# Sennetech <br> SCT-1004 <br> CAMERA CONTROL CODE TRANSLATOR VICON RS-422 to BOSCH BIPHASE Ver. 5.0 

## PRODUCT DESCRIPTION

The SCT-1004 is a Vicon to Bosch code translator designed to permit control of Bosch cameras from Vicon VPS series controllers. It receives Vicon RS-422 commands and transmits the appropriate commands in Bosch biphase format.

Version 5.0 adds the ability to configure the code translator for Vicon RS-422 data at 4800 baud or 9600 baud

The biphase output can be limited to fixed speed commands for compatibility with older Burle receivers. There are four independent biphase outputs.

The SCT-1004 will appear to the Vicon controller as a group of responding receiver/drivers. Internal switches set the low camera number and the high camera number to which the translator will respond.

Bosch aux and preset commands up to 1023 can be sent using selected sequences of Vicon aux and preset commands.

Input and output connections are made with removable screw terminals.
There is an optional 19" rack mount panel (one rack unit high).

## SPECIFICATIONS

| SIZE: | $5.57 \mathrm{MW} \times 1.52 \mathrm{H} \times 5.45 \mathrm{D}$ |
| :--- | :--- |
| WEIGHT: | 1.5 lbs. |
| POWER: | 12Volt to 15 Volt AC or DC at 75 ma |
| INDICATORS: | Front panel LEDs: Power, Rx, Tx, \& Pgm |
| VICON RS-422 CMD DATA IN: | (1) 3-pin mating screw terminal connector |
| VICON RS-422 RSP OUT: | (1) 3-pin mating screw terminal connector |
| BOSCH BIPHASE OUTPUTS: | (4) 3-pin mating screw terminal connectors |

## SETTING THE SWITCHES

To set the configuration switches, remove either the front or rear panel, which is secured by two screws. Then slide the cover back to expose the switches. The switches can be changed while the code translator is powered up and the new settings will take effect immediately.


The address switches have the following values, read from left to right. $\square$
The camera numbers are entered by setting to ON the switches whose values total up to the desired number. For example, to enter the number 141, you would set to ON the switches that have values $128+8+4+1=141$. The Camera Address Switch Setting Chart shows the settings for numbers 1 to 256 .

Note: If the Vicon response line is not used, set the low address to [1] and the high address to [0] so that the code translator will translate commands for all 256 camera addresses.


|  |  |  |  |
| :---: | :---: | :---: | :---: |
| 001 | 11 | 1 |  |
| 002 | 111 | 1 |  |
| 003 | 1 | $\square 1$ |  |
| 004 | 11 | 1 |  |
| 005 | -1 | 11 |  |
| 006 | 111 | 1 |  |
| 007 | 11 | 1 |  |
| 008 | 1 | 1 |  |
| 009 | 11 | 1 | 1 |
| 010 | 111 | 11 |  |
| 011 | $1 / 1$ | 1 |  |
| 012 | 11 | 1 |  |
| 013 | -1 | 11 | 1 |
| 014 | 11 | 11 | 1 |
| 015 | $1 / 1$ | 1 |  |
| 016 | 11 | 1 |  |
| 017 | -1 | 1 | - |
| 018 | 11 | 11 | 1 |
| 19 | $1 / 1$ | 1 | 1 |
| 020 | 111 | 11 | 1 |
| 021 | -1 | 11 |  |
| 22 | 11 | 11 | - |
| 23 | 11 | 11 | 1 |
| 024 | 111 | 11 | 1 |
| 025 | 1-1 | 1 | - |
| 026 | 11 | 11 | - |
| 027 | $1 /$ | 1 | 1 |
| 028 | 11 | 11 | 1 |
|  | 11 | 11 | - |
| 030 | $1 / 1$ | 11 | 1 |
| 031 | -1 | 1 | 1 |
| 032 | 11 | 1 | , |
|  | 1 1 | 11 | 1 |
|  | 111 | 11 | 11 |
|  | 11 | 1 | 1 |
|  | -1/ | I | 1 |
|  | 11 | 1 | 1 |
|  | 11 | 11 | 1 |
|  | 11 | 1 | $1]$ |
|  | 111 | 1 | 1 |
|  | - 1 | $\square 1$ | 1 |
|  | 11 | 1 | 11 |
|  | 1 1 | 1 | $1]$ |
|  | -1 | 1 | 1 |
|  | -1 | 1 | 1 |
|  | 1 1 1 | 11 | 1 |
| 047 | 11 | 1 | $1]$ |
|  | 1 1 | 11 | 1 |
|  | - | 1 | 1 |
| 050 | 111 | 11 | 11 |
| 051 | 1-1 | 11 | 1 |
| 052 | 1-1 | 11 | 1 |
| 053 | - | 1 | 1 |
| 054 | 111 | 11 | 11 |
| 055 | 11 | 1 | 1 |
| 056 | 1-1 | 1 | 1 |
| 057 | 1 | 1 | 1 |
| 058 | 11 | 1 | 11 |
| 059 | $1 / 1$ | 1 | 1 |
| 060 | -1 | 11 | 1 |
|  | $\square 1$ | 11 |  |
|  | 111 | 11 |  |
|  | 11 | 11 | 1 |


