

KEYWATCHER I MANUAL

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2 NOTTINGHAM ROAD, DAYBROOK
NOTTINGHAM NG5 6JQ

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PREFACE

Introduction

The Security Industry is experiencing a rapid and sweeping transition to electronic and computerized equipment. Today's security directors expect sophistication in every aspect of their security program. Morse Watchmans is a leader in this movement. We know our customers and their needs.

The KeyWatcher system offers you more than just a key storage cabinet. Each Smart key will work in conjunction with the KeyWatcher to allow access only to users with proper access codes. The KeyWatcher will record an access history of each key and user, allowing keys to be traced in seconds, eliminating guesswork and the paper chase created by outdated manual logs.

Controlling keys is a big part of controlling security. The KeyWatcher will offer immediate access and total accountability.

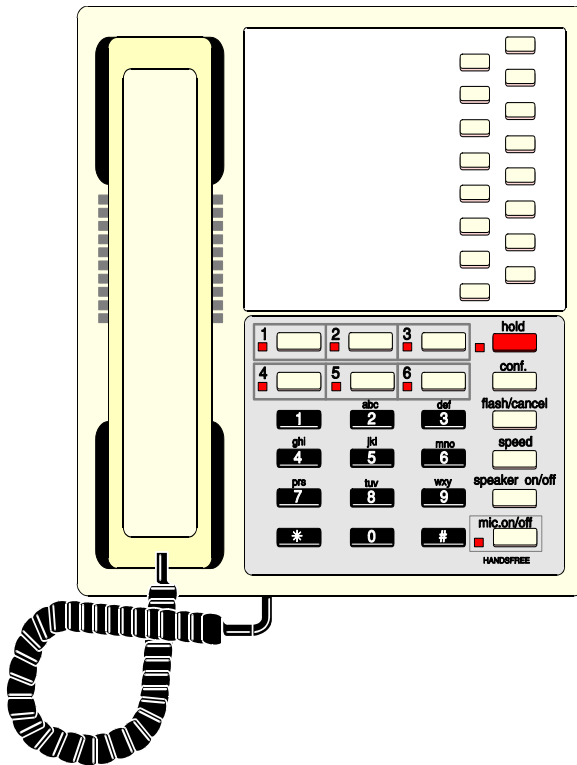
Morse Watchmans Inc., an innovator in the field of guard tour equipment, has been in business for over 100 years. Located in Oxford Connecticut, Morse Watchman serves customers around the world with the latest, state of the art automated guard tour and key management systems.



Technical Support

Technical support is always available to Morse Watchman's customers. If assistance is needed, feel free to call us during our business hours and a technical support representative will be happy to assist you.

Please be prepared to provide us with a full description of the problem you are experiencing. Call from a location where the KeyWatcher is accessible, because the Morse Technician may wish to troubleshoot the system over the phone.



U.S.A.

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Hours: 8:00 A.M. - 5:30 P.M. (EST)

UK CUSTOMERS

Phone: (0115) 967-1567

Fax: (0115) 967-1306

Hours: 9:00 A.M. - 5:30 P.M.

The KeyWatcher is fully serviceable by the customer. A Morse Technician will determine what parts, if any, are not functioning properly. These parts will be shipped to you as advance replacements, along with a Return Material

**DO NOT SEND ANY KEYWATCHER EQUIPMENT
BACK TO MORSE WATCHMANS WITHOUT A
RETURN AUTHORIZATION NUMBER (RMA).**

Authorization number. The defective parts should be returned to Morse Watchmans as soon as possible (WITHIN 30 DAYS). Be sure to include the RMA number on the package.

KeyWatcher I Manual

How to Use this Manual

This manual contains instructions for installing the KeyWatcher key management system. It provides detailed instructions on how to program, operate, and maintain the system. It is both a learning tool for the beginner and a reference for the advanced user.

If you are a new user, it is recommended that you read this manual in its entirety before attempting to operate the KeyWatcher. It is also recommended that you refer to the system diagrams in the service & maintenance section. These diagrams describe all the components in the system.

You will notice that some items referred to in this manual are followed by (#?) with a number in place of the ?. This number identifies the location of the item being referred to. The diagram on page 109 shows the location of these items along with a description on page 110.

Section II explains how to program the KeyWatcher after installation. Spend time adding users and keys, removing and returning keys, and generating reports. If you experience any problems, write them down. Feel free to call the Morse Watchman Technical Support Department.

Manual Organization

Section I - Getting Started:	Takes you through the installation and setup of the KeyWatcher.
Section II - Programming & Customizing:	Explains how to customize the KeyWatcher to suit your needs. It also explains how to save this information to disk and restore it again, if necessary.
Section III - Removal & Return of Keys:	Explains how to access the KeyWatcher to remove keys and return them to the unit.
Section IV - Reports:	Details the different types of reports available, and how to generate them.
Section V - Utility Menu:	Explains other features of the KeyWatcher.
Section VI - Alarms: view	Explains the alarms that could be tripped through the KeyWatcher, how to them, and how to reset them.
Section VII - Diagnostics Menu:	Explains other features of the KeyWatcher.
Section VIII - Software Package:	Covers the software included with the KeyWatcher.
Section IX - Reference:	Includes some helpful information about the KeyWatcher.
Sections X - Charts:	These charts will help in assigning user codes, key names, time zones, and restrictions.
Section XI - Example Reports:	These are examples of reports that can be generated.
Section XII - Service & Maintenance:	This section describes how to service & maintain the KeyWatcher. Also provided in this section are system diagrams.

SECTION

I

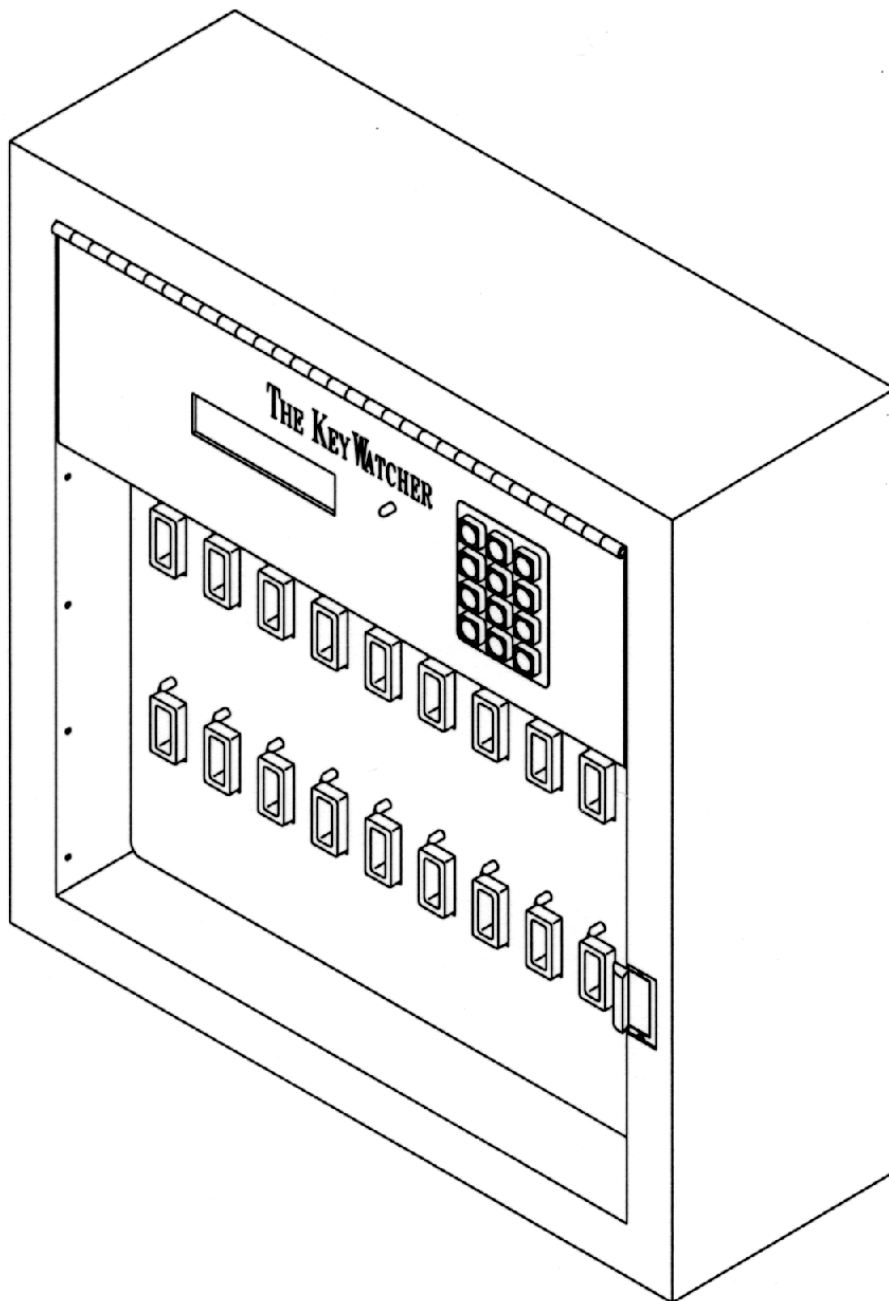
GETTING STARTED

GETTING STARTED

Unpacking Your System

When unpacking your system, always compare the packing list to the enclosed equipment. If you feel that there is a discrepancy, call Morse Watchman within 48 hours after receipt of the package. Claims after 30 days will not be honored.

After mounting the KeyWatcher (see pages 3 - 4), power the system according to the instructions on page 5 and allow the KeyWatcher's backup battery to charge for approximately 8 hours before programming the KeyWatcher. This will prevent the possibility of losing programming if there is a power failure during the first few hours of operation.



INSTALLATION

Selecting the Location

The most important consideration in choosing a location for your KeyWatcher is that it is conveniently placed and accessible by all users. Try to keep the following in mind when mounting:

- ◆ Mount the KeyWatcher so that the display is at eye level. The mounting holes for each box are located inside at the top and bottom of the KeyWatcher and are designed for walls with studs 16 inches (40.64 cm) on center. The KeyWatcher will need to be mounted firmly to the wall.
- ◆ Mount the KeyWatcher close enough to connect a printer, modem, or computer to avoid excessive cable lengths. If you plan on running a serial cable to a computer, the maximum length is 300 feet (100 m) depending on the cable that you are using.
- ◆ Be sure to use a power outlet that matches the power cord provided with your system. If the power cord has 3 prongs, the outlet must also have 3 holes to match. Do not cut or bypass the grounding pin using any adapters.
- ◆ Keep in mind that if your power connector and communication ports are located at the bottom of the KeyWatcher, leave adequate room to make these connections.

If you will be supplying power through the knockout on the rear of the box, be sure there is adequate room for the power cord to fit when the panel is reassembled.

- ◆ It is recommended that the KeyWatcher be connected to a separate Earth Ground for safety and electrostatic discharge protection. This grounding is provided for through the AC line cord in USA installations. However, in situations where high electrostatic discharge is anticipated or experienced, it is recommended that this separate ground be installed. This ground is mandatory in all foreign KeyWatcher installations where grounding is not typically provided for in the cord sets or outlets. The grounding lug is located at the bottom, inside the KeyWatcher.
- ◆ **KeyWatcher cabinets with 40 keys or more are shipped with two screws to hold the front panels in place. If your system has these screws, they will need to be removed before you begin your installation. If you desire, the two screws may be put back after the system has been completely mounted, however this is not necessary.**

Mounting the KeyWatcher

Once a location has been selected, the KeyWatcher can be mounted using the supplied template. Since the mounting holes are located inside the box, the front panel will need to be removed. Follow the instructions in the Service & Maintenance section to remove the front panel. After the front panel has been removed, proceed to the first step. After the KeyWatcher has been mounted using the supplied template, reinstall the panel and power the KeyWatcher according to the instructions on pages 5 and 6.

Sheet Rock/Wood Walls

- 1) Make sure that the studs in your wall are 16 inches (40.64 cm) apart on center. This is the standard in the USA. If your studs are not 16 inches (40.64 cm) on center and the wall is sheet rock, you should screw a 1/2 inch (1.27 cm) piece of plywood to the wall with the same dimensions as your KeyWatcher.
- 2) Find the center of a stud on the wall you would like to mount the KeyWatcher on and use the supplied template to mark the wall with a pencil for each mounting hole.
- 3) With a power drill, screw a 1 1/2 inch (3.81 cm) No. 10 wood screw three quarters of the way into the wall to accommodate the top two mounting holes.

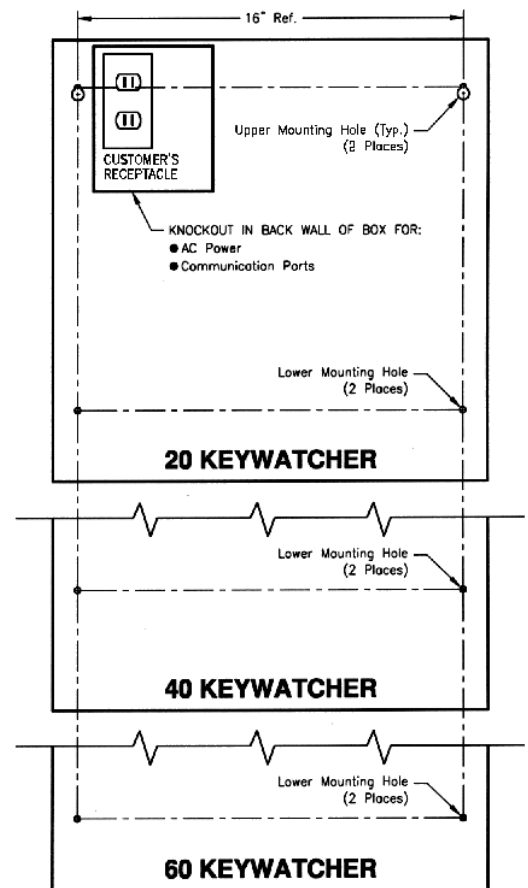
NOTE: If power is to be supplied internally, use the supplied template and trace the knockout. Install your receptacle in the marked area.

- 4) Place the KeyWatcher on the wall and tighten the top two screws all the way down.
- 5) With the power drill, screw a 1 1/2 inch (3.81 cm) No. 10 wood screw all the way down to accommodate the bottom two mounting holes.

Cement Walls

- 1) Using the supplied template, mark the wall at each of the holes.
- 2) With a 1/4 inch (6.5 mm) cement drill bit, drill a 1 1/2 (3.81 cm) to 2 inch (5.08 cm) hole in each of the areas marked.
- 3) Insert screw anchors into each hole. Tap the anchors in until they are flush with the wall.
- 4) Insert a 1 1/2 inch (3.81 cm) screw into the top two wall anchors. Tighten the screws three quarters of the way down.
- 5) Place the KeyWatcher on the wall and tighten the top two screws all the way down.
- 6) Insert a 1 1/2 inch (3.81 cm) screw into the bottom two wall anchors and tighten them all the way down.

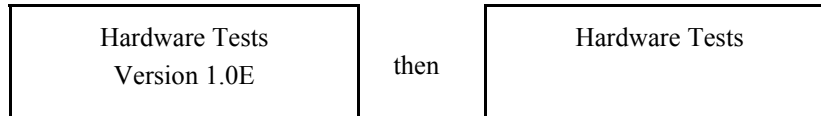
Please keep in mind that these mounting instructions are to be used as a guide only and may need to be modified depending on your installation requirements. Morse Watchmans will not be held liable for any problem caused due to an improper installation.



Powering your KeyWatcher

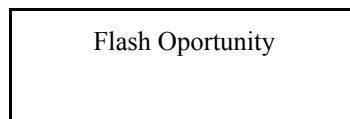
To power the KeyWatcher follow these steps:

- 1) Be sure JP3 on the KeyWatcher I SMD Board (#28) is connected. With the power cord NOT connected from the Power Supply (#31) to the wall outlet, be sure the Power Supply is connected to the J2 connector on the Power Management Board (#27). See the Service & Maintenance section for the location of these items. Connect the battery leads at the bottom of the box making sure that the black lead is connected to negative and the red lead is connected to positive. The following will then be displayed:



Upon power up, the KeyWatcher performs tests to verify the system is functioning properly. Once the tests begin, **DO NOT DISCONNECT POWER**.

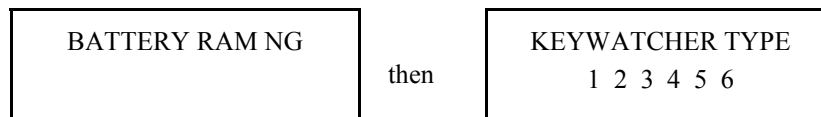
If any error message appears below Hardware Tests, the system should be restarted. At the end of the Hardware Tests, the following will be displayed:



This allows the user to update the firmware of the KeyWatcher using software. Unless you have been sent an update by Morse Watchmans, you can disregard this message and it will automatically disappear in 15 seconds. If you have been sent an update, separate instructions will be included with the update. After the Flash Opportunity, continue to the next step.

- 2) The KeyWatcher has two types of battery backup. The battery located on the KeyWatcher I SMD Board (#28) (RAM Battery) will allow the KeyWatcher's second backup battery (located at the bottom of the box) to be removed without the programmed information being lost. If the RAM battery did allow the KeyWatcher to hold its memory, the KeyWatcher's display should now be flashing between the time & date and the company name. You may now continue to the next section. If the RAM battery did not allow the KeyWatcher to hold its memory, the following will be displayed:

Note: NG = NO GOOD

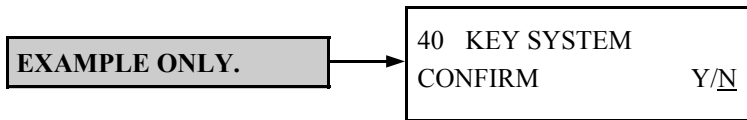


- 3) At this point the KeyWatcher is asking what type of system you have. Enter the number that corresponds to your KeyWatcher type. This can be determined by the number of keys in the system. The chart at the top of the next page shows how to determine your KeyWatcher type:

KeyWatcher I Manual

KeyWatcher Type:	Number of Keys in System:	KeyWatcher Type:	Number of Keys in System:
1	8 or 10	4	40
2	20	5	50
3	30	6	60

- 4) After you have made your selection, the following will be displayed:



- 5) If your system does not have the same number of key locations as displayed, select 'N' (NO) and the display will return to step 4 allowing you to choose the correct KeyWatcher type. If your system does have the same number of key locations as displayed, select 'Y' (YES), the system will then check the locations and add the number of keys that have been inserted in the system. The KeyWatcher will then display that number, if that number does not equal the number of keys that you have inserted, check all your connections and restart the system as indicated below.

Note (Restarting): If the system does not power up correctly you will need to disconnect the battery, the AC power connector, and the jumper on JP3 (Located next to the RAM Battery in the right corner of the KeyWatcher I SMD Board (#28)), wait at least 30 seconds, reconnect JP3 and restart the system from step 1. Removing JP3 will result in all of the KeyWatcher's memory being lost.

- 6) The KeyWatcher's display should now be flashing between the time & date and the company name. You may now continue to the next section and program the KeyWatcher to your specifications.

Accessing the KeyWatcher

The KeyWatcher comes equipped with a default user ID - PIN number of **000-0000**. This code should be used to gain access to the KeyWatcher. To gain access to the KeyWatcher, follow these steps:

- 1) Press any key on the KeyWatcher's keypad. The following will be displayed:

ENTER ID - PIN
_ _ _ - _ _ _ _

- 2) Enter the default user ID - PIN number (**000-0000**) and press the **ENT** key. If a mistake is made while entering the user code, the **CLR** key may be used to backspace. If an incorrect ID or PIN number is entered, a message will be displayed. Re-enter the user code and press **ENT**. Once a valid user code is entered, the following will be displayed:

→ REMOVE KEYS
RETURN KEYS

- 3) The arrow pointing to Remove Keys indicates that if **ENT** is pressed, it will be in the Remove Keys mode. Press the down arrow key twice until the following is displayed:

→ MAIN MENU
CHANGE PIN

- 4) At this prompt, the **ENT** key may be pressed to enter the **MAIN MENU**.

→ MAIN MENU _

- 5) At this prompt a Main Menu item number may be entered, or the **ENT** key may be pressed to display the Main Menu items available. Pages 13 and 14 explain how to navigate through the menus.

Once access has been gained to the Main Menu, proceed to the next section for information on programming the KeyWatcher.

DEFAULT USER ID - PIN NUMBER

000-0000

SECTION

II

PROGRAMMING & CUSTOMIZING

Programming (Example)

It is fairly simple to program, operate, and extract reports from the KeyWatcher. Here is a sample of how someone should go about programming the system.

- 1) **Add Keys.** You will need to add the smart keys to the system. This allows the KeyWatcher to learn and number each key for tracking purposes. The keys must be added directly at the KeyWatcher. This can be done in two ways.

- A) Adding keys upon powering the KeyWatcher with the keys already in the locations.

Upon power up, the system will automatically begin assigning numbers starting in the upper left corner of row 1 and continue with row 2, row 3, etc... The KeyWatcher will learn the identity of each smart key, assign a number to each of them, and give the key a default name. The KeyWatcher always assigns the next available key number to the key being added, regardless which location the key is in.

Example: The KeyWatcher is powered up with keys in locations 1, 2, 3, 4, 6, 7, 8, 9, and 10. (Notice that location 5 has no key in it.)

The KeyWatcher will assign these keys the numbers 1, 2, 3, 4, 5, 6, 7, 8, and 9 respectively. The next key added to the system will be assigned the number 10, regardless which location the key is inserted in.

- B) Adding keys after the system is powered up.

This is best explained on page 26. Keep in mind that you cannot add keys using the software, they **MUST** be added at the KeyWatcher.

If you will be using the KWPC software for Windows to program the system, install that software now. Once the software is installed, you may follow the instructions in your KWPC for Windows manual for programming the rest of the information. Keep in mind that you will still need to refer to this manual for descriptions of the KeyWatcher functions.

If you will be using the KeyWatcher to program the system, you need to follow the instructions in this manual. Whichever way you decide to program the system, it is easiest done in the following order.

Note: The following is easier using the KWPC for Windows Software.

(KWPC for Windows Users) Get Database Now.

- 2) **Name Keys.** When keys are added to the system, they are given a default name. This name can be changed. To change a key name, see page 32.
- 3) **Add Time Zones.** Time zones are used to restrict a users access to keys for a certain period of time. There are two types of time zones.
 - A) Specific Time Zone. See page 31.
 - B) Duration Time Zone. See page 31.
- 4) **Add Users.** A user is anyone who has access to the system. A user may range from only being able to remove and return keys to someone who also has access to generating reports, canceling alarms, or even changing the programming. When a user is added to the system, you may also define what keys they will be able to access. To add a new user, see page 27.

(KWPC for Windows Users) Save/Send Database Now.

Setup (Example)

Once the programming is complete, the KeyWatcher can be used to track the movement of your keys. However, the KeyWatcher offers many other features. Some of the features we find important are briefly explained here. Keep in mind that the KeyWatcher does offer other features not described on this page. You will still want to read through this manual to familiarize yourself with all of the available features that the system offers.

