

X964



**Nova 1400 Host Computer
Interface Software**

VICON INDUSTRIES INC. 89 ARKAY DRIVE, HAUPPAUGE, NY 11788



Instruction Manual

Nova 1400 Instruction Manual



Nova 1400 Host Computer Interface Software

⚠ Warning: To reduce a risk of fire or electric shock, do not expose this product to rain or moisture.

Vicon Industries Inc. does not warrant that the functions contained in the Nova 1400 will meet your requirements or that the operation of the Nova 1400 will be entirely error free or perform precisely as described in the documentation. This system has not been designed to be used in life-critical situations and must not be used for this purpose.

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Sincerely,

A handwritten signature in black ink, appearing to read 'Kenneth M. Darby'. The signature is fluid and cursive, with a prominent initial 'K' and a long, sweeping underline.

Kenneth M. Darby
President

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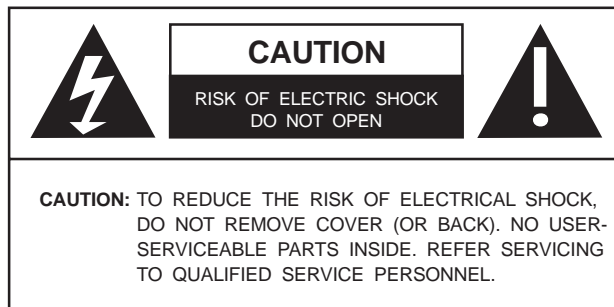
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Important Safeguards

GRAPHIC SYMBOL EXPLANATION

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the unit.

1. Read Instructions - All the safety and operating instructions should be read before the video product is operated.

2. Retain Instructions - All the safety and operating instructions should be retained for future reference.

3. Heed Warnings - All warnings on the video product and in the operating instructions should be adhered to.

4. Follow Instructions - All operating and use instructions should be followed.

5. Cleaning - Step **a** applies to equipment that can be disconnected from the CCTV system without seriously jeopardizing security. Step **b** applies to equipment that must operate continuously such as video switching equipment at military installations.

a. Disconnect this video product from its power source before cleaning. Do not use caustic, abrasive, or aerosol cleaners. Use a damp cloth for cleaning.

b. Use a damp cloth to clean the equipment. Do not allow moisture or liquids to enter any vents. Do not use caustic, abrasive, or aerosol cleaners.

6. Attachments - Do not use attachments not recommended by Vicon as they may cause hazards.

7. Water and Moisture - Do not use this video product in any location where it may be exposed to water or moisture. This does not apply to outdoor camera housings, outdoor pan-and-tilt drives, and other equipment designed for direct exposure to outdoor environments.

8. Accessories - Do not place this video product on any unstable surface or table. The video product may fall, causing serious injury to a person and serious damage to the video product. Use only with a mounting accessory recommended by Vicon, or sold with the video product. Any mounting of the video product should follow Vicon's instructions, and a mounting accessory recommended by Vicon should be used.

9. Ventilation - Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the video product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the video product on a rug or other similar surface. This video product should never be placed near or over a radiator or heat register. This video product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or Vicon's instructions have been adhered to.

10. Power Sources - This video product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your installation site, consult your Vicon dealer or local power company. For video products intended to operate from battery power, or other sources, refer to the operating instructions.

11. Grounding - This applies to video products equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This plug only fits into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

12. Power-Cord Protection - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the video product.

13. Outdoor Cable Grounding - If an outside cable system is connected to the video product, be sure the cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA 70-1984, provides information with respect to proper grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

14. Lightning - For added protection for this video product when it is not used for long periods of time, disconnect it from its power source and from the cable system. This prevents damage to the video product due to lightning and power-line surges.

15. Power Lines - An outside cable system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside cable system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

16. Overloading - Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

17. Object and Liquid Entry - Never push objects of any kind into this video product through openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the video product.

18. Servicing - Do not attempt to service this video product yourself as opening or removing covers may

expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

19. Damage Requiring Service - Disconnect this video product from its power source and refer servicing to qualified service personnel under the following conditions. Note that step **c** does not apply to outdoor camera housings, outdoor pan-and-tilt drives and other equipment specifically designed for direct exposure to outdoor environments.

- a. When the power-supply cord or plug is damaged.
- b. If liquid has been spilled, or objects have fallen into the video product.
- c. If the video product has been exposed to rain or water.
- d. If the video product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video product to its normal operation.
- e. If the video product has been dropped or the cabinet has been damaged.
- f. When the video product exhibits a distinct change in performance - this indicates a need for service.

20. Replacement Parts - When replacement parts are required, be sure the service technician has used replacement parts specified by Vicon or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

21. Safety Check - Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks to determine that the video product is in proper operating condition.

Introduction

The Nova™ 1400 is a microprocessor-based CCTV control system designed by Vicon to meet large system requirements. Before the Nova 1400 can control the CCTV site, the operating parameters and system specifications must be defined in the configuration file. Refer to *Nova 1400 Digital Control System Programming Manual X955* to choose the appropriate settings for your site from the menu-driven programming screens. As an alternative, you may use the Nova 1400 ProTech Graphic Configurator, which allows you to define a configuration file from a personal computer (refer to *Nova 1400 ProTech Graphic Configurator User's Manual X956*).

After the equipment is installed and the configuration file is defined, the remote keypads and host computer(s) may be used to operate the CCTV equipment. The host computer(s) may use any of the following:

- Vicon's RS-232 command codes, discussed in this manual
- Other RS-232 drivers.

Host computers may be connected to J11 and J12 on the Alarm Control panel (alarm serial ports) and to J7 on the System Supervisor panel (the host port, sometimes also referred to as the user port). Alternatively, you may connect serial printers for alarm reporting to J11 and J12. Computers connected to J11 and J12 can only use a very limited RS-232 command code set. You will see notes in the sections of this manual to let you know which commands can be used from the serial alarm ports. The host computer connected to J7 can use the full set of RS-232 command codes. The same two ports (J11 and J12 on the Alarm Control panel) can be used for alarm serial printers and host computers, so that if you have three host computers, you do not have a serial printer. Or if you have 2 alarm printers, you can only have one host computer, but that computer will be connected to J7 and will be able to use all command codes.

This manual covers the use of RS-232 command codes to control CCTV sites using host computer(s) when the control system is the Nova 1400. Table 1 lists the maximum number of system components which may be connected to the control system. Note that the maximum numbers for the host computers and printers depend upon which connections you have made, as discussed in the last paragraph.

Table 1
Maximum System Components

Component	Maximum Number
Receivers	2048
Monitors	128
Remote Keypads	64
Alarms: Receiver or RS-232 Alarms	2048
X-IA Alarms	512
Host Computers	3
Alarm Report Printers	2

Prerequisite Procedures

Referring to the installation manual, perform the following:

- Choose the proper cable(s)
- Make the proper connections.

Referring to *Nova 1400 Digital Control System Programming Manual X955*, perform the following:

- For the host port, define the operating parameters using the Configure Host Port menu. Use the same operating parameters at the host computer. Consult the host computer and/or operating system manual(s) if required.
- If you will use the alarm serial ports for connections to host computers, define the operating parameters using the Set Serial Port menu. If you connect a computer to each of the two serial ports, make sure that the operating parameters are the same at both computers and in the Set Serial Port menu. Consult the host computer and/or operating system manual(s) if required.

Login Procedure

Communications between the Nova 1400 and the host computer are established by performing the installation and programming procedures discussed above and by performing the login procedure listed below.

Note: Login procedures only apply to the host computer connected to the host port. These procedures are not required for computers connected to the alarm serial ports (if any).

1. The following text will display at the host computer. Note that the passcode must be defined in the Configure Host Port menu in order to receive this text.

Please Login

\$

2. Log on to the system using the following format:

<SOH>IDXXXXXXXXXX<CR>

where

<SOH>	=	ASCII start of heading character (SOH/control A/01 hex) = Ctrl and A keys
XXXXXXXXXX	=	passcode (up to ten digits)
<CR>	=	ASCII carriage return (CR/control M/0D hex) = Ctrl and M keys

For example, using ASCII, the following keystrokes would be required to log on to the system:

- Press the Ctrl and A keys on the host computer keyboard.
- Type the letters "ID" (do not type the quotes).
- Enter the passcode.

- Press the Ctrl and M keys on the host computer keyboard.

3. If step 2 was successfully completed, the following message will display:

Host Logon at : hh:mm:ss MM/DD/YY

\$

where

hh:mm:ss = time in 24-hour format (hour:minute:second) of login
MM/DD/YY = date (month/day/year) of login.

4. If step 2 was not successfully completed, the following message will display:

Logon Passcode Error !

The prompt shown in step 1 will display. Repeat step 2 to input the correct passcode. Check the Configure Host Port menu passcode setting if necessary, referring to *Nova 1400 Digital Control System Programming Manual X955*.

Note: When the system is powered, the host computer will receive a message indicating that each of the CPU boards is on-line. (This does not refer to the Supervisor CPU board.) Do not send RS-232 command codes until you receive the Video CPU on-line message. During operation, you will also receive a message if any of the CPU boards goes off-line.

Logoff Procedure

To log off of the host computer, input the following using the host computer keyboard:

<SOH>LOGOFF<CR>

where

<SOH> = ACSII start of heading character (SOH/control A/01 hex) = Ctrl and A keys
<CR> = ASCII carriage return (CR/control M/OD hex) = Ctrl and M keys

The word "LOGOFF" (without the quotation marks) must be entered as uppercase text. The system will send the following message to the host computer:

Host Logout at : hh:mm:ss MM/DD/YY

\$

where

hh:mm:ss = time in 24-hour format (hour:minute:second) of logoff
MM/DD/YY = date (month/day/year) of logoff.

If the logoff dwell setting is enabled (by specifying a logoff dwell time in the Configure Host Port menu), the host computer will automatically logoff of the system after the dwell time elapses. Refer to the *Nova 1400 Digital Control System Programming Manual X955* for more information on setting or disabling the logoff dwell feature.

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Command Codes

RS-232 command codes are used to operate CCTV equipment from a host computer. An extensive set of report commands may be used to provide status information to the host computer operator. Command codes are discussed in the following sections. Each section includes a table which explains the elements of the code and provides an example. If the command performance can be verified, the table will include the name of the command which can be used. Where applicable, the table includes the reference number of the failure conditions that can occur when a command is sent to the control system. These reference numbers and the description of failure conditions are listed in Table 2.

Table 2
Command Failure Conditions

Ref. No.	Description	Ref. No.	Description
1	Command syntax error	13	Camera station not equipped for function
2	Invalid monitor number	14	Communications failure
3	Invalid camera number	15	Camera station storing preset
4	Invalid preset number	16	Camera station seized by another keypad
5	Invalid dwell time	17	Autoiris control engaged - manual iris control not available
6	No prior monitor assignment made	18	Autopan cannot be engaged while panning
7	Monitor displaying active alarm video	19	No communication failures pending
8	Monitor displaying active com/fail video	20	Alarms pending
9	Monitor sequencing alarm videos	21	No alarms pending
10	Monitor in tour	22	Invalid keypad number
11	Tour not loaded	23	Invalid tour number
12	Monitor seized by another keypad	24	Invalid salvo number

Commands associated with the receiver give the operator control of the pan-and-tilt drive, the motorized lens, and the receiver auxiliary functions. Because the receiver can control concurrent tasks, it can accept multiple commands in the same command transmission (e.g., the receiver can pan-left, tilt-up, zoom-out, and focus-far simultaneously). To send multiple commands in the same transmission, "chain" commands together:

<SOH>IMNQ<CR>

This chained command would cause the selected camera station to pan left, tilt up, zoom out and focus far (these commands are discussed in the appropriate sections).

