

SILENT WITNESS®

SWC40 Series Surveillance Camera User Guide



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Notices - Warnings

Please read the instructions in this guide carefully **before** you start installing the **SWC40 Series Surveillance Camera**. Keep this guide for future reference.

Safety Warning

Any connection of this device to any equipment other than the intended application may result in a safety hazard, and/or defective operation, and/or equipment damage.

Disclaimer

The information contained in this document is subject to change without notice. **Silent Witness Enterprises Ltd.**, its affiliates, and/or its subsidiaries assume no responsibility for errors and/or omissions contained in this information.

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Features

Thank you for purchasing the **SWC40 Series Surveillance Camera** - the first all-in-one CCTV solution.

The **SWC40 Series** is a high performance camera with digital video recording and video motion detection all within a single compact enclosure that is elegant yet weather resistant and vandal proof.

The **SWC40 Series** features include:

- ❑ Reliable, high performance, solid-state cameras
- ❑ Digital video recording and playback
- ❑ Digital video motion detection
- ❑ Intelligent Light Compensation (ILC)
- ❑ Programmable features and operating parameters
- ❑ Handheld remote arming/disarming control
- ❑ A built-in omnidirectional microphone
- ❑ A tough, weather resistant, fiberglass reinforced polycarbonate enclosure
- ❑ Tamper proof enclosure fasteners
- ❑ A universal camera mount for wall or ceiling installations
- ❑ Power input transient and reverse polarity protection
- ❑ Easy installation and alignment
- ❑ Easy maintenance

Features - continued



Unpacking

Open the **SWC40** packing box and make sure that you have the following items in addition to the **User Guide** you are now reading:

- ❑ One **Product Warranty Card**
- ❑ One **Quick Setup Guide**
- ❑ One **SWC40 Series Camera** (enclosure and mounting base with factory installed audio/video/power cable)
- ❑ Two remote control units
- ❑ Two power adapters
- ❑ One **Quick Change Lens Pack** with 2.9, 6.9 and 8.0 mm lenses (3.5 mm pre-installed)
- ❑ One video playback cable
- ❑ One video adapter plug
- ❑ One external input/output signal cable
- ❑ One **SWC40 Installation Kit** including:
 - One security hex key
 - Four #10×1" Phillips self-tapping screws
 - Four #10 neoprene washers

If you are missing any parts, please contact the dealer you purchased the **SWC40** from or call the **Silent Witness Service Department** (see the **Warranty and Service** section of this guide on page 43 for telephone numbers).

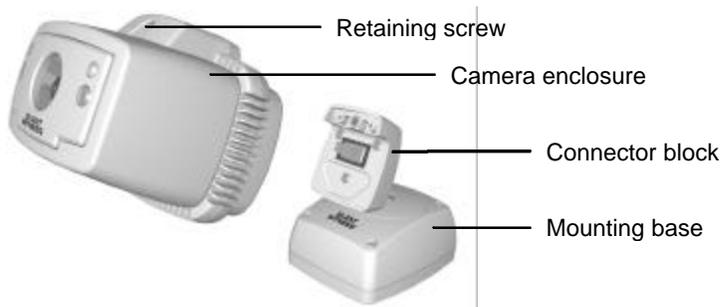
Installation

Mounting the Camera

The **SWC40 Series Camera** is designed to be mounted on a wall or ceiling. The **SWC40** is weather sealed for indoor or outdoor locations. The wiring can be surface mounted or completely concealed to reduce the risk of tampering.

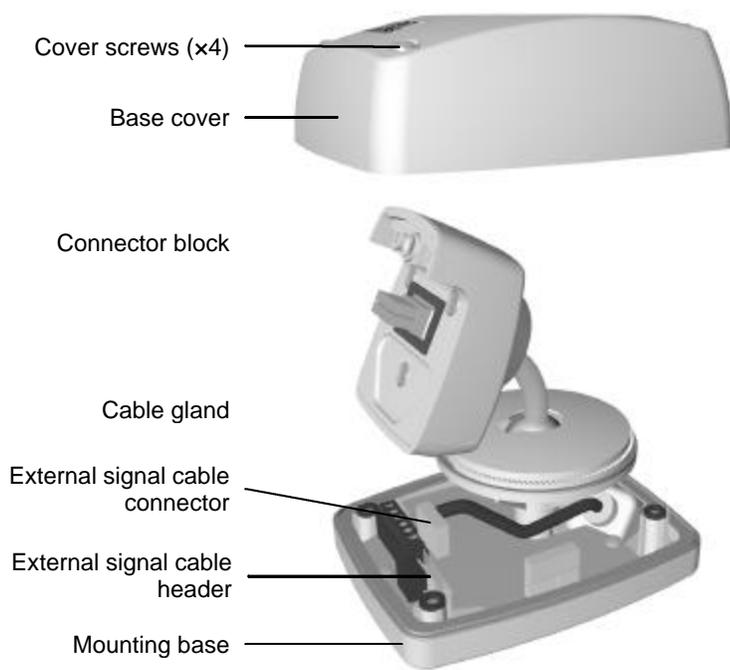
Caution: The **SWC40** pivot arm is designed to lock in position. Do **not** try to adjust the pivot arm before loosening the locking screws, as described in the following steps.

- 1) **To mount the SWC40 on a wall or ceiling**
 - 1 Use the security hex key provided in the **SWC40 Installation Kit** to loosen the #6-32×2" retaining screw that secures the camera enclosure to the connector block. The retaining screw is held in the camera enclosure and should not be removed.
 - 2 Pull the camera enclosure away from the connector block.



Installation - continued

- 3 Use the security hex key to remove the four #6-32×1¼" machine screws securing the cover to the mounting base. Position the connector block as shown below and remove the cover.
- 4 If you do **not** intend to use the external arming or triggering inputs or the alarm output signals, skip this step. Otherwise, plug the external signal cable connector into the keyed header as shown below. Remove the plug in the cable hole, and pull the external signal cable through the hole. Press the tapered cable gland firmly into the cable hole to provide a weather tight seal.



- 5 Use the mounting template on page 47 of this guide to drill mounting and wiring holes in a flat surface on a wall or ceiling. See orientation notes on the mounting template.

