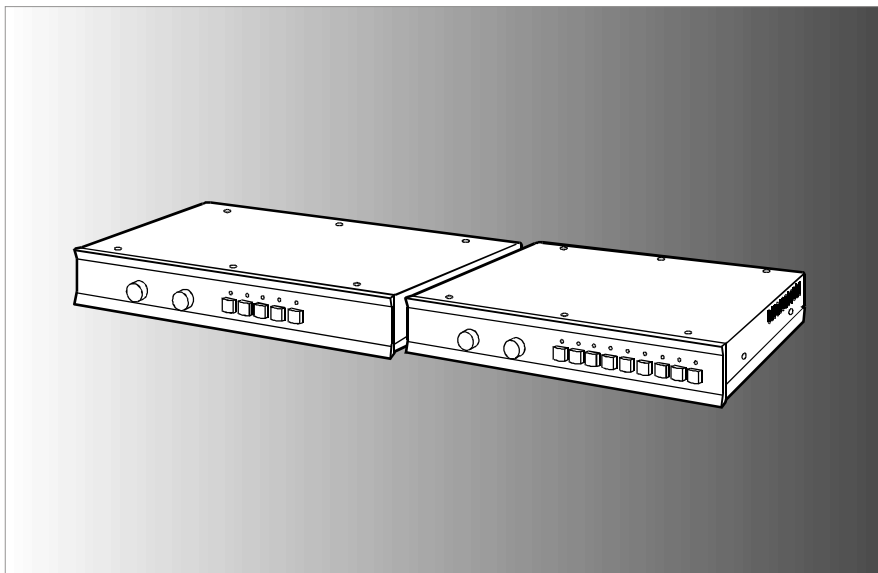


Instruction Manual

4 Channel / 8 Channel SEQUENTIAL SWITCHER

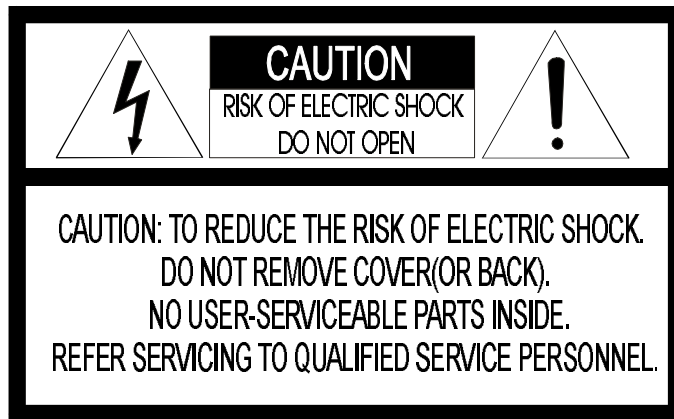


Please read this manual thoroughly before use, and keep it handy for future reference.

WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.
DO NOT INSERT ANY METALLIC OBJECT THROUGH VENTILATION GRILLS.

CAUTION:



Explanation of Graphical Symbols



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 product.

Precautions

Safety -----

Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by the qualified personnel before operating it any further.

Unplug the unit from the wall outlet if it is not going to be used for several days or more. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.

Installation -----


Do not install the unit in an extremely hot or humid place or in a place subject to excessive dust, mechanical vibration.

The unit is not designed to be waterproof. Exposure to rain or water may damage the unit.

Cleaning -----

Clean the unit with a slightly damp soft cloth. Use a mild household detergent. Never use strong solvents such as thinner or benzene as they might damage the finish of the unit.

