V1422 NOVA™ CPU-Based Control and Switching System

- **32 camera inputs, 8 monitor outputs**
- **Large system capabilities for small systems**
- **On-screen programming**
- **Vicoax® and RS-422 communication for receivers**
- **Advanced pan/tilt and video touring**
- **Multiple switching programs**
- **32 direct alarm programs, including salvos**
- **Independent alarm programs for each monitor**
- **Built-in control panel**
- **Extensive titling capability**
- **Built-in diagnostic tests**

The NOVA V1422 CPU-based Control and Switching System puts the massive power of the big NOVA digital control systems into a compact package for small systems, and it adds many new features. The V1422 is a self-contained, full-featured digital control system and matrix switcher for systems with up to 32 camera inputs and 8 monitor outputs. It includes ProTech Graphic Configurator Software.

The V1422 may be operated by its own built-in keypad or by eight external V1300X-RVC, V1300X-DVC or V1411X-DVC series keypads, by a V1400X-DVC-3 System Console, by a PC network of up to eight stations or by a host computer over an RS-232 interface. V1300X-RVC, V1300X-DVC, V1400X-DVC-3 and PCs may be mixed. The host computer interface permits control of all system functions. An additional RS-232 port provides an output to a printer for printing alarm incident records.

Manual and sequential switching options are supported, including ascending order and random order switching. Full camera-monitor partitioning and up to 256 timed events may be programmed. Default camera-monitor assignments or a default tour may be programmed for power-on system startup after a power outage.

Switching modes also include salvo or zone switching and sequencing salvos, with up to eight camera-monitor pairs per salvo. These may be selected manually or automatically. Salvos may be called up manually or by alarm. Each salvo can have a unique combination of camera, monitor, and preset position.

Another standard feature of the V1422 is the most extensive tour-sequence support available anywhere. Up to 64 pan/tilt and video guard-tour sequences of 32 steps each may be programmed. Up to eight tours may run concurrently (one per monitor). Each tour step includes an assigned preset position with variable solve speed and variable dwell time. Salvo tours may also be programmed. Tours may also be programmed to start automatically at a particular time every day or on specific days.

Tours may be manually interrupted and resumed, or they may be interrupted by an alarm input and resume when the alarm is acknowledged. Multiple tours may be chained together, and tours may also be looped, that is set so that the tour restarts automatically when the last step is completed.

The V1422 supports nine operator keypads, one built-in and eight remotes. Up to 64 users may be passcoded through the V1422 to use the system, each user being able to access from one to nine keypads. A user may be active on only one keypad at a time, and each keypad may be assigned a unique priority level.

The V1422 accepts both NOVA (VPS) and Vicoax receivers. NOVA receivers communicate with the V1422 using RS-422 mode through a D-shell connector on the rear panel. Vicoax receivers use coaxial cabling for both video and control data, which provides a method of reducing cabling costs.

Alarm operation includes 64 alarm inputs, 32 via a built-in interface and 32 via receivers. Up to eight monitors may be assigned as alarm monitors. Programs include independent alarm stacks per monitor or a common stack (salvo alarms). Priority may be first-in, first-out (FIFO) or priority based on camera input number. Sequencing alarms with adjustable dwell is also provided. Acknowledgment may be manual or automatic, with adjustable dwell, and each monitor may be programmed to restore the prealarm state, to go blank, or not to change upon acknowledgment of an alarm. An RS-232 serial port is provided to allow an alarm log to be printed. Alarms are printed automatically.

Vicon Product Facts | CE FC | **Model No:** V1422 | **Product Code:** 6237-10 | **SEC:** 9 | **SPEC NO.:** 834 | **REV:** 603

Vicon part number 8006-7834-01-01   *Product specifications subject to change without notice.*

The V1422 may be programmed from its own front panel via on-screen menus, and the programming menus may be displayed on any system monitor.

A master real-time clock controls the timing of time-based functions in the V1422. Up to 256 discrete events may be programmed for timer activation, including camera-monitor switches, tour sequence starts, salvo and preset selects, and alarm input enable/disable pattern for three time periods per day.

Comprehensive time, date, and titling support is standard in the V1422 software. Each camera and each monitor may have a 20-character title, and there are four possible t/d/t layouts for each monitor display. One 20-character title may be programmed for each alarm input. A 20-character title may be programmed for each preset position; this displays whenever its associated preset position is executed. Lastly, sector titles may be programmed to be displayed as a camera pans into a defined part of its viewing area.

