

APPLICATIONS

- Law enforcement surveillance and stake outs
- Utilities – water levels, pumps and temperature monitoring
- Radio repeater site security
- Oil, chemical, industrial monitoring and warnings
- Equipment & Personnel security

The Sentinel series PC2200 portable radio alarm is ideal for intrusion alarms, warnings, indicators, prompting or monitoring. Utilizing voice messages, this method is **FAST**, transmitting directly to your personnel via their radio transceivers. **COST EFFECTIVE**, it interfaces with your existing radio system. This unit is highly **RELIABLE** and recommended for use in law enforcement, security, industrial, safety or emergency services. **COMPACT**, this unit is completely self-contained and designed for portable use.

VERSATILE and easy to install, you can choose from our comprehensive selection of sensors and accessories or any other compatible sensor to tailor your system for your specific needs. Built-in accessories include invisible light beam, wireless alarm sensor receiver and programmable scheduler. This unit is capable of three zone operation. It can send a unique message for each zone input. It can also be configured with a variety of tone signaling options for private line, automatic number identification or other modes of operation.

OPERATION

The Sentinel is a type of repeater which relays alarm sensor indications via radio voice messages. The PC2200 monitors input sensors for contact closure to activate the microcomputer controller. The controller turns on the transmitter to send the appropriate messages and keeps track of all timing sequences. When sensors are installed or connected, setting the ready switch to the ready position allows the unit to be activated. Putting the ready switch to the exit delay position momentarily, puts the unit in the Entrance/Exit delay mode allowing the user one minute before the sensors will be enabled so they can enter or exit the premise without activating the unit. Also the fourth channel of the wireless receiver is used as an Entrance/ Exit delay activator. It can be accessed by using a hand held sensor-transmitter such as a miniature transmitter.

The Sentinel is designed to use very little power to prolong battery life. Only the input and battery low detection sense circuits and the wireless receiver are powered until an active input condition exists. When activated, (active light on), the PC2200 transmits a message sequence, corresponding to the input sensor/s activated and the unit identity. Messages are transmitted every 20 seconds and are repeated as determined by the Message Number/Repeat Count Switch. If the input sensor switch is opened then closed again, the



*SENTINEL PC2254 shown
with radio stowed in case*

sequence is restarted. When the active condition ceases, the unit will return to ready. If the battery voltage drops too low, the battery low light comes on and the PC2200 will transmit a battery low and unit identity message to let you know it is time to recharge the battery.

VOICE MESSAGES, USER RECORDED

The PC2200 uses an electronic voice recorder and play-back unit. Messages are variable in length, with a combined total time of 16 seconds. You can record up to four messages, with each message corresponding to one of these input functions:

- 1 - Zone 1, wireless receiver channel 1 or input jack one.
- 2 - Zone 2, wireless receiver channel 2 or input jack two.
- 3 - Zone 3, wireless receiver channel 3, or invisible light beam.
- 4 - Unit identity message.

Five permanently recorded messages are also used in the Sentinel operation. Three messages are broadcast over the radio indicating "Sentinel radio alarm" at the beginning of each transmission, battery status when battery is low with "battery is low" message and sensor battery status with "sensor battery is low". Two other messages, "exit entrance delay" and "ready" are sent over the speaker to indicate exit time and when exit delay time has ended.

PROGRAMMABLE SCHEDULER

The Sentinel Scheduler works in conjunction with the standard Sentinel program to keep track of time schedules controlling the transmission of Sentinel Alarm messages. To program the Scheduler a simple interface is used; similar to that of a digital watch. Two buttons and the Ready toggle switch implement all the set up menus. The scheduler has 6 operating schedules to choose from. The user may assign one of the six schedules to each day of the week. It uses a 24 hour clock and operates on a recycling weekly schedule.

INVISIBLE LIGHT BEAM - ILB

The ILB is an invisible infrared light beam emitter/receiver. The emitted light beam is reflected off a passive reflector up to 100 feet away. The ILB will sense when any object interrupts the light beam by coming between the reflector and the emitter/receiver. When the light beam is broken the Sentinel will be activated to send an alarm message.

SHORT RANGE WIRELESS SENSORS

Types of wireless sensors available include, but are not limited to: Passive infrared which detects body heat; Money bait clip for use in cash registers; Panic button for manual operation; door/window sensor plus wiring to any other type of switch contact sensor.

