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NetWatchman White Paper Series

Advanced Arming Features

Though the vast majority of NetWatchman customers will simply arm and disarm their alarm system, NetWatchman includes very sophisticated arming features usually reserved for very high-end, professionally installed systems found in large commercial buildings. This white paper exposes a few of those more advanced features that may be of interest for a few NetWatchman customers with special needs.

As with most other add-on NetWatchman features, these features are purchased as a license. Most of these features are inexpensively priced under \$20. We will setup your feature per your instructions and download it into your NetWatchman. We'll just make it happen! You don't need to learn any "programming". It's as simple as buying a song on the internet. Thereafter, you may make changes yourself using our windows application NetHome/PC (available for free as a download from our website). You can also ask us to make changes for you by submitting change forms via email – a service that is also generally free.

Add-A-Feature: Smart Exit Delay (with cell phone confirmation) (B854)

As explained in the NetWatchman HomeOwner's Reference Manual, exit delays are selectable by individual sensor. We advise against exit (or entry) delays that are too long because it gives 'bad guys' more time to defeat the alarm and/or grab valuables. Nevertheless, the 'long' exit delay, normally 3 minutes can be extended to as long as four minutes. For a very (very) few customers, even 4 minutes is too short. The problem may be caused by the physical layout of the property, by physical limitations or many other factors.

There is a second very different problem encountered by some customers who have numerous window and door sensors. Those customers worry that a window or door may have been opened after their arming command was entered and that the window or door might remain open at the end of the exit delay. This could cause a false alarm.

This feature identifies one or more doors as 'final exit' doors. In a normal NetWatchman system, the exit delay is a simple timer that expires and arms the system. But, when a 'final exit' door opens or closes, very special software modifies the exit delay algorithm. When any 'final exit door' is open, the system-wide exit delay is frozen – anything that had already armed prior to opening a 'final exit door' remains armed but anything that had a remaining exit delay now remains suspended/disarmed. When all 'final exit' doors that opened are now closed, the system arms immediately. If the arming was successful, your cell phone rings (there's no voice, no tones, no message...just a

ring). If no 'final exit door' ever opened, the normal exit delays apply unmodified. If a final exit door opens and never closes, the system attempts to arm and sends a signal after 10 minutes. Note that only a single cell phone number is called --- if the family has multiple cell phones, this feature must be associated with a single phone. Also, it is critically important that you expect the cell call. That is, if your cell phone does not ring you should assume that arming has somehow failed --- return to the premises and investigate.

What does this all mean? For the person who needed significantly longer exit delays, it gives them up to 10 minutes. Just make certain you open a 'final door' before the system arms and that you close that door as the final act of leaving. Remember that closing that door immediately arms the alarm --- so don't re-open it! For the person with many windows/door, closing the 'final' door results in an expedited/short exit delay. The system now arms very quickly and the person receives very quick arming confirmation via the cell phone ring.

Add-A-Feature: Daytime Security (C884)

Sometimes it's useful to know when someone has entered – even when the alarm system is not fully armed. Daytime Security gives you a special arming mode in which certain doors other sensors briefly 'chime'. That is, when the door opens or motion is detected, the beeper briefly pulses to let you know someone is there. Some customers use this feature for a door. Perhaps you'd like to know when a side gate unexpectedly opened. With professional installation, some customers have connected this feature to a driveway sensor alerting them to an approaching car. Still other customers have used this feature to let them know that a small child has crawled into a kitchen cupboard.

Add-A-Feature: Vacation Mode Arming (B855)

Several home automation features have provisions for operating differently when you are on vacation. For example, your thermostat may operate very differently when you are on vacation than when you are away. Features which permit housekeeper access, monitor children coming home from school, etc may also operate differently when you are on 'vacation'. For most installations, standard burglary sensors will operate the same as 'away' mode --- it's the other automation features that typically vary. This feature ships with a special fob that is used to arm the system when you leave on 'vacation' or for any extended absence.

