SURVEYORVFT

TCP/IP, Fiber and Twisted-Pair High-Performance Camera Dome

- **RS-422/485 standard, available with TCP/IP, fiber and UTP transmission card options**
- **ViconNet (TCP/IP) converts to digital video for viewing and control on Kollector Elite and Pro Digital Video Recorders and ViconNet workstations**
- **Fiber-optic option transmits video and control data to fiber optic receivers over long distances**
- **UTP option transmits video up to 3000 ft over unshielded twisted pair**
- **DIP-switch selectable competitive camera dome protocols eliminate the need for external translators**
- **On-board memory retained in housing; designed for easy installation and servicing**
- **360° continuous rotation pan-and-tilt drive with a variety of color domes available**
- **Color 22X, 22X with ExView™ and day/night 23X camera options, maximum 276X optical/digital zoom**
- **Indoor or outdoor, ceiling or pendant configurations**
- **Digital Slow Shutter feature for enhanced low-light applications**
- **Wide Dynamic Range (23X) provides best contrast for high quality images**
- **Outdoor version provides environmental protection, pressurized and maximum security (MSH) versions available**
- **Convenient integration into any existing CCTV matrix system**
- **GUI provides configuration of all features**

SurveyorVFT Camera Dome System is a compact, lightweight and intelligent security device comprised of a camera, pan/tilt drive, receiver and CPU-based electronics all in an attractive and covert enclosure. SurveyorVFT can be programmed and operated using any V1300X/V1400X/1500 series of NOVA™ communication devices and enhanced VicoaxII protocol. It is available in a variety of indoor and outdoor versions and can be configured with a variety of camera and lower dome types. Refer to Table 1.

The basic SurveyorVFT provides video transmission over coaxial cable. Options are available that provide TCP/IP (ViconNet), fiber-optic and twisted-pair (UTP) video transmission. Each of these options includes an interface board that allows the specific type of video transmission. An appropriate receiver is required.

The ViconNet option provides support for network connection to Kollector Elite Digital Video Recorders and ViconNet Workstations via ViconNet software. A pre-installed LAN interface board allows direct plug-in to a system network switch. Video from the camera is available to all network recorders and workstations for live view and recording.

The Vicon SurveyorVFT camera dome can be used in conjunction with competitive PTZ drivers through DIP-switch selection.

The SurveyorVFT is designed for easy snap-in installation. The drive simply snaps into the housing. When removed, the housing retains all programmed functions in its on-board memory. The customer interface board snaps down for easy access and the PCB provides removable terminal blocks for simple wiring connections.

There are three camera types available, each with NTSC and PAL versions. The basic model is a 22X high-resolution camera/lens. Another 22X model is available with ExView CCD technology (22XEX). The third version is a 23X day/night camera/ lens. See Technical Information and Table 3 for camera features. Several mounting accessories are available to fit almost any installation need. Refer to Table 1 for specific SurveyorVFT models and mounting options.

There are 79 programmable preset positions, each having a variable preset solve accuracy of 0.1º. Programmable azimuth and compass is displayed on screen. There are 8 compass headings (N, NE, E, SE, S, SW, W, NW) (22XEX/23X only) and pan and tilt degrees displayed with a 1º resolution. 16 individual programmable privacy masks are available. Motion detection capability is available on day/night models. For each preset, there are 6 programmable zones for motion detection, each having 3 sensitivity levels.

Alarm inputs can be individually programmed. Programmable titling is provided for the camera and every preset position, alarm, relay and sector and titles can be enabled or disabled individually or globally.

Eight tours (4 on 22X) are available with 32 steps per tour. Pan and tilt functions are externally controlled, continuously variable and programmable to be enabled or disabled. There is a programmable autopan function.

Vicon strongly recommends the use of uninterruptible power supply systems (UPS) to prevent voltage fluctuations that can affect operation, cause video loss and damage to the equipment.

| **Vicon Product Facts** | FC CE | Model No: SurveyorVFT | Product Code: See Table 1 | SEC: 3 | SPEC: V134 | REV: 405 | 1 |

Model Number	Product Code	Environment/ Cable Type	Camera Type/Format	Mount Type	Optical Zoom/ Total Zoom	Lower Dome Type
SVFT-C22	8701-00	Indoor/Coax	Color/NTSC	Ceiling	ExView 22x/264x	Smoked
SVFT-C22C	8701-01	Indoor/Coax	Color/PAL	Ceiling	ExView 22x/264x	Smoked
SVFT-P22	8704-00	Indoor/Coax	Color/NTSC	Pendant	ExView 22x/264x	Smoked
SVFT-P22C	8704-01	Indoor/Coax	Color/PAL	Pendant	ExView 22x/264x	Smoked
SVFT-W22	8707-00	Outdoor/Coax	Color/NTSC	Pendant	ExView 22x/264x	Clear
SVFT-W22C	8707-01	Outdoor/Coax	Color/PAL	Pendant	ExView 22x/264x	Clear
SVFT-C23	8702-00	Indoor/Coax	Color/NTSC (day/night)	Ceiling	23x/276x	Clear
SVFT-C23C	8702-01	Indoor/Coax	Color/PAL (day/night)	Ceiling	23x/276x	Clear
SVFT-P23	8705-00	Indoor/Coax	Color/NTSC (day/night)	Pendant	23x/276x	Clear
SVFT-P23C	8705-01	Indoor/Coax	Color/PAL (day/night)	Pendant	23x/276x	Clear
SVFT-W23	8708-00	Outdoor/Coax	Color/NTSC (day/night)	Pendant	23x/276x	Clear
SVFT-W23C	8708-01	Outdoor/Coax	Color/PAL (day/night)	Pendant	23x/276x	Clear
SVFT-C22CA	8741-00	Indoor/Coax	Color/NTSC	Ceiling	22x/264x	Smoked
SVFT-C22CA-C	8741-01	Indoor/Coax	Color/PAL	Ceiling	22x/264x	Smoked
SVFT-P22CA	8742-00	Indoor/Coax	Color/NTSC	Pendant	22x/264x	Smoked
SVFT-P22CA-C	8742-01	Indoor/Coax	Color/PAL	Pendant	22x/264x	Smoked
SVFT-W22CA	8743-00	Outdoor/Coax	Color/NTSC	Pendant	22x/264x	Clear
SVFT-W22CA-C	8743-01	Outdoor/Coax	Color/PAL	Pendant	22x/264x	Clear