Installation - continued

- 6 Use the four #10×1" Phillips self-tapping screws and neoprene washers (included in the **SWC40 Installation Kit**) to attach the **SWC40** mounting base to the wall or ceiling.

Note: Alternate fasteners can be used provided they are not larger in diameter than a #10 screw and provided that neoprene washers are used to properly seal the **SWC40** mounting base.

Wiring the Camera

Note: For secure installations, surface mounted cables should be protected by plastic or metal cable covers (raceways) such as those manufactured by **Wiremold** or **Panduit**.

The **SWC40** is supplied with a factory installed audio/video/power cable. An external signal cable is provided for installations that use the external arming, triggering, or alarm signals (see **Mounting the Camera** on page 5 for external signal cable installation instructions).

u **To connect the audio/video/power cable**

- 1** Plug one of the power adapters supplied with the **SWC40** into a convenient wall socket. Plug the power adapter cable into the power connector (black, 2.1 mm connector, positive power on center pin) on the **SWC40** audio/video/power cable.
- 2** If required, connect the **SWC40** video output signal (female BNC connector) to the video input of an audio/video monitor. Use a BNC adapter plug if necessary (**not** included in the **SWC40 Installation Kit**).
- 3** If required, connect the **SWC40** audio output signal (red, RCA plug) to the audio input of an audio/video monitor.

Note: The **SWC40** will operate as a standalone video motion detector and digital video recorder without connecting the audio or video signals to any external equipment.

Installation - continued

↳ To connect the external signal cable

- ❑ If required, connect the external signal cable to an alarm panel or security system. Read the **Programming** section of this guide on page 22 for information about the operation of the external signals.

Wire	External Signal
White	Alarm output, common
Blue	Alarm output, normally open contact (N/O)
Green	Alarm output, normally closed contact (N/C)
Orange	Alarm input, positive voltage
Brown	Alarm input, negative voltage
Red	Trigger input, positive voltage
Black	Trigger input, negative voltage

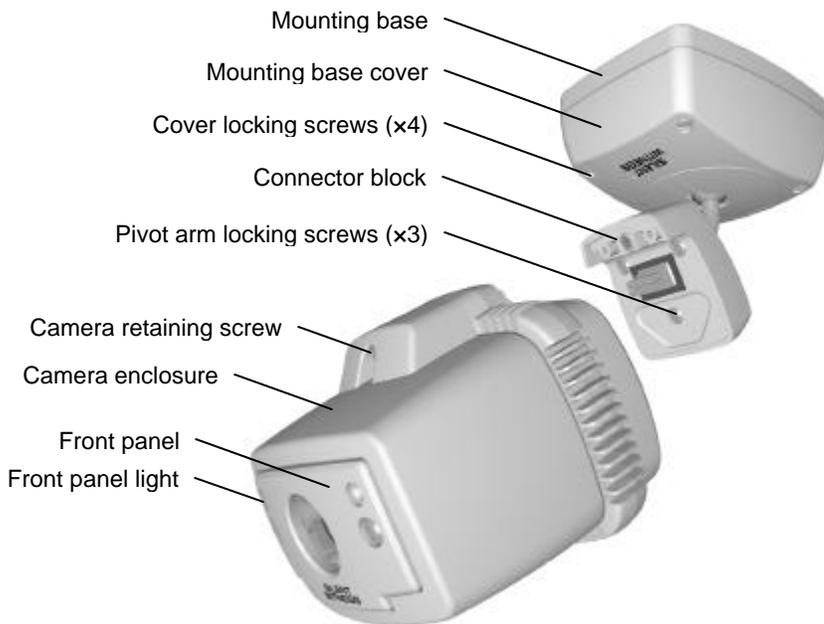
Note: For longer cable runs, use 75Ω coaxial cable and BNC connectors to extend the video signal. Use paired, shielded wire to extend the power, audio, and external input/output signals. The best type of cable to use will depend on the installation. Contact your **Silent Witness** dealer for more information.

Installation - continued

Aiming the Camera

u To aim the camera

- 1 Rotate the pivot arm base plate so the slot is directed toward the camera view. Be careful not to turn the base plate so far that it damages the internal wiring.
- 2 Install the mounting base cover. Make sure the seal around the edge of the cover is properly seated in the grooves in the base and the cover.
- 3 Use the security hex key provided in the **SWC40 Installation Kit** to install the four #6-32×1¼" machine screws that secure the cover to the mounting base. Leave the screws loose so the pivot arm ball joint can be adjusted.



Installation - continued

- 4 Use the security hex key to loosen (but **not** remove) the three machine screws that lock the pivot arm ball joint in the connector block.
- 5 Plug the camera enclosure onto the connector block and secure it in place with the #6-32×2" retaining screw.
- 6 Use the security hex key to loosen the two #6-32×½" machine screws that secure the front panel of the camera enclosure. Remove the front panel of the camera enclosure.
- 7 Plug a video playback cable (provided with the **SWC40**) into the video connector on the front of the camera. Plug the other end of the video playback cable into the video input connector on a video monitor.
- 8 Turn on the power to the camera and the power to the video monitor.

Note: If you do not see a live picture on the video monitor, the **SWC40** is probably in playback mode. Press the ♥ **EXIT** button for longer than 3 seconds to exit playback mode.

- 9 Adjust the position of the camera enclosure and the pivot arm to the desired view on the video monitor.
- 10 Use the security hex key to tighten the four machine screws that secure the cover to the mounting base to lock the pivot arm ball joint in the mounting base.
- 11 Remove the camera enclosure from the connector block. Use the security hex key to tighten the three machine screws that lock the pivot arm ball joint in the connector block.
- 12 Plug the camera enclosure onto the connector block and secure it in place with the #6-32×2" retaining screw.

Adjusting Audio Sensitivity

The audio output signal is always available at the audio output connector of the audio/video/power cable. The audio signal is not recorded by the **SWC40**.

The audio sensitivity of **SWC40 Series Cameras** may need to be increased in quiet locations or decreased in noisy locations.

