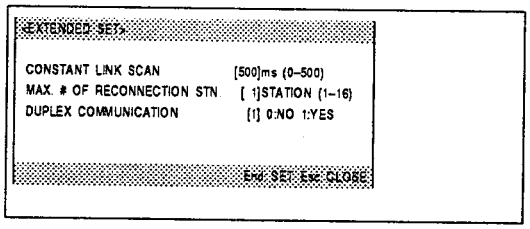
EXPLANATION

F5



1 Press the [F5] key while the COMMON PARAM. (MELSECNET/10) PC NETWORK window is displayed. The EXTENDED SET window opens.





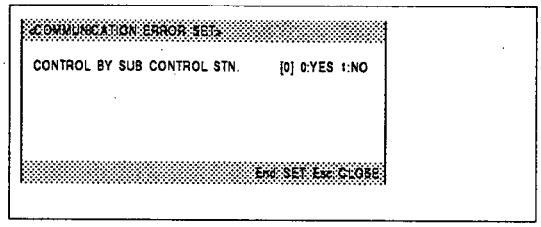
2 Set the constant link scan time, the maximum number of online return stations per scan, and the multiplex transmission ON/OFF status.

End

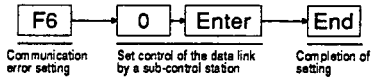
3 Complete setting by pressing the [End] key.
Pressing the [Esc] key cancels the setting. (The set data is not registered.)

(d) Communication error setting
This operation sets whether or not the data link will be operated by a sub-control station if the control station goes down.

OPERATION EXAMPLE

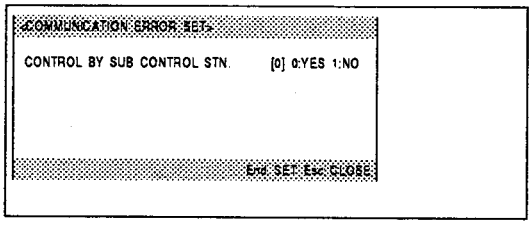


To set operation of the data link by a sub-control station if the control station goes down:



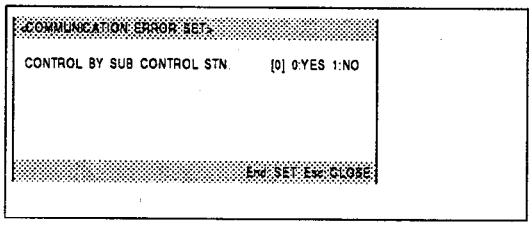
EXPLANATION

F6



1 Press the [F6] key while the COMMON PARAM. (MELSECNET/10) PC NETWORK window is displayed. The COMMUNICATION ERROR SET window opens.

0 → Enter



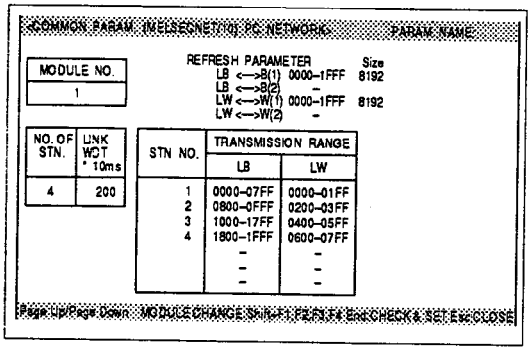
2 Set YES or NO for operation of the data link by a sub-control station if the control station goes down.

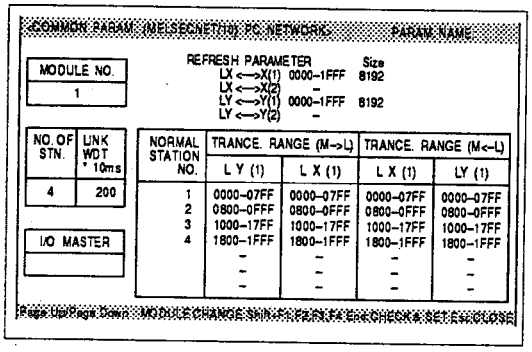
End

3 Complete setting by pressing the [End] key.
Pressing the [Esc] key cancels the setting. (The set data is not registered.)

(e) Uniform allocation
This operation is used to allocate link device points to all stations uniformly when there are a large number of stations.

OPERATION EXAMPLE





To execute uniform allocation under the following conditions,

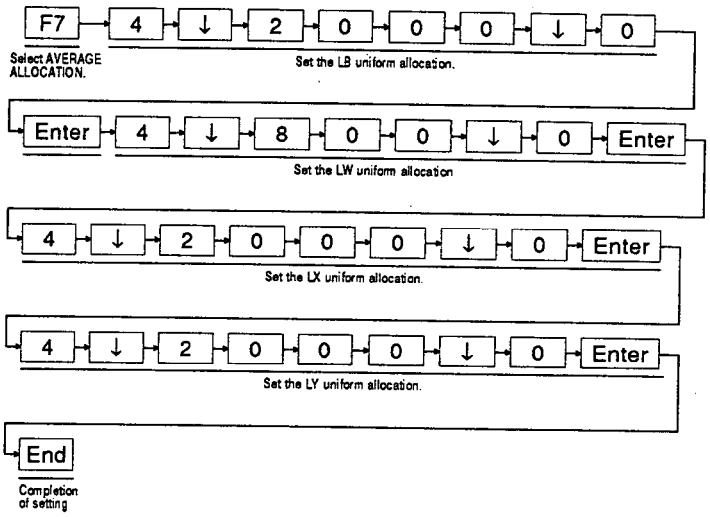
LB :Number of stations for uniform allocation: 4
Number of points allocated: 2000H (8192) points
Head device in uniform allocation: LB0000

LX :Number of stations for uniform allocation: 4
Number of points allocated: 2000H (8192) points
Head device in uniform allocation: LX0000

LW :Number of stations for uniform allocation: 4
Number of points allocated: 800H (2048) points
Head device in uniform allocation: LW0000

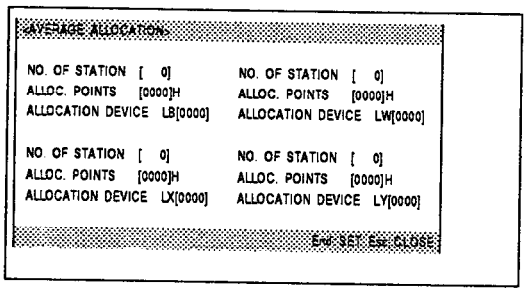
LY :Number of stations for uniform allocation: 4
Number of points allocated: 2000H (8192) points
Head device in uniform allocation: LY0000

Follow the procedure below:



EXPLANATION

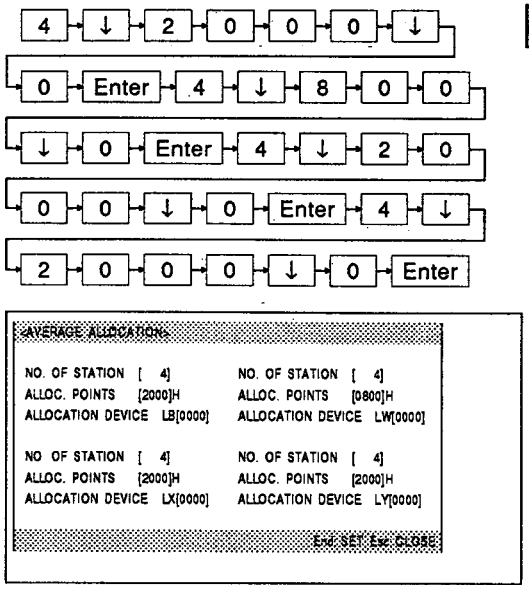
F7



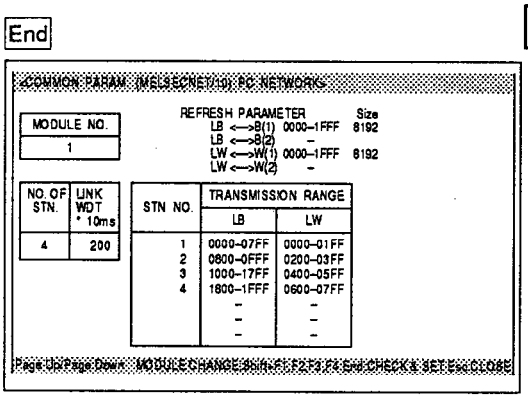
1 Press the [F7] key while the COMMON PARAM. (MELSECNET/10) PC NETWORK window is displayed. The AVERAGE ALLOCATION window opens.

REMARK

The [F7] key is only valid while the cursor is located at the LB/LW or LX/LY send range setting field.



2 Set the conditions for uniform allocation of each link device.



3 Complete setting by pressing the [End] key.
Pressing the [Esc] key cancels the setting.

POINT

- **Specifying the head station number for uniform allocation**

  In uniform allocation, the station number in the send range setting field where the cursor was located before displaying the AVERAGE ALLOCATION window (by pressing [F7]) is taken as the head station number for uniform allocation.
  To make allocations starting from a specific station in the set total number of link stations, move the cursor to the send range setting field for that station before displaying the AVERAGE ALLOCATION window.

- **Setting the NO. OF STATION**

  The NO. OF STATION can be set within the range from the head station number for uniform allocation to the final station number (total number of link stations – (head station No. – 1)).
  It is not possible to set a number of stations higher than the maximum value indicated above.
  If a number of stations lower than the minimum value indicated above is set, uniform allocation is executed for the set number of stations in order starting from the head station number.
  When executing uniform allocation for LX/LY devices, if the I/O master station is set before making the uniform allocation setting, it is not possible to include the station number of the I/O master station in the number of uniform allocation stations.

- **Setting units for number of allocated points**

  Set the number of allocated points in the following units.
  LB, LX, LY: 16 point units LW: 1 point units

- **Processing of remaining points in uniform allocation**

  If there are points left over in uniform allocation with the set number of allocation stations and number of allocated points, the remaining points are allocated in 16-point units to LB, LX, and LY, and in 1 point units to LW, in order starting from the head station number.

(f) Allocation by specifying the number of points
This operation is used to allocate different numbers of points for each station, for example when there are many stations.

