

Video Surveillance System with 4 Indoor/Outdoor Night Vision Cameras

Instruction Manual

English Version 1.0



**MODEL:
SHS-4SM**



www.lorexcctv.com

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Thank you for purchasing the SHS-4SM. Lorex is committed to providing our customers with a high quality, reliable security product.

The SHS-4SM Video Surveillance System with 4 Indoor/Outdoor Night Vision Cameras is easy to set up (connects to any TV, VCR or Monitor) making this security system perfect for protecting your home, family and personal property. The Motion Sensor feature notifies you when motion is detected through the cameras, and the 4 Indoor/Outdoor Night Vision Color Cameras allow you to monitor multiple locations in and around your home with both video and audio.

To learn more about this Video Surveillance Product, and to learn about our complete range of accessory products, please visit our website at:

<http://www.lorexcctv.com>

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO A QUALIFIED SERVICE PERSONNEL		
	The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.	
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.	
WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.		
CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.		

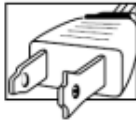
Important Safeguards

In addition to the careful attention devoted to quality standards in the manufacture process of your video product, safety is a major factor in the design of every instrument. However, safety is your responsibility too. This sheet lists important information that will help to assure your enjoyment and proper use of the video product and accessory equipment. Please read them carefully before operating and using your video product.

Installation

1. **Read and Follow Instructions** - All the safety and operating instructions should be read before the video product is operated. Follow all operating instructions.
2. **Retain Instructions** - The safety and operating instructions should be retained for future reference.
3. **Heed Warnings** - Comply with all warnings on the video product and in the operating instructions.
4. **Polarization** - Do not defeat the safety purpose of the polarized or grounding-type plug.

A polarized plug has two blades with one wider than the other.



A grounding type plug has two blades and a third grounding prong.

The wide blade or the third prong are provided for your safety.



If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet

5. **Power Sources** - This video product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your location, consult your video dealer or local power company. For video products intended to operate from battery power, or other sources, refer to the operating instructions.
6. **Overloading** - Do not overload wall outlets of extension cords as this can result in the risk of fire or electric shock. Overloaded AC outlets, extension cords, frayed power cords, damaged or cracked wire insulation, and broken plugs are dangerous. They may result in a shock or fire hazard. Periodically examine the cord, and if its appearance indicates damage or deteriorated insulation, have it replaced by your service technician.
7. **Power-Cord Protection** - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the video product.

8. **Ventilation** - Slots and openings in the case are provided for ventilation to ensure reliable operation of the video product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the video equipment on a bed, sofa, rug, or other similar surface. This video product should never be placed near or over a radiator or heat register. This video product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the video product manufacturer's instructions have been followed.

9. **Attachments** - Do not use attachments unless recommended by the video product manufacturer as they may cause a hazard.

10. **Water and Moisture** - Do not use this video product near water. For example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement, near a swimming pool and the like.

Caution: Maintain electrical safety. Powerline operated equipment or accessories connected to this unit should bear the UL listing mark of CSA certification mark on the accessory itself and should not be modified so as to defeat the safety features. This will help avoid any potential hazard from electrical shock or fire. If in doubt, contact qualified service personnel.

11. **Accessories** - Do not place this video equipment on an unstable cart, stand, tripod, or table. The video equipment may fall, causing serious damage to the video product. Use this video product only with a cart, stand, tripod, bracket, or table recommended by the manufacturer or sold with the video product. Any mounting of the product should follow the manufacturer's instructions and use a mounting accessory recommended by the manufacturer.