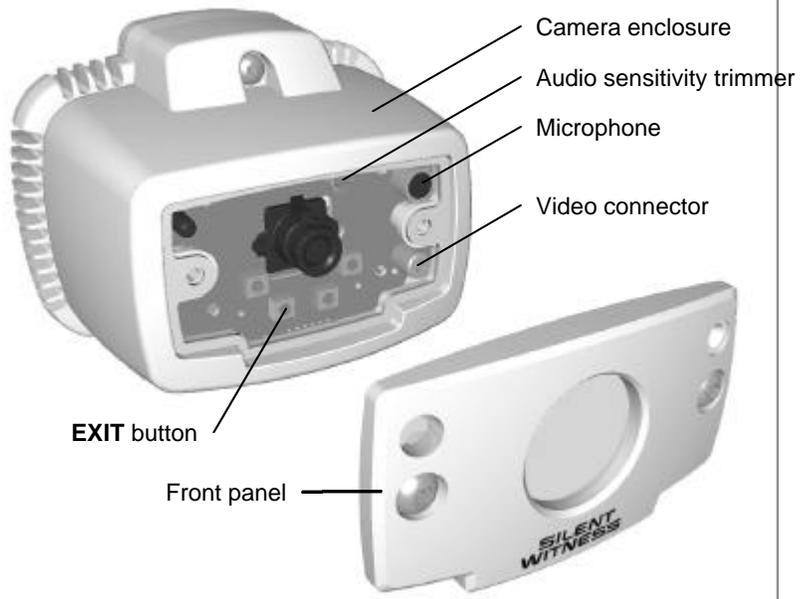
u **To adjust the audio sensitivity**

- 1** Use the security hex key provided in the **SWC40 Installation Kit** to loosen the two machine screws that secure the front panel to the camera enclosure.
- 2** Hold the front panel in place and monitor the audio signal.
- 3** Remove the front panel to adjust the small trimmer located to the left of the microphone as shown on the next page.
 - Turn the trimmer **clockwise** to **increase** audio sensitivity.
 - Turn the trimmer **counterclockwise** to **decrease** audio sensitivity.

Caution: The trimmer will be permanently damaged if it is forced to turn too far.

- 4** Repeat steps 2 and 3 until the audio sensitivity is correctly set.
- 5** Secure the front panel in place with the machine screws.

Installation - continued



Recording

The **SWC40** has a built in, programmable, digital video recorder that can be triggered by an internal video motion detector and/or by an external trigger signal.

The image quality, recording rate, recording duration, and trigger source can be programmed from on-screen menus (see the **Programming** section of this guide on page 22 for details).

Recording Modes

The **SWC40** recording cycle includes the following modes of operation:

- Disarmed** In disarmed mode, the **SWC40** is waiting for an arming signal from the handheld remote control or from the external arming input signal. When an arming signal is received, the **SWC40** goes to arming mode.
- Arming** In arming mode, the **SWC40** ignores triggers from the internal video motion detector and/or the external trigger input signal for 60 seconds. When the arming delay ends, the **SWC40** goes to armed mode.
- Armed** In armed mode, the **SWC40** is waiting for a trigger from the internal video motion detector and/or the external trigger input signal. When a trigger occurs, the **SWC40** goes to record mode.
- Record** In record mode, a sequence of digital images are recorded for a programmed length of time. When the recording sequence ends, the **SWC40** returns to armed mode.

Recording - continued

While the **SWC40** is disarmed, arming, armed, or recording, a live video signal is output with a user programmable time, date, and title overlay.

Turning power off while the **SWC40** is arming, armed, or recording will arm the **SWC40** when power is restored. Otherwise, the **SWC40** is disarmed when power is restored.

The light on the front panel of the **SWC40** camera enclosure flashes a unique pattern for each mode of operation, as shown in the table below.

Front Panel Light	Camera Mode
Red flash every 4 seconds	Disarmed
Double red flash every 4 seconds	Disarmed. At least one sequence was recorded more than 30 seconds before the camera was disarmed (see note below).
Red flash every second	Arming
Continuous red	Armed or recording
Continuous green	Camera is too cold to operate. Wait for camera to warm up to operating temperature.
Off	Camera is powered off, in playback or program modes, or has failed.

Note: If the only sequence recorded occurred 30 seconds or less before disarming, it is assumed that the sequence was triggered by the person who disarmed the camera. The sequence will be recorded but the front panel light will NOT double flash every four seconds.

Using the Handheld Remote Control

The **SWC40** can be armed or disarmed using a handheld remote control that fits on a key ring. The radio signal range of the remote control is at least 20 feet (6 meters) if there are no walls or obstructions blocking the signal.



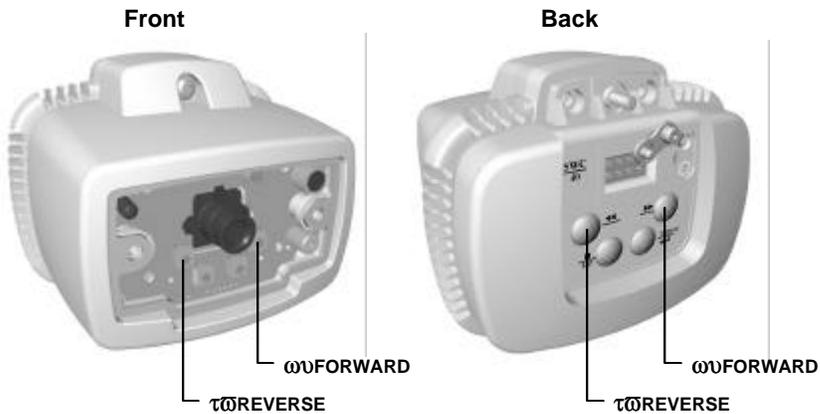
- ↳ **To arm the camera**
 - ❑ While the **SWC40** is disarmed, press the handheld remote control button once to start the 60 second arming delay.
- or ❑ While the **SWC40** is disarmed, press the handheld remote control button once, wait one second, then press the remote control button a second time to immediately arm the camera (no arming delay).

- ↳ **To disarm the camera**
 - ❑ While the **SWC40** is arming, armed, or recording, press the handheld remote control button once to disarm the camera.

Recording - continued

Using the Camera Buttons

The **SWC40** can also be armed or disarmed using buttons on the front or back of the camera enclosure.



⌚ To arm the camera

- ❑ While the **SWC40** is disarmed, press and hold the **FORWARD** and **REVERSE** buttons at the same time for longer than 3 seconds to start the 60 second arming delay.

⌚ To disarm the camera

- ❑ While the **SWC40** is arming, armed, or recording, press and hold the **FORWARD** and **REVERSE** buttons at the same time for longer than 3 seconds to disarm the camera.