*Note: Each command MUST be framed by the <SOH> and <CR> commands. Communications failure will occur if this requirement is not met.
The system sends a response after it receives each command (refer to page 35).*

Selecting a Monitor

Before the video from a camera may be viewed on a monitor, the camera and monitor must be selected. Select a monitor by sending the command code shown below. Select a camera as discussed in the next section.

Note: In the sections that follow, it is assumed that a monitor has already been selected.

A###	command syntax
A	<i>monitor select</i> command
###	3-digit monitor number
Example:	<SOH>A004<CR> assigns monitor 4 to the host computer.
Failure conditions:	1, 2, 12
Verification:	Keypad Assignment Report

Selecting a Camera Station

Selecting a camera station displays that camera's video on the currently selected monitor. All keypad control commands will affect the currently selected camera station. The camera's dial-up number must be used to identify the camera to be selected.

B####	command syntax
B	<i>camera select</i> command
####	4-digit camera dial-up number
Example:	<SOH>B0001<CR> routes video from camera 1 to the selected monitor output.
Failure conditions:	1, 3, 6, 7, 8, 9, 12
Verification:	Monitor Assignment Report

Salvo Operation

A salvo is defined as the simultaneous display of video from various camera stations on various monitors. Salvos may be used to define the steps in salvo tours, as discussed in *Nova 1400 Digital Control System Programming Manual X955*, or they may be executed as an independent function. Salvo video displays may be activated by using the command code on the following page.

Note: Salvos must be defined in the Edit Salvo Switch screen before they can be executed, as discussed in Nova 1400 Digital Control System Programming Manual X955. Presets must be defined before they may be used as salvo parameters (refer to page 9).

The number used to identify the salvo is its dial-up number. Default salvo dial-up numbers are 3500 plus the salvo number. For example, if the default number is used for salvo 1, the dial-up number is 3501. Dial-up numbers may be user-defined; therefore, refer to the Assign Dial-up Numbers menu to verify dial-up numbers if necessary. This menu is discussed in *Nova 1400 Digital Control System Programming Manual X955*.

B####	command syntax
B	<i>salvo</i> command
####	4-digit salvo dial-up number
Example:	<SOH>B0001<CR> activates salvo 1.
Failure conditions:	1, 6, 7, 8, 9, 12, 24
Verification:	Monitor Assignment Report

Tour Operation

A tour is a series of preprogrammed video displays from various camera stations. This series may be comprised of video from cameras on a monitor (monitor tour) or video from various cameras on various monitors (salvo tour). Preset positions, preset lens settings, and dwell times may be associated with each step in a tour. A step is defined as a salvo for salvo tours or one particular camera, preset, and dwell combination for a monitor tour. For example, a monitor tour might be defined to display the video from camera 1's preset 1 and then camera 2's preset 10, both on monitor 1. This would be a two-step tour. An example of a salvo tour might be defined to perform salvo 1 then salvo 3. Salvo 1 could be programmed to display camera 1's preset 1 on monitor 1 simultaneously with camera 2's video at preset 10 on monitor 2. This video might be replaced during the second step of the tour, depending upon the programming of salvo 3.

Tours may be initiated using the C command code or they may be loaded as a quick-access tour and initiated using the F command code as discussed in *Starting a Quick-Access Tour* on page 8.

Note: Referring to Nova 1400 Digital Control System Programming Manual X955, specify the parameters necessary to define the tour. Presets used in tours may be defined using the host computer as discussed in Storing a Preset on page 9.

Running a Tour

The *run tour* command is used to begin the tour specified in the command syntax. Unlike the *start quick-access tour* command, the *run tour* command syntax requires the tour number and does not require a separate command to load the tour into memory. The number used to specify a tour is its dial-up number. By default, tour dial-up numbers are 3000 plus the tour number. For example, if the default dial-up number is used for tour 128, the dial-up number is 3128. Dial-up tour numbers may be user-defined; refer to the Assign Dial-Up Numbers menu as discussed in *Nova 1400 Digital Control System Programming Manual X955* if necessary.

C####	command syntax
C	<i>run tour</i> command
####	4-digit tour dial-up number
Example:	<SOH>C3001<CR> runs tour 1.
Failure conditions:	1, 6, 7, 8, 9, 11, 12, 23
Verification:	Monitor Status Report

Loading a Quick-Access Tour

Quick-access tours are tours loaded into local memory so that they may be initiated using one command at any time until the Nova 1400 is rebooted or another tour is loaded. The *load quick-access tour* command is used to load the tour so that it may be executed using the *start quick-access tour* command discussed in the next section. The number used to load a tour is the tour number, not the tour's dial-up number. Command syntax requires a "9" before the tour number.

C9###	command syntax
C	<i>load quick-access tour</i> command
9	required
###	3-digit tour number
Example:	<SOH>C9001<CR> loads tour 1 for quick access.
Failure conditions:	1, 6, 7, 8, 9, 11, 12, 23

Starting a Quick-Access Tour

Use this command to begin a quick-access tour. From the host computer, the tour must have already been loaded using the *load quick-access tour* command discussed in the previous section. This command will begin the loaded tour each time the command is sent until another quick-access tour is loaded or until the Nova 1400 is rebooted.

Note: If a tour is already in progress, the start quick-access tour command may be used to go to the next step in the tour, disregarding the dwell time.

F	<i>start quick-access tour</i> command
Example:	<SOH>F<CR> starts the quick-access tour previously loaded using the <i>load quick-access tour</i> command.
Failure conditions:	1, 6, 7, 8, 9, 11, 12
Verification:	Monitor Status Report

Resetting Video Crosspoints

If distorted video, rolling video, multiple video images, or ghosting (a hazy outline of an image) occur, the video crosspoints may need to be reset using the video crosspoint reset command. Resetting the crosspoints eliminates these problems by resetting all monitors in the system and restoring the last video selections.

E9999	<i>video crosspoint reset</i> command
Example:	<SOH>E9999<CR> resets the video crosspoints for all monitors.
Failure conditions:	1, 5, 6, 7, 8, 9, 10, 12

Preset Operation

The preset function commands are used in conjunction with specially equipped lenses, pan-and-tilt drives, and receivers. The preset options provide the ability to store and recall up to 80 selected pan/tilt/zoom/focus positions for each receiver, depending on receiver model.

Recalling a Preset

This command returns a pan-and-tilt drive and lens to a previously-stored position.

*Note: A preset recall command automatically engages the autoiris function.
Any manual pan/tilt/zoom/focus command overrides the preset recall command.*

G##	command syntax
G	<i>preset recall</i> command
##	2-digit preset number (01-80)
Example:	<SOH>G02<CR> recalls preset position 2.
Failure conditions:	1, 4, 6, 9, 10, 12, 13, 14, 15, 16
Verification:	Receiver Status Report

Storing a Preset

The *preset store* command is used to store the current position of the pan/tilt/zoom/focus.

H##	command syntax
H	<i>preset store</i> command.
##	2-digit number (01-80) identifies the preset
Example:	<SOH>H02<CR> stores preset position 2.
Failure conditions:	1, 4, 6, 9, 10, 12, 13, 14, 15, 16
Verification:	Receiver Status Report

Using the Null Command

The *null* command is used to terminate momentary and latching functions such as the pan, tilt, autopan, zoom, iris, autoiris, and auxiliary function commands. The *null* command is also used when it is necessary to stop one or more of these functions without initiating some other action. This command consists of the ASCII <SOH> and <CR> characters without any other characters.

<SOH><CR>	<i>null</i> command
Example:	<SOH><CR> stops momentary or latching functions in progress.
Failure conditions:	Not Applicable

Controlling a Pan-and-Tilt Drive

Pan-and-tilt drives may be controlled from the host computer using the following commands. The speed at which the pan-and-tilt drives move is dependent upon the capabilities of the receiver and the pan-and-tilt drive. Vicon receivers and pan-and-tilt drives are either fixed speed or variable speed. Variable-speed receivers sold by Vicon allow the pan-and-tilt drive to move at either 4 or 256 speeds. The following sections discuss the various commands which may be used to control pan-and-tilt drives from fixed-speed receivers. To control the pan-and-tilt drives from four-speed receivers, chain the speed commands listed in Table 3 to the fixed-speed commands. For example, to pan left at medium fast speed, use the following code:
<SOH>IW<CR>.

For 256-speed receivers, the command code includes a number from 000 to 255 which describes the relative speed. A higher number corresponds to a faster speed. To direct a pan-and-tilt drive to pan right at speed 112, the following command code would be used: <SOH>J112<CR>.

If none of the command codes in Table 3 are used, the default speed will be used. The default speed is typically the slowest speed.

Table 3
Variable-Speed Command Codes

4-Speed Receivers		
Pan Speed Command Codes	Description	Tilt Speed Command Codes
(no speed code)	Slow speed	(no speed code)
X	Medium-slow speed	Z
W	Medium-fast speed	Y
WX	Fast speed	YZ
256-Speed Receivers		
###	Three-digit speed number	

Note: Table 3 is not applicable for the autopan function's speed controls. Refer to Autopanning on page 11 for more information on this feature.

Panning Left

The *pan left* command may be sent from the host computer using the following command. Any command string that does not include the pan left command halts the pan left motion.

Note: The command code shown below will direct the pan-and-tilt drive to move at slow speed (variable-speed receivers only), unless the code is modified as shown in Table 3.

I	<i>pan left</i> command
Example:	<SOH>I<CR> causes the pan-and-tilt unit to pan to the left.
Failure conditions:	1, 6, 9, 10, 12, 13, 14, 15, 16

Panning Right

The *pan right* command may be sent from the host computer using the following command. Any command string that does not include the *pan right* command halts the pan right motion.

Note: The command code shown below will direct the pan-and-tilt drive to move at slow speed (variable-speed receivers only), unless the code is modified as shown in Table 3 on page 10.

J	<i>pan right</i> command
Example:	<SOH>J<CR> causes the pan-and-tilt unit to pan to the right.
Failure conditions:	1, 6, 9, 10, 12, 13, 14, 15, 16

Autopanning

The *autopan* command may be sent from the host computer using the following command. If the V1300R-PV or V1301R-PV variable-speed option has been installed in the V1300R or V1301R receivers, these receivers can increase the speed of the pan-and-tilt drive during autopanning by sending additional autopan commands, for a total of four speed steps. The first K command is used to engage the autopan at the slow speed. The second, third, and fourth K commands will step up the speed through the medium-slow, medium-fast, and fast speeds, respectively. The fifth K command will disengage the autopan for V1300R and V1301R receivers with the variable-speed option installed; the second K command will disengage the function for other receivers.

K	<i>autopan engage/disengage</i> command
Examples:	<SOH>K<CR> engages autopan at slow speed (if it is currently disengaged; subsequent K commands increase speed for V1300R or V1301R receivers which have the V1300R-PV or V1301R-PV variable-speed option installed) or disengages autopan (if it is currently engaged). <SOH>K<CR><SOH>K<CR> engages autopan at slow speed (if it is currently disengaged) and then increases the speed to medium-slow speed.
Failure conditions:	1, 6, 9, 10, 12, 13, 14, 15, 16, 18
Verification:	Receiver Status Report

Tilting Down

The *tilt down* command may be sent from the host computer using the following command. Any command string that does not include this command halts the tilt down motion.

Note: The command code shown below will direct the pan-and-tilt drive to move at slow speed (variable-speed receivers only), unless the code is modified as shown in Table 3 on page 10.