Service

13. **Servicing** - Do not attempt to service this video equipment yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
14. **Conditions Requiring Service** - Unplug this video product from the wall outlet and refer servicing to qualified service personnel under the following conditions.
 - A. When the power supply cord or plug is damaged.
 - B. If liquid has been spilled or objects have fallen into the video product.
 - C. If the video product has been exposed to rain or water.
 - D. If the video product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video product to its normal operation.
 - E. If the video product has been dropped or the cabinet has been damaged.
 - F. When the video product exhibits a distinct change in performance. This indicates a need for service.
15. **Replacement Parts** - When replacement parts are required, have the service technician verify that the replacements used have the same safety characteristics as the original parts. Use of replacements specified by the video product manufacturer can prevent fire, electric shock or other hazards.
16. **Safety Check** - Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks recommended by the manufacturer to determine that the video product is in safe operating condition.
17. **Wall or Ceiling Mounting** - The cameras provided with this system should be mounted to a wall or ceiling only as instructed in this guide, using the provided mounting brackets.
18. **Heat** - The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

Use

19. **Cleaning** - Unplug the video product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
20. **Product and Cart Combination** - Video and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the video product and cart combination to overturn.
21. **Object and Liquid Entry** - Never push objects for any kind into this video product through openings as they may touch dangerous voltage points or "short-out" parts that could result in a fire or electric shock. Never spill liquid of any kind on the video product.
22. **Lightning** - For added protection for this video product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the video product due to lightning and power line surges.

NOTE

This equipment has been certified and found to comply with the limits regulated by FCC, EMC, and LVD. Therefore, it is designated to provide reasonable protection against interference and will not cause interference with other appliance usage.

However, it is imperative that the user follows this manual's guidelines to avoid improper usage which may result in damage to the unit, electrical shock and fire hazard injury.

In order to improve the feature functions and quality of this product, the specifications are subject to change without notice from time to time.

FCC CLASS B NOTICE

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception (which can be determined by turning the equipment on and off), the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio or television technician for assistance

General Precautions

1. All warnings and instructions of this manual should be followed
2. Remove the plug from the outlet before cleaning. Do not use liquid aerosol detergents. Use a water dampened cloth for cleaning
3. Do not use this unit in humid or wet places
4. Keep enough space around the unit for ventilation. Slots and openings in the storage cabinet should not be blocked
5. During lightning storms, or when the unit is not used for a long time, disconnect the power supply, antenna, and cables to protect the unit from electrical surge

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SHS-4SM FEATURES

- 4 Channel camera switcher
- Automatic/Manual switch over four channels
- PIR Motion Sensor alarm function
- Adjustable autoscan dwell time for 2s, 5s and 10s
- Adjustable alarm time from 5 - 30 s
- 6 pin mini DIN input for any LOREX CMOS/CCD observation camera
- Easy Setup (connects to any TV, VCR or Monitor) makes this security system perfect for protecting your home, family and personal property
- PIR Motion Sensor feature notifies you when motion is detected through the built-in PIR Sensor on the camera
- 4 Indoor/Outdoor Night Vision Color Cameras allow you to monitor multiple locations in and around your home with both video and audio

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Getting Started

The SHS-4SM comes with the following components:



4-Channel Camera Switcher



4 x Weatherproof Color Day/Night IR Cameras



4 x 57' DIN Extension Cables



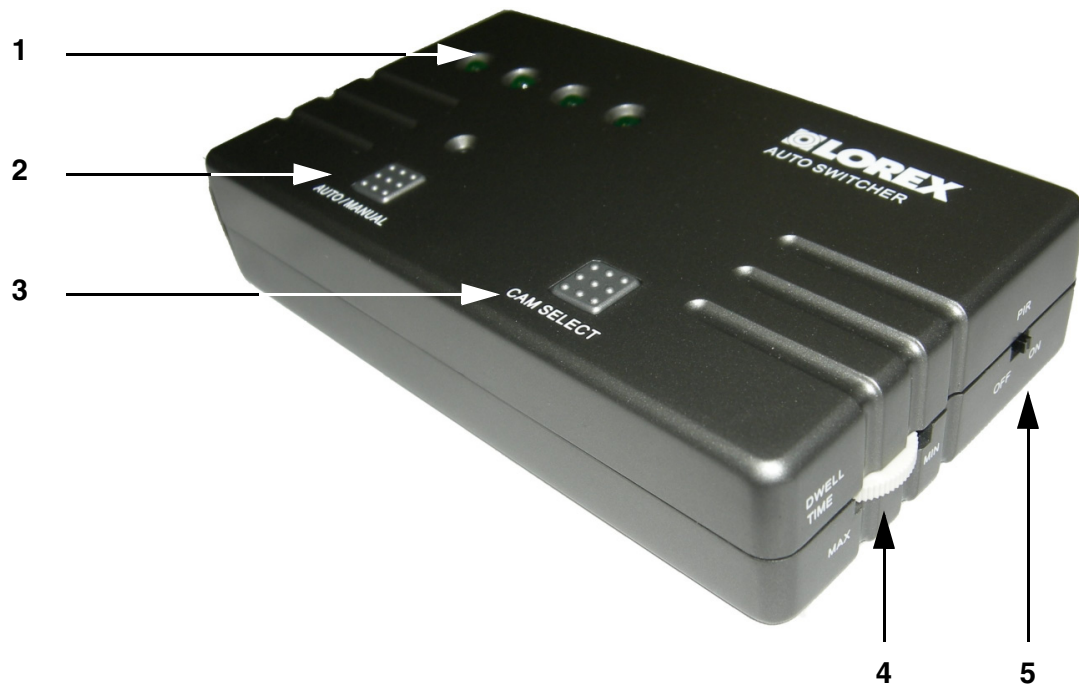
AV Cable



Switcher Power Adapter

CHECK YOUR PACKAGE TO CONFIRM THAT YOU HAVE RECEIVED THE COMPLETE SYSTEM, INCLUDING ALL COMPONENTS SHOWN ABOVE.

SHS-4SM - Front View



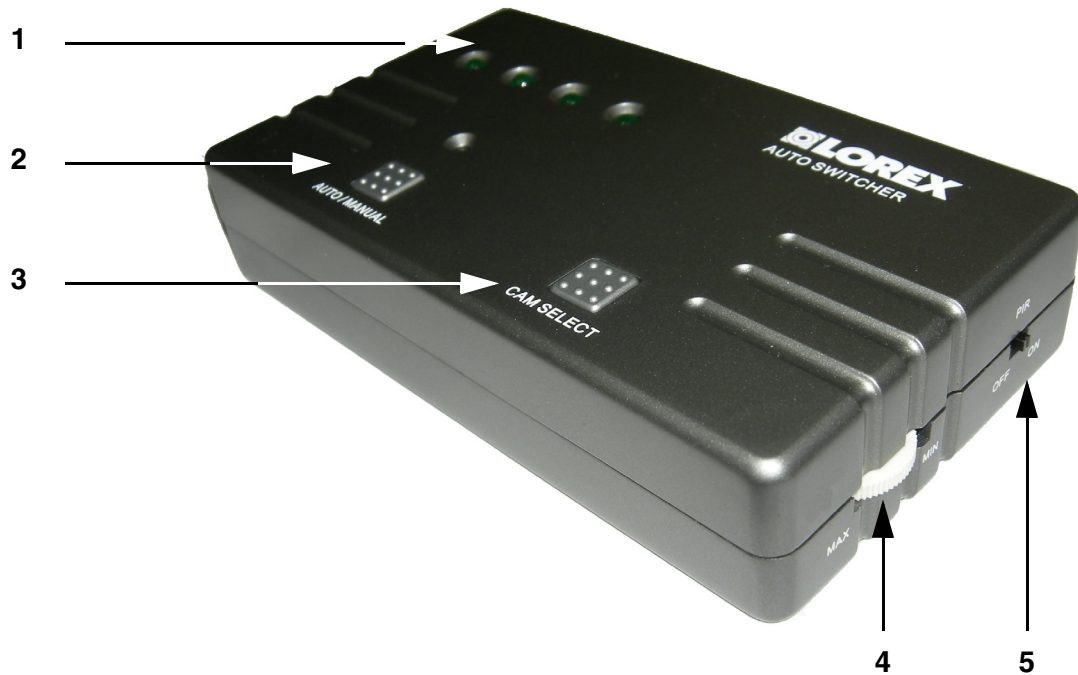
1. **GREEN LED INDICATORS** - Four green LED indicators display the current active camera (corresponding to the rear DIN inputs CAM1-CAM4).'
2. **AUTO/MANUAL SCAN BUTTON** - Scans through the available cameras. When the switcher is initially powered on, the scan type is set to AUTO and will cycle through all available cameras (CAM1-CAM4), displaying one image at a time. The RED LED indicator will be ON or flashing to indicate the switcher is in AUTO SCAN mode.