Recording - continued

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Playback

In playback mode, the **SWC40 Surveillance Camera** displays previously recorded images. The images can be viewed in forward or reverse order, at normal speed, fast speed or one image at a time.

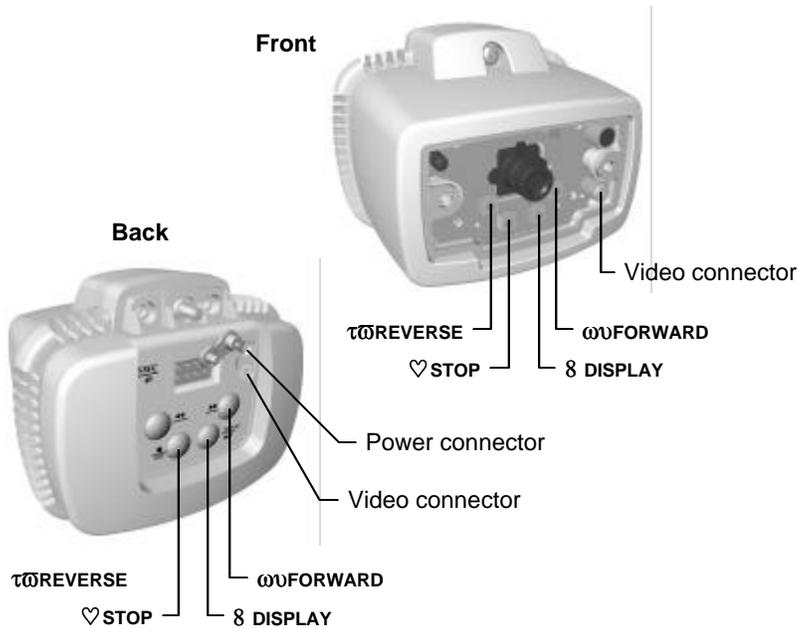
Playback Setup

Recorded video images can be played back while the **SWC40** is attached to the mounting base or the **SWC40** can be detached from the mounting base for more convenient access to the playback controls on the back of the camera enclosure.

- 1) **To playback while the SWC40 is detached from the mounting base**
 - 1 Use the security hex key provided in the **SWC40 Installation Kit** to loosen the #6-32×2" retaining screw that secures the camera enclosure to the connector block. The retaining screw is held in the camera enclosure and should not be removed.
 - 2 Pull the camera enclosure away from the connector block.
 - 3 Plug the **SWC40** power adapter into a convenient wall socket. Plug the power cable into the power connector on the back of the camera enclosure.
 - 4 Plug the video adapter plug and playback cable provided with your **SWC40** into the video output connector on the back of the camera. Plug the other end of the playback cable into a video monitor.

Playback - continued

- ↳ **To playback while the SWC40 is attached to the mounting base.**
 - 1 Use the security hex key provided in the **SWC40 Installation Kit** to remove the two machine screws that secure the front panel of the camera enclosure. Remove the front panel.
 - 2 Plug the video playback cable provided with your **SWC40** into the video output connector on the front panel as shown below. Plug the other end of the playback cable into a video monitor.



Playback Recorded Images

The playback of recorded images is controlled by buttons on the front and back of the **SWC40** camera enclosure as shown above.

Playback - continued

⏮ To enter playback mode

While the **SWC40** is disarmed, press either the **⏮FORWARD** or **⏪REVERSE** buttons (but not both at the same time) to go to playback mode. **⏮FORWARD** will display the first image recorded in the most recent recording sequence. **⏪REVERSE** will display the last image recorded in the most recent recording sequence. If there are no recorded images, the message "**NO IMAGES RECORDED**" will overlay the live video image and the camera will return to disarmed mode.

While the **SWC40** is in playback mode, the four buttons on the front and back of the **SWC40** camera enclosure function as follows:

⏪REVERSE Press this button to display the previous image. If there is no previous image, the display will not change.

Press and hold this button for two seconds to display previous images at the same speed they were recorded.

While playing back images at normal speed, press and hold this button for two seconds to display images at high speed.

Playback will stop when there are no previous images to display.

⏮FORWARD Same as **⏪REVERSE** but in the forward direction.

⏹STOP Press this button during forward or reverse playback to stop the display on the current image.

Press and hold this button for two seconds while the display is stopped to exit playback mode and return to disarmed mode.

8 DISPLAY Press this button to toggle the time, date, and title overlay display on and off. Hiding this information prevents details of the image being obscured by the overlaid text.

Programming

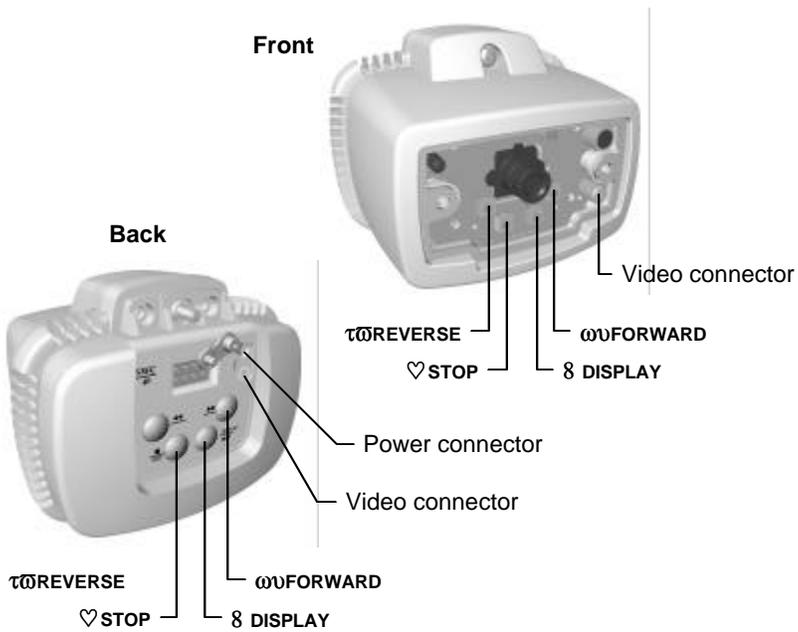
Many features and operational parameters of the **SWC40 Surveillance Camera** are user programmable from on-screen menus.