OPERATION EXAMPLE

COMMON PARAM. (MELSECNET/10) PC NETWORK PARAM NAME

MODULE NO.
1

REFRESH PARAMETER Size
LB <—>B(1) 0000–1FFF 8192
LB <—>B(2) –
LW <—>W(1) 0000–1FFF 8192
LW <—>W(2) –

NO. OF STN.	LINK WDT * 10ms
4	200

STN NO.	TRANSMISSION RANGE LB	TRANSMISSION RANGE LW
1	0000–07FF	0000–01FF
2	0800–0FFF	0200–03FF
3	1000–17FF	0400–05FF
4	1800–1FFF	0600–07FF
	–	–
	–	–
	–	–

Page Up/Page Down MODULE CHANGE Shift+F1 F2 F3 F4 End CHECK & SET Esc CLOSE

COMMON PARAM. (MELSECNET/10) PC NETWORK PARAM NAME

MODULE NO.
1

REFRESH PARAMETER Size
LX <—>X(1) 0000–1FFF 8192
LX <—>X(2) –
LY <—>Y(1) 0000–1FFF 8192
LY <—>Y(2) –

NO. OF STN.	LINK WDT * 10ms
4	200

I/O MASTER

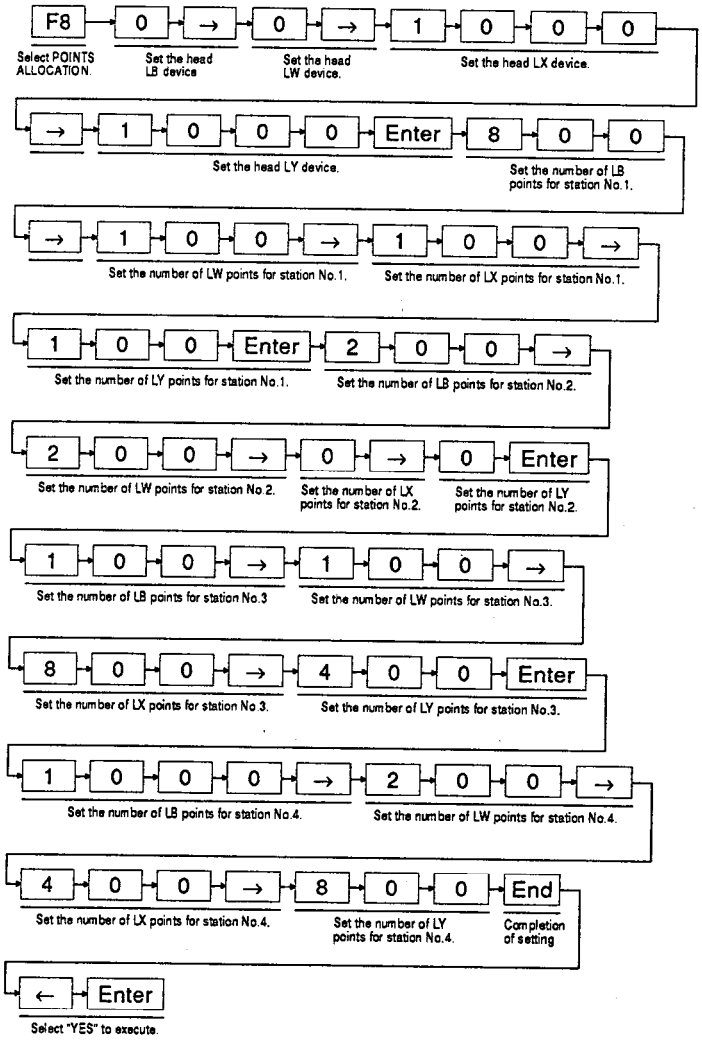
NORMAL STATION NO	TRANCE. RANGE (M->L) LY (1)	TRANCE. RANGE (M->L) LX (1)	TRANCE. RANGE (M<-L) LX (1)	TRANCE. RANGE (M<-L) LY (1)
1	0000–10FF	1000–10FF	1000–10FF	1000–10FF
2	–	–	–	–
3	1100–14FF	1100–14FF	1100–18FF	1100–19FF
4	1500–1CFF	1500–1CFF	1900–1CFF	1900–1CFF
	–	–	–	–
	–	–	–	–
	–	–	–	–

Page Up/Page Down MODULE CHANGE Shift+F1 F2 F3 F4 End CHECK & SET Esc CLOSE

To make the following settings for a network in which the total number of link stations is 4,

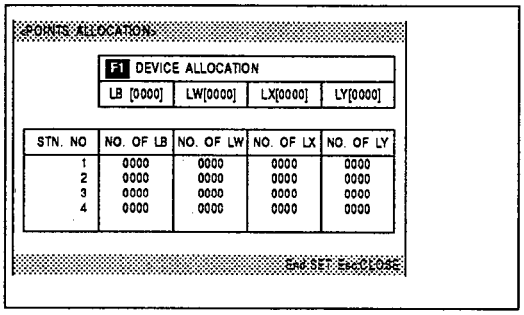
Head allocated devices = LB: 0, LW: 0, LX: 1000, LY: 1000
Number of points for station No.1 =
LB : 800H (2048) points, LW: 100H (256) points
LX : 100H (256) points, LY : 100H (256) points
Number of points for station No.2 =
LB : 200H (512) points, LW: 200H (512) points
LX : 0H (0) points, LY : 0H (0) points
Number of points for station No.3 =
LB : 100H (256) points, LW: 100H (256) points
LX : 800H (2048) points, LY : 400H (1024) points
Number of points for station No.4 =
LB :1000H (4096) points, LW: 200H (512) points
LX : 400H (1024) points, LY : 800H (2048) points

Follow the operation below:



EXPLANATION

F8

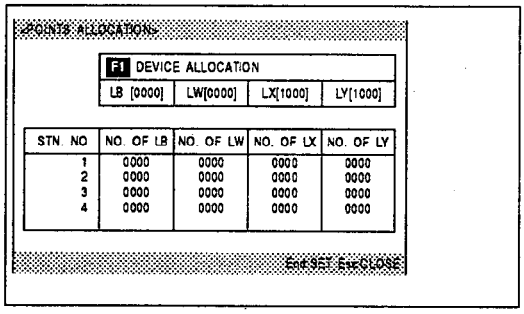


1 Press the [F8] key while the COMMON PARAM. (MELSECNET/10) PC NETWORK window is displayed. The POINTS ALLOCATION window opens.

REMARK

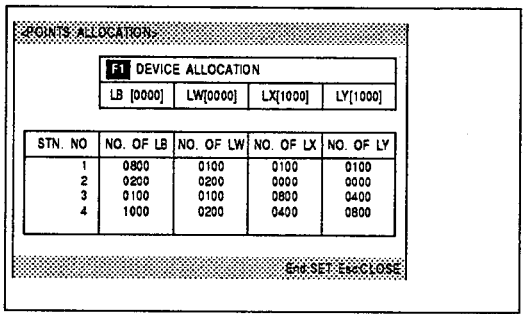
The [F8] key is only valid while the cursor is located at the LB/LW or LX/LY send range setting field.

0 → 0 → 1 0 0 0 → 1 0 0 0 Enter



2 Set the head device number for each link device.

8 0 0 → 1 0 0 → 1 0 0 → 1 0 0 Enter 2 0 0 → 2 0 0 → 0 → 0 Enter 1 0 0 → 1 0 0 → 8 0 0 → 4 0 0 Enter 1 0 0 0 → 2 0 0 → 4 0 0 → 8 0 0

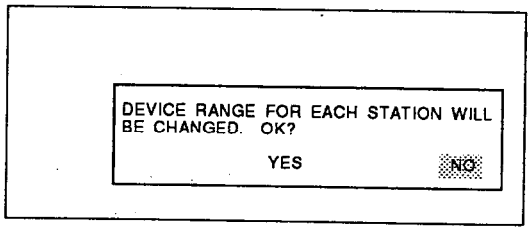


3 Set the number of link device points used by each station.

REMARK

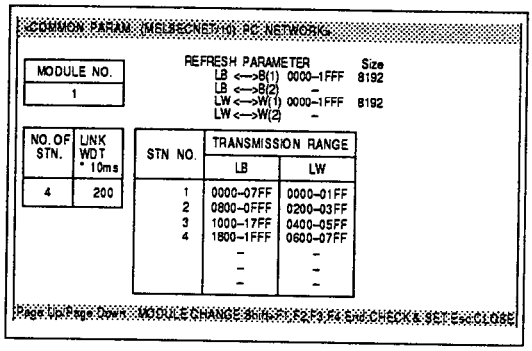
When setting the number of allocated points, remember that the maximum total number of points for all stations is 8192 (2000H) for each device.

End



4 Complete setting by pressing the [End] key.
Pressing the [Esc] key cancels the setting. (The set data is not registered.)

← Enter



5 Select "YES" by pressing the [←] key and press the [Enter] key to execute the allocation by specifying the number of points.

POINT

- **Specifying the head station number for allocation by specifying the number of points**

  In allocation by specifying the number of points, the station number in the send range setting field where the cursor was located before displaying the POINTS ALLOCATION window (by pressing [F8]) is taken as the head station number for allocation by specifying the number of points.

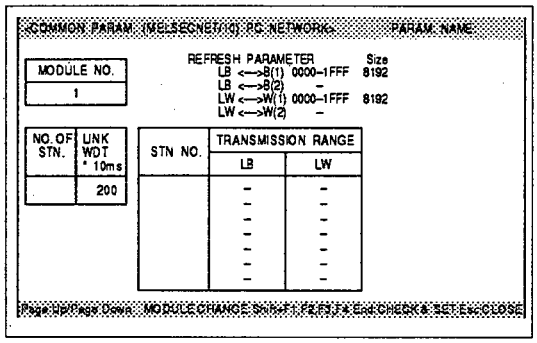
  To make allocations starting from a specific station in the set total number of link stations, move the cursor to the send range setting field for that station before displaying the POINTS ALLOCATION window.

- **Setting units for number of allocated points**

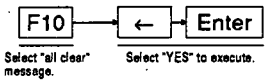
  Set the number of allocated points in the following units.
  LB, LX, LY: 16 point units LW: 1 point units

(g) Common parameter all clear
This operation clears all the common parameter data being set.

OPERATION EXAMPLE

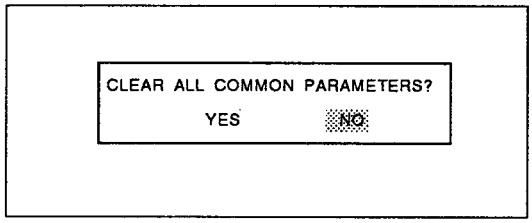


To clear all common parameter settings:



EXPLANATION

F10



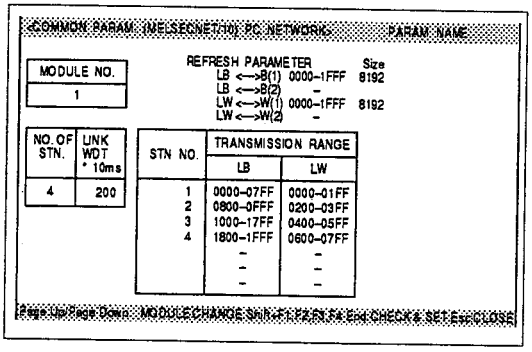
1 Press the [F10] key while the COMMON PARAM. (MELSECNET/10) PC NETWORK window is displayed.

← Enter

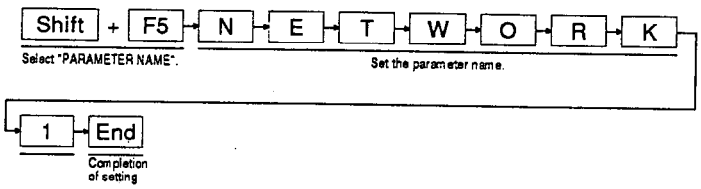
2 Confirm execution of the "all clear" operation.

(h) Parameter name setting
This operation sets names for parameters in order to make it easy to specify particular parameters after they have been set.
A parameter name, like a file name, has no meaning.

