Sentinel Radio Alarm Scheduler Instructions.
Used in Models PC2224, PC2254, WPC2224

Before using the Scheduler, refer to the Sentinel operating manual for operating procedures.

1. DESCRIPTION:

The Sentinel Scheduler program works in conjunction with the standard Sentinel program and uses a settable real time clock to keep track of time schedules which control the transmission of Sentinel Alarm messages. Keeping within the character of the Sentinel Radio Alarm, a simple interface is used; simular 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. The Scheduler uses a 24 hour clock and operates on a recycling weekly schedule. It determines whether or not the alarm is enabled by the following procedure: When the Sentinel receives an alarm input from a sensor it turns on. Before it sends an alarm message, it checks the scheduler program for a valid scheduled alarm time. The scheduler program first looks at the day of week to find the schedule number assigned to that particular day. It then uses the day of week schedule number to point to one of six schedules. Schedule 0 is always OFF Schedule 1 is always ON Schedules 2 thru 5 point to a list of user programmed times we call sequences.
The program finds the most recent time on the list when compared to the current time. It then checks that time for its alarm condition, ON, OFF or NULL. The Scheduler then either allows or disallows the Sentinel to send an alarm and returns it to the ready condition.

The sequence time settings in each schedule do not have to be in any particular order. Although, in case of setting two schedule sequence times to the same time, the one with the lowest schedule sequence number will be the one that is used. In the case where the time rolls over from one day to the next, at midnight (00:00 hours), and there is no valid time setting for the current day, i.e. the earliest time listed is, let's say, 1:00 hours, the scheduler looks to the previous day for the latest valid schedule sequence time and uses that time, until the current time is later than a valid schedule time on the current day schedule. All times set to NULL on the schedule list are ignored.

2. OPERATION:

To operate the Sentinel Scheduler, there are three switches and a liquid crystal display. The READY switch which is used to turn on the Sentinel, is also used to enter the Set Up Mode. The MODE button is used to change modes incrementally. The INC button is used to change operands in a particular mode or to increment the operand data value. The liquid crystal display is used to read the information on the Scheduler. To enter the Scheduler, first press and hold the MODE and INC buttons down while switching the READY switch from OFF to ON and releasing it to the Ready position. This will turn on the display and it should read, 'SCHEDULER SET UP', 'PRESS MODE'. The MODE and INC buttons are used to create 3 different button conditions we call, MODE, MINC and INC. To

implement the Mode condition, press and release the MODE button to increment the mode. For MINC, i.e. Mode increment, Press and hold MODE button down and then press the INC button. This should, in the appropriate mode, move the cursor to the right to the next operand. Pressing the INC button without the MODE button being pressed will increment the value of the operand each time the INC button is pressed. In certain modes the MINC is not used and it is only necessary to press the INC button to change the operand value such as The 'ALARM SCHEDULER' mode where it is used to toggle the scheduler ON or OFF.

3. SCHEDULER SET UP:

The Scheduler has 7 modes besides the Scheduler set up message. They are:

```
SCHEDULER SET UP
PRESS MODE
```
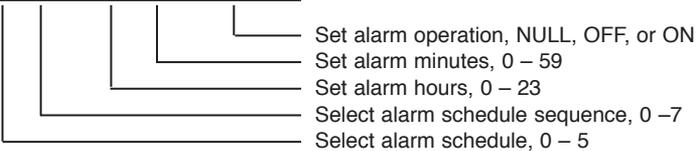
Press the mode button to advance to next mode

'CURRENT TIME', read current time and day of week

```
CURRENT TIME
00:00:00  SUNDAY
```

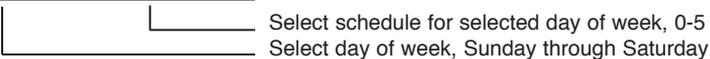— Read clock seconds
— Read clock minutes
— Read clock hours

'SET DAY SEQUENCE', allows the user to set time parameters for four of the six selectable schedules, assign times and set the operating condition, ON, OFF or NULL. The six schedules are arranged as such. Schedule 0, disables the Sentinel all the time for that day of week. Schedule 1, enables the Sentinel so it will transmit the alarm messages all the time for that day of week. Scheduler time tables 2 thru 5 are programmable. Each programmable schedule has 8 settable times, or sequences, which can be either set to ON, OFF or NULL. ON means the messages will be sent from that time period to the next time. OFF, means the messages will not be sent. NULL means that particular time will be ignored.

```
SET DAY SEQUENCE
2 0  00:00 =NULL
```

— Set alarm operation, NULL, OFF, or ON
— Set alarm minutes, 0 – 59
— Set alarm hours, 0 – 23
— Select alarm schedule sequence, 0 –7
— Select alarm schedule, 0 – 5

'SET DOW (Day of Week) & SCHED', set the day of week and assign the schedule number to the selected day of week

```
SET DOW & SCHED
SUNDAY     0
```

— Select schedule for selected day of week, 0-5
— Select day of week, Sunday through Saturday

'SET TIME', allows the user to set the current time in hours, minutes and seconds

```
SET TIME
00:00:00
```

mode; controlled by mode button
operand = time; hrs, mins, sec; operand value = 0-59
        typically; controlled by mode and inc;
———— Set clock seconds, to zero
———— Set clock minutes
———— Set clock hours

'FAIL SAFE INPUT', allows the user to select one alarm zone to be turned on all the time regardless of the Sentinel Scheduler setup conditions. This allows for the protection of the Sentinel alarm system when all the other zones are off, e.g. during business hours. 0 = no fail safe zone is selected. 1 = zone one is on all the time, 2 = zone two is on all the time, 3 = zone three is on all the time.

```
FAIL SAFE INPUT
0 = NO FAIL SAFE
```