IMPORTANT SAFEGUARDS

1. **READ INSTRUCTIONS** -- All the safety and operating instructions should be read before the appliance is operated.
2. **RETAIN INSTRUCTIONS** -- The safety and operating instructions should be retained for future reference.
3. **CLEANING** -- Unplug video monitor or equipment from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
4. **ATTACHMENTS** -- Do not use attachments not recommended by the video monitor or equipment manufacturer as they may result in the risk of fire, electric shock or injury to persons.
5. **WATER AND MOISTURE** -- Do not use video monitor or equipment near water -- for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, or the like.
6. **ACCESSORIES** -- Do not place video monitor or equipment on an unstable cart, stand or table. The video monitor or equipment may fall, causing serious injury to a child or adult, and serious damage to the equipment. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.
- 6A. Videomonitororequipmentandcart combinations should be removed with care. Quick stops, excessive force, and uneven surfaces may cause the equipment and cart combination to overturn. 
7. **VENTILATION** -- Slots and openings in the cabinet and the back or bottom are provided for ventilation, and to ensure reliable operation of the video monitor or equipment and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the video monitor or equipment on a bed, sofa, rug, or other similar surface. Video monitor or equipment should never be placed near or over a radiator or heat register. Video monitor or equipment receiver should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.
8. **POWER SOURCES** -- Video monitor or equipment 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 supplied to your home, consult your video monitor or equipment dealer or local power company. For video monitor or equipment designed to operate from battery power refer to the operating instructions.
9. **GROUNDING OR POLARIZATION** -- This video monitor may be equipped with a polarized alternating - current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

Alternate Warnings - This video monitor is equipped with a three-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

10. **POWER CORDS** -- Do not allow anything to rest on the power cord. Do not locate video monitor or equipment where the cord will be abused by persons walking on it.
11. **HEED WARNINGS** -- Follow all instructions marked on the video monitor or equipment.
12. **LIGHTNING** -- For added protection for video monitor or equipment 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.
13. **OVERLOADING** -- Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
14. **OBJECT AND LIQUID ENTRY** -- Never push objects of any kind into video monitor or equipment 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 product.
15. **SERVICING** -- Do not attempt to service video monitor or equipment yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
16. **DAMAGE REQUIRING SERVICE** -- Unplug video monitor or equipment from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - A. When the power-supply cord or the plug has been damaged.
 - B. If liquid has 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 as an 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 damaged.
 - F. When the video product exhibits a distinct change in performance -- this indicates a need for service.
17. **REPLACEMENT PARTS** -- When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.
18. **SAFETY CHECK** -- Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks to determine that the video product is in proper operating condition.
19. **FIELD INSTALLATION** -- This installation should be made by a qualified service person and should conform to all local codes.

FCC COMPLIANCE STATEMENT

FCC INFORMATION : THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

CAUTION : CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

THIS CLASS A DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATIONS.

CET APPAREIL NUMÉRIQUE DE LA CLASSE A RESPECTE TOUTES LES EXIGENCES DU RÈGLEMENT SUR LE MATÉRIEL BROUILLER DU CANADA.

FEATURES

Video Inputs and Looping Outputs

There are two rows of BNC connectors (Figure 1) on the rear of the looping switchers.

The bottom row is for connecting the video input and the top row is used for looping cameras out. The inputs are automatically terminated (75Ω) if there are no connections at the looping output connectors. There is no need to manually switch or add termination connectors to change the impedance.

Video Outputs

All Sequential Switcher series switchers have two output connectors (Figure 1). They are labeled MON 1 and MON 2. The MON 1 is used to display all cameras which have not been by passed from the sequence. MON 2 is used for manual call-up and automatic alarmed camera display.