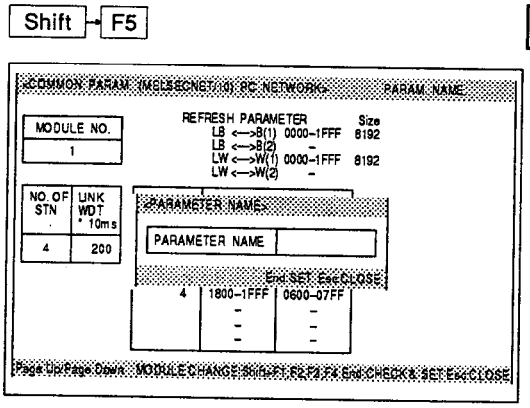
OPERATION EXAMPLE



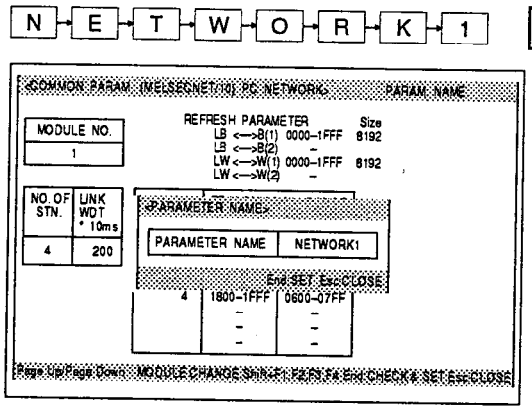
To set the name "NETWORK 1" for common parameters:



EXPLANATION



1 Press [Shift] + [F5] while the COMMON PARAM. (MELSECNET/10) PC NETWORK window is displayed.



2 Set the parameter name.
The parameter name can be specified as up to eight 1-byte alphanumeric characters.
2-byte characters cannot be used.

End

3 Complete setting by pressing the [End] key.
Pressing the [Esc] key cancels the setting.

7.5.4.(2) Setting the configuration specifications for a remote I/O network

(a) Set the total number of link stations, WDT, and send range for each station.

OPERATION EXAMPLE

COMMON PARAM. (MELSECNET/10) REMOTE I/O PARAM NAME

MODULE NO.
1

REFRESH PARAMETER Size
LB <—>B(1) -
LB <—>B(2) -
LW <—>W(1) -
LW <—>W(2) -

NO. OF STN.	LINK WDT * 10ms
1	100

REMOTE I/O STN. NO.	M->R	M<-R	M->R	M<-R
	L B	L B	L W	L W
1	0000-000F	0010-001F	0000-000F	0010-001F
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-

Page Up/Page Down: MODULE CHANGE Shift-F: F2,F3,F4 Esc:CHECK & SET Esc:CLOSE

COMMON PARAM. (MELSECNET/10) REMOTE I/O PARAM NAME

MODULE NO
2

REFRESH PARAMETER Size
LX <—>X(1) -
LX <—>X(2) -
LY <—>Y(1) -
LY <—>Y(2) -

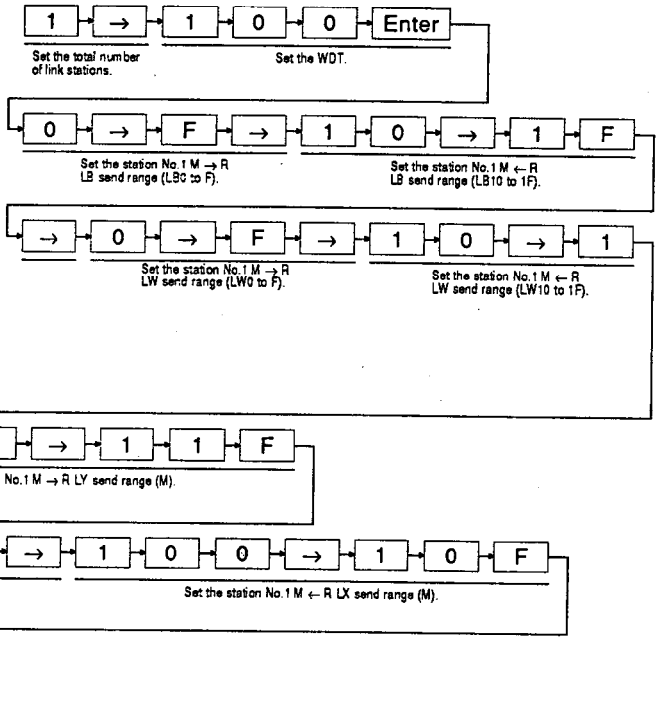
NO. OF STN.	LINK WDT * 10ms
1	100

REMOTE I/O STN. NO.	STATION M->STATION R		STATION M<-STATION R	
	L Y	L Y	L X	L X
1	0110-011F	0010-001F	0100-010F	0000-000F
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-

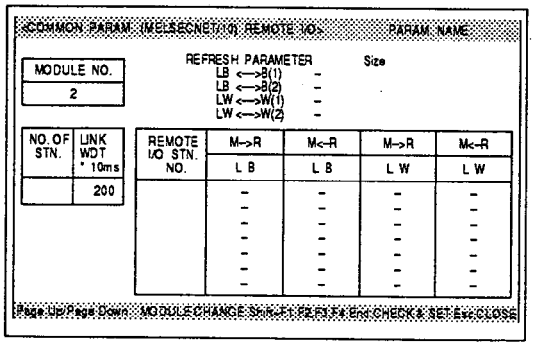
Page Up/Page Down: MODULE CHANGE Shift-F: F2,F3,F4 Esc:CHECK & SET Esc:CLOSE

To make the following settings:
Total number of link stations = 1, WDT = 1000 msec
M → R send range for station No.1 =
LB: 0 to F, LW: 0 to F
LY : 110 to 11F, LY : 10 to 1F
M ← R send range for station No.2 =
LB: 10 to 1F, LW: 10 to 1F
LX : 100 to 10F, LX : 0 to F

Follow the procedure below:

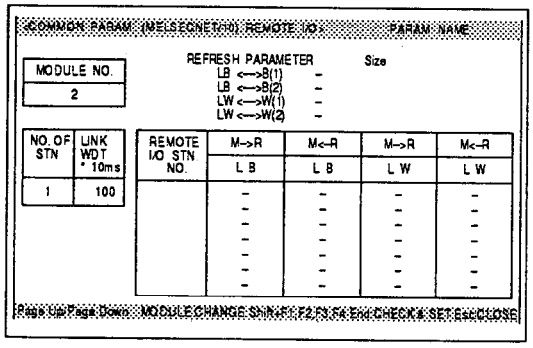


EXPLANATION



1 When a MELSECNET/10 remote master station has been set in the number of modules settings, the common parameters (MELSECNET/10) for a remote I/O network have to be set.
The COMMON PARAM. (MELSECNET/10) REMOTE I/O window automatically opens in accordance with the set order of module No. positions after number of modules setting.

1 → 1 0 0 Enter

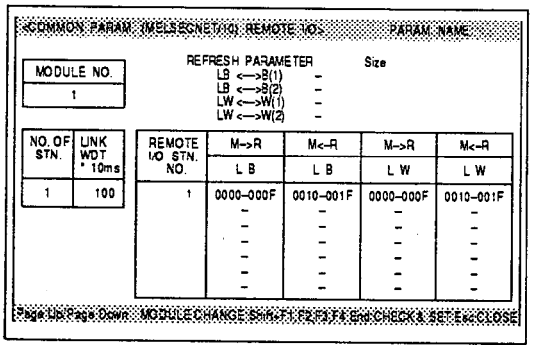


2 Set the total number of link stations and the WDT.

Total number of link stations: Set the total number of remote I/O stations.
Optical loop system ... 1 to 64
Coaxial bus system .... 1 to 32

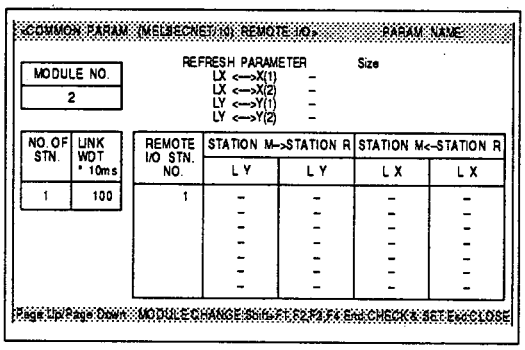
WDT : Set the time used to judge whether or not communication between the remote master station and remote I/O stations is normal in 10 msec units (10 to 4000 msec).
Setting range: 1 to 400

0 → F → 1 0 → 1
F → 0 → F → 1
0 → 1 F



3 Set the LB and LW send ranges for each station.

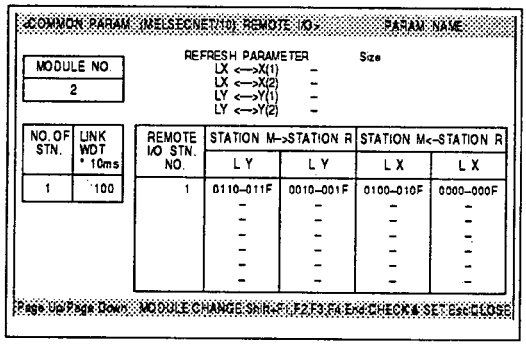
F9 → Enter



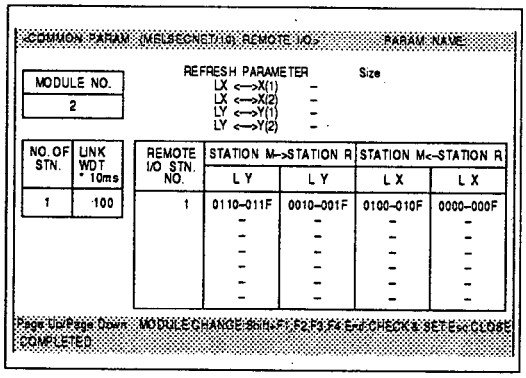
4 Switch to the LX, LY send range window by pressing the [F9] key. It is also possible to set, and change, the total number of link stations and the WDT in the LX, LY send range window.
If not changing the set values, press the [Enter] key; the cursor will move to the send range setting field.

1 → 1 → 0 → → 1 → 1 → F → →
1 → 0 → → 1 → F → →
1 → 0 → 0 → → 1 → 0 → F → →
0 → → F

5 Set the LX, LY send ranges for each station.



End



6 After completing the data settings for each station, press the [End] key.
The message "CHECKING" is displayed and all the set data is checked. If all the data is correct the message "CHECK COMPLETED" is displayed.

End

7 Press the [End] key again to complete setting.
Pressing the [Esc] key cancels the setting.

ADVICE

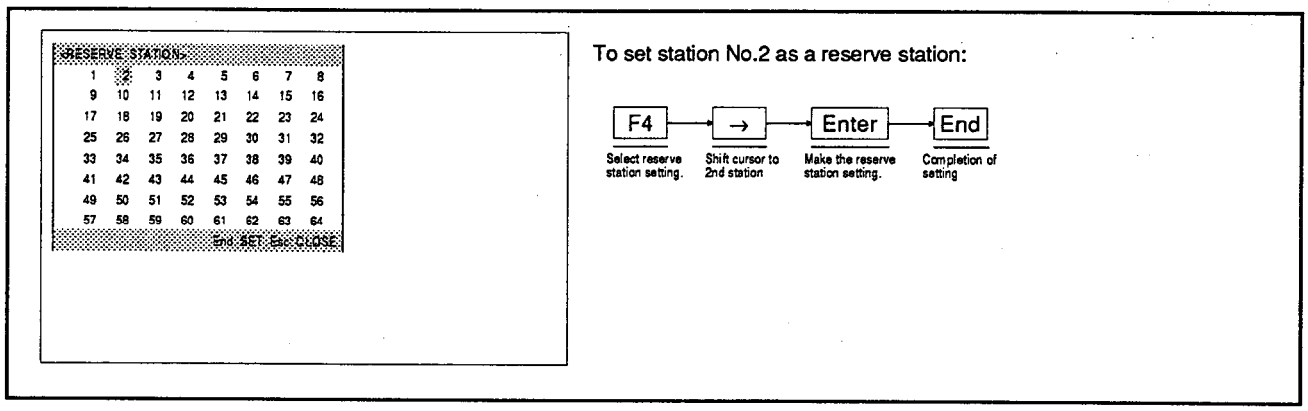
- **Changing module numbers**

  Setting of the common parameters (remote I/O) of other network modules can be enabled by pressing one of keys [F1] to [F4] while holding down the [Shift] key.