- 1) **Set Date/Time.** The KeyWatcher's date and time should always be set properly. This will insure that the reports you generate are accurate. To set the date in the KeyWatcher, see page 15.
- 2) **Company Name.** The company name is also important, especially for those users with multiple KeyWatcher systems. The company name not only appears on the display of the KeyWatcher, it also appears on reports that are generated allowing the user to determine easily what system the report was generated from. See page 16 for information about changing the company name.
- 3) **Door Sensor.** The door sensor feature, when enabled, allows the system to trigger an alarm if the door is forced open or left open after a user removes or returns keys. To set the door sensor, see page 17.
- 4) **Access Enable.** The access enable feature, when turned on, allows the system to halt repeated attempts to access the KeyWatcher with improper user codes. To set the access enable feature, see page 17.
- 5) **Print Transactions.** This report allows the KeyWatcher to print each transaction, directly to a serial printer connected to the KeyWatcher, as they occur. See page 60 to set print transactions.

PROGRAMMING/CUSTOMIZING

How to Program the KeyWatcher

The KeyWatcher is a very sophisticated (but easy to use) key management system. It allows the tracking of keys in moments, by selecting user audits or key audits. It also allows users to be restricted in the use of keys, by assigning users access to only certain keys, or by placing time and day restrictions on the keys. However, before any of these features may be implemented, the KeyWatcher must be programmed. The following pages explain how to program the KeyWatcher to suit your particular needs. Read this section thoroughly to receive the most from your KeyWatcher.

To program the KeyWatcher, access the Main Menu as described on page 7. The following are the Main Menu items available:

- 1) Setup**
- 2) Database**
- 3) Generate Reports**
- 4) Utilities**
- 5) Alarms**
- 6) Diagnostics**

The menu options displayed above will allow the user to customize the KeyWatcher, print reports, cancel alarms and perform specialized functions. The following is a brief summary of each main menu item.

1) Setup:

Contains options that should be set to your preference when the KeyWatcher is first programmed. Also allows additional options to be added after the KeyWatcher has already been installed.

2) Database:

All of the important information stored in the KeyWatcher is contained here. Programming of keys and users is performed in this area as well.

3) Generate Reports:

Allows reports to be generated on keys or users.

4) Utilities:

Special supervisor functions are contained in this section.

5) Alarms:

Allows the user to cancel or print the alarm or alarms that have been tripped.

6) Diagnostics:

Special supervisor functions are also contained in this section.

Menu Navigation

The KeyWatcher's menu system has been made very simple to navigate. Whenever the system is sitting idle, the display constantly flashes between the time/date screen and the title screen. When a key on the keypad is pressed, the display will allow you to enter your user ID and PIN number.

Once a valid user ID and PIN number are entered, the following will be displayed:

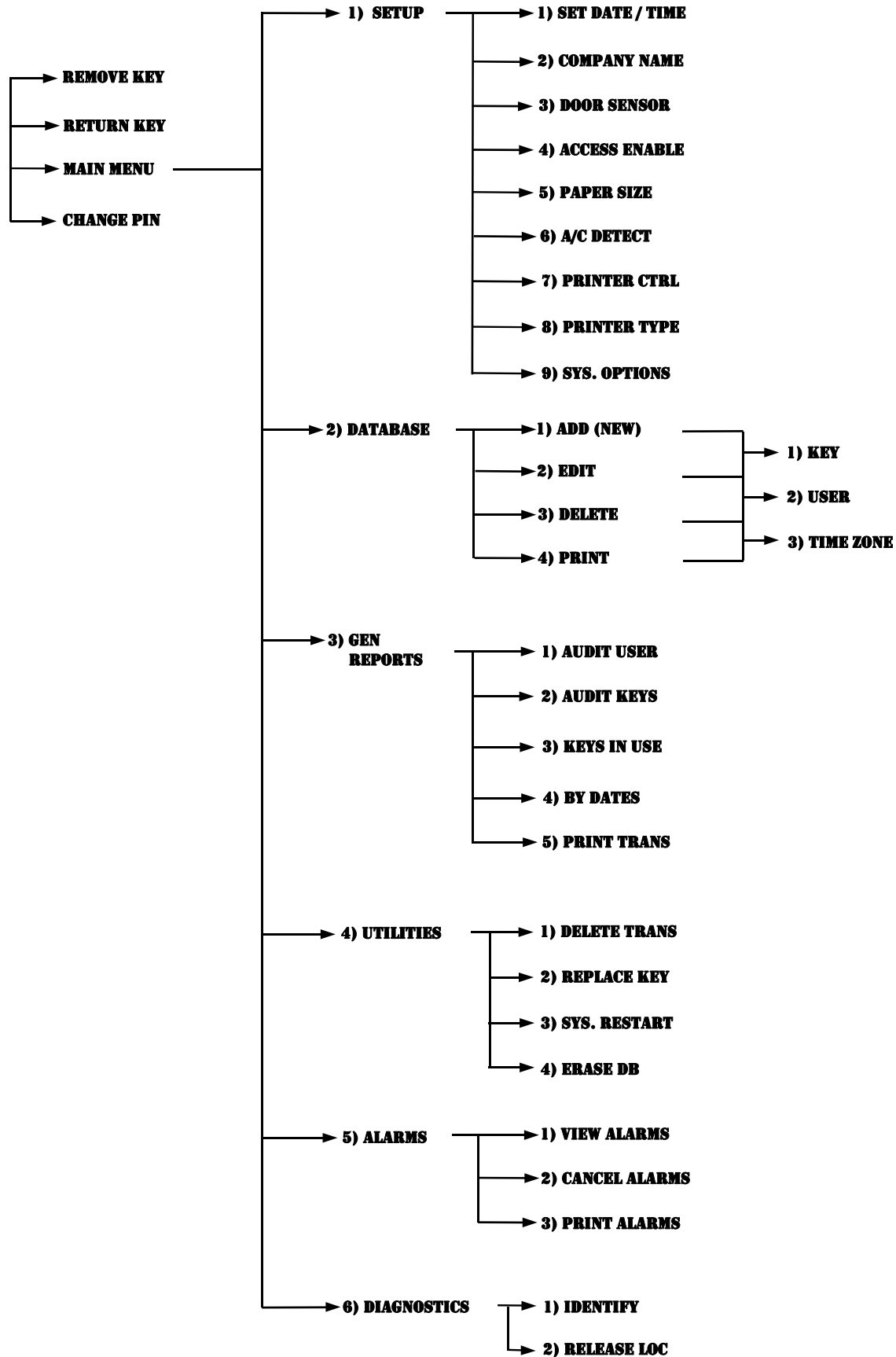
→ REMOVE KEYS RETURN KEYS

The arrow pointing to Remove Keys indicates if **ENT** is pressed the KeyWatcher will enter the Remove Keys mode. The down arrow key may be pressed to move the arrow to Return Keys or the down arrow key may be pressed multiple times to display different items.

Remember, use the arrow keys to move up and down through the menus, and use the **ENT** key to make a selection.

The following page is a flow chart that shows the menu structure. Notice that each Menu item has a number, this number may be entered at the Menu item before it for quick access or you may press the **ENT** key and then press the down arrow key to move the arrow to the item you want to select.

The **CLR** key may be used at any time to back up through the menu. The display will always return to the previous menu when **CLR** is pressed.



Setup Menu

The setup menu contains many options that may be set, such as the date / time, door sensor, etc.. This section will explain each item and how it is used.

Set Date / Time

To set the current time and date on the KeyWatcher, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **1, Setup**. The following will be displayed:

→ SETUP _

- 2) Select Setup Menu item number **1, Set Date / Time**. The following will be displayed:

SET FORMAT

then

1	U.S.	3	EUROPE2
2	EUROPE1		

- 3) Enter the number that corresponds to the date format that you will be using. The U.S. date format will be entered in the month, day, and year format. The EUROPE1 date format will be entered in the day, month, and year format. The EUROPE2 date format will be entered in the year, month, and day format.

EXAMPLE ONLY.

MM/DD/YYYY
01/01/1997

- 4) If the date displayed is correct, just press **ENT**. If the date displayed is not correct, enter the date using the keypad. Be sure to type the year in the correct format (1998, not 98). If a mistake is made while entering the date, use the **CLR** key to backspace. Press **ENT** when you are finished. The following will be displayed:

EXAMPLE ONLY.

TODAY IS
WED

- 5) The KeyWatcher will briefly display the day of the week and the following will be displayed:

EXAMPLE ONLY.

HH:MM:SS
15:00:00

- 6) If the time displayed is correct, just press **ENT**. If the time displayed is not correct, enter the time in military format. If a mistake is made while entering the time, use the **CLR** key to backspace. Press **ENT** when you are finished. The display will then automatically return to step 1.

Date format (month/day/year) may vary, depending upon the appropriate format used in your country.

Company Name

The Company Name function allows the user to replace the title screen **KEYWATCHER BY MORSE WATCHMANS** message with a customized message. This message will also appear on your reports. To program this message, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **1, Setup**. The following will be displayed:

→ SETUP _

- 2) Select Setup Menu item number **2, Company Name**. The following will be displayed:

COMPANY NAME

then

ABCDEFGHIJKLMNOP

- 3) To enter the Company Name (top line), use the left and right arrow keys to position the cursor beneath the appropriate letter and press **ENT** to select it. The letters will be placed on the top line of the display when selected.

To erase or edit what you just entered, press the up arrow to put the cursor on the top. Use the **CLR** key now to delete the last character entered. Put the cursor back on the bottom and continue entering the company name.

When the name is completed, press the up arrow key to place the cursor on the top row, then press **ENT**. The following will be displayed:

BUILDING NAME

then

ABCDEFGHIJKLMNOP

- 4) Enter the Building Name (bottom line) the same as the Company Name in step 3 above. When the name is completed, press the up arrow key to place the cursor on the top row, then press **ENT**. The display will then automatically return to step 1. When you are finished programming and return to the title screen you will see your company name and the time/date flashing back and forth on the KeyWatcher's display.

NOTE: THE COMPANY NAME WILL AUTOMATICALLY BE CENTERED ON THE DISPLAY.

Door Sensor

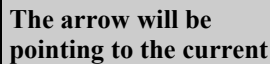
The KeyWatcher is equipped with a door sensor (#37 & #38) that will sound an alarm if the door is forced open at an improper time (Illegal Entry) or if the door is left open after a key is removed or returned (Door Left Open). The sensor may be turned on or off. If the sensor is off, there will be no indication when the door is left open or forced open. The KeyWatcher's default setting for the door sensor is off. The sensor should be turned on when the KeyWatcher is ready for use. To turn the door sensor on/off, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **1, Setup**. The following will be displayed:



→ SETUP _

- 2) Select Setup Menu item number **3, Door Sensor**. The following will be displayed:



The arrow will be pointing to the current



SENSOR ON
→ SENSOR OFF

- 3) Use the arrow key to select whether the door sensor will be on or off and press **ENT**. The display will then automatically return to step 1.

Access Enable

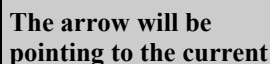
The KeyWatcher is equipped with a feature that prevents unauthorized personnel from making constant attempts to access the KeyWatcher. When the Access Enable feature is turned on, the KeyWatcher will allow 3 attempts at entering an appropriate user code. If an improper access code is entered 3 times consecutively, the KeyWatcher will sound an alarm and disable the keypad for 4 minutes. The KeyWatcher's default setting for the access alarm is off. To turn the Access Alarm on/off, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **1, Setup**. The following will be displayed:



→ SETUP _

- 2) Select Setup Menu item number **4, Access Enable**. The following will be displayed:



The arrow will be pointing to the current



ACCESS ON
→ ACCESS OFF

- 3) Use the arrow key to select whether the Illegal Access Alarm will be on or off and press **ENT**. The display will then automatically return to step 1.

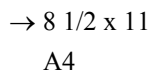
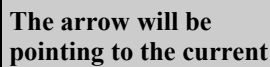
Paper Size

There are two sizes of paper that may be used with the KeyWatcher. They are 8.5 x 11 (Used in the United States) or A4 (Used in Europe). The KeyWatcher's default setting for the paper size is 8.5 x 11. To set the paper size, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **1, Setup**. The following will be displayed:



- 2) Select Setup Menu item number **5, Paper Size**. The following will be displayed:



- 3) Using the arrow keys to select which size paper you will be using and press **ENT**. The display will then automatically return to step 1.

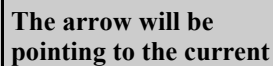
AC Detect

The KeyWatcher is equipped with a function that detects when AC power is present. If AC power is lost (for example, during a power failure), the KeyWatcher's display will read NO AC POWER, and the red LED on the face of the box will not light. In addition, the KeyWatcher sounds an alarm, faint beep, that continues until AC power is restored or the battery backup dies. The KeyWatcher's default setting for the AC detect alarm is on. The audible alarm may be turned on or off. To turn the AC Detect alarm on or off, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **1, Setup**. The following will be displayed:



- 2) Select Setup Menu item number **6, AC Detect**. The following will be displayed:



- 3) Use the arrow key to select whether the AC Detect Alarm will be on or off and press **ENT**. The display will then automatically return to step 1.

Printer Control

This option allows the system to be used with a standard serial printer that uses XON/XOFF or “HARDWARE” flow control. Typically, a standard serial printer will use “XON/XOFF” flow control. If you are using a printer that uses “HARDWARE” flow control, such as a thermal printer supplied by Morse Watchmans, you may need to change the printer control setting. The “HARDWARE” flow control is also forced when the printer type selected is thermal. See page 20 for more information concerning printer type. If you are not sure what type of printer you are using, do not change the printer control setting. The KeyWatcher’s default setting for the printer control is XON/XOFF. To set the Printer Control, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **1, Setup**. The following will be displayed:

→ SETUP _

- 2) Select Setup Menu item number **7, Printer Ctrl.** The following will be displayed:

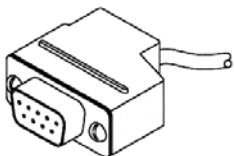
The arrow will be pointing to the current

HARDWARE
→ XON/XOFF

- 3) Select the type of Printer Control that you will be using and press **ENT**. The display will then return to step 1.

Note: If you are using the DPU-414 thermal printer with the Serial port connection, you will need the special cable (27-90) provided by Morse Watchmans. One end is a 9-pin female connector and the other end is a 9-pin male.

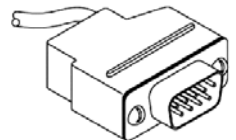
Model 27-90 - Used to connect the KeyWatcher to DPU-414 Printer (Serial Port)



To KeyWatcher
9 pin female

Pin outs			
<u>KW End</u>		<u>Printer</u>	
3	to	3	
5	to	5	
8	to	2	

To DPU-414 Serial Port
9 pin male



Note: When using the “HARDWARE” Printer Control and the printer goes off line or runs out of paper, the system will wait 5 minutes before it will abort the report and return to the Print Sub-Menu.

Note: The Printer Control menu item will not appear in the setup menu if the “THERMAL” printer type is selected. This is due to the printer control automatically be set to “HARDWARE” when the “THERMAL” printer type is selected. See page 20 for more information about the printer type.

Printer Type

This option allows the system to be used with either a standard serial printer or a thermal printer, such as the Morse Built-In Printer sold as an option with some systems. The standard printer setting should be used with most serial printers. The thermal printer setting should only be used if you are using a thermal printer supplied by Morse Watchmans. If you are using the standard printer type, you will be able to select the printer control (see page 19 for more information). If you are using the thermal printer type, the printer control will automatically be set to "Hardware" and the printer control menu item will no longer appear in the setup menu. The KeyWatcher's default setting for the printer type is standard. To set the Printer Type, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **1, Setup**. The following will be displayed:

→ SETUP _

- 2) Select Setup Menu item number **8, Printer Type**. The following will be displayed:

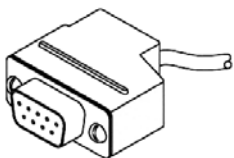
The arrow will be pointing to the current

→ STANDARD
THERMAL

- 3) Select the type of Printer that you will be using and press **ENT**. The display will then return to step 1.

Note: If you are using the DPU-414 thermal printer with the Serial port connection, you will need the special cable (27-90) provided by Morse Watchmans. One end is a 9-pin female connector and the other end is a 9-pin male.

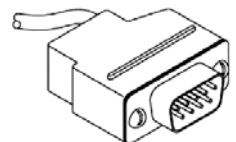
Model 27-90 - Used to connect the KeyWatcher to DPU-414 Printer (Serial Port)



To KeyWatcher
9 pin female

Pin outs			
<u>KW End</u>		<u>Printer</u>	
3	to	3	
5	to	5	
8	to	2	

To DPU-414 Serial Port
9 pin male



Note: When using the "HARDWARE" Printer Control and the printer goes off line or runs out of paper, the system will wait 5 minutes before it will abort the report and return to the Print Sub-Menu.

Note: The Printer Control menu item will not appear in the setup menu if the "THERMAL" printer type is selected. See page 19 for more information about the printer control.

Note: If you are using the Morse Built-In Printer that is sold as an option and your system is reset, you may need to set the printer type to "Thermal" in order for the printer to operate properly.

Adding System Options

These features are sold individually as options. If you would like to have one or more of these options enabled in your system, contact Morse Watchmans. We can then provide you with a special option code that will allow the feature you purchase to be enabled. To access the system options menu, follow these steps.

- 1) Access the KeyWatcher and select Main Menu item number **1, Setup**. The following will be displayed:

→ SETUP _

- 2) Select Setup Menu item number **9, Sys. Options**. The following will be displayed:

OPTIONS # _

- 3) At this point, any item number can be entered to access a system option and then press **ENT** or you can just press **ENT** to list them. The following is the list of item numbers that can be entered at the SYS. OPTIONS # display.

- 1) NON RNDM RTRN**
- 2) ONE TIME USRS**
- 3) DUAL USER ACC**
- 4) DURESS**

- 4) Follow the steps on the following pages to enable the features you have purchased.

Non Random Key Return

This feature allows keys to only be returned to specific locations. Once the keys have been added to the system and the Non-Random feature is enabled, each key will be assigned a location. At this time the locations and keys should be labeled accordingly to insure the keys are returned to their assigned locations. If a key is returned to a location it is not assigned to, an invalid key return message will be displayed. To enable or disable the Non-Random Key Return function, follow these steps.

- 1) Access the Sys. Options menu (Option # will be displayed) and select option # 1, **NON RNDM RTRN**. The following will be displayed:

The arrow will be pointing to the current

ENABLE
→ DISABLE

- 2) To disable the Non Random Key Return feature, select disable and press **ENT**. The display will then prompt the user to enter option code. Enter the option code supplied by Morse Watchman. The display will then inform you whether the option was disabled or not and return to the Setup Menu.

To enable the Non Random Key Return feature, select enable and press **ENT**. The display will then prompt the user to enter option code. Enter the option code supplied by Morse Watchman. The display will then inform you whether the option was enabled or not and return to the Setup Menu.

When the Non Random Key Return feature is enabled, the KeyWatcher will assign each key number in the system the location it is currently inserted. That key number, whether the key is deleted in the future or not, will always belong to that location.

The following chart gives important information concerning the Non Random Key Return feature:

IMPORTANT INFORMATION WHEN USING THE NON RANDOM KEY RETURN FEATURE								
When returning a key to the KeyWatcher, the user must put the key into the location it has been assigned.								
When this feature is first enabled, any keys in the system will be assigned to the location they are currently in. Any keys out will be assigned a location when they are returned and MUST be returned to an available location.								
If a key is returned to an incorrect location, the KeyWatcher will tell the user that an invalid key has been returned and to press any key to remove the invalid key. If the user happens to close the door and walk away, the next user who accesses the KeyWatcher with any valid user code, regardless of access level, will need to remove the key.								
To help the users when they are returning keys to a Non Random Key Return system, we recommend each key and location be labeled.								
When adding a new key to the system, the key MUST be added to an available location. Do not attempt to add a key to a location already assigned to another key. Keep in mind that a deleted key will still belong to the location it was originally assigned. The following example explains how keys are added to the system when the Non Random Key Return feature enabled.								
The Non Random Key Return feature was enabled when the following keys were part of the system.								
Key Number:	1	2	3	5	6	7	8	9
Location Number:	1	3	4	6	7	10	8	9
Notice how the location number each key belongs to does not need to match the key number. Also notice that key number 4 was not part of the system when the Non Random Key Return feature was enabled. Now, lets say key 5 is deleted from the system. Keep in mind that key number 5 already belongs to location 6 and MUST be added to that location. However, in this case the next key that will be added to the system is 4 because the KeyWatcher always assigns the lowest key number available. So, key 4 can be added to any available location but remember location 6 still belongs to key 5 even though it has been deleted. After key 4 has been added, the next key added MUST be added to location 6 because that is the location that belongs to key 5. Remember, once a key belongs to a location, it must always be added to that location. If confusion arises, you may disable the Non Random feature, insert the keys into the locations you want them to be assigned and enable the Non Random Key Return feature.								

One Time User Code

This feature allows the programmer to add a “Temporary User”. This One-Time User Code would only be good for the removal of keys a single time. Once all the keys that were removed by the One Time user have been returned, the One-Time User Code will be deleted by the system and the user will *NOT* be able to access the system with that user code again. To enable or disable the One Time User Code feature, follow these steps.

- 1) Access the Sys. Options menu (Option # will be displayed) and select option # 2, **ONE TIME USRS**. The following will be displayed:

The arrow will be pointing to the current

ENABLE
→ DISABLE

- 2) To disable the One Time User Code feature, select disable and press **ENT**. The display will then prompt the user to enter option code. Enter the option code supplied by Morse Watchman. The display will then inform you whether the option was disabled or not and return to the Setup Menu.

To enable the One Time User Code feature, select enable and press **ENT**. The display will then prompt the user to enter option code. Enter the option code supplied by Morse Watchman. The display will then inform you whether the option was enabled or not and return to the Setup Menu.

EXAMPLE: A One-Time UserCode was given access to keys 1, 2, 3, and 4. The One-Time UserCode was then used to remove keys 3 and 4. If the One-Time UserCode is used to access the system, the user will only be able to return keys. Once keys 3 and 4 have been returned, regardless of who returns them, the One-Time UserCode will be deleted.

Menu items affected:

- a) Adding User:

When adding a user, a new item will appear asking if you would like the user being added to have a One-Time UserCode.

If you would like the user to have a One-Time UserCode, select “Y” and press **ENT**. The user will then automatically be given an access level of 4 and a user name “TEMP. USER”. Both the access level and the name entry options are skipped when adding a One-Time UserCode.

If you do not want the user to have a One-Time UserCode, select “N” and press **ENT**. The user will then be added as a normal user.

- b) Edit User Menu:

NO ITEM # IN THE EDIT USER MENU CAN BE CHANGED FOR A ONE-TIME USER. Once a One-Time user has been added, no information for that user can be changed. The One-Time user may however be deleted and added again.