The **SWC40** can be programmed while it is attached to the mounting base or it can be detached from the mounting base for more convenient access to the controls on the rear of the camera enclosure. However, the Intelligent Light Compensation (ILC) and motion detector parameters should be programmed with the **SWC40** attached to the mounting base and aimed at the desired scene.

- ∪ **To program the SWC40 while it is detached from the mounting base**
 - 1** Use the security hex key provided in the **SWC40 Installation Kit** to loosen the #6-32×2" retaining screw that secures the camera enclosure to the connector block. The retaining screw is held in the camera enclosure and should not be removed.
 - 2** Pull the camera enclosure away from the connector block.
 - 3** Plug the **SWC40** power adapter into a convenient wall socket. Plug the power cable into the power input connector on the back of the camera enclosure (see figure on next page).
 - 4** Plug the video adapter plug and playback cable provided with your **SWC40** into the video output connector on the back of the camera. Plug the other end of the playback cable into a video monitor.

Programming - continued

- ↳ **To program the SWC40 while it is attached to the mounting base**
 - 1 Use the security hex key provided in the **SWC40 Installation Kit** to remove the two machine screws that secure the front panel of the camera enclosure. Remove the front panel of the camera enclosure.
 - 2 Plug a video playback cable (provided with the **SWC40**) into the video output connector on the front of the camera. Plug the other end of the video playback cable into the video input connector on a video monitor.



Programming - continued

↳ To enter program mode

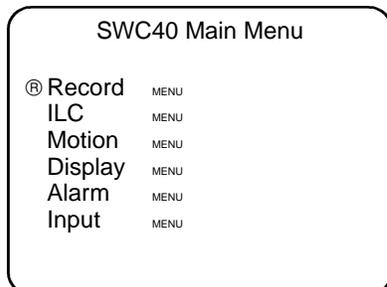
While the **SWC40** is disarmed, press and hold the **8 DISPLAY** button for two seconds to go to program mode.

Note: While in program mode, if no buttons are pressed for 30 seconds, the **SWC40** will automatically return to disarmed mode.

When you first go to program mode, the following text display will overlay the live video signal.



Five seconds later the Main Menu display will overlay the live video signal. You can also press the **8 DISPLAY** button during the first five seconds to go directly to the Main Menu display.



Programming - continued

While the **SWC40** is in program mode, the four buttons on the front and back of the camera enclosure function as follows:

⏮ REVERSE If you are selecting a menu item, press this button to move the menu cursor up one item in a menu list. If the menu cursor is at the top of the list it will wrap around to the bottom of the list.

If you are selecting a parameter value from a list of values, press this button to select the previous value in the list.

⏭ FORWARD If you are selecting a menu item, press this button to move the menu cursor down one item in the menu list. If the menu cursor is at the bottom of the list it will wrap around to the top of the list.

If you are selecting a parameter value from a list of values, press this button to select the next value in the list.

8 DISPLAY Press this button to choose a menu item, or to choose a parameter value that you want to change.

♥ STOP Press this key to accept a parameter value or to exit a menu and return to a higher level menu.

Press this key when the Main Menu is displayed to exit program mode and return to disarmed mode.

Record Menu

On the Main Menu, use the **⏪FORWARD** or **⏩REVERSE** buttons to position the menu cursor at Record. Press the **8 DISPLAY** button to display the Record menu.

Record Menu	
Ⓜ Source	Motion
Rate	1 Sec/Image
Quality	High
Time	2 Seconds
Overwrite	Off

On the Record menu, use the **⏪FORWARD** or **⏩REVERSE** buttons to position the menu cursor at one of the menu options. Press the **8 DISPLAY** button to select a menu option, then use the **⏪FORWARD** or **⏩REVERSE** buttons to cycle through the values for that menu option. Finally, press the **♥EXIT** button to accept a value.

Source This option specifies the event or events that will trigger a recording sequence while the camera is armed.

Motion Record when video motion is detected

Ext. Trig. Record when an external trigger signal is detected

Both Record when either video motion or an external trigger signal is detected

Off Do not record

Programming - continued

Rate This option sets the time between recorded images. The range of values is:

- 0.5 seconds/image (2 images per second)
- 1 second/image (1 image per second, default value)
- 2 seconds/image (1 image every 2 seconds)
- 5 seconds/image (1 image every 5 seconds)

Quality The **SWC40** can record images at three quality levels:

- Good
- High (default)
- Super

Time This option sets the length of time or number of images that will be recorded after each event trigger. The range of values is:

- 1 image
- 2 seconds (default)
- 5 seconds
- 10 seconds
- 1 minute
- 5 minutes

Full - record until image storage is full

See the **Specifications** section of this guide on page 45 to determine how many recording sequences can be stored for each Rate, Quality, and Time value.

Overwrite If this option is On and the image storage is full, each new sequence will overwrite the oldest sequence.

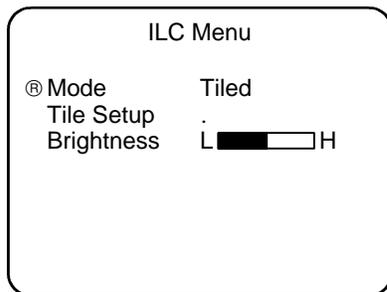
If this option is Off (default) and the image storage is full, no more images will be recorded and the camera will automatically be disarmed. When the camera is re-armed the previous message can be overwritten.

If the Time option (see above) is set to Full, the Overwrite option is ignored. The first recording sequence will fill the image buffer and it will not be overwritten, even if the Overwrite option is On.

Intelligent Light Compensation (ILC) Menu

The Intelligent Light Compensation (ILC) feature automatically adjusts the electronic shutter speed and other operating parameters of the camera based on light levels in specific areas of interest in the image. This compensation provides better image quality for scenes that are unevenly lit.

On the Main menu, use the **⏩FORWARD** or **⏪REVERSE** buttons to position the menu cursor at ILC. Press the **8 DISPLAY** button to display the ILC menu.



Mode ILC has three operating mode selections:

- Tiled** Adjusts camera lighting compensation based on lighting conditions in user defined areas of the image (see Tile Setup option below).
- Tracking** Adjusts camera lighting compensation based on the lighting conditions surrounding areas of movement in the image.
- Off** Adjusts camera lighting compensation based on the overall lighting conditions in the image.

