1. GENERAL DESCRIPTION

This user's manual describes the installation procedure for the A7GT-MCA0/256/512/768 K-LD Built-In Ladder Monitor Function Memory Cassette (henceforth referred to as the memory cassette) and the procedure for executing ladder monitoring.

Installing a memory cassette in an A77GOT-S3 graphic operating terminal (hereafter abbreviated to "A77GOT-S3") enables monitoring of the sequence program. The memory cassette can also be used to expand the internal memory if the volume of monitor data exceeds 256 Kbytes.

The memory cassettes are classified as follows depending on the type of display:

<table>
<thead>
<tr>
<th>Model Name</th>
<th>Memory Capacity</th>
<th>Total Memory Capacity after Installing A77GOT-S3</th>
</tr>
</thead>
<tbody>
<tr>
<td>A7GT-MCA0K-LD</td>
<td>0 Kbytes</td>
<td>256 Kbytes</td>
</tr>
<tr>
<td>A7GT-MCA256K-LD</td>
<td>256 Kbytes</td>
<td>512 Kbytes</td>
</tr>
<tr>
<td>A7GT-MCA512K-LD</td>
<td>512 Kbytes</td>
<td>768 Kbytes</td>
</tr>
<tr>
<td>A7GT-MCA768K-LD</td>
<td>768 Kbytes</td>
<td>1024 Kbytes</td>
</tr>
</tbody>
</table>

The following additional functions are available when using memory cassettes whose software version is C or later:

- Entry code check for PC read operations, and entry code input
- Consecutive reading of all relevant ladder blocks

Checking the software version:

The following diagram illustrates the steps for installing a memory cassette:

1. Turn off the power to the A77GOT-S3 before installing or removing the memory cassette.
2. Remove the cassette cover attached to the back side of the A77GOT-S3 by pulling it out pressing in the part (A).
3. Install a memory cassette to the back side of the A77GOT-S3.
3. QUICK GUIDE TO PROCEDURE PRIOR TO EXECUTING LADDER MONITORING

3 QUICK GUIDE TO PROCEDURE PRIOR TO EXECUTING LADDER MONITORING

3.1 Operations on the PC Read Screen

This is the operation used to read the sequence program to be monitored from the PC CPU.

**PC read screen**

**[Procedure]**

1. Specify station for reading [F][F], [0] to [6][4]
2. Specify item to be read [↑][↓]
3. Execute PC read [→]
4. Input the entry code [1] to [0], [A] to [F]
   (If one is registered in the PC CPU)
5. Entry code check [←]
   If the input entry code matches the registered one, or if no entry code is registered, the processing details and volume of reading are displayed after execution of the PC read operation
6. Switch to the ladder monitor screen [F3]

**[Key functions]**

[F1] Used to switch to the monitor screen
[F3] Used to switch to the system menu screen/ladder monitor screen
[F5]: Used to stop PC read processing
[SP] Used to clear the input station to be read or the input entry code

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Switching to the system menu screen

Selection of the ladder monitor function

PC reading screen

See Section 3.1

[Ladder monitor screen]

See Section 3.2

[Ladder read screen]

See Section 3.1

If PC read is not performed

The ladder monitor start key is set using the special key function of the SW1[] AGOTP software
Ladder Monitor Screen

[Display contents]

- A maximum of eight ladder rungs can be displayed on one screen when using the ladder monitor function. When using the ladder with comment monitor function, the maximum is four rungs.
- The maximum number of contacts that can be displayed on one rung is eleven. If twelve or more contacts are set, those from the twelfth on will be displayed on a new rung underneath the existing ones on the screen.
- ON/OFF states in the ladder are displayed as follows:
  - Display in OFF state or when the RST instruction device is ON:
    - [ ]
  - Display in ON state or when the RST instruction device is OFF:
    - [ ]
- The MCR instruction is always displayed like this:
  - [ ]
- The present value or set value for up to seven word devices, timers, and counters is displayed at the bottom of the screen:
  - T0 [7] Present value displayed [0]
  - C1 [10] Present value displayed [D2]
  - 25 [Set value displayed] [50]

[Key functions]

- [F1] Used to switch to the monitor screen
- [F3] Used to switch to the system menu screen
- [F4] Used to switch to the PC read screen
- [F5]: Used to switch between decimal and hexadecimal display formats
- [F6] Used to switch to the ladder read screen
- [F8]: Used to switch between the ladder with comment monitor screen and the ladder monitor screen

- [↑][↓] Used to switch between displays at the bottom of the screen if there are eight or more word devices, timers, and counters on one screen
- [↑][↓] Used to scroll the screen up and down in ladder block units

POINT

If the PC CPU comment capacity is changed after executing a PC read operation, comments may not be displayed on the ladder monitor screen. If the comment capacity is changed, execute PC read again.
3.3 Ladder Read Screen Operations

Specify the ladder program to be monitored
Any of the following operations can be used to specify the program
(1) Specifying a step number
(2) Specifying the final ladder block of the program
(3) Specifying a device number
(4) Specifying a circuit symbol and device number

[Ladder read screen]

[Step selection]

F1: Monitor
F2: Ladder monitor
F3: Device select
F4: Clear

[Device selection screen]

F1: Monitor
F2: Ladder monitor
F3: Step select

[F4] [F5] [F6] [END]

To ladder monitor screen

[X] to [P]

[Device number specification screen]

F1: Monitor
F2: Ladder monitor
F3: Device select
F4: Clear

1 to [F] [J]

To the ladder monitor screen

[Procedure]

(1) Monitoring a ladder program by specifying a step number
- Specify the step number: [1] to [9]
- Execute monitoring: [1] to [9]

(2) Monitoring a ladder program by specifying the final ladder block:
- Specify the END Instruction: [END]

(3) Monitoring a ladder program by specifying a device number:
- Display the device selection screen: [F4]
- Specify the device name: [X] to [P]
- Specify the device number: [1] to [9]
- Execute monitoring: [1] to [9]

The program is displayed with the specified device number highlighted

(4) Monitoring a ladder program by specifying a circuit symbol and device number
- Specify the circuit symbol: [F5] [F6]
- Specify the device name: [X] to [P]
- Specify the device number: [1] to [9]
- Execute monitoring: [1] to [9]

The program is displayed with the specified device number highlighted

* In the case of methods (3) and (4), after the program has been displayed, it is possible to successively read other ladder blocks that conform to the specification after the currently monitored step number by pressing the [J] key.

In successive reading, once the END step has been reached, reading will start again from the first step.
Successive reading can be cancelled by scrolling up or down one ladder block by using the [J], [ ] keys.

[Key functions]

[F1]: Used to switch to the monitor screen
[F3]: Used to switch to the ladder monitor screen
[F4]: Used to switch between the device selection screen and step selection screen
[SP]: Used to clear the input step number or input device number

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IMPORTANT

(1) Design the configuration of a system to provide an external protective or safety interlocking circuit for the CPs.

(2) The components on the printed circuit boards will be damaged by static electricity, so avoid handling them directly. If it is necessary to handle them take the following precautions:

(a) Ground human body and work bench.

(b) Do not touch the conductive areas of the printed circuit board and its electrical parts with and non-grounded tools etc.

Under no circumstances will Mitsubishi Electric be liable or responsible for any consequential damage that may arise as a result of the installation or use of this equipment.

All examples and diagrams shown in this manual are intended only as an aid to understanding the text, not to guarantee operation. Mitsubishi Electric will accept no responsibility for actual use of the product based on these illustrative examples.

Owing to the very great variety in possible applications of this equipment, you must satisfy yourself as to its suitability for your specific application.