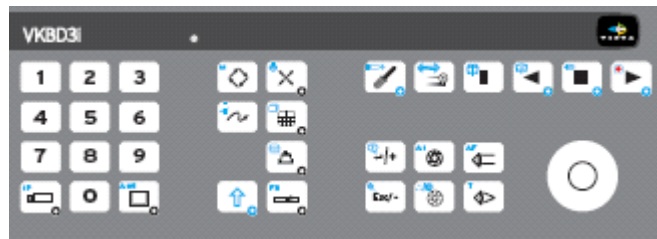




## *VKBD3i*

### Installation and User Manual



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## Electromagnetic Compatibility (EMC)

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This is a Class A product, in a domestic environment it may cause radio interference, if this is the case the user may be required to take remedial measures.

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## Manufacturer's Declaration of Conformance

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A Declaration of Conformity in accordance with the following EU standards has been made and is kept on file at Norbain SD Ltd. Norbain House, Eskdale Road Wokingham, RG41 5TS. The manufacturer declares that the product supplied with this document is compliant the provisions of the EMC Directive 89/336 EEC, the Low Voltage Directive LVD 73/23, the CE Marking Directive 93/68 EEC, the RoHS directive 2002/95/EC, and all associated amendments.

## Specification subject to change without notice

This document is intended to provide accurate information; however, the information contained herein is subject to change without notice. Vista, in keeping pace with technological advances, is a company of product innovation. Therefore, it is difficult to ensure that all information provided is entirely accurate and up-to-date. Vista accepts no responsibility for any inaccuracies or omissions and specifically disclaims any liabilities, loss or risk, personal or otherwise which is incurred as a consequence, directly or indirectly, of the use and/or application of any of the contents of this document.

## BEFORE YOU BEGIN

Read these instructions before installing or operating this product. Retain this document for future reference.

Note: This installation should be made by a qualified service person and should conform to local codes.

This manual provides installation and operation information. To use this document, you must have the following minimum qualifications:

- A basic knowledge of CCTV systems and components
- A basic knowledge of electrical wiring and low-voltage electrical connections

## INTENDED USE

Only use this product for the designed purpose; refer to the product specification and user documentation.

## CUSTOMER SUPPORT

For assistance in installing, operating, maintaining and troubleshooting this product refer to this document and any other documentation provided. If you still have questions, please contact Norbain Technical support and Services, during normal business hours (Monday through Friday, excluding holidays, between 8a.m. and 7p.m.). +44 (0) 118 944 0123.

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RG41 5TS

[www.vista-cctv.com](http://www.vista-cctv.com) for our online library

[tsg@norbain.com](mailto:tsg@norbain.com) for technical support

Note: You should be at the equipment and ready with details of both the installation and the problem before calling technical support.

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## Important Safeguards

### READ INSTRUCTIONS

All the safety and operating instructions should be read before the unit is operated. Retain this document for future reference.

### POWER SOURCES

This unit should be operated only from the type of power source indicated on the manufacturer's label.

### SERVICING

Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

### VENTILATION

Ensure unit is properly ventilated to protect from overheating.

**All the safety and operating instructions should be read before the unit is operated.**



To prevent fire or shock hazard, do not expose this equipment to rain or moisture. The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user of this equipment that there are dangerous voltages within the enclosure, which may be of sufficient magnitude to constitute a risk of electric shock.

### WARNING

This is a class "A" product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures. Lightning Strike: The unit has some inbuilt protection for lightning strike; however, it is recommended that isolation transformers be fitted to the system in areas where lightning is a common occurrence.

### CE MARK



If this product is marked with the CE symbol, it indicates compliance with all applicable directives. Directive 89/336/EEC.

### WEEE STATUS



All our products that are covered by the WEEE directive are marked with the "Wheeled Bin" logo as required by the Directive. Where we have a producer responsibility under the WEEE Directive, we plan to join a national WEEE Producer Compliance Scheme in the UK and in Malta when their WEEE legislation is finalised. Anybody responsible for importing this product from the UK into another EU member state will have to ensure that they comply with the WEEE laws applicable in that country.

### RoHS STATUS



From 1st July 2006 new electrical and electronic equipment put onto the market in the EU must not contain any of the restricted substances referred to in Article 4(1) of the RoHS Directive at concentrations in excess of those permitted under the Directive unless covered by an Exemption. This unit is in compliance with the requirements of the RoHS Directive.

## Unpacking

Keep your packaging for use should your keyboard be stored or need to be returned. Included in the box will be:

- VKBD3i Keyboard
- RJ45 lead patch lead
- Rubber feet for keyboard
- RJ45 break out box
- These instructions

Check the product number on the serial number label. If you have the incorrect item or it is damaged then inform your agent and the carriers immediately. If the equipment is incorrect or damaged, do not attempt to use it.

### Equipment range controlled by VKBD3i

The VKBD3i is a CCTV control keyboard that utilises two proprietary EIA RS485 control protocols, BaxNet protocol for control of the Vista DVRs and Matrices, and Vista VPD protocol for the direct control of Vista cameras and Domes. A single keyboard can operate multiple units (device dependant) or up to 4 keyboards can be used to control a single device.

The VKBD3i is compatible with the following devices:

- Vista PowerDome 1 and 2
- Vista PowerDome Lite 4 and 5
- Vista Columbus DVRs (complete range)
- Vista Blade DVRs (complete range)
- Vista Matrices (VDC and VMS ranges)
- Vista Eclipse Domes
- Vista VEC43 Camera Range
- Vista VZM camera range

While the keyboard may control other, non-Vista BaxNet devices these are not supported by Vista and we do not expect full compatibility.