Figure 1-1. 4Channel - Rear View

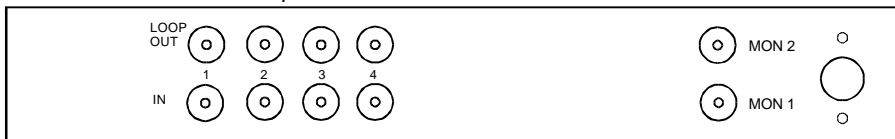
A. without Alarm / without Loop



B. with Alarm / without Loop



C. without Alarm / with Loop



D. with Alarm / with Loop

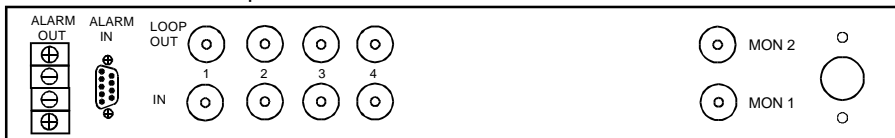
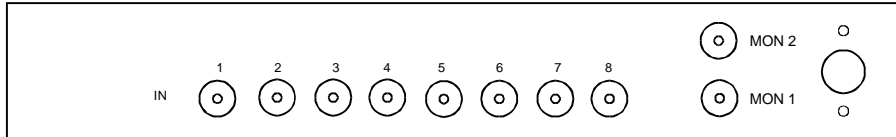
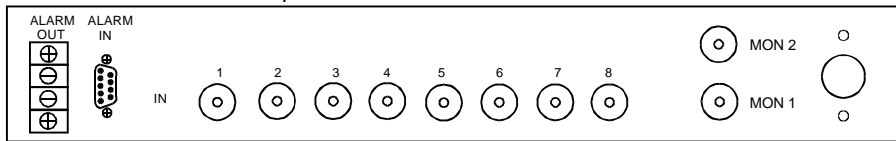


Figure 1-2. 8Channel - Rear View

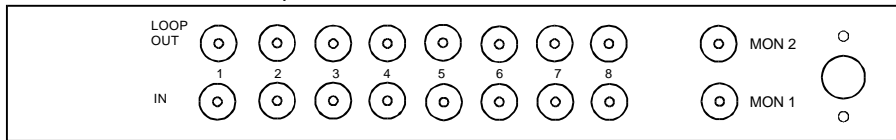
A. without Alarm / without Loop



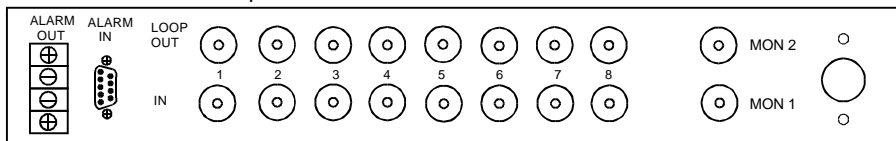
B. with Alarm / without Loop



C. without Alarm / with Loop



D. with Alarm / with Loop



Alarm Inputs

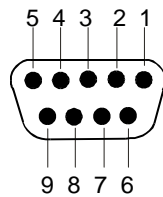
Shorting an alarm input displays the corresponding camera on monitor 2 (MON 2). While the alarm is active, the Alarm LED turns on, a buzzer sounds and the related channel LED flickers at a fast rate.

The alarm can be reset manually by pressing the Bypass switch or waiting until the preset alarm hold time expires.

If multiple alarms are active, all the related channel LEDs flicker at a fast rate, but only the last alarm's video will be displayed.

Table 1 below lists the alarm number and the corresponding pin on the DB-9 connector

Table 1. Alarm Input Connector Pin Configuration



PIN	FUNCTION
1	Alarm 1
2	Alarm 3
3	Alarm 5
4	Alarm 7
5	Ground
6	Alarm 2
7	Alarm 4
8	Alarm 6
9	Alarm 8

Caution

Do not apply external voltages to alarm inputs.

Alarm Output

The Alarm Out terminal block at the rear of the switcher is connected internally to a Form C relay. This relay energizes when an alarm is set to activate a VCR or other devices.

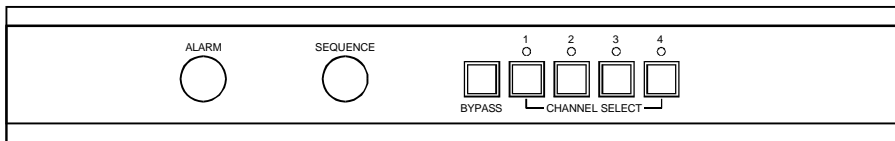
The contacts can be internally set as normally open (NO) or normally closed (NC).