L	<i>tilt down</i> command
Example:	<SOH>L<CR> causes the pan-and-tilt unit to tilt the camera down.
Failure conditions:	1, 6, 9, 10, 12, 13, 14, 15, 16

Tilting Up

The *tilt up* command may be sent from the host computer using the following command. Any command string that does not include this command halts the tilt up motion.

Note: The command code shown below will direct the pan-and-tilt drive to move at slow speed (variable-speed receivers only), unless the code is modified as shown in Table 3 on page 10.

M	<i>tilt up</i> command
Example:	<SOH>M<CR> causes the pan-and-tilt drive to tilt the camera up.
Failure conditions:	1, 6, 9, 10, 12, 13, 14, 15, 16

Controlling a Lens

Zooming Out

The *zoom out* command may be sent from the host computer using the following command. Any command string that does not include this command halts the zoom out action.

N	<i>zoom out</i> command
Example:	<SOH>N<CR> causes the motorized lens to zoom out for a wider angle of view.
Failure conditions:	1, 6, 9, 10, 12, 13, 14, 15, 16

Zooming In

The *zoom in* command may be sent from the host computer using the following command. Any command string that does not include this command halts the zoom in action.

O (ASCII capital letter o)	<i>zoom in</i> command
Example:	<SOH>O<CR> causes the motorized lens to zoom in for a close-up view.
Failure conditions:	1, 6, 9, 10, 12, 13, 14, 15, 16

Focusing Near

The *focus near* command may be sent from the host computer using the following command. Any command string that does not include this command halts the focus near motion.

P	<i>focus near</i> command
Example:	<SOH>P<CR> causes the lens to focus near.
Failure conditions:	1, 6, 9, 10, 12, 13, 14, 15, 16

Focusing Far

The *focus far* command may be sent from the host computer using the following command. Any command string that does not include this command halts the focus far motion.

Q	<i>focus far</i> command
Example:	<SOH>Q<CR> causes the lens to focus far.
Failure conditions:	1, 6, 9, 10, 12, 13, 14, 15, 16

Closing the Iris

The *iris close* command may be sent from the host computer using the following command. Any command string that does not include this command halts the iris close motion.

Note: If you have a V7VUS Surveyor™ Mini Dome with revision 0 software, this command will adjust the autoiris level on the V7UVS Surveyor Mini Dome.

This command will also adjust the autoiris level for Mini Domes with revision 2 software if the autoiris is ON. If the autoiris is OFF, this command will adjust the manual iris level (if you then turn the autoiris back ON, the video will return to its previous level).

Re-boot the Surveyor to display the initial power-up screen, which includes the software revision number.

You can check the status of the autoiris using the receiver status report “g” command.

R	<i>iris close</i> command
Example:	<SOH>R<CR> causes the lens to close the iris.
Failure conditions:	1, 6, 9, 10, 12, 13, 14, 15, 16, 17

Opening the Iris

The *iris open* command may be sent from the host computer using the following command. Any command string that does not include this command halts the iris open motion.

Note: To protect the camera video pickup device from damage due to overexposure, the receiver defaults to an autoiris engaged condition both on power-up and upon receipt of a preset recall command. The autoiris command overrides any manual iris command. To utilize the manual iris controls, the autoiris must be disengaged (refer to the following section).

If you have a V7VUS Surveyor Mini Dome with revision 0 software, this command will adjust the autoiris level on the V7UVS Surveyor Mini Dome.

This command will also adjust the autoiris level for Mini Domes with revision 2 software if the autoiris is ON. If the autoiris is OFF, this command will adjust the manual iris level (if you then turn the autoiris back ON, the video will return to its previous level).

Re-boot the Surveyor to display the power-up screen, which includes the software revision number.

You can check the status of the autoiris using the receiver status report "g" command.

S	<i>iris open</i> command
Example:	<SOH>S<CR> causes the lens to open the iris.
Failure conditions:	1, 6, 9, 10, 12, 13, 14, 15, 16, 17

Enabling/Disabling the Autoiris

The *autoiris* command may be sent from the host computer using the following command. The autoiris must be used with a motorized lens and the autoiris must be receiver-controlled. If the autoiris is currently disengaged (manual iris commands are currently being used), sending the autoiris command will engage the autoiris. Manual iris commands may not be fulfilled while the autoiris is engaged. If the autoiris is currently engaged, sending this command will disengage the autoiris.

Note: This command is not applicable for the V7UVS Surveyor Mini Dome with revision 0 software because the autoiris is always enabled. The autoiris LED will always be illuminated. The command is valid for Surveyors with revision 2 software .

If you have a V7VUS Surveyor Mini Dome with revision 0 software, the Iris Open and Iris Close commands will adjust the autoiris level on the V7UVS Surveyor Mini Dome.

The Iris Open and Iris Close commands will also adjust the autoiris level for Mini Domes with revision 2 software if the autoiris is ON. If the autoiris is OFF, this command will adjust the manual iris level (if you then turn the autoiris back ON, the video will return to its previous level).

Re-boot the Surveyor to display the power-up screen, which includes the software revision number.

You can check the status of the autoiris using the receiver status report "g" command.

T	<i>autoiris engage/disengage</i> command
Example:	<SOH>T<CR> engages autoiris (if it is currently disengaged) or disengages it (if it is currently engaged).
Failure conditions:	1, 6, 9, 10, 12, 13, 14, 15, 16
Verification:	Receiver Status Report

Changing the Lens Speed

Motorized lenses typically have two speeds available for zoom, focus and iris motion. The V7UVS Surveyor Mini Dome has three speeds (low, medium and high) with a default setting of *medium* upon power-up. The *lens speed* command toggles between the available speeds. The receiver defaults to the slow speed setting on power-up. The null command must be used after successive lens speed settings, as shown in the second example.

[(ASCII left-hand square bracket)	<i>lens speed</i> command
Example:	<p><SOH><CR> causes the lens speed to toggle from fast to slow or slow to fast.</p> <p><SOH><CR><SOH><CR><SOH><CR><SOH><CR> changes the lens speed from low speed to high speed on the Surveyor Mini Dome (a <i>null</i> command is used after each speed command).</p>
Failure conditions:	1, 6, 9, 10, 12, 13, 14, 15, 16

Auxiliary Operation

Auxiliary relays control latching or momentary functions at the receiver site. The number of latching and/or momentary auxiliary functions available depends upon the receiver, with a maximum of six auxiliary relays. The functionality of auxiliary devices also depends upon the receiver model. For example, the state of auxiliary relays may be fixed or defined as momentary or latching using switches or programming menus, depending upon the capabilities of specific receiver models.

Latching auxiliary devices are activated when an *aux* command is sent followed by the *null* command. The latching auxiliary device deactivates when the *aux* command is sent again, followed by the *null* command. Note that the *null* command must be sent after each *aux* command is sent to a latching auxiliary device. Alternatively, any command that does not include the *aux* command may be sent instead of the *null* command. For example, to activate a latching auxiliary (aux2) device, send the commands <SOH>V<CR><SOH><CR>. To deactivate the device, send the *aux2* and *null* commands again.

If the *aux* command is sent for a momentary auxiliary device, the device remains activated until the *null* command is sent. For example to activate a momentary aux6 device, send the command <SOH>Z<CR>. To deactivate the device, send the *null* command <SOH><CR> or any command that does not include the *aux* command.

U, V, W, X, Y, Z	<i>aux1</i> , 2, 3, 4, 5, 6 commands, respectively
Examples:	<p><SOH>W<CR> <SOH><CR> engages latching auxiliary function 3 (if it is currently disengaged) or disengages it (if it is currently engaged).</p> <p><SOH>Z<CR> engages momentary auxiliary device 6. <SOH><CR> disengages momentary auxiliary device 6 if it is currently engaged.</p>
Failure conditions:	1, 6, 9, 10, 12, 13, 14, 15, 16
Verification:	Receiver Status Report

Alarm Operation

Alarm operation in the Nova 1400 system depends upon the alarm stack mode chosen during programming. *Nova 1400 Digital Control System Programming Manual X955* describes how to select the alarm stack mode and illustrates the alarm processing (i.e., which alarms will be viewed on which alarm monitors) when each stack mode is chosen. *Models V1300X-DVC and -RVC Intelligent Remote Control Panels Instruction Manual X777* also illustrates alarm processing per alarm stack mode chosen and describes acknowledgment procedures from the Nova 1400 remote keypads. Command codes may be sent from the host computer in order to acknowledge, view, enable/disable, and simulate alarms via the host computer RS-232 port. You may simulate and reset alarms via the alarm serial RS-232 ports.

Viewing Alarm Video

When multiple alarms are active, the *view alarm video* command may be used to “step” through the alarm stack. For example, if alarms 1, 2, 3, and 4 are activated (in that order), and alarm 1 video is currently displayed, sending the *view alarm video* command would display video from alarm 2. If alarm 2 is currently displayed, the *view alarm video* command would display alarm 3’s video. This command does not acknowledge an alarm or remove it from the alarm stack.

F	command syntax
F	<i>view alarm video</i> command
Example:	<SOH>F<CR> displays the video from the next active alarm in the stack.
Failure conditions:	1, 3, 6, 7, 8, 9, 11, 12

Acknowledging Alarms

The host computer can be used to acknowledge any alarm (you may not acknowledge alarms using host computers connected to the serial alarm ports). The Nova 1400 transmits an ASCII exclamation point (!/3F hex) for the first alarm detected. It retransmits the exclamation point at 1-second intervals until the host computer responds with either an *alarm acknowledge* command (ASCII backslash character, \) or an *active alarm report* command (ASCII d character). The alarm notification (!) may be enabled or disabled (refer to page 17).

The system does not transmit the exclamation point for alarms which are activated after the first alarm. The host port must send an active alarm report request (refer to page 25) to determine if there are any other active alarms.

\	<i>alarm acknowledge</i> command
Example:	<SOH>\<CR> initiates a step in the current alarm mode’s alarm acknowledgment procedure.
Failure conditions:	1, 21
Verification:	Monitor Status Report

Disabling X-IA Alarms

This command disables the reporting and processing of X-IA alarms (V1200X-IA or V1300X-IA alarms only, not receiver alarms) in the system. The default condition sets all X-IA alarms enabled. The command can be used to disable one alarm or a range of consecutively numbered alarms. To disable multiple alarms, the command must include the lowest numbered alarm and the highest numbered alarm separated by a comma.

ASTART, ASTOP	command syntax
_ (ASCII underline)	<i>X-IA alarm disable</i> command
ASTART	4-digit alarm number (lowest in the range)
ASTOP	4-digit alarm number (highest in the range)
Examples:	<p><SOH>_0001<CR> disables alarm 1.</p> <p><SOH>_0030,0032<CR> disables alarms 30 through 32.</p>
Failure conditions:	1, 3
Verification:	Alarm Enable Status Report

Enabling X-IA Alarms

This command re-enables X-IA alarms previously disabled by the host computer connected to the host port. The command can be used to re-enable one alarm or a range of consecutively numbered alarms. To re-enable a range of alarms, the command must include the lowest numbered alarm and the highest numbered alarm separated by a comma.