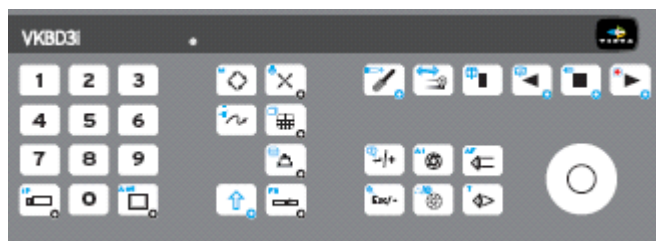
### Powering the VKBD3i Keyboard

#### **For the Navigator DVR, Columbus Triplex DVR, VMS Matrix and VDC1604 Matrix**

If the keyboard is within 2m of either a Columbus Triplex DVR or VDC1604 Matrix, then the keyboard can be powered via the RJ45 lead. If the unit is more than 2m from the keyboard then an external power adaptor, e.g. the VPSU500/12, will be required. When external power is used or multiple devices are connected together, it is important that pins 1, 2, 7 & 8 are not connected on the interconnecting RS485 cables.

#### **For Vista Blade DVR**























For the Blade DVR a separate power supply will be required, e.g. the VPSU500/12, this simply plugs into the 2.1mm jack socket on the rear of the keyboard.



## Keyboard Operation


### Keyboard buttons symbols

The keyboard contains 31 tactile buttons, any buttons that have a blue symbol on the top left corner, have a dual function, this second function is access by using the blue shift key. Please note that not all key presses are available on all Control units.

	<b>Shift Key:</b> Used to select functions displayed in Blue on the keys. Below shifted functions are shown in square brackets [].
	<b>Camera &amp; [IP camera] Select Key:</b> Select the camera number followed by this key. For IP cameras first press the Shift key.
	<b>Monitor &amp; [Audio] Select Key:</b> Select the monitor number followed by this key. For Audio first press the Shift key.
	<b>Dome Preset Tour &amp; [DVR Menu] Key:</b> For Preset Tour select number followed this key. For the DVR Menu first press the Shift key.
	<b>Dome Preset &amp; [Dome Menu] Key:</b> Select the preset number followed by this key. For the Dome menu, while in Telemetry Mode, first press the Shift key.
	<b>Dome Learn Tour &amp; [180 degree Flip] Key:</b> Select the Learn Tour number followed by this key. To make a 180 Degree rotational Flip, while in Telemetry Mode, first press the Shift key.
	<b>Multi-screen &amp; [Sequence Key]:</b> For multi-screen option repeat key presses till desired screen option is displayed. For Sequence first press the Shift key.
	<b>Alarm Acknowledge &amp; [Printer] key:</b> To acknowledge Alarms press this key. For the direct printer option first press the Shift key (for future use).
	<b>Unit Select, [Function] &amp; [DVR Mode] Key:</b> Select the unit number followed by this key. To run a Macro Function press Shift then Fn Number then Fn key. On the Blade & Navigator DVRs if you press Shift & Fn the P/T/Z keys will control the DVR's play back speed and direction.
	<b>DVR Search &amp; [Camera Power] Key:</b> To bring up the search menu press this key. For the Camera Power Auxiliary, while in Telemetry Mode, first press the Shift key.
	<b>DVR Archive &amp; [Auto Pan] Key:</b> To bring up the Quick Archive menu press this key (for future use, archive is done via Search). For Auto Pan, while in Telemetry Mode, first press the Shift key.
	<b>Pause, Freeze &amp; [Washer] Key:</b> To Pause play back or Freeze live pictures press this key. To toggle Washers on/off, while in Telemetry Mode, first press the Shift key.
	<b>Reverse Play &amp; [Wiper] Key:</b> While in play back mode, press this key to select Reverse Play. To toggle wipers on/off, while in Telemetry Mode, first press the Shift key.
	<b>Stop &amp; [Lamps] Key:</b> Press to Stop playback. To toggle lamps on/off, while in Telemetry Mode, first press the Shift key.
	<b>Play &amp; [Record] Key:</b> Press to Play Forwards. To toggle recording on/off first press the Shift key.
	<b>Enter, Increment &amp; [Help] Key:</b> If you press the Camera key or Preset key (in telemetry mode) without selecting a number, pressing this key will step up to the next available camera or preset. In menus this is the Enter Key. To bring up a Menu Help Screen, if available, first press the Shift key.
	<b>Escape, Decrement &amp; [Electronic Zoom] Key:</b> If you press the Camera Key or Preset key (in telemetry mode) without selecting a number, pressing this key will step down to the next camera or preset. In menu mode this is the Escape. On a Triplex DVR To toggle Electronic Zoom first press the Shift key.
	<b>Iris Open &amp; [Auto Iris] Key:</b> To open the iris, press this key. To select Auto Iris mode press the Shift key first (alternately Pan the unit).
	<b>Iris Close &amp; [Day/Night] Key:</b> To Close the Iris, press this key. To Toggle between the Day & Night modes (colour/monochrome) on Domes that support this feature.
	<b>Focus Far &amp; [Auto Focus] Key:</b> To focus on distant objects press this key. To enter Auto Focus mode press the Shift key first (alternately Pan the unit).
	<b>Focus Near &amp; [Telemetry] key:</b> To focus on near objects press this key. To toggle Telemetry mode ON/OFF first press the Shift key (alternately simply tap the joystick to switch Telemetry On).
	<b>0 – 9 Data entry keys:</b> Used to enter the required numeric data before a feature key is pressed



## Unit Control Commands:

**Unit Select:**  +

To control a unit from the keyboard you must first select the unit number to be controlled:

Use the numeric keys to enter the Unit Address (1–32) followed by the Unit Select key, [Unit No.] + [Unit select] key.

**Monitor Select:**  +

To call cameras, sequences or multi-screens to a monitor output you need to select the monitor to be controlled:

Use the numeric keys to enter the monitor number followed by Monitor key, [Mon No.] + [Mon] key.

For convenience you can step through the monitor being controlled by pressing Shift followed by the Increment and Decrement keys. If monitors are designated A and B then: A = Mon. 1 & B = Mon. 2

**Camera Select:**  +

To select the desired camera to the monitor being controlled:

Use the numeric keys to enter the camera number followed by the Camera key, [Cam No.] + [Cam].

For convenience you can step through the camera being viewed by pressing Shift followed by the Increment and Decrement keys.