The contact rating for the relay is 1 amp at 24 Vac or 0.5 amp at 120 Vac.

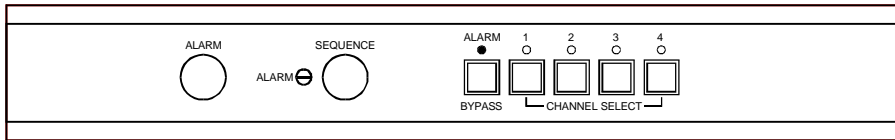
INDICATORS AND CONTROLS

Figure 2-1. 4Channel - Front View

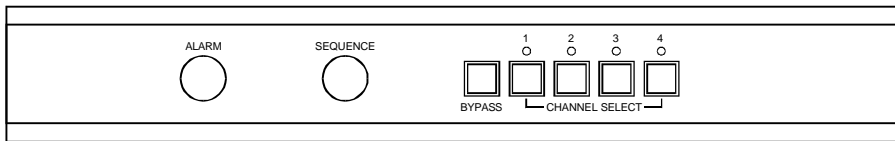
A. without Alarm / without Loop



B. with Alarm / without Loop



C. without Alarm / with Loop



D. with Alarm / with Loop

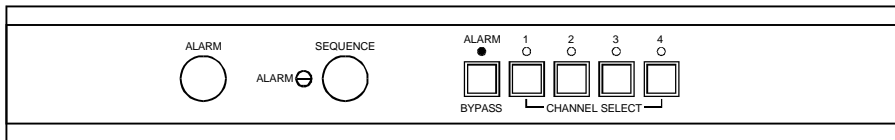
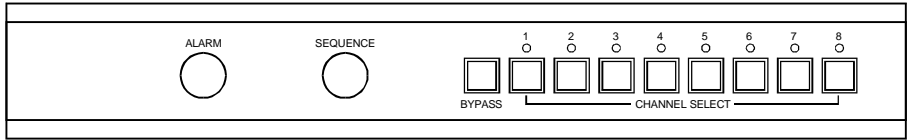
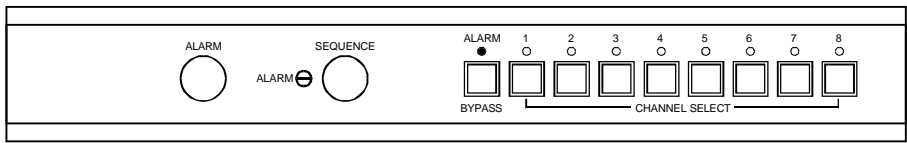


