

Introduction

S E C T I O N 1

1.1 Features

The PC5108L serves three purposes:

- To expand the PC5015 v2.2 alarm control panel's zone capability by adding eight fully programmable zone inputs
- To act as an interface between the DLM-4 v1.0L Video Transmission module and the PC5015 v2.2 alarm control panel
- To function as a video switcher

1.2 Specifications

- Current rating: 60mA
- Eight fully programmable zones
- Maximum of eight video cameras
- VAUX+ rating: 12 VDC, fused @ 250mA

1.3 Additional Equipment

- Control panel compatibility: PC5015 v2.2
- Downlook module compatibility: DLM-4 v1.0L
- Keypad compatibility (for Active Camera Monitor Selection function key): LCD5500Z v2.X and PC55XX v2.X
- Downloading software: DLS-1 v6.5
- Local downloading: PC-Link
- Compatible cabinets:
PC4002C – space for PC5108L plus two other modules of same dimension

Installation

S E C T I O N 2

2.1 Unpacking the PC5108L

The PC5108L product should include the following items:

- one PC5108L module
- five plastic stand-offs

2.2 Mounting the Unit

The PC5108L should be located inside a compatible metal cabinet, mounted in a dry, secure location. Preferably, it should be placed close to the control panel and at a convenient distance from the connected devices.

Perform the following steps to mount the unit:

1. Press the four plastic stand-offs through the circuit board mounting holes at back of the cabinet.
2. Secure the cabinet to the wall in the desired location. Use appropriate wall anchors when securing the cabinet to drywall, plaster, concrete, brick or other surfaces.
3. Press the PC5108L board into the four plastic stand-offs to secure the module to the cabinet.

Once the unit is mounted, wiring may be completed.

2.3 Wiring the Unit

Before beginning to wire the unit, ensure that the power (AC transformer and battery) is disconnected from the control panel.

Perform the following steps to complete wiring:

1. Connect the four Keybus wires to the PC5108L. Connect the red, black, yellow and green Keybus wires to the RED, BLK, YEL and GRN terminals, respectively.
2. Connect the DLM-4 module (if used) to the PC5108L. A 75 ohm coaxial cable is required for this connection. For more information, see the DLM-4 Installation Instructions.
3. Connect the cameras to the PC5108L using RG-59 75 ohm coaxial cable.
4. Connect the external tamper switch to the PC5108L, if used. If not used, run a wire from TAMP to any COM terminal.
5. Complete all zone wiring to the PC5108L. Refer to the PC5015 Installation Manual for information on zone wiring configurations.

How to Program

S E C T I O N 3

3.1 Programming via Keypad

The PC5108L can be programmed from a system keypad. To program the module, perform the following:

1. Enter [*][8] followed by your Installer's Code.
2. Enter [806] to access PC5108L module programming.
3. Enter a 2-digit number corresponding to the PC5108L programming section you wish to program. For example, to program the Module Zone Group Assignment, enter [00].
4. Enter the required data for the selected section. The keypad will only accept the number of digits required for that section. For example, Section [00] will accept two digits. The keypad will confirm a correct entry by sounding two short beeps.

For more information regarding programming the system through Installer's Programming, refer to Section 4 "How to Program" in your PC5015 Installation Manual.

3.2 Programming via Downloading

The PC5108L can be programmed via downloading using either of the following methods:

1. By connecting to the control panel remotely using a modem.
2. By connecting to the control panel directly using the PC-Link.

Both cases require the use of DLS-1 v6.5. For instructions on downloading using either of these methods, see the Downloading Manual.

Module Operation and Programming

S E C T I O N 4

4.1 Module Zone Group Assignment

In order to use the zone expansion portion of the module, you must select which system zones the expander will occupy.

Subsection [00] **Module Zone Group Assignment** will accept two digits. The first corresponds to zone terminals 1-4 on the module (Group A). The second digit corresponds to zone terminals 5-8 (Group B). Select which system zones these two groups will occupy by entering the corresponding digit:

- | | |
|--------------------|-----------------|
| 0 = Group Not Used | 4 = Zones 17-20 |
| 1 = Group Not Used | 5 = Zones 21-24 |
| 2 = Zones 9-12 | 6 = Zones 25-28 |
| 3 = Zones 13-16 | 7 = Zones 29-32 |

For example, to have Group A (Z1-Z4) occupy system zones 9-12, and Group B (Z5-Z8) occupy zones 13-16, enter [23].