On the Blade DVR you can connect IP cameras, to select these press [Shift] + [Cam No.] + [Cam]

**Multi-screen Views:**  +

The DVRs can call several different multi-screen display modes, to call a DVR multi-screen view to the monitor being controlled:

Press Shift followed by the Multi-Screen key, [Shift] + [Multi-screen].

This will step through the available views, once a view is selected this will be remembered by the DVR and be the first view to be selected in future.

**Sequence:**  +  +

To call a pre-programmed sequence to the monitor being viewed:

Use the numeric keys to enter the sequence number followed by the Shift key & then Sequence key, [Shift] + [Seq. No.] + [Seq.] key.

If the unit only has one sequence enter 1 as the sequence number.

**Alarm Acknowledge:** 

If your system is set to receive alarms they can either be set to automatically clear when the alarm finishes, or to “time out “ after a programmable time or to require a manual acknowledgement from the user. To manually acknowledge an alarm (or terminate a time-out alarm):



Press the Alarm Key, [Alarm].

**Enter Unit Menus:**  +  +

Access to the unit’s menus will be required to initially set it up or to change its settings:

Press Shift followed by the Unit Menu key, then use the numeric keys to enter the password followed by the Enter key, [Shift] + [M] + [Password] + [Enter].

The device’s default password can be found in the installation manual for each device. Once inside the menu, use the Joystick Up/Down to navigate to a function and then, depending on the unit being controlled, use Right/Enter to select the function and Esc/Left to exit the menu.




**Function (Triplex):**  + 

The Vista Triplex DVR can be programmed to carry out complicated actions that are assigned to "Functions", these are normally used during alarms but they can be called directly from the keyboard:

Use the numeric keys to enter the number of the required Function then press the Function key, [Fn No.] + [Fn].

There are special key presses used while writing a Triplex Function, see the Triplex manual, these should be entered from the keys on the front of the Triplex.

The Function key is also used as a "modifier" to allow you to call several features on the equipment being controlled, this is detailed in the description on the feature.

**Audio (Blade):**  +  + 

To select the required audio channel for live monitoring or playback:

Use the numeric keys to enter the number of required audio channel followed by the Shift key and then the Audio key, [Audio no.] + [Shift] + [Audio].

**Freeze Live Picture:** 

To "Freeze" the live picture on the digital monitor output of the Blade and Triplex:

Press Pause, [Pause].

**Help:**  + 

The help key is reserved for future use. To view the contextual help pages on the Navigator DVR select the on screen Help tab.

**Print:**  + 

The Print key is reserved for future use.

**Telemetry Commands:**

**Telemetry Enable/Disable:**  + 

For the Triplex DVR you need to enable Telemetry mode to be able to control Movable Cameras, this is **not** required on the other control equipment. To toggle telemetry control On/Off:



Press Shift followed by the Telemetry key, [Shift] + [T].

To make telemetry control easier you can also use these alternative methods to Enable and Disable telemetry mode on the Triplex DVR:

- Enable: "Tap" the joystick and wait for 1 second.
- Disable: Press a non-telemetry key, e.g. [alarm].

**Pan, Tilt & Zoom the Dome: [Joystick]**

Use the joystick to move the dome Left, Right, Up and Down, on most domes the speed of travel will be proportional to both how far you move the joystick in a given direction and to the level of Zoom magnification (slowing down as you Zoom IN). The grip on the joystick can be rotated to zoom the lens, clockwise for Zoom In and counter clockwise to Zoom out. On many Domes when you reach the extreme "Down" position the camera will automatically flip by 180 degrees and then pan UP.

**Iris Control:**  & 

Most Dome cameras have Auto Iris control to maintain the correct picture exposure. If you wish to override this Auto Iris control the Iris on most Dome cameras can be opened and shut by using the Iris Open and Iris Close keys. To re-enable Auto Iris just Pan the camera again, however on some Domes you can re-enable Auto Iris by pressing Shift followed by Iris Open, [Shift] + [Iris Open]





**Focus Control:**  & 

Most Dome cameras have Auto Focus control to maintain the correct picture focus. If you wish to override this Auto focus control the Focus on most Dome cameras can be adjusted by using the Focus Near and Focus Far keys. To re-enable Auto Focus just Pan the camera again, however on some Domes you can re-enable Auto Focus by pressing Shift followed by Focus Far, [Shift] + [Focus Far].

**Call a Preset:**  + 

Most Dome cameras can be set to have one or more "Preset Views" or "Presets", these normally include the Pan, Tilt and Zoom positions. To call a pre-programmed Preset:

Use the numeric key to enter the Preset Number followed by the "Preset" key, [Preset No.] + [Preset].

**Set a Preset:**  +  +  + 

To program a "Preset" (if permission is enabled), Pan, Tilt and Zoom the camera to the desired view then:

Use the numeric keys to enter the Preset number, followed by Shift, Function and finally Preset, [Preset No.] + [Shift] + [Fn] + [Preset]

**Call a Preset Tour:**  + 

To automate the surveillance of your site, on most Domes if you have several "Presets" programmed you can combine these into "Preset Tours" (or just "Tours"). To call a pre-programmed "Preset Tour":

Use the numeric keys to enter the Tour number followed by the "Preset Tour" key, [Preset Tour No.] + [Preset Tour]





**Set a Preset Tour:**

Preset tours cannot be set directly from the keyboard. They must be set from within the Dome Menu.

**Call a Learn Tour (Pattern):**  + 

An alternate tour type, available on some domes, to help the surveillance of your site is the "Learn Tour" (or Pattern). Unlike the Preset Tour, the Learn Tour does not jump from Preset to Preset but is a copy of a control session that is remembered inside the Dome. To call a pre-programmed "Learn Tour":

Use the numeric keys to enter the "Learn Tour" number followed by the "Learn Tour" key, [Preset Tour No.] + [Learn Tour]

**Set a Learn Tour (Pattern):**  +  +  + 

To program a "Learn Tour" (if permission is enabled), Pan, Tilt and Zoom the camera to the desired "start" of the tour, then:

Use the numeric keys to enter the Learn Tour number, followed by Shift, Function and Learn keys, [Learn No.] + [Shift] + [Fn] + [Learn]. Now Press enter to start the countdown (time available for the tour), when the countdown starts perform the control session that you wish to record. When you have finished press Enter [Ent/+].