|  |  |
| :---: | :---: |
| 065 | 1 -1] |
|  | 1111 |
| 067 | 1111 |
| 068 | 111 |
| 069 | 1 -1 |
| 070 | 111 |
| 071 | 11 |
| 072 | 111 |
| 073 | 1111 |
| 074 | 1111 |
| 075 | 111 |
| 076 | 11 |
| 077 | 1-11 |
| 078 | 1111 |
| 079 | 1111 |
| 080 | 1111 |
| 081 | -1-1 |
| 082 | 1111 |
| 083 | 1111 |
| 084 | 1111 |
| 085 | -1-1 |
| 086 | 1111 |
| 087 | 1111 |
| 088 | $1 / 11$ |
|  | 1111 |
| 090 | 1111 |
| 091 | 1111 |
| 092 | 1111 |
|  | 1111 |
| 094 | 1111 |
|  | 1111 |
| 096 | $11 / 11$ |
| 097 | $1 / 1 / 1$ |
|  | 1111 |
|  | $1 / 1 / 1$ |
| 100 | $11 / 11$ |
| 101 | 11-1 |
|  | 1111 |
|  | $11 / 1$ |
| 104 | $11 / 1 / 1$ |
|  | 11-1 |
|  | 1111 |
| 107 | $1 / 1 / 1$ |
| 108 | 1111 |
|  | $11 / 1$ |
|  | 11111 |
| 111 | 1111 |
| 112 | 1 1-1/ |
| 113 | 1 1/11 |
| 114 | 1111 |
| 115 | 1-1/1 |
| 116 | 1-1/1 |
| 117 | $11 / 1$ |
| 118 | 1 1 1 1 1 |
| 19 | $1 / 1 / 1$ |
| 120 | 1 1/1-1 |
| 121 | $1 / 1 / 1$ |
| 122 | 11111 |
| 123 | 1/1/11 |
| 124 | 1-1/11 |
| 125 | $1 \rightarrow 1$ |
| 126 | 11111 |
|  | 11111 |



|  |  |
| :---: | :---: |
|  | 1 |
|  | 1111 |
|  | 1 1 1 |
|  | 1 1 1 1 |
|  | - 1 |
|  | 1111 |
|  | 111 |
|  | 1 1-1 |
|  | 1 1 |
|  | 1111 |
|  | 1 1 1 |
|  | 1 1 1 |
|  | 1 1 |
|  | 1711 |
|  | 111 |
|  | 1-11 |
|  | 11-1 |
|  | 1711 |
|  | 1-11 |
|  | $1 / 11$ |
|  | 1 1-1 |
|  | 1111 |
|  | 11/11 |
|  | $1 / 1 / 1$ |
|  | $11 / 1$ |
|  | $1 / 11$ |
|  | $1 / 1 / 1$ |
|  | $1 / 1 / 1$ |
|  | $1 / 11$ |
|  | 111 |
|  | 1111 |
|  | $11 / 111$ |
|  | 11 |
|  | 111 |
|  | 1 |
|  | 11111 |
|  | 1-1 |
|  | 11111 |
|  | 1-1/ |
|  | 1-1111 |
|  | 1 1-1 |
|  | 111 |
|  | 1-111 |
|  | 1111 |
|  | 1 1-1 |
|  | 111 |
|  | 11 |
|  | 1111 |
|  | 1111 |
|  | 111 |
|  | 11 |
|  | $1 / 11$ |
|  | 1-1 |
|  | 111 |
|  | 111 |
|  | 1-1/1 |
|  | $\square 1$ |
|  | 1111 |
|  | 1111 |
|  | 1-1-1 |
|  | 111 |
|  | 11 |
|  |  |

Connect the code translator's input to a Vicon command data out line that would normally be sent to a Vicon camera.

Vicon receivers send status data back to the controller on the response lines. Since there is no data coming back from the Bosch receivers, the translator sends a "null" response. Most Vicon systems can be set up to work without the response. In these systems, leave the line disconnected. For these systems, you can leave the camera address switches set to encompass all 256 addresses.

If you hook up the response line, the translator will appear to the controller as a group of cameras responding to the camera numbers determined by the settings of the camera address switches. Make sure the camera address switches are set so that the translator will not respond to the same camera numbers that existing Vicon receivers in the system are responding to.

Note: The code translator will not pass any data to cameras outside the switch settings.

## INSTALLATION



To install the case on the rack mount frame, remove the front panel and the plastic bezel. The rack mount frame takes the place of the bezel as shown below.


## OPERATION

Vicon Pan, Tilt, Zoom, Focus, and Iris commands are converted to the equivalent Bosch commands.