If using Downlook as well as zone expansion, consider the following: Using zones connected to the PC5108L for Downlook triggering means that images will be taken 25ms after an event has occurred. See Section 4.2 "Downlook Operation (DLM-4)" for more information. Fire zones should not be used on PC5108L zones.

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Module Zone Group Assignment Subsection [00]
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4.2 Downlook Operation (DLM-4)

When Downlook is initiated, the DLM-4 will store up to four images from the programmed camera(s). Once the images are stored, the Downlook module will seize the telephone line to transmit the images to the central station. The images will be sent after the panel has communicated the event.

When a Downlook module is connected to the PC5108L, the **DLM-4 Is Connected** option must be enabled.

Downlook can be initiated according to the following methods:

- Event-initiated Downlook
- Pre-trigger
- Remote trigger

All methods require similar programming. For each event/trigger, both the Timing and Camera numbers for the transmissions must be programmed.

The 2-digit **Timing** entry is the amount of time the Downlook module will wait before an image is taken. The value for this entry is in increments of 100ms. The 2-digit **Camera** entry corresponds to the camera that will take the image.

Since four images can be stored by the DLM-4 for each event, four timing and camera entries are required. Entering 00 for the timing means that the picture will be taken without delay. Entering 00 for the camera means that no picture will be taken.

MODULE OPERATION AND PROGRAMMING

The programming sections resembles the following example (all entries by default are [00]):

	T	C	T	C	T	C	T	C								
[01] Zone 1	0	1	0	3	0	3	0	5	0	4	0	2	0	0	0	0

In the above example, when Zone 1 goes into alarm, tamper or fault, the DLM-4 will take the following pictures:

- From Camera 3 100ms after the event has occurred
- From Camera 5 300ms after the first picture is completed
- From Camera 2 400ms after the second picture is completed
- No picture will be taken for the fourth slot

The DLM-4 will follow the programmed Timing and Camera settings for all events. By default, if another Downlook-initiating event occurs while there are pictures in memory (not yet transmitted), the DLM-4 will not overwrite the existing pictures.

If the **Pictures Can Be Overwritten** option is enabled, the DLM-4 will overwrite the pictures in memory when a new Downlook-initiating event occurs.

For Delay type zones, timing and camera settings will be followed when the zone is violated. If the user disarms the system before the entry delay expires, the pictures will be erased. If the system is not disarmed, an alarm will occur and the stored pictures will be transmitted.

The various Downlook-initiating events/triggers are described below:

Event-initiated Downlook

The indicated events will initiate Downlook if the corresponding Timing and Camera entries are programmed. Some events are grouped under one heading. These events are the following:

- **Zone X Alarm/Tamper/Fault:** Downlook will be initiated when the corresponding zone exhibits an alarm, tamper or faulted condition
- **Keypad Events:** these events include Duress alarm, FAP alarms, Keypad Lockout and Auto-Arm Cancel/Postpone
- **Closings:** these events include arming by user code and all special closings (DLS, auto-arm, keyswitch, quick arm or maintenance code)
- **Openings:** these events include disarming by user code and all special openings (DLS, keyswitch, or maintenance code)

Pre-trigger

The pre-trigger section can be programmed to allow Downlook occur while the system is idle. This will allow pictures to be taken constantly while the system is idle.

The DLM-4 will continually follow the programmed pattern until a Downlook-initiating event occurs. At this point, the pre-trigger sequence will be suspended until the appropriate transmissions for the Downlook-initiating events have been sent.



Do not program video switching features when using Pre-Trigger.

Selecting Cameras for Video Switching

Only the Active Camera Monitor Selection function key can select cameras for video switching. This function key option [22] is available for LCD5500Z/PC55XX v2.X keypads. For instructions on function key programming, see the PC5015 Installation Manual.