**180 degree Flip:**  + 

If your dome supports it, activating this feature will cause the dome to rotate by 180 degrees so it is looking in the opposite direction. To select 180 degree flip:

Press Shift followed by the "180 Degree Flip" key, [Shift] + [180 Degree Flip].

**Day/Night:**  + 

To Toggle between the Day & Night modes (colour/monochrome) on Domes that support this feature:

Press Shift followed by the "Day/Night" key, [Shift] + [Day/Night].

**Camera Menu:**  + 

Many of the features of a modern dome are accessed from within its menu structure. Each dome has its own method of entering its menus, and so the key press used depends in the dome being control and the protocol being used to control it. Where possible the control equipment will translate the following key press to that required by the dome, however if this does not work you will need to consult the Dome manual to find the correct key press:

Press Shift followed by the Dome Menu key, [Shift] + [Dome Menu].

#### Auxiliary Commands:

These commands are used to switch the auxiliary functions on standard Pan/Tilt cameras, but they can be used on some modern domes to activate various features, depending on the model, please consult the dome manual.

Camera Power: Toggle the camera power On/Off.

Auto Pan: Automatically scan between two points (normally set at the Pan/Tilt Head).

Wipers: Toggle the Wipers On/Off.

Washers: Momentary activate the washer.

Lamps: Toggle the Lamps On/Off

## DVR Control Commands:

To put a DVR into Play mode you normally use the Play Forward key, you then have access to the other play features. Exact control depends on the DVR itself and you should read the DVR manual in conjunction with this manual.

**DVR Mode:**  + 

As well as using the following dedicated DVR keys you can normally also use the Pan, Tilt and Zoom joystick to control your DVR this is directly supported by the Triplex DVR, while on the Navigator and Blade DVRs you need you must enter DVR mode with the following key press:

Press Shift followed by Function (both LEDs should remain lit), [Shift] + [Fn]

A table of the key presses for each DVR is shown at the end of this section.

**Play Forwards:** 

To Play Forwards (from the play pointer):

Press the Play key [Play Forwards]


The Play pointer is the part of the recording that playback will start from this is different for each DVR:

- Blade: The point at which the last play back session was stopped (see Replay).
- Triplex: The point at which the last play back session was stopped.
- Navigator: A set time ago that is set inside the DVR (default = 2mins. See GOTO).

**Replay (Blade): Press and Hold** 

On the Blade DVR there is a special Play Forward mode called "Replay". Using this feature the DVR will play forwards from a set time ago that is set inside the DVR (default = 5 seconds), to activate Replay:

Press & Hold Play forwards for at least 2 seconds [Press and Hold Play Forwards].

**Goto (Navigator): Press and Hold** 


On the Navigator there is a special forward play command called "Goto". This feature the will invoke a menu where you can quickly enter a time and date from which to start forward play, to activate Goto:

Press & Hold Play forwards for at least 2 seconds [Press and Hold Play Forwards].

**Fast Forward: Joystick Up**

To play back in Fast Forward:

Push the Joystick Up, [Up]

**Reverse Play:** 


To Reverse Play from play:

Press the Reverse Play key, [Reverse Play].

**Fast Reverse (Rewind): Joystick Down**

To playback in Fast Reverse:

Push the Joystick Down, [Down]

**Pause:** 

To pause the playback of a recording:

Press Pause, [Pause].

**Step Forwards: (DVR dependant)**

To step forward from Paused playback use the following DVR dependant key presses:

Triplex: Right  
 Navigator & Blade: Pause + Zoom In

**Step Back: (DVR dependant)**

To step Backwards from Paused playback use the following DVR dependant key presses:

Triplex: Left.  
 Navigator & Blade: Pause + Zoom Out



**Search & Archive:**

A DVR's Search menu gives the user several ways to search and select the required recorded data for playback or archive. Each DVR has its individual method of Searching and Archiving recordings accessed through its Search Menu, please consult the DVRs manual to understand how to Search and Archive. To enter the DVR's Search and Archive Menu:

Press the Search key, [Search]



**Quick Archive:**

Each DVR has its individual method of performing a Quick Archive of recordings accessed though it's Quick Archive Menu, please consult the DVRs manual to understand how to Search and Archive. Quick Archive fills the archive medium with as much data of both older and newer of the unit's current Play Pointer (see Play Forwards for a description of the Play pointer). To enter the DVR's Quick Archive Menu:

Press the Quick Archive key, [Archive]



**Record:**

Modern DVRs are permanently in Record Mode, however on the Triplex DVR it is possible to configure the DVR to allow the user to turn Recording off. On a Triplex DVR in this mode, to turn off recording:

Press Shift followed by Record, use the joystick to Select YES then press Enter, [Shift] + [Rec] + [Select Yes] + [Ent].

**Table of DVR Commands**

Command	Navigator		Blade		Triplex	
	DVR Mode On	DVR Mode Off	DVR Mode On	DVR Mode Off	DVR Mode On	DVR Mode Off
Play	Play/Up/Left/Zoom In	Play	Play/Right	Play	Play/Right	Play
FF	Play/Up/Left/Zoom In	Play	Up/Zoom In	n/a	Up	Up
Rewind	Rev/Down/Right/Zoom Out	Rev	Left	Rev	Rev/Left	Rev
Fast Rev	Rev/Down/Right/Zoom Out	Rev	Down/Zoom Out	n/a	Down	Down
Step	Pause + Rev/Down/Right/Zoom In	Pause + Rev	Pause + Zoom Out	n/a	n/a	Left
Step Back	Pause+ PLAY/UP/LEFT/Zoom Out	Pause + Play	Pause + Zoom In	n/a	n/a	Right
Stop	Stop	Stop	Stop	Stop	Stop	Stop
Pause	Pause	Pause	Pause	Pause	LED not lit	Pause

## Installation

The VKBD3i is a very versatile keyboard and is capable of being used in a variety of configurations, from controlling a single camera through to controlling multiple DVRs or Matrices. The following section covers these various options.