Time and date may be enabled or disabled for each monitor, and camera and alarm titles and preset titles may similarly be enabled or disabled for each monitor. Time and date may also be enabled or disabled for each camera input. Title fade with an adjustable dwell time may be programmed for each monitor.

Built-in diagnostic routines will test the following functions:

> ROM, RAM, and EEPROM memory tests;
> Video switching and TDT output tests;
> Alarm interface test;
> Serial port tests;
> Local front panel tests for switches and displays.

The V1422 maintains system compatibility with most VPS1300, VPS1400, NOVA 1500 and current VPS1200 components:

Keypads:	V1300X-DVC, V1300X-RVC, V1411X-DVC series, PCs with PacPro software, V1400X-DVC-3
Receivers:	V1311RB, Surveyor
Alarm Interfaces:	V1300X-IA
Distribution Line:	V1400X-DL-1
Relay/Audio Switcher:	V1332AF, V2332AF

The V1422 is equipped with a power supply that can accept 90-265 V, 50 or 60 Hz inputs, so that one model is compatible with both NTSC and PAL television systems.

The V1422 complies with FCC standards for a Class A computing device.

Contractors' Specification

TECHNICAL SPECIFICATIONS   **SECURITY SYSTEM**
DIVISION 13 - SPECIAL CONSTRUCTION
SECTION 137_ _ - SECURITY CCTV SYSTEM

PART 2 - PRODUCTS

2.01 GENERAL

   A. All equipment and materials used shall be standard components, regularly manufactured, regularly utilized in the manufacturer's system.

   B. All systems and components shall have been thoroughly tested and proven in actual use.

   C. All systems and components shall be provided with the availability of a toll free 24-hour technical support phone number from the manufacturer. The phone number shall allow for immediate technical assistance for either the dealer/installer or the end user at no charge.

   D. All systems and components shall be provided with an explicit manufacturer warranty.

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2.02 CPU-BASED CONTROL AND SWITCHING SYSTEM

A. The system shall provide digital control and video switching for up to 32 camera stations and 8 monitors. The system shall be operated by a built-in keypad, remote keypads, and personal computers. Programming shall be performed using menu-driven screens accessed by using the built-in keypad. Receiver communication shall be provided via a D-shell connector using RS-422 protocol and through coaxial cabling. A liquid crystal display (LCD) located on the front panel of the system shall display messages during programming normal operation.

B. A maximum of 32 users shall be defined to the system by a unique login identification number. Three levels of user privilege shall be provided: operator, manager, and administrator. Administrators shall input a passcode in addition to the login identification number to provide a second level of security. Operators shall not have access to the programming menus. Administrators shall have full access to programming menus; managers shall have limited access.

C. Alarm processing shall be available in two stack modes: common stack and independent stack. (A stack is a list of active alarms.) In common stack mode, there shall be one stack for all alarm monitors in the system. In independent stack mode, each alarm monitor shall have a separate stack. In either mode, alarms shall be added to the stack(s) in first-in, first-out order or shall be sorted by priority. One simple programming screen shall be used to define the CCTV system's response to activated alarms. For each alarm monitor, this screen shall identify the camera number, preset number, and auxiliary equipment state for an activated alarm. Acknowledgment shall be on either a per monitor or on a global basis. Up to 64 alarms shall be available, 32 from receivers and 32 directly connected to the system's built-in interface. Alarm reports shall be automatically printed on a serial line printer via an RS-232 port.

D. The system shall include extensive video switching functions. Tours, a series of preset video displays from various camera stations, shall be available in two types, monitor and salvo. A monitor tour shall display on a specific monitor while salvo tours shall display on various monitors. When the last step has been performed in a tour, the next action shall be user-defined to activate another tour, cease touring, or repeat the previous tour. Scheduling of tours shall be permitted. The maximum number of tours available shall be 64 and the maximum number of steps per tour shall be 32. Tours shall be capable of being chained together.

E. Comprehensive time, date, and titling support shall be standard. Camera, alarm, preset, and sector titles shall be provided. Sector titles shall identify a user-defined region of the rotational part of the pan-and-tilt drive. Each camera in the system shall have up to 16 sectors. Preset titles shall identify the video displayed at a preprogrammed pan-and-tilt position. Diagnostic tests and calibration procedures shall be available. Diagnostic procedures shall test front panel operation, joystick, LCD contrast, switching synchronization, alarm inputs, serial port, and read/write function.

