![VICON]

PRODUCT SPECIFICATION

MODELS: REFER TO TABLE 1

PRODUCT CODES: REFER TO TABLE 1

DESCRIPTION: DIGITEK™ MULTI-CHANNEL DIGITAL INTRUSION DETECTORS

- **4, 8, and 16 channel models**
- **Over 60,000 independent detection elements**
- **User-defined detection zones**
- **Automatic sensitivity level settings**
- **Adjustable sensitivity levels per camera**
- **Indoor/outdoor sensitivity settings per camera**
- **Adjustable object size per camera**
- **Adjustable object intrusion time per camera**
- **Intelligent sequential switcher**
- **2 monitor outputs**
- **Easy on-screen programming**
- **Real-time clock with scheduling**

(C E)

The DigiTek family of digital intrusion detectors brings new standards for performance, features, and convenience to CCTV security systems. Three model variations accept four, eight, and sixteen video inputs and feature sophisticated sequential switching in addition to the detection functions. Automatic sensitivity level selection allows the detector to adjust the sensitivity as scene conditions change in order to eliminate false alarms. All models accept both monochrome and color inputs. Two monitor outputs are provided.

DigiTek is designed to detect changes in video by comparing a current scene to a reference scene held in memory. An intruder in the scene causes a change in the video level compared to the reference scene. If this change exceeds a specified threshold level, the intruder may be highlighted and triggers an alarm. Highlighting may be enabled or disabled.

A video image input from a camera is divided into more than 3700 rectangular blocks or cells and each block is subdivided into 4×4 pixels. One image from each camera is stored as a reference, and the reference image memory is updated at a frequency set by the user.

DIGITEK DIGITAL INTRUSION DETECTOR

The detection zone may be defined with a resolution down to a single cell, so detection takes place only in the exact area desired. Movement in the rest of the scene cannot trigger a false alarm. When a video level difference is detected, the sensitivity level setting determines whether an alarm should be generated. The alarm event then passes through two more software analyses, one for object size and one for the duration of the event. If the alarm event passes all three evaluations, an alarm signal is generated. Also, the intruder can be highlighted to indicate the intrusion.

The unit can detect a video level change of ±4 IRE, relative to a video signal of 80 IRE. Object size, sensitivity, and the minimum time that an object must be present can be defined.

On-screen menus allow programming using the eight keys on the front panel. The detector configures itself automatically for NTSC or PAL by identifying the 50 or 60 Hz frequency. A real-time clock allows the user to program the intrusion detector for night, weekend, or other operational periods. The menus provide an extensive selection of alarm processing options, including an alarm if video is lost.

TABLE 1
MODELS AND PRODUCT CODES

Model Number	Product Code	Description
V704-IDS	4392	Four channels, NTSC/PAL, 120 V, 50/60 Hz
V704-IDS-230	4392-01	Four channels, NTSC/PAL, 230 V, 50/60 Hz
V708-IDS	4393	Eight channels, NTSC/PAL, 120 V, 50/60 Hz
V708-IDS-230	4393-01	Eight channels, NTSC/PAL, 230 V, 50/60 Hz
V716-IDS	4394	Sixteen channels, NTSC/PAL, 120 V, 50/60 Hz
V716-IDS-230	4394-01	Sixteen channels, NTSC/PAL, 230 V, 50/60 Hz

In addition to the video alarm sensing, the units also provide a separate hardwired alarm input corresponding to each camera. Any conventional alarm device such as reed switches, PIRs, etc, may be connected to these, and each input may be set for active high (equivalent to normally closed - NC) or active low (equivalent to normally open - NO). Each hardwired input may be enabled or disabled individually, and, since zone sensing for each camera may also be enabled or disabled individually, the system provides complete flexibility in the programming of alarm inputs.

Alarm outputs include a separate output for each camera input and two dry contact relay outputs that may be individually configured NO or NC. The relay outputs may be used to activate a video recorder or a remote light or buzzer. The outputs may be programmed to go active in response to both the intrusion detection function (zone sensing) and the hardwired inputs or to the zone sensing alone.

DigiTek provides an advanced sequential switching function. Cameras may be programmed to sequence in any order, allowing selected cameras to be displayed more or less frequently. Each camera may be assigned its own dwell period, allowing more important cameras to be displayed longer.

Alarm Sequencing: Three sequencing options are available for alarms: (1) normal sequencing continues unchanged; (2) alarmed cameras are interleaved (recorded more frequently than nonalarmed cameras); (3) alarmed cameras are recorded exclusively. Alarmed cameras may also be given their own dwell period.

Screen displays include a camera title, a monitor title, time, date, the sensitivity setting, and the activity level. Each camera and monitor title may consist of up to 24 characters, drawn from a set consisting of 240 characters, including foreign-language characters. Screen displays may be programmed for large or small type, black or white characters, a narrow outline ("shadow") around each character for added contrast with the background, or a transparent tinted rectangular background behind the characters.