For the ViconNet (V) option, add -20 to the product code; for Fiber Optic (F) option, add -30 to the product code; for the UTP (T) option, add -40 to the product code.

Table 1: SurveyorVFT Models and Options

Model Number	Product Code	Description
V212-NVT	7631	Receiver, converts UTP video to composite up to 500 ft from transmitter
V213-NVT	6518	Receiver, converts UTP video to composite up to 1000 ft from transmitter
V652R-NVT	7453	Receiver, converts UTP video to composite up to 3000 ft from transmitter (does not support Vicoax systems)
V1613-NVT	7648	16-Channel Hub Receiver, converts UTP video to composite up to 1000 ft from each transmitter
V1662-NVT	6519	16-Channel Hub Receiver, converts UTP video to composite up to 3000 ft from each transmitter (does not support Vicoax systems)

Table 1 (cont'd): UTP Receiver Options

Model Number	Product Code	Description
VF-1400R	8421-00	Receiver, for SurveyorVFT transmission, simplex video and duplex RS-422 data
VF-1400RR	8421-02	Receiver, for SurveyorVFT transmission, simplex video and duplex RS-422 data
VF-SR-20/2	8423-00	Card cage with power supply

Table 1 (cont'd): Fiber Optic Receiver Options

Model Number	Product Code	Description
SVFT-SMK	8377	Ceiling/Pendant, indoor, smoked (gray) tint
SVFT-CHR	8378	Ceiling/Pendant, indoor, chrome
SVFT-GLD	8379	Ceiling/Pendant, indoor, gold

Table 1 (cont'd): SurveyorVFT Lower Domes

Vicon Product Facts	FC CE	**Model No:** SurveyorVFT	**Product Code: See Table 1**	**SEC: 3**	**SPEC: V134**	**REV: 405**

Model Number	Product Code	Description
SVFT-UWM	8352	Wall mount, indoor/outdoor
SVFT-UCM	8351	Ceiling mount, indoor/outdoor
SVFT-UPM	8348	Parapet mount, outdoor
SVFT-URM	8349	Roof mount, outdoor
SVFT-UCP	8373	Ceiling panel, indoor
SVFT-WM	8350	Wall mount, short, indoor/outdoor
SVFT-IC-MKT	8374	In-ceiling mount kit, indoor

Table 1 (cont'd): SurveyorVFT Mounting Options

Model Number	Product Code	Description
S28PS-1	7029-10	28 VAC output, 2.15 amps, for indoor SurveyorVFT Camera Domes
S28WPS-1	7030-10	28 VAC output, 3 amps, for outdoor SurveyorVFT Camera Domes
S28PS-HD	7862	Heavy-duty single-channel for SurveyorVFT pressurized and outdoor impact-resistant camera domes
V284-175PS	6421	Four channel, 120 VAC input, 28 VAC output, 6.25 amps (total)
V248-600PS	8438	Eight channel, 120 VAC input, 24 VAC output, 25 amps (total)
V288-300PS	6422	Eight channel, 120 VAC input, 28 VAC output, 12 amps (total)
V2816-600PS	8437	Sixteen channel, 120 VAC input, 28 VAC output, 26 amps (total)

Table 1 (cont'd): SurveyorVFT Power Supplies

Contractors' Specification

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

SECURITY 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.

2.01   COMPACT CAMERA DOME SYSTEM
    A.   The motorized dome shall have internal CPU-circuitry and provision for external programming via standard RS-422/485 protocol or enhanced VicoaxII protocol. Options for TCP/IP, fiber optic and twisted pair (UTP) video transmission shall be available. This circuitry shall provide for an external power supply input, four alarm inputs, one relay output and communications wiring.

    B.   Alarm inputs shall be individually programmable for their functional state (enabled or disabled), reporting state (report on or off), active state (high or low), acknowledge mode (manual, momentary or automatic), automatic acknowledge dwell time control, set and reset action (action when triggered or reset) and displayed title text. The relay output shall be programmable for its power-on state (on or off), output type (momentary or latching) and displayed title text.

    C.   Programmable titling shall be provided for the camera and every preset position, alarm, relay, and sector. Titles shall be enabled or disabled individually or globally. The overall position of the titles and display frame position shall be programmable. The capability to fade titles after a programmable time shall be provided.