The AUTO SCAN has a default of 2 seconds per channel. To change this setting, press and hold the CAM SELECT button for 2 seconds to set the preferred duration:

- 2 Second Display Interval - The RED LED is solid
- 5 Second Display Interval - The RED LED will flash (fast flash)
- 10 Second Display Interval - The RED LED will flash (slow flash)

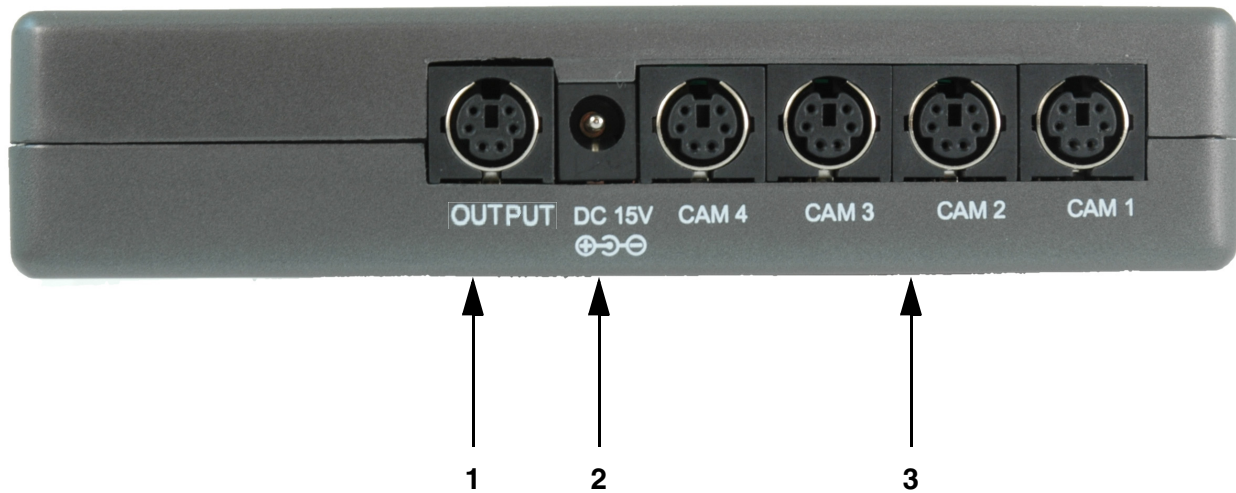
To view a specific camera, press the AUTO/MANUAL button to set the switcher to Manual mode (The RED LED will be OFF). Individual cameras can be viewed by pressing the CAM SELECT button.

SHS-4SM - Front View



3. **CAM SELECT BUTTON** - Manually changes the camera view between available channels. If a channel is empty (a camera is not connected), then the switcher will move to the next detected channel (i.e. Cameras are connected on channels 2 and 3. If the switcher is displaying CAM3 and the CAM SELECT button is pressed, the switcher will skip over CAM4 and CAM1 as there are no cameras connected, and will display CAM2).
4. **ALARM DURATION DIAL** - Sets the Alarm DWELL TIME between 5 and 30 seconds. When motion is detected by the PIR Camera, the switcher will switch to that camera and display the image for the time set by the ALARM DURATION DIAL.
5. **PIR ON/OFF SWITCH** - Turns PIR detection ON or OFF. If PIR detection is set to OFF, the switcher will not detect motion on any channel.