Fourteen different screen arrangements of the time, date, camera title, and monitor title are available. The different screen displays allow the time/date, camera titles, or monitor title to be displayed in various locations on screen, or to be displayed selectively (camera title only, monitor title only, camera and monitor titles with time/date, etc.). A different display type may be assigned to each of the monitors. User-programmed settings may be returned to the factory settings with the default programming function.

This product complies with European Community EMC Directive 89/336. The product was subjected to the testing outlined in European Normalization Standard EN 50081-1 (Electromagnetic Compatibility - General Emissions Standard Part 1: Residential, Commercial and Light Industry), and EN 50082-1 (Electromagnetic Compatibility - Generic Immunity Standard Part 1: Residential, Commercial, and Light Industry).

CONTRACTORS' SPECIFICATION

MULTICHANNEL DIGITAL INTRUSION DETECTORS

The digital intrusion detector shall detect changes in the video images being generated by the cameras connected to it by comparing each incoming frame to a reference frame held in memory. If the incoming frame has changed, to exceed specified threshold parameters, the changed video shall trigger an alarm. The sensing area shall have more than 60,000 sensing points divided into more than 3700 separate sensing cells. The smallest area that can be programmed to detect intrusion shall be one cell; the largest area shall be the full monitor screen, excepting a narrow margin at the edges of the screen. It shall be possible to program multiple sensing areas per camera input channel.

The reference frame update rate shall be user-selectable from 0.0 to 127.5 minutes in 0.5 minute increments. The minimum intrusion time shall be user-selectable from 0.00 to 15.00 seconds in 0.25 second intervals. The minimum intruder size shall be user-selectable from 1 to 256 cells. Highlighting active cells during an alarm condition shall be user-selectable. The sensitivity of the sensing zones shall be user-selectable, with options including automatic or manual settings and indoor or outdoor settings. In the manual mode and in the auto/indoor mode, there shall be a choice of eight sensitivity levels. In the auto/outdoor mode, there shall be six levels of sensitivity. Alarm video output to the recorder shall be selectable from normal, interleaved, or alarm-only modes.

The intrusion detector shall accept monochrome and color composite video inputs and shall have two monitor outputs. All programming shall be done from on-screen menus. A real-time clock and a scheduling program for active detection periods shall be provided. On-screen displays shall include camera numbers and titles, monitor titles, time and date, the current sensitivity level, the number of currently active cells, the status of the sequential switching function, and alarm information. The user shall be able to select black or white letters, with or without a contrasting outline. The user shall also be able to enable or disable a transparent tinted background for the screen titling displays. There shall be multiple user-selectable modes of displaying time, date, and title information, and individual elements may be included or excluded from the display. Each monitor may have its own titling program.

In addition to motion-based alarms, the intrusion detector shall also provide one hardwired input for each camera input. Alarm outputs shall include one hardwired output per camera, and relay outputs to activate additional equipment such as a VCR shall also be provided. Alarm annunciation shall include a flashing red LED, an on-screen message that identifies the alarm channel number, and an audible tone. The user shall be able to enable or disable the flashing display of cells activated by an intrusion. The user shall be able to enable or disable the screen message and audible tone. An additional alarm shall activate if video is lost from any input channel while the detector is powered up.

The intrusion detector shall be able to sequence video on both monitors, with each monitor having its own sequencing program. It shall be possible to sequence the cameras in any order and to have individual dwell times for each camera.

The intrusion detector shall be available in model variations accepting four, eight, and sixteen video inputs. It shall measure not more than 1.73 in. (4.4 cm) in height, 19.0 in. (48.3 cm) in width with rack-mounting brackets installed, and 9.25 in. (23.5 cm) in depth. Its weight shall not exceed 8.91 lb (4.04 kg). The digital intrusion detector shall be one of these Vicon models: V704-IDS, V708-IDS, or V716-IDS.

TECHNICAL INFORMATION

VIDEO

Input/Output Impedance: Terminated: 75 ohms (terminators supplied).
Looping: high impedance.

Video Input Level: 1.0 V p-pnominal, 2.0 V p-p maximum.

Video Gain: Unity.

Total Bandwidth: 6MHz.

Maximum Tilt: 1%.

Crosstalk Isolation: Typically less than -40 dB at 3.58 MHz between two adjacent input channels routed to two adjacent output channels.

Signal-to-Noise Ratio: Greater than 50 dB unweighted.

Monitor Outputs: Composite video, 1.0 V p-p, 75 ohms.

ALARM FUNCTIONS

Video AlarmInputs: Each camera input is programmable for thefollowing parameters:
1. Sensitivity level on a scale from 1 to 8, plusautomaticindoorandautomatic outdoor settings. At 8, the most sensitive level, a change in video level of ±4 IRE (with a video level of 80 IRE) generates an alarm. Sensitivity level maybe displayedon screen.
2. Area: Full screen contains over 3700 sensing cells, each containing 16 pixels. Any number of cells from 0 tothemaximum maybe made active. Multiple sensing areas may be programmed for each camera.
3. Minimumobjectsizeforalarmactivation may be specified, with the smallest size beingone cell.
4. Minimumobject intrusion time maybe defined.