F. The video shall be 1.0 V p-p nominal, 2.0 V p-p maximum. The total bandwidth shall be 1 Hz to 20 MHz at -3 dB and the signal-to-noise ratio shall be greater than 70 dBrms typical unweighted, 15 kHz to 5 MHz. Input to input isolation shall be 60 dB at 42 MHz. The video gain shall be unity ±0.3 dB. Video frequency flatness shall be 100 kHz to 10 MHz ±0.9 dB. The control shall have a switching power supply capable of accepting 90-265 V, 50/60 Hz, and shall be compatible with both NTSC and PAL television systems. It shall comply with specifications for an FCC class A computing device.

G. The control system shall have the following mechanical specifications:

1. **Mounting:** instrument rack or desk-top.

2. **Dimensions:** Height: 3.47-in. (88 mm).
      Width: rack-mount, 19.0-in. (483 mm); desk-top, 17.0-in. (432 mm).
      Depth: 12.4-in. (315 mm)

3. **Weight:** 14.7-lb. (6.7 kg).

4. **Construction:** Steel and aluminum chassis.

5. **Finish:** Front panel painted black.

The digital control and switching system shall be Vicon Industries model V1422.

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VIDEO

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

Input/Output Impedance: Terminated: 75 ohms.
Looping: High impedance (15 kohm).

Input to Input Isolation: 60 dB at 4.2 MHz.

Video Gain: Unity, ±0.3 dB.

Video Frequency Flatness: 100 kHz to 10 MHz ±0.9 dB.

Total Bandwidth: 1 Hz to 20 MHz, @ -3 dB.

Tilt: Less than 1%.

Field/Line Short-Time Distortion: Less than 1%.

Chrominance to Luminance Delay: Less than 50 nsec.

Crosstalk Isolation: Typically 50 dB at 4.2 MHz between two adjacent input channels routed to two adjacent output channels.

Hum and Noise: 70 dB below 1 V p-p up to 5 MHz.

Signal-to-Noise Ratio: Greater than 70 dBrms typical unweighted, 15 kHz to 5 MHz.

ELECTRICAL

Input Voltage: 90-265 VAC, 50/60 Hz.

Power Consumption: 28 W.

Heat Equivalent: 1.6 btu/min. (0.4 kg-cal/min).
NOTE: These figures represent the 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 determining the extent of cooling required for an installation.

Alarm Inputs: All inputs are NC or active high (CMOS/TTL compatible).
32 inputs from receivers; 32 direct alarm inputs.

Alarm Output: Normally open (NO) relay closure provides operation of remote units such as VCRs under alarm conditions. Relay rated at 0.5 A, 30 V.

Line Cord: Detachable IEC320 three conductor cable with grounded plug.

Fuse: 2 A, 250 V, 3AG.

Radio-Frequency Emission Standards: FCC class A.

CONNECTORS

Power: IEC320 recessed three-pin male connector with built-in fuse tray and power switch.

Video Input: 32 BNC connectors.

Looping Video Output: 32 BNC connectors.

Video (Monitor) Outputs: 8 BNC connectors.

Alarm Input: Alarms may be input to the V1422 either via receivers at the camera stations or directly via a D-shell connector on the V1422.

RS-232 Host Computer: 9-pin D-shell connector.

RS-232 Printer Output: 9-pin D-shell connector.

Remote Operator Keypads: The trunk line for remote keypads connects at a 9-pin D-shell connector.

Receivers: NOVA: The trunk line for receivers connects at a 9-pin D-shell connector. Vicoax: BNC connectors.

Auxiliary Alarm Output: Detachable 3-pin screw terminal block.

MECHANICAL

Dimensions: Height (H): 3.47 in. (88 mm).
Width (W): Rack-Mount:
19.0 in. (483 mm).
Desk-Top:
17.0 in. (432 mm).
Depth (D): 12.4 in. (315 mm).

Weight: 14.7 lb (6.7 kg).

Construction: Steel and aluminum chassis.

Finish: Front panel painted black.

ENVIRONMENTAL

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

Operating Humidity Range: Up to 90% relative, noncondensing.

Storage Temperature Range: -20 to 140° F (-29 to 60° C).

Storage Humidity: Up to 85% relative, noncondensing.