  [Shift] + [F1] : Module No.1
  [Shift] + [F2] : Module No.2
  [Shift] + [F3] : Module No.3
  [Shift] + [F4] : Module No.4

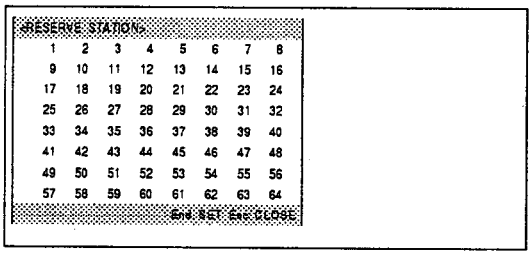
(b) Reserve station setting
This operation is used to set the station number and send range for a station that is to be connected in the future in advance, making it a reserve station, and also to set stations that are actually connected as reserve stations.

OPERATION EXAMPLE



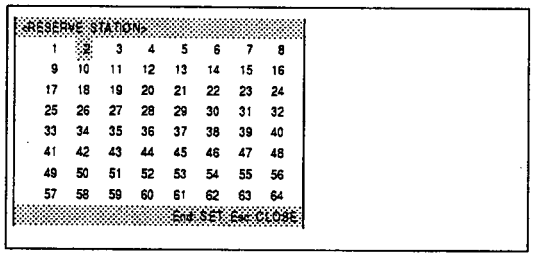
EXPLANATION

F4



1 Press the [F4] key while the COMMON PARAM. (MELSECNET/10) REMOTE I/O window is displayed. The RESERVE STATION window opens.

→ Enter



2 Move the cursor to the station number to be designated for the reserve station and press the [Enter] key.
The station number will be highlighted and the reserve station designation completed.
If the cursor is moved to the position of a station number that has already been designated and the [Enter] key pressed, the reserve station designation will be cancelled.

End

3 Complete setting by pressing the [End] key.
Pressing the [Esc] key cancels the setting. (The set data is not registered.)

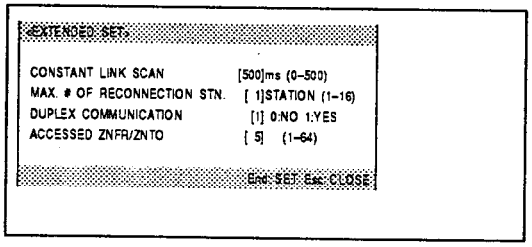
ADVICE

- **Reserve station setting when setting the send range for each station**

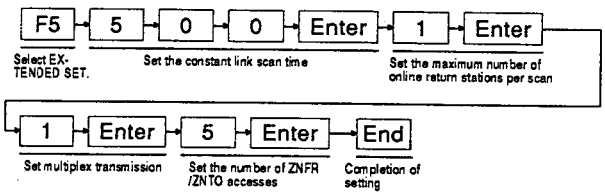
  Reserve stations can be also be set/cancelled by pressing the [F2] key when setting the send range for each station.
  Move the cursor to the send range setting field for the station number of the reserve station that is to be set/cancelled and press the [F2] key.

(c) Expansion setting
This operation sets the settings relating to transient transmission.

OPERATION EXAMPLE

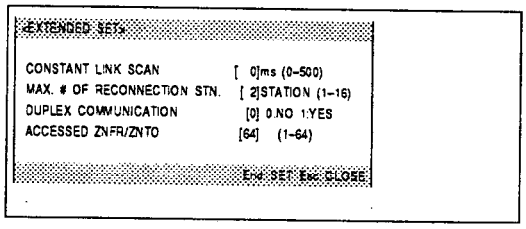


To make the following settings:
Constant link scan = 500 msec
Maximum number of online return stations per scan = 1
Multiplex transmission = ON
Number of ZNFR/ZNTO accesses = 5
Follow the procedure below:



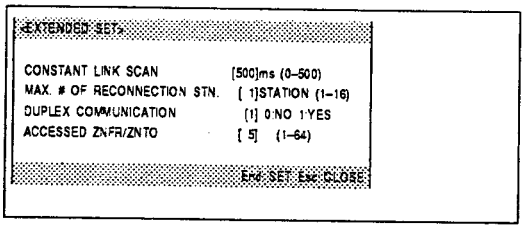
EXPLANATION

F5



1 Press the [F5] key while the COMMON PARAM. (MELSECNET/10) REMOTE I/O window is displayed. The EXTENDED SET window opens.

5 → 0 → 0 → Enter → 1 → Enter → 1 → Enter → 5 → Enter



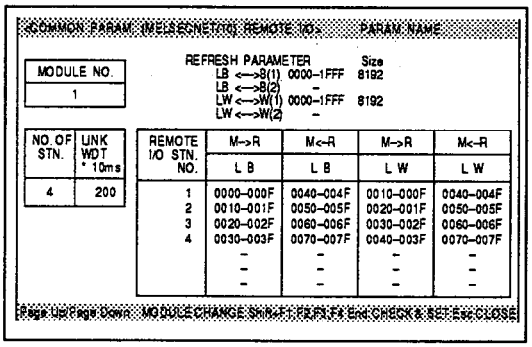
2 Set the constant link scan time, the maximum number of online return stations per scan, the multiplex transmission ON/OFF status, and the number of ZNFR/ZNTO accesses.

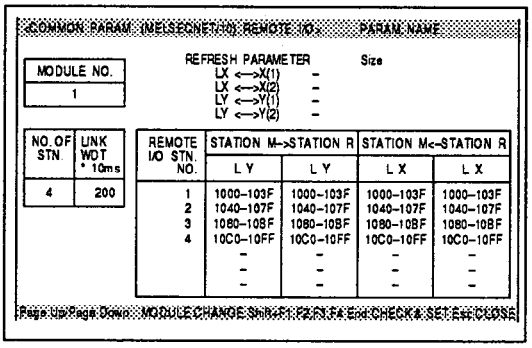
End

3 Complete setting by pressing the [End] key.
Pressing the [Esc] key cancels the setting. (The set data is not registered.)

(d) Uniform allocation
This operation is used to allocate link device points to all stations uniformly when there are a large number of stations.

OPERATION EXAMPLE





To execute uniform allocation under the following conditions,

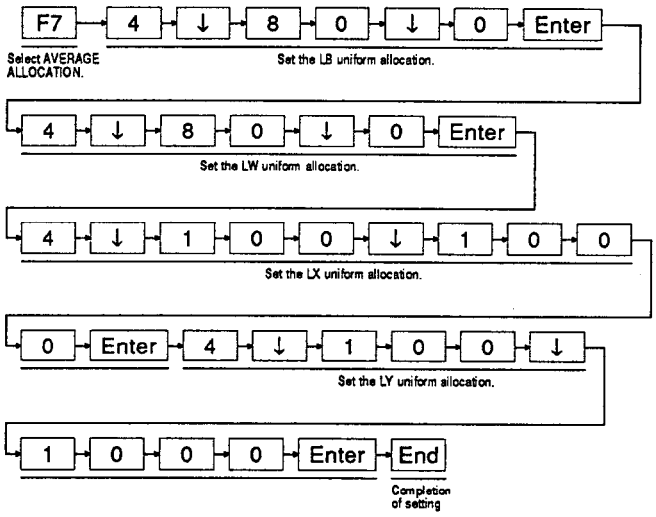
LB :Number of stations for uniform allocation: 4
Number of points allocated: 80H (128) points
Head device in uniform allocation: LB0000

LX :Number of stations for uniform allocation: 4
Number of points allocated: 100H (256) points
Head device in uniform allocation: LX1000

LW :Number of stations for uniform allocation: 4
Number of points allocated: 80H (128) points
Head device in uniform allocation: LW0000

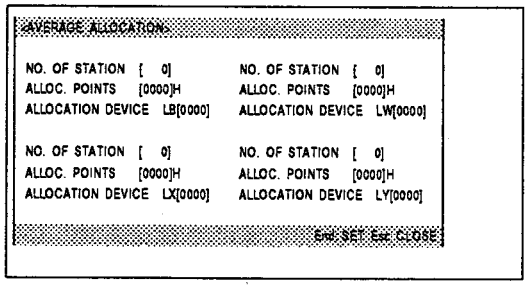
LY :Number of stations for uniform allocation: 4
Number of points allocated: 100H (256) points
Head device in uniform allocation: LY1000

Follow the procedure below:



EXPLANATION

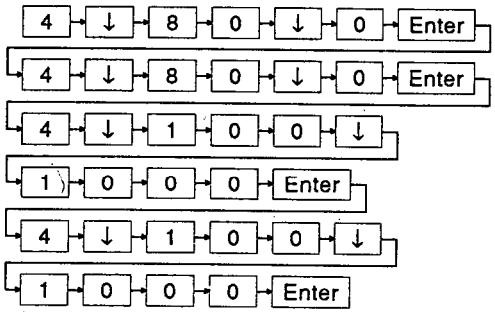
F7



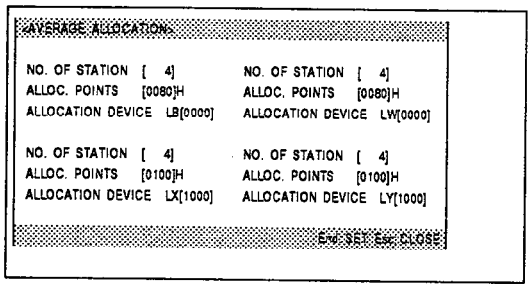
1 Press the [F7] key while the common parameter (MELSECNET/10) remote I/O network window is displayed.
The AVERAGE ALLOCATION window opens.

REMARK

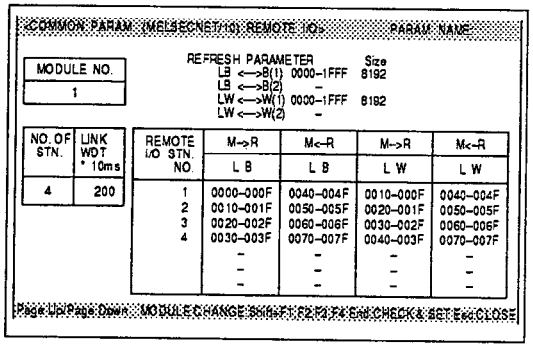
The [F7] key is only valid while the cursor is located at the LB/LW or LX/LY send range setting field.



2 Set the conditions for uniform allocation of each link device.



End



3 Complete setting by pressing the [End] key.
Pressing the [Esc] key cancels the setting.

POINT

- **Specifying the head station number for uniform allocation**

  In uniform allocation, the station number in the send range setting field where the cursor was located before displaying the AVERAGE ALLOCATION window (by pressing [F7]) is taken as the head station number for uniform allocation.
  To make allocations starting from a specific station in the set total number of link stations, move the cursor to the send range setting field for that station before displaying the AVERAGE ALLOCATION window.

- **Setting the number of uniform allocation stations**

  The number of uniform allocation stations can be set within the range from the head station number for uniform allocation to the final station number (total number of link stations - (head station No. - 1)).
  It is not possible to set a number of stations higher than the maximum value indicated above.
  If a number of stations lower than the minimum value indicated above is set, uniform allocation is executed for the set number of stations in order starting from the head station number.
  When executing uniform allocation for LX/LY devices, if the I/O master station is set before making the uniform allocation setting, it is not possible to include the station number of the I/O master station in the number of uniform allocation stations.

