

# **THE MC-6000A PROGRAMMABLE SCANNER INSTRUCTION MANUAL**

**THE FOLLOWING MANUAL PERTAINS TO THE STAND-ALONE MC-6000A WITH AN INTERNAL CLOCK AS A PROGRAMMABLE SCANNER FOR USE IN PDM LIGHTING CONTROL SYSTEMS IN CONJUNCTION WITH MOMENTARY AND MAINTAINED DRY CONTACT SWITCHES.**

**VERSION: V61.00A**

**MC-6000A System**

---

---

**PDM Electrical Products Ltd**

Table of Contents

1.	Overview .....	1 - 1
	The basic programming steps for the MC-6000A .....	1 - 2
	Set the time and date .....	1 - 2
	Define the zones to control the lighting relays. ....	1 - 2
	Define the switch inputs (utilities) to control the zones. ....	1 - 2
	Define the time-based schedules to control the zones. ....	1 - 2
	Verify the programming. ....	1 - 2
2.	KB-3031 hand held control/display unit layout .....	2 - 1
3.	Installation/removal of hand held unit .....	3 - 1
	3.1 Installation .....	3 - 1
	3.2 Removal .....	3 - 1
4.	Hand held unit display .....	4 - 1
	4.1 Automatic mode .....	4 - 1
	4.2 Programming mode .....	4 - 2
	4.3 Transfer memory .....	4 - 2
5.	Display information on the parameters already defined .....	5 - 1
	5.1 Display information on the number of inputs already defined .....	5 - 2
	5.2 Display information on the number of zones already defined .....	5 - 3
	5.3 Display information on the number of schedules already defined .....	5 - 4
	5.4 Display information on the number of holidays already defined .....	5 - 5
	5.5 Display information on the date, day of the week and the time already defined ...	5 - 6
6.	Verification/deletion of the parameters already defined .....	6 - 1
	6.1 Verification/deletion of the utilities already defined .....	6 - 2
	6.2 Verification/deletion of the zones already defined .....	6 - 8
	6.3 Verification/deletion of the schedules already defined .....	6 - 14

## MC-6000A System

---

6.4	Verification/deletion of the holidays already defined . . . . .	6 - 21
7.	Input and Output Cards mode change . . . . .	7 - 1
7.1	Output Cards mode change . . . . .	7 - 2
7.2	Input Card mode change . . . . .	7 - 3
8.	Setting the real-time clock . . . . .	8 - 1
8.1	Setting the date, the day of the week and the time . . . . .	8 - 2
9.	Definition of new zones . . . . .	9 - 1
9.1	Define new zones . . . . .	9 - 3
10.	Definition of new momentary utilities . . . . .	10 - 1
10.1	Define new utilities . . . . .	10 - 3
11.	Definition of new maintained inputs . . . . .	11 - 1
11.1	Define new inputs . . . . .	11 - 3
12.	Definition of new schedules . . . . .	12 - 1
12.1	Define new regular schedules . . . . .	12 - 3
12.2	Define new flicking schedules . . . . .	12 - 9
13.	Definition of new holidays . . . . .	13 - 1
13.1	Define new holidays . . . . .	13 - 3
14.	Examples . . . . .	14 - 1
	Example 1 . . . . .	14 - 2
	Example 2 . . . . .	14 - 7
	Example 3 . . . . .	14 - 16

## MC-6000A System

---

### 1. Overview

The MC-6000A programmable scanner adds time-based microprocessor intelligence to the RLI series of pre-wired relay panels. The intelligence is provided in each panel by a plug-in card with 32 control output capability and 16 programmable inputs. The unit memory is backed-up by a lithium battery with a 10-year life. The program data is entered by a small hand held control/display unit. The control/display unit is common to every programmable scanner.

The lighting relays wired to the control output of the MC-6000A can be assigned in various zones. The relays in a zone can only be selected among the control output of the same MC-6000A. The same relays may be included in any number of zones. For example, one zone may control an individual's office and another zone, the entire floor (including that office).

The integrated real-time clock function allows any zones in a panel to be controlled on a time base in that panel. The programmable switch function allows any of the switch inputs in a panel to be programmed to control any of the relays in that panel as a zone. For example, the dry contacts of a motion sensor can be wired to the switch inputs.

The three wire momentary switch configuration is typically used with all occupant actuated switches since it allows multiple switches to be connected to a switch input pair. When the ON or the OFF side of the switch is actuated, the scanner will start to activate the zone programmed to that input with the ON or OFF function. It is also possible through any of the switch input functions to provide combined ON and OFF procedures for a given group of zones.

The three wire maintained switch configuration is typically used with an energy management system. Generally an energy management system has single pole double throw dry contact configuration available to be connected to a switch input pair. The two wire maintained switch configuration is typically used with a single pole single throw dry contact configuration of an auxiliary system or a toggle switch and is wired to a single switch input. In both cases, when the normally open or the normally close contact is actuated, the scanner will start to activate the zone programmed to that input with the ON or OFF function. It is also possible through any of the switch input functions to provide combined ON and OFF procedures for a given group of zones.



**MC-6000A System**

---

---

**PDM Electrical Products Ltd**

## MC-6000A System

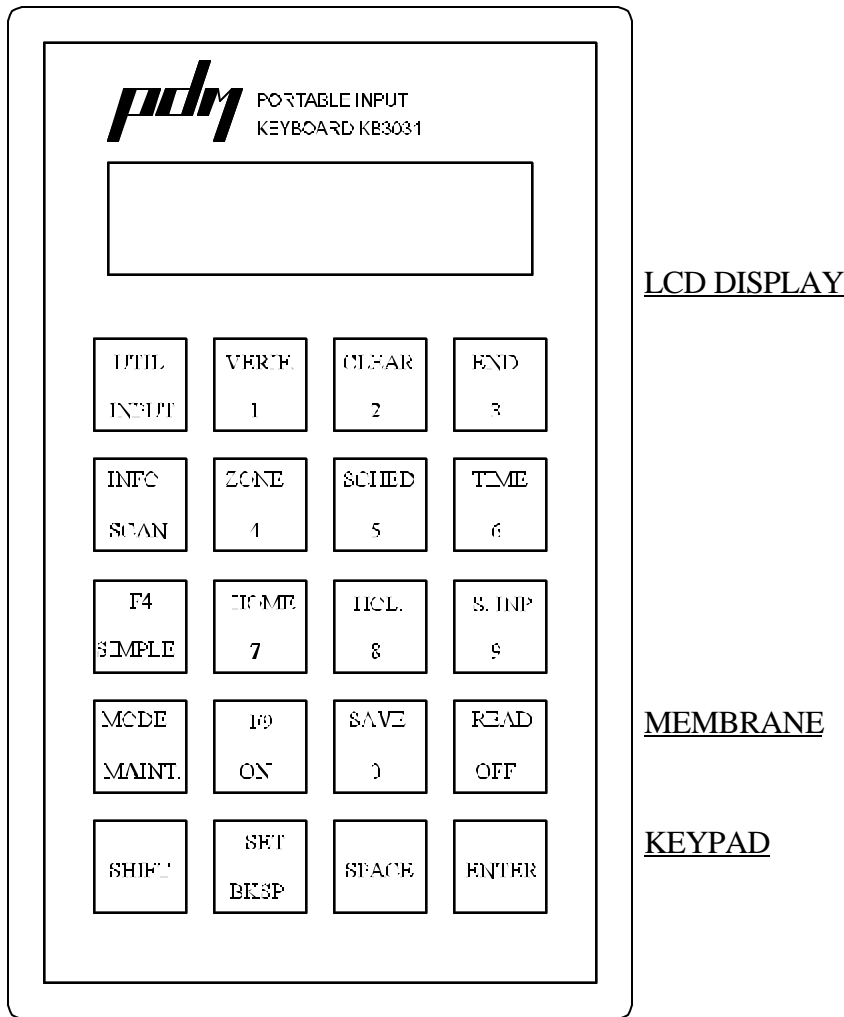
---

The basic programming steps for the MC-6000A are as follows:

- Set the time and date.  
Date format: year-month-date.  
Time format: hours-minute (24 hours).  
Change of day at 00:00 (midnight).
  
- Define the zones to control the lighting relays.  
Maximum of 128 zone definitions.  
Range: 001-128  
Sequential list: output# @ output#.  
Simple list:     output# - output# - output# - output#.  
                  00:null output#.
  
- Define the switch inputs (utilities) to control the zones.  
Maximum of 128 utility definitions.  
Range: 01-64 (programmable inputs).  
Type: Momentary.  
    Maintained, action on closure & action on opening (type # 1).  
    Maintained, action on closure & no action on opening (type # 2).  
    Maintained, no action on closure & action on opening (type # 3).  
Timeout: maximum of 600 minutes.  
Warning: maximum of 30 minutes.
  
- Define the time-based schedules to control the zones.  
Maximum of 128 schedule definitions  
Days of the week: 0 holiday  
                  1 Monday  
                  2 Tuesday  
                  3 Wednesday  
                  4 Thursday  
                  5 Friday  
                  6 Saturday  
                  7 Sunday  
Flicking function: 2 seconds.  
Warning: maximum of 30 minutes.
  
- Define the holidays.  
Maximum of 30 holiday definitions.
  
- Verify the programming.
  
- Save the programming.

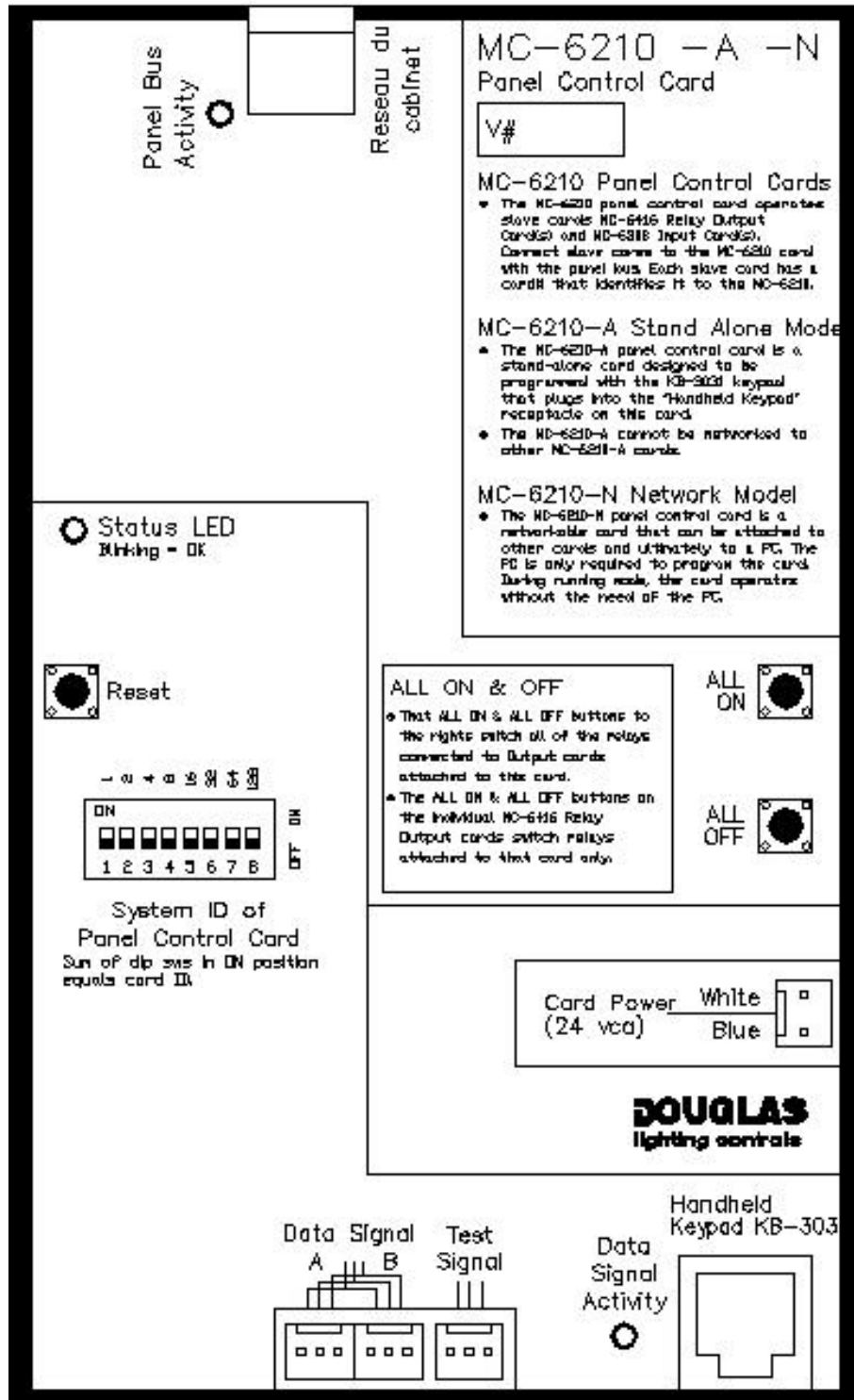


2. KB-3031 hand held control/display unit layout



The hand held unit is a dual mode keypad, where most of the keys can be used to generate two characters. To temporarily toggle between the bottom and the top row definitions, simply press the **SHIFT** key. Note: in this manual, we will indicate when to press the **SHIFT** key to obtain the required character.

