W7UG10 SIROUTE RF INTERFACE INSTRUCTION MANUAL

CONTENTS

I. Installation

A. Hardware

1. Power Supply

The SiRoute RF Interface can be powered by a control panel's auxiliary 12Voutput or a separate 12V regulated linear power supply. Switching power supplies should not be used, due to the inherent radio frequency noise they generate. A control panel must be able to supply 100mA of continuous current in order to power the SiRoute Interface during radio transmissions.

2. Considerations for Mounting Location

IMPORTANT!! DO NOT MOUNT THE SiRoute RF INTERFACE INSIDE OR ON TOP OF METALLIC ENCLOSURES OR WALLS!!

The SiRoute RF Interface contains an onboard radio transceiver that operates in the 900 MHz range. Careful consideration must be given to the mounting location. Avoid locations that can impede radio reception..

Since the interface will have zone wiring and possibly arming / disarming key switch lines, the location should be secure and as close to the control panel as possible (but not inside or on the metal box). The interface should be screwed to a non-metallic wall, away from potential sources of electrical noise. The use of End-of-Line resistors is highly recommended for the zone wires connected to the SiRoute's output terminals.

The suggested mounting height is eye-level, to accommodate easy viewing of the LCD.

3. J2 & J4 Positive / Negative Logic Selection Jumpers

Mini-jumpers J2 and J4 are used to select the logic level of the Armed and Alarm Inputs. The Armed input is connected to the Armed output from the control panel, and is used to signal the armed / disarmed state of the system. If the control panel supplies a positive voltage source when armed, place the mini-jumper on the POS side of J2 (shorting the left-most pin to the center pin).

If the control panel supplies a negative (open collector or current sink) output when armed, place the mini-jumper on the NEG side of J2 (shorting the right-most pin to the center pin).

Likewise, the Alarm input is used to signal the alarm state of the control panel. This information is used by the SiRoute Interface to trigger the wireless siren modules.

If the control panel supplies a positive voltage source when in alarm condition, place the mini-jumper on the POS side of J4 (shorting the left-most pin to the center pin).

If the control panel supplies a negative (open collector or current sink) output when in alarm condition, place the mini-jumper on the NEG side of J4 (shorting the right-most pin to the center pin).

NOTE: A software option must also be selected to match the J2 & J4 setting (+/-). See **+/- Logic Selection** in **Section II: Operation**, **D: Menu Options.**

4. User Interface

i. Liquid Crystal Display (LCD)

The SiRoute RF Interface uses an 8-character, 2-line LCD module for displaying all status and programming messages. The contrast is preset for an optimum "straight on" viewing angle (suggested mounting height is eye-level). Messages longer than 8 characters will be scrolled on line one of the LCD in a repeating pattern.

All user input is accomplished by pushbutton switches, MENU1, MENU2 and MENU3. The meanings of these pushbuttons change according to the message being displayed on the LCD. In most cases, line 2 of the LCD will indicate the functions by displaying characters directly over the appropriate pushbuttons. Example:

[**x OK →**]
 O O O

...means MENU1 (left button, x) will exit the current menu level, MENU2 (middle button, OK) will accept the current menu item and MENU3 (right button, →) will change the value being highlighted by the LCD cursor.

5. RF Controller Module

The RF Controller Module comes already assembled from the factory. This module should not be removed or tampered with.

6. LED Indicators

Data Link

The green Data Link LED (D2) flashes each time a data packet is sent between the SiRoute microcontroller (U1) and the RF Controller Module. Under normal circumstances, the Data Link LED flashes once or twice a second. There may be periods of up to 5 seconds between flashes when the RF Controller is processing radio packets. If the Data Link LED remains off or on for greater than 5 seconds, it is an indication of a problem with communication between the RF Controller and the SiRoute microcontroller (U1). **Note: The line that drives the Data Link LED is multiplexed with pushbutton MENU2. When MENU2 is pressed, the LED will stay on solid. This is normal behavior and does not indicate a communications problem.**

Tamper

The yellow Tamper LED (D3) is illuminated when the SiRoute Interface housing is opened. The Tamper LED is also illuminated when any installed sensors are removed from their mounting plates. The Tamper output is simultaneously activated whenever the Tamper LED is illuminated.