^ASTART, ASTOP	command syntax
^ (ASCII caret)	<i>X-IA alarm enable</i> command
ASTART	4-digit alarm number (lowest in the range)
ASTOP	4-digit alarm number (highest in the range)
Examples:	<p><SOH>^0001<CR> re-enables alarm 1.</p> <p><SOH>^0016,0032<CR> re-enables alarms 16 through 32.</p>
Failure conditions:	1, 3
Verification:	Alarm Enable Status Report

Disabling Alarm Notification

This command disables the automatic alarm notification (first alarm only, using the ! character as discussed in *Acknowledging Alarms* on page 16) by the Nova 1400 to the host computer. Once disabled, the Nova 1400 no longer notifies the host computer when the first alarm activates. The default condition is enabled.

p	<i>alarm notification disable</i> command
Example:	<SOH>p<CR> disables notification to the host computer of an active alarm.
Failure conditions:	1

Enabling Alarm Notification

This command re-enables the automatic notification of an alarm (if multiple alarms are active, the Nova 1400 will only notify the host computer that the first alarm has been activated). Once enabled, the system resumes notifying the host computer when an alarm is detected. Note that this refers to the host computer connected to the host port only (not computers connected to the serial alarm ports).

o (ASCII lowercase O)	<i>alarm notification enable</i> command
Example:	<SOH>o<CR> resumes notification to the host computer of an active alarm.
Failure conditions:	1

Simulating an Alarm

The *alarm point set* command is used to simulate an activated alarm. The Nova 1400 responds as though the alarm has been activated.

Note: You may use any of the three RS-232 ports (there are two serial alarm RS-232 ports and one host port) to simulate an alarm. An alarm simulated via host computer(s) must be “acknowledged” by the host computer(s). Refer to Acknowledging Simulated Alarms.

If there is no physical connection to the alarm input specified in the command syntax, the specified alarm input must be set to “normally open” in the Nova 1400 programming screens. Refer to the Nova 1400 Digital Control System Programming Manual X955 and set the closure type in the Alarm Closure Type Set screen to Normally Open for the appropriate alarm input.

u####S	command syntax
u	specifies alarm action
####	4-digit alarm number
S	<i>alarm point set</i> command
Example:	<SOH>u0017S<CR> causes the system to act as though alarm 17 is active.
Failure conditions:	1

Acknowledging Simulated Alarms

The *alarm point reset* command is used to “acknowledge” simulated alarms. An active alarm simulated via the host computer can only be cleared by the host computer.

Note: You may use any of the three RS-232 ports (there are two serial alarm RS-232 ports and one host port) to acknowledge a simulated alarm.

u####R	command syntax
u	specifies alarm point action
####	4-digit alarm point number.
R	<i>alarm point reset</i> command
Example:	<SOH>u0017R<CR> causes the system to act as though alarm 17 has been acknowledged.
Failure conditions:	1

Acknowledging Communications Failures

The Nova 1400 does not initiate a communications failure announcement to the host computer(s). Use the active com/fail report discussed on page 25 if a communications failure is suspected. Note that when communications fail between a receiver and the Nova 1400, the video from that receiver's camera will display on the host computer's monitor if the procedure discussed in the following paragraph is performed.

The first *com/fail acknowledge* command sent selects the camera station experiencing a communications failure. This displays that camera's video on the monitor. The second *com/fail* command acknowledges that the failure has taken place. If there are several communications failures active at the same time, the system maintains them in a queue. As one is acknowledged, the next is displayed on the selected monitor. This continues until all are acknowledged.

<i>Note: Acknowledging communications failures does not restore communications between the receiver(s) and the Nova 1400; it only acknowledges the announcement of the failures.</i>
--

] (ASCII right-hand square bracket)	<i>com/fail acknowledge</i> command
Example:	<SOH>]<CR> sending this command the first time selects the failed camera station; the second command acknowledges that a communications failure has taken place.
Failure conditions:	1, 19, 20
Verification:	Active Com/Fail Report

Keypad Commands

These commands allow the host computer to enable and disable keypads and to make keypad/monitor assignments.

Enabling Keypads

This command instructs the system to re-enable a keypad previously disabled by the host computer connected to the host port. Also use this command to activate new keypads without waiting for a background poll.

a##	command syntax
a	<i>keypad enable</i> command
##	2-digit keypad number
Example:	<SOH>a002<CR> causes the system to enable keypad 2.
Failure conditions:	1, 22
Verification:	Keypad Status Report

Disabling Keypads

This command instructs the system to disable the specified keypad. This effectively takes the keypad off-line. This command has many uses both for its direct effect and for its indirect effect. For example, it can limit monitor or receiver control from a keypad. It could also be used indirectly to force the release of a seized receiver.

⚠ Caution: *Once the host computer disables a keypad, it can only be brought back on-line by the host computer. This refers to the host computer connected to the host port only. Do NOT disable all the keypads at once. This leaves the system totally dependent on the host port RS-232 link.*

b##	command syntax
b	<i>keypad disable</i> command
##	2-digit keypad number
Example:	<SOH>b03<CR> causes the system to disable keypad 3.
Failure conditions:	1, 22
Verification:	Keypad Status Report

Assigning Monitors to Keypads

This command assigns a monitor to a keypad. Although the host computer (connected to the host port, not the computer(s) connected to the serial alarm ports, if any) may be used to force keypad/monitor assignments (ignoring the partitioning definitions created in the Set Keypad Partitions menu discussed in *Nova 1400 Digital Control and Switching System Programming Manual X955*), this is not advisable. This command should only be used to assign monitors to keypads within the partitioning definitions developed during system programming.

⚠ Caution: *If a keypad operator sees an invalid monitor number (a monitor that has not been assigned to the keypad during system programming) in the monitor number display, the host computer has forced an invalid monitor assignment to this keypad. This monitor must not be selected from the keypad, as this action will produce keypad errors. Note that if the monitor is inadvertently selected, the keypad must be taken off-line and then brought back on-line again, or the host computer must perform a valid monitor assignment to this keypad.*

cKK,MMM	command syntax
c	<i>keypad/monitor assignment</i> command
KK	2-digit keypad number
MMM	3-digit monitor number
Example:	<SOH>c07,001<CR> assigns monitor 1 to keypad 7.
Failure conditions:	1, 2, 22
Verification:	Keypad Assignment Report

Real-Time Clock Commands

These commands allow the host computer to set the time and date of the Nova 1400 real-time clock. They also let the host computer request time and date information from the system. The real-time clock operates in the 24-hour mode. Note that you may only set the real time clock from the host computer connected to the host port.

Reading the Current Time and Date

When requested for time/date data, the Nova 1400 responds with the time in hours:minutes:seconds followed by the date in month/day/year format.

t	<i>read current time and date</i> command
Example:	<SOH>t<CR> causes the system to respond with the current time and date: e.g., 13:47:10 09/19/91.

Setting the Time

The host computer uses this command to set the Nova 1400 time in hour:minute:second format. Leading zeros must be used for values less than 10.

thh:mm:ss	command syntax
t	specifies real-time clock action
hh:mm:ss	<i>set time</i> command
Example:	<SOH>t15:05:00<CR> sets the system's real-time clock to 3:05 P.M.

Setting the Date

The host computer uses this command to set the Nova 1400 date in month/day/year format. Leading zeros must be used for values less than 10.

tmm/dd/yy	command syntax
t	specifies real-time clock action
mm/dd/yy	<i>set date</i> command
Example:	<SOH>t06/23/91<CR> sets the system's date to June 23, 1991.

Setting the Time and Date

The host computer uses this command to set the Nova 1400 time and date in hour:minute:second and month/day/year formats. The ASCII space character " " must be included to separate the date and time. Leading zeros must be used for values under 10.

tmm/dd/yy hh:mm:ss or thh:mm:ss mm/dd/yy	command syntax
t	specifies real-time clock action
mm/dd/yy	sets date segment of the command
hh:mm:ss	sets time segment of the command
Example:	<SOH>t06/23/95 15:05:00<CR> sets the system's date to June 23, 1995 and the time to 3:05 P.M.

System Data Upload/Download

Using the host computer connected to the host port, the configuration file may be uploaded to or downloaded from the Nova 1400 using XMODEM protocol. The host computer can terminate the transfer by transmitting the <CTRL>X (018 hexadecimal) command code as discussed on page 23. The transfer can also be terminated at the Nova 1400 system by pressing the Escape key at the programming keyboard.

The data bits must be set at 8 at both the host computer and in the Nova 1400 programming menu system. Refer to your computer documentation and *Nova 1400 Digital Control System Programming Manual X955* to check this setting and redefine it if necessary.

Note: For XMODEM upload and download operations, Vicon recommends Datastorm's Procomm Plus ↓ for DOS. Procomm Plus is a registered trademark of Datastorm Technologies Inc. You may also use HyperTerminal which comes standard with Windows™ 95. Windows is a trademark of Microsoft Corporation.

Sending/Receiving the Configuration File

This command initiates the upload or download procedure.

r#	command syntax
r	<i>upload/download</i> command
#	1-digit number that specifies the type of data transfer, as follows: 1 Nova 1400 sends file to the host computer 2 Nova 1400 receives file from the host computer 3 Nova 1400 sends TDT data to host computer 4 Nova 1400 receives TDT data from host computer
Example:	<SOH>r1<CR> sends file to the host computer.

At the Nova 1400, a message will display on the programming monitor while a transfer is in progress. When the transfer is complete, the operator will be directed to press Enter to continue.

Note: The system will reboot after the Nova 1400 has received the configuration file from the host computer. After the Nova 1400 reboots, the new configuration file will be in use.

Terminating Upload/Download

The host computer connected to the host port can use this command to terminate an upload/download operation which is still in progress. The command must be transmitted twice.

Note: The <SOH> and <CR> are not needed for this command.

<CTRL> X	<i>load/download terminate</i> command (018 hexadecimal)
Example:	CTRL> X <CTRL> X terminates an in-progress data transfer

From the Nova 1400, the transfer may be terminated by pressing the Escape key on the programming keypad twice.

Reports

Automatic Alarm Reports

The following alarm reports are automatically reported by the RS-232 ports. They will display on the host computer(s) or at serial printers, depending upon what you have connected to the RS-232 ports. The dates and times as well as the alarm and monitor numbers shown in Table 4 are examples only. The first number to be displayed is the alarm number in each automatic alarm report.

<i>Note: Receiver alarms are always latching. The momentary alarm messages in the following table are not applicable for receiver alarms.</i>

Table 4
Automatic Alarm Reports

ALARM SYSTEM RESET @ 03-04-98 10:18:17	Alarm board has reset.
0001 detected 03-04-98 10:19:30	An alarm is being detected.
0001 cleared 03-04-98 10:20:39	Alarm is acknowledged by the user or auto-acknowledged in common stack mode. Or alarm is acknowledged by the user or auto-acknowledged in independent stack mode when the <i>When this Alarm in Acknowledged, Should it be Cleared from all Monitors?</i> setting is Yes.
0002 cleared by monitor 001 03-04-98 10:22:33	Alarm is acknowledged by the user or auto-acknowledged in independent stack mode when the <i>When this Alarm in Acknowledged, Should it be Cleared from all Monitors?</i> setting is No.
0001 cleared by xia 03-04-98 10:25:04	A momentary alarm has been returned to its unalarmed state. This message will always appear when the alarm input is returned to its unalarmed state, even if it was previously acknowledged by the user.
0001 detected 03-04-98 10:47:01 0001 cleared by monitor 001 03-04-98 10:47:05 0001 cleared by monitor 002 03-04-98 10:47:10 . . . 0001 cleared by monitor 032 03-04-98 10:48:00 0001 cleared by xia 03-04-98 10:48:07	A momentary alarm is activated in a system set to independent stack mode and the <i>When this Alarm in Acknowledged, Should it be Cleared from all Monitors?</i> setting is No, and the user(s) acknowledge all alarms on all monitors. When the alarm returns to its unalarmed state, the last line of the report will display.