### Single keyboard to single unit

When connecting a single VKBD3i Keyboard locally (within 2m) to any of the following units:

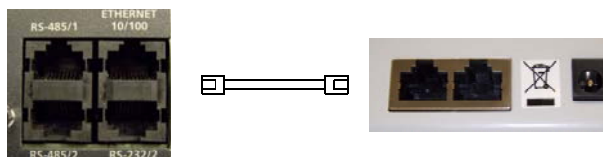
- Vista Columbus Range
- Vista Navigator Range
- Vista VDC Matrix

Simply connect the Supplied RJ45 Cable into either of the two RJ45 sockets on the rear of the Keyboard and into a corresponding RJ45 Socket on the DVR or Matrix (See diagrams below). The DVR or Matrix will power the keyboard.

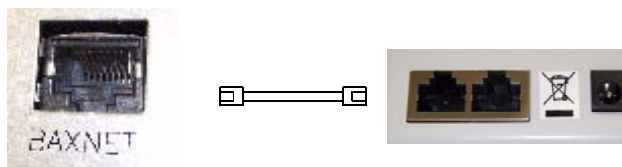
With the Vista Blade DVR a separate power supply will always be required, we recommend the VPSU12/500. The Vista VMS matrix has special wiring requirements, please see below.

#### Socket locations

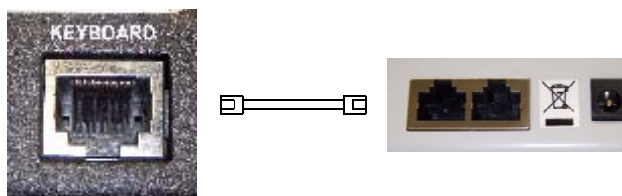
For the **Columbus DVR Range** the Keyboard is plugged into either of the RJ45 sockets marked as **RS485 1** or **2**, located within a group of 4 sockets on the right hand side of the rear of the unit.



For the **Navigator DVR Range** the keyboard is plugged into the RJ45 socket marked as **BAXNET**, located on the top left of the rear of the unit.

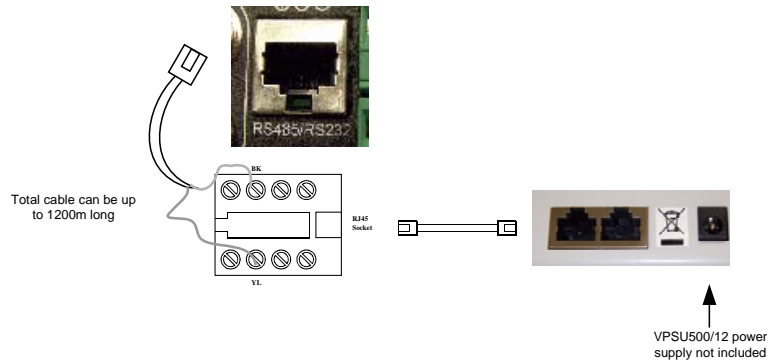


For the **VDC Matrix range** the keyboard is plugged into the RJ45 socket marked as **KEYBOARD**, located on the lower right hand side of the unit.



### Single keyboard operation for VMS Matrix

It is important NOT to connect the VPD data (pins 5 & b6) into the VMS matrix. This is achieved by connecting the keyboard to the breakout box with the RJ45 lead supplied. Then using another RJ45 lead, with only a single end, connect pin 3 (Green /White) to the Black (BK) connector on the breakout box and pin 6 (Solid Green) to the Yellow (YL) connector of the breakout box. See below.

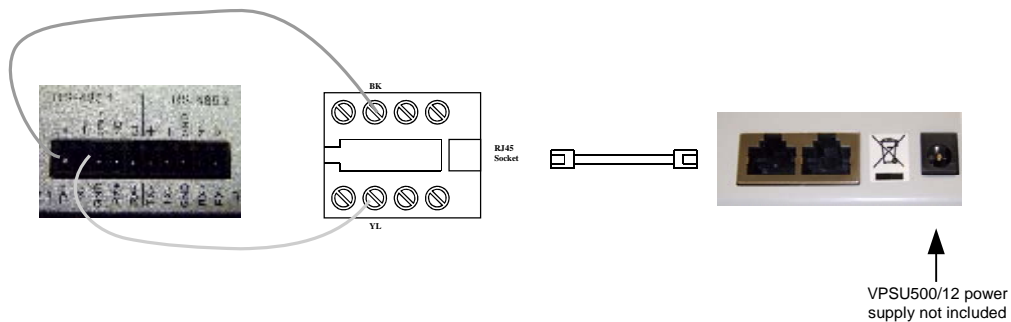


### Connecting VKBD3i directly to a Vista Blade DVR

When connecting to a Vista Blade DVR, the keyboard will need to be powered using the power supply included in the packaging; this is plugged into the keyboard using the 2.1mm socket adjacent to the 2 RJ45 sockets.

The Blade DVR differs from others in the range, in that it does not have an RJ45 socket for the keyboards, therefore connection is made using the RJ45 breakout box that is supplied.

Connect the keyboard to the breakout box using the supplied RJ45 lead. Then connect the Black (BK) to the TX+ and Yellow (YL) to the TX- of the RS485 port on the Blade (This could be either port 1 or 2).



Note: The RS485 connectors on the Blade DVR need to be configured within the Blade manual, See the Serial Comms section within the System menu.