Trouble

The yellow Trouble LED (D4) is illuminated when the RF controller detects a missing sensor or when any installed sensor sends a low battery indication. The Trouble LED may also flash rapidly as an indication of a communication failure between U1 and U5. If the Trouble LED is flashing, the SiRoute Interface should be returned to the factory for service. The Trouble output is simultaneously activated whenever the Trouble LED is illuminated (steady) or flashing.

7. Tamper Switch

Tamper switch SW4 is used to trigger the Tamper output (TMP) whenever the SiRoute's plastic case is opened. Tamper LED (D3) will also be illuminated as an indication of a Tamper condition. Note: To disable case tamper, install a mini-jumper at location J5. Sensor tamper will still be enabled.

1. **Key Switch Arming**

The SiRoute RF Interface has the ability to arm and disarm a hardwired control panel. This is accomplished through the use of wireless key fobs and a key switch output connected to a key switch input on the control panel. This is optional, however. The SiRoute Interface may simply be used to add wireless sensors to a security system, with no arming / disarming key fobs required. If key fobs are to be used, the control panel must have two features: a key switch input and an "armed" output.

Key switch inputs are often created by a special programmable zone definition in the control panel. It may use a latching (maintained) key switch or a momentary key switch. A latching key switch input requires the key switch to "latch" in the closed position in order to arm the system. If the switch is opened, the system is immediately disarmed. A momentary key switch input will toggle the system between armed and disarmed states each time the key switch is momentarily closed.

The SiRoute Interface supports both types of key switch inputs. If a momentary key switch is selected, an extra programming option will ask for the key switch closure time (1 - 10 seconds).

The SiRoute Interface can support multiple key fobs, but there can only be one key switch output. This is achieved by using the output programmed for the key fob that is installed at the lowest address (unit number). Additional key fobs will trigger the output that is associated with this "master" key fob.

If the system is already armed, a key fob that sends an arm command will be ignored. Likewise, a disarm command is ignored if the system is already disarmed. Key fobs are represented on the LCD by the "." character (period). The Key fob last used to arm / disarm or trigger panic will have a special icon: a = this fob was used to arm the system; d = this fob was used to disarm the system; p = this fob was used to trigger the Panic output. Key fob icons are reset upon system arming.

2. **Armed Output**

It is very important that the control panel has an "armed" output. The SiRoute Interface must know the armed / disarmed state of the system in order to activate motion detectors (motion detector inputs are de-activated while disarmed to conserve battery power). Key switch arming will not function if the SiRoute Interface cannot determine the system armed / disarmed state. The SiRoute Interface can accept either active-high (positive logic) or active-low (negative logic) armed outputs. Hardware jumper selector **J2** is used to select the proper input circuitry and Menu item **"+/- LOGIC"** is used to configure the software to accept the proper input levels.

If no key fobs are going to be used for remote arming, then it is possible to use a control panel with no armed output. In such a case, all motion sensors will need to be defined as door / window sensors (Type 1) in order to keep their inputs active at all times. This is not recommended since it reduces battery life and increases radio traffic.

3. **Alarm Output**

If the installation will be using SiRoute wireless sirens (indoor or outdoor), the control panel must also provide an Alarm or Violation output. As with the Armed output, the Alarm output can be either active-high (positive logic) or active-low (negative logic). Hardware jumper selector **J4** is used to select the proper input circuitry and Menu item **"+/- LOGIC"** is used to configure the software to accept the proper input levels.

Unlike the Armed input, the Alarm input can be either pulsing or steady (up to 1.5 second pulse width). Ideally, the control's Alarm output will timeout with the alarm cutoff timer. If the Alarm output does not timeout, the SiRoute outdoor siren has a built-in cutoff of 3 minutes. The SiRoute indoor siren does not include a cutoff timer. The SiRoute Interface does not support software control of the outdoor siren's strobe. If the strobe is

desired, it will have to be manually configured with the outdoor siren's jumper settings. If enabled, the strobe will follow the state of the outdoor siren's sounder.

4. Zone Types

The control panel should have normally-open zones with End-of-Line (EOL) resistor terminations. Since the SiRoute Interface outputs are all active low, the control panel's zones will be pulled low whenever the associated SiRoute outputs are activated. The EOL resistors should be installed at the SiRoute Interface terminals to provide maximum security for detection of cut zone wires.