Active Alarm Report

This command requests a report which lists the cameras displaying alarm video for all monitors in the Nova 1400 system.

d	<i>active alarm report</i> command
ALARM MONITOR #MMM = CCCC	report format
#MMM	# followed by three-digit monitor number
CCCC	four-digit camera number
000	no alarms
\$	
Example:	<p><SOH>d<CR> requests active alarm report, returning:</p> <p>ALARM MONITOR #001 = 0001</p> <p>ALARM MONITOR #002 = 2012</p> <p>.</p> <p>.</p> <p>ALARM MONITOR #128 = 0031</p> <p>\$</p>
Failure conditions:	1

In the example in the table above, the report indicates that monitor 1 is displaying alarm video from camera 1, monitor 2 is displaying alarm video from camera 2012, etc.

Active Com/Fail Report

This command returns a report which lists all of the active com/fails in the system. If no communications failures are active, the response is 000.

e	<i>active com/fail report</i> command
CCC1,...,CCCn,0000	report syntax
CCC1	first four-digit receiver number
CCCn	last four-digit receiver number
0000	end of report
Example:	<p><SOH>e<CR> requests com/fail report, returning</p> <p>0017,0018,0030,0000</p> <p>\$</p> <p>indicating that receivers 17,18 and 30 are not responding.</p>
Failure conditions:	1

Monitor Assignment Report

This command is used to determine the camera that is assigned to each monitor. The command has single and group formats. The single format returns the camera assignment of the specified monitor. The group format returns a group of consecutive monitors and cameras. In the group format, a comma must be used to separate the two numbers.

fMSTART,MSTOP	command syntax (use fMSTART only for single monitor)
f	<i>monitor assignment report</i> command
MSTART	first 3-digit monitor number
MSTOP	last 3-digit monitor number
CCC1,CCC2, ...,CCCn\$	report syntax
CCC1, CCC2,...CCCn	4-digit camera numbers assigned to monitors
\$	end of report
Examples:	<p><SOH>f002<CR> requests report for monitor 2, returning</p> <p>0018 \$</p> <p>(indicating that camera 18 is assigned to monitor 2).</p> <p><SOH>f003,005<CR> requests report for monitors 3-5, returning</p> <p>0029,0011,0012 \$</p> <p>(indicating that cameras 29, 11, and 12 are assigned to monitors 3, 4, and 5.</p>
Failure conditions:	1, 2

Receiver Status Report

This command returns a report which indicates the status of receiver functions.

g####	command syntax
g	<i>receiver status report</i> command
####	4-digit receiver number
(see table below)	report syntax
\$	end of report
Examples:	<p><SOH>g0062<CR> requests report for receiver 62, returning</p> <p>001100000,06 \$</p>
Failure conditions:	1, 3

Receiver status report format is nine digits followed by a comma and two more digits. Each of the nine digits indicates the receiver status or function, and may be 1 or 0. If the digit is 1 then the condition is true, if the digit is 0 the condition is false. The last two digits are the number of the last preset position recalled.

0 or 1	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1	,	00 to 80
Off-line	In alarm	Moving to preset	Aux 1 on	Aux 2 on	Aux 3 on	Aux 4 on	Autoiris on	Auto-pan on		Last preset

For example, a report of 001100000,06 might be returned, indicating the receiver is on-line, is not in an alarm state, is moving to a preset, auxiliary equipment denoted AUX1 is on and aux 2-4 are off, the autoiris is off, the pan-and-tilt drive is not autopanning, and the last preset was preset number 6.

Keypad Assignment Report

This command is used to determine keypad/monitor assignments. The command has single and group formats. The single format returns the monitor assignment of the specified keypad. The group format returns a group of consecutive keypads and monitors. In this format, a comma must be used to separate numbers.

hKSTART,KSTOP	command syntax (for single report, use hKSTART only)
h	<i>keypad assignment report</i> command
KSTART	first 2-digit keypad number
KSTOP	last 2-digit keypad number
MM1,MM2,...MMn\$	report syntax
MM1,MM2,...MMn	3-digit monitor numbers, each corresponding to a keypad no.
\$	end of report
Examples:	<p><SOH>h07,09<CR> requests report for keypads 7-9, returning</p> <p>002,007,004</p> <p>\$</p> <p>(indicating that monitors 2, 7, and 4 are assigned to keypads 7, 8, and 9.</p>
Failure conditions:	1, 22

Tour Report

The *tour report* command outputs the parameters which define each step in the tour (camera, preset, speed, dwell time). Reports may be produced for tours that may be accessed at any monitor or quick-access tours (tours loaded into local memory at a monitor). Tour report format depends upon the tour type (monitor or salvo). Use the following command syntax to request a report on a tour (see the following page for quick-access tours).

i###P	command syntax
i	<i>tour report</i> command
###	tour number (001 to 128)
TOUR NO.: TTT TOUR TYPE: XXX NUMBER OF STEPS: ## LAST STEP ACTION: data1 TOUR DATA: data2 \$	report syntax
TTT	tour number
XXX	Single Monitor (Tour) Salvo (Tour)
##	01 to 32 (number of steps in the tour)
data1	CHAIN TO TOUR NO. xx (xx = tour number) REPEAT HALT
data2	If Single Monitor Tour: STEP xx = CAM: xxxx, PRE: xx, SPD: xx, DWL: xx (where xx = number in acceptable range) If Salvo Tour: STEP xx = SALVO: xx, DWL: xx (where xx = number in acceptable range) (not applicable if Tour Type = Not Configured)
\$	end of report
Failure conditions:	1, 2, 11, 23

Note that if a tour had not been defined for the selected tour number, the following report would be sent to the host computer instead of the report format shown in the previous table:

TOUR NO.: TTT
TOUR TYPE: NOT CONFIGURED
NUMBER OF STEPS: 00
NO TOUR DATA

where TTT represents the tour number.

Use the following command syntax to request a report on a quick-access tour.

i###	command syntax
i	<i>quick-access tour report</i> command
###	monitor number
MONITOR: MMM TOUR TYPE: XXX NUMBER OF STEPS: ## TOUR DATA: data \$	report syntax
MMM	Monitor number
XXX	Single Monitor (Tour) Salvo (Tour)
##	01 to 32 (number of steps in the tour)
data	If Single Monitor Tour: STEP xx = CAM: xxxx, PRE: xx, SPD: xx, DWL: xx (where xx = number in acceptable range) If Salvo Tour: STEP xx = SALVO: xx, DWL: xx (where xx = number in acceptable range)
\$	end of report
Failure conditions:	1, 2, 11

If a quick-access tour *has not been loaded* at the selected monitor, the following default report will be sent to the host computer:

```
MONITOR: MMM
TOUR TYPE: NONE LOADED
NUMBER OF STEPS: 00
NO TOUR DATA
$
```

If a quick-access tour *has been loaded* at the selected monitor, a report such as the following will be returned. In this example, the command i003 has been sent:

```
MONITOR: 003
TOUR TYPE: Single Monitor
NUMBER OF STEPS: 02
TOUR DATA:
STEP 01 = CAM: 0001, PRE: 18, SPD: 04, DWL: 20
STEP 02 = CAM: 0015, PRE: 01, SPD: 10, DWL: 20
$
```

indicating that a quick-access has been loaded for monitor 3 and is a two-step monitor tour. Step 1 of the tour will direct the pan-and-tilt drive at camera station 1 to move to preset 18 at speed 4. After the drive has reached the preset position, the dwell time of 20 seconds will begin. After the dwell time elapses, camera station 15's pan-and-tilt drive will move to preset 1 at speed 10.

Monitor Status Report

This command returns status information on a monitor or range of monitors.

j###	command syntax
j	<i>monitor status report</i> command
###	3-digit monitor number
(see table below)	report syntax
\$	end of report
Examples:	<SOH>j007<CR> requests report for monitor 7, returning 01000000 \$
Failure conditions:	1, 2

The report consists of eight digits, each digit representing the status of one monitor condition (1 = true, 0 = false). The command may be used to request a report for one monitor or a range of monitors, returning one camera number per monitor. Commas separate the camera numbers for a range of monitors.

0 or 1	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1
Monitor busy with alarm	Monitor busy with comm. failure	Monitor in tour	N/A	N/A	Reserved	Reserved	Monitor idle

For example, a report of 01000000 might be returned for the command <SOH>j007<CR>, indicating that monitor 7 is displaying video from a camera station experiencing a communications failure.

Keypad Status Report

This command returns a report which indicates the status of a keypad.

k##	command syntax
k	<i>keypad status report</i> command
##	2-digit keypad number
(see table below)	report syntax
\$	end of report
Example:	<SOH>k07<CR> requests report for keypad 7, returning 01000000 \$
Failure conditions:	1, 22

Keypad status report format is eight digits, each signifying a keypad condition. Each digit may be 1 or 0. If the digit is 1 then the condition is true, if the digit is 0 the condition is false.

0 or 1	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1
Keypad off-line	Keypad disabled by host computer	Display busy	Receiver control in use	Reserved	Reserved	Reserved	Reserved

Camera Seize Report

This command is used to determine if a camera has been seized by a keypad. If no seize exists, the monitor and keypad digits are zero.

l#### (ASCII lowercase L)	command syntax
l	<i>camera seize report</i> command
####	4-digit camera number
####,MMM,KKK	report syntax
MMM	3-digit number of monitor on which the camera displays
KKK	3-digit number of keypad that seized the camera
\$	end of report
Example:	<p><SOH>l0027<CR> requests report for camera 27, returning</p> <p>0027,005,011</p> <p>\$</p> <p>indicating that camera 27 is displaying on monitor 5 and is seized by keypad 11.</p>
Failure conditions:	1, 3

Monitor Seize Report

This command is used to determine if a monitor has been seized. If no seize exists, the camera and keypad digits are zero.

m###	command syntax
m	<i>monitor seize report</i> command
###	3-digit monitor number
CCCC,###,KKK	report syntax
CCCC	4-digit number of camera displaying on the monitor
KKK	3-digit number of keypad that seized the camera
\$	end of report
Example:	<p><SOH>m005<CR> requests report for monitor 5, returning</p> <p>0017,005,011</p> <p>\$</p> <p>indicating that monitor 5 is displaying camera 17 and is seized by keypad 11.</p>
Failure conditions:	1, 2

Keypad Seize Report

This command is used to determine if a keypad has seized any camera/monitor combination. If no seize exists, the camera and monitor fields are zero.

n##	command syntax
n	<i>keypad seize report</i> command
##	2-digit keypad number
CCCC,MMM,##	report syntax
CCCC	4-digit number of camera seized by the keypad
MMM	3-digit number of monitor on which the camera displays
KKK	3-digit number of keypad
\$	end of report
Example:	<p><SOH>n01<CR> requests report for keypad 1, returning</p> <p>0017,005,001</p> <p>\$</p> <p>indicating that keypad 1 has seized camera 17 which is displaying on monitor 5.</p>
Failure conditions:	1, 22

Alarm Enable Status Report

This command returns a report which indicates the status of all of the X-IA alarms (V1200X-IA or V1300X-IA alarm interface devices) and RS-232 alarms in the system (enabled or disabled). This command is not applicable for receiver alarms. The numbers are transmitted in groups of eight digits separated by commas. The first digit represents the status of the first alarm input, the second digit represents status of the second alarm input, and so on.

