

CAMERA CONTROL AND MONITORING (V3 OR LATER)

V3 firmware now provides special Input processing, Auxiliary processing and Event Counting options that are suitable for the control and monitoring of 35mm security cameras.

Cameras can be:

Triggered on “Suspicion” condition with a timeout period.

Triggered on an alarm to run until the alarm is acknowledged or reset. e.g. Holdup, Burglary, etc.

Tested manually or during Area Pre-Arm Testing.

Monitored for alarm on Tamper contacts and Film Out contacts.

Monitored for Film Count levels with two alarm trigger points. e.g. Film Low and Film Out.

Installation Notes:

- 1) Mini Expander Modules must be used if the Film Counting option is utilized.
The Frame Count output from each Camera must be wired to Mini Expander Module Zone Inputs 1 to 7.
i.e. Mxx : Z01 to Mxx : Z07. Film counting is not supported by Zone 8.
- 2) Frame Count Inputs do not utilize End-Of-Line Resistors. The Counter will increment by 1 whenever an Open to Short transition occurs on the Input.
- 2) If Camera Testing is required, the Auxiliary used to Trigger Cameras should be Auxiliary 8 on a Mini Expander Module. i.e. Mxx : X08. This Auxiliary has a special timing options to prevent film wastage during testing.
- 3) If special combination Holdup/Suspicion button assemblies are used, these must be connected to Mini Expander Modules, Zone Inputs 1 to 7. i.e. Mxx : Z01 to Mxx : Z07. These units are not supported by Zone 8.

Camera Film Count Monitoring.

1. Program the Input/s used for Camera Frame counting. [MENU 7, 0]

These Inputs must be connected to Mini Expander Module/s.

- 1.1 Program the Zone Input/s that the Frame count contact/s are connected to. i.e. Mxx : Z01 to Mxx : Z07
These will be used for “Film Low” monitoring. (When Count exceeds “Trigger Count 1” programmed in “Counters”)
Select the Input to be programmed/edited and program a name and other options as described in “Alarm Processing”. For Frame Counting Inputs, all Input Options normally left set to No.
- 1.2 Check the programming of the corresponding System Input/s.
i.e. Mxx : S02 (Zone 1 Extra) to Mxx : S08 (Zone 7 Extra)
These will be used for “Film Out” monitoring. (When Count exceeds “Trigger Count 2” programmed in “Counters”)
Select the Input to be programmed/edited and check the Input options as described in “Alarm Processing”.
System Input names are Pre-defined. For Frame Counting Inputs, all Input Options normally left set to No.

2. Program the Mini Expander/s (8 Zone) [MENU 7, 2, 6]

Mini Expander Modules provide several special features suitable for this application.

- Programmable Zone de-bounce for input devices that require faster processing. e.g. Film Count contacts.
- Special Input processing options for Counters.

- 2.1 Adjust the Mini Expander “Poll Time” and “LAN Priority” IF this is considered necessary. LAN Priority programming is accessed by pressing the <ON> key when the “Poll Time” is displayed.

- 2.2 Check that the Zone Type is set to the appropriate option for each Zone used.
- Normal Zone.
 - Counter. Select this option for Camera Frame Count Inputs. This modifies input operation for:
 - Two state monitoring (Open to Short transition for counting)
 - Zone / System Input Alarms when Trigger Counts exceeded.
 - Holdup. See “Holdup / Duress Alarm -Delayed Reporting” Application Note..
 - Suspicion. See “Holdup / Duress Alarm -Delayed Reporting” Application Note.
 - Holdup+Suspicion. See “Holdup / Duress Alarm -Delayed Reporting” Application Note.
- 2.3 Set the Zone De-bounce to an appropriate period for each Zone used.
- De-bounce for Film count contacts will vary depending on the frame speed.
- e.g. If the frame speed is 4 frames per second, a Zone De-bounce of 100mS would provide reliable counting, while offering immunity to voltage spikes.

3. Program the Counters. [MENU 7, 5, 8]

A Counter will need to be programmed for each Zone Input used for Camera Frame Counting.