C. Initial Power-up

1. Factory Default / Delete Current RF Cell

To insure a "clean slate" on the first power-up, press and hold MENU1 and MENU3 while applying power (press buttons, then apply power). The first message will be, **"SiRoute REV X.XX"**, indicating the firmware version. When the message **"DEFAULTS RESTORED"** appears on the LCD, release both pushbuttons. This indicates that any existing RF cells stored in the RF Controller have been deleted and the factory default values have been restored in the SiRoute microcontroller's internal flash memory. The message **"ENTERING SETUP..."** will be displayed next, indicating program mode is being entered. There will be a short delay while the RF Controller is being initialized. Power-up is complete when the Data Link LED starts flashing and the LCD displays **"UNIT 01"**

D. Program Mode

1. Entering Program Mode and Navigating the Menus

Program Mode is entered automatically after initiating a factory default power-up sequence. It can also be accessed by pressing MENU2 for > 5 seconds while the SiRoute system is in Normal Status Display Mode. When the message **"ENTERING SETUP..."** is displayed, release the MENU2 pushbutton. The LCD should be displaying the following message:

[UNIT: 01]
[x OK →]

A flashing cursor is positioned over the digit "1", indicating it can be modified by pressing the pushbutton beneath the "→" character (MENU3). Pressing the pushbutton beneath "OK" (MENU2) will enter the unit's Type Definition screen. Pressing the pushbutton beneath "x" (MENU1) will return to the previous menu level, or ask to exit programming mode if already at the top level of the menu. The Programming Mode menu structure is described below:

[UNIT: 01] Top level - select Unit
[x OK →]
     ⇓

[U1 DEF=0] Sub-level 1 - select Type Definition
[x OK →] 1 = Door / Window Sensor; 2 = Motion Detect; 3 = Smoke Detect; 4 = Key Fob, 5 = Wireless Siren
     ⇓

[U1 OUT:1] Sub-level 2 - select Output (outputs may be shared between same-type devices)
[x OK →]

If a key fob (DEF=4) is installed, the following additional sub-menus are used:

[KEYSW: L] Sub-level 3 - Latching key switch output selected
[x OK →]

 – OR –

[KEYSW: M] Sub-level 3 - Momentary key switch output selected
[x OK →]
⇓

[TIME:01s] Sub-level 4 - Momentary key switch activation time (1 - 10 seconds)
[x OK →]

At any sub-level, pressing MENU1 ("x") will return to the previous menu level. Pressing MENU2 ("OK") while at a lowest-level menu will return to the top level menu for the next unit.

2. Sensor Preparation & Registration

Before installing a sensor, be sure all other unregistered sensors are powered down (remove one battery).

NOTE: ALWAYS WAIT AT LEAST 20 SECONDS BEFORE RE-INSTALLING A BATTERY. REMOVING AND RE-INSTALLING A BATTERY TOO QUICKLY CAN CORRUPT THE SENSOR'S CALIBRATION MEMORY AND RENDER THE SENSOR USELESS!

All SiRoute RF sensors must be registered with the RF Controller before they can be used with the system. The RF Controller adds each sensor to its "cell" during the registration process. A cell is a group of sensors managed by a single RF Controller. Sensors can communicate with the controller, as well as with other sensors in their cell. This communications arrangement allows a sensor that is out of range of the RF Controller to send its messages through a surrogate sensor (or even several sensors) in order to get through.

Before a sensor is registered, it must be assembled to a SiRoute RF Module (W7BT10). An RF Module cannot be registered unless it is connected to a sensor. Remove one battery before assembling an RF Module to a sensor. The battery should not be re-installed until the SiRoute Interface has placed the RF Controller into its configuration state:

The SiRoute Interface must be in Program Mode (see **Section I, D 1: Program Mode**). Select the unit number to be installed by pressing the → button (MENU3). **Note: Units 8 – 14 can only be used for key fobs. Do not attempt to install other sensor types at these locations.**

When the desired Unit has been selected, press "OK" (MENU2) to proceed to the Type Definition sub-menu. Press the → button (MENU3) to select the correct Type Definition for the sensor type being installed.

3. Sensor Type Definitions

DEF=1 for Door / Window sensors
DEF=2 for PIRs (Motion Detectors)
DEF=3 for Fire (Smoke Detectors)
DEF=4 for Key Fobs / Arming Stations.
DEF=5 for Wireless Siren modules (indoor or outdoor)

Note: If a sensor has been previously installed at this location, it must first be permanently deleted before a new sensor can be installed (see Section I, D 6: Deleting Devices).