D. There shall be 79 programmable preset positions available, each having a variable preset solve speed of 1 sec (nominal) and accuracy of 0.1°. The dome's 360 degree view shall be programmable for a maximum of 16 sectors. Each sector shall have the capability to be blanked out (no video display). The number and size of sectors shall be programmable and have a custom title.

E. There shall be eight (4 on 22X) tours available with 32 steps per tour. Tour steps shall include preset positions with speed control, relay control, alarm acknowledge, save/recall camera status, repeat tour, call another tour, call an autotour and dwell timing control. There shall be two autotours (22XEX/23X only) available with 256 pan, tilt and zoom functions per autotour. Timing shall be dynamic or as is actually programmed with the joystick and push buttons.

F. Pan and tilt functions shall be externally controlled, continuously variable and programmable to be enabled or disabled manual pan limits shall be programmable. There shall be an autopan feature and it shall be programmable for its functional settings (enabled, disabled speed, limits). Maximum manual pan and tilt speeds shall be programmable. Maximum pan speed shall be 360 degrees/sec (120 dps for 22X) and maximum tilt speed shall be 150 degrees/sec (90 dps for 22X). Pan and tilt speeds shall also be scalable to the zoom setting. The zoom function speed shall be externally controlled using three settings, low, medium and high.

G. There shall be three camera/lens formats available, 22X, 22X with ExView™ technology and 23X (day/night). The camera-lens module shall be a 1/4 inch, high-resolution color type. Camera sensitivity shall be between 0.0019 fc (0.02 lux) to 0.002 fc (0.03 lux), depending on the model for 23X and 22XEX respectively; the 22X shall have a 0.2 fc (2 lux) sensitivity. The lens on the color cameras shall have a maximum optical zoom setting of 22X and a maximum digital zoom setting of 12X for a total zoom setting of 264X and the lens on the day/night cameras shall have a maximum optical zoom setting of 23X and a maximum digital zoom setting of 12X for a total zoom setting of 276. Lens focal length shall be 4-88 mm with a maximum aperture of f/1.6 for the color cameras and 3.6-82.8 mm for the day/night cameras with a maximum aperture of f/1.6. The digital zoom shall be programmable for its functional setting (enable/disable). An autoiris function with a manual override feature and an auto-focus function with functional setting control (enable/disable) shall also be provided. The 23X camera shall feature wide dynamic range to provide the highest quality image with excellent contrast.

H. In addition, the camera shall provide high level, programmable functions. The autoiris and AGC (22XEX/23X only) shall be adjustable. The shutter speed shall be automatic or manual. The automatic shutter speed shall work with an auto exposure feature. This feature can be set to operate with a fully automatic shutter speed or a fixed, selectable, linear speed. These features are called exposure priority or shutter priority. All color cameras shall have white balance gain using red and blue scales. Backlight compensation shall be programmable for its relative setting using a tuning value scale. Video line locking shall be provided with an internal crystal clock or a programmable vertical phase scale.

I. The basic ceiling mounted version shall be designed to mount into any dropped or hard ceiling having the capacity to support the dome's weight. There shall be an optional mounting kit for ceilings not able to support the dome's weight.

J. The indoor pendant version shall be mounted using a molded thermoplastic housing and 1-1/2 inch NPT threaded fitting. The outdoor pendant model shall be mounted using a die cast aluminum housing and 1-1/2 inch NPT threaded fitting and shall include a molded thermoplastic sunshield and additional environmental control.

K. A real time clock and scheduler (22XEX/23X only) shall be available on all models. Up to 64 events shall be able to be scheduled for action at a programmed time of day. Events that may be scheduled include a preset, turning a relay on or off, enabling or disabling an alarm, and calling a tour or an autotour

L. 16 individual zoom-scalable programmable privacy masks shall be available on 22XEX/23X models.

M. Programmable azimuth and compass display shall be available on 22XEX and 23X models. The compass shall be programmed for absolute North and shall display 8 compass headings (N, NE, E, SE, S, SW, W, NW). Pan and tilt degrees shall be displayed with a 1° resolution.

N.   Motion detection capability shall be available for the day/night camera. For each preset, there are 6 programmable zones for motion detection. Each zone has 3 sensitivity levels. Programmable actions may be associated with each detection zone, including calling another preset, turning a relay on or off, and calling a tour or an autotour.

O.   The capability to freeze an image during a preset solve shall be available on the day/night cameras. The control shall be global and affect all preset solves. The freeze of an image during solve has advantages when recording using a motion compensated recording system (DVR).

P.   The capability to flip (invert) the video image shall be available on the day/night cameras. This feature is useful when mounting units in an inverted position. All pan/tilt and compass displays are automatically adjusted for the inverted image.

Q.   Auto Baud detection shall be provided on all models operating in RS-422/RS-485 communication mode. Baud rates supported shall be 4800, 9600 and 19,200 bps. All units shall have automatic detection and correction of the receive polarity (commands into the dome). The polarity of the transmit signals (responses from the dome) shall be programmable.

R.   Absolute position control shall be provided on all models operating in RS-422/RS-485 communication mode. Pan and tilt direct control resolution shall be to 0.125 degrees and zoom direct control resolution shall be 0.125X magnitude. The capability to adjust the target iris level shall be provided using the absolute position control feature.

S.   All models shall support interfacing to selected competitors' control systems without the need for optional internal or external translator modules. Selection of available competitors' protocols shall be provided via DIP switch settings on the unit.

