V1344 Series NOVA™ Digital Control and High-Density Matrix Switching System

- **8 × 8 expandable to 128 × 24**
- **Internal CPU**
- **Includes time/date/titler**
- **Includes ProTech Graphic Configurator Software**

Vicon's NOVA V1344 control and switching system simplifies the design and installation of complex security installations. The system consists of the V1344SCPU-HDA, which contains system software to control switching, pan, tilt, zoom lens, auxiliary functions, and alarm functions; V1344TDT-HD time/date/titler modules; and the V4481SCC-HD Matrix 44 high-density card cage. The V1344 system will also include varying numbers of V4410S-HD video switcher cards and, possibly, circuit cards providing other functions. Refer to Table 1, System Components and Accessories. Included in the system is ProTech Graphic Configurator software.

The V4481SCC-HD high-density card cage can accommodate up to 16 video switcher cards. Each switcher card can accept up to eight video inputs, for a maximum card cage capacity of 128 camera inputs and 24 monitor outputs. This greatly reduces the amount of space required for equipment installation.

The V4481SCC-HD card cage is supplied with a motherboard, a video amplifier board, and a power supply. It also contains slots for the following boards: system CPU, time/date/title cards, address decoder card, and up to 16 video switcher cards. The specific combination of these cards in a given card cage is determined by the size and configuration of the video system it is supporting. In its maximum configuration, the system can support up to 128 remote camera/lens receivers, 24 monitors, 128 inputs from alarm interface units, 128 receiver alarms, and 32 remote control panels.

COMPATIBILITY WITH MATRIX 44 SYSTEM

The V1344SCPU-HDA and V1344TDT-HD printed circuit boards plug directly into the Matrix 44 high-density card cage, permitting on-site serviceability and minimizing down-time of the entire system. This compatibility also reduces the amount of space required for equipment installation.

COMPATIBILITY WITH V1200 AND V1300 SYSTEMS

The V1344 maintains software compatibility with Vicon's V1200 and V1300 components. This provides cost-effective expansion of existing V1200 and V1300 security systems. It also permits use of V1200 and V1300 remote panels, keypads, alarm controls, and receivers in the V1344 system.

Model Number	Product Code	Description
V1344SCPU-HDA	5221	CPU card. Each system has one. Controls matrix switching up to 128 cameras and 24 monitors.
V1300X-PKA	5214	Programming keyboard.
V4481SCC-HD	4622-10 4622-11	Matrix 44 high-density switcher card cage. Includes power supply, video output amplifier, and motherboard. Accommodates up to 16 V4410S-HD switcher cards. Available in 120 VAC (4622-10) and 230 VAC (4622-11).
V4410S-HD	4164	Video switcher card. Can accommodate up to 8 video inputs per card. The card cage can accommodate up to 16 V4410-HD cards, for a capacity of 128 video inputs by 8 monitor outputs.
V4411RP-BNC	4641	Rear connector panel with 8 BNC connectors and 1 ribbon cable connection. Use with V4410S-HD.
V4411RB-RIB	4640	Rear connector panel with 2 ribbon cable connectors. Use with V4410S-HD
V4430ADEC-HD	0379	Address decoder card. Used to define video output (monitor) addresses. Routes control signals.
V4441SEXP-HD	4625	Expander card. Required for systems with more than 128 camera inputs. One required for each camera expansion card cage.
V1344TDT-HD	4100	Time/date/titler card. Provides three lines for titling and one line for time and date.
V4450RCP-HD	0381	Rear closure panel. For rear closure of unused card positions.
V75TR-1	4638	Terminator for ribbon cable connector.
V44RC-21-1	4639	21-inch coaxial ribbon cable assembly for distributing video between V4410S-HD switcher cards.
V44RCB-12-1	4637	12-inch coaxial ribbon cable assembly for distributing video signals from V4410S-HD to external devices. Terminated with eight BNC connectors.

Table 1: System Components and Accessories

Vicon Product Facts | Model No: Refer to Table 1 | Product Code: Refer to Table 1 | SEC: 9 | SPEC NO.: 779 | REV: 603 |

Vicon part number 8006-7779-01-01

Product specifications subject to change without notice.