Hint: A Door sensor that is located in a high traffic area may be defined as DEF=2 to extend battery life and reduce radio traffic (Type 2 sensor inputs are de-activated when the control panel is disarmed). The system users must be made aware that the door may be ajar when arming the control panel. When the inputs are de-activated, the control panel has no way of knowing the state of the door. Arming the system with the door ajar will cause an alarm if the door is not closed before the exit time expires.

Press "OK" (MENU2) to proceed with the sensor registration. The LCD will display:

[REGISTER UNIT?]
[YES   NO]

Press "Yes" (MENU1) to continue. The LCD will display:

[WAITING FOR...]
[UNIT: 0x]

To register the sensor, replace all the batteries and press its tamper switch 5 times within 5 seconds (a small flat-blade screwdriver can be used for this task). The tamper switch is a small white projection located near one of the RF Module's corners. It should depress very easily. Note: the 5 presses must begin within 2 seconds of installing the final battery, or the sequence will be discarded.

The LCD scrolling message may freeze momentarily while the RF Controller communicates with the registering sensor. This may be followed by a **"..BUSY.."** message on line 2 of the LCD.

When the registration process is completed, the LCD will return to the Type Definition screen for verification. **The RF Controller cannot determine the difference between sensor types 1, 2, 3 and 5, so it is up to the installer to insure the proper definition is selected**. Only key fobs (type 4) can be differentiated from the other sensor types by the RF Controller.

If the Type Definition is correct, press "OK" (MENU2) to proceed to the output selection menu.

4. Output Assignments

The outputs of the SiRoute Interface may be shared by sensors of the same Type Definition. This allows the installer to group sensors together to minimize the number of zones used on the control panel. The drawback is a lack of alarm history detail for the control panel...it cannot tell which sensor caused an alarm. If sufficient zones are available, each sensor should be programmed to use its own output, i.e., Unit 1 should trigger Output 1...Unit 2, Output 2, etc. **Note: the SiRoute Interface will not allow sensors of different types to share outputs.** Motion detectors cannot share outputs with door / window sensors or smoke detectors. Key fobs all share one single key switch output (the output associated with the lowest installed key fob unit number).

For wireless sirens, the output is optional and is only activated by a key fob Panic ( ) button. If the installation does not require a Panic output, set all wireless siren outputs to "0" to save their outputs for other devices (a key switch arming / disarming output would be a good choice). If a Panic output is required, this output should be connected to a 24-hour Panic or Duress zone on the control panel. The SiRoute Interface does not support silent duress, since all wireless sirens will be triggered when a panic button is pressed.

Once the proper output has been selected, press "OK" (MENU2) to return to the top level menu. If the sensor is Type 1 or Type 3, the inputs will be immediately activated. Type 2 sensor (motion detector) inputs are not activated until the system is armed or a walk test is performed. This prevents excess radio traffic during the registration process for other sensors. **Note: Key Fob registrations require extra steps to define Latching / Momentary actuation and timing. See the next section for details.**

5. Key Fob Registration

Key Fobs may be installed as any unit number between 1 and 14. Since the SiRoute Interface only has 7 available programmable outputs, key fobs that are installed as Units 8 - 14 cannot use outputs 8 - 14 (they don't exist). Instead, key fobs 8 - 14 must be assigned to one of the first 7 outputs. Since the other sensors can share their outputs, two or more door sensors , motion detectors or smoke detectors can be grouped together to share an output, thus freeing up an output for key fobs 8 - 14 to share. If a key fob is already installed as one of the first 7 units, key fobs 8 - 14 will automatically be configured to share that output. **Note: due to limitations of the LCD, key fobs 10, 11, 12, 13 & 14 will be displayed as A,B,C,D,E respectively.**

Once an available output has been identified, the key fob may be installed in a manner similar to the other sensors: select the Unit number, press "OK" then select DEF=4. Next, press "OK" to proceed. The following message will be displayed:

[REGISTER UNIT?]
[YES   NO]

Press "YES" (MENU1) to put the RF Controller into configuration mode. The LCD will then display:

[WAITING FOR...]
[UNIT: 0x]

To register the key fob, press the 🔔button (the middle button on the key fob). Do not hold the button down, simply press it until LED 1 flashes one time and then comes on solid. The LCD scrolling message may freeze momentarily while the RF Controller processes the radio packets. When the registration process is complete, the LCD will return to the Type Definition screen for verification. Press "OK" (MENU2) to proceed to the output selection menu. Note: If this is the first key fob to be installed in this cell, pressing "OK" will take you to the output selection menu. If this is not the first key fob, you will be taken to the top level menu to select the next unit.