T.   NTCIP 1103 compliant models shall be available (National Transportation Communications for ITS Protocol).

U.   Multilanguage menu system shall be provided, including English, Spanish, French and Italian.

V.   The camera dome system shall have the following mechanical specifications:
    1. Dimensions: Indoor Ceiling
                       Diameter: 7.1-in. (180 mm).
                       Height: 9.7-in. (246 mm).
                       Indoor Pendant
                       Diameter: 8.0-in. (203 mm).
                       Height: 10.0-in. (254 mm).
                       Outdoor Pendant
                       Diameter: 9.0-in. (228 mm).
                       Height: 10.3-in. (262 mm).
                       Lower Dome
                       Diameter: 5.9-in. (150 mm).
    2. Weight: Indoor Ceiling: 5.1 lb (2.3 kg).
                       Indoor Pendant: 4.7 lb (2.1 kg).
                       Outdoor Pendant: 7.7 lb (3.5 kg).
    3. Construction: Plastic, aluminum and steel.
    4. Color: White housing, black trim ring, gray (smoked), chrome or gold dome for the indoor version, clear dome for the outdoor version.

W.   Environmental parameters shall be: Indoor units: 32 to 132° F (0 to 55° C). Outdoor units:-29 to 165° F (-34 to 74° C) in accordance with NEMA 2.1.5.1 STD 2; -40 to 132° F (-40 to 55° C) continuous rotation.

The camera dome system shall be Vicon Industries SurveyorVFT models. Refer to Table 1.

ELECTRICAL

Drive Type: Electrical motorized pan and tilt with electronic control.

Camera Types: Units available in color and day/night (NTSC/PAL) formats and a variety of zoom and feature capabilities.

Input Voltage: 18-32 VAC.

Maximum Power Cable Distance: See Table 2.

Maximum Current (@24 VAC): Indoor:
Coax, Fiber, UTP: 1.0 A.
ViconNet (TCP/IP): 1.4 A.
Outdoor:
Coax, Fiber, UTP: 1.8 A.
ViconNet (TCP/IP): 2.2 A.

Power Consumption (@24 VAC): Indoor:
Coax, Fiber, UTP: 24 W.
ViconNet (TCP/IP): 34 W.
Outdoor:
Coax, Fiber, UTP: 43 W.
ViconNet (TCP/IP): 53 W.

Heat Equivalent: Indoor:
Coax, Fiber, UTP: 1.3 btu/min (0.34 kg-cal/min).
ViconNet (TCP/IP): 1.9 btu/min (0.49 kg-cal/min).
Outdoor:
Coax, Fiber, UTP: 2.4 btu/min (0.6 kg-cal/min).
ViconNet (TCP/IP): 3.0 btu/min (0.76 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.

Standard Connector Types: Video Out: See version type.
Power: 2-position removable screw terminal block.
Control Input/Output: See version type.
Relay Output: See version type.
Alarm Input: 8-position removable screw terminal block.

Video Output Impedance: 75 ohms.

Fuse: F1: 2AG, 1.6 A 250 VAC slo-blo.
F2: 2AG, 2.5 A 250 VAC slo-blo.

Radio Emission Rating: FCC Class A.

OPERATIONAL

Video Pan View: 360°.

Video Tilt View: -2.5° (-2.5° above horizon) to 92.5° (-2.5° past vertical).

Pan Speed: Variable, 0.1 to 360°/sec (120°/sec in 22X).

Autopan Speed: Variable, 0.1 to 42°/sec; enable/disable.

Tilt Speed: Variable, 0.1 to 150°/sec (90°/sec in 22X).

Zoom and Focus Speed: Less than 1.8 sec from end to end.

Sectoring: 16 max, programmable for size and titling; capability to be blanked out (22XEX and 23X only).

Preset Capabilities: 79 individual programmable preset positions.

Preset Solving Speed: 1 sec nominal.

Preset Accuracy (Pan & Tilt): 0.1° maximum.

Tour Capabilities: 22X: 4 tours available.
22XEX/23X: 8 tours available.
32 programmable events per tour. Events may be preset positions with speed control, alarm acknowledge, dwell time control, relay control, call autotours, tour repeat or another tour, save/recall camera status.

Autotour Capabilities: 22XEX/23X: 2 autotours available with 256 pan, tilt and zoom functions per autotour. Programming is done in real time with joystick and push buttons.
Autotours not available on 22X model.

Alarm Capabilities: 4 alarm inputs, individually programmable.
Functional state enable/disable.
Report state (report on/off).
Active state (high/low).
Mode (manual, momentary or automatic) with programmable dwell time control.
Set and reset action (preset solve, relay on/off, tour, autotour).
Alarm titling.

Relay Output Capabilities: 1 relay output.
Power-on state definition (on/off).
Output type definition (momentary or latching).
Relay function status titling.
Resistive Load: 0.3A @125 VAC; 1.5A @30 VDC.
Inductive Load: 0.15A @ 125 VAC; 0.75A @ 30 VDC.

Control Display: On-screen, menu-driven system allowing full configuration of the dome.

Privacy Masks: 22XEX and 23X: 16 individual, programmable, zoom-scalable.

Screen Titling Capabilities: Programmable for camera, preset, sector, relay and alarms. Camera: 1 for each. Preset: 79 maximum. Sector: 16 maximum (22XEX/23X only). Alarm: 4 maximum. Individual type date and time enable/disable; 20 characters maximum. Selectable position. Three text sizes for top 2 lines. Fade capability. Compass/azimuth, 8 compass headings (N, NE, E, SE, S, SW, W, NW). Not available on 22X.