REMOTE CONTROL PANELS

V1300X and V1200X series remote control panels allow operators to control pan, tilt, autopan, autoiris, lens speed, preset entries, auxiliary functions, alarm acknowledgment, and receiver communication failure acknowledgment.

The V1344 provides camera-monitor-keypad partitioning, which ensures that remote operators cannot control camera stations not assigned to them. The V1344 system includes 32 remote keypad priority levels.

SYSTEM PROGRAMMING

The V1344 includes user-friendly system programming via a computer-style keyboard and a menu-driven programming interface. Software includes camera-to-monitor partitioning (i.e., assigning cameras to specific monitors) and monitor-to-keypad partitioning (assigning monitors to specific keypads).

The CPU can perform system diagnostics and define or alter all system parameters via the keyboard. This includes passwords, defaults, RS-232 parameters, keypad/receiver/monitor assignments, time and date, titles, and alarm assignments. The contents of any of the screens can be sent to a printer connected to the appropriate RS-232 port on the V1344SCPU-HDA.

The programmer can download (upload) the system configuration data to (from) another V1344 system or an IBM compatible personal computer to backup the data. The system uses the X-modem protocol for serial communications and can be connected directly to a modem.

SEQUENTIAL SWITCHING

The V1344 system has two methods of sequencing cameras on monitors. The first, random-pattern sequencing, displays the camera video on the screen in any programmed order. The second, ascending-order sequencing, displays the camera video on the screen only in ascending numerical order.

Two modes of sequential operation are available with the V1344. Mode 1 combines random-pattern sequential monitors and ascending-order sequential monitors in the system. Mode 2 can only accommodate ascending-order sequential monitors.

The V1344 system also offers salvo switching, in which a selected group of cameras is switched simultaneously onto a selected group of monitors. The V1344 offers salvo switching in alarm mode and synchronized switching in nonalarm mode.

CAMERA AND MONITOR DWELL

"Dwell" refers to the length of time video from a camera remains displayed on a monitor before being switched away. "Monitor dwell" refers to setting dwell such that all cameras displayed on a given monitor are displayed for the same period of time. "Camera dwell" is a function in which the dwell period may be set differently for different cameras in the system. In the V1344, monitor dwell is adjustable for each monitor in the system.

In addition to monitor dwell, the V1344 system offers individual camera dwell settings. With this type of dwell, the operator can assign a different dwell time to each camera that sequences on the same monitor. This lets the operator tailor the dwell time to match the importance of the scene. Therefore, the operator can spend more time viewing critical scenes.

SYSTEM DIAGNOSTICS

The V1344 system provides diagnostic tests for the CPU board. These allow a technician in the field to isolate a fault condition to an I/O port (or cable), or in some cases specific circuits. The system can download the test results to the CPU's RS-232 port.

The V1344 alarm software handles up to 128 alarm closure inputs when used with alarm interface units. The system operator can designate up to 24 alarm monitors and assign alarms to them.

The V1344 includes an RS-232 port for alarm reports to serial line printers. The system also supports up to 128 salvo alarms. This type of alarm causes multiple camera inputs to come up on multiple alarm monitors in the event of an alarm. It assures video coverage of an entire area during a security breach.

ALARM SOFTWARE PROVIDED WITH V1344 SYSTEM

The V1344 includes extensive and flexible alarm software. The specific alarm response configuration is determined by the system manager and is programmed into the CPU via the V1300X-PKA keyboard.

Preset Positions and Multiple Alarms per Camera

For V1344 systems with preset position control, the software can automatically drive the associated camera to a preset position assigned to that alarm.

The software allows each camera to cover several alarm inputs. Each alarm input can have an assigned preset. When an alarm activates, the camera is directed to its corresponding preset position.

Salvo Alarm Functions

A salvo alarm configuration groups several cameras and alarm monitors with one alarm input. When an alarm activates, video signals from the cameras are simultaneously displayed on the alarm monitors. This provides coverage of an entire area where an alarm has been tripped. A V1344 system can have 128 salvo groups.