To select cameras for video switching, perform the following:

1. Press and hold the Active Camera Monitor Selection function key for two seconds.
2. Enter a valid access code.
3. Toggle each camera on or off by pressing the corresponding number key. On an LED keypad, the corresponding zone light will illuminate when the camera is activated. On an LCD keypad, the “-” will be replaced by the corresponding number when the camera is activated.
4. When the desired cameras have been selected, press [#].

Video Switching Options

Video switching can occur under some or all of the following conditions:

- Camera monitor while disarmed
- Camera monitor while Away armed
- Camera monitor while Stay armed

! *If the Downlook pre-trigger feature is being used, the camera monitoring options must be disabled.*

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Fast/Slow Dwell Time	Subsection [50] Option [5]
Keypad Programming	Section [000]
Camera Monitor While Disarmed	Subsection [50] Option [1]
Camera Monitor While Away Armed	Subsection [50] Option [2]
Camera Monitor While Stay Armed	Subsection [50] Option [3]

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4.4 External Dwell Control (SYNC Input)

By default, the module is programmed to use an internal dwell time to control the video switcher. To select the SYNC input for video switcher timing, the **External Dwell Control** option must be enabled. Depending on the type of device connected, the SYNC input must be programmed for Normal or Inverted operation. If normal operation is selected (default), the PC5108L will switch cameras on a low to high transition (rising edge). If the inverted option is selected, the PC5108L will switch cameras on a high to low transition (falling edge).

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External/Internal Dwell Control	Subsection [50] Option [4]
SYNC Input Inverted/Normal	Subsection [50] Option [6]

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4.5 Module Supervision

The control panel only supervises the PC5108L when the Module Zone Group Assignment section is programmed. When PC5015 programming section [903] **Module Supervision Field** is entered, the zone lights corresponding to the zone group assignments will represent the PC5108L.

The DLM-4 is supervised when the **DLM-4 Is Connected** option is enabled. This option must be enabled when using the DLM-4. When section [903] Module Supervision Field is entered, the DLM-4 will be represented by zone light [23].

A **Downlook Supervisory Trouble** is generated when the panel no longer detects the DLM-4 on the system. To clear this trouble, enter Section [902] **Supervision Reset**. A Downlook Supervisory trouble restoral will be logged to the event buffer when the trouble is cleared.

For information on module supervision, see the PC5015 Installation Manual (Section 2.7 "Enable Supervision").

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Supervision Reset	Section [902]
Module Supervision Field	Section [903]
DLM-4 Is Connected	Subsection [50] Option [8]

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Testing and Troubleshooting

S E C T I O N 5

5.1 Camera Testing

Cameras connected to the PC5108L can be tested on a regular basis. The DLM-4 must be connected in order to use the testing feature.

Each camera must be enabled for testing. There is one **Camera X Test Enable/Disable** option for each camera. Not all cameras must be selected for testing. By default, the test feature is enabled for each camera.

Camera testing is initiated three ways:

1. Periodically: Enable the Periodic Camera Test option in PC5015 programming. The test will occur every 30 minutes.
2. Upon a system test: This test is user-initiated. See the PC5015 Instruction Manual for testing instructions.
3. Upon exiting Installer's Programming

The test will take up to five seconds to perform. If the camera test result is successful, normal system operation will continue. If the camera test produces bad results from any of the cameras, a system trouble will be initiated. The message "Camera X Trouble" will be logged to the event buffer. When the trouble condition has cleared, the message "Camera X Trouble Restore" will be logged.

A bad camera test result could be due to a number of factors, including bad camera wiring, loss of power to the camera or a faulty unit.

To test the **Downlook Remote Trigger** feature, perform the following:

1. Enter [*][8][Installer's Code][906].
2. Press number keys [1]-[4] to transmit remote trigger script via the appropriate path:
 - [1] telephone number 1 via landline
 - [2] telephone number 2 via landline
 - [3] telephone number 1 via LINKS
 - [4] telephone number 2 via LINKS

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Camera X Test Enable/Disable	Subsection [60]
Periodic Camera Test Enable/Disable	Section [017] Option [7]
Local Test of Downlook Remote Trigger	Section [906]

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5.3 Software Default

To restore the PC5108L programming to the factory default settings, perform the following:

1. Enter PC5108L module programming by pressing [*][8][Installer's Code][806].
2. Enter programming subsection [99].
3. Enter [55]. Once [55] is entered, the module's default programming will be restored.