The user can delete an erroneous key entry. To erase a previous single character press the **BKSP** key, and to erase a series of characters press the **SHIFT-HOME** keys. To erase an error message, simply press **ENTER** and the display will prompt the user for new information.



## MC-6000A System

---

### 3. Installation/removal of hand held unit

#### 3.1 Installation

- 1) Disconnect the programmable scanner power connector.
- 2) Insert the telephone type plug into the receptacle on the programmable scanner.
- 3) Reconnect the programmable scanner power connector. At this point the hand held unit will display the cursor on the display. See chapter 4 of this manual for further details on how to use the hand held unit.



This is the automatic mode screen of the hand held unit.

#### 3.2 Removal

- 1) Disconnect the programmable scanner power connector.
- 2) Remove the telephone type plug from the receptacle on the programmable scanner.
- 3) Reconnect the programmable scanner power connector. At this point the programmable scanner is ready to resume its functions.

## MC-6000A System

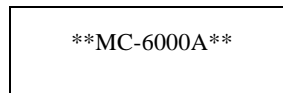
---

### 4. Hand held unit display

After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows a clear screen:



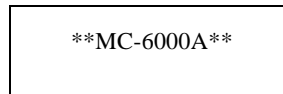
The cleared screen is the automatic mode screen and it prevents permanent high power consumption and LCD display burn-in. The display must be cleared for the automatic mode to be active. Press **ENTER** and the display shows:



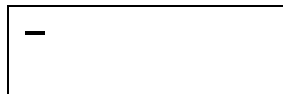
The above screen is the programming mode main screen and the automatic mode is not active.

#### 4.1 Automatic mode

From the screen:



Press **SHIFT-HOME** and the display shows:



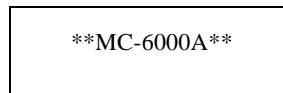
The cleared screen is the automatic mode screen and it prevents permanent high power consumption and LCD display burn-in. The display must be cleared for the automatic mode to be active.

### 4.2 Programming mode

From the screen:



Press **ENTER** and the display shows:



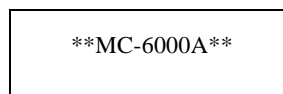
The above screen is the programming mode main screen and the automatic mode is not active.

### 4.3 Transfer memory

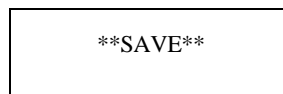
The MC-6000AA has both volatile ram and non-volatile flash eprom memory. After powering up the MC-6000AA interface, the programming tables are copied from the flash eprom to the ram if the tables are valid.

#### 4.3.1 Copy tables from ram to flash eprom

From the screen:



Press **SHIFT-F10** and the display shows:



And the display shows:

## MC-6000A System

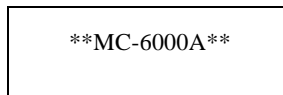
---



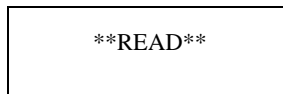
The cleared screen is the automatic mode screen and it prevents permanent high power consumption and LCD display burn-in. The display must be cleared for the automatic mode to be active.

### 4.3.2 Copy tables from flash eprom to ram

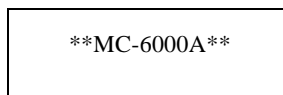
From the screen:



Press **SHIFT-F11** and the display shows this screen:



Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-HOME** and the display shows the automatic mode screen:



The cleared screen is the automatic mode screen and it prevents permanent high power consumption and LCD display burn-in. The display must be cleared for the automatic mode to be active.

## MC-6000A System

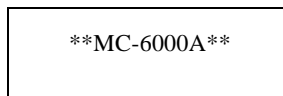
---

### 5. Display information on the parameters already defined

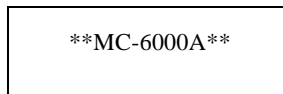
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



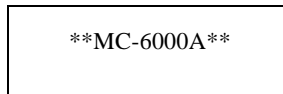
Press **ENTER** the display shows the programming mode main screen:



Press **SHIFT-INFO** and the display shows the information screen:



To return to the programming mode main screen, press **SHIFT-HOME** and the display shows:



To return to the automatic mode screen, press **SHIFT-HOME** and the display shows:



## MC-6000A System

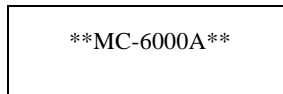
---

### 5.1 Display information on the number of inputs already defined

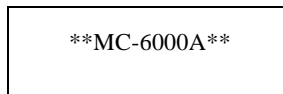
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



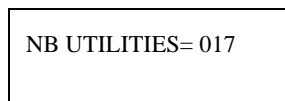
Press **ENTER** and the display shows the programming mode main screen:



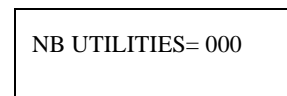
Press **SHIFT-INFO** and the display shows the information screen:



Press **SHIFT-UTIL** and the display shows one of the two input information screens:

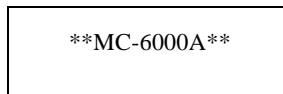


Screen 1



Screen 2

The number indicates the number of utilities already defined in the programmable scanner's memory, like 017 in screen 1. If there are no inputs defined, the number is 000 as shown in screen 2. Press **ENTER** and the display shows:



To return to the automatic mode screen, press **SHIFT-HOME** and the display shows:



## MC-6000A System

---

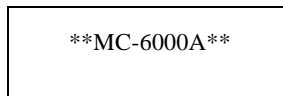


### 5.2 Display information on the number of zones already defined

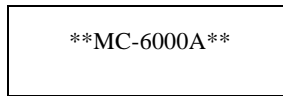
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



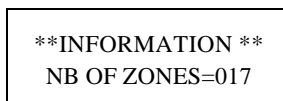
Press **ENTER** and the display shows the programming mode main screen:



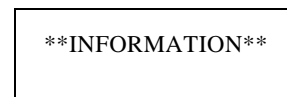
Press **SHIFT-INFO** and the display shows the information screen:



Press **SHIFT-ZONE** and the display shows one of the two zone information screens:

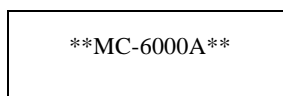


Screen 1



Screen 2

The number indicates the number of zones already defined in the programmable scanner's memory, like 017 in screen 1. If there are no zones defined, the number is 000 as shown in screen 2. Press **ENTER** and the display shows:



## MC-6000A System

---

To return to the automatic mode screen, press **SHIFT-HOME** and the display shows:

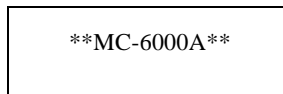


### 5.3 Display information on the number of schedules already defined

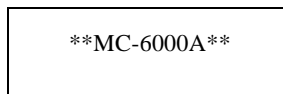
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



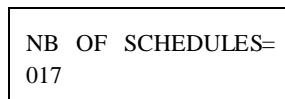
Press **ENTER** and the display shows the programming mode main screen:



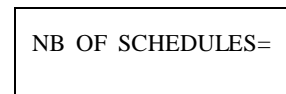
Press **SHIFT-INFO** and the display shows the information screen:



Press **SHIFT-SCHED** and the display shows one of the two schedule information screens:



Screen 1



Screen 2

The number indicates the number of schedules already defined in the programmable scanner's memory, like 017 in screen 1. If there are no schedules defined, the number is 000 as shown in screen 2. Press **ENTER** and the display shows:

---

## MC-6000A System

---

\*\*MC-6000A\*\*

To return to the automatic mode screen, press **SHIFT-HOME** and the display shows:

—

### 5.4 Display information on the number of holidays already defined

After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:

—

Press **ENTER** and the display shows the programming mode main screen:

\*\*MC-6000A\*\*

Press **SHIFT-INFO** and the display shows the information screen:

\*\*MC-6000A\*\*

Press **SHIFT-F6** and the display shows one of the two schedule information screens:

NB OF HOLIDAYS =  
017

Screen 1

## MC-6000A System

---

NB OF HOLIDAYS= 000

Screen 2

The number indicates the number of holidays already defined in the programmable scanner's memory, like 017 in screen 1. If there are no holidays defined, the number is 000 as shown in screen 2. Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

To return to the automatic mode screen, press **SHIFT-HOME** and the display shows:

-

## MC-6000A System

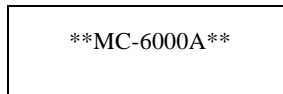
---

### 5.5 Display information on the date, day of the week and the time already defined

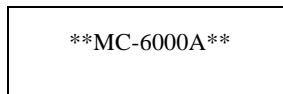
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



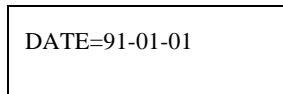
Press **ENTER** and the display shows the programming mode main screen:



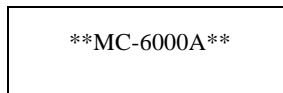
Press **SHIFT-INFO** and the display shows the information screen:



Press **SHIFT-TIME** and the display shows the time information screen:



DATE indicates the present date in yr-mo-dy format. D indicates the day of the week where Sunday is #1, Saturday is #7 and a holiday is #0. T indicates the present time of day in hh:mm military format. The display is updated in real-time mode. Press **ENTER** and the display shows:



To return to the automatic mode screen, press **SHIFT-HOME** and the display shows:





## MC-6000A System

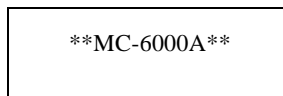
---

### 6. Verification/deletion of the parameters already defined

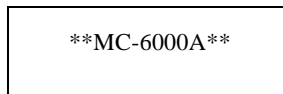
After connecting the hand held unit to the programmable scanner, turn the scanner switch on the display shows the automatic mode screen:



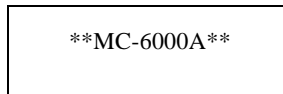
Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-VERIF**. And the display shows the verification screen:



To return to the programming mode main screen, press **SHIFT-HOME** and the display shows:



To return to the automatic mode screen, press **SHIFT-HOME** and the display shows:



## MC-6000A System

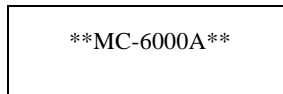
---

### 6.1 Verification/deletion of the utilities already defined

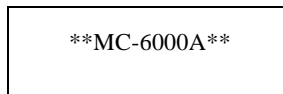
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



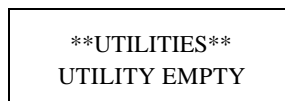
Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-VERIF**. And the display shows the verification screen:



Press **SHIFT-UTIL** and the display show one of the two screens:

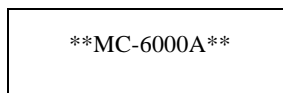


Screen 1

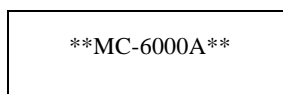


Screen 2

Screen 1 indicates that there is no utility defined. Press **ENTER** and the display shows the verification screen:



Press **SHIFT-HOME** and the display shows the programming mode main screen:





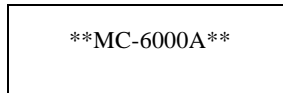
## MC-6000A System

---

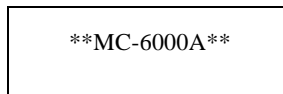
Press **SHIFT-HOME** and the display shows the automatic mode screen:



Screen 2 indicates that at least one utility is already defined in the programmable scanner's memory. To return to the automatic mode screen, press **SHIFT-HOME** and the display shows the verification screen:



Press **SHIFT-HOME** and the display shows the programming mode main screen:



Press **SHIFT-HOME** and the display shows the automatic mode screen:



## MC-6000A System

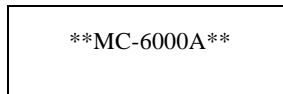
---

### 6.1.1 Verify all the utilities defined or delete utilities

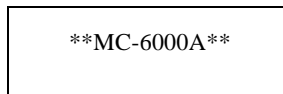
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-VERIF.** and the display shows the verification screen:



Press **SHIFT-UTIL** and the display shows the utility verification screen:



Press **SCAN** and the display shows:



Example 1: First defined utility

Example 1 shows that utility 1 is to initiate an OFF function for zone 1, without a timeout period and no warning. Press **ENTER** to see the next defined utility or press **SHIFT-CLEAR** to delete the displayed utility and to see the next defined utility:

I=11:ON

### Example 2: next defined utility

Example 2 shows that utility 11 is to initiate an ON function for zone 12, with a timeout period of 120 minutes and no warning. Press **ENTER** to see the next defined utility or press **SHIFT-CLEAR** to delete the displayed utility and to see the next defined utility. If all the utilities have been displayed, the display shows:

\*\*VERIFICATION\*\*

Press **SHIFT-HOME** and the display shows the verification screen:

\*\*MC-6000A\*\*

Press **SHIFT-HOME** and the display shows the programming mode main screen:

\*\*MC-6000A\*\*

If you made changes to the programming, press **SHIFT-F10** to save the new programming and the display shows the automatic mode screen:

-

## MC-6000A System

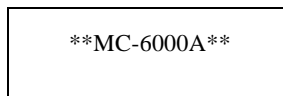
---

### 6.1.2 Verify specific inputs defined or delete utilities

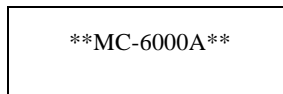
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-VERIF.** And the display shows the verification screen:



Press **SHIFT-UTIL** and the display shows the utility verification screen:



Press **INPUT** and the display shows:



This screen waits for the user to give the utility number to be verified. If the user presses **0-1-ENTER-ENTER** the display shows:



### Example 1: First defined utility for input 1

Example 1 shows that input 1 is to initiate an OFF function for zone 1, without a timeout period and no warning. Press **ENTER** to see the next defined utility for input 1 or press **SHIFT-CLEAR** to delete the displayed utility and to see the next defined utility for input 1. If all the definitions have been displayed, the display shows:

\*\*VERIFICATION\*\*

Press **SHIFT-HOME** and the display shows the verification screen:

\*\*MC-6000A\*\*

Press **SHIFT-HOME** and the display shows the programming mode main screen:

\*\*MC-6000A\*\*

Press **SHIFT-HOME** and the display shows the automatic mode screen:

—

## MC-6000A System

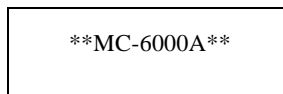
---

### 6.2 Verification/deletion of the zones already defined

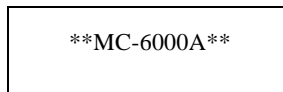
After connecting the hand held unit to the programmable scanner, turn the scanner switch on the display shows the automatic mode screen:



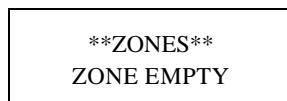
Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-VERIF.** And the display shows the verification screen:



Press **SHIFT-ZONE** and the display shows one of the two screens:

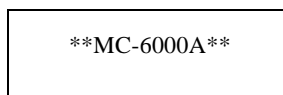


Screen 1



Screen 2

Screen 1 indicates that there is no zone defined, press **ENTER** and the display shows the verification screen:



Press **SHIFT-HOME** and the display shows the programming mode main screen:

## MC-6000A System

---

\*\*MC-6000A\*\*

Press **SHIFT-HOME** and the display shows the automatic mode screen:

—

Screen 2 indicates that at least one zone is already defined in the programmable scanner's memory. To return to the automatic mode screen, press **SHIFT-HOME** and the display shows the verification screen:

\*\*MC-6000A\*\*

Press **SHIFT-HOME** and the display shows the programming mode main screen:

\*\*MC-6000A\*\*

Press **SHIFT-HOME** and the display shows the automatic mode screen:

—

## MC-6000A System

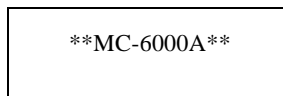
---

### 6.2.1 Verify all the zones defined or delete zones

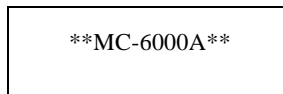
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



Press **ENTER** and the display shows the programming mode main screen:



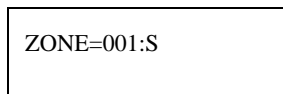
Press **SHIFT-VERIF** and the display shows the verification screen:



Press **SHIFT-ZONE** and the display shows the zone verification screen:

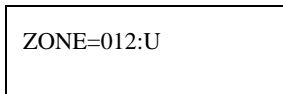


Press **SCAN** and the display shows:



Example 1: First defined zone

Example 1 shows that zone 1 is a scan from scanner output<sup>1</sup> 1 to 4. Press **ENTER** to see the next defined zone or press **SHIFT-CLEAR** to delete the displayed zone and to see the next defined zone:



---

<sup>1</sup> See the panel schedule for corresponding relays



## MC-6000A System

---

Example 2 shows that zone 12 is scanner output<sup>1</sup> 17, 27 and 31. Press **ENTER** to see the next defined zone or press **SHIFT-CLEAR** to delete the displayed zone and to see the next defined zone.

Example 2: Next defined zone

If all the zones have been displayed, the display shows:

\*\*VERIFICATION\*\*

Press **SHIFT-HOME** and the display shows the verification screen:

\*\*MC-6000A\*\*

Press **SHIFT-HOME** and the display shows the programming mode main screen:

\*\*MC-6000A\*\*

-If you made changes to the programming, press **SHIFT-F10** to save the new programming and the display shows the automatic mode screen:

-

---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

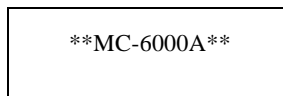
---

### 6.2.2 Verify specific zones defined or delete zones

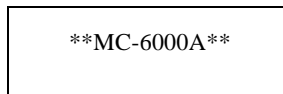
After connecting the hand held unit to the programmable scanner, turn the scanner switch on the display shows the automatic mode screen:



Press **ENTER** and the display shows the programming mode main screen:



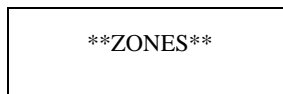
Press **SHIFT-VERIF.** and the display shows the verification screen:



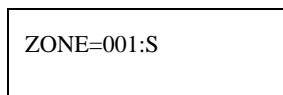
Press **SHIFT-ZONE** and the display shows the zone verification screen:



Press **INPUT** and the display shows:



This screen waits for the user to give the zone number to be verified. If the user presses **0-0-1-ENTER-ENTER** the display shows:



## MC-6000A System

---

Example 1 shows that zone 1 is a scan from scanner output<sup>1</sup> 1 to 4. Press **ENTER** to see the next defined zone or press **SHIFT-CLEAR** to delete the displayed zone and to see the next defined zone. If all the definitions have been displayed, the display shows:

\*\*VERIFICATION\*\*

Press **SHIFT-HOME** and the display shows the verification screen:

\*\*MC-6000A\*\*

Press **SHIFT-HOME** and the display shows the programming mode main screen:

\*\*MC-6000A\*\*

If you made changes to the programming, press **SHIFT-F10** to save the new programming and the display shows the automatic mode screen:

-

---

<sup>1</sup> See the panel schedule for corresponding relays

---

## MC-6000A System

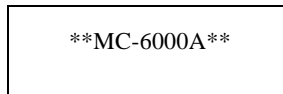
---

### 6.3 Verification/deletion of the schedules already defined

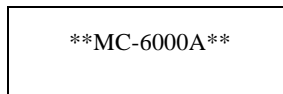
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-VERIF.** And the display shows the verification screen:



Press **SHIFT-SCHED** and the display shows one of the two screens:

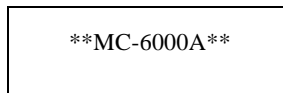


Screen 1

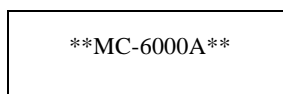


Screen 2

Screen 1 indicates that there is no schedule defined, press **ENTER** and the display shows the verification screen:



Press **SHIFT-HOME** and the display shows the programming mode main screen:



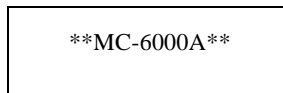
## MC-6000A System

---

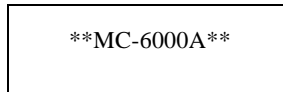
Press **SHIFT-HOME** and the display shows the automatic mode screen:



Screen 2 indicates that at least one schedule is already defined in the programmable scanner's memory. To return to the automatic mode screen, press **SHIFT-HOME** and the display shows the verification screen:



Press **SHIFT-HOME** and the display shows the programming mode main screen:



Press **SHIFT-HOME** and the display shows the automatic mode screen:



## MC-6000A System

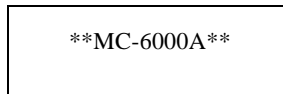
---

### 6.3.1 Verify all the schedules defined or delete schedules

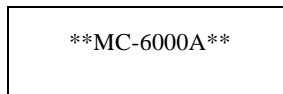
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



Press **ENTER** and the display shows the programming mode main screen:



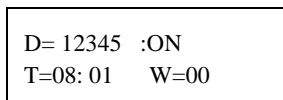
Press **SHIFT-VERIF.** and the display shows the verification screen:



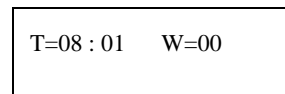
Press **SHIFT-SCHED** and the display shows the schedule verification screen:



Press **SCAN** and the display shows:



Press enter  
for page 2



Example 1: First defined schedule

## MC-6000A System

---

Example 1 shows that zone 1 is activated ON at 8:01am Monday to Friday, without a warning. Press **ENTER** to see the next defined schedule or press **SHIFT-CLEAR** to delete the displayed schedule and to see the next defined schedule:

D= 23456 :OFF  
FT=21:35 W=00

Press enter  
for page 2

FT=21:35 W=00

Example 2: Next defined schedule

Example 2 shows that zone 2 is flicked OFF at 9:35pm Monday to Friday. Press **ENTER** to see the next defined schedule or press **SHIFT-CLEAR** to delete the displayed schedule and to see the next defined schedule:

D=0 71:ON  
T=09:00 W=00

Press enter  
for page 2

T=09:00 W=00

Example 3: Next defined schedule

Example 3 shows that zone 11 is activated ON at 9:00am Saturday, Sunday and holiday, without a warning. Press **ENTER** to see the next defined schedule or press **SHIFT-CLEAR** to delete the displayed schedule and to see the next defined schedule. If all the schedules have been displayed, the display shows:

\*\*VERIFICATION\*\*

Press **SHIFT-HOME** and the display shows the verification screen:

\*\*MC-6000A\*\*

Press **SHIFT-HOME** and the display shows the programming mode main screen:

\*\*MC-6000A\*\*

## MC-6000A System

---

If you made changes to the programming, press **SHIFT-F10** to save the new programming and the display shows the automatic mode screen:





## MC-6000A System

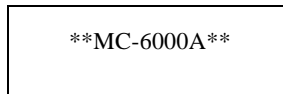
---

### 6.3.2 Verify specific schedules defined or delete schedules

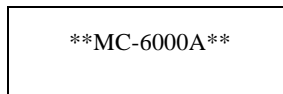
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



Press **ENTER** and the display shows the programming mode main screen:



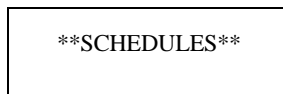
Press **SHIFT-VERIF**. And the display shows the verification screen:



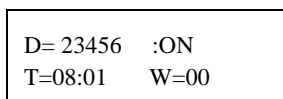
Press **SHIFT-SCHED** and the display shows the schedule verification screen:



Press **INPUT** and the display shows:



This screen waits for the user to give the zone number to be verified. If the user presses **0-0-1-ENTER-ENTER** the display shows:



Press enter  
for page 2

Example 1: First defined schedule

T=08:01 W=00

Example 1 shows that zone 1 is activated ON at 8:01am Monday to Friday, without a warning. Press **ENTER** to see the next defined schedule or press **SHIFT-CLEAR** to delete the displayed schedule and to see the next defined schedule for zone 1. If all the definitions have been displayed, the display shows:

\*\*VERIFICATION\*\*

Press **SHIFT-HOME** and the display shows the verification screen:

\*\*MC-6000A\*\*

Press **SHIFT-HOME** and the display shows the programming mode main screen:

\*\*MC-6000A\*\*

If you made changes to the programming, press **SHIFT-F10** to save the new programming and the display shows the automatic mode screen:

—

## MC-6000A System

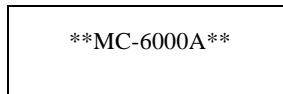
---

### 6.4 Verification/deletion of the holidays already defined

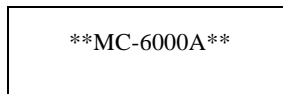
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-VERIF.** And the display shows the verification screen:



Press **SHIFT-F6** and the display show one of the two screens:

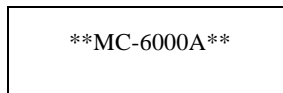


Screen 1

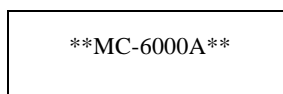


Screen 2

Screen 1 indicates that there is no holiday defined, press **ENTER** and the display shows the verification screen:



Press **SHIFT-HOME** and the display shows the programming mode main screen:



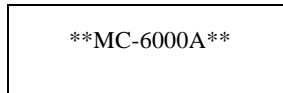
## MC-6000A System

---

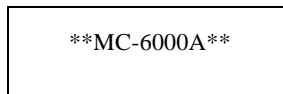
Press **SHIFT-HOME** and the display shows the automatic mode screen:



Screen 2 indicates that at least one holiday is already defined in the programmable scanner's memory. To return to the automatic mode screen, press **SHIFT-HOME** and the display shows the verification screen:



Press **SHIFT-HOME** and the display shows the programming mode main screen:



Press **SHIFT-HOME** and the display shows the automatic mode screen:



## MC-6000A System

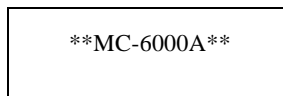
---

### 6.4.1 Verify all the holidays defined or delete holidays

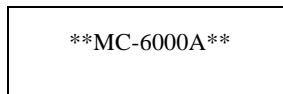
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



Press **ENTER** the display shows the programming mode main screen:



Press **SHIFT-VERIF.** And the display shows the verification screen:



Press **SHIFT-F6** and the display shows the holiday verification screen:



Press **SCAN** and the display shows:



#### Example 1: First defined holiday

Example 1 shows that January 1st every year is defined as a holiday. Press **ENTER** to see the next defined holiday or press **SHIFT-CLEAR** to delete the displayed holiday and to see the next defined holiday:

DATE= /01/01

Example 2: Next defined holiday

Example 2 shows that December 25th every year is defined as a holiday. Press **ENTER** to see the next defined holiday or press **SHIFT-CLEAR** to delete the displayed holiday and to see the next defined holiday:

DATE= /12/25

Example 3: Next defined holiday

Example 3 shows that July 1st 1992 is defined as a holiday. Press **ENTER** to see the next defined holiday or press **SHIFT-CLEAR** to delete the displayed holiday and to see the next defined holiday. If all the holidays have been displayed, the display shows:

\*\*VERIFICATION\*\*

Press **SHIFT-HOME** and the display shows the verification screen:

\*\*MC-6000A\*\*

Press **SHIFT-HOME** and the display shows the programming mode main screen:

\*\*MC-6000A\*\*

If you made changes to the programming, press **SHIFT-F10** to save the new programming and the display shows the automatic mode screen:



## MC-6000A System

---

### 7.1 Changing Output modules mode

The following table is the description of the output Modes of the MC-6000 Series.

- **Mode 0**

	Panel #1	Panel #2	Panel #3	Panel #4
Output Card #1	Outputs 1 - 16			
Output Card #2		Outputs 17 - 32		
Output Card #3			Outputs 33 - 48	
Output Card #4				Outputs 49 - 64

- **Mode 1**

	Panel #1	Panel #2	Panel #3	Panel #4
Output Card #1	Outputs 1 - 8 Outputs 17 - 24			
Output Card #2	Outputs 9 - 16 Outputs 25 - 32			
Output Card #3		Outputs 33 - 48		
Output Card #4			Outputs 49 - 64	



## MC-6000A System

---

- Mode 2**

	Panel #1	Panel #2	Panel #3	Panel #4
Output Card #1	Outputs 1 - 8 Outputs 17 - 24			
Output Card #2	Outputs 9 - 16 Outputs 25 - 32			
Output Card #3		Outputs 33 - 40 Outputs 49 - 56		
Output Card #4		Outputs 41 - 48 Outputs 57 - 64		

- Mode 3**

	Panel #1	Panel #2	Panel #3	Panel #4
Output Card #1	Outputs 1 - 8 Outputs 25 - 32			
Output Card #2	Outputs 9 - 16 Outputs 33 - 40			
Output Card #3	Outputs 17 - 24 Outputs 44 - 48			
Output Card #4		Outputs 49 - 64		

- Mode 4**

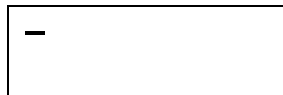
	Panel #1	Panel #2	Panel #3	Panel #4
Output Card #1	Outputs 1 - 8 Outputs 33 - 40			
Output Card #2	Outputs 9 - 16 Outputs 41 - 48			

## MC-6000A System

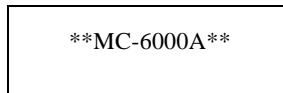
---

Output Card #3	Outputs 17 - 24 Outputs 49 - 56			
Output Card #4	Outputs 25 - 32 Outputs 57 - 64			

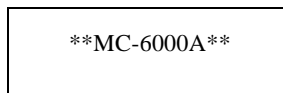
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



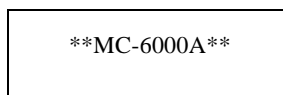
Press **ENTER** the display shows the programming mode main screen:



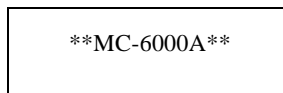
Press **SHIFT-INFO** and the display shows the information screen:



Press **SHIFT-MAINT.** and the display shows:



Press **INPUT** then **ENTER** until you see the desired output mode :



Press **INPUT-ENTER-SHIFT-END** and the display shows:

---

## MC-6000A System

---

\*\*MC-6000A\*\*

Press **SHIFT-HOME** the system returns to automatic mode and the display shows:

—

### 7.2 **Changing Input Modules mode**

The following table explains the different input modes

1. Maintained AC ( Default )
2. Maintained DC
3. Momentary AC
4. Momentary DC ( for WR-8501/8001 or with diode(s) )

After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:

—

Press **ENTER** the display shows the programming mode main screen:

\*\*MC-6000A\*\*

Press **SHIFT-INFO** and the display shows the information screen:

\*\*MC-6000A\*\*

Press **SHIFT-F7** and the display shows:

---

## MC-6000A System

---

\*\*IN SETUP\*\*

Press **ENTER** until you see the desired input and the display shows :

\*\*IN SETUP\*\*

Press **INPUT** then **ENTER** until you see the desired input mode and the display shows:

\*\*IN SETUP\*\*

Press **INPUT-ENTER-SHIFT-END** and the display shows:

\*\*MC-6000A\*\*

Press **SHIFT-HOME** the system returns to automatic mode and the display shows:

-

## MC-6000A System

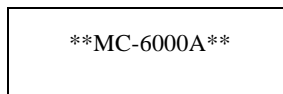
---

### 8. Setting the real-time clock

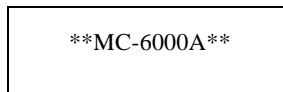
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



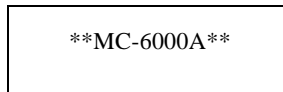
Press **ENTER** the display shows the programming mode main screen:



Press **SHIFT-TIME** and the display shows the date/time screen:



To return to the programming mode main screen, press **SHIFT-HOME** and the display shows:



To return to the automatic mode screen, press **SHIFT-HOME** and the display shows:



## MC-6000A System

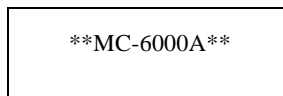
---

### 8.1 Setting the date, the day of the week and the time

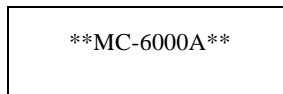
It is Monday morning, 8:15am, March 18, 1991. After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



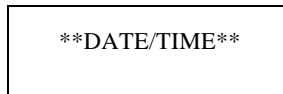
Press **ENTER** and the display shows the programming mode main screen:



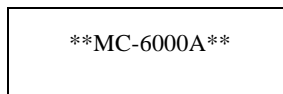
Press **SHIFT-TIME** and the display shows the date/time screen:



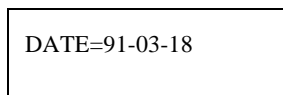
Press **INPUT** and the display shows:



To enter March 18 1991, press **9-1-ENTER-0-3-ENTER-1-8-ENTER** and the display shows:



To enter Monday, press **1-ENTER** and the display shows:



## MC-6000A System

---

To enter 8:15am, press **0-8-ENTER-1-5-ENTER** and the display shows:

DATE=91-03-18

To start the real-time clock press **ENTER** and the display shows:

\*\*MC-6000A\*\*

To return to the programming mode main screen, press **SHIFT-HOME** and the display shows:

\*\*MC-6000A\*\*

To return to the automatic mode screen, press **SHIFT-HOME** and the display shows:

-

## MC-6000A System

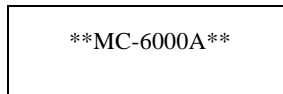
---

### 9. Definition of new zones

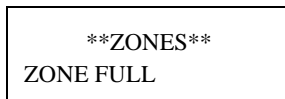
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



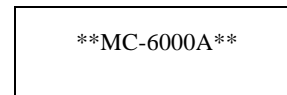
Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-ZONE** and the display shows one of the two screens:

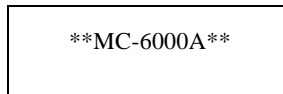


Screen 1



Screen 2

Screen 1 indicates that the memory allocated for the zone is full (you can program a maximum of 128 zones). Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-HOME** and the display shows the automatic mode screen:



Screen 2 indicates that the programmable scanner is ready to add new zones to memory. To return to the automatic mode screen, press **SHIFT-HOME** and the display shows the programming mode main screen:



## MC-6000A System

---

\*\*MC-6000A\*\*

Press **SHIFT-HOME** and the display shows the automatic mode screen:

—

## MC-6000A System

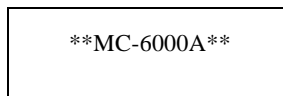
---

### 9.1 Define new zones

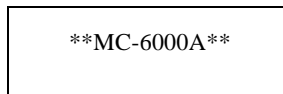
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



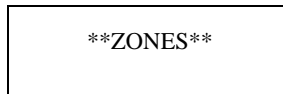
Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-ZONE** and the display shows the zone definition screen:



Press **INPUT** and the display shows:



This screen waits for the user to give the zone number to be defined. The user has a choice of two types of zone definitions.

Assigning a list of relays. (Sec. 9.1.1, page 9-4)

Assigning a sequential list of relays. (Sec. 9.1.2, page 9-7)

## MC-6000A System

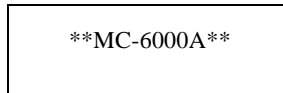
---

### 9.1.1 Assigning a list of relays

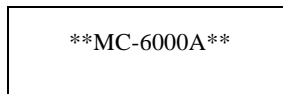
In this example the user needs to program a zone to control outputs<sup>1</sup> 1, 4, 7, 9, 13, 17 and 23. We will assign the outputs<sup>1</sup> to zone 1. After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



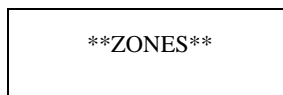
Press **ENTER** and the display shows the programming mode main screen:



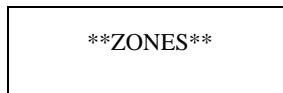
Press **SHIFT-ZONE** and the display shows the zone definition screen:



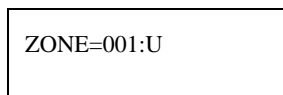
Press **INPUT** and the display shows:



To define the zone, press **0-0-1-ENTER** and the display shows:



Press **SIMPLE** for a list of relays and the display shows:



---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

Press **0-1-ENTER-0-4-ENTER-0-7-ENTER-0-9-ENTER** for the first four outputs<sup>1</sup> of the list and the display shows:

ZONE=001:U

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the first four outputs<sup>1</sup> of the list for zone 1. To add the other three remaining outputs<sup>1</sup> of the list, press **INPUT** and the display shows:

\*\*ZONES\*\*

Press **0-0-1-ENTER** and the display shows:

\*\*ZONES\*\*

Press **SIMPLE** for a list of outputs<sup>1</sup> and the display shows:

ZONE=001:U

Press **1-3-ENTER-1-7-ENTER-2-3-ENTER-0-0-ENTER** for the last three outputs<sup>1</sup> of the list and the display shows:

ZONE=001:U

---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

*A list always has four output<sup>1</sup>, output<sup>1</sup>00 is used to complete a list.*

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the last three outputs<sup>1</sup> of the list for the zone. Press **SHIFT-HOME** and the display shows the programming mode main screen:

\*\*MC-6000A\*\*

Press **SHIFT-F10** to save the new programming and the display shows the automatic mode screen:

-

---

<sup>1</sup> See the panel schedule for corresponding relays

---

## MC-6000A System

---

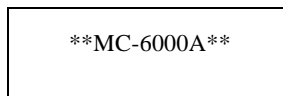
### 9.1.2 Assigning a sequential list of relays

In this example the user needs to program a zone to control outputs<sup>1</sup> 24 to 30. We will assign the outputs<sup>1</sup> to zone 2. After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



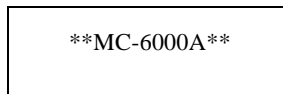
A rectangular box representing a display screen with a single horizontal dash character (-) centered on the left side.