- **Setting units for number of allocated points**

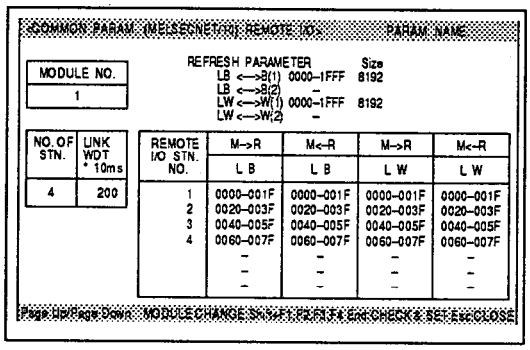
  Set the number of allocated points in the following units.
  LB, LX, LY: 16 point units LW: 1 point units

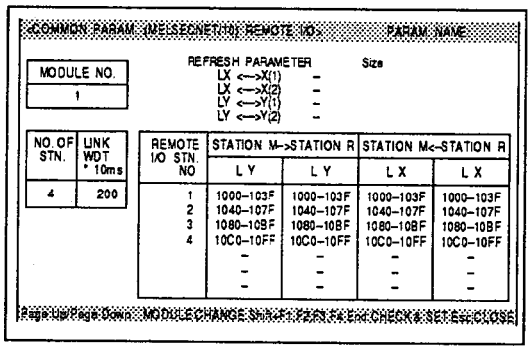
- **Processing of remaining points in uniform allocation**

  If there are points left over in uniform allocation with the set number of allocation stations and number of allocated points, the remaining points are allocated in 16-point units to LB, LX, and LY, and in 1 point units to LW, in order starting from the head station number.

(e) Allocation by specifying the number of points
This operation is used to allocate different numbers of points for each station, for example when there are many stations.

OPERATION EXAMPLE

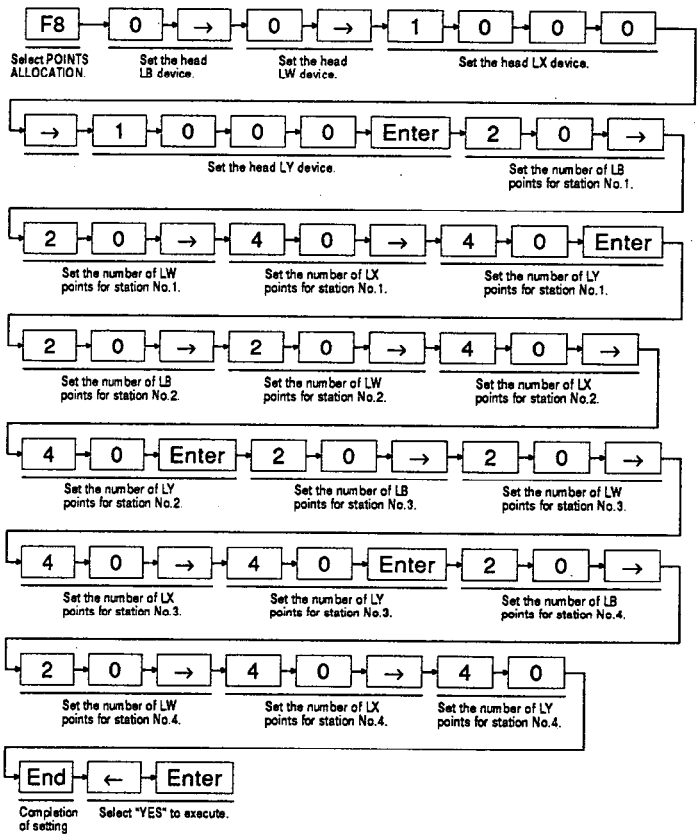




To make the following settings for a network in which the total number of link stations is 4,

Head allocated devices = LB: 0, LW: 0, LX: 1000, LY: 1000
Number of points for station No.1 =
LB : 20H (32) points, LW : 20H (32) points
LX : 40H (64) points, LY : 40H (64) points
Number of points for station No.2 =
LB : 20H (32) points, LW : 20H (32) points
LX : 40H (64) points, LY : 40H (64) points
Number of points for station No.3 =
LB : 20H (32) points, LW : 20H (32) points
LX : 40H (64) points, LY : 40H (64) points
Number of points for station No.4 =
LB : 20H (32) points, LW : 20H (32) points
LX : 40H (64) points, LY : 40H (64) points

Follow the operation below:



EXPLANATION

F8

POINTS ALLOCATION

F1 DEVICE ALLOCATION

LB [0000]	LW[0000]	LX[0000]	LY[0000]

STN. NO	NO. OF LB	NO. OF LW	NO. OF LX	NO. OF LY
1	0000	0000	0000	0000
2	0000	0000	0000	0000
3	0000	0000	0000	0000
4	0000	0000	0000	0000

End:SET Esc:CLOSE

1 Press the [F8] key while the COMMON PARAM. (MELSECNET/10) REMOTE I/O window is displayed. The POINTS ALLOCATION window opens.

REMARK

The [F8] key is only valid while the cursor is located at the LB/LW or LX/LY send range setting field.

0 → 0 → 1 0 0 0 → 1 0 0 0 Enter

POINTS ALLOCATION

F1 DEVICE ALLOCATION

LB [0000]	LW[0000]	LX[1000]	LY[1000]

STN. NO	NO. OF LB	NO. OF LW	NO. OF LX	NO. OF LY
1	0000	0000	0000	0000
2	0000	0000	0000	0000
3	0000	0000	0000	0000
4	0000	0000	0000	0000

End:SET Esc:CLOSE

2 Set the head device number for each link device.

2 0 → 2 0 → 4 0 → 4 0 Enter 2 0 → 2 0 → 4 0 → 4 0 Enter 2 0 → 2 0 → 4 0 → 4 0 Enter 2 0 → 2 0 → 4 0 → 4 0

POINTS ALLOCATION

F1 DEVICE ALLOCATION

LB [0000]	LW[0000]	LX[1000]	LY[1000]

STN. NO	NO. OF LB	NO. OF LW	NO. OF LX	NO. OF LY
1	0800	0100	0100	0100
2	0200	0200	0000	0000
3	0100	0100	0800	0400
4	1000	0200	0400	0800

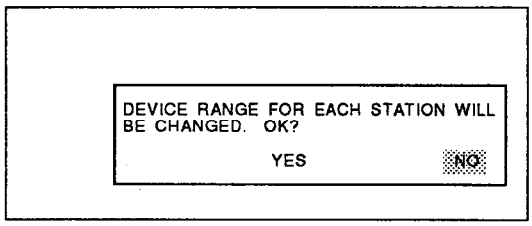
End:SET Esc:CLOSE

3 Set the number of link device points used by each station.

REMARK

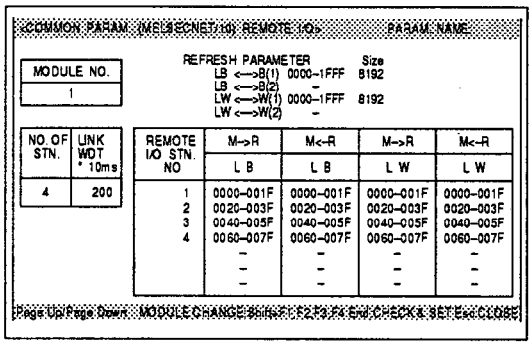
The maximum total number of allocated points for all stations is 8192 (2000H) for each device.

End



4 Press the [End] key; the screen for checking the device ranges will be displayed.

← Enter



5 Select "YES" by pressing the [←] key and press the [Enter] key to execute the allocation by specifying the number of points.

POINT

- **Specifying the head station number for allocation by specifying the number of points**

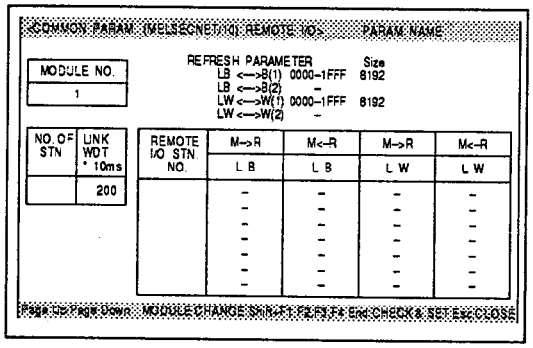
  In allocation by specifying the number of points, the station number in the send range setting field where the cursor was located before displaying the allocation by specifying the number of points window (by pressing [F8]) is taken as the head station number for allocation by specifying the number of points. To make allocations starting from a specific station in the set total number of link stations, move the cursor to the send range setting field for that station before displaying the allocation by specifying the number of points window.

- **Setting units for number of allocated points**

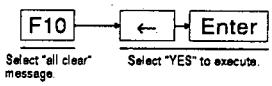
  Set the number of allocated points in the following units.
  LB, LX, LY: 16 point units LW: 1 point units

(f) Common parameter all clear
This operation clears all the common parameter data during setting.

OPERATION EXAMPLE

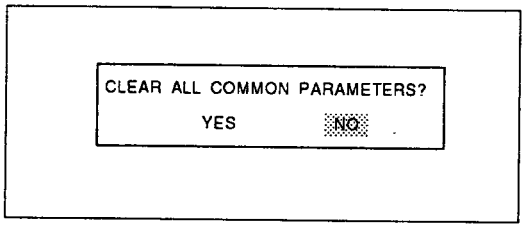


To clear all common parameter settings:



EXPLANATION

F10



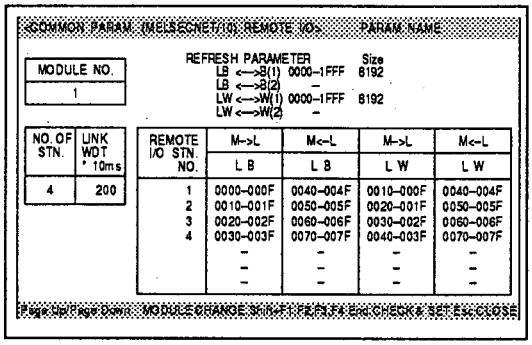
1 Press the [F10] key while the COMMON PARAM. (MELSECNET/10) REMOTE I/O window is displayed.

← Enter

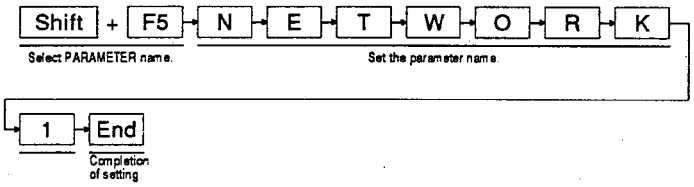
2 Confirm execution of the "all clear" operation.

(g) Parameter name setting
This operation sets names for parameters.