Scheduling: Real time clock allows scheduling of up to 64 events, including presets, relays, alarms, tours or autotours (not on 22X).

Multilanguage Menu: English, Spanish, French and Italian.

Day/Night (23X) Features: 6 programmable motion detection zones with 3 sensitivity levels; image freeze during preset solve; flip (invert) video image.

Auto Baud: Auto baud detection in RS-422/RS-485 mode; 4800, 9600, 19,200 bps baud rates supported.

Absolute Position Control: Available in RS-422/RS-485 mode. Pan/tilt: 0.125°; zoom: 0.125X.

Competitive Protocols: DIP switch selectable.

Control Protocol Hardware: Vicon: Vicon's NOVA V1422 Matrix Switcher, V1300, V1344, V1466, V1400 and 1500 series NOVA CPUs, V1400X-DVC System Console and V1300X-RVC desk-top keypad or V1300X-RVC rack-mounted keypad; NTCIP 1103 compatible hardware.

COAXIAL/UTP VERSIONS Control Protocol Software: Vicon's ProTech software (or compatible) or Surveyor Direct Control program runs on a standard PC type computer with an RS-422/485 half duplex protocol interface.

Control Protocol Format: Vicon: RS-422 or RS-485 protocol. Communication is simplex or half duplex operation at 4800, 9600 or 19,200 baud or Vicon's enhanced VicoaxII protocol (superimposed data on composite video signal) automatically detected upon power up. RS-485 protocol utilizes full tri-state outputs for daisy chain capability.

Pelco: Pelco D Protocol (3/2/99); RS-485 N.8.1, simplex 2400 bps, duplex 4800 bps.
Sensormatic/AD: RS-422/RS-485 communication protocols user's guide Rev. A (csd 05/00); RS-422/RS-485 duplex N.8.1 4800 bps. May require RS-422 converter, RCSN422.
Ultrak: (Released in future.) KD6, KD6-Z control protocols; RS-485 simplex E.8.1, 9600 bps.
Philips: (Released in future.) Receiver/Driver/Auto Dome control code protocol; RS-232 simplex N.8.1, 2400 or 9600 bps.
Kalatel: Non-repeating transmit commands; RS-422 simplex N.8.1, 9600 bps.
Cohu: (Released in future.) MPC System RS-422 interface; RS-422 duplex N.8.1, 9600 bps.
Panasonic: (Released in future.) Panasonic conventional and new camera protocol.
NTCIP: 1103 protocol compatible.
Note: All companies make changes and improvements in their products. Because this product can interface with equipment not manufactured by Vicon, there is a possibility that the interface protocols may have changed since Vicon tested this product with the interfacing equipment. Vicon recommends purchasing a single unit for bench testing prior to purchasing and installing this product in quantity.

Connector Types: **Video Out:** Coax: BNC-F. UTP: 3-position removable screw terminal block. **Control Input/Output:** 8-position removable screw terminal block. **Relay Output:** 8-position removable screw terminal block.

FIBER-OPTIC VERSION Receiver Specs: **Video:** **I/O Level:** 1 V p-p. I/O Impedance: 75 ohms. Bandwidth: 8 MHz. Differential Gain: 5%. Differential Phase: 5°. SNR: 60dB. **Data:** Data Rate: Up to 19.2 Kbps. **Optical:** Wavelength: 850/1300 nm. Loss Budget (62.5/125u): 12 dB. Connector: ST.

Connector Types: **Video Out:** ST type. **Control Input/Output:** ST type. **Relay Output:** 8-position removable screw terminal block.

Note: Pelco is a registered trademark of Pelco. Sensormatic is a registered trademark of Tyco International Limited. Philips/Bosch is a trademark of Koninklijke Philips Electronics N.V. Kalatel is a trademark of GE Interlogix. Ultrak is a trademark of Honeywell Inc. Cohu is a trademark of Cohu, Inc.

VICONNET VERSION (LAN/TCP/IP)

Communication Protocol Hardware: Vicon's Kollector Elite Digital Recorders and ViconNet Workstations.

LAN Interface: 100 Mbps.

Connector Types: **Video Out:** RJ-45 jack.
Network: Ethernet 100Base-T RJ-45 jack. 10/100 Mbps required for network connection.
Relay Output: 3-position removable screw terminal block.

CAMERA/LENS Specifications: Refer to Table 2.

VIDEO TRANSMISSION
Maximum Distances: Coax: 1100 ft (350 m), cable dependant.
Vicoax: 1500 ft up to 140° F (60° C); 1000 ft up to 165° F (74° C).
UTP: up to 3000 ft (915 m), model dependant.
Fiber: 1 mile min.; longer distances available dependant on cable quality.
ViconNet: 100 meters without repeater.

MECHANICAL
Application: Indoor or outdoor.

Mounting: In-ceiling or indoor/outdoor pendant.
See Table 1 for compatible Vicon mounts.

Housing Types: Indoor pendant housing and outdoor pendant housing with sunshield.

Pendant Mount Size/Thread: Standard 1-1/2 inch male NPT pipe thread or metric equivalent.

Lower Dome Types: Units available for indoor or outdoor in a variety of colors.
See Table 1.

Dimensions: See Figure 1.
Indoor Ceiling
Diameter (D1): 7.1 in. (180 mm).
Height (H): 9.7 in. (246 mm).
Indoor Pendant
Diameter (D1): 8.0 in. (203 mm).
Height (H): 10.0 in. (254 mm).