For instructions on restoring the default programming of the main panel or any other connected module, see the PC5015 Installation Manual.

Programming Worksheets

S E C T I O N 6

[806] PC5108L Module Programming

[00] Module Zone Group Assignment

- Default = 00
- First digit = Zones on terminals Z1-Z4 (Group 1)
- Second digit = Zones on terminals Z5-Z8 (Group 2)
- 0 = Group Not Used
- 1 = Group Not Used
- 2 = Zones 9-12
- 3 = Zones 13-16
- 4 = Zones 17-20
- 5 = Zones 21-24
- 6 = Zones 25-28
- 7 = Zones 29-32

Timing and Camera Programming

All Entries are 00 by Default [01]-[32] Zone X Alarm/Tamper/Fault

T C T C T C T C

[01] Zone 1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[02] Zone 2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[03] Zone 3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[04] Zone 4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[05] Zone 5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[06] Zone 6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[07] Zone 7	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[08] Zone 8	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[09] Zone 9	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[10] Zone 10	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[11] Zone 11	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[12] Zone 12	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[13] Zone 13	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[14] Zone 14	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[15] Zone 15	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[16] Zone 16	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[17] Zone 17	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[18] Zone 18	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[19] Zone 19	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[20] Zone 20	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[21] Zone 21	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[22] Zone 22	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[23] Zone 23	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[24] Zone 24	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[25] Zone 25	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
[26] Zone 26	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

P R O G R A M M I N G W O R K S H E E T S

	T	C	T	C	T	C	T	C
[27] Zone 27	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[28] Zone 28	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[29] Zone 29	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[30] Zone 30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[31] Zone 31	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[32] Zone 32	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[33] Keypad Alarms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[34] Closings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[35] Openings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[36] Periodic Test TX	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[37] Gen Sys Tamp	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[38] System Test	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[40] Pre-Trigger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[41] Remote Trigger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

[50] PC5108L Control Options

	Default	ON		OFF	
OFF <input type="checkbox"/>			1 Camera Monitor When Disarmed		Pre-Trigger When Disarmed
OFF <input type="checkbox"/>			2 Camera Monitor When "Away"		Pre-Trigger When "Away"
OFF <input type="checkbox"/>			3 Camera Monitor When "Stay"		Pre-Trigger When "Stay"
OFF <input type="checkbox"/>			4 External Dwell Control (SYNC)		Internal Dwell Control
OFF <input type="checkbox"/>			5 Fast Dwell Time (3s)		Slow Dwell Time (6s)
OFF <input type="checkbox"/>			6 Sync Input Is Inverted		Sync Input Is Normal
OFF <input type="checkbox"/>			7 Images Can Be Overwritten		Images Cannot Be Overwr.
OFF <input type="checkbox"/>			8 DLM-4 v1.0L Not Used		DLM-4 v1.0L is connected

[60] Camera Test Configuration

	Default	ON		OFF	
ON <input type="checkbox"/>			1 Camera 1 Test Enabled		Camera 1 Test Disabled
ON <input type="checkbox"/>			2 Camera 2 Test Enabled		Camera 2 Test Disabled
ON <input type="checkbox"/>			3 Camera 3 Test Enabled		Camera 3 Test Disabled
ON <input type="checkbox"/>			4 Camera 4 Test Enabled		Camera 4 Test Disabled
ON <input type="checkbox"/>			5 Camera 5 Test Enabled		Camera 5 Test Disabled
ON <input type="checkbox"/>			6 Camera 6 Test Enabled		Camera 6 Test Disabled
ON <input type="checkbox"/>			7 Camera 7 Test Enabled		Camera 7 Test Disabled
ON <input type="checkbox"/>			8 Camera 8 Test Enabled		Camera 8 Test Disabled

[99] Restore Module Factory Default Programming

Enter [55] in this section to restore the PC5108L to its factory default settings.