Reference Frame Update Rate: 0.0 to127.5 minin0.5-min increments.

Minimum Intrusion Time: 0.00 to 15.0 sec in 0.25-sec increments.

MinimumIntruder Size: 1to 256 cells.

Active Cell Display: Enable/disable.

HardwiredAlarmInputs: One alarm input per camera input. Software programmable for activehigh (equivalent to normally closed - NC) or active low (equivalent to normally open - NO).

Alarm Outputs: 1. Individual alarm output for each camera.
2. Two dry contact relay closures for connection to external equipment such as a VCR. Software programmable for NC or NO operation.

Alarm Switching: Video from alarmed cameras is interleaved among video from nonalarmed camerasin the switching cycle.

Sequencing Alarm Dwell: Adjustable from 1to 60 sec.

Acknowledgement Modes: Manual or automatic; auto acknowledgement dwell is adjustable from 0 to 60 sec.

Display Mode: The alarmed cells will flash on the screen of monitor A, and a buzzer will sound. These functions can be disabled. The power LED on the front panel willflash.

SWITCHING FUNCTIONS

Number of Video Inputs: 4, 8, or 16, depending on model. Refer to Table 1.

Manual Switching: Pressing the appropriate button displays theselected video.

Switching Dwell Times: 1. Ascending-order switching: The dwell period for nonalarmed ascending-order sequencing may be set individually for each monitor as follows: OFF,1 to 60 seconds.
2. Random-order (indexed) switching: A switching cycle containing up to 32 steps with cameras in any order may be selected for each monitor individually. The dwell period for each camera may be set from 1 to 60 seconds.

Alarm Sequencing Dwell Times: The dwell period for video from alarmed cameras may be set individually for each monitor, either OFF or 1 to 60 seconds. Video from alarmed cameras is interleavedbetween video from nonalarmed cameras. See description in introductorytext.

ELECTRICAL

Input Voltage: Refer to Table 1.

Power Consumption: 25 W.

Heat Equivalent: 1.4 btu/min.(0.35 cal/min). NOTE: These figures representthe conversion of 100% of the electrical energy to heat. Actual percentage of heat generated will be less and will vary from product to product. These figures are provided as an aid in deter-mining the extent of cooling required for an installation.

Line Cord: Three-conductor detachable cable with grounded plug connects to IEC320 plug on detector.

Fuse: The fuse is located in a removable plastic drawer integrated into the IEC320 input power connector. 120 VAC models:0.5 A, 250 V, 5×20 mm. 230 VAC models:0.25A, 250 V, 5×20 mm.

Radio-Frequency Emission Rating: FCC ClassA.

European Community (CE) Standards: EN50081-1 generic emissions. EN50082-1 generic immunity.

CONTROLS

CameraSelect: Up to sixteen numbered pushbuttons on front panel.

Programming: Eight of the camera select buttons also control the on-screen programming and various other functions, such as manual alarm acknowledge.

Indicators: Power: red LED glows steadily when power ison. Alarm: power LED flashes when alarmsare active.

CONNECTORS

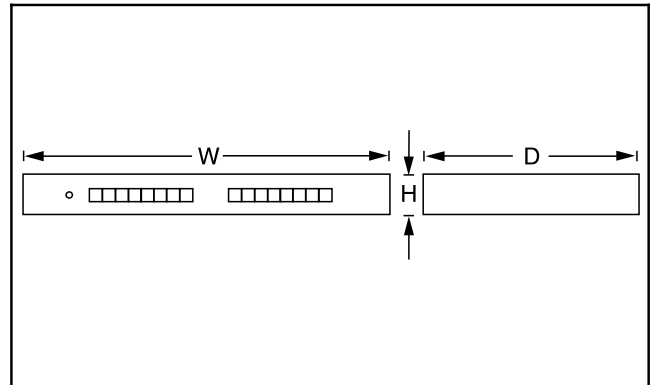**Power:** IEC320 recessed plug for detachable power cable.

Video In/Out: BNCs.

HardwiredAlarm: Input: 25-pin D-shell connector. Output: 25-pin D-shell connector.

Alarm Relay Output: Removable 3-pin screw terminal block.

MECHANICAL

Dimensions: Height (H): 1.73 in. (4.4cm). Width (W): 17.25 in. (43.8 cm); With rack-mounting brackets installed: 19.0 in. (48.3 cm). Depth (D):9.25 in. (23.5 cm).

Weight: V716-IDS: 8.91 lb (4.04 kg). Other modelsweigh slightly less.

Construction: Steel.

Finish: Front panel is painted semigloss black.

ENVIRONMENTAL

Operating Temperature Range: 32 to 122° F(0to 50 ° C).

Operating HumidityRange: Up to 90% relative, noncondensing.