Variable Automatic Alarm Acknowledgment

This feature is designed for unattended CCTV sites. When an alarm activates, the video is directed to its assigned alarm monitor or video recorder for a predetermined period of time (1 to 255 seconds). At the end of the period, the alarm is acknowledged automatically.

Alarm Titling

Each camera can have one alarm title of up to 60 characters (3 lines, 20 characters each) for alarm site identification.

Time-of-Day Alarm Patterns

The time-of-day feature automatically switches between alarm patterns at programmed times. Typically, alarm patterns used during business hours differ from those used during nonbusiness hours.

V1344TDT TIME/DATE/TITLER

One V1344TDT-HD Time/Date/Titler Card supports title data for up to 128 cameras and output for up to 4 monitors. Two V1344TDT-HD cards can be placed in a card cage to support 128 camera outputs on 8 monitors. Six V1344TDT-HD cards can be used in three card cages to support the maximum system configuration of 128 cameras and 24 monitors. The

Vicon Product Facts	ⓊL CE	Model No: Refer to Table 1	Product Code: Refer to Table 1	SEC: 9	SPEC NO.: 779	REV: 603

V1344TDT-HD can provide two titles per camera. One is the normal video title; the other is the alarm title shown when the alarm associated with the camera activates.

The display consists of up to 60 characters (3 lines, 20 characters per line). This may include a six-digit date, six-digit time (24-hour or 12-hour format), and/or camera identification. Three display styles are available: white characters on no background or on a black background, or white characters outlined in black. Characters can be displayed in two formats: large or small.

Display adjustments include horizontal and vertical positions, and character brightness. The CPU automatically adjusts the date for proper day and leap years and steps the time in one-second intervals.

The V1344TDT complies with UL standard 2044.

V1344 System - Key Features

I. Maximum Configuration:

128 cameras × 24 monitors × 32 keypads, with 256 alarm inputs

II. Basic Control Functions:

A. Pan and tilt

B. Autopan

C. Zoom, focus, iris

D. Lens speed

E. Autoiris

F. Preset-position selection

G. Four latching auxiliary functions

H. Two nonlatching functions

I. Alarm indicator and reset

J. Communications failure indicator and reset

K. Camera and monitor selection

L. Matrix switcher control

III. Optional Control Functions:

A. Variable-speed, pan-and-tilt

B. Automatic iris close

C. Communications fail-safe

IV. System Editor:

A. Simple menu-driven system for ease of setting system operational parameters (e.g., partition tables, alarm operations, camera sequence patterns, titles, etc.)

B. IBM-PC keyboard used for edit commands and title entry

C. No external PC is required

D. System configuration is stored in nonvolatile memory (EEROM)

E. Print Screen feature allows hardcopy print of all menus and screens (output via RS-232 serial port)

F. Edit system is password protected

G. System configuration may be uploaded to PC and saved for later use or recall

H. Screen Saver feature turns off the edit monitor after 5 minutes of inactivity from the keyboard

V. Host RS-232 Serial Communications Channel:

A. User configurable via editor for variable baud rate (300 Bd to 19.2 kBd), number of data bits, number of stop bits, parity type, and parity enable