Outdoor Pendant
Diameter (D1): 9.0 in. (228 mm).
Height (H): 10.3 in. (262 mm).
Lower Dome
Diameter (D2): 5.9 in. (150 mm

Weight: Indoor Ceiling: 5.1 lb (2.3 kg).
Indoor Pendant: 4.7 lb (2.1 kg).
Outdoor Pendant: 7.7 lb (3.5 kg).

Construction: In-ceiling: black anodized aluminum.
Indoor pendant: molded plastic.
Outdoor pendant: die-cast aluminum with molded plastic sunshield.

Color: Off-white housing and sunshield.

Shipping Dimensions: Height: 11.6 in. (294 mm).
Width: 16.1 in. (409 mm).
Depth: 19.9 in. (505 mm).

Shipping Weight: In-Ceiling: 8.9 lb (4.0 kg).
Indoor Pendant: 8.5 lb (3.9 kg).
Outdoor Pendant: 11.3 lb (5.1 kg).

Shipping Volume: 2.2 ft^3 (0.06 m^3).

ENVIRONMENTAL
Operating Temperature Range: Indoor units: 32 to 132° F (0 to 55° C).
Outdoor units:-29 to 165° F (-34 to 74° C) in accordance with NEMA 2.1.5.1 STD 2;
-40 to 132° F (-40 to 55° C) continuous rotation.

Operating Humidity Range: Indoor: 0 to 90% relative, noncondensing.
Outdoor: 100% relative, noncondensing.

Storage Temperature Range: -40 to 150° F (-40 to 65° C).

Storage Humidity Range: 0 to 90% relative, non-condensing.

IP Rating: Outdoor unit IP66.
Indoor Pendant: IP52.
In-Ceiling: IP51.

Rain/Wind: Outdoor: heavy rain up to 4 in./hr at winds up to 90 mph, when mounted on standard Vicon wall mount.

| Wire Size (AWG) Annealed Copper Wire	Distance ft (m)							
	Indoor				Outdoor			
	24 VAC		28 VAC		24 VAC		28 VAC	
	Coax, Fiber, UTP	ViconNet	Coax, Fiber, UTP	ViconNet	Coax, Fiber, UTP	ViconNet	Coax, Fiber, UTP	ViconNet
20	300 (91)	215 (66)	500 (152)	350 (107)	165 (65)	135 (41)	280 (85)	225 (69)
18	469 (143)	336 (102)	781 (238)	547 (167)	258 (102)	211 (64)	438 (134)	352 (107)
16	750 (229)	538 (164)	1250 (381)	875 (267)	413 (126)	330 (101)	700 (213)	563 (172)
14	1200 (366)	860 (262)	2000 (610)	1400 (427)	660 (262)	540 (165)	1120 (341)	900 (274)
12	1875 (572)	1344 (410)	3125 (953)	2188 (667)	1031 (314)	844 (257)	1750 (533)	1406 (429)