OPERATION EXAMPLE

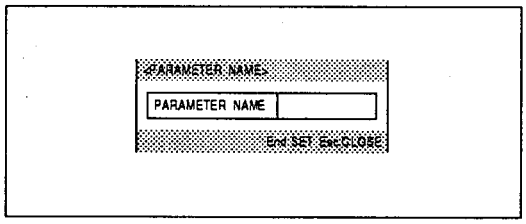


To set the name "NETWORK 1" for common parameters:



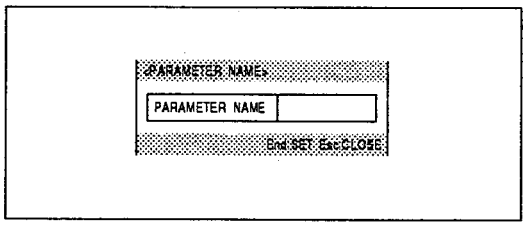
EXPLANATION

Shift → F5



1 Press [Shift] + [F5] while the COMMON PARAM. (MELSECNET/10) REMOTE I/O window is displayed. The PARAMETER NAME opens.

N → E → T → W → O → R → K → 1



2 Set the parameter name.
The parameter name can be specified as up to eight 1-byte alphanmeric characters.
2-byte characters cannot be used.

End

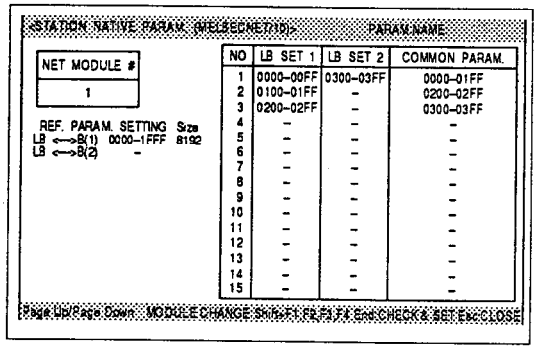
3 Complete setting by pressing the [End] key.
Pressing the [Esc] key cancels the setting.

7.5.5 Station specific parameter setting

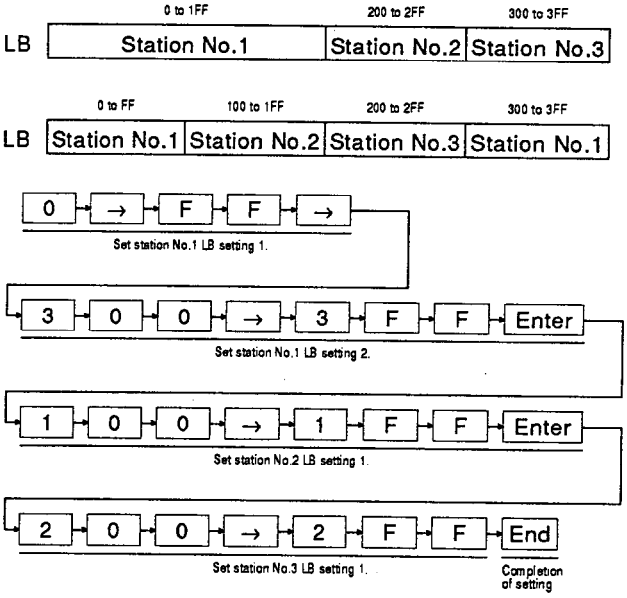
These parameters are set to change the locations at which the link devices (LB, LW) allocated to each station using the common parameters are stored in the network modules.
Setting the station specific parameters makes it easy to change the program even when the link devices are extended.
Station specific parameters are not set for remote I/O networks.

7.5.5.(1) Station specific parameter setting

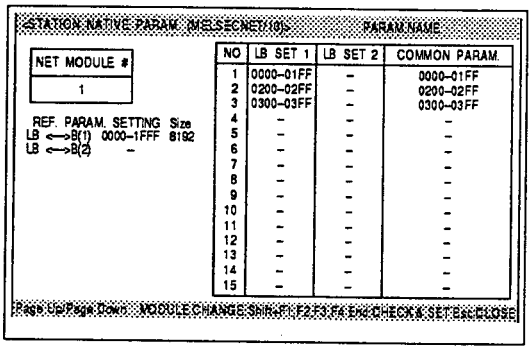
OPERATION EXAMPLE



To make the station specific parameter settings to allocate the second half 256 points for LB devices (LB100 to 1FF) as LB300 to 3FF:

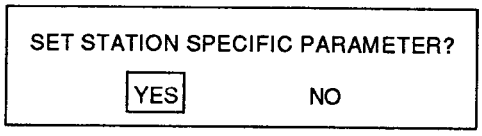


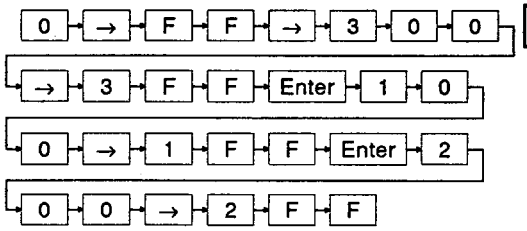
EXPLANATION



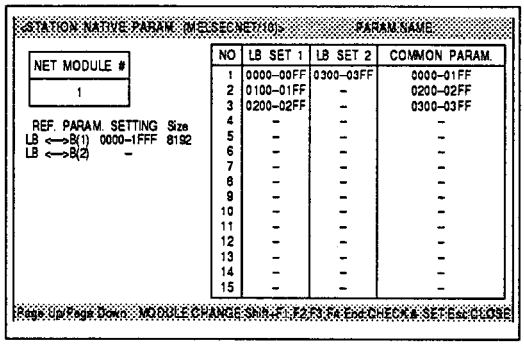
1 Station specific parameters can be set if a MELSECNET/10 control station or MELSECNET/10 normal station was set in the number of modules settings. The station specific parameter (MELSECNET /10) window is opened by selecting "YES" in the station specific parameter setting dialog box, which is displayed on completion of the number of modules settings.

[Station specific parameter setting dialog box]





2 Set the station specific parameters.



End

3 Complete setting by pressing the [End] key.
Pressing the [Esc] key cancels the setting.

ADVICE

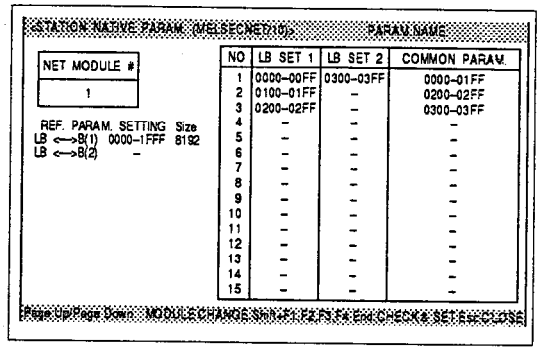
- **Setting the LW station specific parameters**

  Press the [F9] key to set the LW station specific parameters.
  The setting operation is the same as that for the LB devices.

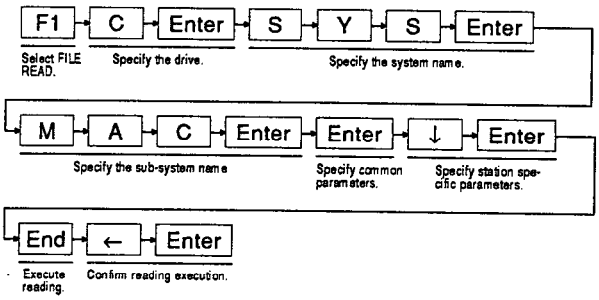
7.5.5.(2) Station specific parameter file reading

Reads the station specific parameters in created files.

OPERATION EXAMPLE

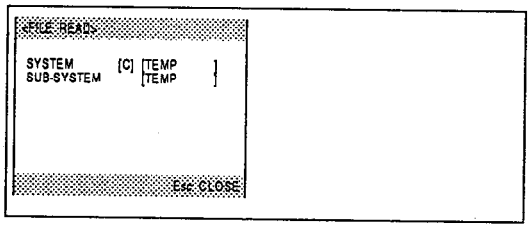


To read the common parameters and station specific parameters in the file identified as follows:
drive C, system = SYS, sub-system name = MAC:



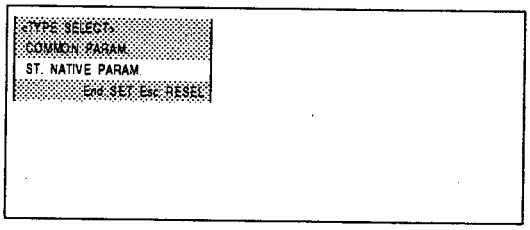
EXPLANATION

F1



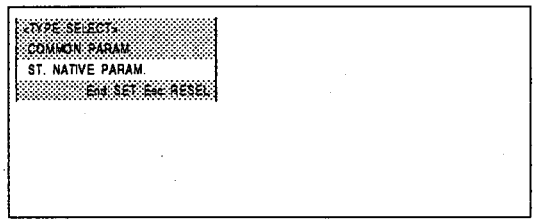
1 Press the [F1] key while the STATION NATIVE PARAM. (MELSECNET/10) window is displayed.
The FILE READ window opens.

C → Enter → S → Y → S → Enter → M → A → C → Enter



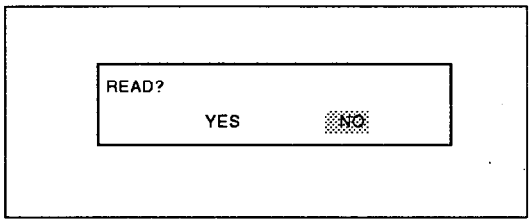
2 Specify the drive, system name and sub-system name.
The type selection window opens.

Enter → ↓ → Enter



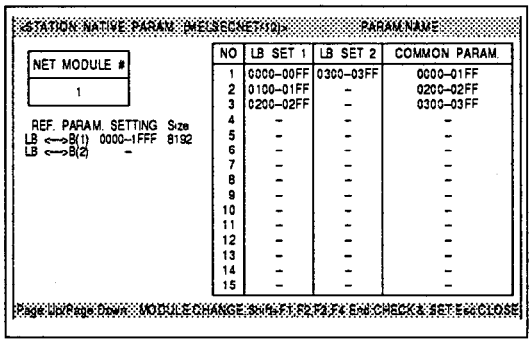
3 Specify the type of parameter to be read by using the [↓]/[↑] and [Enter] keys.
"*" indicates that the relevant parameters exist in the specified file.
Pressing the [Enter] key changes the "*" to "#", which means the parameters are specified for reading.
Pressing the [Enter] key alternately sets "*" and "#".

End



4 Press the [End] key: the reading confirmation dialog box will be displayed.

← → Enter

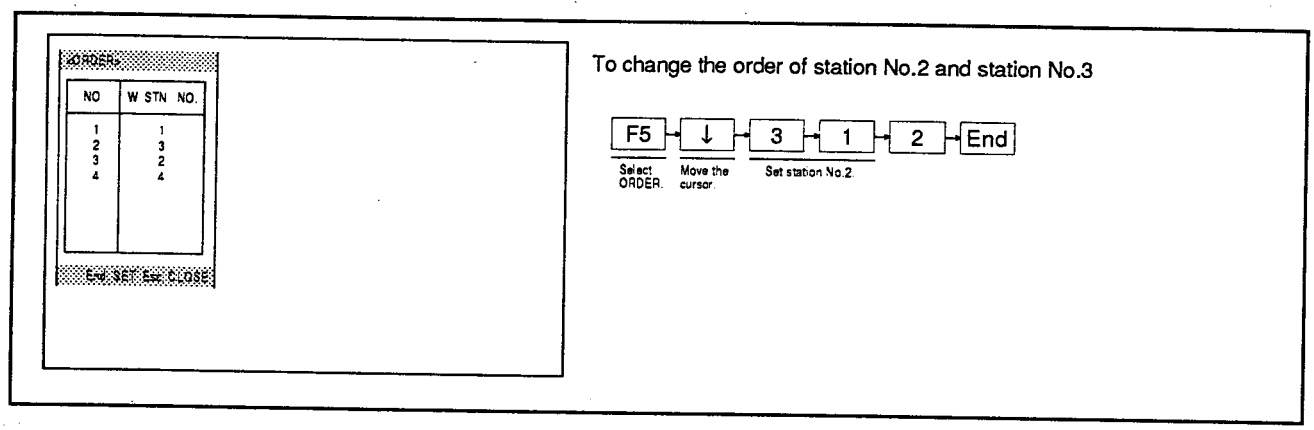


5 Select "YES" to read the parameters.

7.5.5.(3) Rearranging the station order

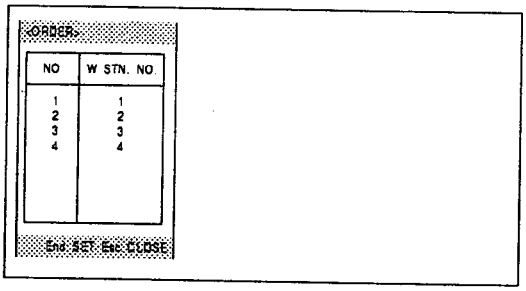
Rearranges the order of stations by setting the allocated ranges of stations set in the station specific parameters so that they become the allocated range for other stations.