B. Standard Vicon NOVA style keypad emulation (PTZ control)

C. Enhanced supervisory command set (e.g., alarm enable/disable)

D. Used to upload/download system configuration files (supports X-Modem protocol for upload/download)

E. Used to upload/download system title data

F. Captures screens from system editor console

G. Enters or recalls system real-time clock data (master clock)

H. Outputs results of diagnostic tests

I. Broadcasts messages to individual system monitors. Messages may have up to 5 lines of 20 characters per line

VI. Built-In Diagnostics:

A. The CPU will perform a ROM integrity self-test on power-up

B. System CPU can be tested for proper hardware operation via the system editor

C. Results can be printed via host RS-232 serial port

VII. Support for 32 Remote Keypads:

A. Supports all V1200 and V1300 type keypads, including the V1300X-DVC, V1300X-RVC, V1400X-DVC and PCs with V1400X-PAC.

B. Alarm acknowledgment function may be limited to certain user-selected keypads via system editor

C. Eight priority levels are provided for camera PTZ control

D. Monitor access can be restricted via system editor

E. Individual keypads can be placed off-line via the system editor

F. Remote keypad service routines can accept pseudo-zone select inputs

VIII. Receiver Support:

    A. Supports all NOVA-based V1200 and V1300 type receivers, including V1305R-DC1, V1311RB and V1200R-LM-1

    B. Supports 128 remote receivers

    C. Receiver alarm input may be enabled or disabled via system editor

    D. Receiver communications rate (baud rate) may be user-selected between 600 or 4800 Bd via system editor

    E. Receiver on-line status may be verified via system editor profile summary report

IX. Master Real-Time Clock:

    A. Used for time-activated events

    B. May be set or read from host RS-232 serial channel

X. Video Switching Support:

    A. Provides full matrix switching of up to 128 cameras on 24 monitors

    B. Supports user-programmable camera-to-monitor partitioning

    C. Provides two time-selectable sequence patterns, with automatic sequence start feature, for each scending order sequencing monitor

    D. Provides two time-selectable sequence patterns, with automatic sequence start feature, for each random order sequencing monitor

    E. Provides sequence pattern lock capability for each sequencing monitor

    F. Supports both monitor dwell and individual camera dwell sequencing

    G. Supports synchronous sequential switching (salvo) on up to 24 monitors

    H. Provides crosspoint reset function for on-line matrix servicing

    I. Supports vertical interval switching

XI. Alarm Support:

    A. Supports up to 256 alarm inputs; up to 128 alarms from alarm interfaces plus up to 128 alarms from receivers

    B. Alarms can be individually enabled or disabled

    C. Alarms can be individually set for momentary or latching operation

    D. Preset camera positions can be recalled for each alarm activated and/or cleared

    E. Any alarm input can be assigned to any camera in the system

    F. Supports up to 24 alarm monitors

    G. Supports duplicate alarm monitors

    H. Alarms can be viewed and acknowledged in incoming or operator-selected order

    I. Supports timed acknowledgment at user specified intervals

    J. Provides five alarm processing modes:

    STANDARD: displays alarm camera steadily on up to 24 monitors

    SEQUENCE: sequences alarm cameras on up to 24 monitors

    SALVO: displays multiple cameras per alarm on up to 16 monitoring stations

    SEQUENCING SALVOS: sequences multiple cameras per alarm on up to 16 monitors

    FIRST AVAILABLE: displays multiple alarms concurrently on up to 16 monitors

    K. Provides an RS-232 output port for alarm event logging to printers and/or computers

    L. Provides a high-speed tape output which sequences through all cameras from active alarm inputs

    M. Provides A/B time-of-day alarm pattern enable/disable

    N. Provides A/B time-of-day pattern assignment of momentary or latching alarm functions

    O. Provides day-of-week programming for all functions that have A/B program selections

XII. Time, Date, and Title Generation:

    A. Provides user-definable time and date formats, character sizes, positions, and backgrounds

    B. Provides 3 lines of 20 characters for each normal camera title

    C. Provides 3 lines of 20 characters for each alarm camera title

    D. Provides 5 lines of 20 characters for host computer messages on each monitor

    E. Each monitor can be programmed to clear its title after a user specified time interval has elapsed

    F. Time, date and title display can be enabled/disabled for each camera

    G. Displays can be enabled/disabled for each monitor

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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.

2.02 DIGITAL CONTROL AND MATRIX SWITCING SYSTEM

GENERAL

    A. The control system shall consist of software to control switching, pan, tilt, zoom lens, and auxiliary functions, a time/date/titler and a card cage. The CPU and time/date/titler units shall plug directly into the card cage. In its maximum configuration, the system shall support up to 128 remote camera/lens receivers, 24 monitors, 128 alarm inputs via alarm interface units, 128 alarm inputs via receivers, and 32 remote control panels. The control, switching, titling, and card cage components shall be UL listed and comply with requirements for an FCC Class A device.