Press **ENTER** the display shows the programming mode main screen:



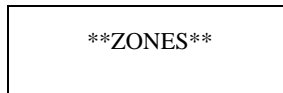
A rectangular box representing a display screen with the text \*\*MC-6000A\*\* centered.

Press **SHIFT-ZONE** and the display shows the zone definition screen:



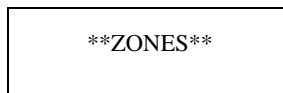
A rectangular box representing a display screen with the text \*\*MC-6000A\*\* centered.

Press **INPUT** and the display shows:



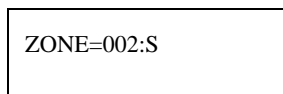
A rectangular box representing a display screen with the text \*\*ZONES\*\* centered.

To define the zone, press **0-0-2-ENTER** and the display shows:



A rectangular box representing a display screen with the text \*\*ZONES\*\* centered.

Press **SCAN** for a sequential list of relays and the display shows:



A rectangular box representing a display screen with the text ZONE=002:S centered.

---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

Press **2-4-ENTER-3-0-ENTER** for the first and last output<sup>1</sup> of the sequential list and the display shows:

ZONE=002:S

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the sequential list of outputs<sup>1</sup> for the zone. Press **SHIFT-HOME** and the display shows the programming mode main screen:

\*\*MC-6000A\*\*

Press **SHIFT-F10** to save the new programming and the display shows the automatic mode screen:

—

---

<sup>1</sup> See the panel schedule for corresponding relays

---

## MC-6000A System

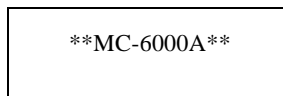
---

### 10. Definition of new momentary utilities

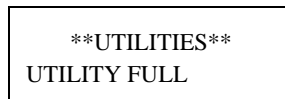
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



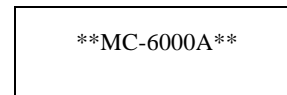
Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-UTIL** and the display shows one of the two screens:

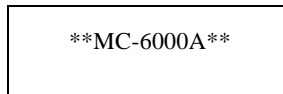


Screen 1



Screen 2

Screen 1 indicates that the memory allocated for the utility is full (you can program a maximum of 100 utility). Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-HOME** and the display shows the automatic mode screen:



Screen 2 indicates that the programmable scanner is ready to add new utilities to memory. To return to the automatic mode screen, press **SHIFT-HOME** and the display shows the programming mode main screen:



## MC-6000A System

---

\*\*MC-6000A\*\*

Press **SHIFT-HOME** and the display shows the automatic mode screen:

—

## MC-6000A System

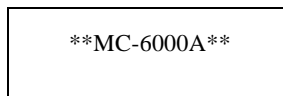
---

### 10.1 Define new utilities

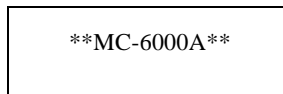
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



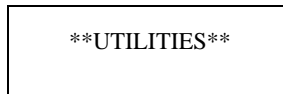
Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-UTIL** and the display shows the utility definition screen:



Press **INPUT** and the display shows:



This screen waits for the user to give the switch utility number to be defined.

## MC-6000A System

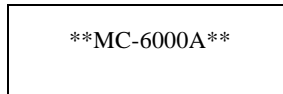
---

### 10.1.1 Defining ON/OFF inputs

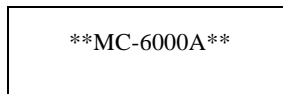
In this example the user needs to program an ON/OFF switch to control outputs<sup>1</sup> 1, 4, 7, 9, 13, 17 and 23. We already defined the output<sup>1</sup> list in zone 1. The ON/OFF switch is wired to utility 7 and 8. Utility 7 is defined as the ON contact and utility 8 is defined as the OFF contact. After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-UTIL** and the display shows the utility definition screen:



Press **INPUT** and the display shows:



To define the ON function, press **0-7-ENTER** and the display shows:



Press **ON** for the ON function and the display shows:

---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

\*\*UTILITIES\*\*

Press **ENTER** for a momentary contact and the display shows:

I=07:ON

Press **0-0-0-ENTER** for no timeout period and the display shows:

I=07:ON

Press **0-0-1-ENTER** for the outputs<sup>1</sup> of zone 1 and the display shows:

I=07:ON

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the outputs<sup>1</sup> of zone 1 for the ON function, without a timeout period and no warning. To program input 8 for the OFF function using the same list of outputs<sup>1</sup>, press **INPUT** and the display shows:

\*\*UTILITIES\*\*

Press **0-8-ENTER** and the display shows:

---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

\*\*UTILITIES\*\*

Press **OFF** for the OFF function and the display shows:

\*\*UTILITIES\*\*

Press **ENTER** for a momentary contact and the display shows:

I=08:OFF

Press **0-0-0-ENTER** for no timeout period and the display shows:

I=08:OFF

Press **0-0-1-ENTER** for the outputs<sup>1</sup> of zone 1 and the display shows:

I=08:OFF

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*


---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

This confirms the outputs<sup>1</sup> of zone 1 for the OFF function. Press **SHIFT-HOME** and the display shows the programming mode main screen:



\*\*MC-6000A\*\*

Press **SHIFT- F10** to save the new programming and the display shows the automatic mode screen:



-

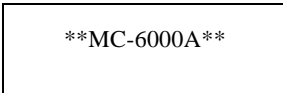
### 10.1.2 Defining ON input with a timeout and a warning

In this example the user needs to program a cleaning key switch to control outputs<sup>1</sup> 24 to 30. We already defined the output<sup>1</sup> list in zone 2. The switch is wired to utility 16. Utility 16 is defined as ON contact with a timeout period of 2 hours for the OFF. A warning is required 10 minutes prior to the end of the timeout period. After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



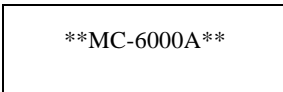
-

Press **ENTER** and the display shows the programming mode main screen:



\*\*MC-6000A\*\*

Press **SHIFT-UTIL** and the display shows the utility definition screen:



\*\*MC-6000A\*\*

Press **INPUT** and the display shows:

---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

\*\*UTILITIES\*\*

To define the ON function, press **INPUT-1-6-ENTER** and the display shows:

\*\*UTILITIES\*\*

Press **ON** for the ON function and the display shows:

\*\*UTILITIES\*\*

Press **ENTER** for a momentary contact and the display shows:

I=16:ON

Press **1-2-0-ENTER** for a timeout period of 120 minutes and the display shows:

I=16:ON

Press **1-0-ENTER** for a warning 10 minutes before the end of the timeout period and the display shows:

I=16:ON

Press **0-0-2-ENTER** for the outputs<sup>1</sup> of zone 2 and the display shows:

I=16:ON

---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the outputs<sup>1</sup> of zone 2 for the ON function, with a timeout period of 120 minutes and a warning of 10 minutes. *The maximum timeout period is 600 minutes and the maximum warning is 30 minutes.* Press **SHIFT-HOME** and the display shows the programming mode main screen:

\*\*MC-6000A\*\*

-

Press **SHIFT-F10** to save the new programming and the display shows the automatic mode screen:



## MC-6000A System

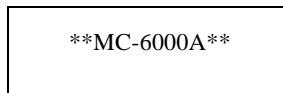
---

### 10.1.3 Defining OFF input with a delay on operate

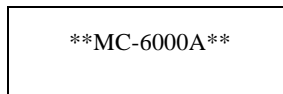
In this example the user needs to program a librarian key switch to control outputs<sup>1</sup> 24 to 30. We already defined the output<sup>1</sup> list in zone 2. The switch is wired to utility 10. Utility 10 is defined as OFF contact with a warning of 10 minutes and a delay on operate for the OFF. After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



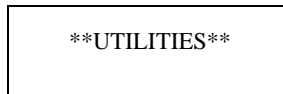
Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-UTIL** and the display shows the utility definition screen:



Press **INPUT** and the display shows:



To define the OFF function, press **INPUT-1-0-ENTER** and the display shows:



Press **OFF** for the OFF function and the display shows:

---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

\*\*UTILITIES\*\*

Press **ENTER** for a momentary contact and the display shows:

I=10:OFF

Press **0-1-0-ENTER** for a timeout period of 10 minutes and the display shows:

I=10:OFF

Press **1-0-ENTER** for a warning 10 minutes before the end of the timeout period and the display shows:

I=10:OFF

Press **0-0-2-ENTER** for the outputs<sup>1</sup> of zone 2 and the display shows:

I=10:OFF

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the outputs<sup>1</sup> of zone 2 for the delayed OFF function, with a warning of 10 minutes. Once the librarian key switch is used the relays are flicked immediately and the relays are switched OFF 10 minutes later. *The maximum delay period is 30 minutes (timeout of 30 minutes and warning of 30 minutes).* Press **SHIFT-HOME** and the display shows the programming mode main screen:

---

<sup>1</sup> See the panel schedule for corresponding relays

---

## MC-6000A System

---

\*\*MC-6000A\*\*

Press **SHIFT-F10** to save the new programming and the display shows the automatic mode screen:

-

## MC-6000A System

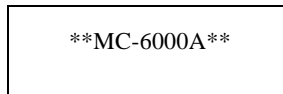
---

### 11. Definition of new maintained inputs

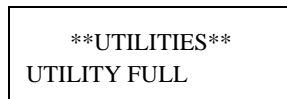
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



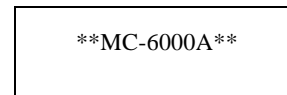
Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-UTIL** and the display shows one of the two screens:

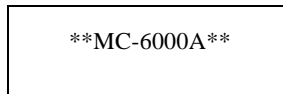


Screen 1



Screen 2

Screen 1 indicates that the memory allocated for the utility is full (you can program a maximum of 100 utility). Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-HOME** and the display shows the automatic mode screen:



Screen 2 indicates that the programmable scanner is ready to add new utilities to memory. To return to the automatic mode screen, press **SHIFT-HOME** and the display shows the programming mode main screen:

## MC-6000A System

---

\*\*MC-6000A\*\*

Press **SHIFT-HOME** and the display shows the automatic mode screen:

—

## MC-6000A System

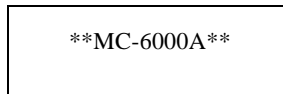
---

### 11.1 Define new inputs

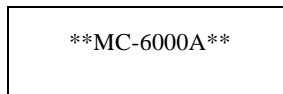
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-UTIL** and the display shows the utility definition screen:



Press **INPUT** and the display shows:



This screen waits for the user to give the switch input number to be defined. The following table lists the programmable switch utility functions available for the maintained utilities. The user has a choice of three types of switching definitions.