Programming - continued

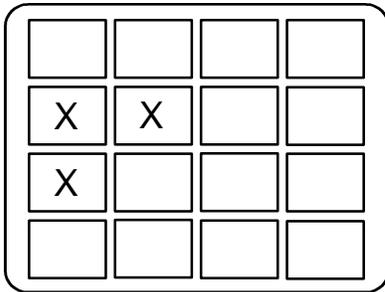
Tile Setup This option allows you to specify which areas of the image will be used to adjust camera lighting compensation.

When you select this menu item, a tiled grid will overlay the live video image.

Use the **⏪FORWARD** and **⏩REVERSE** buttons to select a tile (indicated by a flashing border).

Press the **8 DISPLAY** button to toggle an **X** in the middle of the selected tile on and off. Areas of the image inside tiles with an **X** will be ignored by the ILC program.

Press the **♡EXIT** button to return to the ILC Menu.



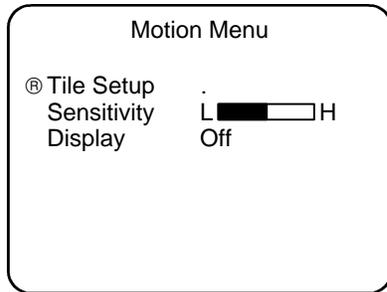
Brightness When this option is selected, the letters **L** (low) and **H** (high) on the brightness scale will flash. Use the **⏪FORWARD** and **⏩REVERSE** buttons to increase or decrease the brightness of the video image.

Programming - continued

Motion Menu

The **SWC40** has a built in video motion detector. The Motion menu allows you to adjust video motion detection parameters.

On the Main menu, use the **⏪FORWARD** or **⏩REVERSE** buttons to position the menu cursor at Motion. Press the **8 DISPLAY** button to display the Motion menu.



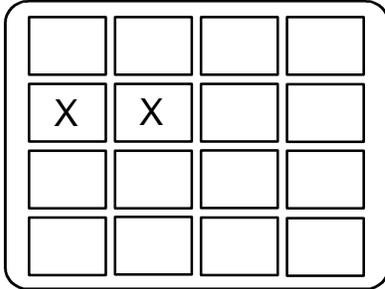
Tile Setup When you select this menu item, a tiled grid will overlay the live video image as shown on the next page.

Use the **⏪FORWARD** and **⏩REVERSE** buttons to select a tile (indicated by a flashing border).

Press the **8 DISPLAY** button to toggle an **X** in the middle of the selected tile on and off. Areas of the image inside tiles with an **X** will be ignored by the motion detector.

Press **♥EXIT** to return to the Motion menu.

Programming - continued



Sensitivity This option sets the sensitivity of the motion detector. When this option is selected, the letters **L** (low) and **H** (high) on the sensitivity scale will flash. Use the **⏪FORWARD** and **⏩REVERSE** buttons to increase or decrease motion sensitivity. Motion sensitivity depends on the size of the moving object, the speed of movement, and the distance moved.

Display When this option is On, the video motion detector will momentarily display an **X** on the area of the screen where motion is detected. This feature is helpful when you are adjusting the motion sensitivity. The **X** is not recorded with the image.

Programming - continued

Display Menu

The Display menu allows you to set the date and time, change the display title, and change the position of the display in the video image.

On the Main menu, use the ⏩FORWARD or ⏪REVERSE buttons to position the menu cursor at Display. Press the 8 DISPLAY button to see the Display menu.

Display Menu	
Ⓜ Time	12:35:47
Date	Feb 17 1999
Title	Silent Witness
Position	Bottom-Right
Visible	On

Time This option allows you to set the time of day. The time is shown as Hours:Minutes:Seconds and **a** or **p** for AM and PM. The Seconds field is not adjustable - it is automatically set to zero when the other time fields are changed.

Press the 8 DISPLAY button to toggle between the Hours and Minutes fields.

Use the ⏩FORWARD or ⏪REVERSE buttons to increase or decrease the value.

Press the ♥EXIT button to accept the new time.

Programming - continued

Date This option allows you to set the calendar date. The date is shown as Month Day Year. The first two digits of the year can be set to **19**, **20** or **21**. The last two digits of the year can be set to any number from **00** to **99**.

Press the **8 DISPLAY** button to cycle through the Month, Day, and Year fields.

Use the **⏩ FORWARD** or **⏪ REVERSE** buttons to increase or decrease the value of a field.

Press the **♥ EXIT** button to accept the date.

The **SWC40** is fully Year 2000 compliant.

Title This option allows you to set a twelve character title line. The available characters include upper and lower case letters of the alphabet, numbers **0** to **9**, and blank. Set all characters to blanks if you do not want a title.

Press the **8 DISPLAY** button to cycle through each of the twelve character positions in the title.

Press the **⏩ FORWARD** and **⏪ REVERSE** buttons to choose a character.

Press the **♥ EXIT** button to accept the title.

Position This option allows you to choose the position of the time, date, and title display in the video image. The choices are:

- Bottom-Right (default)
- Bottom-Left
- Top-Left
- Top-Right

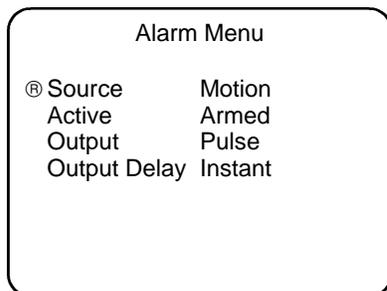
Visible This option allows you to turn the time, date, and title display On (default) or Off in the live video output signal. The time, date, and title are always recorded with each video image even if the Visible option is Off.

Programming - continued

Alarm Menu

The Alarm menu allows you to set parameters that control the external alarm output signal.

On the Main menu, use the **⏩FORWARD** or **⏪REVERSE** buttons to position the menu cursor at Alarm. Press the **8 DISPLAY** button to see the Alarm menu.



Source This option specifies the event or events that will activate the alarm output signal.

Motion Activated by video motion detection

Ext. Trig. Activated by an external trigger signal

Both Activated by either video motion detection or an external trigger signal

Off The alarm signal is always off

Active The option specifies when an alarm output signal can be activated.

Armed Activated only while the camera is armed or recording.