CARD CAGE

    A. The card cage shall contain a motherboard, a video output amplifier and power supply module. The card cage shall accommodate one internal CPU module, two time/date/titler modules and up to 16 video switcher boards, all of which shall plug directly into the card cage.

    B. The unit shall require 120 VAC at 60 Hz for operation. A unit requiring 230 VAC input voltage shall be available. Maximum power consumption for a fully loaded card cage (16 switcher cards, one CPU card, and two time/date/titler cards) shall not exceed 70 W.

    C. One switcher card cage shall accommodate 128 cameras and 8 monitors. Multiple cages may be cascaded to create larger switching systems. Video inputs shall be cascadable in increments of eight, in the form of video switcher cards with individual capacity of eight inputs per card. Outputs to monitors shall be eight per card cage.

    D. The video input shall be high impedance looping, 2 V p-p maximum. The video output shall be 1 V p-p nominal into a 75-ohm load. The bandwidth shall be typical 5 Hz to 15 MHz @ -3 dB. The video frequency flatness shall be 100 Hz to 10 MHz ± 0.9 dB. The crosstalk isolation shall be typical 50 dB. The gain shall be unity. The differential gain/phase shall be less than 1%/1°. The hum and noise shall be >70 dB below 1 V p-p to 5 MHz. Input to input isolation shall be 55 dB typical. Signal-to-noise ratio shall be greater than 70 dBrms typical, unweighted, 15 KHz to 5 MHz. The video switcher frame control logic input shall be 5 V TTL, eight data bits per monitor output.

    E. The card cage shall have the following mechanical specifications:

       1.   **Mounting:** Standard 19-inch instrument rack.

       2. **Dimensions:** Height: 7.0-in. (178 mm).
                      Width: 19.0-in. (483 mm).
                      Depth: 12.3-in. (312 mm)

       3.   **Weight:** 19.5-lb. (8.8 kg) (empty card cage).

       4. **Construction:** Steel chassis with aluminum side plates.
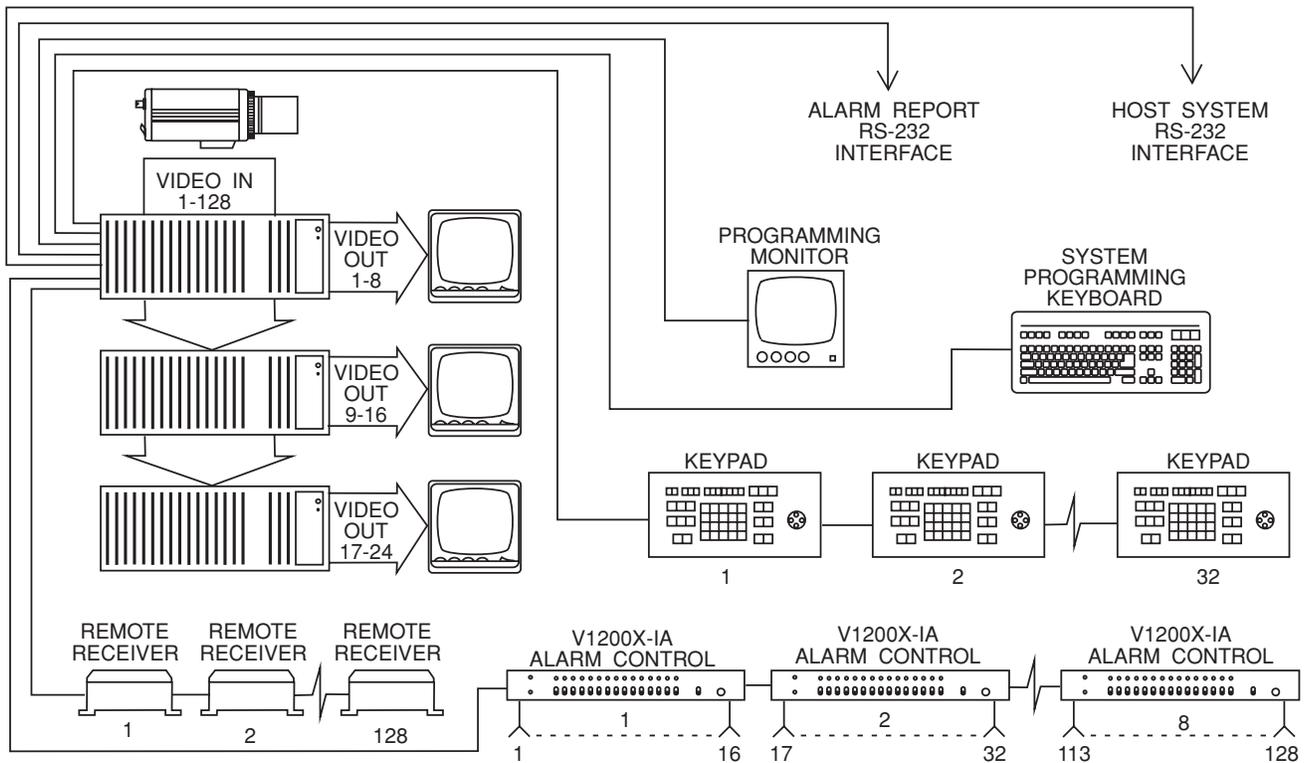
       5.   **Finish:** Baked enamel.