Once the output has been selected, the following menu will be displayed:

[KEYSW: L]
[x OK →]

Pressing "→" will toggle the display between "L" (for Latching) and "M" (for Momentary). If Momentary is selected, one additional menu will be displayed:

[TIME:01s]
[x OK →]

Pressing "→" will cycle the time from 1 second to 10 seconds. When the desired time is displayed, press "OK" to complete the key fob installation.

6. Deleting Devices

There may be times when a device must be removed from service. This may be done on a temporary or permanent basis.

i. Temporary

To remove a sensor temporarily, enter Programming Mode and select the Unit Number of the sensor needing to be removed. Press "OK" (MENU2) to access the Type Definition menu. Change the definition to read DEF=0. Press "OK". When the LCD displays, **"DELETE UNIT?"** press "NO" (MENU3). This will effectively remove

the sensor from service without deleting it from the radio cell. To place the sensor back into service, return to Programming Mode, select the sensor's Unit Number and press "OK". At the Type Definition menu, change DEF= back to the original definition and press "OK". The sensor is now placed back into service.

ii. *Permanent*

To remove a sensor permanently, follow the same steps described above for temporary removal. When the LCD displays, **"DELETE UNIT?"**, press "YES" (MENU1). The unit will be deleted from the radio cell. To place the sensor back into service at a later date, it will have to go through the registration process.

7. Exiting Program Mode

To exit Program Mode, press the "x" button (MENU1) until the message **"PRESS OK TO EXIT"** is displayed. Pressing "OK" (MENU2) will return the SiRoute Interface to normal mode.

II. Operation

A. Understanding LCD Symbols

All sensors are displayed on the LCD by character "icons"

Type	Normal	Active	Tamper	Low Battery	Missing
1 (Door/Window)	_	/	T	B	?
2 (Motion Det.)	_ [1]	/	T	B	?
3 (Smoke Det.)	°	F	T	B	?
4 (Key Fob)	. [2]	a	N/A	B	N/A
5 (wireless siren)	S	!	T	B	?

[1] The motion detector icon looks like the door / window icon with a short line floating above it.

[2] The Key fob last used to arm / disarm or trigger panic will have a special icon: a = this fob was used to arm the system; d = this fob was used to disarm the system; p = this fob was used to trigger the Panic output. Key fob icons are reset upon system arming.

B. Normal Status Display

When the SiRoute Interface is running in normal mode, the LCD will display the numbers 1 - 7 on line 2, followed by the "→" symbol. The numbers represent the first seven RF units in the radio cell. Line 1 will display an icon for each unit that is installed. If a unit is not installed, a blank space is displayed above its number. The last character on line 1 indicates the system state: "□" = Disarmed; "■" = Armed. These characters match the armed / disarmed symbols on the key fobs.

[_ : . _   S°□]
[1 2 3 4 5 6 7→]

The display pictured above shows units 1and 4 as being door / window sensors. Unit 2 is a PIR. Unit 5 is not installed. Unit 6 is a wirless Siren. Unit 7 is a smoke detector. The system is disarmed.

C. Extended Menu Display

Pressing the "→" button (MENU3) will change to the Extended Menu Display, which is used for selecting from the four extended menu options (see **D. Menu Options**). The first menu displayed is:

[KEY FOBS]
[x OK →]

Note: The Extended Menu Display will automatically time-out and return to the Normal Status Display if no buttons are pressed within 15 seconds. Press the " →" button (MENU3) to cycle through the four menu options.

D. Menu Options

1. KEY FOBS

The first menu option displayed is KEY FOBS. Pressing the "OK" button (MENU2) will display any key fobs that have been installed in locations 8 – 14. Key fobs 10, 11, 12, 13 and 14 will be displayed as A, B, C, D and E, respectively, due to LCD limitations.