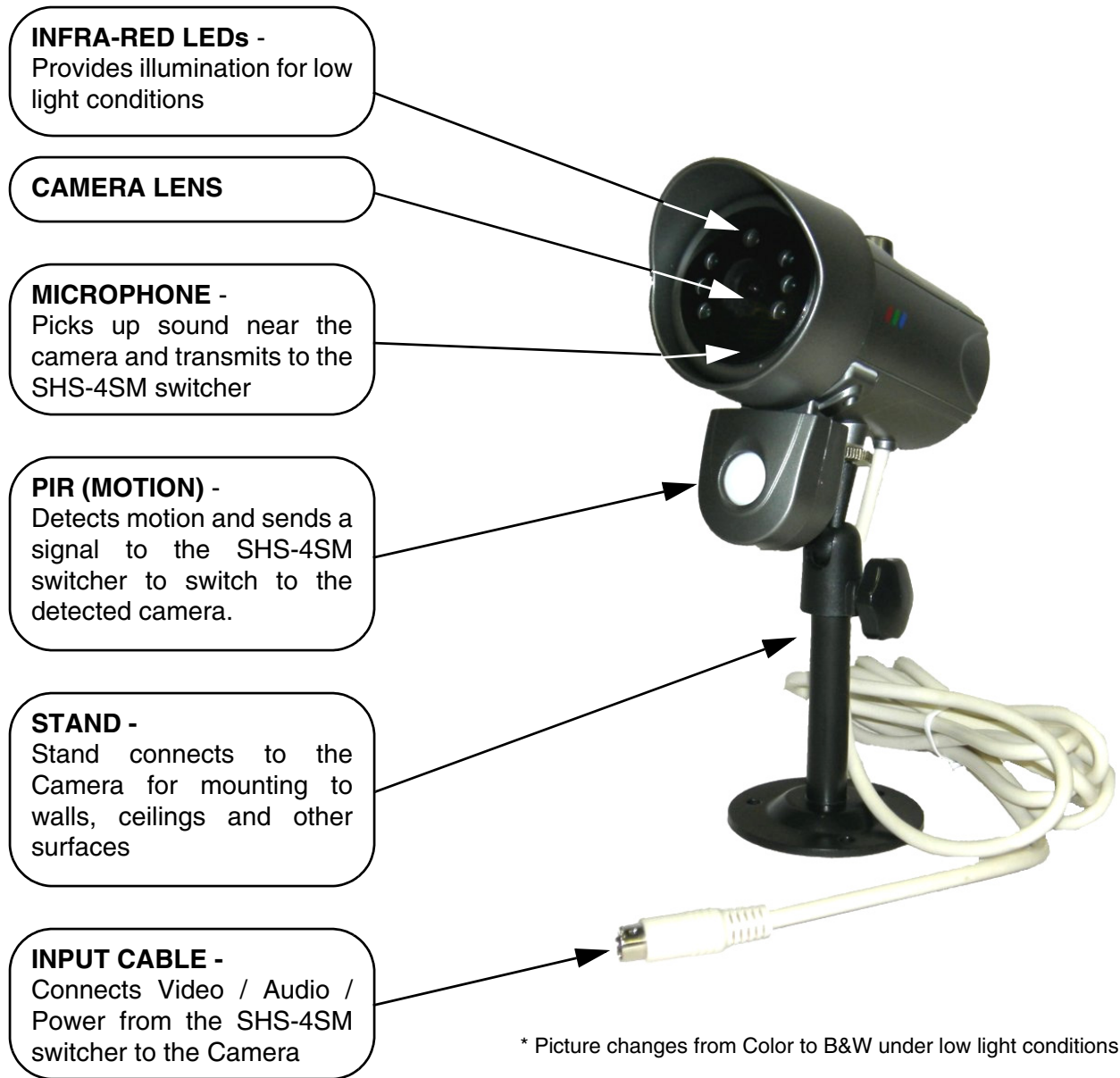
SHS-4SM - Rear View



1. **CAM OUT** - Connects the switcher to a TV, Monitor or VCR using the supplied A/V Cable. Connect the DIN end of the cable to the SHS-4SM switcher, and the Yellow Video and White Audio plugs to the corresponding terminal on the TV.
2. **DC 15V** - Connects the 15V DC Power adapter
3. **CAM1 - CAM4 DIN INPUTS** - Connection ports for up to 4 DIN Cameras. DIN type cameras draw their power from the switcher - a separate power adaptor is not needed for these cameras.