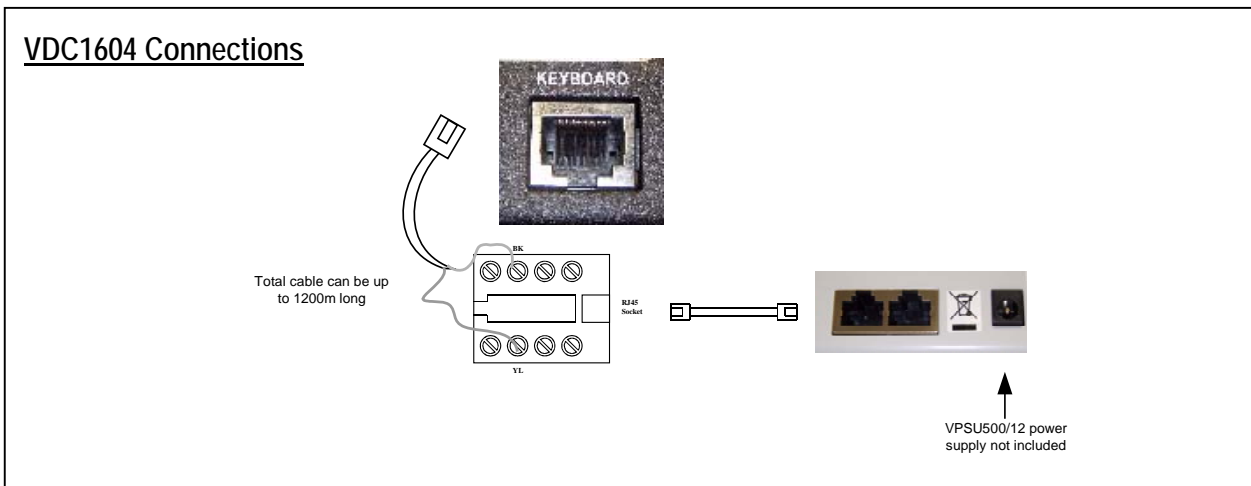
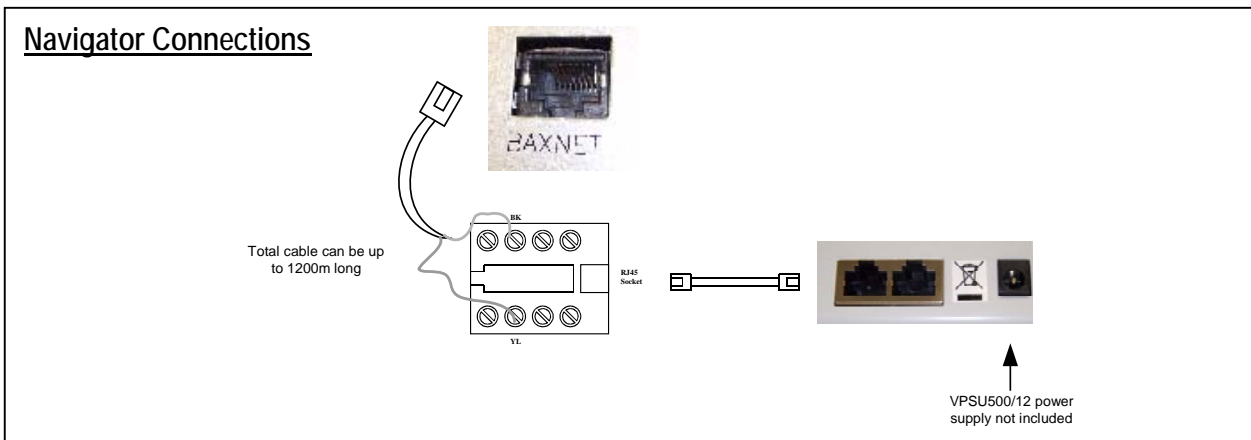
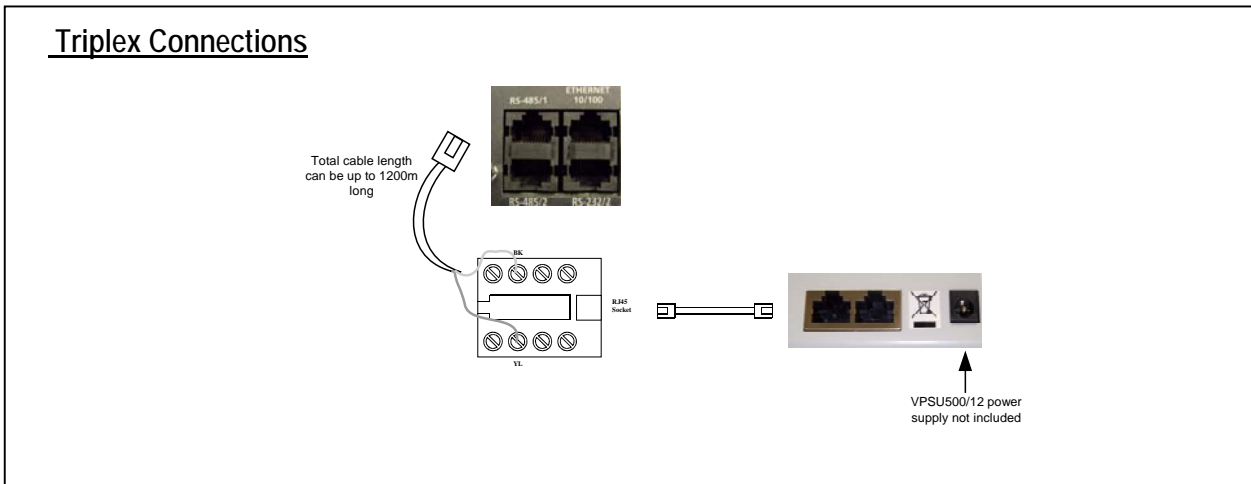


### Single Remote Keyboard Connection (More than 2m from unit)

When the keyboard is to be located more than 2m from the unit it is necessary to power it remotely using a separate power supply such as the VPSU500/12. The data connection to the keyboard is then made via the breakout box supplied.

These instructions apply to the following: Triplex DVR, Navigator DVR, Blade DVR & the VDC106 Matrix

Connect the Supplied RJ45 cable to either of the Sockets on the keyboard and the other end to the breakout box. Then using another RJ45 lead, with only a single end, connect pin 3 (Green /White) to the Black (BK) connector on the breakout box and pin 6 (solid Green) to the Yellow (YL) connector of the breakout box, see below. The cable length between the keyboard and the unit to be controlled can be up to 1200 meters when using an approved RS485 cable.