Edit User Menu Item # 8 ONE TIME CODE was added. This allows the programmer to change a normal user code into a One-Time UserCode. Keep in mind that a level 1 user cannot be changed into a One-Time user.

Reports affected:

- a) “TEMP. USER” will appear for any transaction that was done by a One-Time user, until the user is deleted. Once the user has been deleted, the transaction will be tagged with “DEL. TMP USR”.
- b) The LIST OF USERS (all users) and USER LIST (single user) reports have an added field that shows if the user code is a One-Time UserCode or not.

IMPORTANT INFORMATION WHEN USING THE ONE TIME USER CODE FEATURE

If a One-Time user performs an “Emergency Release”, the emergency release will not affect the users capability to remove keys a single time. Even if the user has already removed keys One-Time, they will be able to perform an emergency release if they are given the capability. For more information see the emergency release section.

If a Save/Send is performed from the software and the user has already removed keys, they will be able to remove keys again and may need to be deleted manually after they have returned their keys.

Dual User Key Access

This feature allows the programmer to set a key as a “Dual User Key”. This Dual User Key would only be able to be removed by either a level 1 user or two users with access levels 2-5 and access to the key. If a level 2-5 user is the first user entering their code and requests a Dual User Key, they must have access to the key for the time it is being requested. The second user entering their code is only required to have access to the key, the time and day will not matter. To enable or disable the Dual User Key Access feature, follow these steps.

- 1) Access the Sys. Options menu (Option # will be displayed) and select option # 3, **DUAL USER ACC.** The following will be displayed:

The arrow will be pointing to the current

ENABLE
→ DISABLE

- 2) To disable the Dual User Key Access feature, select disable and press **ENT**. The display will then prompt the user to enter option code. Enter the option code supplied by Morse Watchman. The display will then inform you whether the option was disabled or not and return to the Setup Menu.

To enable the Dual User Key Access feature, select enable and press **ENT**. The display will then prompt the user to enter option code. Enter the option code supplied by Morse Watchman. The display will then inform you whether the option was enabled or not and return to the Setup Menu.

EXAMPLE: If a level 1 user requests a key that requires Dual User, the key will release as normal.

If a level 2-5 user requests a key that requires Dual User, that user must have access to the Dual User Key for the time and day the key is being requested. A message will then be displayed “**DUAL USER ACCESS IS REQUIRED**” and the KeyWatcher will prompt for another user code and pin number. The following explains the different scenarios with the second user code and pin number:

- a) If **ENT** is pressed or **CLR** is pressed twice with no user code and pin number entered or the user enters a user code and pin number that is valid, but does not have access to the key being requested, the message “**ALL DUAL ACCESS KEYS DENIED**” will be displayed and the display will return to the title screen.
- b) If the user enters the same or incorrect user code and pin number, the message “**INVALID USER CODE**” will be displayed and the user can attempt to enter a proper user code and pin number again.
- c) If multiple Dual User Keys were requested and the second user enters a user code and pin number that does not have access to all of the Dual User Keys, the message “**SOME DUAL ACCESS KEYS DENIED**” will be displayed and only the keys that both users have access to will be released.
- d) If the user enters a user code and pin number that has access to the Dual User Key, the key will release.

Menu items affected:

- a) Edit Key:
The edit key menu now has an item number menu. Item # 1 is Key Name and Item # 2 is Key Access. Edit Key Access when selected will ask you to enter a key number. After the key number is entered, you will be asked “**Dual User Access? Y/N**”. If you want this key to require two user codes to be removed, select “**Y**” and press **ENT**. If you do not want this key to require two user codes to be removed, select “**N**” and press **ENT**. The display will then return to the Edit Menu.

Reports affected:

- a) All Dual User Keys removed by two users will show “**DUAL USR ACCESS**” in the alarm/transaction column of reports and two names will appear. If a Dual User Key is removed by a user with level 1 access, it will appear on reports as normal. Some reports will show two names for the key that was removed, this is because it is a Dual User Key removed by two users.
- b) The user audit trail reports for both users will show the key being removed.
- c) The List Of Keys report will have an additional column that shows if the keys have Dual User Access or not.

IMPORTANT INFORMATION WHEN USING THE DUAL USER KEY ACCESS FEATURE

If a Dual User Key is replaced, the key will need to be changed to a Dual User Key **again**.

Duress Panic Alarm

This feature allows a user to trigger an external, silent alarm using the keypad on the KeyWatcher. If for any reason a user needs to let someone know that he is using the KeyWatcher against their will, a special code may be entered to trigger a silent external alarm. There is no indication at the KeyWatcher that an alarm has been triggered. To enable or disable the Duress Panic Alarm feature, follow these steps.

- 1) Access the Sys. Options menu (Option # will be displayed) and select option # 4, **DURESS**. The following will be displayed:

The arrow will be pointing to the current

ENABLE
→ DISABLE

- 2) To disable the Duress Panic Alarm feature, select disable and press **ENT**. The display will then prompt the user to enter option code. Enter the option code supplied by Morse Watchmans. The display will then inform you whether the option was disabled or not and return to the Setup Menu.

To enable the Duress Panic Alarm feature, select enable and press **ENT**. The display will then prompt the user to enter option code. Enter the option code supplied by Morse Watchmans. The display will then inform you whether the option was enabled or not and return to the Setup Menu.

Activating the Panic Alarm

This information is provided when this feature is purchased. Morse Watchmans does this for security purposes.

Deactivating the Panic Alarm

- 1) To deactivate the Panic Alarm, a user with access to cancel alarms will need to log into the KeyWatcher and select any alarms menu item.
- 2) Once any alarms menu item has been selected, the Panic alarm will be deactivated and the internal alarm contacts will be reset. The panic alarm can also be reset using the KeyWatcher PC software by requesting to view/cancel alarms. When NO ALARMS EXIST is displayed, the panic alarm will be deactivated and the internal alarm contacts will be reset.

Note: The Duress Panic Alarm uses alarm output #2 on the Relay Option Board (#29). See the Service & Maintenance section for more information concerning the Relay Option Board (#29).

Database Menu

The database menu contains the vital programming of the KeyWatcher. The names and user ID's are programmed from this menu. The Smart keys are assigned and named, and all of this information may be printed, edited, or deleted by accessing this menu. In this section, only the programming capabilities of this menu will be discussed. Other sections of this manual provide information on other functions.

Adding Keys

This function allows Smart keys to be added to the system. When this function is performed, the Smart keys identity is learned by the KeyWatcher and stored in memory. A worksheet is provided on page 82 to help in the planning of Smart key setup. To add keys to the system, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **2, Database**. The following will be displayed:



→ DATABASE_

- 2) Select Database Menu item number **1, Add**. The following will be displayed:



→ ADD _

- 3) Select Add Menu item number **1, Key**. The following will be displayed:



EXAMPLE ONLY.



40 KEYS CAN BE
ADDED

- 4) This message informs the user of how many keys may be added to the system before it is full. The KeyWatcher will then prompt for the door to be opened. Once the door is opened, the following will be displayed:



INSERT KEYS
PRESS ENT

- 5) Place the keys to be added into the KeyWatcher, beginning at the upper left location. Insert the keys in numerical order from left to right. When all of the keys are inserted, press **ENT** or simply close the door. Watch the display, it will show how many new keys the KeyWatcher has detected in the system.

When the KeyWatcher is finished detecting the keys, the Main Menu will be displayed. Make another selection or press **CLR** to exit to the title screen.

Important Note

The KeyWatcher automatically assigns the lowest number available to any key being added to the system. If you want your keys to be numbered in a certain order, you should insert them into the KeyWatcher in that order. You can't skip a number. Also keep in mind that if a key is deleted from the system, the next key added will take its place. For example, if keys 1 through 10 are currently in the system, and key 5 is deleted, the next key added will be key 5 followed by 11, 12, 13, and so on.

Adding Users

The KeyWatcher is capable of storing 250 user codes. Each of these codes may be customized for access to any or all of the keys in the system. Time limits may be placed on any key and users may be restricted to certain keys on certain days of the week, etc. If you will be using time zones, they must be added prior to adding users. The system is capable of storing up to 15000 restrictions. A worksheet is provided on page 83 to help in the planning of your users. To program user codes, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **2, Database**. The following will be displayed:

→ DATABASE _

- 2) Select Database Menu item number **1, Add**. The following will be displayed:

→ ADD _

- 3) Select Add Menu item number **2, User**. The following will be displayed:

ENTER USER CODE
_

- 4) The KeyWatcher is now asking for a new user code to be entered. Enter a 3 digit user ID number that will become this person's user ID code. Press **ENT** when finished. If a code is entered that is already added in the system, the KeyWatcher will inform you and then exit to the title screen. Once a valid 3 digit user ID number is entered, the following will be displayed:

ENTER PIN #
_

- 5) The KeyWatcher is now asking for this user's Personal Identification Number to be entered. Any 4 digit number may be used. This number may only be temporary depending on the users access level, the user may change it at any time (see page 54). Enter the 4 digit number that will become this person's PIN. Press **ENT** when finished. Once a valid 4 digit number is entered, the following will be displayed:

MENU ACCESS LEVEL
LEVEL [1-5] : _

- 6) This option allows the programmer to select whether or not this user will have access to the menus within the KeyWatcher. For all practical purposes, a normal user should not have access to the menus and a supervisor should only have access to generating reports and canceling alarms.

The five levels of access are shown at the top of the next page.

KeyWatcher I Manual

USER ACCESS LEVELS	
ALL ACCESS LEVELS HAVE THE ABILITY TO REMOVE & RETURN KEYS.	
LEVEL 1:	Provides the user with complete access to ALL FUNCTIONS . (Programmer)
LEVEL 2:	Allows the user to CHANGE PIN . Also allows access to GENERATE REPORTS and ALARMS .
LEVEL 3:	Allows the user to CHANGE PIN .
LEVEL 4:	No additional functions.
LEVEL 5:	Allows the user access to GENERATE REPORTS .

After your selection, the following will be displayed:

EMERGENCY	Y/ <u>N</u>
RELEASE	

- 7) This display asks whether this user will be allowed to use the Emergency Release function. This function allows a user to remove all of the keys in the system in the event of an emergency (see page 53 for more information on the emergency release function). Make a selection by using the left or right arrow keys to toggle between 'Y' and 'N'. You will see a cursor under the selected option. Press **ENT** to save your choice. The following will be displayed:

PRESS ENT KEY TO ENTER FIRST NAME_

- 8) To enter the user's first name press **ENT**. The following will be displayed:

<u>A</u> BCDEFGHIJKLMNOP

- 9) To enter the user's first name, use the left and right arrow keys to position the cursor beneath the appropriate letter, and press **ENT** to select it. The letters will be placed on the top line of the display when selected. The first name may be up to 16 characters long. If a mistake is made while entering the name, move the cursor to the letter (on the top line of the display) to be erased and press **CLR**. Place the cursor back on the bottom and finish entering the name.

When the name is completed, press the up arrow key to place the cursor on the top row, then press **ENT**. The following will be displayed:

PRESS ENT KEY TO ENTER LAST NAME

- 10) To enter the user's last name press **ENT**. The following will be displayed:

<u>A</u> BCDEFGHIJKLMNOP

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- 11) To enter the user's last name, use the left and right arrow keys to position the cursor beneath the appropriate letter, and press **ENT** to select it. The letters will be placed on the top line of the display when selected. The last name may be up to 16 characters long. If a mistake is made while entering the name, move the cursor to the letter (on the top line of the display) to be erased and press **CLR**. Place the cursor back on the bottom and finish entering the name.

When the name is completed, press the up arrow key to place the cursor in the top row, then press **ENT**. The following will be displayed:

MULTIPLE KEY	
ACCESS	<u>Y</u> /N

- 12) This function will allow the user to remove multiple keys from the system provided they have proper access. If the user does not have multiple key access they will only be allowed to have one key out of the system at any given time. If you would like this user to have multiple key access, select 'Y' and press **ENT**. If you do not want this user to have multiple key access, select 'N' and press **ENT**. The top of the next page will be displayed:

RESTRICTIONS	<u>Y</u> /N
--------------	-------------

- 13) The KeyWatcher is now asking if you want to restrict keys. If "Y" is selected this user will **not** have access to any keys. The next step will allow the programmer to give this user access to certain keys at certain times (you may also edit the users information at a later time). If "N" is selected this user **will** have full access to all current and future keys that are added to the system and the display will skip to step 19.

KEYS TO RESTRICT
—

- 14) When restrictions are chosen for a user, the keys that the user will be allowed access to must be entered. If no key numbers are entered at this prompt, the user will not have access to any keys.

Enter the number of a key this user will be allowed access to and press **ENT**. If this user will have access to another key with the same time limits (explained in the next step), enter that key number and press **ENT**. Continue entering all the key numbers that this user will be able to access with the same time limits and then press **ENT** again.

EXAMPLE: If you would like this user to be able to access keys 5, 6 and 7 (with the same time limits) you would enter the number 5 and press **ENT**, then press 6 and press **ENT**, then press 7 and press **ENT** twice. When you have finished entering all the sets of keys that this user will be able to access, the **CLR** key may be pressed and the display will skip to step 19. The following will be displayed:

TIME RESTRICTION
Y/ <u>N</u>

- 15) This selects whether the user will be able to use these key at all times, or only at certain times on certain days of the week.

To make a selection, use the arrow keys to position the cursor beneath the appropriate selection and press **ENT**. If 'N' is selected this user will be able to access the keys entered at all times, the display will return to step 13 and allow the programmer to enter another set of keys to restrict. If 'Y' is selected the following will be displayed:

TIME RESTRICTION
ZONE (1-27) _

- 16) At this point you will need to enter the time zone number (for more information about time zones, see page 31) that will be assigned to the selected keys. Once a valid time zone number is entered, the following will be displayed:

RELAY ALARM
Y/N

- 17) This function allows an overdue key to trip the KeyWatcher's relay alarm outputs for this user/key combination. If you wish the relay alarm outputs to trip when this overdue key alarm is triggered, use the arrow keys to position the cursor beneath the 'Y' and press **ENT**. If you do not want the relay alarm outputs to trip when an overdue key alarm is triggered, use the arrow keys to position the cursor beneath the 'N' and press **ENT**. The top of the next page will be displayed:

USE KEYS ON DAYS
S MTWTF S

- 18) This function allows the programmer to select the days of the week that the user may access these keys. Any or all days of the week may be selected.

An upper case letter for the day of the week indicates that the user will be able to access the key(s) on that day. A lower case letter for the day of the week indicates that the user will NOT be able to access the key(s) on that day.

When the USE KEYS ON DAYS display appears, it shows that the user will be able to access the key(s) on all the days of the week. To change a letter from upper case to lower case (or vice-versa), move the cursor beneath the appropriate day and press **ENT**. The letter will change from upper case to lower case (or vice-versa).

After changing all of the appropriate days, use the up arrow to move the cursor to the top line and then press **ENT**. The display will then Return to step 14 and allow the programmer to enter another set of keys to restrict.

The following will be displayed if 'N' is selected at step 13 or the **CLR** key is pressed at step 14:

MORE USERS? Y/N

- 19) When a user is fully programmed, the KeyWatcher will ask if you want to add more users. Use the arrow keys to position the cursor beneath the appropriate selection and press **ENT**. If 'Y' is selected the display will return to step 2. If 'N' is selected the display will return to step 1.

Adding Time Zones

A time zone is used when restricting a user from keys between a set of times. There are 2 types of time zones that can be programmed. The first is a specific time period which allows the user to select the start and end time that the key may be out. The second is a duration which will allow the user to have a key out for a certain length of time. The KeyWatcher allows you to store 24 specific time zones and 3 duration time zones. To add a time zone, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **2, Database**. The following will be displayed:

→ DATABASE _

- 2) Select Database Menu item number **1, Add**. The following will be displayed:

→ ADD _

- 3) Select Add Menu item number **3, Time Zone**. The following will be displayed:

Time Zone
(1-27) _

- 4) Enter the number of the time zone that you would like to add and press **ENT**. Keep in mind that time zones from 1-24 will be for a specific time period and time zones from 25-27 will be for a duration. If a time zone number from 1-24 is entered, the following will be displayed (example shows time zone 1). If a time zone number from 25-27 is entered, skip to step 7.

SPECIFIC

OUT	TZ01	IN
<u>00</u> :00		00:00

Note: The OUT time is when the user will be able to remove the key and the IN time is when the user must have the key returned by. The latest time IN or OUT is 23:59.

- 5) Enter the OUT time for the time zone in 24 hour format. After the OUT time is entered the cursor will move to the IN time. Enter the IN time for the time zone in 24 hour format. When you have entered the OUT time and the IN time, press **ENT** and the display will automatically return to step 2.
- 6) If a time zone number from 25-27 is entered at step 5, the following will be displayed (example shows time zone 25):

DURATION

	TZ25	
DURATION		<u>00</u> :00

Editing Programmed Information

This section explains how to change information that is programmed into the KeyWatcher. For example, key names and user information may be changed using these instructions.

Editing Key Names

When keys are added to the system, the KeyWatcher assigns a default name. This name can be changed. To edit the name of an installed key, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **2, Database**. The following will be displayed:

→ DATABASE_

- 2) Select Database Menu item number **2, Edit**. The following will be displayed:

→ EDIT _

- 3) Select Edit Menu item number **1, Key**. The following will be displayed:

NAME KEY _

- 4) Enter the number of the key to be named and press **ENT**. The following will be displayed:

ABCDEFGHIJKLMNOP

- 5) To enter the key name, use the left and right arrow keys to position the cursor beneath the appropriate letter, and press **ENT** to select it. The letters will be placed on the top line of the display when selected. The key name may be up to 16 characters long. If a mistake is made while entering the name, move the cursor to the letter (on the top line of the display) to be erased and press **CLR**. Place the cursor back on the bottom and finish entering the name.

When the name is completed, press the up arrow key to place the cursor on the top row, then press **ENT**. The display will then return to step 2.

Editing User Information

The KeyWatcher allows the programmer to edit any user information. The user's PIN #, menu access level, emergency release capability, first and last names, restrictions, and multiple key access may all be changed. To edit any user information you must first access the Edit User Menu. To access the Edit User Menu, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **2, Database**. The following will be displayed:

→ DATABASE _

- 2) Select Database Menu item number **2, Edit**. The following will be displayed:

→ EDIT _

- 3) Select Edit Menu item number **2, User**. The following will be displayed:

→ EDIT ITEM # _

- 4) At this point, any item number can be entered to edit and then press **ENT** or you can just press **ENT** to list them. The following is the list of item numbers that can be entered at the EDIT ITEM # display.

- 1) PIN #
- 2) Menu Access
- 3) Emer Release
- 4) First Name
- 5) Last Name
- 6) Restrictions
- 7) Multiple Keys

- 5) Follow the steps on the following pages to edit user information.

Editing User PIN

A Users PIN # may be edited by the programmer. To edit a users PIN #, follow these steps:

- 1) Access the edit user menu (Edit Item # will be displayed) and select item # **1, PIN #**. The following will be displayed:

ENTER USER CODE
—

- 2) Enter the user ID number for the user that you want to change the PIN # for and press **ENT**. The following will be displayed:

ENTER NEW PIN #
—

- 3) Enter the new 4 digit PIN # for this user and press **ENT**. The following will be displayed briefly and the display will then return to the EDIT ITEM # display.

PIN #
CHANGED

Editing User Menu Access

A Users Menu Access Level may be edited by the programmer. To edit a users Menu Access Level, follow these steps:

- 1) Access the edit user menu (Edit Item # will be displayed) and select item # **2, Menu Access**. The following will be displayed:

ENTER USER CODE
—

- 2) Enter the user ID number for the user that you want to change the Menu Access Level for and press **ENT**. The following will be displayed:

MENU ACCESS
LEVEL [1-5] : _

- 3) This option allows the programmer to select whether or not a this user will have access to the menus within the KeyWatcher. For all practical purposes, a normal user should not have access to the menus and a supervisor should only have access to generating reports and canceling alarms. The five levels of access are:

USER ACCESS LEVELS	
ALL ACCESS LEVELS HAVE THE ABILITY TO REMOVE & RETURN KEYS.	
LEVEL 1:	Provides the user with complete access to ALL FUNCTIONS. (Programmer)
LEVEL 2:	Allows the user to CHANGE PIN . Also allows access to GENERATE REPORTS and ALARMS .
LEVEL 3:	Allows the user to CHANGE PIN .
LEVEL 4:	No additional functions.
LEVEL 5:	Allows the user access to GENERATE REPORTS .

Editing User Emergency Release

A Users Emergency Release function may be edited by the programmer. To edit a users Emergency Release function, follow these steps:

- 1) Access the edit user menu (Edit Item # will be displayed) and select item # **3, Emer Release**. The following will be displayed:

ENTER USER CODE
—

- 2) Enter the user ID number for the user that you want to change the Emergency Release function for and press **ENT**. The following will be displayed:

EMERGENCY	
RELEASE	<u>Y</u> /N

- 3) This display asks whether this user will be allowed to use the Emergency Release function. This function allows a user to remove all of the keys in the system in the event of an emergency (see page 53 for more information on the emergency release function). Make a selection by using the left or right arrow keys to toggle between 'Y' and 'N'. You will see a cursor under the selected option. Press **ENT** to save your choice. The display will then return to the EDIT ITEM # display.

Editing User First Name

A Users First Name may be edited by the programmer. To edit a users First Name, follow these steps:

- 1) Access the edit user menu (Edit Item # will be displayed) and select item # **4, First Name**. The following will be displayed:

ENTER USER CODE
—

- 2) Enter the user ID number for the user that you want to change the First Name for and press **ENT**. The following will be displayed:

ABCDEFGHIJKLMNOP

- 3) To enter the user's first name, use the left and right arrow keys to position the cursor beneath the appropriate letter, and press **ENT** to select it. The letters will be placed on the top line of the display when selected. The first name may be up to 16 characters long. If a mistake is made while entering the name, move the cursor to the letter (on the top line of the display) to be erased and press **CLR**. Place the cursor back on the bottom and finish entering the name.

When the name is completed, press the up arrow key to place the cursor on the top row, then press **ENT**. The display will then return to the EDIT ITEM # display.

Editing User Last Name

A Users Last Name may be edited by the programmer. To edit a users Last Name, follow these steps:

- 1) Access the edit user menu (Edit Item # will be displayed) and select item # **5, Last Name**. The following will be displayed:

ENTER USER CODE
—

- 2) Enter the user ID number for the user that you want to change the First Name for and press **ENT**. The following will be displayed:

ABCDEFGHIJKLMNOP

- 3) To enter the user's first name, use the left and right arrow keys to position the cursor beneath the appropriate letter, and press **ENT** to select it. The letters will be placed on the top line of the display when selected. The first name may be up to 16 characters long. If a mistake is made while entering the name, move the cursor to the letter (on the top line of the display) to be erased and press **CLR**. Place the cursor back on the bottom and finish entering the name.

When the name is completed, press the up arrow key to place the cursor on the top row, then press **ENT**. The display will then return to the EDIT ITEM # display.