Installed key fobs appear as '.' icons on line one of the LCD. The Key fob last used to arm / disarm or trigger panic will have a special icon: a = this fob was used to arm the system; d = this fob was used to disarm the system; p = this fob was used to trigger the Panic output. Key fob icons are reset upon system arming.

The KEY FOBS menu will automatically time-out and return to Normal Status Display after 15 seconds, or after changes to the system armed state.

2. Walk Test

The second menu option displayed is Walk Test. Pressing the "OK" button (MENU2) will activate Walk Test Mode. Walk Test Mode is indicated by a "W" character at the end of line 1 of the LCD.

NOTE: WALK TEST MODE CAN TAKE SEVERAL MINUTES TO INITIATE IF THE SIROUTE INTERFACE HAS TROUBLE REACHING ANY SENSORS (UP TO 4 MINUTES PER SENSOR)!

Walk Test Mode allows the user to test every installed sensor by opening doors or windows and "walk testing" the motion detectors. Since motion detectors are normally de-activated when the system is not armed, Walk Test

Mode activates every installed sensor's inputs. During this activation time, the LCD will display "..BUSY.." on line 2. When several seconds have elapsed with no "..BUSY.." messages, the walk test is ready to begin. **Note: Walk Test Mode is not accessible when the system is armed (to prevent false alarm transmissions). Please notify the monitoring station before testing smoke detectors (or any other devices installed on 24 / hr. monitored zones).**

When a sensor sends a violation message, the LCD will display a "*" character above that sensor's location. This character will remain on screen - even after the sensor input has restored. This allows the user to perform a complete walk test of the system before returning to view the results. To clear the "*" character(s), press and hold the MENU1 button until line 2 is cleared.

To exit Walk Test Mode, press and hold the " →" button (MENU3) until the LCD is cleared. The SiRoute will return to Normal Status Display, and all Type 2 device inputs (motion detector / high traffic) will be de-activated. **Note: Walk Test Mode will also exit whenever the system changes armed / disarmed states.**

Walk Test Mode may also be accessed by a special key sequence using any installed key fob. Press the " ⌐ " button, enter the PIN, then press and hold the " ▶ " button until LED 1 flashes once. To exit Walk Test Mode, enter the disarm sequence (PIN sequence + "□" button).

3. Output Display

The third menu option is "Output Display". Output Display is useful for displaying the state of any of the outputs associated with the installed sensors or key fobs. Since several sensors may be associated with a single output, the Output Display screen is the only way to view the actual outputs being triggered. To enter Output Display Mode, press the "OK" button (MENU2). Any active output will be represented by the "*" character above the output's number. Unlike Walk Test Mode, the "*" character will be cleared if all sensors associated with an output are restored.

To exit Output Display Mode, press the " →" button (MENU3) until the "PRESS OK TO EXIT" message is displayed (this should require two presses of MENU3). Press "OK" (MENU2) to return to the Normal Status Display.

4. +/- Logic Selection

The fourth and final menu option is "+/- Logic". This menu is used to indicate the logic level being supplied by the "Armed" and "Alarm" outputs coming from the control panel (connected to the Armed and Alarm Inputs of the SiRoute Interface). To enter this menu, press the "OK" button (MENU2). The LCD will display the follwing:

[ARMED: -]
[x OK →]

If the control panel supplies a positive voltage when armed, "+" logic should be used. If the control supplies an open collector (active low) signal when armed, "-" logic should be used. The +/- logic state may be toggled by pressing the the " →" button (MENU3). Press "OK" (MENU2) to proceede to the next menu.

[ALARM: -]
[x OK →]

If the control panel supplies a positive voltage when in alarm, "+" logic should be used. If the control supplies an open collector (active low) signal when in alarm, "-" logic should be used. The +/- logic state may be toggled by pressing the the " →" button (MENU3). Press "OK" (MENU2) when done to exit this menu.