Figure 2-2. 8Channel - Front View

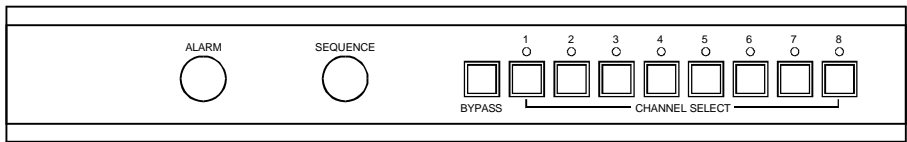
A. without Alarm / without Loop



B. with Alarm / without Loop



C. without Alarm / with Loop



D. with Alarm / with Loop

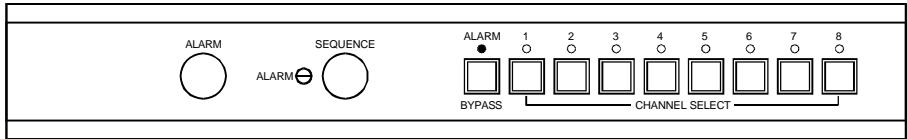


Table 2. Control/Indicator Description

CONTROL OR INDICATOR	FUNCTION
Alarm LED	Lights when an alarm is active
Channel Indicator LED	<p>There are four state that indicate status :</p> <ol style="list-style-type: none"> 1. Flickers slowly in sequence mode. 2. Flickers fast when channel is in a hold state or triggered by an alarm. 3. Lit continuously when position is not selected. 4. Off if the channel is bypassed.
Channel Select Switch	<p>The switches have two functions :</p> <ol style="list-style-type: none"> 1. Toggles the selected channel from Hold to Sequence mode. 2. Allows you to manually select alarmed channels and switch the corresponding cameras to monitor 2 when multiple alarms are active.
Bypass Switch	<p>The switches has two functions :</p> <ol style="list-style-type: none"> 1. Clears all alarms and switches back to previous (sequence or hold) mode. 2. Bypasses channels that you do not want in the camera sequence. Simultaneously press the Bypass Switch and the Channel Select Switch corresponding to the camera to be removed from the sequence. (This procedure toggles between bypass and sequence mode.)
Alarm Time Control	This control adjusts the alarm hold time from 3 to 25 seconds.
Sequence Time Control	This control adjusts the sequence time from 1 to 60 seconds.

INTERNAL CONTROLS

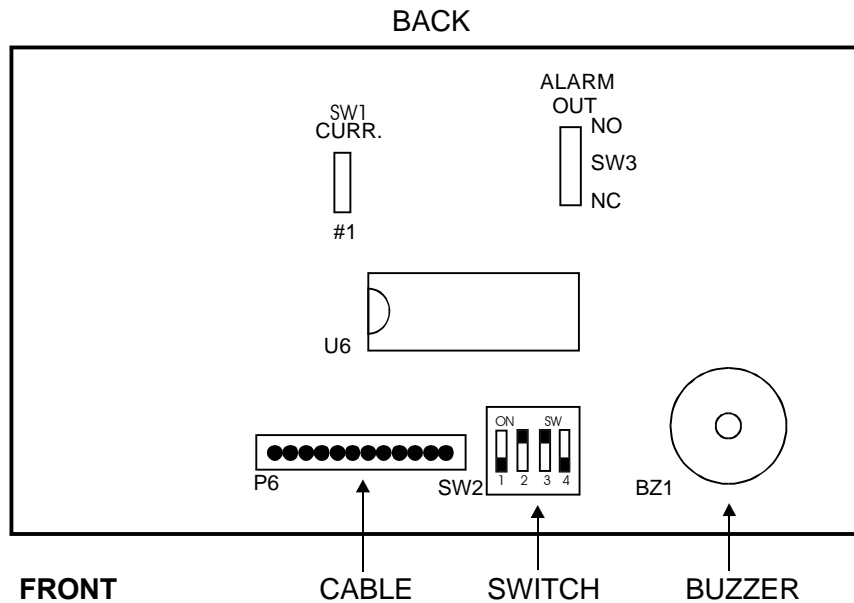


Figure 3. Inside view

The switch 2 (Table 3) is used to select the Alarm Input mode for Normally Open or Normally Closed operation and to turn the buzzer on or off. The jumper (SW 1) is used for selecting the source for Vertical Interval Switching (VIS). The jumper comes set from the factory for internal source (CURR) for VIS. If external source (#1) is selected, the source for VIS will be camera 1. The other jumper (SW3) is used to select the Alarm Output relay for Normally Open or Normally Closed operation. The factory setting is provided with Normally Open (N.O.).

Table 3. Switch Functions (Sw2)

SWITCH POSITION	FUNCTION
1	ON 4 channel / OFF 8 channel
2	ON Alarm Input - Normally Open / OFF Alarm Input - Normally Closed
3	ON Activates Buzzer / OFF Turns Buzzer off
4	Not used - leave OFF

4 Channel / 8 Channel
SEQUENTIAL SWITCHER

50301014A