q	<i>alarm enable status report</i> command
#####,#####,...,#####n	report syntax
#	1 = enabled, 0 = disabled
n	alarm input 2048's enable status
\$	end of report
Example:	<p>11111111,11111111,11110000,11110101 (and so forth)</p> <p>\$</p> <p>(indicating that X-IA alarms 1-20, 25-28, 30 and 32 are enabled, 21-24, 29 and 31 are disabled. Only 32 alarms are shown in this example to save space; 8 sets for a total of 2048 will be reported.)</p>
Failure conditions:	1

System Specification Report

This command queries the Nova 1400 for a list of operating parameters. Host computer information refers to the computer connected to the host port, not computers connected to the alarm serial ports, if applicable. The report includes:

- Revision date of the system supervisor software
- The maximum number of keypads that the system supports (MXK)
- The maximum number of cameras that the system supports (MXC)
- The maximum number of monitors that the system supports (MXM)
- The maximum number of alarm inputs that the system supports (MXA)
- The list of alarm monitors (AML)
- The list of all monitors (SML)
- Option indicators (OF1 and OF2)
- The host computer's assigned keypad address (TDA)
- The host computer's monitor assignment (TDM)
- The number of on-line keypads (OLK)
- The number of on-line receivers (OLR)

' (ASCII single quote character)	<i>system specification report</i> command
	report syntax
MXK = ##	2-digit number of keypads
MXC = ####	4-digit number of cameras
MXM = ###	3-digit number of monitors
MXA = ####	4-digit number of alarms
AML = ##1,##2,...,##n	list of all alarm monitors (3-digit numbers)
SML = 01 thru 128	list of all monitors
OF1 = 00000000	disregard this entry
OF2 = 00000000	disregard this entry
TDA = 033	keypad assigned to host computer (3-digit number)
TDM = ###	monitor assigned to host computer (3-digit number)
OLK = ##	number of keypads on-line (2-digit number)
OLR = ####	number of receivers on-line (4-digit number)
\$	end of report
Failure conditions:	1

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Reference

The following tables are a quick reference guide to all of the standard Vicon RS-232 command codes. For detailed explanations of these command codes, refer to the appropriate section in *Command Codes*, beginning on page 5.

How To Use This Reference

This quick reference guide has been assembled by listing each command code. Each code is listed in a table which includes the following components:

- The ASCII command code
- The command name
- The hexadecimal value of the ASCII code
- A brief description of the command
- The command syntax
- A list of any prerequisites
- An example of the command

Command Code	Function	Hexadecimal Value
ASCII CHARACTER	NAME OF COMMAND	HEXADECIMAL VALUE OF THE ASCII CODE
A BRIEF DESCRIPTION OF THE COMMAND		
Command Syntax:	<SOH>TYPICAL COMMAND SYNTAX<CR>	
Prerequisites:	LIST OF ANY COMMAND PREREQUISITES	
Example:	<SOH>AN EXAMPLE<CR> (A BRIEF EXPLANATION)	

Null

Command Code	Function	Hexadecimal Value
NULL	NULL FUNCTION	NONE
The Null function is used to terminate a momentary or latching function (pan, tilt, focus, etc.) without initiating another function. It consists only of <SOH> and <CR> with no other characters.		
Command Syntax:	<SOH><CR>	
Prerequisites:	NONE	
Example:	<SOH>J<CR> (Pan right.) <SOH><CR> (Stop pan right.)	

<CTRL> X

Command Code	Function	Hexadecimal Value
<CTRL>X	UPLOAD/DOWNLOAD TERMINATE	018
<CTRL> X is used to terminate a global configuration or title data upload/download operation which is still in progress. The command must be sent twice.		
Command Syntax:	<CTRL> X <CTRL> X	
Prerequisites:	Upload or download in progress.	
Example:	<SOH>r2<CR> (Receive data.) <CTRL> X <CTRL> X (Terminate transfer.)	

A

Command Code	Function	Hexadecimal Value
A	MONITOR SELECT	041
Monitor Select assigns the host computer to the selected monitor. All camera/receiver control commands issued after this command apply to the camera currently displayed in the selected monitor.		
Command Syntax:	<SOH>A###<CR>	
Prerequisites:	NONE	
Example:	<SOH>A002<CR> (Monitor 2 selected.)	

B

Command Code	Function	Hexadecimal Value
B	CAMERA SELECT (also SALVO)	042
Camera Select switches desired camera video to a preselected monitor for viewing and control. All camera control commands issued after this command apply to this camera address until another camera or monitor selection command is issued. Command code B is also used to begin a salvo switch.		
Command Syntax:	<SOH>B####<CR>	
Prerequisites:	Prior monitor selection.	
Example:	<SOH>B0003<CR>	(Camera 3 or salvo 3 selected.)

C

Command Code	Function	Hexadecimal Value
C	RUN TOUR (also LOAD QUICK-ACCESS TOUR)	043
The Run Tour command starts the specified tour. The C command is also used to load the selected tour pattern into local memory for the monitor currently assigned to the host port. Note that the "9" is required in the syntax in order to load a quick-access tour. Use the tour's dial-up number for the Run Tour command. Use the tour number (not the dial-up number) for the Load Quick-Access Tour command.		
Command Syntax:	<SOH>C####<CR> <SOH>C9####<CR>	Runs a tour. Loads a quick-access tour.
Prerequisites:	Prior monitor selection.	
Example:	<SOH>C0005<CR>	(Runs tour 5.)
	<SOH>C9005<CR>	(Loads tour 5 for quick access.)

E

Command Code	Function	Hexadecimal Value
E9999	VIDEO CROSSPOINT RESET	045
Video Crosspoint Reset is used to reset the switcher crosspoints of all monitors. This command code is typically used by technicians during troubleshooting.		
Command Syntax:	<SOH>E9999<CR>	
Prerequisites:	Prior monitor selection.	
Example:	<SOH>E9999<CR>	(Resets the crosspoints of all monitors in the system.)

F

Command Code	Function	Hexadecimal Value
F	START QUICK-ACCESS TOUR (also VIEW ALARM VIDEO and NEXT STEP)	046
The Start Quick-Access Tour command initiates the tour previously loaded using the Load Quick-Access Tour command. This command code also initiates two other operations, depending upon system conditions. If multiple alarms are active, this command code will display the video from the next alarm in the alarm stack. For example, if alarms are activated in the order 1, 2, 3, and alarm video 2 is displaying, sending this command code will display alarm video 3. If a tour is in progress, this command code will advance to the next step in the tour.		
Command Syntax: <SOH>F<CR> Prerequisites: Prior monitor selection. Prior quick-access tour loaded. Example: <SOH>F<CR> (If no active alarms, a quick-access tour begins. If a tour is in progress, the next step in the tour will be performed, disregarding the dwell time.)		

G

Command Code	Function	Hexadecimal Value
G	PRESET RECALL	047
Preset Recall transmits a preset recall of the input address to the receiver addressed on the monitor currently assigned to the host computer. Preset address range = 01 to 80.		
Command Syntax: <SOH>G##<CR> Prerequisites: Prior selection of camera/receiver with preset capability. Example: <SOH>G04<CR> (Recalls preset 4.)		

H

Command Code	Function	Hexadecimal Value
H	PRESET STORE	048
Preset Store command causes the selected receiver to store the current positions of pan, tilt, zoom, and focus at the specified preset address (2-digit number, 01 - 80).		
Command Syntax: <SOH>H##<CR> Prerequisites: Prior selection of camera/receiver with preset capability. Example: <SOH>H04<CR> (Stores position at preset 4.)		

I

Command Code	Function	Hexadecimal Value
I	PAN LEFT	049
<p>Pan Left causes the selected receiver's pan/tilt unit to pan to the left until a new pan or null instruction is issued. Variable-speed receivers with 4-speed capability use the following commands:</p> <p style="text-align: center;">I = Pan left at slow speed. IX = Pan left at medium slow speed. IW = Pan left at medium fast speed. IWX = Pan left at fast speed.</p> <p>Variable-speed receivers with 256-speed capability require the syntax "I###" where:</p> <p style="text-align: center;">I = Pan left at slow speed. ### = Pan speed component (any number from 000-255).</p>		
Command Syntax:	<SOH>I<CR> (See above.)	
Prerequisites:	Prior camera selection to any monitor in system.	
Example:	<SOH>IWX<CR>	(Pan-and-tilt drive pans left at fast speed.)
	<SOH>I112<CR>	(Pan-and-tilt drive pans left at speed 112.)

J

Command Code	Function	Hexadecimal Value
J	PAN RIGHT	04A
<p>Pan Right causes the selected receiver's pan/tilt unit to pan to the right until a new pan or null instruction is issued. Variable-speed receivers with 4-speed capability use the following commands:</p> <p style="text-align: center;">J = Pan right at slow speed. JX = Pan right at medium slow speed. JW = Pan right at medium fast speed. JWX = Pan right at fast speed.</p> <p>Variable-speed receivers with 256-speed capability require the syntax "J###" where:</p> <p style="text-align: center;">J = Pan right at slow speed. ### = Pan speed component (any number from 000-255).</p>		
Command Syntax:	<SOH>J<CR> (See above.)	
Prerequisites:	Prior camera selection to any monitor in system.	
Example:	<SOH>J<CR>	(Pan/tilt unit pans right at slow speed.)
	<SOH>JW<CR>	(Pan/tilt unit pans right at medium fast speed.)

K

Command Code	Function	Hexadecimal Value
K	AUTOPAN	04B
The Autopan command causes the selected receiver's pan/tilt unit to either: (1) Begin Autopan mode or (2) Halt Autopan mode. In V1300R or V1301R receivers equipped with the V1300R-PV or V1301R-PV variable speed option, each Autopan input increments the A/P speed. (4 speed steps maximum; 5th input halts autopan.) NOTE: Manual pan input overrides and resets Autopan.		
Command Syntax:	<SOH>K<CR>	
Prerequisites:	Prior selection of camera/receiver with preset capability.	
Example:	<SOH>K<CR>	(Receiver sets/resets its autopan function.)

L

Command Code	Function	Hexadecimal Value
L	TILT DOWN	04C
Tilt Down causes the selected receiver's pan/tilt unit to move the tilt platform in the downward direction until a new tilt or null instruction is issued. Variable-speed receivers with 4-speed capability use the following commands: L = Tilt down at slow speed. LZ = Tilt down at medium slow speed. LY = Tilt down at medium fast speed. LYZ = Tilt down at fast speed. Variable-speed receivers with 256-speed capability require the syntax "L###" where: L = Tilt down command code. ### = Tilt speed component (any number from 000-255).		
Command Syntax:	<SOH>L<CR>	
Prerequisites:	Prior camera selection to any monitor in system.	
Example:	<SOH>L<CR>	(Pan-and-tilt unit tilts camera downward at slow speed.)
	<SOH>L005<CR>	(Pan-and-tilt unit tilts camera downward at speed 005.)

M

Command Code	Function	Hexadecimal Value
M	TILT UP	04D
<p>Tilt Up causes the selected receiver's pan/tilt unit to move the tilt platform in the upward direction until a new tilt or null instruction is issued. Variable-speed receivers with 4-speed capability use the following commands:</p> <p style="text-align: center;">M = Tilt up at slow speed. MZ = Tilt up at medium slow speed. MY = Tilt up at medium fast speed. MYZ = Tilt up at fast speed.</p> <p>Variable-speed receivers with 256-speed capability require the syntax "M###" where:</p> <p style="text-align: center;">M = Tilt up command code. ### = Tilt speed component (any number from 001 - 255).</p>		
Command Syntax:	<SOH>M<CR>	
Prerequisites:	Prior camera selection to any monitor in system.	
Example:	<SOH>M052<CR>	(Pan-and-tilt unit tilts camera upward at speed 52.)
	<SOH>MYZ<CR>	(Pan-and-tilt drive unit camera upward at fast speed.)