Table 2: Maximum Power Cable Distance

Domes
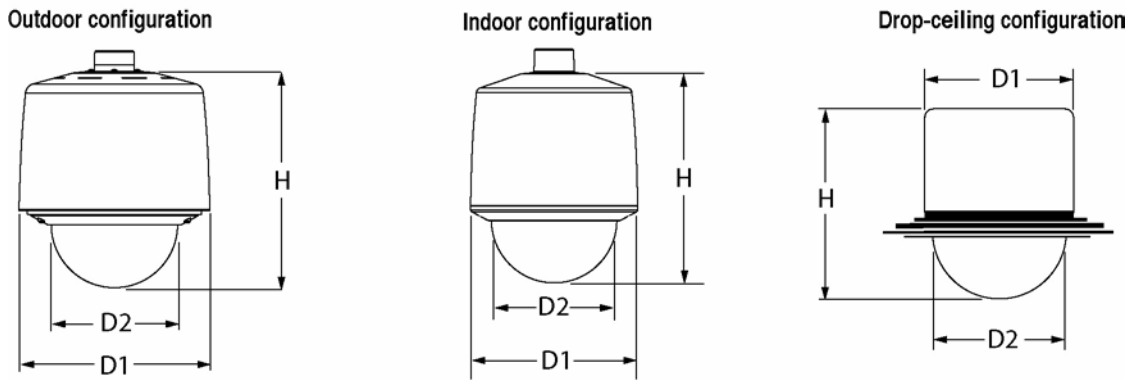
Figure 1
Dimension Drawings

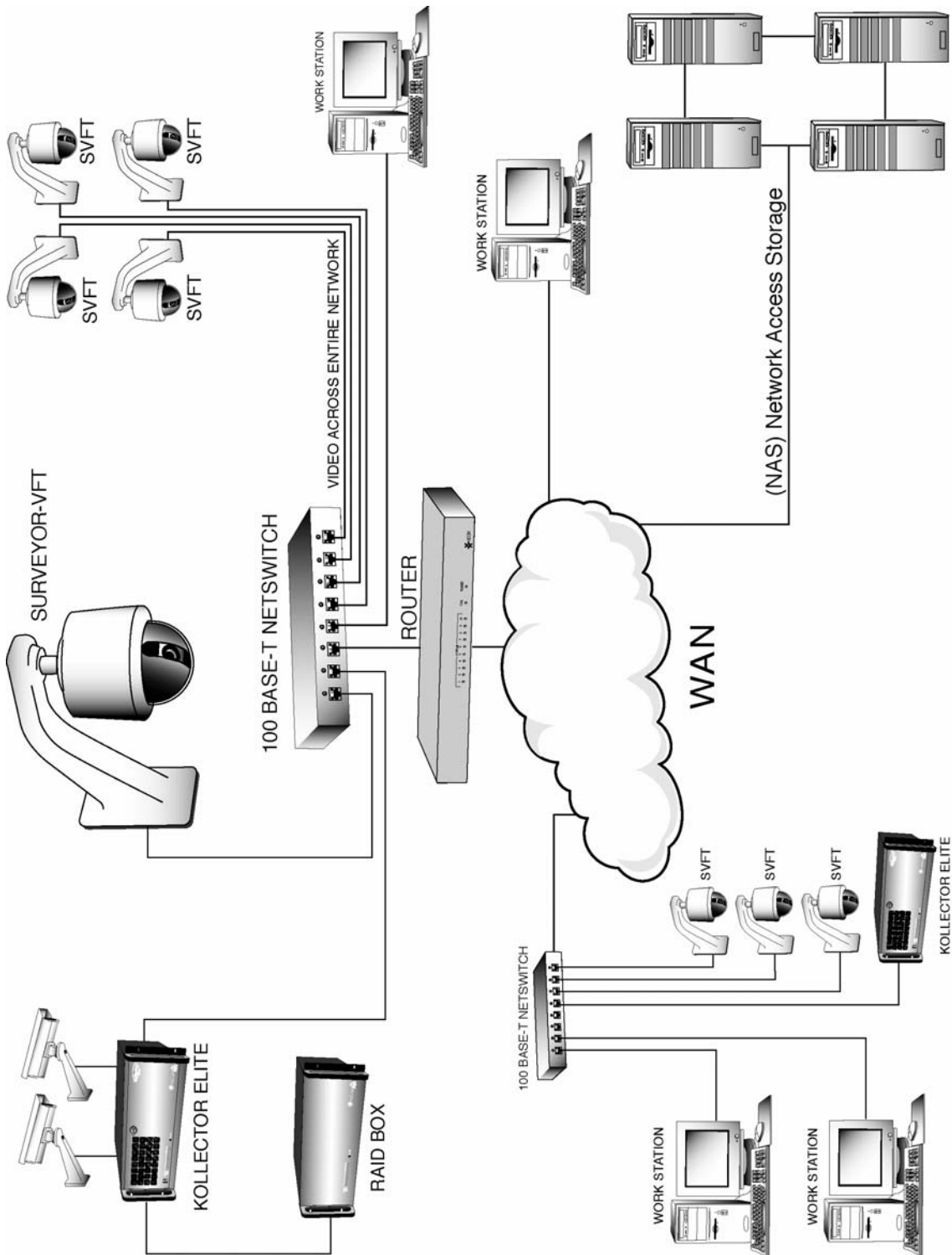| Specifications	Model Numbers			
	SVFT-C22, SVFT-P22, SVFT-W22	SVFT-C22C, SVFT-P22C, SVFT-W22C	SVFT-C23, SVFT-P23, SVFT-W23	SVFT-C23C, SVFT-P23C, SVFT-W23C
	Product Codes			
	8701-00, 8704-00, 8707-00	8701-01, 8704-01, 8707-01	8702-00, 8705-00, 8708-00	8702-01, 8705-01, 8708-01
	Formats			
	NTSC	PAL	NTSC	PAL
Type	Color	Color	Color	Color
Optical Zoom	ExView 22X	ExView 22X	23X	23X
Digital Zoom	12X	12X	12X	12X
Total Zoom	264X	264X	276X	276X
Zoom Speed	Tele-Wide: 3.9 sec	Tele-Wide: 3.9 sec	Tele-Wide: 3.9 sec	Tele-Wide: 3.9 sec
Image Device	1/4-inch interline transfer CCD	1/4-inch interline transfer CCD	1/4-inch interline transfer CCD	1/4-inch interline transfer CCD
Picture Elements	768(H) x 494 (V), 380,000 pixels	752(H) x 582 (V), 438,000 pixels	768(H) x 494 (V), 380,000 pixels	847(H) x 532 (V), 490,000 pixels
Scanning System	2:1 interlace, 525 lines 60 fields/sec	2:1 interlace, 625 lines 50 fields/sec	2:1 interlace, 525 lines 60 fields/sec	2:1 interlace, 625 lines 50 fields/sec
Sensitivity	0.002 fc (0.03 lux) at 40 IRE, f/1.6, auto 1/4s	0.002 fc (0.03 lux) at 40 IRE, f/1.6, auto 1/3s	0.0019 fc (0.02 lux) at 40 IRE, f/1.6, auto 1/4s	0.0019 fc (0.02 lux) at 40 IRE, f/1.6, auto 1/5s
Horizontal Resolution	470 TV lines (color)	470 TV lines (color)	470 TV lines (color)	530 TV lines (color)
S/N Ratio	More than 50 dB	More than 50 dB	More than 50 dB	More than 50 dB
Synchronization	Internal/External (line lock on AC line)	Internal/External (line lock on AC line)	Internal/External (line lock on AC line)	Internal/External (line lock on AC line)
Automatic Gain Control (AGC)	Adjustable to 25 dB	Adjustable to 32 dB	Adjustable to 30 dB	Adjustable to 30 dB
Backlight Compensation	Software adjustable background video level	Software adjustable background video level	Software adjustable background video level	Software adjustable background video level
Iris Control	Automatic/Manual	Automatic/Manual	Automatic/Manual	Automatic/Manual
Wide Dynamic Range	NA	NA	OFF/ON (Auto or Manual)	OFF/ON (Auto or Manual)
Video Focus	Automatic/Manual 1.0 m (tele) - 0.01 m (wide)	Automatic/Manual 1.0 m (tele) - 0.01 m (wide)	Automatic/Manual 1.0 m (tele) - 0.01 m (wide)	Automatic/Manual 1.0 m (tele) - 0.01 m (wide)
White Balance	Automatic/Manual Red/Blue Gain Level	Automatic/Manual Red/Blue Gain Level	Automatic/Manual Red/Blue Gain Level	Automatic/Manual Red/Blue Gain Level
Shutter Speed	Auto (DSS): 1/2-1/4000 Man:1/2-1/30K sec	Auto (DSS): 1/1.5-1/4000 Man:1/1.5-1/30K sec	Auto (DSS): 1/2-1/60 Man:1/2-1/30K sec	Auto (DSS): 1/1.5-1/50 Man:1/1.5-1/30K sec
Input Voltage	9.0 VDC ±0.5 V	9.0 VDC ±0.5 V	9.0 VDC ±0.5 V	9.0 VDC ±0.5 V
Power Consumption	3.3 W max	3.3 W max	3.6 W nom.	3.6 W nom.
Dimensions H x W x D	2.4 x 2.0 x 3.5 in. 60 x 50 x 88.9 mm	2.4 x 2.0 x 3.5 in. 60 x 50 x 88.9 mm	2.4 x 2.0 x 3.5 in. 60 x 50 x 88.9 mm	2.4 x 2.0 x 3.5 in. 60 x 50 x 88.9 mm
Weight	0.5 lb (0.23 kg)	0.5 lb (0.23 kg)	0.5 lb (0.23 kg)	0.5 lb (0.23 kg)
Lenses				
Focal Length	4 - 88 mm	4 - 88 mm	3.6 - 82.8 mm	3.6 - 82.8 mm
Aperture max	f/1.6	f/1.6	f/1.6	f/1.6
Horizontal Angle of View	47° wide, 2.2° tele	47° wide, 2.2° tele	47° wide, 2.2° tele	47° wide, 2.2° tele