Editing User Restrictions (Adding)

Additional Key Restrictions may be added to a user by the programmer. To add new Key Restrictions, follow these steps:

- 1) Access the edit user menu (Edit Item # will be displayed) and select item # **6, Restrictions**. The following will be displayed:

ENTER USER CODE —

- 2) Enter the user ID number for the user that you want to change the Restrictions for and press **ENT**. The following will be displayed:

RESTRICTIONS <u>Y</u> /N

- 3) The KeyWatcher is now asking if you want to restrict keys. If “Y” is selected this user will **only** have access to any keys that he/she was given access to in the past. Step 4 will allow the programmer to edit which keys this user will have access to. If “N” is selected this user **will** have full access to all current and future keys that are added to the system and the display will return to the EDIT ITEM # display.

→ ADD EDIT

- 4) To add new Key Restrictions to this user, press **ENT**. The following will be displayed:

KEYS TO RESTRICT: —

- 5) Enter the number of a key this user will be allowed access to and press **ENT**. If this user will have access to another key with the same time limits (explained in the next step), enter that key number and press **ENT**. Continue entering all the key numbers that this user will be able to access with the same time limits and then press **ENT** again.

EXAMPLE: If you would like this user to be able to access keys 5, 6 and 7 (with the same time limits) you would enter the number 5 and press **ENT**, then press 6 and press **ENT**, then press 7 and press **ENT** twice. The following will be displayed:

TIME RESTRICTION <u>Y</u> /N

- 6) This selects whether the user will be able to use these key at all times, or only at certain times on certain days of the week.

To make a selection, use the arrow keys to position the cursor beneath the appropriate selection and press **ENT**. If ‘N’ is selected this user will be able to access the keys entered at all times, the display will return to the EDIT ITEM # display. If ‘Y’ is selected the top of the next page will be displayed:

TIME RESTRICTION
ZONE (1-27) _

- 7) At this point you will need to enter the time zone number (for more information about time zones, see page 31) that will be assigned to the selected keys. Once a valid time zone number is entered, the following will be displayed:

RELAY ALARM
Y/N

- 8) This function allows an overdue key to trip the KeyWatcher's relay alarm outputs for this user/key combination. If you wish the relay alarm outputs to trip when this overdue key alarm is triggered, use the arrow keys to position the cursor beneath the 'Y' and press **ENT**. If you do not want the relay alarm outputs to trip when an overdue key alarm is triggered, use the arrow keys to position the cursor beneath the 'N' and press **ENT**. The following will be displayed:

USE KEYS ON DAYS
S MTWTF S

- 9) This function allows the programmer to select the days of the week that the user may access these keys. Any or all days of the week may be selected.

To select the days of the week that the key may be used, use the arrow keys to move the cursor beneath the appropriate day. Press **ENT** to select this day. The letter will change from lower case to UPPER CASE. The upper case letter indicates that the key may be used on this day. After changing all of the appropriate days, use the up arrow to move the cursor to the top line and then press **ENT**. The display will then Return to the EDIT ITEM # display.

Editing User Restrictions (Deleting)

Restrictions may be deleted from a user by the programmer. To delete Restrictions, follow these steps:

- 1) Access the edit user menu (Edit Item # will be displayed) and select item # **6, Restrictions**. The following will be displayed:

ENTER USER CODE
—

- 2) Enter the user ID number for the user that you want to change the Restrictions for and press **ENT**. The following will be displayed:

RESTRICTIONS Y/N

- 3) The KeyWatcher is now asking if you want to restrict keys. If “Y” is selected this user will **only** have access to any keys that he/she was given access to in the past. The next step will allow the programmer to edit which keys this user will have access to. If “N” is selected this user **will** have full access to all current and future keys that are added to the system and the display will return to the EDIT ITEM # display.

→ ADD
EDIT

- 4) Press the down arrow key to select EDIT and press **ENT**. The following will be displayed (example only):

01 04 05

- 5) The key numbers at the bottom of the display are the current keys that this user has access to. To select the keys that you want to delete from this users access, place the cursor under the number and press **ENT**. Notice the asterisk (*) placed above the number and continue selecting key numbers until you have selected all the keys you want to delete. Once all the keys you want to delete have been selected, press the up arrow key to place the cursor on the top row and press **ENT**. The following will be displayed:

→ DELETE
EDIT

- 6) To delete the keys that you have just selected, select **DELETE** and press **ENT**. The keys will be deleted from this users access. The display will then return to the EDIT ITEM # display.

Editing User Restrictions (Time Zone, Relay Alarm, or Days of Use)

The Time Zone, Relay Alarm, and which days the keys can be accessed can all be changed. To change any of these items, follow these steps:

- 1) Access the edit user menu (Edit Item # will be displayed) and select item # **6, Restrictions**. The following will be displayed:

ENTER USER CODE
—

- 2) Enter the user ID number for the user that you want to change the Restrictions for and press **ENT**. The following will be displayed:

RESTRICTIONS Y/N

- 3) The KeyWatcher is now asking if you want to restrict keys. If “Y” is selected this user will **only** have access to any keys that he/she was given access to in the past. The next step will allow the programmer to edit which keys this user will have access to. If “N” is selected this user **will** have full access to all current and future keys that are added to the system and the display will return to the EDIT ITEM # display.

→ ADD
EDIT

- 4) Press the down arrow key to select EDIT and press **ENT**. The following will be displayed (example only):

EXAMPLE ONLY. → 01 04 05

- 5) The key numbers at the bottom of the display are the current keys that this user has access to. To select the keys that you want to delete from this users access, place the cursor under the number and press **ENT**. Notice the asterisk (*) placed above the number and continue selecting key numbers until you have selected all the keys you want to delete. Once all the keys you want to delete have been selected, press the up arrow key to place the cursor on the top row and press **ENT**. The following will be displayed:

→ DELETE
EDIT

- 6) To change the time zone on the keys that you have just selected, select **EDIT** and press **ENT**. The following will be displayed:

TIME RESTRICTION
Y/N

- 7) This selects whether the user will be able to use the key that you have just selected at all times, or only at certain times on certain days of the week.

To make a selection, use the arrow keys to position the cursor beneath the appropriate selection and press **ENT**. If ‘N’ is selected this user will be able to access the keys selected at all times, the display will return to the EDIT ITEM # display. If ‘Y’ is selected the top of the next page will be displayed:

TIME RESTRICTION
ZONE (1-27) _

- 8) At this point you will need to enter the time zone number (for more information about time zones, see page 31) that will be assigned to the selected keys. Once a valid time zone number is entered, the following will be displayed:

RELAY ALARM
Y/N

- 9) This function allows an overdue key to trip the KeyWatcher's audible alarm. If you wish to receive an audible alarm for an overdue key, Use the arrow keys to position the cursor beneath the appropriate selection and press **ENT**. The following will be displayed:

USE KEYS ON DAYS
S MTWTF S

- 10) This function allows the programmer to select the days of the week that the user may access these keys. Any or all days of the week may be selected.

An upper case letter for the day of the week indicates that the user will be able to access the key(s) on that day. A lower case letter for the day of the week indicates that the user will NOT be able to access the key(s) on that day.

When the USE KEYS ON DAYS display appears, it shows that the user will be able to access the key(s) on all the days of the week. To change a letter from upper case to lower case (or vice-versa), move the cursor beneath the appropriate day and press **ENT**. The letter will change from upper case to lower case (or vice-versa).

After changing all of the appropriate days, use the up arrow to move the cursor to the top line and then press **ENT**. The display will then Return to the EDIT ITEM # display.

Editing User Multiple Keys

A Users Multiple Key Access may be edited by the programmer. To edit a users Multiple Key Access, follow these steps:

- 1) Access the edit user menu (Edit Item # will be displayed) and select item # 7, **Menu Access**. The following will be displayed:

ENTER USER CODE
—

- 2) Enter the user ID number for the user that you want to change the Multiple Key Access for and press **ENT**. The following will be displayed:

MULTIPLE KEY
ACCESS Y/N

- 3) This function will allow the user to remove multiple keys from the system provided they have proper access. If the user does not have multiple key access they will only be allowed to have one key out of the system at any given time. If you would like this user to have multiple key access, select 'Y' and press **ENT**. If you do not want this user to have multiple key access, select 'N' and press **ENT**. The display will then return to the EDIT ITEM # display.

Editing Time Zones

The times in any Time Zone may be changed. Remember that there are two types of time zones, specific and duration (for more information on time zones, see page 31). To edit a time zones time, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number 2, **Database**. The following will be displayed:

→ DATABASE_

- 2) Select Database Menu item number 2, **Edit**. The following will be displayed:

→ EDIT —

- 3) Select Edit Menu item number 3, **Time Zone**. The following will be displayed: (If there are no time zones defined, the display will return to the title screen)

EXAMPLE ONLY. →

OUT TZ01 IN
08:00 17:00

Indicates Time Zone 1.

- 4) At this point, the **ENT** key may be pressed to edit the time zone displayed or the up and down arrow keys may be used to scroll through the different time zones that are defined. When **ENT** is pressed, a cursor will appear under the first number of the time zone selected. If the time zone selected is for a specific time period, enter the OUT and IN time in 24 hour format and then press **ENT**. If the time zone selected is for a duration time, enter the duration time in 24 hour format and then press **ENT**. The display will then return to step 2.

Deleting Programmed Information

This section explains how to delete the information programmed into the KeyWatcher. You may delete keys, users and time zones.

Deleting Keys

If you want to delete a key and add another in its place, with all the same restrictions, see the section on **replacing a key** (page 63). If a key is deleted and then added back to the system, any user with restricted keys will not have access until the programmer adds restrictions (gives access to). To delete a key from the system, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **2, Database**. The following will be displayed:

→ DATABASE _

- 2) Select Database Menu item number **3, Delete**. The following will be displayed:

→ DELETE _

- 3) Select Delete Menu item number **1, Key**. The following will be displayed:

DELETE KEY _

- 4) Enter the number of the key that you want to delete and press **ENT**. If the key is in the system, you will be asked to open the door and remove the key. The key will be deleted. If the key is not in the system, you will be asked to confirm that you want to delete it. The key will then be deleted. After the key was deleted the display will return to step 3.

Note: Keep in mind when you add a key to the system next time the KeyWatcher will assign that key the lowest available number.

Deleting Users

To delete a user, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **2, Database**. The following will be displayed:

→ DATABASE_

- 2) Select Database Menu item number displayed:

→ DELETE _

- 3, **Delete**. The following will be

DELETE USER CODE
_

- 3) Select Delete Menu item number **2, User**. The following will be displayed:

USER HAS KEYS

- 4) Enter the user ID number for the user that you want delete and press **ENT**. The user will be deleted and the display will return to step 2.

Note: If the following is displayed, the user has key(s) out of the system and cannot be deleted until the key(s) are either returned or deleted.

Deleting Time Zones

To delete a time zone, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **2, Database**. The following will be displayed:

→ DATABASE _

- 2) Select Database Menu item number **3, Delete**. The following will be displayed:

→ DELETE _

- 3) Select Delete Menu item number **3, Time Zone**. The following will be displayed:

DELETE TIME ZONE
(1-27) _

- 4) Enter the number of the time zone that you want to delete and press **ENT**. The following will be displayed and the display will then automatically return to step 2.

EXAMPLE ONLY.

TIME ZONE 1
DELETED

Note: If the time zone is in use, the following will be displayed indicating that a time zone in use cannot be deleted.

TIME ZONE
NOT DEFINED

Printing Programmed Information

This section explains how to print the information that is programmed into the KeyWatcher directly to a serial printer. The system allows you to print a list of users, keys, and time zones. The settings for the printer are shown at the bottom of this page. If you want to print this information using a computer, see your KWPC for Windows User Manual.

Printing Keys

To print a key list, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **2, Database**. The following will be displayed:

→ DATABASE_

- 2) Select Database Menu item number **4, Print**. The following will be displayed:

→ PRINT _

- 3) Select Print Menu item number **1, Key**. The following will be displayed and the display will then automatically return to step 2.

PRINTING REPORT
LIST OF KEYS

Note: When using a serial printer, the printer must be connected to J6 on the KeyWatcher I SMD Board (28) and set as follows:

- ◆ 9600 BAUD
- ◆ 8 Data Bits
- ◆ 1 Stop Bit
- ◆ No Parity
- ◆ XON/XOFF

Note: If you are using the Morse Built-In thermal printer, be sure you have the correct printer type selected.

Printing Users

To print a list of users, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **2, Database**. The following will be displayed:

→ DATABASE _

- 2) Select Database Menu item number **4, Print**. The following will be displayed:

→ PRINT _

- 3) Select Print Menu item number **2, User**. The following will be displayed:

DETAILED LIST
→ SUMMARY LIST

- 4) There are two types of user reports that can be printed, a detailed report which will give all the information about a user and a summary report which will give a list of users. Depending on the type of report that you want to print, use the up and down arrow keys to select a detailed list or summary list and press **ENT**. If the detailed type report was chosen, the following will be displayed. If the summary type report was chosen, skip to step 8.

PRINT ALL USERS?
Y/N

- 5) If you would like to print a detailed report for all users, which will print one page for each user, use the up and down arrow keys to select 'Y'. The following will be displayed and the display will return to step 2. If you would like a detailed report for only one user, select 'N' and skip to the next step.

PRINTING REPORT
DETAILED LIST

- 6) The following will be displayed if 'N' was selected at step 5.

ENTER USER CODE
_

- 7) Enter the user ID number for the user that you want a detailed report for and press **ENT**. The following will be displayed:

PRINTING REPORT
DETAILED LIST

- 8) The following will be displayed if the summary type report was chosen at step 4 and the display will return to step 2.

PRINTING REPORT
SUMMARY LIST

Printing Time Zones

To print a list of Time Zones, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **2, Database**. The following will be displayed:

→ DATABASE _

- 2) Select Database Menu item number **4, Print**. The following will be displayed:

→ PRINT _

- 3) Select Print Menu item number **3, Time Zones**. The following will be displayed and the display will then automatically return to step 2.

PRINTING REPORT
TIME ZONES

Saving & Restoring the Database

The KeyWatcher software is equipped with a function that allows the user to save the programmed information to the hard drive of a computer. This will prevent the user from having to completely reprogram the KeyWatcher in the event that the information is lost. This function is located in the Software Package provided and is called GET DB FROM KW. For more information about saving and restoring the database, see your KeyWatcher software manual.

Logging Off

When a valid user code is entered and the user accesses the Main Menu, the KeyWatcher is not able to be accessed to remove keys. When the user is finished accessing the menus, a proper log off procedure should be followed to insure the operation of the KeyWatcher without any delays.

If the KeyWatcher is left at the Main Menu prompt without being used, the KeyWatcher will remain in this state for approximately 1 minute. To log off without delay, press the **CLR** key while at the Main Menu. This will exit to the title screen and properly log off.

NOTE: FOR SECURITY REASONS, YOU SHOULD NEVER WALK AWAY FROM THE KEYWATCHER WHILE IT IS AT THE MAIN MENU OR THE REMOVE/RETURN KEYS DISPLAY. THIS WILL ENABLE UNAUTHORIZED PERSONNEL TO REMOVE KEYS OR CHANGE THE PROGRAMMING IN THE SYSTEM.

SECTION

III

REMOVAL & RETURN OF KEYS

REMOVAL/RETURN OF KEYS

The KeyWatcher system makes key removal and return simple. Any user with a valid user code may remove keys or return keys, provided they have access to the key.

Key Removal

To remove a key (or keys) from the KeyWatcher, follow these steps:

- 1) Press any key on the keypad to wake-up the system. The following will be displayed:

ENTER ID - PIN
- - - - -

- 2) Enter your assigned 3-digit user ID number, followed by your 4-digit PIN, and press **ENT**. The following will be displayed:

→ REMOVE KEYS
RETURN KEYS

- 3) Select remove keys by using the up and down arrow keys and then press **ENT**. The following will be displayed:

REMOVE KEY
—

- 4) Enter the numbers of the keys you wish to remove, separated by **ENT**. Press **ENT** a second time when you are finished entering all the key numbers you wish to remove. For example, if you wish to remove keys 2, 3, 7, and 12, you would press **2 ENT 3 ENT 7 ENT 12 ENT ENT**. If you wish to remove key 1 only, you would press **1 ENT ENT**.
- 5) If you are allowed access to the keys entered, the KeyWatcher will prompt you to open the door, then begin releasing the keys 1 at a time. Each key location will remain released for 5 seconds. If the key is not removed within 5 seconds, the location will lock and the next key will be released. When the last key is removed the display will prompt you to close the door.

Note: If an attempt is made to remove a key that you are not allowed access to, the following will be displayed.

KEY REQUEST
DENIED

Note: If the key requested is already in use, the following will be displayed.

EXAMPLE ONLY.

KEY 1 IN USE BY
MORSE

Key Removal in an Emergency

In the event of an emergency that requires all keys to be removed from the KeyWatcher, there is a routine that allows for quick removal of all keys. Only users authorized with the Emergency Release feature may perform this function. To edit a users Emergency Release function, see page 35.

To remove all keys via Emergency Release, perform the following steps:

- 1) Press any key on the keypad to wake-up the system. The following will be displayed:

ENTER ID - PIN
--- - ----

- 2) Enter your 3-digit user ID number, followed by your 4-digit PIN, followed by the number 9, and press **ENT**. For example, if your user code is 152, and your PIN is 4585, you would press **152-45859 ENT**. The KeyWatcher will then ask you to open the door and begin releasing each key one at a time. When all of the keys are removed, the display will ask you to close the door. At any time, this process may be canceled by closing the door.

Key Return

To return a key (or keys) to the KeyWatcher, follow these steps:

- 1) Press any key on the keypad to wake-up the system. The following will be displayed:

ENTER ID - PIN
--- - ----

- 2) Enter your assigned 3-digit user ID number, followed by your 4-digit PIN, and press **ENT**. The following will be displayed:

→ REMOVE KEYS
RETURN KEYS

- 3) Select return keys by using the up and down arrow keys and then press **ENT**. The following will be displayed:

OPEN DOOR

- 4) Open the door, return the keys that you want to return and then close the door. The KeyWatcher will display what keys were returned.

Changing Your Pin Number

If the user has access level 1 - 3, that user will be allowed to change their pin number.

To change your PIN number, following steps:

- 1) Press any key on the keypad to wake-up the system. The following will be displayed:

ENTER ID - PIN
---- - ----

- 2) Enter your 3-digit user number, followed by your 4-digit PIN and then press the down arrow key until the following is displayed:

MAIN MENU
→ CHANGE PIN

- 3) Select Change PIN and press **ENT**. The following will be displayed:

ENTER PIN #
—

- 4) Enter your current PIN number and press **ENT**. The following will be displayed: (If the PIN # entered does not match this users PIN #, a message will be displayed)

ENTER NEW PIN #
—

- 5) Enter the new PIN number that you want to be your PIN # and press **ENT**. The following will be displayed:

VERIFY PIN #
—

- 6) Enter the same PIN number that you just entered to verify that you entered it correctly and press **ENT**. The following will be displayed:

PIN # CHANGED

Note: This will be the new PIN number for the user that was logged into the KeyWatcher when Change PIN was selected and changed.

Note: If the following is displayed, the New PIN number and the Verified PIN # did not match and the user will need to try again. The users PIN number was not changed and will be the same number that they originally logged on with before selecting change PIN.

ERROR PIN #
NOT CHANGED

SECTION

IV

REPORTS

REPORTS

The KeyWatcher tracks the movement of every key installed. Every time a key is removed, the KeyWatcher records who takes the key, and when. When keys are returned, it once again records this data. The KeyWatcher holds 4000 transactions in memory. Reports may be generated on individual users, keys, keys in use, etc...They may be printed to a serial printer set at 9600 BAUD.

To generate reports, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **3, Generate Reports**. The following will be displayed:

→ GEN REPORTS

- 2) At this point, any report type number can be entered to generate a report and then press **ENT** or you can just press **ENT** to list them. The following is the list of items numbers for the report types.

There are 5 report types that may be selected. At the above prompt, the item number may be entered, or **ENT** may be pressed to view the selections.

Report Types

- 1) **AUDIT USER**
- 2) **AUDIT KEY**
- 3) **KEYS IN USE**
- 4) **BY DATES (ALL EVENTS)**
- 5) **PRINT TRANSACTIONS**

- 3) Follow the steps on the following pages to generate reports to a serial printer set at 9600 BAUD.

Note: When using a serial printer, the printer must be connected to J6 on the KeyWatcher I SMD Board (28) and set as follows:

- ◆ 9600 BAUD
- ◆ 8 Data Bits
- ◆ 1 Stop Bit
- ◆ No Parity
- ◆ XON/XOFF

Note: If you are using the Morse Built-In thermal printer, be sure you have the correct printer type selected.

Audit Trail (User)

This report type will give the access history of any user requested. This report can give all transactions a user made between any 2 dates, provided the dates entered are still in memory. To generate an Audit Trail by User, follow these steps:

- 1) Select Generate Reports item number **1**, **Audit User**. The following will be displayed:

AUDIT TRAIL FOR
USER CODE —

- 2) Enter the number of the user that you want to generate an audit trail for and press **ENT**. The following will be displayed:

BEGIN DATE

then

MM/DD/YYYY
01/01/1997

- 3) Enter the date that you want the report to begin on and press **ENT**. The following will be displayed:

END DATE

then

MM/DD/YYYY
01/01/1997

- 4) Enter the date that you want the report to end on and press **ENT**. The following will be displayed:

PRINTING REPORT
USER AUDIT TRAIL

Audit Trail (Key)

This report type will give the access history of any key requested. This report gives all the activity of a key between any 2 dates, provided the dates entered are still in memory. To generate an Audit Trail by Key, follow these steps:

- 1) Select Generate Reports item number **2, Audit Key**. The following will be displayed:

AUDIT TRAIL FOR
KEY —

- 2) Enter the number of the key that you want to generate an audit trail for and press **ENT**. The following will be displayed:

BEGIN DATE

then

MM/DD/YYYY⁰¹
01/01/1997

- 3) Enter the date that you want the report to begin on and press **ENT**. The following will be displayed:

END DATE

then

MM/DD/YYYY⁰¹
01/01/1997

- 4) Enter the date that you want the report to end on and press **ENT**. The following will be displayed:

PRINTING REPORT
KEY AUDIT TRAIL

Note: If a key number that does not exist is entered, the following will briefly be displayed and the display will return to step 1 and allow the user to enter another key number.