Always Activated while the camera is disarmed, armed, or recording.

Programming - continued

Output This option specifies the type of alarm output signal.

Pulse The alarm output is activated for 1 second each time it is triggered.

Latched The alarm output remains activated until the camera is disarmed.

Output Delay This option allows the alarm output signal to be delayed.

Instant The alarm output is activated immediately when an alarm event occurs.

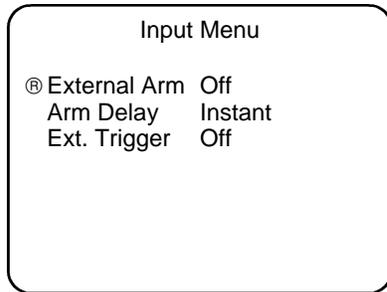
30 seconds The alarm output is activated 30 seconds after an alarm event occurs. If the alarm event ends before the 30 second delay ends, the alarm output will still be activated, unless the camera has been disarmed and the Active option is set to Armed.

Programming - continued

Input Menu

The Input menu allows you to set parameters that determine how the external arming and trigger signals control the operation of the camera.

On the Main menu, use the **⏩FORWARD** or **⏪REVERSE** buttons to position the menu cursor at Input. Press the **8 DISPLAY** button to see the Input menu.



Ext. Arm This option specifies the external arming signal transition required to arm the camera.

Low-to-High Arms the camera when the external arming signal changes from a low to a high level.

High-to-Low Arms the camera when the external arming signal changes from a high to a low level. This is the preferred selection for secure installations.

Off Disables the external arming signal.

Programming - continued

Arm Delay This option specifies the arming delay after the external arming signal transition.

Instant Arms the camera immediately when an external arming signal occurs.

30 Seconds Arms the camera 30 seconds after an external arming signal occurs.

Ext. Trigger This option specifies the external trigger signal transition required to start a recording sequence.

High Level (default) Starts one recording sequence when the external trigger signal goes from a low to a high level. If the external trigger signal is at a high level when the recording sequence ends, a new recording sequence will start.

Low Level Starts one recording sequence when the external trigger signal goes from a high to a low level. If the external trigger signal is at a low level when the recording sequence ends, a new recording sequence will start.

Low-to-High Starts one recording sequence when the external trigger signal goes from a low to a high level. The camera will return to armed mode at the end of one recording sequence. Low-to-high transitions during a recording sequence are ignored.

High-to-Low Starts one recording sequence when the external trigger signal goes from a high to a low level. The camera will return to armed mode at the end of one recording sequence. High-to-low transitions during a recording sequence are ignored.

Off Disables the external trigger input signal.

Learning a New Remote Control Code

Each **SWC40** remote control unit has a unique digital identification code. If you lose a remote control unit or require additional units, contact your **SWC40** distributor or salesperson to order an **SWC40 Remote Control Kit**.

Before you can use a new remote control unit, your camera must learn the digital identification code of the new unit. The **SWC40** can learn up to seven codes. The eighth and subsequent codes will always replace the seventh code.

Note: Although it is possible to program several cameras to recognize a single remote control unit, arming one camera could unintentionally disarm other nearby cameras. To avoid this problem, use a separate remote control unit for each camera at the same site.

∪ **To learn a new remote control code**

- 1** While the **SWC40** is disarmed, press the ♥**EXIT** and **8 DISPLAY** buttons at the same time for three seconds. The front panel light will turn on for two seconds and the messages "Remote Program" and "Press Remote" will appear on the video monitor.
- 2** Press the remote control button once within 4 seconds of the prompt. The front panel light will flash and the message "Press Again" will appear on the video monitor.
- 3** Press the remote control button again within 4 seconds of the prompt. The front panel light will flash and the message "Learned" will appear on the video monitor.
- 4** The camera will automatically return to the disarmed mode within three seconds.

Routine Maintenance

Regular liquid cleaners or graffiti gel can be used to remove most substances from the **SWC40** enclosure.

Caution: Do not use alcohol or solvents to clean the camera enclosure, window, or mounting base.

Caution: Although the Lexan window in the **SWC40** camera enclosure is scratch resistant, harsh or abrasive cleaners can scratch the window and reduce visibility of the camera.

Window Replacement

If the Lexan window in the **SWC40** camera enclosure is damaged or scratched beyond use, contact your **SWC40** distributor or salesperson to order an **SWC40 Window Replacement Kit**.

Troubleshooting

∪ **Front panel light is off**

See page 15 for a description of the front panel indicator light patterns.

- ❑ Make sure the camera is not in playback or programming modes.
- ❑ Make sure the power adapter is powered and connected to the camera.
- ❑ If you are not using the original power adapter, make sure the power supply voltage is between 8.5 and 18 Vdc (positive voltage on center pin).

∪ **No audio or video signals**

- ❑ Make sure the front panel light is not off (see related troubleshooting item above).
- ❑ Check your audio/video wiring and connections.
- ❑ Increase the audio sensitivity (see the **Adjusting Audio Sensitivity** section of this guide on page 12 for details).

∪ **Fuzzy video image**

- ❑ Check your video wiring and connections
- ❑ Check your video ground connections.
- ❑ Check for ground loops.

Troubleshooting - continued

- ↳ **Camera cannot be armed or disarmed by remote control**
 - ❑ Make sure the front panel light is not off (see related troubleshooting item above).
 - ❑ Make sure you are less than 20 feet (6 meters) from the camera with no obstructions.
 - ❑ Make sure the light on the remote control turns on when the button is pressed. Replace the battery in the remote control if the light does not turn on.
 - ❑ Make sure you are using a remote control that the camera has been programmed to recognize.

- ↳ **Recording is not triggered by motion detection**
 - ❑ Make sure the camera is armed.
 - ❑ Make sure the Source option in the Record programming menu is set to Motion or Both.
 - ❑ Check the Tile Setup option on the Motion programming menu to make sure one or more tiles are enabled (no **X**).
 - ❑ Set the Display option on the Motion programming menu to On and increase the motion Sensitivity.

- ↳ **Cannot playback recorded video**
 - ❑ Make sure the camera is powered and not armed or recording.
 - ❑ Make sure a recording sequence was triggered by motion detection or an external trigger signal.