SHS-4SM Cameras

The SHS-4SM switcher includes 4 CCD Color IR Day/Night Indoor/Outdoor Cameras*



Camera Installation

Before you install the camera, carefully plan where and how you will position the camera, and where you will route the cable that connects the camera to the SHS-4SM switcher.

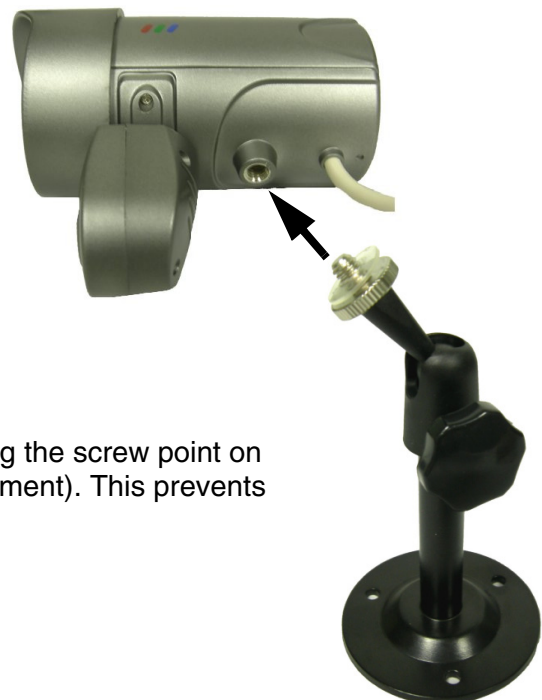
Installation Warnings:

- Select a location for the camera that provides a clear view of the area you want to monitor, which is free from dust, and is not in line-of-sight to a strong light source or direct sunlight.
- Do not install the camera in a location where it will be
- Plan the cables' route so that it is not close to power or telephone lines, transformers, microwave ovens or other electrical equipment that could interfere with the system.
- Select a location for the camera that has an ambient temperature between 14°F~113°F (-10°C~45°C)
- If you plan to install the camera in a location that has conditions not recommended in this manual, consult with a professional installer and consider use of a separate camera cover or housing
- Before starting permanent installation, have another person hold the camera for you while you verify its performance by observing the image on the monitor.

Camera Stand Installation:

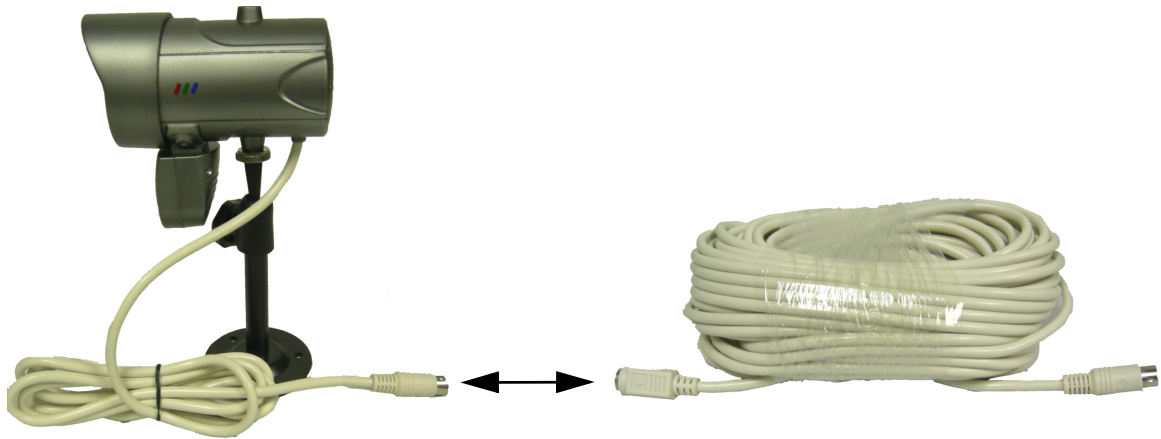
1. Attach the pedestal to the ceiling, wall or other surface by the base using the provided screws.
2. The mounting bracket must be attached to a structural device such as a wall stud or ceiling rafter using the supplied screws.
3. Attach the camera to the pedestal. Adjust the angle of the camera, and tighten the thumbscrew to set the position