INVALID KEY #

Keys In Use

This type of report will show which keys are currently being used, by whom they are being used, and whether any of the keys are overdue. To generate a Keys In Use Report, follow these steps:

- 1) Select Generate Reports item number **3, Keys In Use**. The following will be displayed:

PRINTING REPORT
KEYS IN USE

All Transactions (By Dates)

This report type will show all of the activity that occurred between two dates, provided the dates entered are still in memory. The report will show all alarm conditions that occurred as well as what keys were removed and returned to the system. To generate a report for all transactions by date, follow these steps:

- 1) Select Generate Reports item number **4, By Dates**. The following will be displayed:

BEGIN DATE	then	MM/DD/YYYY _{01/01/1997}
------------	------	----------------------------------

- 2) Enter the date that you want the report to begin on and press **ENT**. The following will be displayed:

END DATE	then	MM/DD/YYYY _{01/01/1997}
----------	------	----------------------------------

- 3) Enter the date that you want the report to end on and press **ENT**. The following will be displayed:

PRINTING REPORT ALL EVENTS

Print Transactions (All Events - Real-Time)

The KeyWatcher may be hooked to a serial printer to print transactions on a continuing basis. If this function is turned on, the KeyWatcher will print out each transaction as it occurs. A serial printer must be connected to the KeyWatcher at all times for this option to operate properly. The KeyWatcher is shipped with Print Transactions turned off. To turn on/off Print Transactions, follow these steps:

- 1) Select Generate Reports item number **5, Print Trans**. The following will be displayed:

The arrow will be pointing to the current	→ PRINT ON PRINT OFF
---	-------------------------

- 2) Use the arrow key to select whether Print Transactions will be on or off and press **ENT**. The KeyWatcher will then print a header to the printer and all transactions will then be printed as they occur. The display will then automatically return to the GEN REPORTS screen.

SECTION

V

UTILITY MENU

UTILITY MENU

The functions covered in this chapter are special functions occasionally used in the KeyWatcher to maintain the system. All of the functions described in this section are located in the Utility Menu.

Deleting Transactions

This function allows the user to delete all transactions stored in the KeyWatcher while keeping the database intact. Keep in mind that no reports may be generated on old transactions once this function is performed. To delete memory, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **4, Utilities**. The following will be displayed:



→ UTILITIES _

- 2) Select Utilities Menu item number **1, Delete Trans.** The following will be briefly displayed , the transactions will be deleted and the display will then return to step 1.



DELETING
TRANSACTIONS

Replacing Keys

This function enables the user to replace a broken Smart Key without having to delete the original key and program a new key. To replace a broken Smart Key, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **4, Utilities**. The following will be displayed:

→ UTILITIES _

- 2) Select Utilities Menu item number **2, Replace Key**. The following will be displayed:

REPLACE KEY _

- 3) Enter the number of the key that you want to replace and press **ENT**. The following will be displayed:
Note: If the key is in the box, you will be asked to remove the key before 'Insert new key' is displayed.

OPEN DOOR

then

INSERT NEW KEY
PRESS ENT

- 4) At this point you may insert the new key and press the **ENT** key. The following will be displayed:

CHECKING

- 5) The KeyWatcher will then check to see if a new key has been inserted, once the KeyWatcher finds a new key it will display its key number and the location that it was found in. The display will then return to step 1.

Note: If no replacement key was inserted or a key that already belongs to the system is inserted, the following will be displayed:

NO REPLACEMENT
KEY FOUND

System Restart

This function allows the user to restart the system. This may be necessary if you are sent an update by Morse Watchman's, otherwise you should not need to perform this function. To restart the system, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **4, Utilities**. The following will be displayed:

→ UTILITIES _

- 2) Select Utilities Menu item number **3, Restart Sys**. The following will be displayed:

SYSTEM
RESTART ? Y/N

- 3) If you do not want to restart the system, select 'N' and return to step 1.
If you would like to restart the system, select 'Y'.

After selecting 'Y', refer to page 5 step 2 for further instructions.

You may also receive separate instructions if you were sent an update from Morse Watchmans.

Erase Database

This function allows a supervisor to restart the system, while removing all the programming. This will force the user to completely reprogram the KeyWatcher. To erase the database, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **4, Utilities**. The following will be displayed:

→ UTILITIES _

- 2) Select Utilities Menu item number **4, Erase DB**. The following will be displayed:

ERASE
DATABASE ? Y/N

- 3) If you do not want to erase the database and restart the system, select 'N' and return to step 1.
If you would like to erase the database and restart the system, select 'Y'. The following will be displayed:

ARE YOU SURE?
 Y/N

If you are not sure you want to erase the database and restart the system, select 'N' and return to step 1.

If you are sure you would like to erase the database and restart the system, select 'Y'. Refer to page 5 step 2 for further instructions.

SECTION

VI

ALARMS

ALARMS

The KeyWatcher is equipped with 10 types of alarms that will be triggered for a variety of reasons. These alarms, when activated, will cause the KeyWatcher to begin sounding an internal alarm, as well as triggering alarm contacts contained inside the KeyWatcher, which may be wired to an external alarm panel. These alarms may be printed or canceled by authorized personnel.

Alarm Types

AC Power Loss

Activated if the KeyWatcher loses AC power. Whenever AC power is lost, the display will read NO AC POWER and the external alarm output will be triggered. If AC power is detected again, the KeyWatcher will also beep faintly about every 7 seconds. This alarm is canceled by restoring AC power to the system.

Door Left Open

Activated when the door is left open after the removal or return of a key. This alarm will only be triggered when the door sensor is Enabled. (see page 17)

Illegal Access

Activated when 3 unsuccessful attempts are made at entering a user code. This alarm will only be triggered if the Access Enable feature is Enabled. (see page 17).

Illegal Entry

Activated when the KeyWatcher's door is opened without a valid user code being entered. Usually indicates that the KeyWatcher has been broken into. This alarm will only be triggered when the door sensor is Enabled. (see page 17)

Illegal Removal

Activated when a key is removed from the KeyWatcher without a valid user code request. Usually indicates that the key was forced from the location.

Invalid Key Return

Activated if a key that is not added to the system is returned. Please note that the invalid key return will sound an alarm but will **NOT** relay the alarm output.

Overdue Keys

Activated if a key is not returned to the KeyWatcher before the programmed restriction time.

Shorted Key Return

Indicates that a shorted key (BAD KEY) has been returned to the system. The alarm should be canceled which will allow the key to be removed. The key should then be evaluated as soon as possible.

Duress Panic Alarm

Activated if Duress Panic feature enabled and the user enters the proper code.

Battery Test Fail

Activated if the backup battery fails during a battery test. After the KeyWatcher is powered up it will not perform a battery test for 12 hours, allowing the battery to charge. The system will then perform the battery test once a day.

Alarm Output Option Board

The Relay Option Board (#29) contains alarm contacts. Each set has one normally open contact and one normally closed contact. The following table shows which alarm output will be triggered for each alarm. See the Service & Maintenance section for more information about the Relay Option Board (#29). (PC Board connections)

Alarm Type	Alarm Output Triggered	Alarm Type	Alarm Output Triggered
AC Power loss	1	Illegal Entry	1
Battery Test Fail	1	Illegal Removal	1
Door Left Open	1	Overdue Key	1
Duress Panic Alarm	2	Shorted Key	1
Illegal Access	1		

Viewing Alarms

When an alarm sounds, the KeyWatcher's display will read **SEE ALARM**. This is informing the user that an alarm has been triggered. Depending on the alarm, the external alarm outputs may also be triggered. To view the alarm, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **5, Alarms**. The following will be displayed:



→ ALARMS _

- 2) Select Alarms Menu item number **1, View Alarms**. The alarm condition will then be displayed:

EXAMPLE ONLY.



→ ILLEGAL REMOVAL

- 3) Press **ENT** and the following will be displayed:

EXAMPLE ONLY.



ILLEGAL REMOVAL
KEY 50

- 4) After viewing the alarm, press **ENT** and the following will be displayed.

EXAMPLE ONLY.



ILLEGAL REMOVAL
CANCEL SOUND Y/N

- 5) Use the arrow keys to select whether you would like the alarms sound to be canceled and press **ENT**. The display will then return to step 1.

Canceling Alarms

When an alarm sounds, the KeyWatcher's display will read **SEE ALARM**. This is informing the user that an alarm has been triggered. Depending on the alarm, the external alarm outputs may also be triggered. To cancel the alarm, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **5, Alarms**. The following will be displayed:

→ ALARMS _

- 2) Select Alarms Menu item number **2, Cancel Alarms**. The alarm condition will then be displayed:

EXAMPLE ONLY.

→ ILLEGAL REMOVAL

- 3) Press **ENT** and the following will be displayed:

EXAMPLE ONLY.

ILLEGAL REMOVAL
KEY 50

- 4) After viewing the alarm, press **ENT** and the following will be displayed.

EXAMPLE ONLY.

ILLEGAL REMOVAL
CANCEL ALARM Y/N

- 5) Use the arrow keys to select whether you would like the alarm canceled and press **ENT**. Depending on your selection to cancel the alarm, one of the following will be displayed and the display will return to step 1.

ALARM
NOT CANCELLED

or

ALARM
CANCELLED

Printing Alarms

When an alarm sounds, the KeyWatcher's display will read **SEE ALARM**. This is informing the user that an alarm has been triggered. Depending on the alarm, the external alarm outputs may also be triggered. To print the alarm, follow these steps. See page 98 for a sample alarms report.

- 1) Access the KeyWatcher and select Main Menu item number **5, Alarms**. The following will be displayed:

→ ALARMS _

- 2) Select Alarms Menu item number **3, Print Alarms**. The following will be displayed, the report will print and the display will return to step 1.

PRINTING REPORT
ALARMS

SECTION

VII

DIAGNOSTICS MENU

DIAGNOSTICS MENU

The functions covered in this chapter are special functions occasionally used in the KeyWatcher to help determine if your system is experiencing technical problems.

Identify

This function is used to show the serial number and the version of firmware in the KeyWatcher. You may be asked to use this function if you are calling for technical support.

- 1) Access the KeyWatcher and select Main Menu item number **6, Diagnostics**. The following will be displayed:

→ DIAGNOSTICS _

- 2) Select Diagnostics Menu item number **1, Identify**. The serial number and the version of your firmware will be displayed. The CLR key may be pressed to return to step 1 or you can wait a few seconds for it to return to step 1 automatically.

EXAMPLE:

Serial: 300001
 V4_3.0E1RO U

EXPLANATION: Va_b.cdefghi				
V	Stands for version.			
a	Number of slots in the system multiplied by 10. Examples shown below.			
1 = 10 slot system.		4 = 40 slot system.		6 = 60 slot system.
b	Firmware revision number.			
c	Firmware sub-revision number.			
d	Software special options letter. (“ “ = Standard settings “N” “S” “T”)			
e	Maximum number of users to be programmed. Examples shown below.			
W = 250	X = 500	Y = 750	Z = 1000	
d	Language of the firmware version. Examples shown below.			
E = ENGLISH	F = FRENCH	G = GERMAN	W = SWEDISH	H = HUNGARIAN
J = JAPANESE	S = SPANISH	D = DANISH	U = DUTCH	P = PORTUGUESE
L = FINLAND	I = ICELANDIC	N = NORWEGIAN		V = SLOVENIAN
e	Default date format. (Power up default) Examples shown below.			
1 = U.S. MM/DD/YY		2 = EUROPEAN1 DD/MM/YY		3 = EUROPEAN2 YY/MM/DD
f	Random / Non-Random key return option. (“R” = Random return, “N” = Non-Random return)			
g	One Time User Code option. (“ “ = Normal - Option not enabled, “O” = Option enabled)			
h	Dual User Key Access option. (“ “ = Normal - Option not enabled, “D” = Option enabled)			
i	Duress option. (“ “ = Normal - Option not enabled, “U” = Option enabled)			
EXAMPLE IN STEP 3 SHOWS THE FOLLOWING:				
The KeyWatcher is a 40 slot system (a = 4).			Random key return (f = “R”).	
The revision & sub-revision is 3.0 (b.c = 3.0).			One Time User Code option enabled (g = “O”)	
The language of the system is English (d = E)			Dual User Key Access option not enabled (h = “ “)	
The default date format at power up is U.S. MM/DD/YY (e = 1)				Duress option enabled (i = “U”)

Release Key By Location

This function allows the user to release keys by the number of the location it is stored in rather than by the number of the key. To release a key by location, follow these steps:

- 1) Access the KeyWatcher and select Main Menu item number **6, Diagnostics**. The following will be displayed:

YOU MUST KNOW THE NUMBER OF THE
LOCATION PRIOR TO PERFORMING
THE RELEASE LOCATION FUNCTION.

→ DIAGNOSTICS _

- 2) Select Diagnostics Menu item number **2, Release location**. The following will be displayed:

RELEASE LOCATION

—

- 3) Enter the numbers of the locations you want to release, separated by **ENT**. Press **ENT** a second time when you are finished entering all the location numbers you want to release. For example, if you want to release locations 2, 3, 7, and 12, you would press **2 ENT 3 ENT 7 ENT 12 ENT ENT**. If you want to release location 1 only, you would press **1 ENT ENT**. The following will be displayed:

OPEN DOOR

then

RELEASE LOCATION

??

- 4) Each location number entered will release allowing the user to remove the key. When all of the locations have been released, the following will be displayed and the display will then automatically return to step 1. If you want to cancel the release location process, simply close the door.

CLOSE DOOR

Note: The following will be displayed if if the location you request to be released does not exist in the system.

LOCATION REQUEST
DENIED

SECTION

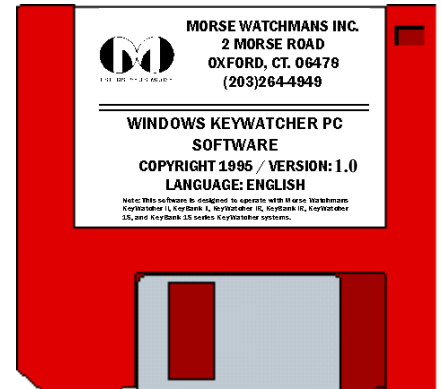
VIII

SOFTWARE PACKAGE

SOFTWARE PACKAGE

The KeyWatcher system is supplied with our KWPC software for Windows. This remote software allows the user to program and edit information, generate reports, list the database, etc... This software is a Windows based application. When using the KWPC software for Windows, refer to the KWPC software for Windows manual.

Please keep in mind that you will need to refer to this Manual for a better explanation of the KeyWatcher 1S features and programming.



MODEM COMMUNICATIONS

The KeyWatcher may be connected to a modem able to communicate at 9600 baud. This will allow the user to communicate with the system from a host computer. You can then program, generate reports, release keys, etc.. from the host computer. If you decide to use the KeyWatcher with modems, we recommend that both the host and remote modems are purchased through us. This will insure the modems are configured properly.

To operate the KeyWatcher via modem, the following items are required:

- 2 Modems configured at 9600 Baud (1 connected to the KeyWatcher, 1 at the computer site)
- 1 KeyWatcher software
- 1 Communications software (Telix, ProComm, etc.)

To communicate via modem with the KeyWatcher, follow these steps:

- 1) Connect the KeyWatcher to a modem configured at 9600 Baud using the appropriate cable (P/N 26-4 Standard Modem Cable). If the modem was purchased from Morse Watchman Inc., this is all that is required. If not, the modem will need to be properly configured. The remote site will need to be configured for auto answer.
- 2) Using your communications software, call the modem that is connected to the KeyWatcher. Once the connection is made, you should see CONNECT 9600 on your screen.
- 3) Exit the communications program. If you were executing the communication software from a DOS prompt, be sure to close the DOS window.
- 4) Execute the KeyWatcher software. The following steps will need to be performed in order to begin programming through the PC software.
 - A: Select KW-DB and then select Get Database from KW.
 - B: Enter the file name for the database and press **ENTER**.
 - C: The software will then access the KeyWatcher and get the necessary information needed to start programming. At this point you should refer to your KeyWatcher PC manual for more information.
- 5) Once the software has finished getting the database, the software can be exited. Return to your modem communications software and hang up the phone line.
- 6) You may then use your KeyWatcher software manual along with the KeyWatcher user manual to program a database.

HOST (COMPUTER) MODEM CONFIGURATION AT&F&D0

REMOTE (KEYWATCHER) MODEM CONFIGURATION ATE0Q1S0=1&H0&N6&M0&B0&W0Y0

Please keep in mind that these configurations have been tested with the modems that we supply. Due to variations in the Hayes protocol, your modem may slightly differ. If these configurations do not work with your modems, you will need to refer to the manual for your modem.

SECTION

IX

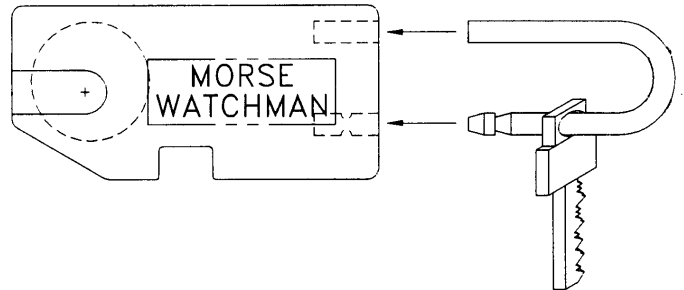
REFERENCE

REFERENCE

Attachment of Keys to Smart keys

If you ordered the SK30 Smart keys it will come in two pieces, the Smart key and the Steel Ring. Once you have completed the New Key Worksheet it is time to attach your keys to the SK30. Follow the steps below:

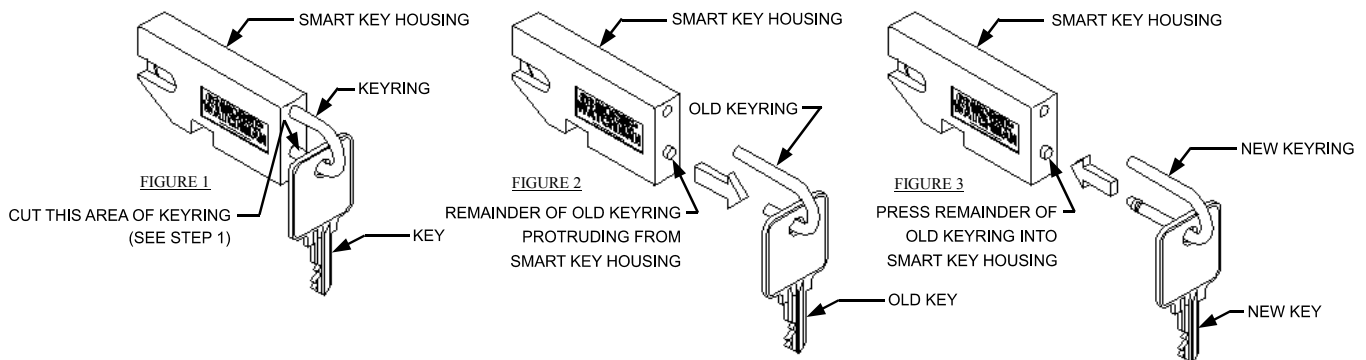
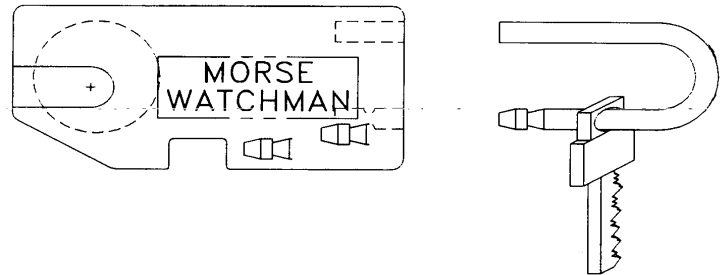
- 1) Place the key(s) onto the steel ring.
- 2) INSERT THE TAPERED END OF THE STEEL RING INTO THE BOTTOM OF THE SK30 AND PRESS IN UNTIL THE STEEL RING SNAPS IN PLACE. (SEE DIAGRAM ON RIGHT)



Replacing Keys on a Smart keys

To replace a key on a tamper-proof Smart key, follow the steps below.

- 1) Cut the bottom section of the keyring as close as possible to the smart key housing (See Figure 1).
- 2) Remove the old key and keyring, leaving the remainder of the old keyring in the smart key (See Figure 2).
- 3) Install the new key and keyring. When installing the new keyring, use the new keyring to push the remainder of the old keyring into the smart key housing (See Figure 3 and diagram on right). Do not use any objects other than the new keyring for this purpose.



Note: This process may be repeated 3 times before the SmartKey will not be able to accept any more keyrings. At that time the Smart Key must be replaced or refurbished.

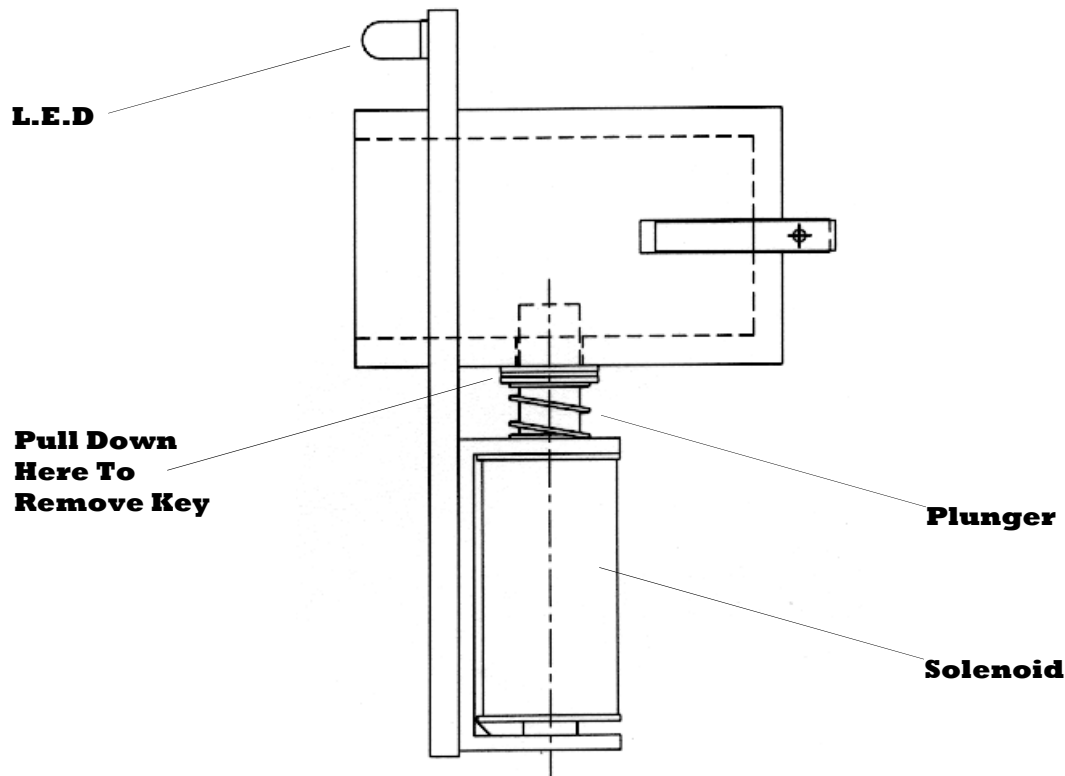
Battery Backup

The KeyWatcher has a backup battery that will last approximately 24 hours. You will be able to release and return keys normally within this time period. If for any reason your power is not back in 24 hours you must release the keys manually by using the enclosed master key for the KeyWatcher. The KeyWatcher also performs a test on the battery approximately every 24 hours, if a problem is encountered the KeyWatcher will trigger an alarm.