- 3.1 Select a new Counter and program a name. e.g. Camera 1 Film.
- 3.2 Define the Mini Expander Zone Input used for this Counter. e.g. Mxx : Zxx.
- 3.3 Select the “Counter Type”.
- Select the “2 Trigger Points” type for this application.
- 3.4 Program “Trigger Count 1”. i.e. The “Film Low” Count level.
(The Mini Expander Zone Input will go into alarm when this trigger point is exceeded)
- 3.5 Program “Trigger Count 2”. i.e. The “Film Out” Count level.
(The Mini Expander System Input that corresponds with the Zone will go into alarm when this trigger point is exceeded)
- 3.6 Program the Counter Options. [. . 4 D]
- 4 Digit display. Set to Yes if you only require a 4 Digit Count display. (0000 to 9999)
 - Display Counter. Set to Yes if the Counter is allowed to be displayed via “Read Count” in the Information Menu. [MENU, 1, 4]

4. Initialize the LAN

Following any programming changes to Mini Expanders or Counters, the LAN must be re-initialized.
If all modules are connected and operational, perform the **Secure LAN [MENU 7, 8, 1]** or **Initialize LAN [MENU 7, 8, 2]** functions. (“Secure LAN” Initializes the LAN and sets the Encryption)

5. Program the Process Group/s for Film monitoring. [MENU 2, 4, 3]

It is recommended that a new Process Group is programmed for Frame Count Input/s for “Film Low” and “Film Out” monitoring.

- 5.1 Select the Process Group to be programmed/edited and program a name. e.g. Film Monitor
- 5.2 Program the required “Input Type” options. [T A E X U P L S]
- Set the “A” (Alarm) option to Yes.
- 5.3 Program the required “Communications Reporting” options. [I T A R E X U S]
- Typically the **I**solate, **A**larm and **R**estore options are set to Yes.

- 5.4 IF reporting via Contact ID, you may program the Contact ID Event Code to be sent for Inputs with this Process Group assigned. If left at “000” a default Contact ID message will be sent.
See the Tables section for Contact ID Event Code details.
- 5.5 Program the Area Auxiliaries to activate. [T 1 2 3 4 I]
This will be required IF a local indication of the “Film Low” / “Film Out” alarms is required.
-Set Alarm 2 Auxiliary to Yes IF you require the Auxiliary to be On while the Input is in Alarm and automatically turn Off when the Input Seals. e.g. To activate a Diary Message on the LCD Terminal/s.
-Set any other Alarm Auxiliary to Yes IF you require the Auxiliary to turn On when the Input goes into Alarm and turn Off by another mechanism. e.g. Area Off.
- 5.6 IF the “Film Low” / “Film Out” alarms are to generate an LCD message that must be acknowledged, program the LCD Terminal message Types to generate. Typically Type 1 set to Yes.
IF these alarms are to be annunciated via Diary messages, you may set all message types to No.

6. Program the Area/s for Camera Film monitoring. [MENU 7, 1]

It is recommended that separate dedicated Areas are used for Camera “Film Low” and “Film Out” alarms, particularly if these alarms are to be annunciated via Diary messages.

- 6.1 Create a new Area and program a name. e.g. Film Low.
- 6.2 Program the Area Auxiliaries to activate.
-Alarm 2 Auxiliary. IF a Diary message is to be used to annunciate the Alarm. If no physical Auxiliary activation is required, a “phantom” auxiliary may be assigned for this purpose. e.g. C01:X11 to C01:X32.
-Alarm 1, 3 or 4 Auxiliary. IF an Auxiliary is required to activate in the normal manner.
- 6.3 Assign the Input/s to the Area using the Process Group programmed for this function.
The relevant Mini Expander Zone Inputs (Film Low monitoring) should be assigned to a “Film Low” Area.
The relevant Mini Expander System Inputs (Film Out monitoring) should be assigned to a “Film Out” Area.

7. Program the Diary Messages. [MENU 5, 4]

A Diary message can be programmed so that it is only displayed when a specific Auxiliary is On.

This provides the facility to have a Diary message controlled by the Area Alarm 2 Auxiliary so that the message remains on the LCD display for as long as the alarm condition exists. By using the Alarm 2 Auxiliary, the message will be removed as soon as the alarm condition is rectified. (i.e. The Auxiliary does not need to be turned Off by another mechanism such as Area Off, etc.)