Add-A-Feature: Motion Sensor Verification (C856)

Every NetWatchman ships with a standard 'multi-sensor in alarm' feature. If you have multiple burglary sensors information is coordinated among the sensors. If multiple sensors confirm motion, an additional signal is sent to the Professional Dispatcher indicating that multiple sensors have confirmed motion. That's a standard feature on every NetWatchman (and typically not found on any other consumer-installed product). If you are concerned that one or more sensors may be particularly prone to false alarms, you can add 'motion sensor verify' to those sensors. When enabled, that sensor does not

by itself with a single activation trip the alarm. Instead, a second activation is required of that sensor within a 60 second window or a confirming activation by another, independent sensor is required. Log entries record maintenance/reliability issues so that you can later follow up on activations that did not result in a full alarm. While this may lessen protection, it may enhance reliability against false alarms in particularly harsh environments.

Did You Know...Sensors can be Temporarily Disabled for Maintenance???

If you suspect a sensor has become defective, give us a call. We can temporarily disable that sensor allowing you to maintain protection from other sensors. There is no charge for this service (presuming that your use is very occasional).

Add-A-Feature: Confirm Arming

Receive a cell phone call (B886) or flash exterior lights (B887) to confirm that your system has properly armed

Customers who have many burglary sensors, particularly many door/window sensors, may be concerned that a sensor failed to arm as they leave (did I close the door leading into the garage as I exited?). This feature provides added peace of mind as you drive away letting you know that the system armed with any 'forced-armed' (failed to arm) sensors. One version of this feature uses your cell phone. For each instance of the feature, a cell phone number is associated with a fob/arming code. When the system properly arms with that fob, your cell phone will ring. (There is no voice or tone on the other end of the line...it is the ringing of your cell originating from your house phone number that signals arming). For customers with home automation, another version of the feature can flash an externally visible light (for example, a porch light controlled by Insteon) to signal arming.

Add-A-Feature: Night Security Mode (Partial Protection) (B857)

A special fob arms some of your sensors while you sleep

There are several methods of implementing a 'night mode' feature. Three are discussed in this white paper. Most 'night mode' type features require a somewhat greater number of sensors and require some planning regarding sensor location. In 'night mode' some of your sensors provide partial protection of the premises while others remain not armed so that you can move about. The first, and simplest, requires that you designate a subset of your sensors that should not be armed in 'night' mode --- presumably sensors that protect areas in which you wish to move at night (we'll call these 'night OK sensors'). When you arm the system in 'night mode', the 'night OK' sensors you designated will remain disarmed permitting motion in those portions of the house. This is the most common method of implementing 'night mode'.

With this feature you'll receive an additional fob. This fob performs the arming function described above. It does not disarm. You'll still need one of your other more privileged fobs to perform the disarm when you wakeup. This is the simplest method and works well in houses where you want to place the system in night mode as you go to bed and then disarm using a separate fob at wakeup. These are houses where your bathrooms or other places you wander at night are all part of the 'night OK' sensors. Because a separate fob is required, this method is less convenient if you need to perform disarm-then-rearm cycles several times through the night (just to go to the bathroom). For those houses, consider the Sleep Walk Paths Automatic feature described below.

When NetWatchman is operating in 'night mode' most NetWatchman modules display a special blue-colored indicator. If you own other night-dependent features, such as Smart Thermostat, this fob will also activate those features.

Add-A-Feature: Night Security Mode (Sleep Walk Paths) (C858)

NetWatchman knows where you are and makes it OK for you to move about

There are several methods of implementing a 'night mode' feature. Three are discussed in this white paper. Most 'night mode' type features require a somewhat greater number of sensors and require some planning regarding sensor location. In 'night mode' some of your sensors provide partial protection of the premises while others remain not armed so that you can move about. The second, and most sophisticated, uses multiple 'layers' of sensors to know when you are leaving the bedroom and automatically disarms the path ahead of you. It *knows* it's you and authorizes your movement because you are following designated paths that originate from your bed.