CONTROL CPU

A. The CPU shall feature simple menu-driven programming via a computer-style keyboard, such as an IBM PC keyboard, connected to the front of the CPU module. Software shall include camera-to-monitor partitioning (i.e., assigning cameras to specific monitors) and monitor-to-keypad partitioning (assigning monitors to specific keypads). The system configuration shall be stored in nonvolatile memory (EEROM). The system editor shall have the ability to define or alter all system parameters via the keyboard. This shall include passwords, defaults, RS-232 parameters, keypad/receiver/monitor assignments, time and date, titles, alarm assignments, and system diagnostics. A Print Screen feature shall allow hardcopy print of all menus and screens via an RS-232 serial port. The CPU shall be capable of downloading (uploading) the system configuration data to (from) another system or an IBM compatible personal computer to backup the data. The system shall use the X-modem protocol for serial communications and shall be capable of connection directly to a modem. The system editor shall be password protected. A Screen Saver feature shall turn off the edit monitor after five minutes of inactivity from the keyboard. The CPU shall contain a Host RS-232 serial communications port. This shall be user configurable via the editor for variable baud rate (300 Bd to 19.2 kBd), number of data bits, number of stop bits, parity type, and parity enable. The unit shall broadcast messages to individual system monitors. Messages shall contain up to 5 lines of 20 characters per line. The CPU shall provide self-diagnostic tests. The unit shall perform a ROM integrity self-test on power-up. The unit shall have the capability to be tested for proper hardware operation via the system editor. A hardcopy of the test results shall be possible via the RS-232 port.

B. The CPU system shall support up to 32 remote keypads, including desktop and rack-mount types. These keypads shall let the operator control pan, tilt, autopan, autoiris, lens speed preset entries, alarm acknowledgement, and receiver communication failure acknowledgement. Alarm acknowledgment functions shall have the ability to be limited to certain user-selected keypads via the system editor. Eight priority levels shall be provided for camera pan/tilt/zoom control. The system shall be capable of restricting monitor access and placing individual keypads off-line via the system editor. The CPU shall support 128 remote receivers. The CPU shall be capable of enabling or disabling a receiver alarm input via the system editor. The receiver communications rate (baud rate) shall be user-selectable between 600 or 4800 Bd via the system editor. The CPU shall have the capability to verify receiver on-line status via the system editor profile summary report. The system shall feature a master real-time clock for time-activated events. System software shall make it possible to set or read the clock from the Host RS-232 serial channel.