The Date, Time and Days fields are programmed to be always valid. The Diary function “Qualify Aux” causes the Diary Auxiliary to operate as a Qualify Auxiliary. i.e. Even though the Diary is always valid, the message will not be displayed unless qualified by the Diary Auxiliary.

IF Diary messages are to be used to annunciate Camera Film monitoring alarms, program Diary messages for “Film Low” and “Film Out”.

- 7.1 Select a new Diary to program.
Note that Diary messages are prioritized with Diary 1 having the lowest priority.
Higher priority messages should therefore be programmed in higher Diary numbers.
e.g. Film Out is higher priority than Film Low. Therefore, if Film Low is programmed in Diary 2, Film Out should be Diary 3.
- 7.2 Ensure that the Date and Time fields are completely clear.
e.g. __ / __ / __ - __ : __

- 7.3 Program the Valid Days. Set all days to Yes.
 e.g. S M T W T F S
 Y Y Y Y Y Y Y
- 7.4 Program the 1st line of the Diary message to Display.
 e.g. "Film Low".
- 7.5 Program the 2nd line of the Diary message to Display.
 e.g. "Check Cameras".
- 7.6 Assign the Diary Auxiliary. This will be the Area "Alarm 2 Auxiliary" assigned in the previous step.
- 7.7 In the Diary Function options, select "Qualify Aux".

8. LCD Terminals [MENU 7, 2, 1]

Any LCD Terminals that are required to display Diary messages must have the "Diary Messages" option enabled.

- 8.1 Program the "Default Display message" options. [S M D L I A . O]
 Ensure that the "D" (Diary messages) option is set to Yes for all LCD Terminals where the "Film Low" / "Film Out" Diary messages are to be displayed.

9. Check/Program Menu Groups. [MENU 2, 4, 1]

Before any User Types can View and/or adjust the Count value, access to the appropriate Menu Option/s must be enabled in their Menu Group.

- 9.1 Program/Edit the "Menu Options" in the relevant Menu Groups. [R A I T t . S C]
 -Set the "R" option (Review/Information Menu) to Yes if Viewing Counters is allowed.
 -Set the "C" option (Control Menu) to Yes if Adjusting Counters is allowed.
- 9.2 Program/Edit the "Sub Menu Options" in the relevant Menu Groups. [U T L G Z R A .]
 -Set the "A" option (Adjust Counters) to Yes if Adjusting Counters is allowed.

Camera Control and Testing.

1. Program the Input/s used to Trigger Camera operation. [MENU 7, 0]

Holdup buttons, Suspicion buttons, PIRs, etc.

- 1.1 Select the Input to be programmed/edited and program a name and other attributes as described in “Alarm Processing”.

2. Program the Mini Expander/s (8 Zone) [MENU 7, 2, 6]

Mini Expander Modules provide several special features suitable for this application.

- Programmable Zone de-bounce for input devices that require faster processing. e.g. Momentary pushbuttons.
 - Special Auxiliary output timing options on Auxiliary 8.
- 2.1 Adjust the Mini Expander “Poll Time” and “LAN Priority” IF this is considered necessary. LAN Priority programming is accessed by pressing the <ON> key when the “Poll Time” is displayed.
 - 2.2 Check that the Zone Type is set to the appropriate option for each Zone used.
 - Normal Zone.
 - Counter. Set to Yes for Camera Frame Count Inputs.
 - Holdup. See “Holdup / Duress Alarm -Delayed Reporting” Application Note.
 - Suspicion. See “Holdup / Duress Alarm -Delayed Reporting” Application Note.
 - Holdup+Suspicion. See “Holdup / Duress Alarm -Delayed Reporting” Application Note.
 - 2.3 Set the Zone De-bounce to an appropriate period for each Zone used.
 - Fast de-bounce times may be required for fast acting momentary pushbutton switches, etc.
 - 200 to 400mS is typical for normal detectors (PIRs, Door Reeds, etc.)

3. Initialize the LAN

Following any programming changes to Mini Expanders, the LAN must be re-initialized.