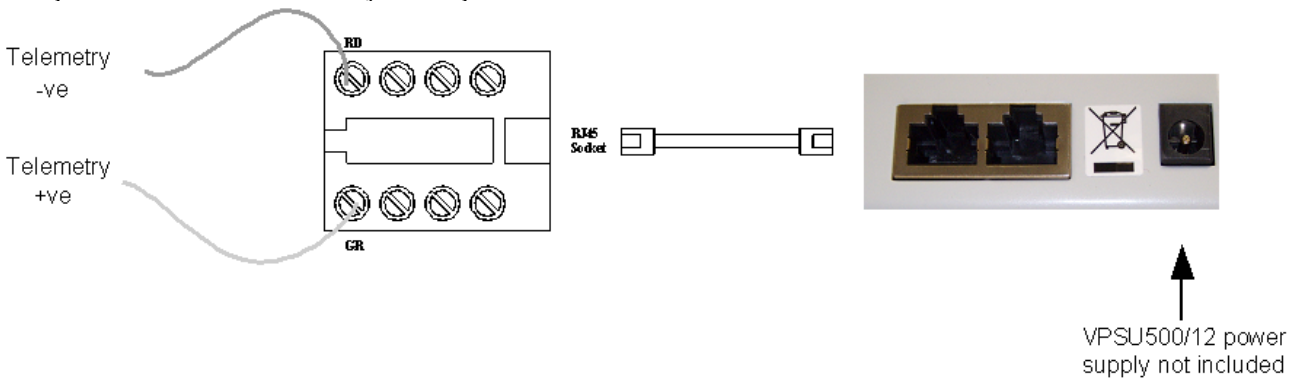
### Direct control of PTZ domes or static remote set-up cameras

The VKBD3i keyboard can be used to send RS485 Vista PowerDome control protocol directly to a PTZ dome or static remote set up camera.

The camera ranges capable of being controlled in this way are:

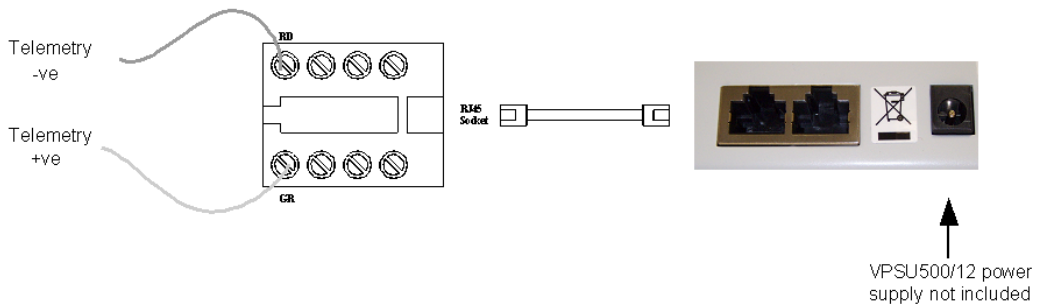
- Vista PowerDome 1 and 2
- Vista PowerDome Lite 4 and 5
- Vista Eclipse Domes
- Vista VEC43 Camera Range
- Vista VZM camera range

If the keyboard is stand alone or further than 2 metres from a DVR or Matrix then a separate power supply needs to be plugged into the 2.1mm jack socket on the rear of the keyboard adjacent to the two RJ45 sockets.



The Vista PowerDome Protocol is transmitted on pins 4 (-ve) and 5 (+ve), on both of the keyboards RJ45 sockets (this is the blue & blue/white pair of a standard RJ45 patch lead).

Plug the RJ45 Lead into either socket on the keyboard. Then plug the other end into the RJ45 socket of the break out box. The data cable from the camera is connected to the screw terminals on the breakout box; data -ve connected to pin 4, the green (GR) terminal, and data +ve connected to pin 5, the red (RD) terminal.



### Connecting to a PowerDome Interface Board

Pin Numbering or Marking			
Data Line	VKBD3i RJ45	Breakout Box	Dome I/O Board
RS485 -ve	4	4	RS422A
RS485 +ve	5	5	RS422B

Notes:

- If control is not achieved, try swapping over the data cables, as these are polarity sensitive.
- If control is not achieved or is intermittent check the data termination on the camera or dome.
- If there are to be multiple domes or cameras controlled directly then it would be advisable to use a data distribution amplifier such as the Vista VSD16.

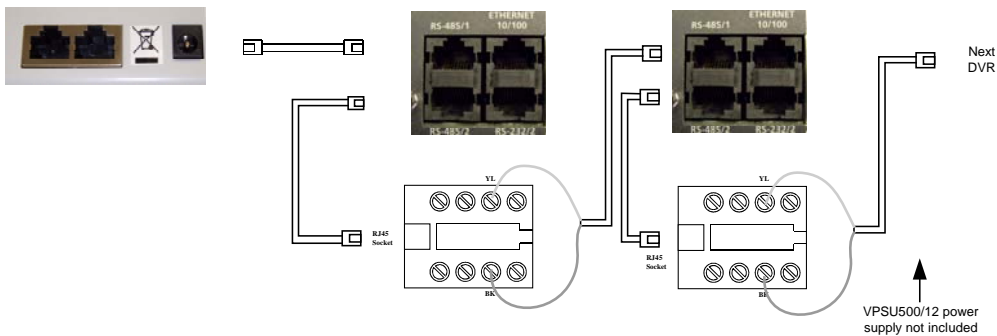
## Single Keyboard controlling multiple DVRs or Matrices

A single Vista VKBD3i keyboard can control up to 31 DVRs. The connection method will vary depending on the units to be controlled.

Each connection scenario is dealt with separately below:

### Connecting to multiple Columbus DVRs

Connect the first DVR to the keyboard as normal. Then using another RJ45 lead, with only a single end, connect pin 3 (Green /White) to the Black (BK) connector on the breakout box and pin 6 (Solid Green) to the Yellow (YL) connector of the breakout box, see below. Then insert the single RJ45 plug into the RS485-1 socket on the second DVR, subsequent units are connected together by repeating this process.