The [A/P] key sends Bosch On 2, which Autodomes interpret as Autopan between limits.
Version 5.0 differs from earlier versions in sending Preset and Aux commands. The "programming mode" with specific look-up tables is no longer used. Instead, all preset and aux numbers up to 1023 can be sent. Since Vicon supports 99 presets and 6 aux commands, an alternate method is used to send these high numbers.

Vicon [Pgm Pset] \& [Run Pset] correspond to Bosch Set and Shot commands.

## Preset Commands

The first 99 preset commands can be commanded directly from the Vicon keyboard. To send higher numbers, a base number is first stored in memory, then a number from $1 \sim 99$ is added to that base number to determine the actual preset number.

The base numbers are multiples of 100 or odd multiples of 50 .
To store a base number, press and release [Aux4] then follow with a [Run Pset] or [Pgm Pset] [40~59] using the following table.
[Pset][41] stores 100
[Pset][42] stores 200
[Pset][43] stores 300
[Pset][44] stores 400
[Pset][45] stores 500
[Pset][46] stores 600
[Pset][47] stores 700
[Pset][48] stores 800
[Pset][49] stores 900
[Pset][50] stores 50
[Pset][51] stores 150
[Pset][52] stores 250
[Pset][53] stores 350
[Pset][54] stores 450
[Pset][55] stores 550
[Pset][56] stores 650
[Pset][57] stores 750
[Pset][58] stores 850
[Pset][59] stores 950

If any command other than one from the table is sent following [Aux4], no number is stored. Once a base number is stored, if the very next command to that camera is [Run Pset] or [Pgm Pset] [1~99], that number will immediately be added to the base number and sent. At this point, the base number is cleared so the entire process must be used to send another high preset.

## Example:

To send Bosch Set 101 command (Set Autopan Left Limit), use the following sequence:
[Aux4] (Prepare to store a base number)
[Pgm Pset][50] (Store the base number 50)
[Pgm Pset][51] (Send the Bosch Set 101 command <50+51>)
To send Bosch Shot 102 command (Display Autopan Right Limit), use the following sequence:
[Aux4] (Prepare to store a base number)
[Run Pset][50] (Store the base number 50)
[Run Pset][52] (Send the Bosch Shot 102 command <50+52>)
The front panel Pgm indicator illuminates when a base number is stored.

## Auxiliary Commands

Because Vicon has only six aux commands, they are not used to send Bosch On/Off commands directly. First an aux number must be stored. Then pressing [Aux1] will send Off\# and pressing [Aux2] will send On\#. Only one command is sent each time the key is pressed. For Bosch functions that use aux numbers to change values, the key may have to be pressed repeatedly.

To store an aux number, press [Aux3] followed by [Run Pset][1~99]. The Preset number will be stored and that is the number that will be sent by pressing [Aux1] or [Aux2]. If no aux number has been stored, no commands will be sent. The aux number will stay in memory as long as only [Aux1] or [Aux2] is sent to that camera. If any other command is sent to that camera, the stored aux number will be cleared.

Example:
To send Bosch On or Off 90 command, (Lock/Unlock Dome Programming):

| $[$ Aux3] | (Prepare to store an aux number) |
| :--- | :--- |
| $[$ Run Pset $][90]$ | (Store the aux number 90) |
| $[$ Aux2] | (Send the Bosch On 90 command - lock dome) |
| [Aux1] | (Send the Bosch Off 90 command - unlock dome) |
| (These commands can be repeated until the aux number is cleared.) |  |

## Auxiliary Commands Above 99

The above method works for numbers up to 99 . For higher numbers, a base number can first be stored which will be added to the preset number to determine the stored aux number. The base number is stored the same way as it is for high presets, i.e. [Aux4] plus [Run Pset][1~99]. Then press [Aux3] to signal the code translator that the ensuing [Run Pset][1~99] is to store an aux number, rather than sending a high preset number.

Example:
To send Bosch On or Off 997 command (Display fast address),

| [Aux4] | (Prepare to store a base number) |
| :---: | :---: |
| [Run Pset][59] | (Store the base number 950) |
| [Aux3] | (Prepare to store an aux number) |
| [Run Pset][47] | (Store the aux number $997<950+47>$ ) |
| [Aux2] | (Send the Bosch On 997 command) |
| [Aux1] | (Send the Bosch Off 997 command) |
| (These | ds can be repeated until the aux number is cleared.) |

Again, use [Aux3] to store an aux number and use [Aux4] to store a base number.
These stored numbers are only applied to commands for the camera address that stored the number. If a base number has been stored for Camera 23, for example, any other camera can be sent a normal preset.

Only one aux number is stored at a time. If an operator has stored an aux number for Camera 23, for example, and then another operator sends the storing sequence for Camera 7, the aux number for Camera 23 is cleared and a new one is stored for Camera 7.

In addition to the Tx indicator, the Pgm indicator illuminates whenever a base number is stored. This can be used to verify that a high preset or high aux is sent.

If the Tx indicator does not flash when an [Aux1] or [Aux2] command is sent, there is no aux number stored for that camera number.