E. Reducing False Alarms

1. Program an exit delay of **no less than 60 seconds!** With an exit delay of 30 seconds, latent alarm signals caused by people exiting the premises can cause false alarms.
2. Program all motion sensors and delay door sensor zones with a "Force Arm" feature, if this is available on your control panel. Force-armed zones are typically shunted out if they remain violated when the exit delay expires. Once these zones restore, they are put into service (be sure to check your control panel's programming manual to confirm this fact).
3. Be sure all window and door sensors are programmed with DEF=1. The SiRoute Interface leaves these sensor types activated at all times, so the control panel will be informed of any violated zones before attempting to arm. This also allows businesses to enable the "chime mode" on their control panels to alert them of customers entering their shops.
4. SiRoute smoke detectors are designed to transmit an alarm report when placed into Walk Test mode. Before activating the SiRoute Interface's Walk Test, be sure to alert your central station that you will be testing your system, or place your control panel into Walk Test mode, as well, so it will not transmit alarm reports to the central station.

F. Maximizing Your SiRoute Interface

1. Use SiRoute I/O Modules to protect several points of entry, such as a front door and an adjacent window. Use standard magnetic contact switches wired to the I/O Module's inputs.
2. A "fully loaded" SiRoute Interface can support up to 7 sensors and 7 key fobs. Sensors must be installed as Units 1 – 7. Units 8 - 14 are reserved for key fobs only, although key fobs may be installed as Units 1 – 7, if additional fobs are required. Note: due to limitations of the LCD, key fobs 10, 11, 12, 13 & 14 will be displayed as A,B,C,D,E respectively. The only caveat to using key fobs 8 - 14 is this: There are no Outputs 8 - 14. All key fobs share the same output (the output of the fob with the lowest Unit number). This can be any available output (1 – 7). To free up an output on a system that already has 7 sensors installed, program two sensors to share an output, i.e., Unit 1 (master bedroom window contact) can share an output with Unit 2 (guest room window contact). Any same-type sensors can share outputs.
3. Carefully plan your installation. Sensors that will be located farther away from the SiRoute Interface may not be able to communicate directly. The SiRoute sensors will automatically relay signals from other sensors in the same installation, so additional sensors may be needed on "longer runs."

G. Application Note: Using an I/O Module for Panic

The SiRoute Interface normally only support the wireless I/O Module's inputs, not outputs. However, the I/O Module may be programmed as a TYPE 5 (Wireless Siren) to make use of its output 2 relay. When programmed as TYPE 5, the I/O Module is no longer used as a burglar input device. Instead, its inputs will trigger a Panic condition. A possible application would be to connect hard-wired panic switches to I/O Module's two inputs. When activated, the I/O Module will send a Panic signal, causing the SiRoute Interface to trigger any installed wireless sirens, as well as activate any programmed Panic outputs. As mentioned above, the I/O Module's output 2 relay will also be triggered during a Panic condition, and can be used to activate a local sounder or perhaps trigger a high-current relay controlling exterior lights or sirens.

H. Worksheet

Sensor Type Definitions

> **DEF=1 for Door / Window sensors**
> **DEF=2 for PIRs (Motion Detectors)**
> **DEF=3 for Fire (Smoke Detectors)**
> **DEF=4 for Key Fobs / Arming Stations.**
> **DEF=5 for Wireless Siren modules (indoor or outdoor)**

UNIT 1

Definition ____

Output #   ____

Sensor Location: _____

Connected to Zone: _____

UNIT 2

Definition ____

Output #   ____

Sensor Location: _____

Connected to Zone: _____

UNIT 3

Definition ____

Output #   ____

Sensor Location: _____

Connected to Zone: _____

UNIT 4

Definition ____

Output #   ____

Sensor Location: _____

Connected to Zone: _____

UNIT 5

    Definition ____

    Output # ____

    Sensor Location: _____

    Connected to Zone: _____

UNIT 6

    Definition ____

    Output # ____

    Sensor Location: _____

    Connected to Zone: _____

UNIT 7

    Definition ____

    Output # ____

    Sensor Location: _____

    Connected to Zone: _____

KEY FOBS:

UNIT 8

    Definition __4__

    Output # ____

    Issued To: _____

UNIT 9

    Definition __4__

    Output # ____

    Issued To: _____

UNIT A (10)

    Definition __4__

    Output # ____

    Issued To: _____

UNIT B (11)

    Definition __4__

    Output # ____

    Issued To: _____

UNIT C (12)

    Definition __4__

    Output # ____

    Issued To: _____

UNIT D (13)

    Definition __4__

    Output # ____

    Issued To: _____

UNIT E (14)

    Definition __4__

    Output # ____

    Issued To: _____