In the event AC power is lost, the KeyWatcher's display will read NO AC POWER and an alarm will sound (If the AC Power alarm is turned on) until AC power returns. The KeyWatcher also has a red LED on the front of the box which remains illuminated whenever AC power is present. The KeyWatcher I SMD Board (#28) also has a RAM battery that will allow the KeyWatcher to maintain its programming even after a long term power failure.

Removing a Key Manually

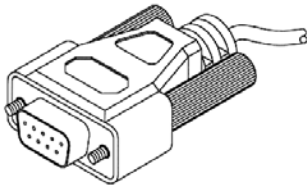
In the event that keys become stuck in the KeyWatcher and need to be removed manually, follow the instructions in the service manual for disassembling the KeyWatcher. Once the unit is disassembled, keys may be removed by pulling the plunger of the key location down by hand and removing the key (see diagram of key location below).



SIDE VIEW OF KEY LOCATION

Cable Assemblies

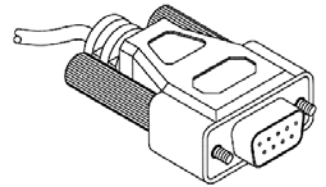
Model 24-4 - Used to connect the KeyWatcher to a computer's serial port (9 pin)



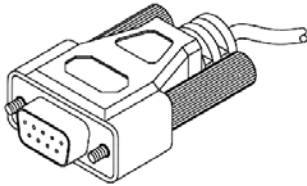
To KeyWatcher
9 pin female

Pin outs		
<u>KW End</u>		<u>PC End</u>
1	to	1
2	to	3
3	to	2
5	to	5

To Computer
9 pin female



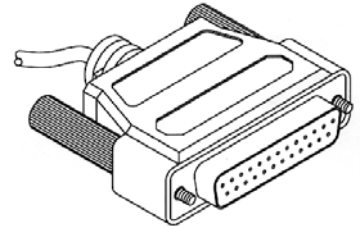
Model 21-4 - Used to connect the KeyWatcher to a computer's serial port (25 pin)



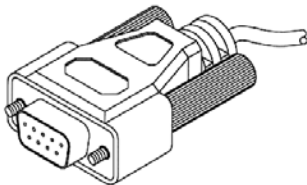
To KeyWatcher
9 pin female

Pin outs		
<u>KW End</u>		<u>PC End</u>
1	to	1
2	to	2
3	to	3
5	to	7

To Computer
25 pin female



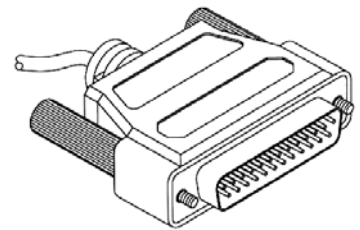
Model 26-4 - Used to connect the KeyWatcher to a modem (optional - not included with all systems).



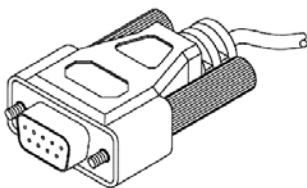
To KeyWatcher
9 pin female

Pin outs		
<u>KW End</u>		<u>Modem</u>
1	to	1
2	to	3
3	to	2
5	to	7

To Modem
25 pin male



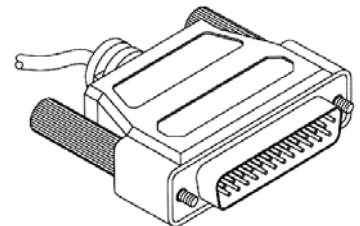
Model 23-4 - Used to connect the KeyWatcher to a serial printer



To KeyWatcher
9 pin female

Pin outs		
<u>KW End</u>		<u>Printer</u>
1	to	1
2	to	2
3	to	3
5	to	7
NOTE: Pins 5, 6, 8, & 20 should be shorted on the 25 pin end for a 23-4 cable only..		

To Serial
Printer
25 pin male



SECTION

X

CHARTS

NEW KEY WORKSHEET

Fill this form out when adding new keys to your system:

Key Number	Description
------------	-------------

Key (1 2 3)	<i>Master to East Side</i>
---------------	----------------------------

Key ()	_____
-------------	-------

Key ()	_____
-------------	-------

Key ()	_____
-------------	-------

Key ()	_____
-------------	-------

Key ()	_____
-------------	-------

Key ()	_____
-------------	-------

Key ()	_____
-------------	-------

Key ()	_____
-------------	-------

Key ()	_____
-------------	-------

Key ()	_____
-------------	-------

Key ()	_____
-------------	-------

Key ()	_____
-------------	-------

Key ()	_____
-------------	-------

Key ()	_____
-------------	-------

Key ()	_____
-------------	-------

Key ()	_____
-------------	-------

Key ()	_____
-------------	-------

Key ()	_____
-------------	-------

Key ()	_____
-------------	-------

USER CODE WORKSHEET

Use this worksheet for every User Code that you wish to enter into the KeyWatcher. Copy this form as needed.

USER ID (3-DIGITS): _____

USER PIN # (4-DIGITS): _____

ACCESS LEVEL: _____

LAST NAME: _____

FIRST NAME: _____

EMERGENCY RELEASE: ____Y____N

MULTIPLE KEY ACCESS: ____Y____N

RESTRICTIONS: ____Y____N

TIME ZONE WORKSHEET

(BY SPECIFIC TIME PERIOD)

Fill out this form for each time zone with a specific time period. Copy this form as needed.

ZONE NUMBER (1-24): _____ ZONE NAME: _____

START HOUR: _____ START MINUTE: _____

DURATION HOUR: _____ DURATION MINUTE: _____

ZONE NUMBER (1-24): _____ ZONE NAME: _____

START HOUR: _____ START MINUTE: _____

DURATION HOUR: _____ DURATION MINUTE: _____

ZONE NUMBER (1-24): _____ ZONE NAME: _____

START HOUR: _____ START MINUTE: _____

DURATION HOUR: _____ DURATION MINUTE: _____

ZONE NUMBER (1-24): _____ ZONE NAME: _____

START HOUR: _____ START MINUTE: _____

DURATION HOUR: _____ DURATION MINUTE: _____

ZONE NUMBER (1-24): _____ ZONE NAME: _____

START HOUR: _____ START MINUTE: _____

DURATION HOUR: _____ DURATION MINUTE: _____

ZONE NUMBER (1-24): _____ ZONE NAME: _____

START HOUR: _____ START MINUTE: _____

DURATION HOUR: _____ DURATION MINUTE: _____

ZONE NUMBER (1-24): _____ ZONE NAME: _____

START HOUR: _____ START MINUTE: _____

DURATION HOUR: _____ DURATION MINUTE: _____

TIME ZONE WORKSHEET

(BY DURATION)

Fill out this form for each time zone with duration only. Copy this form as needed.

ZONE NUMBER (25-27): _____ ZONE NAME: _____

DURATION HOUR: _____ DURATION MINUTE: _____

ZONE NUMBER (25-27): _____ ZONE NAME: _____

DURATION HOUR: _____ DURATION MINUTE: _____

ZONE NUMBER (25-27): _____ ZONE NAME: _____

DURATION HOUR: _____ DURATION MINUTE: _____

SECTION

XI

EXAMPLE REPORTS

ALARM/TRANSACTIONS & ABBREVIATIONS

The following alarm/transactions & abbreviations may appear on your reports. They can be defined as follows:

Alarms	
Alarm	Definition
AC POWER LOSS	If the KeyWatcher loses AC power, the KeyWatcher will trigger this alarm.
DOOR LEFT OPEN	With the door sensor feature enabled, the KeyWatcher will trigger this alarm if the door is left open after a user has either removed or returned keys.
ILLEGAL ACCESS	With the access enable feature enabled, the KeyWatcher will trigger this alarm if a user has failed to gain access to the unit three times consecutively. Also, keep in mind that the KeyWatcher's keypad will not function for four minutes after this alarm has been triggered.
ILLEGAL ENTRY	With the door sensor feature enabled, the KeyWatcher will trigger this alarm if the door is forced open.
ILLEGAL REMOVAL	The KeyWatcher will trigger this alarm if a key has been removed from the system illegally.
INVALID KEY	If a key that is not added to the system is returned to the system, the KeyWatcher will trigger this alarm and the key must be removed.
OVERDUE KEY	If a user is restricted to a key and does not return that key within the time frame he has been assigned, the KeyWatcher will trigger this alarm.
SHORTED KEY	If a shorted key is returned to the system, the KeyWatcher will trigger this alarm and the key must be removed.
BATTERY TEST FAIL	If the backup battery fails during a battery test, the KeyWatcher will trigger this alarm.

Transactions	
Transaction	Definition
AC POWER ON	If AC power was lost, this transaction will occur after it has been restored to the system.
ALARM CANCEL	This transaction will occur every time an alarm is canceled. The report will also have a number along side the transaction code that specifies the alarm that was canceled.
RMVD INVLD KEY	This transaction will occur every time an invalid key is removed from the system.
RMVD SHRTD KEY	This transaction will occur every time a shorted key is removed from the system.
SOUND CANCEL	This transaction will occur every time the alarm sound is canceled. The report will also have a number along side the transaction code that specifies the alarm for which the sound was canceled.
USER LOGGED ON	This transaction will occur every time a valid user logs on to the system.

Misc. Transactions	
DELETED USER	This will appear as the name of the person who performed the transaction if that user was deleted.
USER	This will appear as the keyname when a user is deleted. It will also show that user's number.
DELETED KEY	This will appear as the keyname if that key was deleted.
UNKNOWN USER	This will appear as the name of the person any time a transaction occurs when a user is not logged into the KeyWatcher. This will also appear when a database is restored to the KeyWatcher from the KWPC software. It will also appear when the KeyWatcher first starts up and keys are added.

Abbreviations		Abbreviations	
Abbreviation	Definition	Abbreviation	Definition
AK	Added key.	L	Location.
DK	Deleted key.	OUT	Key removed.
DT	Deleted time zone.	RK	Replaced key.
DU	Deleted user.	RL	Release location.
ER	Emergency release.	RS	Restored key.
IN	Key returned.	SY	Synchronized Key.
IR	Illegal removal.	TZ	Time zone.

***Sample KeyWatcher Report
(Audit Trail)User))***

K E Y W A T C H E R B Y M O R S E W A T C H M A N S

K E Y W A T C H E R R E P O R T

COMPANY NAME: MORSE WATCHMANS
BUILDING NAME: KEYWATCHER

REPORT DATE: 10/05/1997
REPORT TIME: 19:58:01

REPORT TYPE: AUDIT TRAIL (USER)
FOR PERIOD: 10/04/97 - 10/05/97
SYSTEM SERIAL NUMBER: 300001 - V4_3.0E1R

USER NAME: M WATCHMAN
USER NUMBER: 001

ALARM CODES: 1=OVERDUE KEY 2=ILLEGAL ENTRY 3=DOOR LEFT OPEN
 4=ILLEGAL ACCESS 5=ILLEGAL REMOVAL 6=SHORTED KEY
 7=INVALID KEY 8=BATTERY PROBLEM

PAGE 1

KEY #	KEYNAME	TIME	DATE	ALARM/TRANSACTION
		14:23	10/04/97	USER LOGGED ON
1	SERVICE	14:23	10/04/97	OUT
2	PRODUCTION	14:23	10/04/97	OUT
3	VEHICLE 1	14:23	10/04/97	OUT
4	VEHICLE 2	14:23	10/04/97	OUT
		10:45	10/05/97	USER LOGGED ON
1	SERVICE	10:45	10/05/97	IN
2	PRODUCTION	10:45	10/05/97	IN
3	VEHICLE 1	10:45	10/05/97	IN
4	VEHICLE 2	10:45	10/05/97	IN

END OF REPORT

Date format (month/day/year) may vary, depending upon the appropriate format used in your country.

***Sample KeyWatcher Report
(Audit Trail (Key))***

K E Y W A T C H E R B Y M O R S E W A T C H M A N S

K E Y W A T C H E R R E P O R T

COMPANY NAME: MORSE WATCHMANS
BUILDING NAME: KEYWATCHER

REPORT DATE: 10/05/1997
REPORT TIME: 20:02:12

REPORT TYPE: AUDIT TRAIL (KEY)
FOR PERIOD: 10/04/97 - 10/05/97
SYSTEM SERIAL NUMBER: 300001 - V4_3.0E1R

KEY #: 58
KEYNAME: KEY58

PAGE 1

TIME OUT DATE OUT TAKEN BY TIME IN DATE IN IN BY

12:32 10/05/97 RL W TUCKER

END OF REPORT

Date format (month/day/year) may vary, depending upon the appropriate format used in your country.

Sample KeyWatcher Report (Keys In Use)

K E Y W A T C H E R B Y M O R S E W A T C H M A N S

K E Y W A T C H E R R E P O R T

COMPANY NAME: MORSE WATCHMANS
BUILDING NAME: KEYWATCHER

REPORT DATE: 10/05/1997
REPORT TIME: 20:09:10

REPORT TYPE: KEYS IN USE
SYSTEM SERIAL NUMBER: 300001 - V4_3.0E1R

The O/DUE field displays to the user whether the key is overdue. A key will only be shown as overdue if the user has time restrictions placed on

PAGE 1

KEY #	KEYNAME	TIME OUT	DATE OUT	TAKEN BY	O/DUE
58	KEY58	12:32	10/05/97	RL W TUCKER	NO

TOTAL KEYS OUT = 1

END OF REPORT

Date format (month/day/year) may vary, depending upon the appropriate format used in your country.

Sample KeyWatcher Report (Print All Events (Real-Time)) (Transaction Log)

K E Y W A T C H E R B Y M O R S E W A T C H M A N S

K E Y W A T C H E R R E P O R T

COMPANY NAME: MORSE WATCHMANS
BUILDING NAME: KEYWATCHER

REPORT DATE: 10/05/1997
REPORT TIME: 19:58:01

REPORT TYPE: TRANSACTION LOG
SYSTEM SERIAL NUMBER: 300001 - V4_3.0E1R

ALARM CODES: 1=OVERDUE KEY 2=ILLEGAL ENTRY 3=DOOR LEFT OPEN
 4=ILLEGAL ACCESS 5=ILLEGAL REMOVAL 6=SHORTED KEY
 7=INVALID KEY 8=BATTERY PROBLEM

PAGE 1

KEY #	KEYNAME	TIME	DATE	EVENT	BY	ALARM/TRANSACTION
		14:23	10/04/97		J KELLY	USER LOGGED ON
1	SERVICE	14:23	10/04/97	OUT	ER J KELLY	
2	PRODUCTION	14:23	10/04/97	OUT	ER J KELLY	
3	VEHICLE 1	14:23	10/04/97	OUT	ER J KELLY	
4	VEHICLE 2	14:23	10/04/97	OUT	ER J KELLY	
		10:45	10/05/97		J KELLY	USER LOGGED ON
1	SERVICE	10:45	10/05/97	IN	J KELLY	
2	PRODUCTION	10:45	10/05/97	IN	J KELLY	
3	VEHICLE 1	10:45	10/05/97	IN	J KELLY	
4	VEHICLE 2	10:45	10/05/97	IN	J KELLY	
		12:31	10/05/97		W TUCKER	USER LOGGED ON
58	KEY58	12:32	10/05/97	OUT	RL W TUCKER	

END OF REPORT

Date format (month/day/year) may vary, depending upon the appropriate format used in your country.

Sample KeyWatcher Report (All Transactions (By Date))

K E Y W A T C H E R B Y M O R S E W A T C H M A N S

K E Y W A T C H E R R E P O R T

COMPANY NAME: MORSE WATCHMANS
BUILDING NAME: KEYWATCHER

REPORT DATE: 10/05/1997
REPORT TIME: 20:10:01

REPORT TYPE: ALL TRANSACTIONS (BY DATES)
FOR PERIOD: 10/04/97 - 10/05/97
SYSTEM SERIAL NUMBER: 300001 - V4_3.0E1R

ALARM CODES: 1=OVERDUE KEY 2=ILLEGAL ENTRY 3=DOOR LEFT OPEN
 4=ILLEGAL ACCESS 5=ILLEGAL REMOVAL 6=SHORTED KEY
 7=INVALID KEY 8=BATTERY PROBLEM

PAGE 1

KEY #	KEYNAME	TIME	DATE	EVENT	BY	ALARM/TRANSACTION
		14:23	10/04/97		J KELLY	USER LOGGED ON
1	SERVICE	14:23	10/04/97	OUT	ER J KELLY	
2	PRODUCTION	14:23	10/04/97	OUT	ER J KELLY	
3	VEHICLE 1	14:23	10/04/97	OUT	ER J KELLY	
4	VEHICLE 2	14:23	10/04/97	OUT	ER J KELLY	
		10:45	10/05/97		J KELLY	USER LOGGED ON
1	SERVICE	10:45	10/05/97	IN	J KELLY	
2	PRODUCTION	10:45	10/05/97	IN	J KELLY	
3	VEHICLE 1	10:45	10/05/97	IN	J KELLY	
4	VEHICLE 2	10:45	10/05/97	IN	J KELLY	
		12:31	10/05/97		W TUCKER	USER LOGGED ON
58	KEY58	12:32	10/05/97	OUT	RL W TUCKER	

END OF REPORT

Date format (month/day/year) may vary, depending upon the appropriate format used in your country.

KeyWatcher I Manual

Sample KeyWatcher Report (List of Keys)

K E Y W A T C H E R B Y M O R S E W A T C H M A N S

K E Y W A T C H E R R E P O R T

COMPANY NAME: MORSE WATCHMANS
BUILDING NAME: KEYWATCHER

REPORT DATE: 10/05/1997
REPORT TIME: 20:14:53

REPORT TYPE: LIST OF KEYS
SYSTEM SERIAL NUMBER: 300001 - V4_3.0E1R

PAGE 1

KEY #	SLOT #	KEYNAME	KEY #	SLOT #	KEYNAME
1	1	SERVICE	31	31	KEY31
2	2	PRODUCTION	32	32	KEY32
3	3	VEHICLE 1	33	33	KEY33
4	4	VEHICLE 2	34	34	KEY34
5	5	ENGINEERING	35	35	KEY35
6	6	KEY6	36	36	KEY36
7	7	KEY7	37	37	KEY37
8	8	KEY8	38	38	KEY38
9	9	KEY9	39	39	KEY39
10	10	KEY10	40	40	KEY40
11	11	KEY11	41	41	KEY41
12	12	KEY12	42	42	KEY42
13	13	KEY13	43	43	KEY43
14	14	KEY14	44	44	KEY44
15	15	KEY15	45	45	KEY45
16	16	KEY16	46	46	KEY46
17	17	KEY17	47	47	KEY47
18	18	KEY18	48	48	KEY48
19	19	KEY19	49	49	KEY49
20	20	KEY20	50	50	KEY50
21	21	KEY21	51	51	KEY51
22	22	KEY22	52	52	KEY52
23	23	KEY23	53	53	KEY53
24	24	KEY24	54	54	KEY54
25	25	KEY25	55	55	KEY55
26	26	KEY26	56	56	KEY56
27	27	KEY27	57	57	KEY57
28	28	KEY28	58	58	KEY58
29	29	KEY29	59	59	KEY59
30	30	KEY30	60	60	KEY60

TOTAL KEYS = 60

END OF REPORT

Date format (month/day/year) may vary, depending upon the appropriate format used in your country.

*Sample KeyWatcher Report
(User List (Detailed))*

K E Y W A T C H E R B Y M O R S E W A T C H M A N S

K E Y W A T C H E R R E P O R T

COMPANY NAME: MORSE WATCHMANS
BUILDING NAME: KEYWATCHER

REPORT DATE: 10/05/1997
REPORT TIME: 20:16:26

REPORT TYPE: USER LIST
SYSTEM SERIAL NUMBER: 300001 - V4_3.0E1R

PAGE 1

USER CODE: 001

ACCESS TO MAIN MENU: LEVEL 3

EMERGENCY RELEASE: NO

LAST NAME: KELLY
FIRST NAME: JASON

RESTRICTIONS: YES
MULTIPLE KEY ACCESS: YES

KEY TO RESTRICT	TIME ZONE	TIME OUT	TIME IN	DAYS	RELAY ALARM
1	1	06:00	22:00	.MTWTF.	YES
2	1	06:00	22:00	.MTWTF.	YES
6	1	06:00	22:00	.MTWTF.	YES
9	1	06:00	22:00	.MTWTF.	YES
22	1	06:00	22:00	.MTWTF.	YES
47	1	06:00	22:00	.MTWTF.	YES
58	1	06:00	22:00	.MTWTF.	YES

END OF REPORT

Date format (month/day/year) may vary, depending upon the appropriate format used in your country.

Sample KeyWatcher Report (List Of Users (Summary))

K E Y W A T C H E R B Y M O R S E W A T C H M A N S

K E Y W A T C H E R R E P O R T

COMPANY NAME: MORSE WATCHMANS
BUILDING NAME: KEYWATCHER

REPORT DATE: 10/05/1997
REPORT TIME: 20:18:37

REPORT TYPE: LIST OF USERS
SYSTEM SERIAL NUMBER: 300001 - V4_3.0E1R

PAGE 1

USER CODE	LASTNAME	FIRSTNAME	RESTRICTIONS	EMERGENCY RELEASE	MULTIPLE KEY ACCESS
000	Tucker	William	NO	YES	YES
001	Kelly	Jason	YES	YES	YES
002	Oulundsen	Kolin	YES	NO	YES

TOTAL USERS = 3

END OF REPORT

Date format (month/day/year) may vary, depending upon the appropriate format used in your country.

***Sample KeyWatcher Report
(Time Zone List)***

K E Y W A T C H E R B Y M O R S E W A T C H M A N S

K E Y W A T C H E R R E P O R T

COMPANY NAME: MORSE WATCHMANS
BUILDING NAME: KEYWATCHER

REPORT DATE: 10/05/1997
REPORT TIME: 20:21:37

REPORT TYPE: Time Zone LIST
SYSTEM SERIAL NUMBER: 300001 - V4_3.0E1R

PAGE 1

ZONE #	TIME OUT	TIME IN	IN USE	ZONE NAME
1	06:00	22:00	YES	ALL DAY USE
2	08:00	12:00	NO	PARTIAL DAY
25		00:05	NO	ZONE25

TOTAL TIME ZONES = 3

END OF REPORT

Date format (month/day/year) may vary, depending upon the appropriate format used in your country.

***Sample KeyWatcher Report
(Alarm List)***

K E Y W A T C H E R B Y M O R S E W A T C H M A N S

K E Y W A T C H E R R E P O R T

COMPANY NAME: MORSE WATCHMANS
BUILDING NAME: KEYWATCHER

REPORT DATE: 10/06/1995
REPORT TIME: 13:41:16

REPORT TYPE: LIST OF ALARMS
SYSTEM SERIAL NUMBER: 300001 - V4_3.0E1R

PAGE 1

KEY#	SLOT#	TIME	DATE	ALARM MESSAGE	BY
1		06:00	10/06/95	ILLEGAL REMOVAL	W TUCKER
2		10:00	10/06/95	OVERDUE KEY	J KELLY
		11:14	10/06/95	ILLEGAL ACCESS	

END OF REPORT

Date format (month/day/year) may vary, depending upon the appropriate format used in your country.