OPERATION EXAMPLE



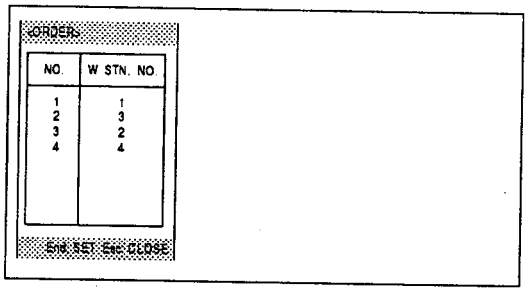
EXPLANATION

F5



1 Press the [F5] key while the STATION NATIVE PARAM. (MELSECNET/10) window is displayed.
The ORDER window opens.

↓ → 3 → ↓ → 2



2 Set a station number for the set number.

End

3 Complete setting by pressing the [End] key.
Pressing the [Esc] key cancels the setting.

POINT

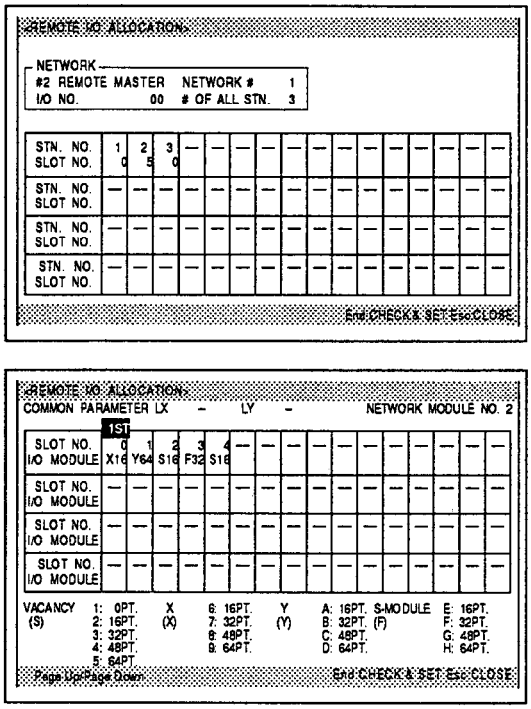
- **Restrictions on station order rearrangement**

  Station order rearrangement is only valid for the LB setting 1/LW setting 1 setting ranges.

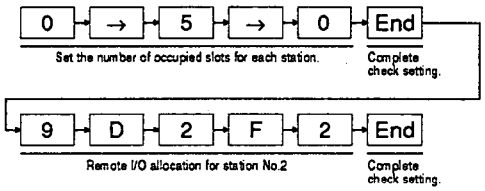
7.5.6 I/O allocation

Sets the number of occupied slots and remote I/O allocations for each station when configuring a remote I/O network with a MELSECNET/10 network system.
By setting the remote I/O allocations, the number of points occupied by vacant slots can be saved, and the number of I/O points occupied by vacant slots can be reserved for future expansion.

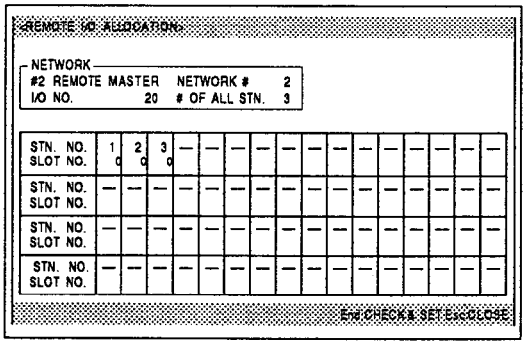
OPERATION EXAMPLE



To make the following settings when the total number of link stations is 3, +
Station No.1 : Remote I/O allocation not performed.
Station No.2 : Number of occupied slots = 5, +
Slot 1 : Input module (64 points)
Slot 2 : Output module (64 points)
Slot 3 : Vacant (16 points)
Slot 4 : Special function module (32 points)
Slot 5 : Vacant (16 points)
Station No.3 : Remote I/O allocation not performed.
Follow the procedure below:

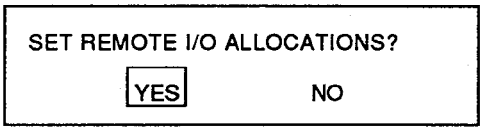


EXPLANATION

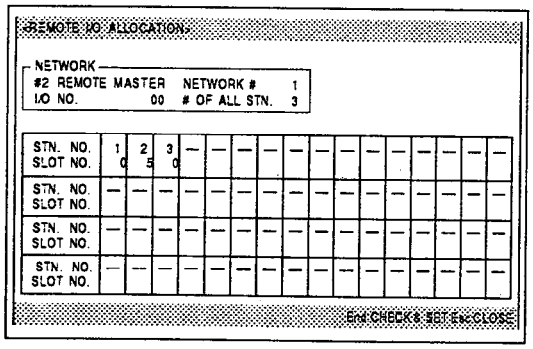


1 Remote I/O allocation is possible if a MELSECNET/10 remote master station was set in the number of modules settings.
The REMOTE I/O ALLOCATION window is opened by selecting "YES" in the remote I/O allocation setting dialog box, which is displayed on completion of the number of modules settings.

[Remote I/O allocation setting dialog box]

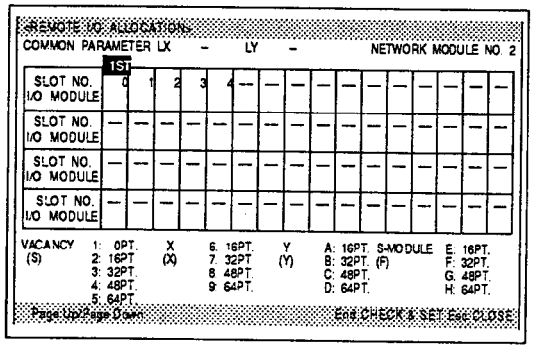


0 → 5 → 0



2 Set the number of occupied slots (0 to 512) for each station.
Set "0" as the number of slots for station numbers for which remote I/O allocation is not performed.

End

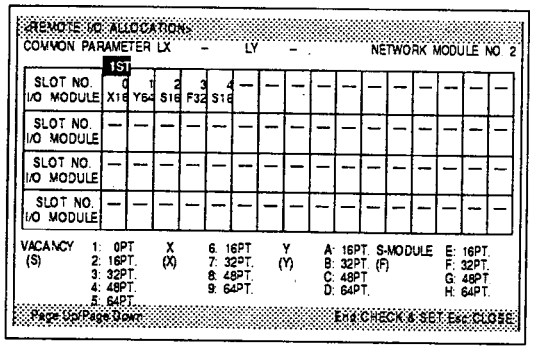


3 After setting the number of occupied slots, press the [End] key.
The REOTE I/O ALLOCATION window opens.
The set number of occupied slots is displayed allocated to station number.

REMARK

When LX and LY devices are set using the common parameters, the LX and LY setting ranges are displayed in the upper part of the window.

9 → D → 2 → 2



4 Allocate the I/O modules at each slot number for each station.

End

5 Complete setting by pressing the [End] key.
If the [Esc] key is pressed the setting will be cancelled and the display will return to the REMOTE I/O ALLOCATION window.

ADVICE

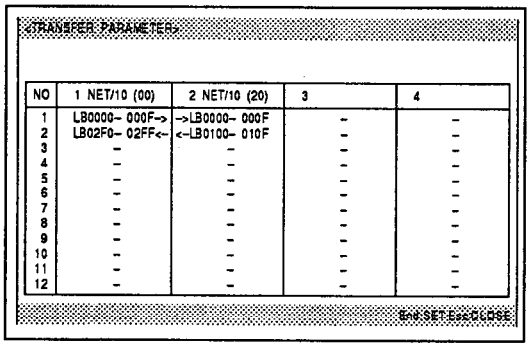
- **Clearing all remote I/O allocations**

  Pressing the [F10] key sets the default values for the remote I/O allocation parameter data. The [F10] key functions differently depending on whether the Station No. setting window is displayed or the I/O module allocation window displayed.

7.5.7 Setting the parameters for data transfer between network modules

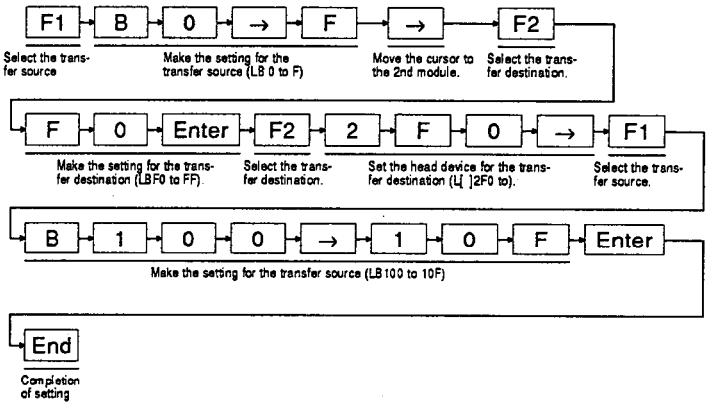
This operation sets the parameters for the transfer of the link devices (LB, LW) stored in one network module to another network module.
Transfer parameters for data link are not set for remote I/O networks.