Type#1 (Spst)	contact closure	---> ON function
	contact opening	---> OFF function
	Or	
	contact closure	---> OFF function
	contact opening	---> ON function
Type#2 (Spdt)	contact closure	---> ON function
	contact opening	---> no action
	Or	

## MC-6000A System

---

contact closure ---> OFF function  
contact opening ---> no action

Type#3  
(2 spst) contact closure ---> no action  
contact opening ---> ON function  
Or  
contact closure ---> no action  
contact opening ---> OFF function

*The timeout period and the warning are not available with utilities of type#1. The maximum timeout period is 600 minutes and the maximum warning is 30 minutes.*

## MC-6000A System

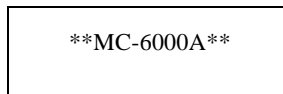
---

### 11.1.1 Defining ON/OFF utilities

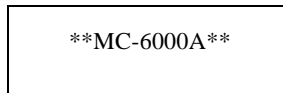
In this example the user needs to program the relays controlling the exterior lights from a normally open contact of a photocell and a normally open contact of a timer. The exterior lights relays are outputs<sup>1</sup> 24 to 30. The normally open contact of the photocell is wired to utility 11 and the normally open contact of the timer is wired to utility 12. The photocell turns the exterior lights ON at sunset and the timer turns the exterior lights off during the night. We already defined the outputs<sup>1</sup> in zone 2. After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-UTIL** and the display shows the utility definition screen:



Press **INPUT** and the display shows:



To define the ON function, press **1-1-ENTER** and the display shows:



---

<sup>1</sup> See the panel schedule for corresponding relays

---



## MC-6000A System

---

Press **ON** for the ON function and the display shows:

\*\*UTILITIES\*\*

Press **MAINT.-2-ENTER** to assign a maintained utility of type#2<sup>1</sup> and the display shows:

I=11:ON :M2

Press **0-0-0-ENTER** for no timeout period and the display shows:

I=11:ON :M2

Press **0-0-2-ENTER** for the outputs<sup>2</sup> in zone 2 and the display shows:

I-011:ON :M2

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the outputs<sup>2</sup> of zone 2 for the ON function, without a timeout period and no warning. To program utility 12 for the OFF function, press **INPUT** and the display shows:

\*\*UTILITIES\*\*

---

<sup>1</sup> Refer to page 10-3.

<sup>2</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

Press **1-2-ENTER** and the display shows:

\*\*UTILITIES\*\*

Press **OFF** for the OFF function and the display shows:

\*\*UTILITIES\*\*

Press **MAINT.-2-ENTER** and the display shows:

I=12:OFF :M2

Press **0-0-0-ENTER** for no timeout period and the display shows:

I=12:OFF :M2

Press **0-0-2-ENTER** for the outputs<sup>1</sup> in zone 2 and the display shows:

I=12:OFF :M2

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

---

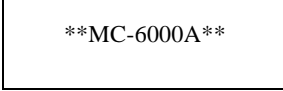
<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

This confirms the outputs<sup>1</sup> of zone 2 for the OFF function. At this point the relays are turned on when the photocell contact is closed and the relays are turned off when the timer contact is closed. When the ON contact is opened or the OFF contact is opened, no action is taken by the programmable scanner.

Press **SHIFT-HOME** and the display shows the programming mode main screen:



\*\*MC-6000A\*\*

Press **SHIFT-F10** to save the new programming and the display shows the automatic mode screen:



-

## MC-6000A System

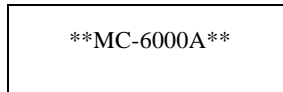
---

### 11.1.2 Defining ON/OFF input with a delay on operate (OFF)

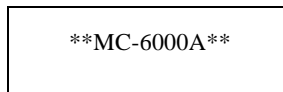
In this example the user needs to program the relays controlling the interior lights from a master toggle switch. The interior lights relays are outputs<sup>1</sup> 1, 4, 7, 9, 13, 17 and 23. The master switch is wired to utility 10. The master switch turns the interior lights on and turns them off with a 15 minutes warning/delay on operate. We already defined the output<sup>1</sup> in zone 2. After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



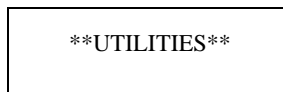
Press **ENTER** and the display shows the programming mode main screen:



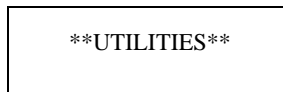
Press **SHIFT-UTIL** and the display shows the utility definition screen:



Press **INPUT** and the display shows:



To define the ON function, press **2-0-ENTER** and the display shows:



Press **ON** for the ON function and the display shows:

---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

\*\*UTILITIES\*\*

Press **MAINT.-2-ENTER** to assign a maintained input of type#2<sup>1</sup> and the display shows:

I=20:ON :M2

Press **0-0-0-ENTER** for no timeout period and the display shows:

I=20:ON :M2

Press **0-0-2-ENTER** for the outputs<sup>2</sup> in zone 2 and the display shows:

I=20:ON :M2

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the outputs<sup>2</sup> of zone 2 for the ON function, without a timeout period and no warning. To program input 20 for the OFF function with a warning/delay on operate, press **INPUT** and the display shows:

\*\*UTILITIES\*\*

Press **2-0-ENTER** and the display shows:

---

<sup>1</sup> Refer to page 10-3.

<sup>2</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

\*\*UTILITIES\*\*

Press **OFF** for the OFF function and the display shows:

\*\*UTILITIES\*\*

Press **MAINT.-3-ENTER** and the display shows:

I=20:OFF :M3

Press **0-1-5-ENTER** for a 15 minutes timeout period and the display shows:

I=20:OFF :M3

Press **0-1-5-ENTER** for a 15 minutes warning and the display shows:

I=20:OFF :M3

Press **0-0-2-ENTER** for the outputs<sup>1</sup> in zone 2 and the display shows:

I=20:OFF :M3

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

---


<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

This confirms the outputs<sup>1</sup> of zone 2 for the OFF function with a warning/delay on operate of 15 minutes. At this point the relays are turned on when the master switch contact is closed, the relays are flicked off when the master switch contact is opened and the relays are turned off 15 minutes later.

Press **SHIFT-HOME** and the display shows the programming mode main screen:



\*\*MC-6000A\*\*

Press **SHIFT-F10** to save the new programming and the display shows the automatic mode screen:



—





## MC-6000A System

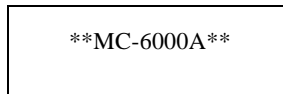
---

### 12. Definition of new schedules

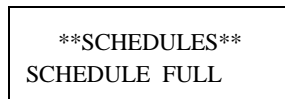
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



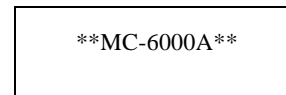
Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-SCHED** and the display shows one of the two screens:

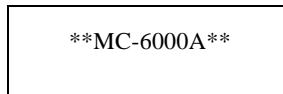


Screen 1



Screen 2

Screen 1 indicates that the memory allocated for the schedule is full (you can program a maximum of 100 schedules). Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-HOME** and the display shows the automatic mode screen:



Screen 2 indicates that the programmable scanner is ready to add new schedules to memory. To return to the automatic mode screen, press **SHIFT-HOME** and the display shows the programming mode main screen:

## MC-6000A System

---

\*\*MC-6000A\*\*

Press **SHIFT-HOME** and the display shows the automatic mode screen:

—

## MC-6000A System

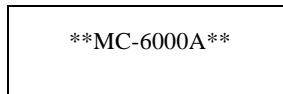
---

### 12.1 Define new regular schedules

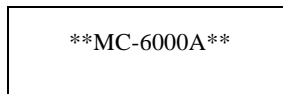
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



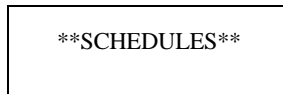
Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-SCHED** and the display shows the schedule definition screen:



Press **INPUT** and the display shows:



This screen waits for the user to give the day of the week to be defined. We want to switch outputs<sup>1</sup> 1, 4, 7, 9, 13, 17 and 23 using the following schedules.

Monday to Friday:      ON at 7:00am  
                                 OFF at 5:00pm

Saturday, Sunday:      no ON  
And holiday              OFF at noon  
                                 OFF at midnight

We already defined the output<sup>1</sup> list in zone 1. To define the weekly ON schedule, press **2-3-4-5-6-ENTER**

---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

and the display shows:

\*\*SCHEDULES\*\*

Press **ON** for the ON function and the display shows:

D= 23456 :ON

Press **OFF** for a regular schedule and the display shows:

D= 23456 :ON

Press **0-7-ENTER-0-0-ENTER** for 7:00am and the display shows:

D= 23456 :ON

Press **0-0-ENTER** for no flick warning and the display shows:

T=07:00 W=00

Press **0-0-1-ENTER** for the outputs<sup>1</sup> of zone 1 and the display shows:

T=07:00 W=00

Press **ENTER** and the display shows:

---

<sup>1</sup> See the panel schedule for corresponding relays

---

## MC-6000A System

---

\*\*MC-6000A\*\*

This confirms the weekly ON schedule. To define the weekly OFF schedule, press **INPUT-2-3-4-5-6-ENTER** and the display shows:

\*\*SCHEDULES\*\*

Press **OFF** for the OFF function and the display shows:

D= 23456 :OFF

Press **OFF** for a regular schedule and the display shows:

D= 23456 :OFF

Press **1-7-ENTER-0-0-ENTER** for 5:00pm and the display shows:

D= 23456 :OFF

Press **0-5-ENTER** for a flick warning 5 minutes before the OFF time and the display shows:

T= 17:00 W=05

Press **0-0-1-ENTER** for the outputs<sup>1</sup> of zone 1 and the display shows:

---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

T= 17:00      W=05

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the weekly OFF schedule.

To define the weekend and holiday OFF schedules, press **INPUT-0-7-1-ENTER** and the display shows:

\*\*SCHEDULES\*\*

Press **OFF** for the OFF function and the display shows:

D=0      71:OFF

Press **OFF** for a regular schedule and the display shows:

D=0      71:OFF

Press **1-2-ENTER-0-0-ENTER** for noon and the display shows:

D=0      71:OFF

## MC-6000A System

---

Press **0-5-ENTER** for a flick warning 5 minutes before the OFF time and the display shows:

T=12:00 W=05

Press **0-0-1-ENTER** for the outputs<sup>1</sup> of zone 1 and the display shows:

T=12:00 W=05

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the first weekend and holiday OFF schedule. To define the second weekend and holiday OFF schedule, press **INPUT-0-7-1-ENTER** and the display shows:

\*\*SCHEDULES\*\*

Press **OFF** for the OFF function and the display shows:

D=0 71:OFF

Press **OFF** for a regular schedule and the display shows:

D=0 71:OFF

*Note: We cannot use the 00:00 time for midnight since 00:00 becomes the following day. Press **2-3-***

---

<sup>1</sup> See the panel schedule for corresponding relays

---

## MC-6000A System

---

**ENTER-5-9-ENTER** for one minute before midnight the same day and the display shows:

D=0      71:OFF

Press **0-5-ENTER** for a flick warning 5 minutes before the OFF time and the display shows:

T=23:59    W=05

Press **0-0-1-ENTER** for the outputs<sup>1</sup> of zone 1 and the display shows:

T=23:59    W=05

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the second weekend and holiday OFF schedule. Press **SHIFT-HOME** and the display shows the programming mode main screen:

\*\*MC-6000A\*\*

Press **SHIFT-F10** to save the new programming and the display shows the automatic mode screen:

---

<sup>1</sup> See the panel schedule for corresponding relays





## MC-6000A System

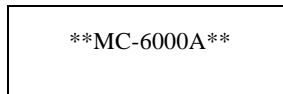
---

### 12.2 Define new flicking schedules

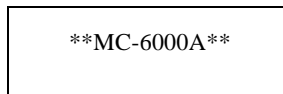
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-SCHED** and the display shows the schedule definition screen:



Press **INPUT** and the display shows:



This screen waits for the user to give the day of the week to be defined. We want to flick OFF the outputs<sup>1</sup> 1, 4, 7, 9, 13, 17 and 23 at noon during the week.

