FLASH TECHNOLOGY

9044 Handheld Programmer

High Intensity and Airport Product Programmer Reference Manual

Part Number F7903777

SERIAL NUMBER

Introduction

This reference manual describes use of the 9044 Handheld Programmer to configure the Flash Technology "9044 PCB" (29044XX Timing and Trigger PCB) as required for the specific product and installation. Figure 1.1 shows the new version programmer which has 20 keys. Operation of the 20 key programmer is identical to the earlier model which had 24 keys.

Connecting the Handheld Programmer

The Handheld Programmer is supplied with a permanently attached RS232 cable with 9 pin female connector. Plug the Handheld's cable connector into the 9044 PCB connector J2 (9 pin Male connector).

Figure 1.1 Handheld Programmer Layout

Using the Handheld Programmer

The programmer has a four line LCD display and 20 keys as shown in Figure 1.1.

The following is a general discussion of how the programmer works. Each board type provides different setup parameters and information. See the board specific sections for more details.

When the handheld programmer is connected to the 9044 PCB and power is applied, the 9044 PCB will automatically recognize that the Handheld Programmer is connected to it and will display the sign on message for the type of board (4063, 4988, 4990, and 5978) that the 9044 PCB is configured for. The 9044 PCB does this by requesting an ID message from the Handheld

Programmer every 5 seconds. Only Handheld Programmers provided by Flash Technology will work with the 9044 PCB.

The general format of the sign on message is:

```
    FLASH TECHNOLOGY
BOARD 4063
(Blank or further information)
ENTER TO CONTINUE
```

Once ENTER is pressed, the first menu is displayed:

```
    PRESS A FUNC KEY
F1. SETUP F2. INFO
F3. SHORTTEST
F4. MODE CHANGE
```

To continue further, a function key must be pressed (F1, F2, F3, or F4). The function keys are on the top row of the Handheld Programmer. See Figure 1.1.

F1: Enters the setup menus which are used to configure the 9044 PCB.
F2: Enters the information menu which shows a limited amount of useful operating info.
F3: Causes the 9044 PCB to perform the short test.
F4: Enters the mode change menu which is used to manually change the operating mode (DAY, TWI, and NITE).

Note: The Handheld Programmer will return to the sign on message from any other menu if no key is pressed within two minutes. The 9044 PCB does this to take the serial port out of the Handheld Programmer mode if the Handheld Programmer has been removed to allow the serial port to be used for the enhanced user interface. This means that if you remove the Handheld Programmer and connect a computer to use the enhanced interface you must wait at most two minutes before pressing any key on the computer. You can cycle the power to the 9044 PCB for faster access to the computer interface.

SETUP

The information provided in this section applies to every board configuration and explains how to navigate the menus and enter or select various parameters. It does not explain every parameter for a particular board type. See the board specific sections for more details.

The SETUP menu has the following format:

```
    SETUP
0-1-2-……

OK   NEXT  BACK   EXIT
```

The first line displays the current menu. The second line displays the current setup. The numbers correspond to the selected parameters. Some parameters have only two choices and other have more. The third line is blank. The fourth line displays what functions the keys F1 thru F4 will perform if pressed; the words are spaced to be over the corresponding function key. To move to the next menu, press F2 (NEXT).

F1: OK is used to enter data.
F2: NEXT moves to the next item.
F3: BACK moves to the previous item.
F4: EXIT exits the setup menu.

Parameters

Pressing the NEXT or BACK function key takes you to the parameters. The general format is:

```
    SETUP
Parameter name such as SYSTEM
The options such as 0- Standard 1- Cat.
OK   NEXT  BACK   EXIT
```

The currently selected option will have the cursor under it. For example:
0-Standard 1- Cat shows that the currently selected option for the parameter is zero (0) which in this case means standard.

To change a parameter, press a number corresponding to the desired option and press F1 (OK). For example to change the SYSTEM parameter from 0 (Standard) to 1 (Catenary), press the number 1 on the Handheld Programmer and then press F1. If the entry is accepted, the cursor will move to the selected parameter; for example the LCD will display:

```
    SETUP
SYSTEM
0- Standard 1- Cat.
OK   NEXT  BACK   EXIT
```

In some cases, when further information is required because of the option selected, the display will automatically move to the parameter(s) required to be selected. For example, selecting Cat as shown above requires that you also select the tier. Therefore, after selecting option 1, the display will automatically change to:

```
    SETUP
CAT  TIER
0- BOT 1- Mid   2-TOP
OK   NEXT  BACK   EXIT
```

From here you can select the appropriate tier option. Options like this will only appear when a previous option that requires further parameters be configured is selected. This means that if you want to change one of these parameters you must reselect the option from the top parameter that requires additional configuration. For example, if you have selected the catenary

tier to be BOT (Bottom) but wish to change it to MID (Middle) after you have left the CAT TIER parameter, then you must go back to the SYSTEM parameter and press 1 and then F1 (OK) again even though Cat is already shown to be selected on the display.