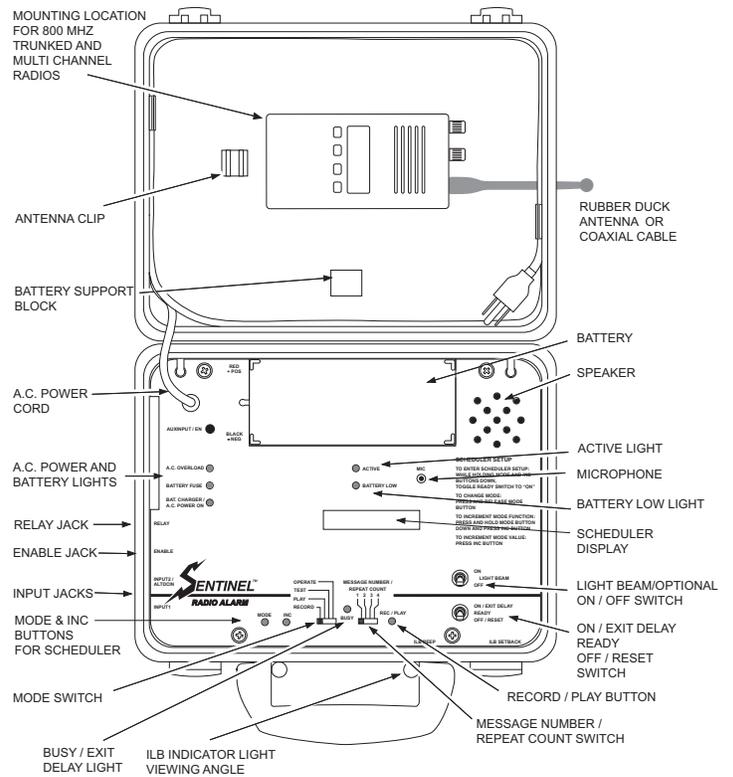
The short range radio receives alarm signals from remote wireless sensors and activates the Sentinel which transmits the specified message over the LMR radio frequency. Having a maximum range of approximately 500 feet, the wireless system eliminates the need for hard wiring a room for monitoring and speeds up installation. More than one wireless sensor transmitter may be used per zone allowing you to monitor more than one location at a time.

2200 SERIES MODELS

The portable 2200 series includes 5 models:

- PC2214** the basic unit, 4 channel, 3 zones with exit/entrance delay
- PC2224** basic unit plus built-in scheduler
- PC2234** basic unit plus the invisible light beam
- PC2254** basic unit plus the built-in scheduler and the invisible light beam
- WPC2224** housed in a waterproof case includes a built-in scheduler

2200 SERIES LAYOUT



PC2200 SERIES SPECIFICATIONS

User Recorded Messages:

4 maximum, variable in length, 16 sec. total time

Permanent Messages:

5, preamble, exit/entrance delay, ready, battery low, sensor battery low

Inputs:

Two Input jacks for switch sensors, or built-in internal sensor
Normally Open, Active = Closed
WLRX, 4 channel wireless receiver, internal
ILB, active infrared (optional)

Input Response Time:

Input contact closure must be at least 1/100 sec. long

Outputs:

One antenna jack for portable rubber duck type
BNC connector optional for other antennas/cables
Relay contact, 1 Form C, normally open

Controls:

Ready toggle switch, panel mounted
ILB toggle switch, panel mounted
Mode switch; record, play, test, operate
Message/Repeat Switch
Play/Record push button
Mute and INC button (Scheduler model only)

Indicators:

Active light
Battery Low light
Battery Charger/AC Power On light
Busy/Exit Delay light

Radio Transmitter: 4 to 5 watts, FCC approved

Frequencies: VHF, UHF, land mobile, including 700, 800, 900 MHZ trunked or conventional

Power Requirements:

115 VAC \pm 10%, 20 watts during transmit,
300 milliwatts in READY mode, built-in power supply/battery charger and internal rechargeable 12.6 volt 7 Ahr sealed battery (NP7-12) The Battery is fused with a 4 amp fast fuse.

Battery Operating Time:

Fully charged 7 amp hour battery, no A.C. power
With no powered accessories over 200 days
With wireless receiver on - 20 days
With ILB on - 5 days
With ILB and wireless receiver on - 4 days

Battery Life: With normal usage, 3 years

Wireless Receiver: Range up to 500 feet depending on conditions and terrain.

Multiple codes for different system isolation
Power consumption 25 ma. at 12 VDC

ILB Module: models 2234 & 2254 - Range 3 to 75 feet with 1 to 10 foot dead zone in front of ILB module.

Response time approximately 1/50 of a second.
Power consumption 50 ma. at 12 VDC

Scheduler: models 2224 & 2254 - 6 operating schedules, 24 hour clock, recycling weekly schedule

Carrying Cases: PC models: Metal frame, plastic shell, dual latch, Zero Mfg.; WPC model: UK International Waterproof Ultra Case Submersible to 1 meter

Dimensions: PC models 5" deep x 12" wide x 9" high
WPC model 14.1" long x 10.6" wide x 6.1" deep

Environmental:

Temperature range; -30° to 60° C (-22° to 140° F)



KARAS TECHNICAL SERVICES

P.O. Box 695, Aptos, CA 95001 Telephone: (831) 685-0816 Fax: (831) 685-0817
web site: www.karastech.com