Monday to Friday: flick OFF at 12:00pm

We already defined the output<sup>1</sup> list in zone 1. To define the weekly flick OFF schedule, press **2-3-4-5-6-ENTER** and the display shows:



---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

Press **OFF** for the OFF function and the display shows:

D= 23456 :OFF

Press **ON** for a flicking schedule and the display shows:

D= 23456 :OFF

Press **1-2-ENTER-0-0-ENTER** for 12:00pm and the display shows:

D= 23456 :OFF

Press **0-0-ENTER** for no warning before the OFF time and the display shows:

FT=12:00 W=00

Press **0-0-1-ENTER** for the outputs<sup>1</sup> of zone 1 and the display shows:

FT=12:00 W=00

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*


---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

This confirms the weekly flick OFF schedule. Press **SHIFT-HOME** and the display shows the programming mode main screen:



\*\*MC-6000A\*\*

Press **SHIFT-F10** to save the new programming and the display shows the automatic mode screen:



-

## MC-6000A System

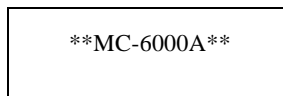
---

### 13. Definition of new holidays

After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



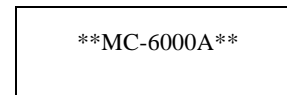
Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-F6** and the display shows one of the two screens:

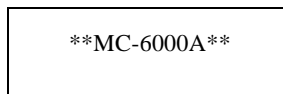


Screen 1



Screen 2

Screen 1 indicates that the memory allocated for the holiday is full (you can program a maximum of 30 holidays). Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-HOME** and the display shows the automatic mode screen:



Screen 2 indicates that the programmable scanner is ready to add new holidays to memory. To return to the automatic mode screen, press **SHIFT-HOME** and the display shows the programming mode main screen:

## MC-6000A System

---

\*\*MC-6000A\*\*

Press **SHIFT-HOME** and the display shows the automatic mode screen:

—

## MC-6000A System

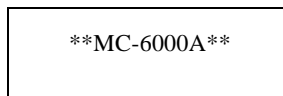
---

### 13.1 Define new holidays

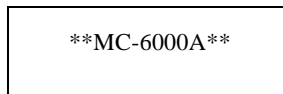
After connecting the hand held unit to the programmable scanner, turn the scanner switch on and the display shows the automatic mode screen:



Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-F6** and the display shows the holiday definition screens:



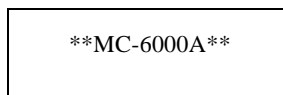
Press **INPUT** and the display shows:



This screen waits for the user to give the holiday to be defined. We want July 1st, 1992 to be a holiday. Press **9-2-ENTER-0-7-ENTER-0-1-ENTER** and the display shows:



Press **ENTER** and the display shows:



## MC-6000A System

---

This confirms the holiday of July 1st, 1992. We want January 1st, every year to be a holiday.

Press **INPUT-ENTER-0-1-ENTER-0-1-ENTER** and the display shows:

\*\*HOLIDAYS\*\*

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the holiday of January 1st, every year. We want December 25th, every year to be a holiday.

Press **INPUT-ENTER-1-2-ENTER-2-5-ENTER** and the display shows:

\*\*HOLIDAYS\*\*

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the holiday of December 25th, every year. Press **SHIFT-HOME** and the display shows the programming mode main screen:

\*\*MC-6000A\*\*

Press **SHIFT-F10** to save the new programming and the display shows the automatic mode screen:

—





## MC-6000A System

---

### 14. Examples

The MC-6000A programmable scanner provides time based microprocessor intelligence to the rpm/rli/rliw series of pre-wired relay panels. The interface provides up to 32 control output<sup>1</sup> capability and up to 16 programmable inputs. The program data is entered with the hand held control/display unit.

The lighting relays wired to the control output<sup>1</sup> of the MC-6000A can be assigned in various zones. The relays in a zone can only be selected among the control output<sup>1</sup> of the same MC-6000A. The same relays may be included in any number of zones. For example, one zone may control an individual's office and another zone, the entire floor (including that office).

The integrated real-time clock function allows any zones in a panel to be controlled on a time base in that panel. The programmable switch function allows any switch input in a panel to be programmed to control any of the relays in that panel as a zone. Any of the zones can be a group of relays or a scan (any group of relays that is sequential). The same relays may be included in any number of scheduled or switch input zones.

Example 1: simple on/off switch (sec. 14.1, page 14-2)

Example 2: dual function on/off switch (sec. 14.2, page 14-7)

Example 3: fire station alarm and schedule (sec. 14.3, page 14-16)

Example 4: office/bathroom building automation switching (sec. 14.4, page 14-29)

---

<sup>1</sup> See the panel schedule for corresponding relays

---

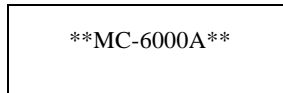
## MC-6000A System

---

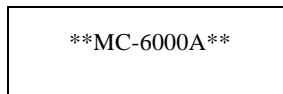
Example 1: In this example the user needs to program an ON/OFF switch to control outputs<sup>1</sup> 1, 4, 7 and 17 to 21. The ON/OFF switch is wired to utility 11 and 12. Utility 11 is defined as the ON contact and utility 12 is defined as the OFF contact. We will assign the relays to zone 10 and the switch is momentary. After connecting the display to the scanner, turn the scanner switch on and the display shows the automatic mode screen:



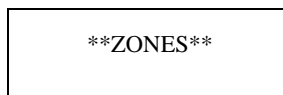
Press **ENTER** and the display shows the programming mode main screen:



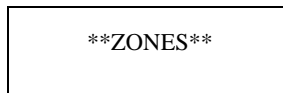
Press **SHIFT-ZONE** and the display shows the zone definition screen:



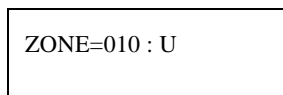
Press **INPUT** and the display shows:



To define the zone, press **0-1-0-ENTER** and the display shows:



Press **SIMPLE** for the output<sup>1</sup> list and the display shows:



---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

Press **0-1-ENTER-0-4-ENTER-0-7-ENTER-0-0-ENTER** for the three output<sup>1</sup> of the list and the display shows:

ZONE=010 : U

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the three outputs<sup>1</sup> of the list for zone 10. To add the outputs<sup>1</sup> 17 to 21, press **INPUT** and the display shows:

\*\*ZONES\*\*

To define the rest of the output<sup>1</sup> for the zone, press **0-1-0-ENTER** and the display shows:

\*\*ZONES\*\*

Press **SCAN** for a sequential list of output<sup>1</sup> and the display shows:

ZONE=010: S

Press **1-7-ENTER-2-1-ENTER** for the first and last outputs<sup>1</sup> of the list and the display shows:

ZONE=010: S

---

<sup>1</sup> See the panel schedule for corresponding relays

---

## MC-6000A System

---

Press **ENTER** and the display shows:

\*\*MC6000A\*\*

This confirms the sequential list of outputs<sup>1</sup> for zone 10. At this point both the three relays and the sequential relays are assigning to zone 10. Now we need to assign zone 10 to utility 11 for the ON function. Press **SHIFT-HOME-SHIFT-UTIL-INPUT** and the display shows:

\*\*UTILITIES\*\*

To define the switch utility number for the ON function, press **1-1-ENTER** and the display shows:

\*\*UTILITIES\*\*

Press **ON** for the ON function and the display shows:

\*\*UTILITIES\*\*

Press **ENTER** for a momentary utility and the display shows:

I=11 : ON

Press **0-0-0-ENTER** for no timeout and the display shows:

I=11 : ON

---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

Press **0-1-0-ENTER** for the outputs<sup>1</sup> in the zone and the display shows:

I=11 : ON

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the outputs<sup>1</sup> of zone 10 for the ON function. Now we need to assign zone 10 to utility 12 for the OFF function. Press **INPUT** and the display shows:

\*\*UTILITIES\*\*

To define the switch utility number for the OFF function, press **1-2-ENTER** and the display shows:

\*\*UTILITIES\*\*

Press **OFF** for the OFF function and the display shows:

\*\*UTILITIES\*\*

Press **ENTER** for a momentary utility and the display shows:

I=12 : OFF

---

<sup>1</sup> See the panel schedule for corresponding relays

---

## MC-6000A System

---

Press **0-0-0-ENTER** for no timeout and the display shows:

I=12 : OFF

Press **0-1-0-ENTER** for the outputs<sup>1</sup> in the zone and the display shows:

I=12 : OFF

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the outputs<sup>1</sup> of zone 10 for the OFF function. At this point both the three relays and the sequential relays are assigned to be turned on when the contact is closed on utility 11 and turned off when the contact is closed on utility 12. Press **SHIFT-HOME** and the display shows the programming mode main screen:

\*\*MC-6000A\*\*

Press **SHIFT-F10** to save the new programming and the display shows the automatic mode screen:

—

After testing the new definitions, turn the scanner off, disconnect the display and turn the scanner on.

---

<sup>1</sup> See the panel schedule for corresponding relays

---

Example 2: In this example the user needs to program a switch to control relays both ON and OFF at the same time. When the first contact of the switch is closed, outputs<sup>1</sup> 13 to 25 should be turned on and outputs<sup>1</sup> 29 and 31 should be turned off. When the second contact of the switch is closed, outputs<sup>1</sup> 13, 17, 25 and 27 should be turned off and outputs<sup>1</sup> 29 to 32 should be turned on. The switch is wired to utilities 5 and 6. Utility 5 is defined as the first contact and utility 6 is defined as the second contact. We will use the following:

Zone 15:	outputs <sup>1</sup> 13 to 25
Zone 16:	outputs <sup>1</sup> 29 and 31
Zone 17:	outputs <sup>1</sup> 13, 17, 25 and 27
Zone 18:	outputs <sup>1</sup> 29 to 32
Utility 5:	momentary, ON for zone 15 momentary, OFF for zone 16
Utility 6:	momentary, ON for zone 18 momentary, OFF for zone 17

After connecting the display to the scanner, turn the scanner switch on and the display shows the automatic mode screen:



---

<sup>1</sup> See the panel schedule for corresponding relays

---



## MC-6000A System

---

Press **ENTER** the display shows the programming mode main screen:

\*\*MC-6000A\*\*

Press **SHIFT-ZONE** and the display shows the zone definition screen:

\*\*ZONES\*\*

To define the first zone, press **0-1-5-ENTER** and the display shows:

\*\*ZONES\*\*

Press **SCAN** for the sequential outputs<sup>1</sup> and the display shows:

ZONE=015 : S

Press **1-3-ENTER-2-5-ENTER** for the first and last outputs<sup>1</sup> and the display shows:

ZONE=015 : S

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the outputs<sup>1</sup> for zone 15. To define zone 16, press **INPUT** and the display shows:

---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

\*\*ZONES\*\*

Press **0-1-6-ENTER** and the display shows:

\*\*ZONES\*\*

Press **SIMPLE** for the outputs<sup>1</sup> and the display shows:

ZONE=016 : U

Press **2-9-ENTER-3-1-ENTER-0-0-ENTER-0-0-ENTER** for the outputs<sup>1</sup> and the display shows:

ZONE=016 : U

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the outputs<sup>1</sup> for zone 16. To define zone 17, press **INPUT** and the display shows:

\*\*ZONE\*\*

---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

Press **0-1-7-ENTER** and the display shows:

\*\*ZONE\*\*

Press **SIMPLE** for the outputs<sup>1</sup> and the display shows:

ZONE=017 : U

Press **1-3-ENTER-1-7-ENTER-2-5-ENTER-2-7-ENTER** for the outputs<sup>1</sup> and the display shows:

ZONE=017 : U

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the outputs<sup>1</sup> for zone 17. To define zone 18, press **INPUT** and the display shows:

\*\*ZONES\*\*

Press **0-1-8-ENTER** and the display shows:

\*\*ZONES\*\*

Press **SCAN** for the sequential outputs<sup>1</sup> and the display shows:

---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

ZONE=018 : S

Press **2-9-ENTER-3-2-ENTER** for the first and last outputs<sup>1</sup> and the display shows:

ZONE=018 : S

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the outputs<sup>1</sup> for zone 18. Now we need to assign the zones to their respective utility and function. We define the two zones for utility 5 first.