C. The CPU shall provide the following two methods of sequencing cameras on monitors: random-pattern sequencing and ascending-order sequencing. The unit shall provide two time-selectable sequence patterns, with automatic sequence start feature, for each ascending order and random pattern sequencing monitor. The CPU shall provide sequence pattern lock capability for each sequencing monitor. The system shall support both monitor dwell and individual camera dwell sequencing. The CPU shall support synchronous sequential switching (salvo) on up to 24 monitors. The unit shall provide a crosspoint reset function for on-line matrix servicing, and shall support vertical interval switching. The system shall support up to 256 alarm inputs: up to 128 alarms from alarm interface units and up to 128 alarms from receivers. The system shall support up to 24 alarm monitors. The system shall be capable of enabling or disabling individual alarms. The system shall be capable of processing alarm inputs as momentary or latching via software control. The system shall be able to recall preset camera positions for each alarm activated and/or cleared. The system shall be capable of assigning any alarm input to any camera in the system. The system shall support duplicate alarm monitors. The system shall allow alarms to be viewed and acknowledged in incoming or operator-selected order. The system shall support timed alarm acknowledgement at user specified intervals. The system shall feature an alarm auto-acknowledge timer from 1 to 255 seconds. The system shall provide an RS-232 port for alarm event logging to printers. The system shall provide a high-speed tape output which sequences through all cameras from active alarm inputs. The system shall provide A/B time-of-day alarm pattern enable/disable, and A/B time-of-day pattern assignment of momentary or latching alarm functions. The system shall provide day-of-week programming for all functions that have A/B program selections. The system shall have the capability of providing each camera with one alarm title of up to 60 characters (3 lines, 20 characters each) for alarm site identification. The system shall provide five alarm processing modes: standard, sequencing, salvo, sequencing salvo, and first available. In standard mode, the system shall display the alarm camera steadily at up to 24 monitors. In sequencing mode, the system shall sequence the alarm cameras at up to 24 monitors. In salvo mode, the system shall display multiple cameras per alarm at up to 16 monitoring stations. In sequencing salvo mode, the system shall sequence multiple cameras per alarm at up to 16 monitors. In first available mode, the system shall display multiple alarms concurrently at up to 16 monitors.

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TIME/DATE/TITLER

    A. The time/date/title module shall support data for up to 128 cameras and output for up to 4 monitors. The time/date/titler shall provide 3 lines of 20 characters for each normal camera title and 3 lines of 20 characters for each alarm camera title. The display shall consist of a six-digit date, six-digit time (24-hour or 12-hour format), and a camera identification. The unit shall provide 5 lines of 20 characters for host computer messages on each monitor. The unit shall have the capability of programming each monitor to clear its title after a user-specified time interval has elapsed. The unit shall be capable of enabling or disabling the time and date display for each camera and/or monitor. The characters shall be jitter-free. Three display styles shall be available: white characters on no background, white characters on black background, and white characters outlined in black. The system shall be able to display characters in two sizes: large or small. Display adjustments shall include horizontal and vertical positions, and character brightness. The CPU shall automatically adjust the date for proper day and leap years and shall step the time in 1-second intervals.

The control system shall be Vicon Industries model series VPS1344. The components shall be Vicon Industries model V1344SCPU-HDA, V1344TDT-HD time/date/titler, and V4481SCC-HD Matrix 44 card cage. All components of the system shall maintain software compatibility with Vicon's V1200 and V1300 NOVA Systems.

Figure 1: Sample System Configuration

| Vicon Product Facts | | Model No:
Refer to Table 1 | Product Code:
Refer to Table 1 | SEC:
9 | SPEC NO.:
779 | REV:
603 | 7 |

V1344SCPU-HDA

OPERATIONAL

Maximum Configuration: Cameras: 128 maximum.
Monitors: 24 maximum.

ELECTRICAL

RS-422 Cable Requirements: Two pairs differential RS-422 drive.
Two pairs differential RS-422 receive.
Two pairs shield ground.

Maximum Operating Distance: Up to 5 miles distance when using two Belden No. 9182 shielded twisted-pair cable or equivalent.

Signal Rate: 4800 baud.