For this method, you'll categorize your sensors into 4 categories:

- Sleep Area Sensors – are the sensors in your bedroom. They are never armed in this form of night mode;
- Sleep Exit Sensors – sense you leaving your bedroom sleep area. These are the sensors that let NetWatchman know you've started to move away from your bed. They are not armed to sound an alarm/police but they are being sensed to make a sleep path decision. This might include any one or more of the following:

- A button in each sleeping area that can be pressed before you are detected by any other motion sensor – we'll call it the 'sleep path' button
- A sensor on each door that leads from the sleeping area to other protected areas – you'll need to keep the door closed in 'night mode' except when you intend to walk out of the sleeping areas into other protected areas – we'll call these door sensors 'sleep doors'
- A motion sensor that detects motion in a hallway leading from the sleep area to other protected areas --- we'll call that sensor the 'sleep motion sensor'
- You can combine the three approaches above – as you'll see below, what's important is that you are detected by at least one of these three devices before you enter any other protected area of the house.
- Night OK Sensors – this is the space into which you might move after you've left the Sleep Area. These sensors are armed at night. If motion is detected and that motion did not originate through a Sleep Exit sensor, then these Night OK sensors will sound the alarm. Unlike the 'partial protection method' described in feature C857, this Sleep Path feature may give more of your house protection.
- 'All Other' sensors – remain armed at night. You may not enter this space.

Here's how this method operates. We'll supply an additional night arming fob that initiates night mode. This fob will also disarm/cancel. When you use your fob/code to initiate 'night mode', 'night OK sensors' are armed along with 'all other' sensors. 'Sleep Area' sensors in your bedroom are not armed. 'Sleep Exit' sensors ('Sleep Doors' and 'Sleep Motion') sensors are not armed but are being sensed for special purposes. If you later awake and wish to move throughout the house (e.g. you want to move in the space currently protected by the now armed 'night OK sensors'), you must first press the 'sleep path' button or first be detected by a 'sleep door' opening or first be detected by a 'sleep motion' sensor. When NetWatchman knows that you as the homeowner have initiated authorized motion to leave the sleep areas, it will temporarily disarm the 'sleep OK' devices allowing you to move about. A ten minute window is granted and the ten minutes is extended every time a 'sleep OK', 'sleep door', 'sleep path button' or 'sleep motion' sensor activates. As such, normal protection does not resume until ten minutes after motion has ceased and any 'sleep doors' have re-closed.

When you order this feature, we strongly urge you to have 'home automation' installed and to also order 'Sleep Walk Lighting' (below). It is important that the Sleep Exit sensor detect you leaving the bedroom and it's possible that transmission might be delayed. By having Sleep Walking Lighting, lights will turn on as the system authorizes you to move about – you'll know you've been detected and that moving about is OK.

When NetWatchman is operating in 'night mode' most NetWatchman modules display a special blue-colored indicator. If you own other night-dependent features, such as Smart Thermostat, this fob will also activate those features. In addition, this blue indicator flashes rapidly for about 2 seconds when Sleep Walk first authorizes motion.

Add-A-Feature: Night Security Mode (Sleep Walk Paths with Fob Authorization)
(C877)

This is the same as Sleep Walk Paths described above except it requires no Sleep Exit Sensor. Because a fob is used instead of a Sleep Exit Sensor, you'll receive confirmation at the fob reader – as such, home automation and Sleep Walk Lighting are optional.

Read the description for Sleep Walk Paths above. Setup is the same as Sleep Walk Paths above except there is no Sleep Exit Sensor. With this feature you'll receive a special fob. If the system is disarmed, touching this fob will place the system in Night Mode as described above for Sleep Paths. If you wish to leave the bedroom, touch the fob to a reader. You can optionally ask us to setup the button on the back of the reader to perform the same function as the fob. You'll receive a visual confirmation as the blue indicator light rapidly flashes for a few seconds. You can now walk about as described for Sleep Walk Paths above. If you do install optional Sleep Walk Lights, those lights will turn on. You should use your normal fobs for a full disarm in the morning. (However, the night fob/button can also be used to disarm if you activate Sleep Walk, wait for the brief blue indicator flash, wait a few seconds and then use the fob/button a second time --- using your normal disarm fob is probably simpler). In addition, if the system goes into alarm at night, the night fob will act as a disarm fob.

Add-A-Feature: Sleep Walk Lighting (B859)

This is an additional feature for those customers who have implemented Night Mode using Sleep Walk (see explanation above) and have Home Automation. With this feature, designated lights will turn on lighting your way when sleep paths are temporarily disarmed. When the sleep path timer expires, the system re-arms and the lights turn off.