Press **SHIFT-HOME-SHIFT-UTIL-INPUT** and the display shows:

\*\*UTILITIES\*\*

To define the switch utility number for the ON function, press **0-5-ENTER** and the display shows:

\*\*UTILITIES\*\*

Press **ON** for the ON function and the display shows:

\*\*UTILITIES\*\*

---

## MC-6000A System

---

Press **ENTER** for a momentary input and the display shows:

I=05 : ON

Press **0-0-0-ENTER** for no timeout and the display shows:

I=05 : ON

Press **0-1-5-ENTER** for the outputs<sup>1</sup> in the zone and the display shows:

I=05 : ON

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the outputs<sup>1</sup> of zone 15 for the ON function of utility 5. Now we need to assign zone 16 to utility 5 for the OFF function. Press **INPUT** and the display shows:

\*\*UTILITIES\*\*

To define the switch utility number for the OFF function, press **0-5-ENTER** and the display shows:

\*\*UTILITIES\*\*

Press **OFF** for the OFF function and the display shows:

---

<sup>1</sup> See the panel schedule for corresponding relays

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

\*\*UTILITIES\*\*

Press **ENTER** for a momentary utility and the display shows:

I=05 : OFF

Press **0-0-0-ENTER** for no timeout and the display shows:

I=05 : OFF

Press **0-1-6-ENTER** for the outputs<sup>1</sup> in the zone and the display shows:

I=05 : OFF

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the outputs<sup>1</sup> of zone 16 for the OFF function of utility 5. Now we need to assign zone 18 to utility 6 for the ON function. Press **INPUT** and the display shows:

\*\*UTILITIES\*\*

To define the switch utility number for the ON function, press **0-6-ENTER** and the display shows:

---

<sup>1</sup> See the panel schedule for corresponding relays

---

## MC-6000A System

---

\*\*UTILITIES\*\*

Press **ON** for the ON function and the display shows:

\*\*UTILITIES\*\*

Press **ENTER** for a momentary utility and the display shows:

I=06: ON

Press **0-0-0-ENTER** for no timeout and the display shows:

I=06: ON

Press **0-1-8-ENTER** for the outputs<sup>1</sup> in the zone and the display shows:

I=06: ON

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the outputs<sup>1</sup> of zone 18 for the ON function of utility 6. Now we need to assign zone 17 to utility 6 for the OFF function. Press **INPUT** and the display shows:

## MC-6000A System

---

\*\*UTILITIES\*\*

To define the switch utility number for the OFF function, press **0-6-ENTER** and the display shows:

\*\*UTILITIES\*\*

Press **OFF** for the OFF function and the display shows:

\*\*UTILITIES\*\*

Press **ENTER** for a momentary utility and the display shows:

I=06 : OFF

Press **0-0-0-ENTER** for no timeout and the display shows:

I=06 : OFF

Press **0-1-7-ENTER** for the outputs<sup>1</sup> in the zone and the display shows:

I=06 : OFF

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

---

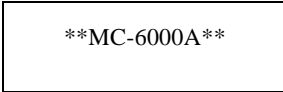
<sup>1</sup> See the panel schedule for corresponding relays



## MC-6000A System

---

This confirms the outputs<sup>1</sup> of zone 17 for the OFF function of utility 6. At this point outputs<sup>1</sup> 13 to 25 will be switched on and, outputs<sup>1</sup> 29 and 31 will be switched off when the contact is closed on utility 5. Outputs<sup>1</sup> 29 to 32 will be switched on and, outputs<sup>1</sup> 13, 17, 25 and 27 will be switched off when the contact is closed on utility 6. Press **SHIFT-HOME** and the display shows the programming mode main screen:



\*\*MC-6000A\*\*

Press **SHIFT-F10** to save the new programming and the display shows the automatic mode screen:



-

After testing the new definitions, turn the scanner off, disconnect the display and turn the scanner on.

---

<sup>1</sup> See the panel schedule for corresponding relays

---

Example 3: in this example the user programs an alarm key switch for a fire station. The alarm key switch has a maintained contact to operate the various control outputs<sup>1</sup>. The relay panel contains the following control relays:

Rel 1 to 3: dormitory lighting.

Rel 4 to 8: general lighting.

Rel 9 and 10: garage lighting.

Rel 12: contactor for the electric panel for the various appliances.

Rel 14: solenoid for the gas stove valve.

Rel 16: garage door "open" signal.

The following table shows the various functions to be performed when an alarm is received and the key switch contact is closed. The general lighting of the fire station is turned on at 6:00am and off at 10:00pm everyday of the week.

### Alarm functions

Turn on: dormitory lighting.  
general lighting.  
garage lighting.  
send door "open" signal.

Turn off: contactor for electrical panel.  
solenoid for gas stove valve.

The following table shows the various functions to be performed when the alarm is reset and the key switch contact is opened.

---

<sup>1</sup> See the panel schedule for corresponding relays

---

## MC-6000A System

---

### Reset functions

Turn off:       dormitory lighting.  
                  reset door "open" signal.

Turn on:         contactor for electrical panel.  
                  solenoid for gas stove valve.

The alarm switch is wired to utility 5. We will use the following:

Zone 1:         outputs<sup>1</sup> 1 to 10 and 16  
Zone 2:         outputs<sup>1</sup> 12 and 14  
Zone 3:         outputs<sup>1</sup> 1 to 3 and 16  
Zone 4:         outputs<sup>1</sup> 4 to 8

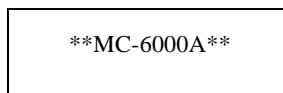
Utility 5:       maintained, closure, ON for zone 1  
                  maintained, closure, OFF for zone 2  
                  maintained, opening, ON for zone 2  
                  maintained, opening, OFF for zone 3

Schedule:       zone 4, Monday to Sunday, ON @ 6:00AM and OFF @ 10:00PM

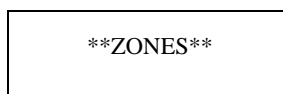
After connecting the display to the scanner, turn the scanner switch on and the display shows the automatic mode screen:



Press **ENTER** and the display shows the programming mode main screen:



Press **SHIFT-ZONE** and the display shows the zone definition screen:



## MC-6000A System

---

To define the first zone, press **0-0-1-ENTER** and the display shows:

\*\*ZONES\*\*

Press **SCAN** for the sequential outputs<sup>1</sup> and the display shows:

ZONE=001 : S

Press **0-1-ENTER-1-0-ENTER** for the first and last outputs<sup>1</sup> and the display shows:

ZONE=001 : S

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the sequential outputs<sup>1</sup> for zone 1. To complete zone 1, press **INPUT** and the display shows:

\*\*ZONES\*\*

Press **0-0-1-ENTER** and the display shows:

\*\*ZONES\*\*

---

<sup>1</sup> See the panel schedule for corresponding relays

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

Press **SIMPLE** for output 16 and the display shows:

ZONE=001 : U

Press **1-6-ENTER-0-0-ENTER-0-0-ENTER-0-0-ENTER** for the output and the display shows:

ZONE=001 : U

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the last output<sup>1</sup> for zone 1. To define zone 2, press **INPUT** and the display shows:

\*\*ZONES\*\*

Press **0-0-2-ENTER** and the display shows:

\*\*ZONES\*\*

Press **SIMPLE** for the outputs<sup>1</sup> and the display shows:

ZONE=002 : U

Press **1-2-ENTER-1-4-ENTER-0-0-ENTER-0-0-ENTER** for the outputs<sup>1</sup> and the display shows:

---

<sup>1</sup> See the panel schedule for corresponding relays

---

## MC-6000A System

---

ZONE=002 : U

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the outputs<sup>1</sup> for zone 2. To define zone 3, press **INPUT** and the display shows:

\*\*ZONES\*\*

Press **0-0-3-ENTER** and the display shows:

\*\*ZONES\*\*

Press **SCAN** for the sequential outputs<sup>1</sup> and the display shows:

ZONE=003 : S

Press **0-1-ENTER-0-3-ENTER** for the first and last outputs<sup>1</sup> and the display shows:

ZONE=003 : S

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

This confirms the sequential outputs<sup>1</sup> for zone 3. To complete zone 3, press **INPUT** and the display shows:

\*\*ZONES\*\*

Press **0-0-3-ENTER** and the display shows:

\*\*ZONES\*\*

Press **SIMPLE** for output<sup>1</sup> 16 and the display shows:

ZONES=003 : U

Press **1-6-ENTER-0-0-ENTER-0-0-ENTER-0-0-ENTER** for the output<sup>1</sup> and the display shows:

ZONE=003 : U

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the last output<sup>1</sup> for zone 3. To define zone 4, press **INPUT** and the display shows:

\*\*ZONES\*\*

Press **0-0-4-ENTER** and the display shows:

---

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

\*\*ZONES\*\*

Press **SCAN** for the sequential outputs<sup>1</sup> and the display shows:

ZONE=004 : S

Press **0-4-ENTER-0-8-ENTER** for the first and last outputs<sup>1</sup> and the display shows:

ZONE=004 : S

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the sequential outputs<sup>1</sup> for zone 4. Now we define the utility for the contact closure. Press **SHIFT-HOME-SHIFT-UTIL-INPUT** and the display shows:

\*\*UTILITIES\*\*

To define the switch utility number for the ON function of the contact closure, press **0-5-ENTER** and the display shows:

\*\*UTILITIES\*\*

Press **ON** for the ON function and the display will show:

---

<sup>1</sup> See the panel schedule for corresponding relays



## MC-6000A System

---

\*\*UTILITIES\*\*

Press **MAINT.-2-ENTER** to assign a maintained utility of type#2<sup>2</sup> and the display shows:

I=05:ON :M2

Press **0-0-0-ENTER** for no timeout and the display shows:

I=05:ON :M2

Press **0-0-1-ENTER** for the outputs<sup>1</sup> and the display shows:

I=05:ON :M2

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the relays for the ON only function of the contact closure. Now we define the OFF function for the contact closure. Press **INPUT** and the display shows:

\*\*UTILITIES\*\*

To define the switch utility number for the OFF function of the contact closure, press **0-5-ENTER** and

---

<sup>2</sup> Refer to page 10-3.

## MC-6000A System

---

the display shows:

**\*\*UTILITIES\*\***

Press **OFF** for the OFF function and the display shows:

**\*\*UTILITIES\*\***

Press **MAINT.-1-ENTER** to assign a maintained utility of type#1<sup>1</sup> and the display shows:

I=05 : OFF :M1

Press **0-0-0-ENTER** for no timeout and the display shows:

I=05 : OFF :M1

Press **0-0-2-ENTER** for the outputs<sup>1</sup> and the display shows:

I=05 : OFF :M1

Press **ENTER** and the display shows:

**\*\*MC-6000A\*\***

---

<sup>1</sup> Refer to page 10-3.

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

This confirms the outputs<sup>1</sup> for the OFF function of the contact closure and the ON function of the contact opening. Now we define the OFF function for the contact opening. Press **INPUT** and the display shows:

\*\*UTILITIES\*\*

To define the switch utility, press **0-5-ENTER** and the display shows:

\*\*UTILITIES\*\*

Press **OFF** for the OFF function and the display shows:

\*\*UTILITIES\*\*

Press **MAINT.-3-ENTER** for a maintained utility of type#3<sup>2</sup> and the display shows:

I=05 : OFF :M3

Press **0-0-0-ENTER** for no timeout and the display shows:

I=05 : OFF :M3

Press **0-0-3-ENTER** for the outputs<sup>1</sup> and the display shows:

I=05 : OFF :M3

---

<sup>2</sup> Refer to page 11-3.

<sup>1</sup> See the panel schedule for corresponding relays

## MC-6000A System

---

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the outputs<sup>1</sup> of the list for the OFF function of the contact opening. Now we have to define the general lighting schedule. Press **SHIFT-HOME-SHIFT-SCHED-INPUT** and the display shows:

\*\*SCHEDULES\*\*

This screen waits for the user to give the day of the week numbers to be defined. We want Monday to Sunday and holidays, press **0-1-2-3-4-5-6-7-ENTER** and the display shows:

\*\*SCHEDULES\*\*

Press **ON** for the ON function and the display shows:

D=01234567 : ON

Press **OFF** for a regular schedule and the display shows:

D=01234567 : ON

Press **0-6-ENTER-0-0-ENTER** for 6:00am and the display shows:

D=01234567 : ON

## MC-6000A System

---

Press **0-0-ENTER** for no flick warning and the display shows:

T=06:00 W:00

Press **0-0-4-ENTER** for the outputs<sup>1</sup> of zone 4 and the display shows:

T=06:00 W:00

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the weekly ON schedule. To define the weekly OFF schedule, press **INPUT-0-1-2-3-4-5-6-7-ENTER** and the display shows:

\*\*SCHEDULES\*\*

Press **OFF** for the OFF function and the display shows:

D=01234567 : OFF

Press **OFF** for a regular schedule and the display shows:

D=01234567 : OFF

Press **2-2-ENTER-0-0-ENTER** for 10:00pm and the display shows:

---

<sup>1</sup> See the panel schedule for corresponding relays

---

## MC-6000A System

---

D=01234567 : OFF

Press **0-5-ENTER** for a flick warning 5 minutes before the OFF schedule and the display shows:

D=01234567 : OFF

Press **0-0-4-ENTER** for the outputs<sup>1</sup> of zone 4 and the display shows:

T=22:00 W=05

Press **ENTER** and the display shows:

\*\*MC-6000A\*\*

This confirms the weekly OFF schedule. Press **SHIFT-HOME** and the display shows the programming mode main screen:

\*\*MC-6000A\*\*

Press **SHIFT-F10** to save the new programming and the display shows the automatic mode screen:

—

After testing the new definitions, turn the scanner off, disconnect the display and turn the scanner on.

---

<sup>1</sup> See the panel schedule for corresponding relays

---