SECTION

XII

SERVICE & MAINTENANCE

Forward

Before handling any circuit boards or EPROM's, please read the section below for proper care and handling of these items.

This section has been designed to aid you in the servicing of your KeyWatcher Key Management System. It gives step by step instructions on the replacement of all the components for the system. Each component is identified with a number. The diagram on page 109 shows where each component is located. A description of each component is also shown on page 110. You may need to refer to the component numbers and descriptions while servicing your system. Other diagrams are also located in this manual to help you service your system properly.

This section is not meant to aid you in the troubleshooting of your system. If you are experiencing a problem with your KeyWatcher, call Morse Watchmans Technical Support. A Morse technician will analyze your problem over the phone and determine which parts, if any, need to be replaced.

Once the technician has determined the parts that need to be replaced, you will be given a Return Materials Authorization Number (RMA #). The technician will then arrange to ship out the replacement parts. Upon receiving these parts, perform the repairs to your unit, then return the defective parts to Morse Watchmans. The RMA # must appear on the shipping label. If an RMA # is issued for a part and that part is not returned promptly, the full replacement price will be invoiced.

If you experience any problems servicing your KeyWatcher, call Technical Support and a technician will assist you.

Proper Care & Handling

Prior to servicing your KeyWatcher you should generate any reports you may need. Also, if you do not have an updated backup of your KeyWatcher's database stored on a computer, this would be a good time to make one. For more information on backing up your database, see your KWPC for Windows Software Manual.

All electronic parts for the KeyWatcher should be handled very carefully. Observe all precautions necessary when handling static sensitive components. Ground yourself when handling any of these circuit boards or EPROMs.

All parts shipped to you are shipped in non-conductive / anti-static packaging to eliminate the danger of static damage. Please use the same packaging to return the defective boards to us. This will prevent further damage from occurring to the components on the boards.

Keep all parts away from moisture. Applying power to a circuit with wet components could cause extensive damage to the equipment.

DISASSEMBLY - PANEL (#9)

Some part replacement procedures require the front panel to be removed in order to service the KeyWatcher. The first step of each procedure will inform you if the front panel needs to be removed. Follow the steps below to remove the front panel.

- 1) Remove all keys in the system.
- 2) Open the Door (#1) to the KeyWatcher using the supplied key.
- 3) Using the same key, unlock the Panel Lock (#10) by turning the key clockwise until the Panel (#9) leans forward.
- 4) Slightly lift the Panel (#9) and then swing the right side until it has cleared the Box (#36) and the Electric Door Strike (#33).
- 5) Notice the gray ribbon cable coming from the Solenoid Driver Board (#25) to the KeyWatcher I SMD Board (#28) and carefully disconnect it from the socket on the KeyWatcher I SMD Board (#28).
- 6) Once this connector has been removed, the Panel (#9) may be removed entirely and carefully placed face down where it will not be damaged.
- 7) If the Panel (#13) with the keypad/display on it needs to, it may be lifted by pulling the two Latches (#15) inward.

DISASSEMBLY - PANEL / REMOTE BOX

If your system has a remote box (optional), its panel may need to be removed in order to service the unit. Before servicing any equipment in the Remote Box, its front panel must be removed and the system must be powered down. Follow the steps below to remove the front panel of a remote box.

- 1) Using the supplied tamper proof driver, remove the 4 tamper proof screws that hold the keypad/display panel in place. The panel can then be removed.
- 2) Disconnect the connector from the display and the keypad.

REMOVING POWER

Some part replacement procedures require power to be removed in order to service the KeyWatcher. The first step of each procedure will inform you if power needs to be removed. Follow the steps below to remove power from the system.

- 1) Once the Panel (#9) has been removed, disconnect the J2 connector from the Power Management Board (#27) and then disconnect the red lead from the Battery (#34) located at the bottom of the Box (#36).

DOOR HANDLE REPLACEMENT (#2)

Follow the steps below to replace the Door Handle:

- 1) The Panel (#9) will not need to be removed and power will not need to be disconnected.
- 2) Open the Door (#1) to the KeyWatcher using the supplied key.
- 3) Remove the two screws that hold the Door Handle (#2) in place using a philip screwdriver.
- 4) Remove the Door Handle (#2).
- 5) Place the new Door Handle (#2) in position and secure it in place with the two screws.

DOOR LOCK REPLACEMENT (#3)

Follow the steps below to replace the Door Lock:

- 1) The Panel (#9) will not need to be removed and power will not need to be disconnected.
- 2) Open the Door (#1) to the KeyWatcher.
- 3) Remove the four nuts that hold the Slam Lock (#7) in place using a 3/8" driver tool.
- 4) Remove the Slam Lock (#7).
- 5) Using a 7/8" wrench or an adjustable wrench, remove the nut that holds the Door Lock (#3) in place.
- 6) Remove the old Door Lock (#3) and Lock Plate (#4).
- 7) Place the new Door Lock (#3) on the Lock Plate (#4) and insert it through the hole in the Door (#1). Be sure that the key hole is facing toward the bottom of the KeyWatcher.
- 8) Secure the new Door Lock (#3) in place by tightening the nut using a 7/8" wrench or an adjustable wrench.
- 9) Place the Slam Lock (#7) in position and secure it in place with the four screws.

SLAM LOCK REPLACEMENT (#7)

Follow the steps below to replace the Slam Lock:

- 1) The Panel (#9) will not need to be removed and power will not need to be disconnected.
- 2) Open the Door (#1) to the KeyWatcher using the supplied key.
- 3) Remove the four nuts that hold the Slam Lock in place using a 3/8" driver tool.
- 4) Remove the old Slam Lock (#7).
- 5) Place the new Slam Lock (#7) in position and secure it in place with the four screws.

PANEL LOCK REPLACEMENT (#10)

Follow the steps below to replace the Panel Lock:

- 1) The Panel (#9) must be removed. Power will not need to be disconnected.
- 2) Using a 7/16" wrench or an adjustable wrench, remove the nut and clip that locks the panel in place.
- 3) Using a 7/8" wrench or an adjustable wrench, remove the nut that holds the Panel Lock (#10) in place.
- 4) Remove the old Panel Lock (#10).
- 5) Insert the new Panel Lock (#10) through the hole in the Panel (#9). Be sure that the key hole is facing toward the bottom of the KeyWatcher.
- 6) Secure the new Panel Lock (#10) in place by tightening the nut using a 7/8" wrench or an adjustable wrench.
- 7) Place the clip that locks the panel in place on the Panel Lock (#10) and secure it in place using the nut.
- 8) Reinstall the Panel (#9).

SMART KEY HOUSING REPLACEMENT (#11)

Follow the steps below to replace a Smart Key Housing:

- 1) The Panel (#9) must be removed. Power will not need to be disconnected.
- 2) Locate the Smart Key Housing (#11) that needs to be replaced. If the Smart Key Housing (#11) is underneath a Solenoid Driver Board (#25), the Solenoid Driver Board (#25) must be removed first. If the Solenoid Driver Board (#25) needs to be removed, see the section for removing it and then continue here after.
- 3) Remove the clip connected to the Solenoid Driver Board (#25) coming from the Smart Key Housing (#11) if it has not already been removed.
- 4) Remove the two nuts that hold the Smart Key Housing (#11) with a 1/4" driver tool. The Smart Key Housing (#11) can then be removed.
- 5) Place the new Smart Key Housing (#11) in position and secure it in place using the two nuts.
- 6) If a Solenoid Driver Board (#25) needed to be removed, reinstall it at this time.
- 7) Reconnect the Smart Key Housing (#11) clip to the Solenoid Driver Board (#25) if it has not already been connected.
- 8) Reinstall the panel (#9).

L.C.D REPLACEMENT (#20)

Follow the steps below to replace the L.C.D:

- 1) The Panel (#9) must be removed and power must be disconnected.
- 2) Disconnect the L.C.D ribbon cable from the connector on the L.C.D (#20).
- 3) Remove the four screws that hold the display in place using a small philip head screwdriver.
- 4) Remove the clear plastic covering from the display glass of the new display.
- 5) Place the new L.C.D (#20) in position and secure it in place with the four screws.
- 6) Reconnect the L.C.D ribbon cable to the connector on the L.C.D (#20).
- 7) Reinstall the Panel (#9).
- 8) Follow the instructions on page 5 and 6 to power your KeyWatcher.

KEYPAD REPLACEMENT (#21)

Follow the steps below to replace the Keypad:

- 1) The Panel (#9) must be removed and power must be disconnected.
- 2) Disconnect the keypad ribbon cable from the connector on the Keypad (#21).
- 3) Remove the four nuts (5/16") that hold the Keypad (#21) in place and remove the Keypad (#21).
- 4) Place the new Keypad (#21) in position and secure it in place with the four nuts.
- 5) Reconnect the keypad ribbon cable to the connector on the Keypad (#21).
- 6) Reinstall the Panel (#9).
- 7) Follow the instructions on page 5 and 6 to power your KeyWatcher.

SOLENOID DRIVER BOARD REPLACEMENT (#25)

Follow the steps below to replace the Solenoid Driver Board:

- 1) The Panel (#9) must be removed. Power will not need to be disconnected.
- 2) Locate the Solenoid Driver Board (#25) that needs to be replaced. Verify that the new Solenoid Driver Board (#25) is the same variation as the one being replaced. This is very important because we supply six different variation Solenoid Driver Boards. The variation is written on the board and will a letter between A and F.
- 3) Once you have located the board to be replaced, remove the ribbon cable and all the clips from the Smart Key Housings (#11). Label each clip so you know where to return them after the board is replaced.
- 4) Using a small philip head screwdriver, remove the three screws that hold the Solenoid Driver Board (#25) to in place. The Solenoid Driver Board (#25) can then be removed.
- 5) Mount the new Solenoid Driver Board (#25) on the standoffs (#24) using the three screws.
- 6) Reconnect the ribbon cable and all the clips from the Smart Key Housings (#11).
- 7) Reinstall the Panel (#9).

POWER MANAGEMENT BOARD REPLACEMENT (#27)

Follow the steps below to replace the Power Management Board:

- 1) The Panel (#9) must be removed and power must be disconnected.
- 2) The only connections on the Power Management Board (#27) that need to be removed are J3 and J6. The wires for these connectors are removed by loosening the screws with a small flat head screwdriver. Be sure to label these wires so you know exactly where to return them after the board has been replaced.
- 3) Using a small philip head screwdriver, remove the four screws that hold the Power Management Board (#27) to the back wall of the box (#36). The Power Management Board (#28) can then be removed by carefully pulling it to the left, allowing the J4 connector to disconnect from the J8 connector on the KeyWatcher I SMD Board (#28).
- 4) Mount the new Power Management Board (#27) allowing J4 to connect with J8 on the KeyWatcher I SMD Board (#28). The screw mounts on the box (#36) will then line up allowing the board to be secured in place with the four screws.
- 5) Reconnect the wires for J3 and J6 on the Power Management Board (#27).
- 6) Reinstall the panel (#9).
- 7) Follow the instructions on page 5 and 6 to power your KeyWatcher.

KEYWATCHER I SMD BOARD REPLACEMENT (#28)

Follow the steps below to replace the KeyWatcher I SMD Board:

- 1) The Panel (#9) must be removed and power must be disconnected.
- 2) Remove and label any cables that may be connected to the KeyWatcher I SMD Board (#28). The wires in the J9 connector are removed by loosening the screws with a small flat head screwdriver.
- 3) Using a small phillips head screwdriver, remove the six screws that hold the KeyWatcher I SMD Board (#28) to the back wall of the box (#36). The KeyWatcher I SMD Board (#28) can then be removed by carefully pulling it to the right, allowing the J8 connector to disconnect from the J4 connector on the power management board (#27).
- 4) Mount the new KeyWatcher I SMD Board (#28) allowing J8 to connect with J4 on the Power Management Board (#27). The screw mounts on the Box (#36) will then line up allowing the board to be secured in place with the six screws.
- 5) Reconnect all the connectors that were removed into their appropriate sockets.
- 6) Reinstall the Panel (#9).
- 7) Follow the instructions on page 5 and 6 to power your KeyWatcher.

RELAY OPTION BOARD REPLACEMENT (#29)

Follow the steps below to replace the Relay Option Board:

- 1) The Panel (#9) must be removed and power must be disconnected.
- 2) Remove the J1 connector on the Relay Option Board (#29) and the J10 connector on the KeyWatcher I SMD Board (#28).
- 3) Remove and label any wires that may be connected to the outputs on the Relay Option Board (#29) using a small flat head screwdriver.
- 4) Using a small phillips head screwdriver, remove the four screws that hold the Relay Option Board (#29) to the back wall of the box (#36). The Relay Option Board (#29) can then be removed.
- 5) Secure the new Relay Option Board (#29) in place with the four screws.
- 6) Reconnect the J1 connector on the Relay Option Board (#29) and the J10 connector on the KeyWatcher I SMD Board (#28).
- 7) Reconnect any wires to the outputs on the Relay Option Board (#29).
- 8) Reinstall the panel (#9).
- 9) Follow the instructions on page 5 and 6 to power your KeyWatcher.

POWER SUPPLY REPLACEMENT (#31)

Follow the steps below to replace the Power Supply Battery:

- 1) The Panel (#9) must be removed and power must be disconnected.
- 2) Remove the two Wing Nuts (#32) from the Power Supply Bracket (#30) and remove it.
- 3) Remove the old Power Supply (#31) and replace it with the new Power Supply (#31).
- 4) Place the Power Supply Bracket (#30) on the new Power Supply (#31) and secure it in place with the two Wing Nuts (#32).
- 5) Reinstall the panel (#9).
- 6) Follow the instructions on page 5 and 6 to power your KeyWatcher.

ELECTRIC DOOR STRIKE REPLACEMENT (#33)

Follow the steps below to replace the Electric Door Strike:

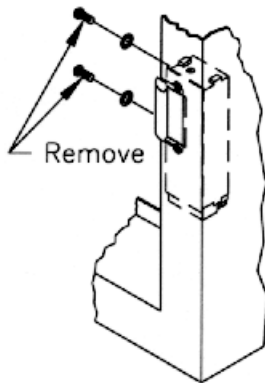


Fig. 1

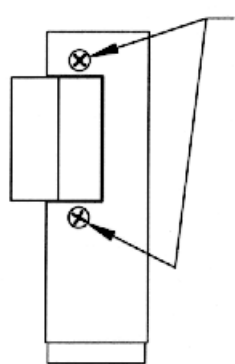


Fig. 2

Remove these screws to access the inside of the electric strike.

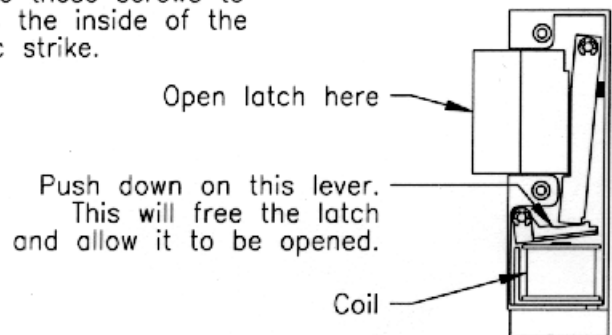


Fig. 3

- 1) The Panel (#9) must be removed and power must be disconnected.
- 2) The two wires coming from the Electric Door Strike (#33) need to be removed from the J9 connector on the KeyWatcher I SMD Board (#28). The wires in the J9 connector are removed by loosening the screws with a small flat head screwdriver.
- 3) Remove the 2 screws (Fig. 1) that hold the door latch to the case using a philip screwdriver. The latch will now move freely in its slot.
- 4) Notice that there are two screws (Fig. 2) on the front of the Electric Door Strike (#33), one above and one below the latch. Remove these using a Philips screwdriver. The cover of the latch will fall away.
- 5) Open the latch (Fig. 3) and push it through the case. Remove the latch entirely.
- 6) Place the new door latch in position and secure it in place with the two screws. Do not remove the tape on the door latch until it is installed.
- 7) Reconnect the wires from the new Electric Door Strike (#33) to the J9 connector on the KeyWatcher I SMD Board (#28).
- 8) Reinstall the Panel (#9).
- 9) Follow the instructions on page 5 and 6 to power your KeyWatcher.

BATTERY REPLACEMENT (#34)

Follow the steps below to replace the Battery:

- 1) The Panel (#9) must be removed. Power will not need to be disconnected.
- 2) Disconnect both leads from the Battery (#34), be sure not to let them touch anything.
- 3) Remove the two Wing Nuts (#32) from the Battery Bracket (#35) and remove it.
- 4) Remove the old Battery (#34) and replace it with the new Battery (#34).
- 5) Place the Battery Bracket (#35) on the new Battery (#34) and secure it in place with the two Wing Nuts (#32).
- 6) Reconnect the leads to the Battery (#34) making sure the black lead is connected to the negative side and the red is connected to the positive side.
- 7) Reinstall the Panel (#9).

CABINET SENSOR REPLACEMENT (#37)

Follow the steps below to replace the Cabinet Sensor:

- 1) The Panel (#9) must be removed and power must be disconnected.
- 2) The two wires coming from the Cabinet Sensor (#37) need to be removed from the J9 connector on the KeyWatcher I SMD Board (#28). The wires in the J9 connector are removed by loosening the screws with a small flat head screwdriver.
- 3) Remove the old Cabinet Sensor (#37) using the following steps:
 - A) Install a 1/8" drill bit and carefully drill out the two rivets for the Cabinet Sensor (#37).
 - B) Remove the old Cabinet Sensor (#37).
 - C) Use a hammer and a small punch to push the rivets through the holes once the rivets are drilled out.
 - D) Vacuum the loose metal fragments and verify that the rivet holes are clear.
- 4) Place the new Cabinet Sensor (#37) in the same position as the old one and rivet it in place using two rivets.
- 5) Reconnect the wires from the new Cabinet Sensor (#37) to the J9 connector on the KeyWatcher I SMD Board (#28).
- 6) Reinstall the Panel (#9).
- 7) Follow the instructions on page 5 and 6 to power your KeyWatcher.

DOOR SENSOR REPLACEMENT (38)

Follow the steps below to replace the Door Sensor:

- 1) The Panel (#9) will not need to be removed and power will not need to be disconnected.
- 2) Open the door (#1) to the KeyWatcher.
- 3) Remove the old Door Sensor (#38) using the following steps:
 - A) Install a 1/8" drill bit and carefully drill out the two rivets for the Door Sensor (#38).
 - B) Remove the old Door Sensor (#38).
 - C) Use a hammer and a small punch to push the rivets through the holes once the rivets are drilled out.
 - D) Vacuum the loose metal fragments and verify that the rivet holes are clear.
- 4) Place the new Door Sensor (#37) in the same position as the old one and rivet it in place using two rivets.
- 5) Reinstall the Panel (#9).
- 6) Follow the instructions on pages 5 and 6 to power your KeyWatcher.

RAM BATTERY REPLACEMENT

Follow the steps below to replace the RAM Battery:

- 1) The Panel (#9) must be removed and power must be disconnected.
- 2) Remove the jumper labeled JP3 on the KeyWatcher I SMD Board (#28).
- 3) The RAM battery is located on the KeyWatcher I SMD Board (#28) in the upper right corner labeled BT1. Cut the strap that holds the RAM battery in place and remove the old RAM battery.
- 4) Insert the new RAM Battery making sure the positive side is inserted as labeled on the RAM Battery socket.
DO NOT INSERT THE RAM BATTERY BACKWARDS, IT WILL DAMAGE THE BOARD
- 7) Connect the jumper labeled JP3 on the KeyWatcher I SMD Board (#28).
- 8) Reinstall the Panel (#9).
- 9) Follow the instructions on pages 5 and 6 to power your KeyWatcher.

MAINTENANCE

The following maintenance procedures should be performed on a monthly basis.

The following equipment will be needed:

- 1) Cotton swabs.
- 2) Rubbing alcohol.

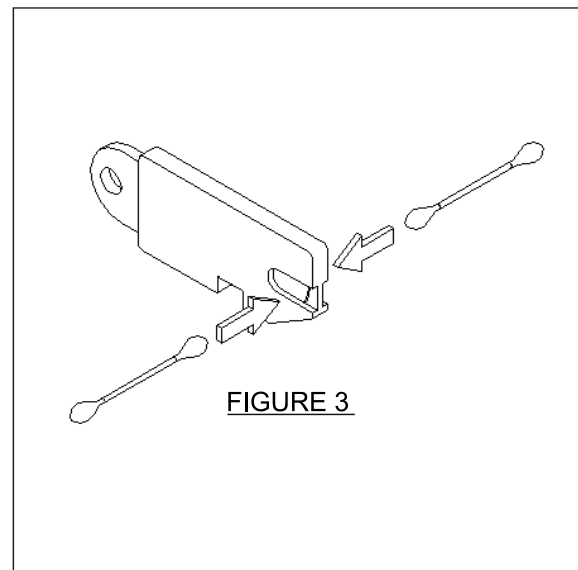
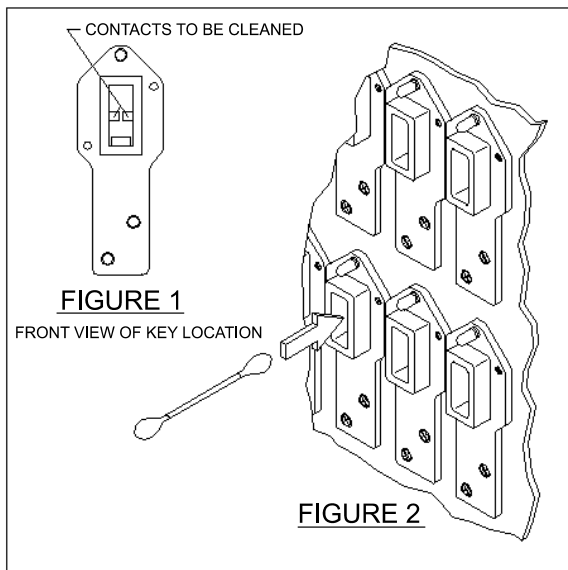
All of the smart keys will need to be removed, you may remove one at a time or all at once.