If all modules are connected and operational, perform the **Secure LAN [MENU 7, 8, 1]** or **Initialize LAN [MENU 7, 8, 2]** functions. (“Secure LAN” Initializes the LAN and sets the Encryption)

4. Program/Edit the Process Group/s for Inputs to Trigger Cameras. [MENU 2, 4, 3]

It may also be necessary to program and/or edit Process Group/s for Zone Inputs that are used to Trigger the Camera/s on an alarm and/or Suspicion condition.

You will need to ensure that Process Group/s for these Inputs have the required “Area Auxiliaries to Activate” option/s set to Yes so that the Camera Auxiliary (Usually the Area Alarm 1, Alarm 3 or Alarm 4 Auxiliary programmed in the Area database) will be triggered.

See “Holdup / Duress Alarm -Delayed Reporting” Application Note.

5. Program the Area to activate Cameras. [MENU 7, 1]

Although not mandatory, it is recommended that a separate Area is programmed for Camera Control.

This ensures that:

- a) There will be no conflict of Area Auxiliary requirements with other types of alarm functions.
- b) The Area can be turned On and Off according to when Camera operation is required without affecting other alarm monitoring requirements.

Remember that the same Input can be assigned to more than one Area and have different functionality in each Area that it is in. Therefore, an Input such as a Holdup button can be assigned to the "Camera" Area with a Process Group specifically programmed for Camera control, and in a Holdup Area with a different Process Group to provide other functions such as Screen activation and Alarm reporting.

5.1 Select the Area to program or edit.

5.2 Program the Area Auxiliaries to activate.

-Alarm 2 Auxiliary. IF an Auxiliary is required to activate only while the Input/s are in the alarm state, then automatically turn Off when the Input/s are sealed.

-Alarm 1, 3 or 4 Auxiliary. IF an Auxiliary is required to activate in the normal manner.

See Notes below.

5.3 Assign the Input/s to the Area using the Process Group/s programmed for this function.

NOTES:

Mini Expander Auxiliary 8.

If using one or more Mini Expanders and Camera Testing is required in addition to Camera control, it is recommended that Mini Expander Auxiliary 8 is used to trigger the Camera/s. i.e. Mxx : X08.

Auxiliary 8 has a special precise timing feature that allows Cameras to be triggered for a very short period of time so that excessive film is not wasted in testing procedures.

When a timer is programmed for Mini Expander Auxiliary 8 in Seconds, the timer operates normally.

When a timer is programmed in Minutes, the value programmed is interpreted by the Mini Expander as the number of 10 milliSecond periods to time for. e.g. If a value of 50 minutes is programmed, Auxiliary 8 will time for 50 X 10mS. i.e. 500milliSeconds (1/2 Second)

This allows precise Auxiliary Timing to be programmed so that only 2 or 3 frames of film are used during testing.

Implementation.

1) To implement the feature, assign Mini Expander Auxiliary 8 as the Alarm Auxiliary in the Camera Control Area that will be used to trigger the Camera/s. If timing is required on this Auxiliary to limit the time that the Camera will run, program an Auxiliary Timer (MENU, 5, 5) with a time period in Seconds.

2) Next, program a means of activating a Camera Test Auxiliary. e.g:

-Program an Area for Area Pre-arm testing, and assign a Test Auxiliary.

See "Zone Input Testing" in the Applications Programming Guide for details of Area Pre-arm Testing.

-Program a Home Auxiliary specially for Camera Test.

-Program a Function Zone for Camera Test via a keyswitch or pushbutton, etc.

-Program a "Camera Test" PIN code using a special User Type with a "Valid Auxiliary" assigned.

-etc.

The Auxiliary activated must not be the Auxiliary that Triggers the Camera/s. (i.e. Use a phantom Auxiliary)

3) Finally, program a Calculated Auxiliary using the "ON if 1st ON" action.

Assign the Auxiliary activated by the previous step as the "1st Auxiliary".

Assign the Auxiliary that triggers the Camera/s as the "Result Auxiliary". (i.e. Mxx : X08)

Program the Timer in the Calculated Auxiliary for a time period in Minutes to define how many 10 milliSecond periods the Camera is to be activated for to perform the testing.