- ↳ **Cannot program the camera**
 - ❑ Make sure the camera is powered and disarmed (not in playback, armed, or recording modes).

Troubleshooting - continued

- ↳ **Camera cannot be armed or disarmed by the external arming signal.**
 - ❑ Make sure the front panel light is not off (see related troubleshooting item above).
 - ❑ Make sure the External Arm option on the Input programming menu is not Off.
 - ❑ Check the external arming signal voltage level and polarity.

- ↳ **Recording cannot be triggered by the external trigger signal**
 - ❑ Make sure the camera is armed.
 - ❑ Make sure the Source option on the Record programming menu is set to External Trigger or Both.
 - ❑ Make sure the External Trigger option on the Input programming menu is not Off.
 - ❑ Check the external trigger signal voltage level and polarity.

Call the **Silent Witness Service Department** for additional assistance (see the **Warranty and Service** section of this guide on page 43 for telephone numbers).

Warranty and Service

Subject to the terms and conditions listed on the **Product Warranty Card**, during the warranty period, **Silent Witness** will repair or replace, at its sole option, free of charge any defective products returned by prepaid shipping.

In the event you have a problem with any **Silent Witness** product, please call the **Service Department** for assistance or to request a **Return Authorization (RA)** number.

- ❑ In the U.S.A. and Canada, call (800) 893-9513
- ❑ Otherwise, call (1) (604) 574-1523

Be sure to have the model number, serial number and the nature of the problem available for the customer service representative.

Prior authorization **must** be obtained for all returns, exchanges, or credits. **Items shipped to Silent Witness without a clearly identified Return Authorization (RA) number may be refused.**

Regulatory Notices

FCC Statement (U.S.A.)

This device complies with **Part 15** of the **FCC Rules**. Operation is subject to the following conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation

Industry Canada Notice

This **Class B** digital apparatus meets all requirements of the **Canadian Interference-Causing Equipment Regulations**.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Specifications

Power Requirements

Input voltage:	8.5 to 18 Vdc
Power connector polarity:	Positive voltage on center pin
Power consumption:	500 mA at 12 Vdc

Size and Weight

Dimensions: (W × H × D)	4.5" × 4" × 5" (excluding base) 114 mm × 102 mm × 127 mm
Weight:	2.2 lb (1.0 kg) (including base)

Operating Environment

Operating temperature:	14°F to 122°F (-10°C to 50°C)
Storage temperature:	-13°F to 158°F (-25°C to 70°C)
Humidity:	10% to 95% RH, non-condensing

Video Signal

Video output:	1.0 Vp-p (75Ω)
Monochrome video signal:	Standard EIA or CCIR
Color video signal:	Standard NTSC or PAL

Audio Signal

Audio output:	Line level (-5 dBm)
Audio frequency response:	50 Hz to 12 kHz
Audio sensitivity:	-43 dB ±3 dB (ref 1.0 V/Pa)
Minimum load impedance:	600Ω

External Input/Output Signals

Arming and trigger inputs:	5 to 30 Vdc, 250 ms minimum pulse, filtered and optically isolated
Alarm output:	NO, NC and COMMON terminals, 1A at 12 Vdc or 24 VAC

Remote Control Unit

Battery:	One CR2032 lithium 3V button cell
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Specifications - continued

Recording Sequence Storage Capacity
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Maximum Number of Sequences Stored at GOOD Image Quality
Recording Rate (seconds/image)

Recording Time	0.5	1	2	5
1 image	1140	1140	1140	1140
2 seconds	228	380	570	1140
5 seconds	104	190	380	570
10 seconds	54	103	190	380
1 minute	9	18	36	87
5 minutes	2	3	7	18
Full	1	1	1	1

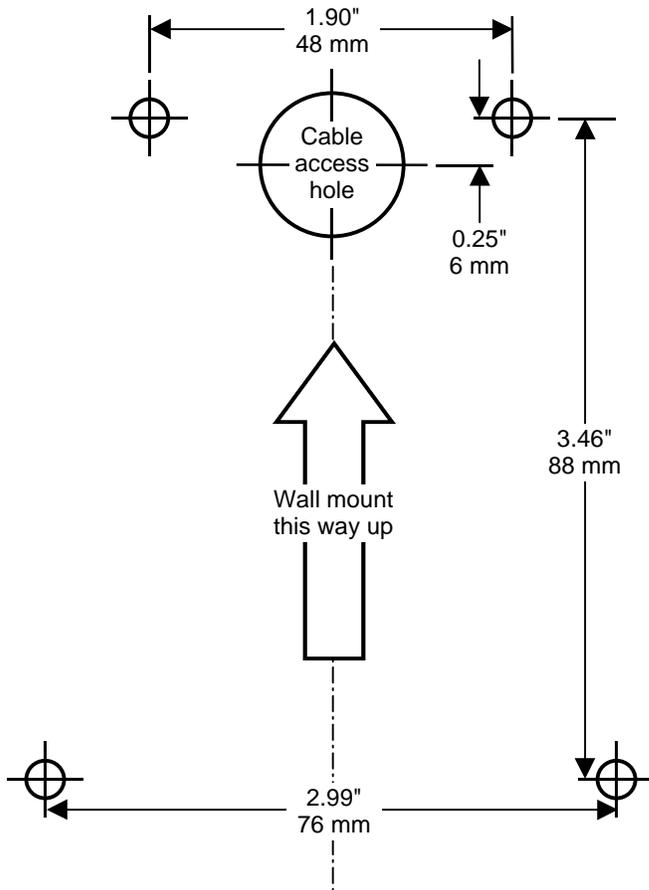
Maximum Number of Sequences Stored at HIGH Image Quality
Recording Rate (seconds/image)

Recording Time	0.5	1	2	5
1 image	800	800	800	800
2 seconds	160	266	400	800
5 seconds	72	133	266	400
10 seconds	38	72	133	266
1 minute	6	13	25	61
5 minutes	1	2	5	13
Full	1	1	1	1

Maximum Number of Sequences Stored at SUPER Image Quality
Recording Rate (seconds/image)

Recording Time	0.5	1	2	5
1 image	533	533	533	533
2 seconds	106	177	266	533
5 seconds	48	88	177	266
10 seconds	25	48	88	177
1 minute	4	8	17	41
5 minutes	1	1	3	8
Full	1	1	1	1

Mounting Template



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