———— Press INC to advance through the fail safe zones

'RESET CLOCK MEM', the user can reset all clock memory which includes all the scheduler time and clock memory to 0's.

```
RESET CLOCK MEM
NO    YES
```

———— Press INC to clear real time clock memory and reset
———— Skip memory reset

'ALARM SCHEDULER', the user can turn on or off the scheduler, OFF means the scheduler is not in effect, i.e. the Sentinel will ignore the scheduler and send all alarm messages. ON, means the Sentinel will follow the schedules of the scheduler program.

```
ALARM SCHEDULER
OFF
```

———— Press INC to toggle Scheduler ON or OFF

'STATUS', The status display comes on when an alarm input is sensed. It show which input is active, the schedule, schedule sequence, alarm time plus the operation. The bottom line of the display is the same data as the SET DAY SEQUENCE.

```
STATUS      0000
0 0   00:00 =NULL
```

— Inputs active, 1 – 4

———— Alarm operation, NULL, OFF, or ON
———— Alarm minutes, 0 – 59
———— Alarm hours, 0 – 23
———— Alarm schedule sequence, 0 –7
———— Alarm schedule, 0 – 5

EXAMPLE AND PRACTICE SET UP:

To become familiar and confident in using your Scheduler we suggest that you first practice with setting up the Scheduler by following this example:

Let's say you want to have a schedule with the alarm on all day on weekends. During the week, you want the alarm off from 6:30 in the morning to 6:00 in the afternoon when it is turned on again.

1. Turn on Sentinel in the Scheduler mode. Press and hold MODE and INC buttons down while turning READY switch to power on and release to Ready position. The display will read, 'SCHEDULER SET UP', 'PRESS MODE'.

```
SCHEDULER SET UP
PRESS MODE
```

2. Press MODE button until you see the RESET CLOCK MEM mode. Use MINC mode (Press and hold the MODE button then press the INC button) to move cursor to YES, press INC and all the clock memory is cleared. This presets the clock and eliminates any superfluous data.

```
RESET CLOCK MEM
NO    YES
```

3. Press MODE button until SET DAY SEQUENCE mode is in the display. This is where we set the daily schedule. Pressing the INC button will advance the schedule pointer number. Push the INC button until the number 2 is displayed. Do a MINC, This will move the cursor to the next operand, the sequence list pointer, 0 thru 7. Press INC to advance through the list. Select 0 to start. Do a MINC to move the cursor to the hours position. Use the INC button to select the hour you will want the scheduler to turn OFF. In this case, 06. Now move the cursor to minutes. Set the minutes to 30 with the INC button. Now do a MINC to advance the cursor to the operation, i.e. NULL, OFF or ON. Use the INC button to set it to OFF.
You have just just set a time in the sequence of Alarm Schedule 2 to turn OFF at 6:30 a.m. You will now set another time in the sequence to turn the alarm back on at 6:00 p.m.

```
SET DAY SEQUENCE
2 0  06:30 = OFF
```

4. Do two MINC's to get the cursor around to the alarm schedule sequence. Press INC to advance to 1. Do another MINC to get the cursor on hours. Advance the hours to 18:00, (remember this is a 24 hour clock) do a MINC and the minutes should be 00, if not advance the minutes to 00 with the INC button. MINC the cursor to operation position. Advance the operation to ON. This will be the turn on time.

```
SET DAY SEQUENCE
2 1  18:00 = ON
```

5. We have set the schedule, this is the only one we will need for this situation. Press the MODE to advance the modes around to 'SET DOW & SCHED'. You will notice that each day of week (DOW) has a number associated with it. This is the schedule number. Press the INC button until the day of week is SUNDAY. Do a MINC to get the cursor to the day of week schedule number. Press the INC button to advance the value to 1. This the always on condition. Now, do a MINC to get the cursor back to the DOW. Advance the DOW to MONDAY. MINC the cursor to the schedule number. Advance it to 2. Repeat this for the rest of the weekdays as they will all follow schedule 2. Set Saturday to 1, this is always on. Now set the day of week to the present day.

```
SET DOW & SCHED
SUNDAY      1
```

6. Now advance the MODE to SET TIME. In a simular fashion to setting the scheduler times advance the hours with the INC button to the the present hours. Advance the cursor with a Minc to minutes, advance the minutes with the INC button to the present minutes. Minc the cursor to seconds and pressing the INC button will zero the seconds.

```
SET TIME
00:00:00
```

mode; controlled by mode button
operand = time; hrs, mins, sec; operand value = 0-59
            typically; controlled by mode and inc;

7. Press MODE Button to advance to FAIL SAFE INPUT. Press the INC button to select which zone, 1-3 that is desired for the FAIL SAFE INPUT zone, i.e. always on. Selecting 0 turns off the FAIL SAFE INPUT so that all the zones follow the Scheduler time tables if the Scheduler is on.

```
FAIL SAFE INPUT
0 = NO FAIL SAFE
```

8. Press the MODE button to advance the mode to ALARM SCHEDULER. Press the INC button to toggle to ON. This enables the scheduler to control the Sentinel. Reset the READY switch and set in Ready. It is now ready to put in operation.

```
ALARM SCHEDULER
ON
```

9. Test the operation of the Scheduler by resetting the Ready Switch and returning it to the Ready position. This should turn the Sentinel off. Then put the Sentinel in the TEST mode and activate a sensor. Depending on the current time compared with the most recent scheduler time table, you will see the display flicker on then off, if it is OFF. If it is ON, the Sentinel will display the status and transmit the alarm messages. When the messages are sent the Sentinel will turn itself off and return to the READY mode.

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