NOTE: The Camera can be attached to the stand using the screw point on the top or the bottom (to maintain proper camera alignment). This prevents the image from becoming inverted.



Connecting Cameras

1. Connect the female end of the supplied 57' extension' cable to the camera.



NOTE: Confirm that the arrows on the DIN Camera Cable and the DIN Extension cable are pointed together when connecting the cable. If the pins in the DIN Cable are bent, the Camera will NOT function.



2. Connect the male end of the supplied 65' extension cable to an open DIN camera input on the back of the SHS-4SM switcher. Continue connecting additional DIN cameras.



NOTE: The arrow on the DIN Camera should be facing up when connecting the DIN Extension Cable to the SHS-4SM switcher.

Connecting the SHS-4SM A/V Cable

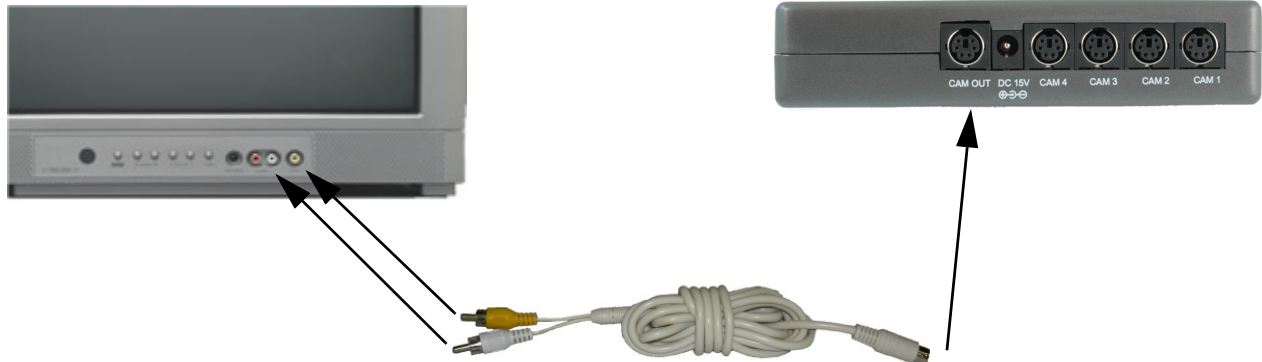
Connect the DIN end of the A/V Cable to the SHS-4SM Switcher. Connect the RCA Video and Audio cables to the TV, VCR or Monitor.