N

Command Code	Function	Hexadecimal Value
N	ZOOM OUT	04E
<p>Zoom Out causes the selected receiver to drive the zoom element of the motorized zoom lens in the outward direction until a new zoom or null instruction is issued. Zoom-out action yields a wide-angle view of area.</p>		
Command Syntax:	<SOH>N<CR>	
Prerequisites:	Prior camera selection to any monitor in system.	
Example:	<SOH>N<CR>	(Lens zooms out for wide angle.)

O

Command Code	Function	Hexadecimal Value
O	ZOOM IN	04F
Zoom In causes the selected receiver to drive the zoom element of the motorized zoom lens in the inward direction until a new zoom or null instruction is issued. Zoom-in action yields a close-up view of area.		
Command Syntax:	<SOH>O<CR>	
Prerequisites:	Prior camera selection to any monitor in system.	
Example:	<SOH>O<CR> (Lens zooms in for close-up.)	

P

Command Code	Function	Hexadecimal Value
P	FOCUS NEAR	050
Focus Near causes the selected receiver to drive the focus element of the motorized zoom lens in the near direction until a new focus or null instruction is issued.		
Command Syntax:	<SOH>P<CR>	
Prerequisites:	Prior camera selection to any monitor in system.	
Example:	<SOH>P<CR> (Lens begins to focus near.)	

Q

Command Code	Function	Hexadecimal Value
Q	FOCUS FAR	051
Focus Far causes the selected receiver to drive the focus element of the motorized zoom lens in the far direction until a new focus or null instruction is issued.		
Command Syntax:	<SOH>Q<CR>	
Prerequisites:	Prior camera selection to any monitor in system.	
Example:	<SOH>Q<CR> (Lens begins to focus far.)	

R

Command Code	Function	Hexadecimal Value
R	IRIS CLOSE	052
Iris Close causes the selected receiver to drive the focus element of the motorized zoom lens in the closed direction until a new iris or null instruction is issued. Refer to page 13 for details on use with the Surveyor Mini Dome.		
Command Syntax:	<SOH>R<CR>	
Prerequisites:	Prior camera selection to any monitor in system. Autoiris must be OFF!	
Example:	<SOH>R<CR> (Iris begins to close.)	

S

Command Code	Function	Hexadecimal Value
S	IRIS OPEN	053
Iris Open causes the selected receiver to drive the iris element of the motorized zoom lens in the open direction until a new iris or null instruction is issued. Refer to page 14 for details on use with the Surveyor Mini Dome.		
Command Syntax:	<SOH>S<CR>	
Prerequisites:	Prior camera selection to any monitor in system. Autoiris must be OFF!	
Example:	<SOH>S<CR> (Iris begins to open.)	

T

Command Code	Function	Hexadecimal Value
T	AUTOIRIS	054
The Autoiris command either: (1) activates or (2) deactivates the autoiris function at the selected receiver. NOTE: Receivers are placed in autoiris on power-up and when presets are recalled. This command is not applicable for Surveyor Mini Domes with revision 0 software, but may be used with revision 2 software (refer to page 14 for details).		
Command Syntax:	<SOH>T<CR>	
Prerequisites:	Prior camera selection to any monitor in system.	
Example:	<SOH>T<CR> (Autoiris sets/resets.)	

U

Command Code	Function	Hexadecimal Value
U	AUX1	055
Aux1 input causes the selected receiver to activate (or deactivate for latching devices only) its number 1 auxiliary relay. For latching devices, each aux command must be followed by the Null command. For momentary devices, the Null command deactivates the device.		
Command Syntax:	<SOH>U<CR>	
Prerequisites:	Prior camera selection to any monitor in system.	
Example:	<SOH>U<CR><SOH><CR>	(Latching Aux1 activates/deactivates.)
	<SOH>U<CR>	(Momentary Aux1 activates.)

V

Command Code	Function	Hexadecimal Value
V	AUX2	056
Aux2 input causes the selected receiver to activate (or deactivate for latching devices only) its number 2 auxiliary relay. For latching devices, each aux command must be followed by the Null command. For momentary devices, the Null command deactivates the device.		
Command Syntax:	<SOH>V<CR>	
Prerequisites:	Prior camera selection to any monitor in system.	
Example:	<SOH>V<CR><SOH><CR>	(Latching Aux2 activates/deactivates.)
	<SOH>V<CR>	(Momentary Aux2 activates.)

W

Command Code	Function	Hexadecimal Value
W	AUX3	057
Aux3 input causes the selected receiver to activate (or deactivate for latching devices only) its number 3 auxiliary relay. For latching devices, each aux command must be followed by the Null command. For momentary devices, the Null command deactivates the device. For receivers equipped with the variable-speed option, Aux3 controls a portion of the pan speed. In this case, Aux3 remains set until a Null command is issued.		
Command Syntax:	<SOH>W<CR>	
Prerequisites:	Prior camera selection to any monitor in system. (For pan speed, selection to receivers with variable-speed option.)	
Example:	<SOH>W<CR><SOH><CR>	(Latching Aux3 activates/deactivates.)
	<SOH>W<CR>	(Momentary Aux3 activates.)

X

Command Code	Function	Hexadecimal Value
X	AUX4	058
Aux4 input causes the selected receiver to activate (or deactivate for latching devices only) its number 4 auxiliary relay. For latching devices, each aux command must be followed by the Null command. For momentary devices, the Null command deactivates the device. For receivers equipped with the variable-speed option, Aux4 controls a portion of the pan speed. In this case, Aux4 remains set until a Null command is issued. Note that the Aux4 command will also activate a manual seize if the Auto/Manual setting is <i>Manual</i> (refer to <i>Nova 1400 Digital Control System Programming Manual X955</i> for details).		
Command Syntax:	<SOH>X<CR>	
Prerequisites:	Prior camera selection to any monitor in system. (For pan speed, camera selection to receivers with variable-speed option.)	
Example:	<SOH>X<CR><SOH><CR>	(Latching Aux4 activates/deactivates.)
	<SOH>X<CR>	(Momentary Aux4 activates.)

Y

Command Code	Function	Hexadecimal Value
Y	AUX5	059
Aux5 input causes the selected receiver to activate (or deactivate for latching devices only) its number 5 auxiliary relay. For latching devices, each aux command must be followed by the Null command. For momentary devices, the Null command deactivates the device. For receivers equipped with the variable-speed option, Aux5 controls a portion of the tilt speed. In this case, Aux5 remains set until a Null command is issued.		
Command Syntax:	<SOH>Y<CR>	
Prerequisites:	Prior camera selection to any monitor in system. (For tilt speed, camera selection to a receiver with variable-speed option.)	
Example:	<SOH>Y<CR><SOH><CR>	(Latching Aux5 activates/deactivates.)
	<SOH>Y<CR>	(Momentary Aux5 activates.)

Z

Command Code	Function	Hexadecimal Value
Z	AUX6	05A
Aux6 input causes the selected receiver to activate (or deactivate for latching devices only) its number 6 auxiliary relay. For latching devices, each aux command must be followed by the Null command. For momentary devices, the Null command deactivates the device. For receivers equipped with the variable-speed option, Aux6 controls a portion of the tilt speed. In this case, Aux6 remains set until a Null command is issued.		
Command Syntax:	<SOH>Z<CR>	
Prerequisites:	Prior camera selection to any monitor in system. (For tilt speed, camera selection to a receiver with variable-speed option.)	
Example:	<SOH>Z<CR><SOH><CR> (Latching Aux6 activates/deactivates. <SOH>Z<CR> (Momentary Aux6 activates.)	

[

Command Code	Function	Hexadecimal Value
[LENS SPEED	05B
Lens Speed input causes the selected receiver to change its current lens speed setting. Two steps of lens speed are typically available; however, the Surveyor Mini Dome has three speeds and powers up at medium speed. On power-up, the receivers are set for the slowest lens speed. Lens speed is independent of the pan/tilt variable-speed option.		
Command Syntax:	<SOH>[<CR>	
Prerequisites:	Prior camera selection to any monitor in system.	
Example:	<SOH>[<CR> (Lens speed altered.)	

\

Command Code	Function	Hexadecimal Value
\	ALARM ACKNOWLEDGE	05C
The Alarm Acknowledge command acknowledges alarms in the alarm stack.		
Command Syntax:	<SOH>\<CR>	
Prerequisites:	Alarm(s) active.	
Example:	<SOH>\<CR> (Alarm acknowledged.)	

]

Command Code	Function	Hexadecimal Value
]	COMMUNICATIONS FAILURE ACKNOWLEDGE	05D
The Communications Failure Acknowledgment command is used to acknowledge the announcement of communications failures detected by the Nova 1400 during a poll of receiver status.		
Command Syntax:	<SOH>]<CR>	
Prerequisites:	Receiver experiences communications failure.	
Example:	<SOH>]<CR>	(Communication failure acknowledged.)

^

Command Code	Function	Hexadecimal Value
^	ALARM ENABLE	05E
The Alarm Enable command is used to enable individual X-IA alarm inputs or groups of X-IA alarm inputs that were previously disabled by the Alarm Disable command. In the group format below, ###1 represents the lowest alarm number and ###2 represents the highest number.		
Command Syntax:	<SOH>^####<CR> (Individual) or <SOH>^###1,###2<CR> (Group)	
Prerequisites:	None	
Example:	<SOH>^0001,0016<CR>	(Enables alarm inputs 1-16.)

_

Command Code	Function	Hexadecimal Value
_ (ASCII underline)	ALARM DISABLE	05F
The Alarm Disable command is used to disable individual X-IA alarm inputs or groups of X-IA alarm inputs. Any alarm detected from a disabled input is ignored by the Nova 1400. In the group format, ###1 is the lowest number and ###2 is the highest number.		
Command Syntax:	<SOH>_####<CR> (Individual) or <SOH>_###1,###2<CR> (Group)	
Prerequisites:	None	
Example:	<SOH>_0002<CR>	(Disables alarm input 2.)