Radio-Frequency Emission Standards: FCC Class A.

Safety Standard: UL 2044.

CONNECTORS

Vertical Sync: One BNC connector.

Alarm Interface: One 37-pin AMP D-shell connector.

Serial I/O Ports: RS-422 communication with receivers: one 9-pin AMP D-shell connector.
RS-422 communication with keypads/remote control panels: one 9-pin AMP D-shell connector.
RS-232 output to host computer/printer: two 9-pin D-shell connectors.

Matrix 44 Interface: One 37-pin AMP D-shell connector.

Status Display Output: One BNC connector.

V1344TDT-HD TIME/DATE/TITLER

VIDEO

Types of Display: Camera ID Display.
Alarm Display.
Host Computer Display.

Maximum Number of Characters: Camera ID: 60 (3 lines of 20 characters each).
Alarm: 60 (3 lines of 20 characters each).
Host: 100 (5 lines of 20 characters each).

Display Formats: 6-digit date, 6-digit time (12 or 24 hour format), and camera identification text.

Display Styles: White characters on no background, white characters on black background, white characters with black outline.

Display Adjustments: Horizontal and vertical line placement and character brightness.

Display Programming: Input via system keyboard and menu-driven software or by host computer.

Character Sizes: 8 lines (V) by 13 pixels (H).
16 lines (V) by 13 pixels (H).

V4481SCC-HD MATRIX 44 VIDEO SWITCHER CARD CAGE

ELECTRICAL

Complete Frame: 128 input × 8 output matrix.

Input Voltage: 4622-10: 120 V, 60 Hz.
4622-11: 230 V, 50 Hz.

Power Consumption: 70 W (fully loaded card cage, including 16 switcher cards, 1 CPU card, and 2 TDT cards).

Heat Equivalent: 3.98 btu/min. (1.00 kg-cal/min). Note: These figures represent the conversion of 100% of the electrical energy to heat. Actual percentage of the 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.

Line Cord: 120 V: standard, 3-conductor SV No. 18 AWG cable with grounding plug.
230 V: standard, 3-conductor SV No. 18 AWG cable.

Fuse: 120 V: 2 A, 3AG.
230 V: 1 A, 3AG.

Video Switcher Frame ControlLogic Input: 5 V TTL, eight data bits per monitor output.

Video Switcher Connectors: Video: 128 camera BNC inputs, 8 expander BNC inputs, 8 monitor BNC outputs.
Looping video output: BNC or 16-pin ribbon connectors. Input from control: one 25-pin D-shell connector.
Control output: one 25-pin D-shell connector.
Printed circuit boards: mother board connectors.

Cables: Control unit to video switcher: one 25-pin ribbon cable.
Video switcher looping: BNC to BNC or 16-conductor ribbon cable.

Printed Circuit Boards: All V4481SCC-HD card cages include a power supply module, a motherboard, and a video amplifier board. The first card cage also includes a V1344SCPU-HDA. The remaining card slots may be fitted with various board options. Refer to Table 1 for a complete listing.

Inputs: High impedance looping: 2 V peak-to-peak maximum input.

Outputs: 75 ohm source terminated: 1 V peak-to-peak nominal into a 75-ohm load.

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

Bandwidth: Typical 5 Hz to 15 MHz @ -3 dB.

Crosstalk Isolation: Typical 50 dB.

Input to Input Isolation: Typical 55 dB.

Gain: Unity.

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Differential Gain/Phase: Less than 1%/1°.

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

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

Safety Standard: UL 2044.

MECHANICAL

Finish: Baked enamel.

Construction: Steel chassis with aluminum side plates.

Dimensions: Height (H): 6.97 in. (177 mm).
Width (W): 19.0 in. (483 mm).
Depth (D): 12.3 in. (312 mm) including BNC connectors.

Weight: 19.5 lb (8.84 kg).
(Empty card cage including front panel and output amplifier card only. Switcher cards and rear panel BNCs not included.)
30 lb (14 kg) fully loaded.

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 Range: Up to 85% relative, noncondensing.

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