OPERATION EXAMPLE

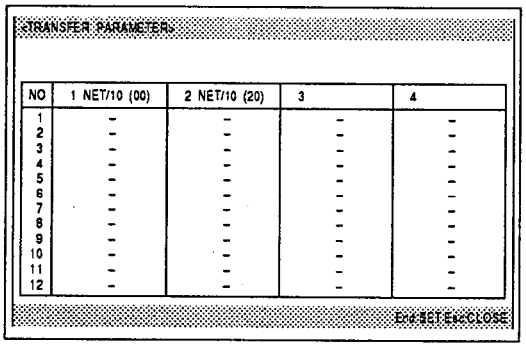


NO	1 NET/10 (00)	2 NET/10 (20)	3	4
1	LB0000- 000F->	->LB0000- 000F	-	-
2	LB02F0- 02FF<-	<-LB0100- 010F	-	-
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-

To make the following settings for a station at which two network modules are installed,
Transfer of LB 0 to F of the first network module to LB F0 to FF of the second network module.
Transfer of LB 100 to 10F of the second network module to LB 2F0 to 2FF of the first network module,
follow the procedure below:



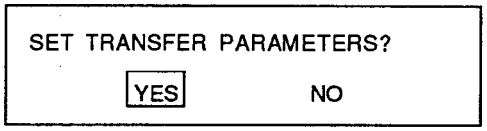
EXPLANATION



NO	1 NET/10 (00)	2 NET/10 (20)	3	4
1	-	-	-	-
2	-	-	-	-
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-

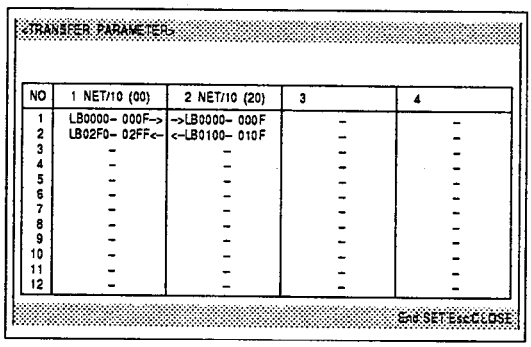
1 Setting the transfer parameters for data link is possible if more than one network module (with the exception of a MELSECNET/10 remote master station) was set in the number of modules settings.
The TRANSFER PARAMETER window is opened by selecting "YES" in the transfer parameters for data link setting dialog box, which is displayed on completion of the number of modules settings.

[Transfer parameters for data link setting dialog box]



F1 → B → 0 → → → F → → → F2 → F → 0 → Enter → F2 → 2 → F → 0 → → → F1 → B → 1 → 0 → 0 → → → 1 → 0 → F → Enter

2 Set the transfer ranges.



NO	1 NET/10 (00)	2 NET/10 (20)	3	4
1	LB0000- 000F->	->LB0000- 000F	-	-
2	LB02F0- 02FF<-	<-LB0100- 010F	-	-
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-

End

3 Complete setting by pressing the [End] key.
Pressing the [Esc] key cancels the setting.

ADVICE

- **Clearing set values in each setting field**

  The set data at the cursor position can be cleared by pressing the [Delete] key.
  The line of set data at the cursor position can be cleared by pressing the [F9] (line delete) key.
  All the set transfer parameters for data link data can be cleared by pressing the [F10] (clear) key.

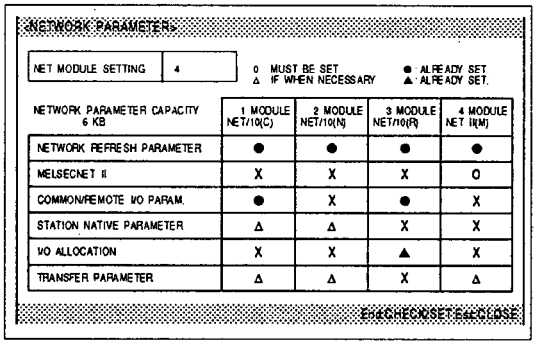
- **About transfer size**

  Make the setting so that the total transfer size for LB/LW does not exceed 8 K points.
  With MELSECNET II, set so that neither the transfer size nor device numbers exceed 2 K points.

7.5.8 Correcting set network parameters

Displays the setting window for the relevant parameter to allow checking or correction of set data link parameters.

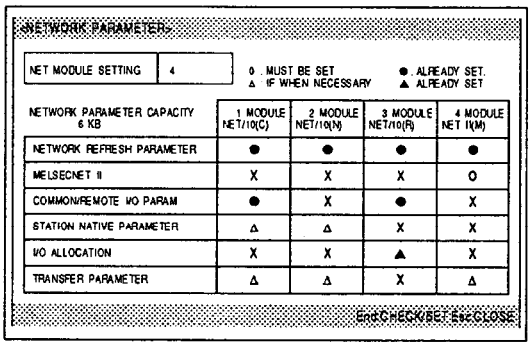
OPERATION EXAMPLE



NETWORK PARAMETER CAPACITY 6 KB	1 MODULE NET/10(C)	2 MODULE NET/10(N)	3 MODULE NET/10(R)	4 MODULE NET II(M)
NETWORK REFRESH PARAMETER	●	●	●	●
MELSECNET II	X	X	X	O
COMMON/REMOTE I/O PARAM.	●	X	●	X
STATION NATIVE PARAMETER	Δ	Δ	X	X
I/O ALLOCATION	X	X	▲	X
TRANSFER PARAMETER	Δ	Δ	X	Δ

To display the station specific parameter setting window for the second MELECNET/10 module (normal station):

EXPLANATION



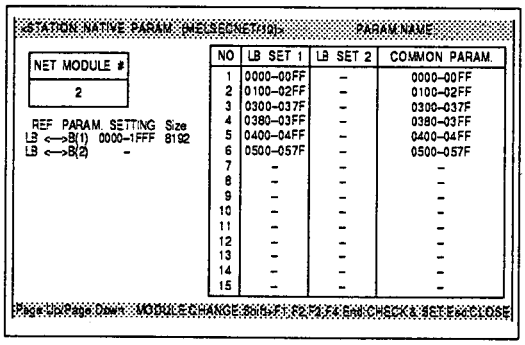
NETWORK PARAMETER CAPACITY 6 KB	1 MODULE NET/10(C)	2 MODULE NET/10(N)	3 MODULE NET/10(R)	4 MODULE NET II(M)
NETWORK REFRESH PARAMETER	●	●	●	●
MELSECNET II	X	X	X	O
COMMON/REMOTE I/O PARAM	●	X	●	X
STATION NATIVE PARAMETER	Δ	Δ	X	X
I/O ALLOCATION	X	X	▲	X
TRANSFER PARAMETER	Δ	Δ	X	Δ

1 Select "1: DATA LINK PARAM." from the network/link setting window.
The network parameter window opens.

REMARK

If the number of modules settings have not been set yet, the MODULES window will open instead of the network parameter window.
In this case set the number of modules settings by referring to Section 7.5.1.

→ ↓ ↓ ↓ Enter



2 Move the cursor to the module/parameter type field where the setting is to be made and press the [Enter] key.
The setting window for the relevant parameter type will open.
The setting operation for each parameter is the same as the operation used for new settings.
Set the parameters by referring to Sections 7.5.2 to 7.5.7.

Parameter Type		Reference Section
Network refresh parameters	MELSECNET/10 (control station/normal station)	7.5.2(1)
	MELSECNET/10 (remote I/O station)	7.5.2 (2)
	MELSECNET II (master station/local station)	7.5.2 (3)
MELSECNET II		7.5.3
Common/ remote I/O parameters	MELSECNET/10 (control station)	7.5.4(1)
	MELSECNET/10 (remote master station)	7.5.4(2)
Station specific parameters		7.5.5
I/O allocations		7.5.6
Transfer parameters for data link		7.5.7

REMARK

- Setting fields marked "X" cannot be set.
- After correcting data in any parameter setting window, press the [End] key to overwrite the data.

ADVICE

◦ Setting the number of modules settings

The MODULES window is opened by pressing the [F1] (module) key while the network parameter window is displayed.
For details of operations, refer to Section 7.5.1.

◦ Clearing individual network parameter settings

The network parameter at the cursor position can be deleted by pressing the [Delete] key while the network parameter window is displayed.
However, since the module type has been set, the network refresh parameters cannot be cleared.

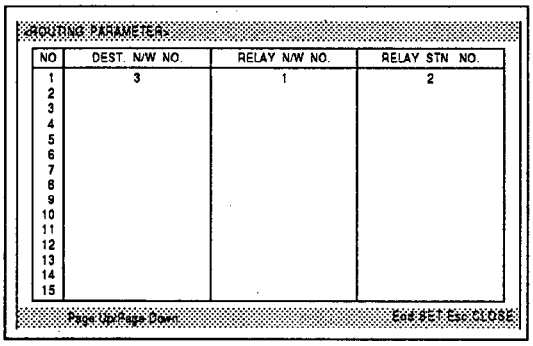
◦ Clearing all data link parameters

All the set network parameters can be cleared by pressing the [F10] (clear) key while the network parameter window is displayed.
However, the data is retained immediately after the clear operation is executed and the original data can be displayed by pressing the [Esc] key and redisplaying the data link parameter window.
To irrevocably delete the data, press the [End] key after executing the clear operation.
If, after executing a clear operation, the [F1] key is pressed and number of modules setting carried out, the original data will be deleted.

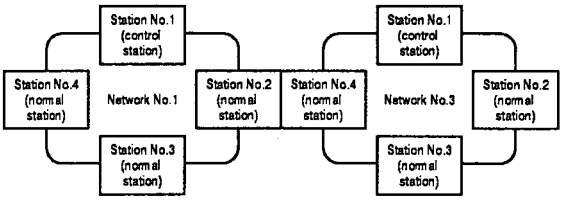
7.5.9 Routing parameter setting

Sets the transmission route between the request source and request destination in order to carry out transient transmission between stations in different networks.

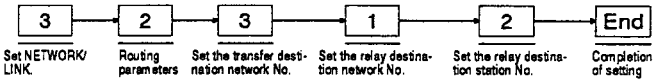
OPERATION EXAMPLE



To set the routing parameters for station No.3 of network No.1 that are required to execute transient transmission from station No.3 of network No.1 to station No.2 of network No.3 in the network system shown below:

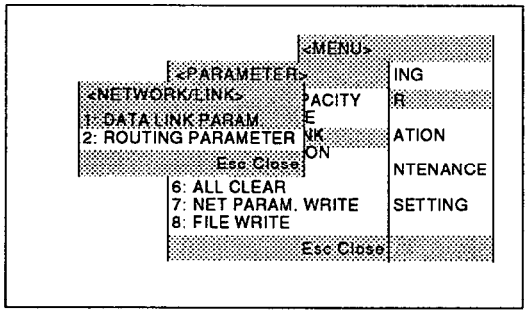


Transfer destination network No. = 3
Relay destination network No. = 1
Relay destination station No. = 2



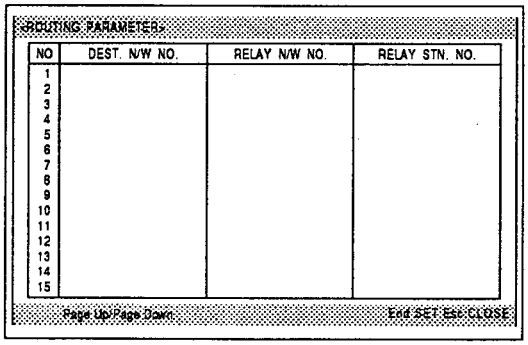
EXPLANATION

3



1 Select "3. NETWORK/LINK" from the parameter menu window.
The network/link setting window opens.

2



2 Select routing parameters.
The routing parameter window opens.

3 → 1 → 2 → Enter

<ROUTING PARAMETER>

NO	DEST. N/W NO.	RELAY N/W NO.	RELAY STN. NO.
1	3	1	2
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Page Up/Page Down End:SET Esc:CLOSE

3 Set the transfer destination network No., the relay destination network No., and the relay destination station No.

End

4 Press the [End] key again to complete setting. Pressing the [Esc] key cancels the setting.

ADVICE

- **Clearing the set values in each setting field**

[Delete] : The set data at the cursor position can be cleared by pressing the [Delete] key.

[F9] : The line of set data at the cursor position can be cleared by pressing the [F9] (line delete) key.

[F10] : All the routing parameter set data can be cleared by pressing the [F10] (clear) key.