For parameters that do not require further configuration, the display will stay at the current parameter until the NEXT, BACK, or EXIT function keys are pressed.

INFO

The info menu has the following format:

```
    INFO
BOARD 4063


    NEXT   BACK   EXIT
```

This menu is used to show a limited amount of information about the current 9044 PCB operation and configuration.

The first line displays the current menu. The second and third lines display board information. The fourth line displays what functions the keys F2 thru F4 will perform if pressed; the words are spaced to be over the corresponding function key. To move to the next item, press F2 (NEXT).

F2: NEXT- moves to the next item.
F3: BACK- moves to the previous item.
F4: EXIT- exits the setup menu.

Information on Energy, trigger voltage, flash rate and operating mode are available.

SHORT TEST

The short test menu does not have any menu selections. Instead, it starts a short test of the board. The short test runs the board in each mode that is appropriate for the type of board the 9044 PCB is configured for. For example, when configure for a 4063 the short test puts the board in DAY mode for five flashes and NIGHT mode for five flashes but when configured for a 4988, the short test puts the board in DAY, NIGHT and TWI Modes for 5 flashes.

After pressing F3 from the main menu to start the short test, the Handheld Programmer will display:

```
    SHORT TEST RUNNING



            EXIT
```

F4: EXIT is used to exit from the short test menu once the results are displayed.

During the short test, the display will indicate the test results.
For example:

```
DAY MODE PASSED
```

When the tests are complete, the Handheld Programmer will display the results. For example:

```
DONE: ENERGY RESULTS
DAY  12000 TWI 4500
NIGHT 500
                    EXIT
```

MODE CHANGE

This menu item is used to manually change the operating modes and functions just like the manual test jumpers on the board. The mode change menu has the following format:

```
   MODE CONTROL
CURRENT DAY


DAY  TWI  NITE  EXIT
```

F1: DAY changes the mode to DAY.
F2: TWI changes the mode to TWI.
F3: NITE changes the mode to NITE.
F4: EXIT- exits the mode change menu and returns the mode to automatic.

BOARD SPECIFIC INFORMATION

Each board type that the 9044 PCB can be configured for has its own set of parameters. The sections that follow detail these.

Board Type 4063 Menu Tree
The item listed first for each parameter is the default.

Setup Menu

1. System
    - 0-Standard
    - 1- Catenary (must enter a 1 to get here)
        - 0-Bot
        - 1-Mid
        - 2-Top
2. FPM

- 0-40
- 1-60

3. Flick
   - 0-Single
   - 1-Double

4. Dual Mode
   - 0-No
   - 1-Yes

5. Isolated
   - 0-Not Isolated (alarms)
   - 1-Isolated (alarms)

6. White Backup
   - 0-Enabled
   - 1-Disabled

7. System Operates
   - 0-Day/Night
   - 1-Night

8. Primary Backup
   - 0-No
   - 1-Yes

9. Photocell Alarm
   - 0-Enable
   - 1-Disable

Board Type 4988 Menu Tree
The item listed first for each parameter is the default.

Setup Menu

1. System
   - 0-Standard (must enter a 0 to get here)
     - Enter Tier #
     - Enter Beacon #

   - 1- Air (must enter a 1 to get here)
     - Enter Light #
     - Enter Confirm #

   - 2-Cat (must enter a 2 to get here)
     - 0-Bot

- 1-Mid
- 2-Top

2. FPM
   - 0-40
   - 1-60
   - 2-30
   - 3-20
   - 4-100
   - 5-120

3. Flick
   - 0-Single
   - 1-Double

Board Type 4990 Menu Tree

This is the only board type that uses dash numbers to setup the parameters.

Setup Menu

1. Enter Dash #
2. Enter Tier #
3. Enter Beacon #

Board Type 5978 Menu Tree

1. System
   - 0-Bec. (Omni Airport Beacon)

   - 1- Air (must enter a 1 to get here)
     - Enter Light #

   - 2-Hel. (Heliport Beacon)

2. FPM
   - 1-60
   - 2-30
   - 3-20
   - 4-100
   - 5-120

3. Flick
   - 0-Single
   - 1-Double