▪

Command Code	Function	Hexadecimal Value
▪	SYSTEM SPECIFICATION REPORT	060
The System Specification Report causes the Nova 1400 to output a list of system specific operating parameters.		
Command Syntax:	<SOH>'<CR>	
Prerequisites:	None	
Example:	<SOH>'<CR>	(Transmits System Specification Report.)

a

Command Code	Function	Hexadecimal Value
a	KEYPAD ENABLE	061
This command causes the Nova 1400 to re-enable any keypad that was disabled by the Keypad Disable command. The Nova 1400 then includes this keypad in its normal routines.		
Command Syntax:	<SOH>a###<CR>	
Prerequisites:	None	
Example:	<SOH>a001<CR>	(Enables keypad 1.)

b

Command Code	Function	Hexadecimal Value
b	KEYPAD DISABLE	062
This command causes the Nova 1400 to delete the selected keypad from the active poll and service routines. This effectively turns the keypad off and renders the keypad non-operational. The Nova 1400 sends an OFF message to the selected keypad. The keypad can only be brought back on-line by the Keypad Enable command from the host computer.		
Command Syntax:	<SOH>b###<CR>	
Prerequisites:	None	
Example:	<SOH>b001<CR>	(Disables keypad 1.)

c

Command Code	Function	Hexadecimal Value
c	KEYPAD/MONITOR ASSIGNMENT	063
This command causes the Nova 1400 to assign the selected keypad to the input monitor address.		
Command Syntax:	<SOH>cKK,MMM<CR> (KK = keypad number, MMM = monitor number)	
Prerequisites:	Keypad selected must be on-line and enabled.	
Example:	<SOH>c01,008<CR> (Assigns keypad 1 to monitor 8.)	

d

Command Code	Function	Hexadecimal Value
d	REPORT ACTIVE ALARMS	064
This command causes the Nova 1400 to output to the host computer a list of cameras displaying alarm video for all monitors in the system.		
Command Syntax:	<SOH>d<CR>	
Prerequisites:	None	
Example:	<SOH>d<CR> (Reports alarm status.)	

e

Command Code	Function	Hexadecimal Value
e	REPORT COMMUNICATIONS FAILURE(S)	065
This command causes the Nova 1400 to output all receiver addresses of receivers currently experiencing communications failures. Each four-digit address in the report is separated by a comma. The end of the report is marked by 0000.		
Command Syntax:	<SOH>e<CR>	
Prerequisites:	None	
Example:	<SOH>e<CR> (Reports Communications Failure status.)	

f

Command Code	Function	Hexadecimal Value
f	REPORT MONITOR ASSIGNMENTS	066
The Monitor Assignment Report command causes the Nova 1400 to output the current camera-to-monitor assignment(s) for the monitor or group of monitors selected. In the group format, f##1 represents the lowest monitor number and f##2 represents the highest monitor number.		
Command Syntax:	<SOH>f###<CR> (Individual) or <SOH>f##1,##2<CR> (Group)	
Prerequisites:	None	
Example:	<SOH>f003<CR>	(Reports number of camera assigned to monitor 3.)

g

Command Code	Function	Hexadecimal Value
g	REPORT RECEIVER STATUS	067
This command causes the Nova 1400 to poll and report the status of the selected receiver.		
Command Syntax:	<SOH>g####<CR>	
Prerequisites:	None	
Example:	<SOH>g0024<CR>	(Reports status of receiver 24.)

h

Command Code	Function	Hexadecimal Value
h	REPORT KEYPAD ASSIGNMENTS	068
This command causes the Nova 1400 to report the current monitor-to-keypad assignment(s) for the keypad or group of keypads selected. In the group format, h#1 represents the lowest keypad number and h#2 represents the highest number.		
Command Syntax:	<SOH>h##<CR> (Individual) or <SOH>h#1,#2<CR> (Group)	
Prerequisites:	None	
Example:	<SOH>h04,07<CR>	(Reports monitors assigned to keypads 4-7.)

i

Command Code	Function	Hexadecimal Value
i	REPORT TOUR	069
This command causes the Nova 1400 to output the assignments of a selected tour. This command takes two forms as shown below.		
Command Syntax:	<SOH>i###<CR> <i>or</i> <SOH>i###P<CR>	(Quick-access tour, ### = monitor number.) (Tour, ### = tour number.)
Prerequisites:	For the <SOH>i###<CR> command code, a quick-access tour must be loaded.	
Example:	<SOH>i006P<CR>	(Reports tour assignments for tour 6.)

j

Command Code	Function	Hexadecimal Value
j	REPORT MONITOR STATUS	06A
The Monitor Status Report command causes the Nova 1400 to output the current status of the selected monitor.		
Command Syntax:	<SOH>j###<CR>	
Prerequisites:	None	
Example:	<SOH>j001<CR>	(Reports status of monitor 1.)

k

Command Code	Function	Hexadecimal Value
k	REPORT KEYPAD STATUS	06B
The Keypad Status Report command causes the Nova 1400 to output the current status of the selected keypad.		
Command Syntax:	<SOH>k##<CR>	
Prerequisites:	None	
Example:	<SOH>k02<CR>	(Reports status of keypad 2.)

l

Command Code	Function	Hexadecimal Value
l	REPORT CAMERA SEIZE	06C
The Camera Seize Report command causes the Nova 1400 to test and report the seized condition of the selected camera.		
Command Syntax:	<SOH>l####<CR>	
Prerequisites:	None	
Example:	<SOH>l0005<CR>	(Reports seize condition of camera 5.)

m

Command Code	Function	Hexadecimal Value
m	REPORT MONITOR SEIZE	06D
The Monitor Seize Report command causes the Nova 1400 to test and report the seized condition of the selected monitor.		
Command Syntax:	<SOH>m###<CR>	
Prerequisites:	None	
Example:	<SOH>m002<CR>	(Reports seize condition of monitor 2.)

n

Command Code	Function	Hexadecimal Value
n	REPORT KEYPAD SEIZE	06E
The Keypad Seize Report command causes the Nova 1400 to test and report the seized condition of the selected keypad.		
Command Syntax:	<SOH>n##<CR>	
Prerequisites:	None	
Example:	<SOH>n02<CR>	(Reports seize condition of keypad 2.)

o

Command Code	Function	Hexadecimal Value
o	ENABLE ALARM NOTIFICATION	06F
This command causes the Nova 1400 to report the first alarm placed on the alarm stack.		
Command Syntax:	<SOH>o<CR>	
Prerequisites:	None	
Example:	<SOH>o<CR>	(Enables automatic alarm notification.)

p

Command Code	Function	Hexadecimal Value
p	DISABLE ALARM NOTIFICATION	070
This command causes the Nova 1400 to turn off automatic reporting of the first alarm that is placed in the alarm stack.		
Command Syntax:	<SOH>p<CR>	
Prerequisites:	None	
Example:	<SOH>p<CR>	(Disables automatic alarm notification.)

q

Command Code	Function	Hexadecimal Value
q	REPORT ALARM ENABLE STATUS	071
The Alarm Enable Status Report command causes the Nova 1400 to transmit a report of the enable/disable status of X-IA and RS-232 alarm inputs.		
Command Syntax:	<SOH>q<CR>	
Prerequisites:	None	
Example:	<SOH>q<CR>	(Nova 1400 sends alarm enable report.)

r

Command Code	Function	Hexadecimal Value
r	SYSTEM DATA UPLOAD/DOWNLOAD	072
<p>This command transfers data to/from the Nova 1400. A number specifies the type of transfer involved.</p> <p>1 = Send global configuration via RS-232 port to the host computer. 2 = Receive global configuration via RS-232 port at the host computer. 3 = Send TDT data via RS-232 port to the host computer. 4 = Receive TDT data via RS-232 port at the host computer.</p>		
Command Syntax:	<SOH>r#<CR>	
Prerequisites:	None	
Example:	<SOH>r4<CR> (Receive system title data.)	

t

Command Code	Function	Hexadecimal Value
t	READ CURRENT TIME AND DATE	074
<p>This command is used by the host computer to request the time and date. The Nova 1400 responds with the time in hours:minutes:seconds followed by the date in month/day/year format.</p>		
Command Syntax:	<SOH>t<CR>	
Prerequisites:	None	
Example:	<SOH>t<CR> (Transmit time and date to host computer.)	

thh:mm:ss	Function	
	SET TIME	
Set Time causes the host computer to set the Nova 1400 internal clock to the specified time in hour:minute:second format. The time is sent in three 2-digit groups separated by colons (hh:mm:ss). The time must be specified in the 24-hour mode.		
Command Syntax:	<SOH>thh:mm:ss<CR>	
Prerequisites:	None	
Example:	<SOH>t17:05:00<CR> (Sets the time to 5:05 P.M.)	
tmm/dd/yy	Function	
	SET DATE	
Set Date causes the host computer to set the Nova 1400 internal clock to the specified date in month/day/year format. The date is sent in the three 2-digit groups separated by slashes (mm/dd/yy).		
Command Syntax:	<SOH>tmm/dd/yy<CR>	
Prerequisites:	None	
Example:	<SOH>t09/09/91<CR> (Sets date to Sept 9,1991.)	
tmm/dd/yy hh:mm:ss or thh:mm:ss mm/dd/yy	Function	
	SET DATE AND TIME	
Set Date And Time causes the host computer to set the Nova 1400 internal clock to the specified date and time. The date is sent in month/day/year format. It is specified in three 2-digit groups separated by slashes (mm/dd/yy). The time is specified in 24-hour format (hour:minute:seconds) as three 2-digit groups separated by colons (hh:mm:ss). The time and date must be separated by a blank space.		
Command Syntax:	<SOH>tmm/dd/yy hh:mm:ss<CR> or <SOH>thh:mm:ss mm/dd/yy<CR>	
Prerequisites:	None	
Example:	<SOH>t09/09/91 17:05:00<CR> (Sets the date to Sept 9, 1991 and time to 5:05 P.M.) or <SOH>t17:05:00 09/09/91<CR>	

u....R

Command Code	Function	Hexadecimal Value
u....R	ALARM POINT RESET	075
The Alarm Point Reset command is equivalent to an alarm reset for the designated alarm. The Nova 1400 responds as though that alarm has been deactivated.		
Command Syntax:	<SOH>u####R<CR>	
Prerequisites:	Prior Alarm Point Set issued for this alarm point.	
Example:	<SOH>u0001R<CR> (Resets alarm point 1.)	

u....S

Command Code	Function	Hexadecimal Value
u....S	ALARM POINT SET	075
The Alarm Point Set command is equivalent to an alarm input going active for the designated alarm. The Nova 1400 responds as though that alarm has been activated. Only the Alarm Point Reset command (from the host computer) can restore the alarm to an inactive state.		
Command Syntax:	<SOH>u####S<CR>	
Prerequisites:	None	
Example:	<SOH>u0001S<CR> (Sets alarm point 1.)	

Nova 1400 Responses

The Nova 1400 acknowledges each host command string with a status character. There are four possible responses:

- An ASCII asterisk (*) indicates a framing error (a command was received without the proper stop bit).
- An ASCII question mark (?) indicates a command error (e.g., syntax errors, parameter errors, etc.).
- An ASCII (@) indicates that there is a parity error.
- An ASCII dollar sign (\$) indicates commands have been accepted for processing.

The Nova 1400 also sends a response (ASCII exclamation mark !) when an alarm is detected (if multiple alarms are detected, a response will only be sent for the first alarm; see *Alarm Operation* on page 16 for details).

Note: Acknowledgment of a command does not automatically mean that it has been executed. There are conditions under which the Nova 1400 fails to execute or overrides a command (e.g., alarm acknowledge command when there are no alarms pending or preset command to a receiver that is not equipped with preset option). Table 2 on page 5 lists the possible reasons for command failure or override. The description of each command indicates which conditions apply.

The host computer should not transmit a new command until the preceding command has been acknowledged with an ASCII dollar sign (\$). In the event of an error, the host computer should retransmit the command.

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Shipping Instructions

Use the following procedure when returning a unit to the factory:

1. Call or write Vicon for a Return Authorization (R.A.) at one of the locations listed below. Record the name of the Vicon employee who issued the R.A.

Vicon Industries Inc.
89 Arkay Drive
Hauppauge, NY 11788
Phone: 516-952-CCTV; Toll-Free: 1-800-645-9116; Fax: 516-951-CCTV

For service or returns from countries in Europe, contact

Vicon Industries (U.K.) Ltd
Brunel Way
Fareham, PO15 5TX
United Kingdom
Phone: 44/(0)1489/566300; Fax: 44/(0)1489/566322

2. Attach a sheet of paper to the unit with the following information:
 - a. Name and address of the company returning the unit
 - b. Name of the Vicon employee who issued the R.A.
 - c. R.A. number
 - d. Brief description of the installation
 - e. Complete description of the problem and circumstances under which it occurs
 - f. Unit's original date of purchase, if still under warranty
3. Pack the unit carefully. Use the original shipping carton or its equivalent for maximum protection.
4. Mark the R.A. number on the outside of the carton on the shipping label.

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