Note: Each Columbus DVR needs to be addressed separately. See Communications section of the Columbus Menu structure.

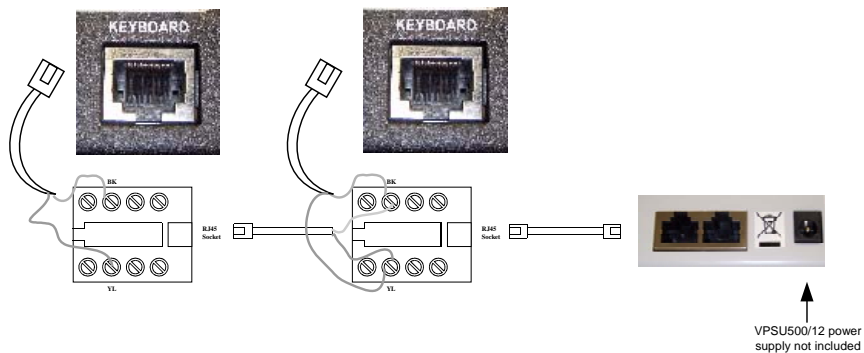
### Connecting to multiple Navigator DVRs or VDC Matrices

As the Navigator DVR and VDC matrix have a single RJ45 connector it is necessary to use a breakout box to connect multiple units together.

It will be necessary to power the keyboard remotely using a VPSU500/12 power supply (not included). The data connection to the keyboard is then made via the breakout box supplied.

Connect the Supplied RJ45 cable to either of the Sockets on the keyboard and the other end to the breakout box. Then connect the Network Plus (Black) to pin 3 of an RJ45 plug and Network Minus (Yellow) to pin 6 of the RJ45 plug. Connect this RJ45 plug into the socket marked as Keyboard.

For the second and subsequent units, further breakout boxes are required, make up a second single ended RJ45 lead and connect this to pins 3 and 6, then plug into the next breakout box, and connect the Network Plus (Black) to pin 3 of an RJ45 plug and Network Minus (Yellow) to pin 6 of the RJ45 plug. Connect this RJ45 plug into the socket of the second unit marked as Baxnet or Keyboard.



### Connecting to multiple Blades

It will be necessary to power the keyboard remotely using a VPSU500/12 power supply (not included). The data connections to the keyboard are then made via the breakout box supplied.

Connect the Supplied RJ45 cable to either of the Sockets on the keyboard and the other end to the breakout box. Then connect the network plus (Black) to the RS485 [1] TX+ on the Blade and network minus (Yellow) to the RS485 [1] TX – on the Blade.

For the second and subsequent units, further breakout boxes are required, make up a single ended RJ45 lead with only pins 3 and 6 connected, then plug into the next break out box.

As with the first Blade connect the network plus (Black) to the RS485 [1] TX+ on the Blade and network minus (Yellow) to the RS485 [1] TX – on the Blade.

Then continue this chain for all Blades.

The diagram illustrates the connection of multiple blades to a power supply. It shows two blades at the top, each with an RJ45 socket. Below them are two breakout boxes, each with an RJ45 socket and two terminals labeled 'BK' (Black) and 'YL' (Yellow). The breakout boxes are connected to a chain of RJ45 cables. A VPSU500/12 power supply is shown connected to the chain. An arrow points to the power supply with the text 'VPSU500/12 power supply not included'.

Each Blade needs to have its address and the RS485 [1] port configured. See the Serial Comms section within the System menu.

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V1.13

### Addressing the keyboard

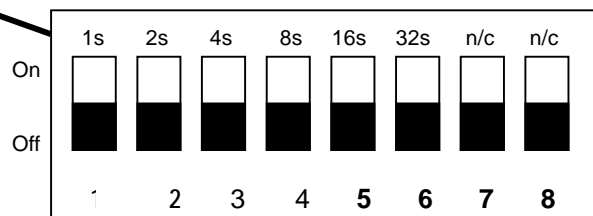
The RS485 address of the keyboard is set to 9 out of the box,

To change this address it is necessary to adjust a bank of dipswitches within the keyboard

4 screws secure the rear of the keyboard case, remove these screws to reveal the PCB, and there are a single bank of dip switches on the board



Rear view of keyboard with back off.



Dip Switch bank

The address is set up in a binary addition mode

Value of each switch as follows

1 = 1, 2 = 2, 3 = 4, 4 = 8, 5=16, 6 = 32

Addresses can be set between 1 and 32

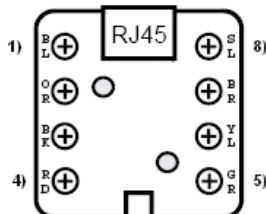
E.g. address 17 would need switches 1 and 5 (16 + 1) to be switched on

### Appendix A:

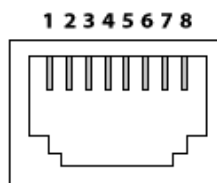
#### Pin Assignment

Pin	Assignment
1	9-12VDC -ve
2	9-12VDC +ve
3	BaxNet +ve
4	VPD (RS485) -ve
5	VPD (RS485) +ve
6	BaxNet -ve
7	9-12VDC -ve
8	9-12VDC +ve

#### Breakout Box Pins



#### RJ45 Socket Pins



## Appendix B:

### Joystick Calibration:

The joystick on your keyboard has been factory calibrated to ensure even control of the Pan, Tilt and Zoom features on any controllable cameras. If you need to re-calibrate the joystick please carry out the following procedure:

Down power the keyboard

Press and Hold the "0" key while you re-power the keyboard

Wait till you here a beep then release the "0"key. All the LEDs will be flashing.

Press "5"

Push the joystick fully LEFT and hold while you press "4"

Push the joystick fully RIGHT and hold while you press "6"

Push the joystick fully UP and hold while you press "2"

Push the joystick fully Down and hold while you press "8"

Twist the joystick fully anti-clockwise and hold while you press "Camera"

Twist the joystick fully clockwise and hold while you press "Monitor"

Press "0" to finish calibration

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