TV / VCR / MONITOR

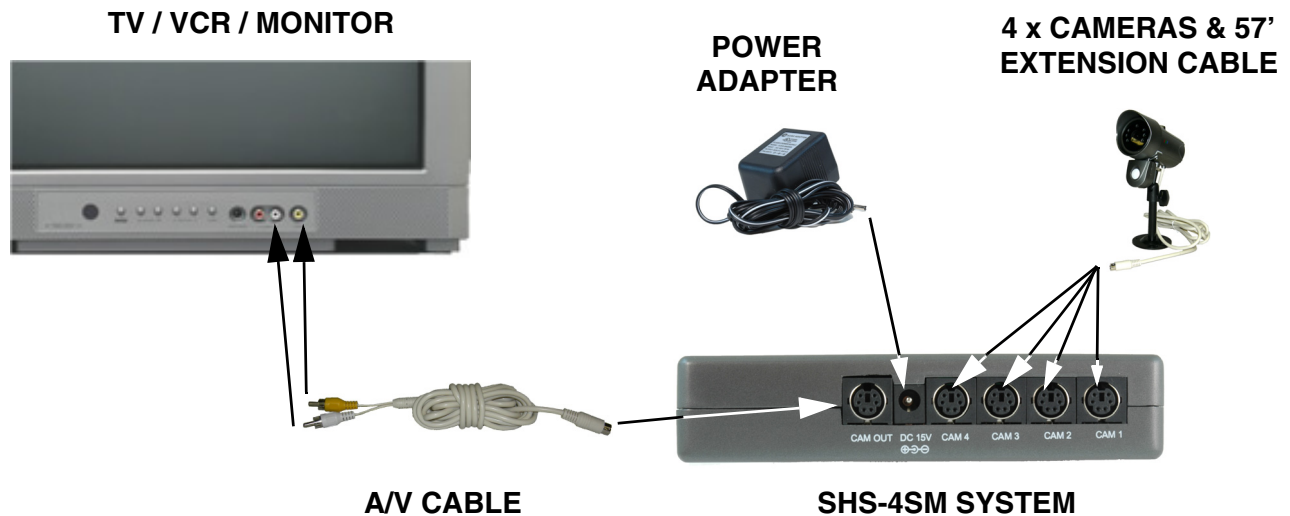
Connect the Yellow AV Cable end to an available video port, and the white AV Cable end to an available audio port.

SHS-4SM

Connect the DIN Cable end to the CAM OUT port



Connectivity Diagram



SHS-4SM System Specifications - Appendix #1

Control Box Specifications

Channels	4
Alarm Time	5 to 30 seconds
Scan Time	2, 5 or 10 seconds
Operating Voltage	15V DC 800mA
Camera Input	4 DIN
AV Output	1 DIN

Camera Specifications

Image Sensor	Color CCD
Input Voltage	12V DC
Lens Angle	70° (Diagonal)
Resolution	380 TV Lines
Minimum Illumination	1 LUX IR LED Off 0 LUX IR LED On
IR LEDs	850nm
Operating Temperature	14°F ~ 113° F (-10° C ~ 45° C)

Connecting the SHS-4SM A/V Cable

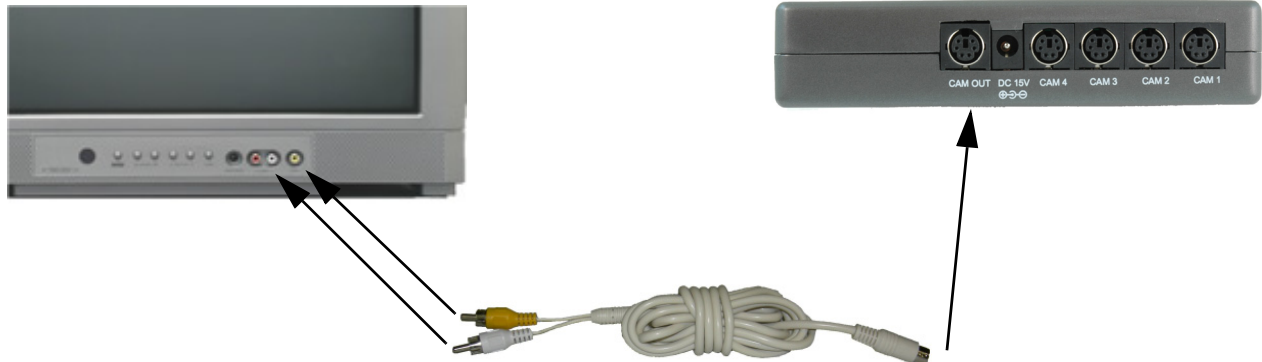
Connect the DIN end of the A/V Cable to the SHS-4SM Switcher. Connect the RCA Video and Audio cables to the TV, VCR or Monitor.

TV / VCR / MONITOR

Connect the Yellow AV Cable end to an available video port, and the white AV Cable end to an available audio port.

SHS-4SM

Connect the DIN Cable end to the CAM OUT port



Connectivity Diagram