Add-A-Feature: Night Lights (B878)

Turn on Lights as I go to the bathroom or kitchen

Designate a button on the back of an existing Display Module. Press the button to turn on selected lights – they'll turn off automatically a few minutes later (defaults to 3 minutes – but it's changeable).

Add-A-Feature: Automatic Night Lights (B879)

Turn on Lights (automatically) as I go the bathroom or kitchen

Designate a motion sensor. If the system is in night mode and motion is detected, selected lights will turn on. They'll automatically turn off 3 minutes (programmable) after motion ceases. Requires that you have a 'night mode' initiating fob.

Add-A-Feature: Wakeup Alarm Clock (B880)

Use NetWatchman as a wakeup alarm clock

NetWatchman can use its accurate, battery-backed up clock to waken you in the morning. If you have advanced Smart Thermostat capability, NetWatchman will even change the temperature an hour before the designated wakeup time.

For a complete description, read about the Clock Display Module in the appendices of your HomeOwner's Reference Manual. This features either a Clock Display Module or must use a PC interface for time display/setting.

Add-A-Feature: SEIA Arming Algorithm (C860)

NetWatchman supports a special algorithm developed by the Security Electronics Industry. The SEIA algorithm is intended to reduce false alarms. Very briefly, when SEIA is enabled, any alarm that occurs soon after arming is considered false. In this example, if your housekeeper armed and the alarm triggered shortly after this arming, the police would not be dispatched – instead, you would simply receive a phone call/email. If you are considering this feature, further reading/information is advised because this algorithm will cause some of your alarms to be disregarded or non-dispatched. We believe that other NetWatchman features provide a better approach and, as such, we have chosen not to enable this optional feature in the standard, factory-shipped NetWatchman. A few cities may require this feature for some of their burglar alarms. If you need this feature, it can be optionally enabled. NetWatchman is not tested by SEIA.

Add-A-Feature: Alarm Confidence Monitor (C885)

Although we have attempted to select motion sensors and provide a design which reduces false alarms caused by AC power fluctuations or prolonged power failures, we also provide a sophisticated software feature which ‘grades’ the confidence of an alarm signal. Alarms which originate from a single motion sensor, or from motion sensors that tripped during a prolonged power failure, or from motion sensors that tripped in close time proximity to an AC power ‘glitch’ receive lower confidence ratings. Alarms that are confirmed by multiple sensors or from non-motion sensors receive higher scores. In the case of a very low confidence alarm, you may choose to be notified by phone or email instead of a police dispatch. If you are considering this feature, further reading/information is advised because this algorithm will cause some of your alarms to be disregarded or non-dispatched.

Add-A-Feature: Remotely Arm/Disarming by Sending Email (A886)

Unless specifically disabled, every NetWatchman can be remotely armed, disarmed or status-checked from most internet-browser-enabled devices. This feature is described in your HomeOwner's Reference Manual. There is no charge for this feature. For a small optional setup fee, some customers may ask us to optionally enable a feature which allows them to arm, disarm or obtain status by sending a specially formatted text message. This capability provides the added assurance of a reply email that confirms the command or status. For more information on this exciting capability read the White Paper at: www.x10home.com/pdfdocs/emailcmd.pdf

Custom Consulting: Customized Arming Commands

This applies to be few customers. As noted earlier, NetWatchman includes very advanced capabilities typically reserved for large, high-end, commercial installations. For example, up to 64 different arming fobs can be identified and each fob can be granted access to certain areas at certain times. Sensors can be grouped together based upon multiple buildings or perhaps rooms that require special access (a gallery in an art museum or a safe). These features are useful when you have multiple buildings and access is restricted based upon who is permitted into individual buildings. Sensors can modify the behavior of other sensors (walking through A enroute to B is a different event than walking through B enroute to A). Sensors can be designated to 'chime' only in certain modes (for example, at night a sensor on a backyard gate may briefly pulse the beeper to let you know someone is in the yard).

Setting up these very advanced capabilities requires extensive time and special skills. Genesis charges a minimum consulting setup fee of \$150 for this type of work. If you believe your installation may require this level of consulting, contact us with a description of the work you would like to schedule.