Table 3: Camera/Lens Specifications

Specifications	Model Numbers	
	SVFT-C22CA, SVFT-P22CA, SVFT-W22CA	SVFT-C22CA-C, SVFT-P22CA-C, SVFT-W22CA-C
	Product Codes	
	8741-00, 8742-00, 8743-00	8741-01, 8742-01, 8743-01
	Formats	
	NTSC	**PAL**
Type	Color	Color
Optical Zoom	22X	22X
Digital Zoom	12X	12X
Total Zoom	264X	264X
Zoom Speed	OPTICAL wide/DIGITAL tele: 3.9 sec	OPTICAL wide/DIGITAL tele: 3.9 sec
Image Device	1/4-inch interline transfer CCD	1/4-inch interline transfer CCD
Picture Elements	768(H) x 494 (V), 380,000 pixels	752(H) x 582 (V), 438,000 pixels
Scanning System	2:1 interlace, 525 lines 60 fields/sec	2:1 interlace, 625 lines 50 fields/sec
Sensitivity	0.2 fc (2 lux) at 40 IRE, f/1.6	0.2 fc (2 lux) at 40 IRE, f/1.6
Horizontal Resolution	470 TV lines	460 TV lines
S/N Ratio	More than 50 dB	More than 50 dB
Synchronization	Internal/External (line lock on AC line)	Internal/External (line lock on AC line)
Backlight Compensation	ON/OFF	ON/OFF
Iris Control	Automatic/Manual	Automatic/Manual
Video Focus	Automatic/Manual	Automatic/Manual
White Balance	Automatic/Manual; Red/Blue Gain Level	Automatic/Manual; Red/Blue Gain Level
Shutter Speed	1/60 - 1/4000 sec	1/50 - 1/4000 sec
Input Voltage	9.0 –12 VDC	9.0 –12 VDC
Power Consumption	4.0 W max	4.0 W max
Dimensions H x W x L	2.4 x 2.0 x 3.5 in. (60 x 50 x 89.5 mm)	2.4 x 2.0 x 3.5 in. (60 x 50 x 89.5 mm)
Weight	0.5 lb (0.22 kg)	0.5 lb (0.22 kg)
Lenses		
Focal Length	4 - 88 mm	4 - 88 mm
Aperture max	f/1.6	f/1.6
Horizontal Angle of View	47.3° wide, 2.2° tele	47.3° wide, 2.2° tele

Table 3 (cont'd): Camera/Lens Specifications

SURVEYOR-VFT

SVFT SVFT SVFT SVFT

WORK STATION

WORK STATION

(NAS) Network Access Storage

VIDEO ACROSS ENTIRE NETWORK

100 BASE-T NETSWITCH

ROUTER

WAN

KOLLECTOR ELITE

RAID BOX

SVFT SVFT SVFT

KOLLECTOR ELITE

100 BASE-T NETSWITCH

WORK STATION

WORK STATION

✖ VICON INDUSTRIES