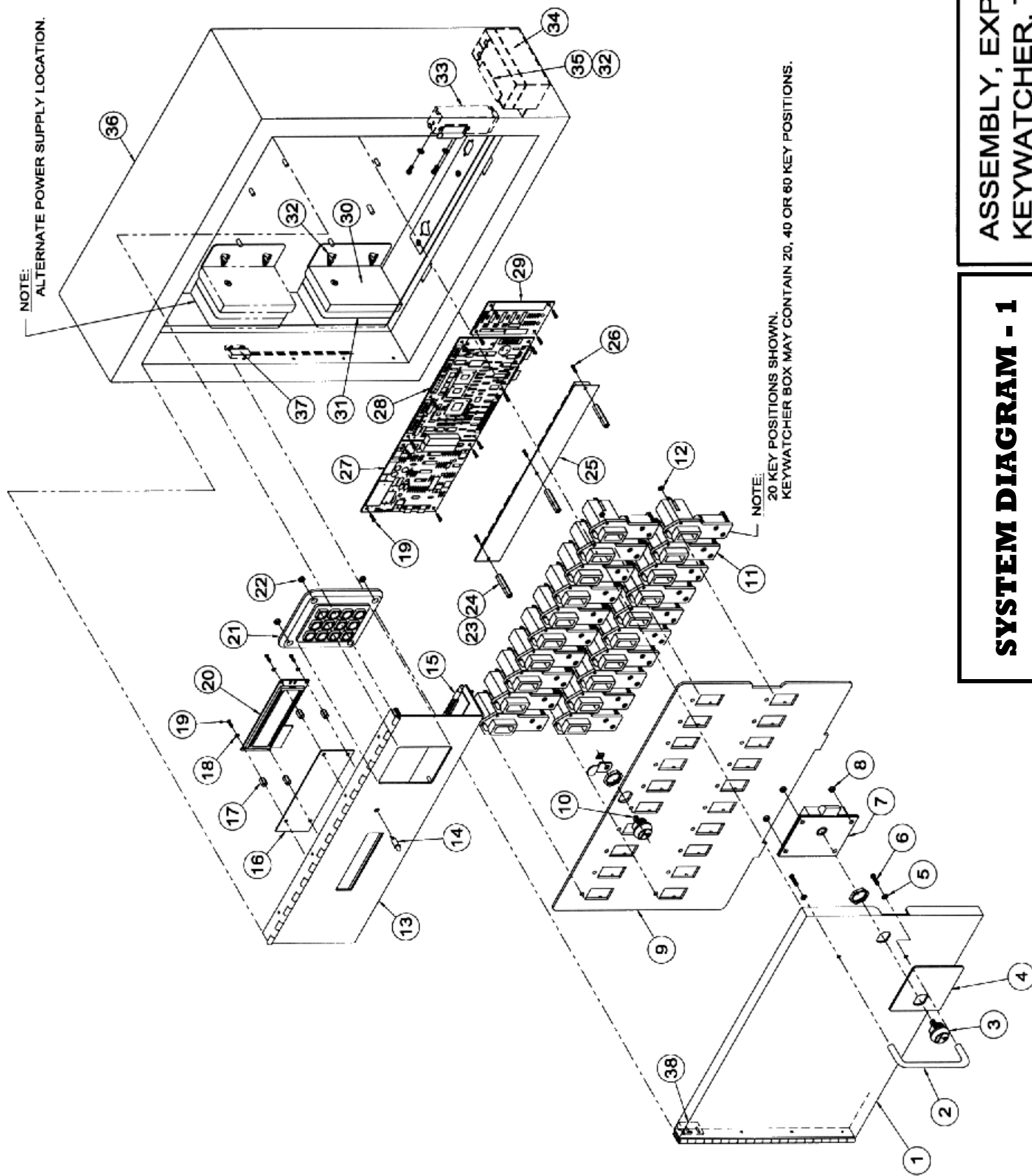
Inside each key location are two contacts (Figure 1), these contacts may accumulate dirt from the smart keys and they will need to be cleaned periodically. To clean the contacts follow these steps.

- 1) Slightly dampen a cotton swab with rubbing alcohol, insert the cotton swab into the location (Figure 2) and clean any dirt from the contacts that may have accumulated.
- 2) Using a dry cotton swab wipe away any excess dirt or moisture that may still be on the contacts.
- 3) Repeat this procedure for each location in your KeyWatcher.

Before returning the smart keys to the key locations, each smart key will also need to be cleaned. To clean the smart keys follow these steps.

- 1) Slightly dampen a cotton swab with rubbing alcohol, rub the cotton swab against the smart chip (Figure 3) cleaning any dirt that may have accumulated.
- 2) Using a dry cotton swab wipe away any excess dirt or moisture that may still be on the smart chip.
- 3) Repeat this procedure for each smart key.





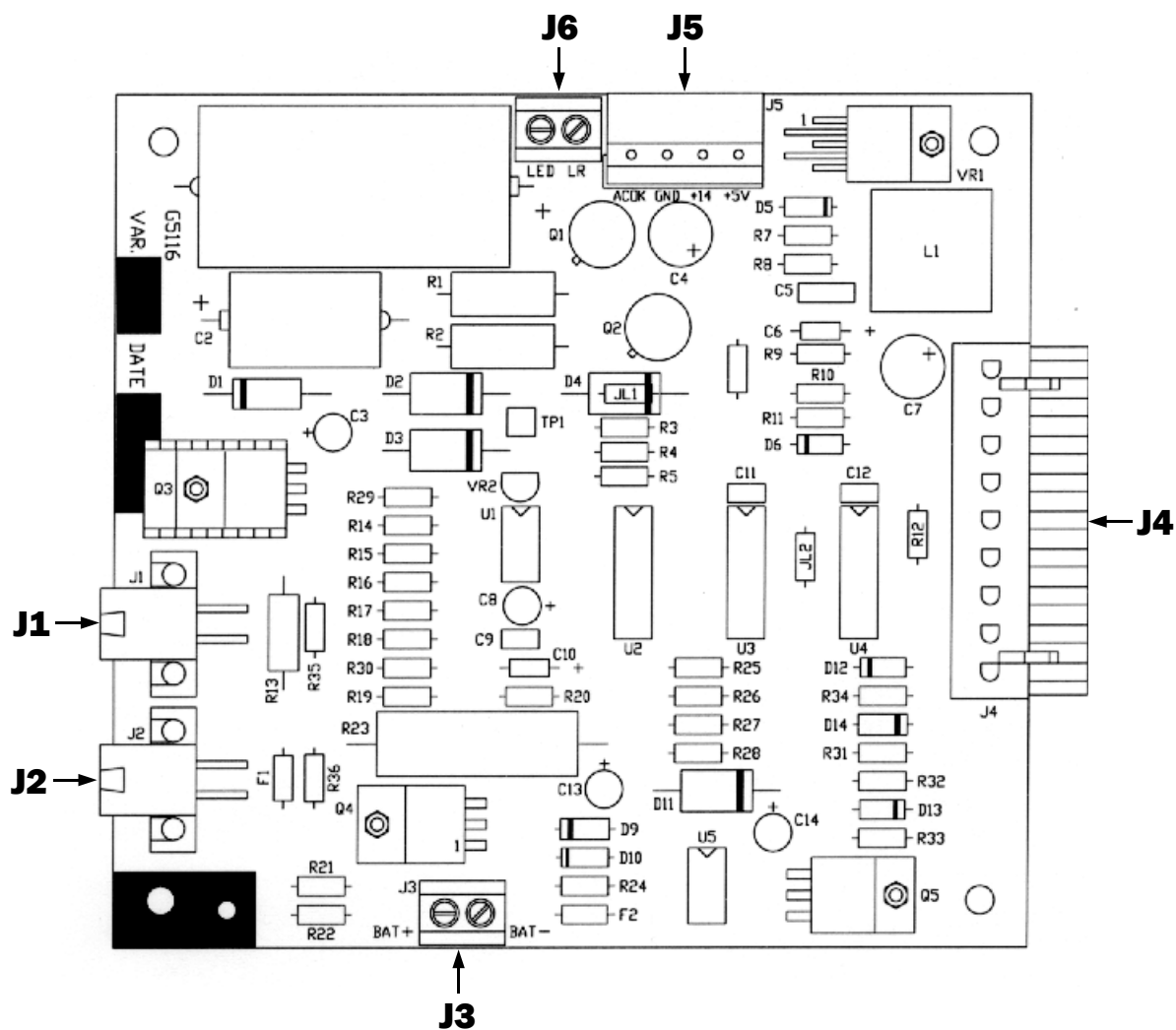
SYSTEM DIAGRAM - 1

**ASSEMBLY, EXPLODED,
KEYWATCHER, TYPICAL**

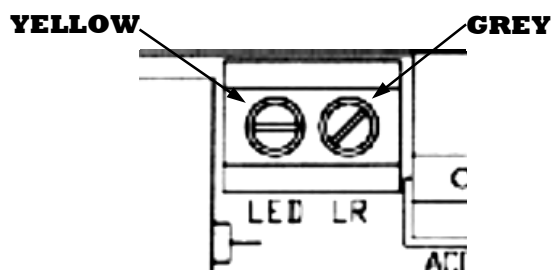
38	2209-000	1	SENSOR, DOOR
37	2206-000	1	SENSOR, CABINET
36	-----	1	BOX, KEYWATCHER 20, 40 OR 60
35	-----	1	BRACKET, BATTERY
34	-----	1	BATTERY
33	2169-000	1	DOOR, STRIKE, ELECTRIC
32	2187-003	4	NUT, WING, #8-32, STEEL, ZINC
31	2413-000	1	POWER SUPPLY
30	2415-000	1	BRACKET, POWER SUPPLY
29	G5124	1	ASSEMBLY, P.C.B., RELAY OPTION
28	G5118	1	ASSEMBLY, P.C.B., KEYWATCHER I , SMD
27	G5116	1	ASSEMBLY, P.C.B., POWER MANAGEMENT
26	2188-001	3	SCREW, PHIL, PAN, STEEL, ZINC, #4-40 x 3/8" LG.
25	G5110 (VAR. A THRU C)	1	ASSEMBLY, P.C.B., SOLID STATE SOLENOID DRIVER, LOCKING
	G5110 (VAR. D THRU F)	1	ASSEMBLY, P.C.B., SOLID STATE SOLENOID DRIVER, NON-LOCKING
24	2211-002	3	STANDOFF, HEX, THREADED, .875 LG.
23	2212-001	3	STANDOFF, HEX, MALE/FEMALE
22	2187-002	4	NUT, HEX, #6-32, STEEL, ZINC
21	2202-000	1	KEYPAD
20	5031-000	1	ASSEMBLY, L.C.D.
19	2188-005	18	SCREW, PHIL, PAN, STEEL, ZINC, #4-40 x 1/4" LG.
18	2186-001	4	WASHER, LOCK, #4
17	2211-001	4	STANDOFF, HEX, THREADED, .375 LG.
16	2314-000	1	LENS, KEYWATCHER, L.C.D.
15	2297-001	2	HINGE, LATCH
14	2214-000	1	LED, RED
13	2098-00E	1	PANEL, 00
12	2187-001	A/R	NUT, HEX, #4-40, STEEL, ZINC
11	2100-000	A/R	ASSEMBLY, SMART KEY HOUSING, LOCKING
	2100-001	A/R	ASSEMBLY, SMART KEY HOUSING, NON-LOCKING
10	2166-000	1	LOCK, PANEL
9	-----	1	PANEL, KEYWATCHER 20, 40 OR 60
8	2187-004	4	NUT, HEX, #4-40, STEEL, ZINC
7	2116-000	1	LOCK, SLAM
6	2188-007	2	SCREW, PHIL, PAN, STEEL, ZINC, #8-32 x 1/2" LG.
5	2186-007	2	WASHER, FLAT, S/S, #8
4	2141-000	1	PLATE, LOCK
3	2167-000	1	LOCK, DOOR
2	2208-000	1	HANDLE, DOOR
1	-----	1	DOOR KEYWATCHER 20, 40 OR 60
ITEM No.	PART No.	QTY.	DESCRIPTION

SYSTEM DESCRIPTION

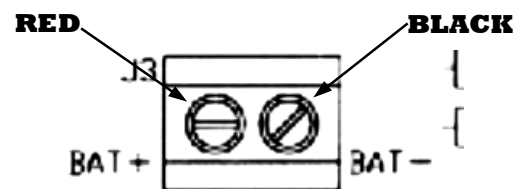
**ASSEMBLY, CHART,
KEYWATCHER, TYPICAL**



POWER MANAGEMENT BOARD CONNECTIONS	
J1	NOT USED
J2	POWER SUPPLY (31)
J3	BATTERY (34)
J4	KEYWATCHER I SMD BOARD (28)
J5	NOT USED
J6	LED (14)



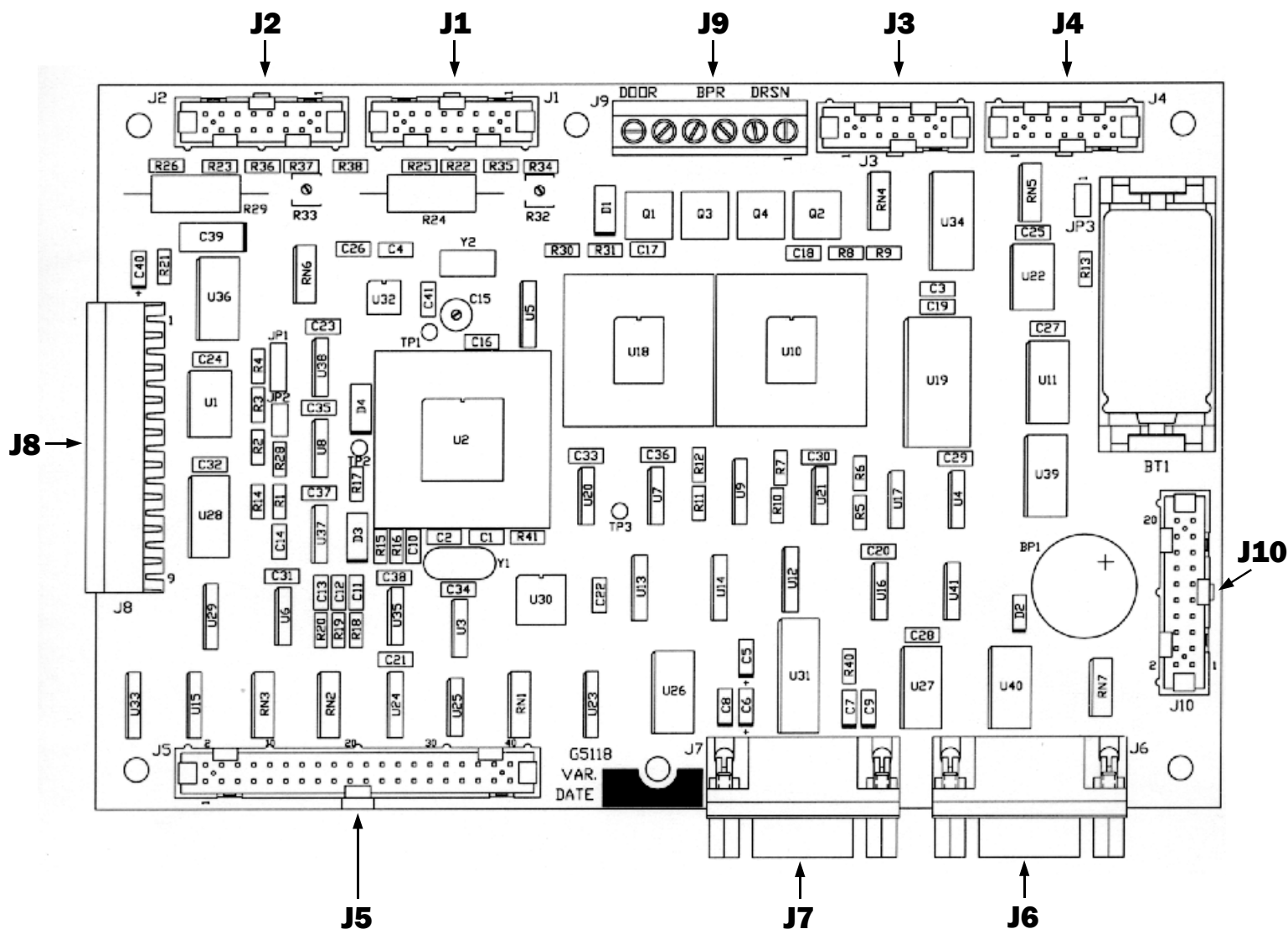
EXPANDED VIEW J6



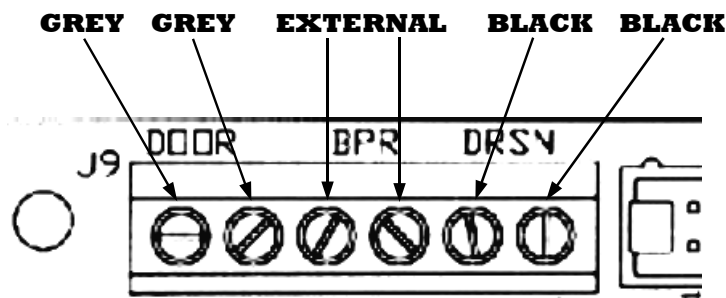
EXPANDED VIEW J3

SYSTEM DIAGRAM - 2

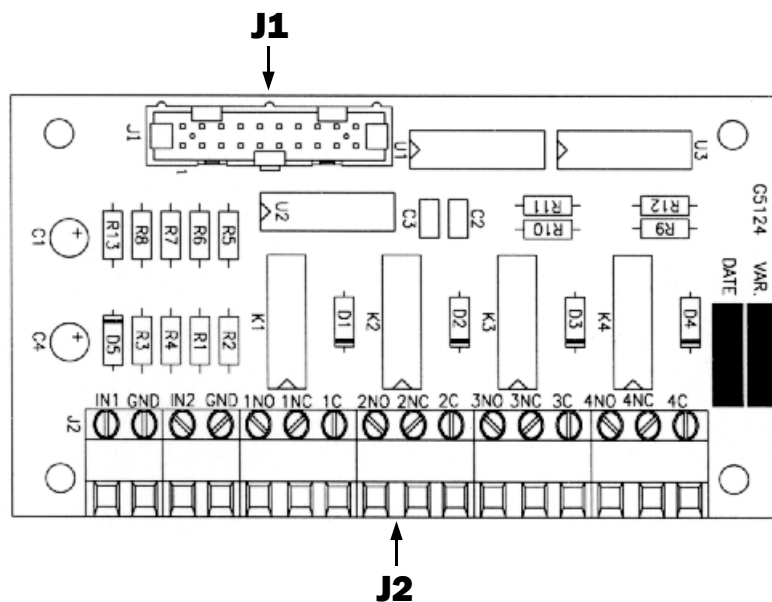
POWER MANAGEMENT BOARD (27)



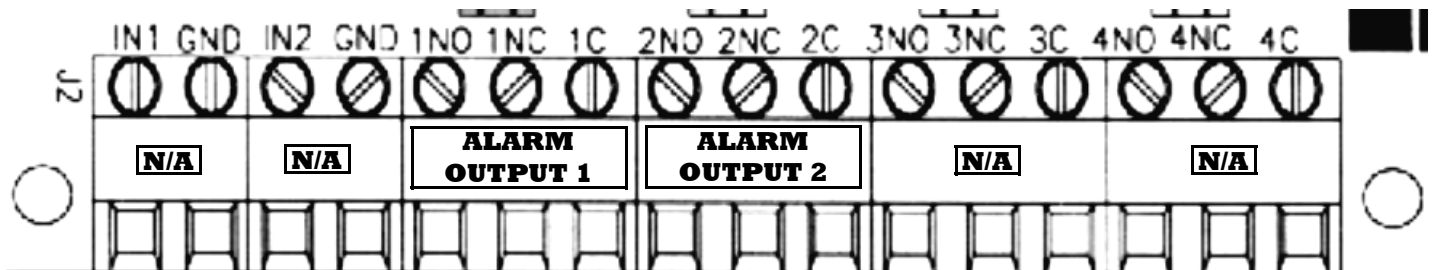
KEYWATCHER I SMD BOARD CONNECTIONS	
J1	KEYPAD (21)
J2	ADDITIONAL KEYPAD (OPTIONAL)
J3	DISPLAY (20)
J4	ADDITIONAL DISPLAY (OPTIONAL)
J5	SOLENOID DRIVER BOARD (25)
J6	COMPUTER, MODEM, PRINTER
J7	COMPUTER, MODEM
J8	POWER MANAGEMENT BOARD (27)
J9	ELECTRIC DOOR STRIKE (33), EXTERNAL BEEPER, CABINET SENSOR (37)
J10	RELAY OPTION BOARD (29)



EXPANDED VIEW J9



RELAY OPTION BOARD CONNECTIONS	
J1	KEYWATCHER I SMD BOARD (28)
J2	RELAY INPUTS / OUTPUTS



N/A = NOT APPLICABLE

Alarm Type	Alarm Output Triggered	Alarm Type	Alarm Output Triggered
AC Power loss	1	Illegal Entry	1
Battery Test Fail	1	Illegal Removal	1
Door Left Open	1	Overdue Key	1
Duress Panic Alarm	2	Shorted Key	1
Illegal Access	1		

SYSTEM DIAGRAM - 4

**RELAY OPTION
BOARD (29)**

MWI LIMITED WARRANTY

Morse Watchmans, Inc. (MWI) warrants each KeyWatcher system to be free from defects in material and workmanship, under normal use, and to service, for 1 year after the date of shipment to the original purchaser subject to terms and conditions stated below:

- 1) WARRANTOR: Morse Watchmans, Inc., 2 Morse Rd., Oxford, CT, 06478.
- 2) PARTIES TO WHOM WARRANTY IS EXTENDED: To the original purchaser only.
- 3) PARTS COVERED: All products and parts manufactured by or for MWI except as provided below.
- 4) REMEDY: If, within the warranty period, any product or part covered by this warranty proves to be defective in material and/or workmanship, then MWI shall, at its option, repair or replace the defective product or part.
- 5) PROCEDURE FOR OBTAINING PERFORMANCE UNDER THIS WARRANTY: In order to obtain performance, the original purchaser must promptly notify MWI of the defect, at this time MWI will determine what parts, if any, are defective. MWI will then send any replacement parts under an RMA # (Return Materials Authorization#) which is necessary to return any defective parts to MWI. All transportation costs to and from MWI will be at the expense of the original purchaser. ANY CLAIM MADE UNDER THIS WARRANTY MUST BE ACCOMPANIED BY PROOF OF ORIGINAL SHIPMENT DATE.
- 6) SOLE REMEDY: The remedy and liability for breach of any warranty, whether express, implied, or otherwise, is set forth above and is the sole and exclusive remedy and the limit of liability for any such breach.
- 7) DESIGN CHANGES: MWI reserves the right to make changes in the design or material of the system of any product or part without incurring any obligation to incorporate such changes in any system, product, or part previously manufactured or advertised.
- 8) EXCLUSIONS: This warranty does not extend to any defect due to the negligence of others, failure to operate or maintain the system or any product or part in accordance with the operating and maintenance instructions furnished with each system, unreasonable use, accidents, alterations, ordinary wear and tear, or the use of unauthorized or non-standardized parts or accessories.

THERE ARE NO WARRANTIES, EXPRESS, IMPLIED, OR OTHERWISE, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE, WHICH EXTEND BEYOND THIS WARRANTY. MWI SHALL NOT BE RESPONSIBLE FOR LOSS OF USE OF ANY SYSTEM, LOSS OF TIME, INCONVENIENCE, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES WITH RESPECT TO BUSINESS OR PROPERTY, WHETHER AS A RESULT OF BREACH OF WARRANTY, NEGLIGENCE, STRICT LIABILITY IN SORT, OR OTHERWISE.
- 9) NO VARIATIONS OF TERMS: No person has the authority to orally, in writing, or in any other way vary the terms, conditions, or exclusions of this warranty or to make any express warranties other than those set forth above.

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