



Installation Guide

Tx40X

Telemetry transmitter



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IMPORTANT

Please read the following points before servicing or installing.

Pre-installation checks - It is recommended that the unit be bench tested prior to installation on the site.

Safety during installation or servicing - Particular care should be taken to isolate the pan/tilt head in order to prevent operation while engineering work is being carried out. In addition any ladder or other means of working on the receiver **MUST NOT** rest on the pan/tilt head as it is possible for the head to move when not expected.

Safety check - Upon completion of any service or repairs to the unit, safety checks should be performed to ensure that the unit is in proper operating condition.

Coax grounding - If an outside cable system is connected to the unit, be sure the cable system is grounded.

Adhere to Safety Standards - All normal safety precautions as laid down by British Standards and the Health and Safety at Work Act should be observed.

WARNING - TO PREVENT DANGER OF FIRE OR SHOCK, DO NOT EXPOSE THE INTERNAL COMPONENTS OF THIS EQUIPMENT TO RAIN OR MOISTURE.

Damage requiring service - Servicing by qualified personnel should be carried out under the following conditions:

- (a) When the power supply cord or plug is damaged;
- (b) If liquid has been spilled, or objects have fallen into the unit;
- (c) If the unit does not operate normally by following the operating instructions.
- (d) If the unit has been dropped or the enclosure is damaged;

Replacement parts - If replacement parts are required, ensure that only replacement parts recommended by the product manufacturer are used.

Introduction

The Tx40X is very easy to use keypad for single up the coax controlled camera or single/multiple RS485/422 controlled camera CCTV systems. It is easily installed into either a new or an existing system simply by connecting a BNC input and output, or the twisted pair cable and a 12Vdc supply.

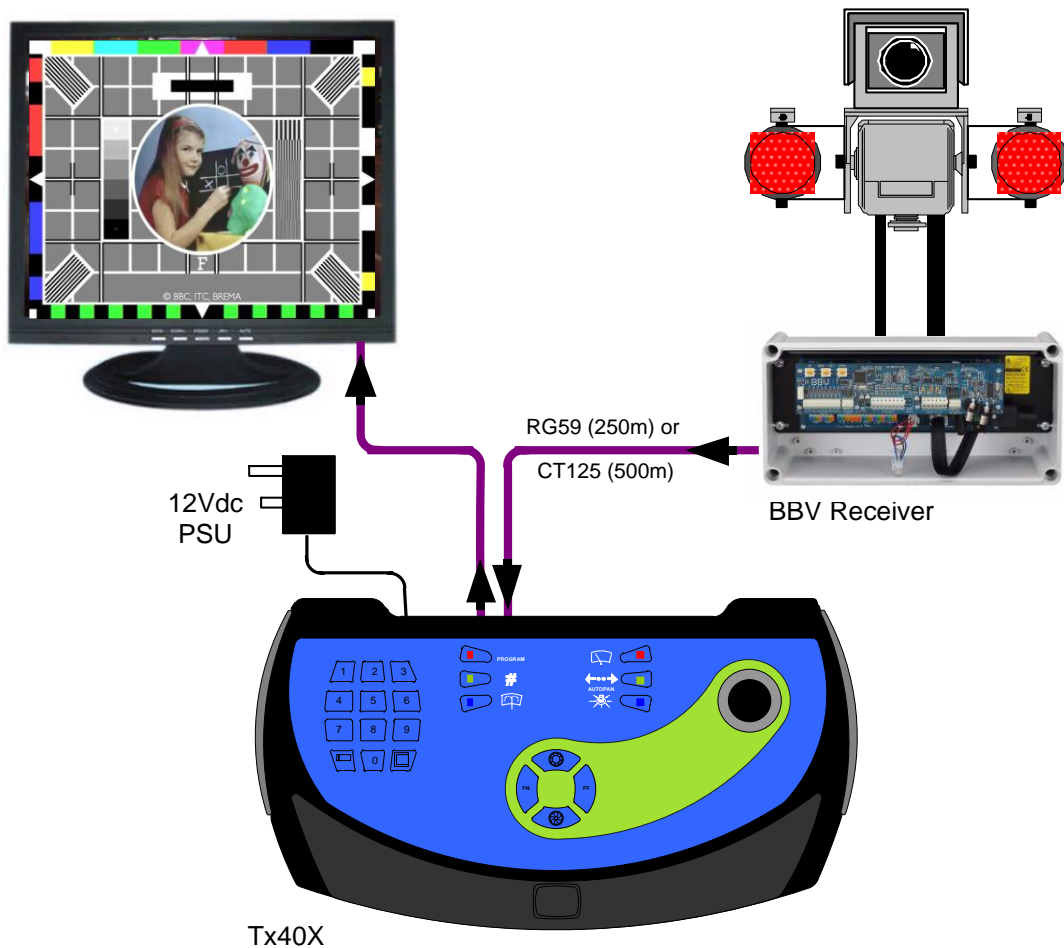
The Tx40X is a powerful tool for the field engineer and can control all:

- 127 addresses of the BBV422
- 255 addresses of the Pelco D
- 32 addresses of the Pelco P

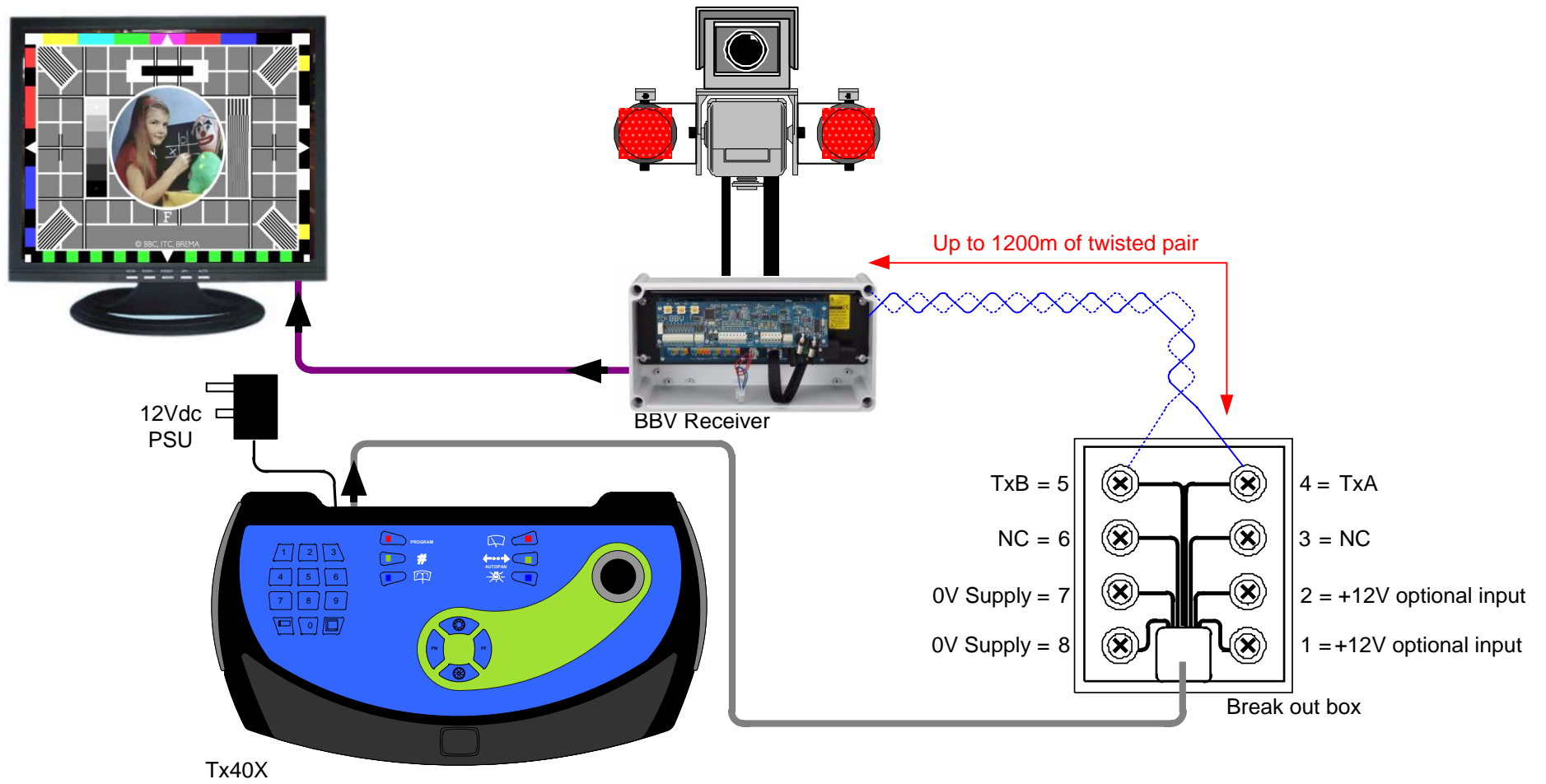
Unpacking

Inspect the packaging for signs of damage. If damage has occurred, advise the carriers and/or the suppliers immediately. Unpack the transmitter carefully and check that all the items are included:

Part number	Description	Tx40X	12V PSU	Manual	Break Out Box	Grey Cat5 Cable
Tx40X	Telemetry transmitter P/T/Z with 9 presets, wash, wipe, lights, Autopan	X	X	X	X	X



A simple Tx40X up the coax system

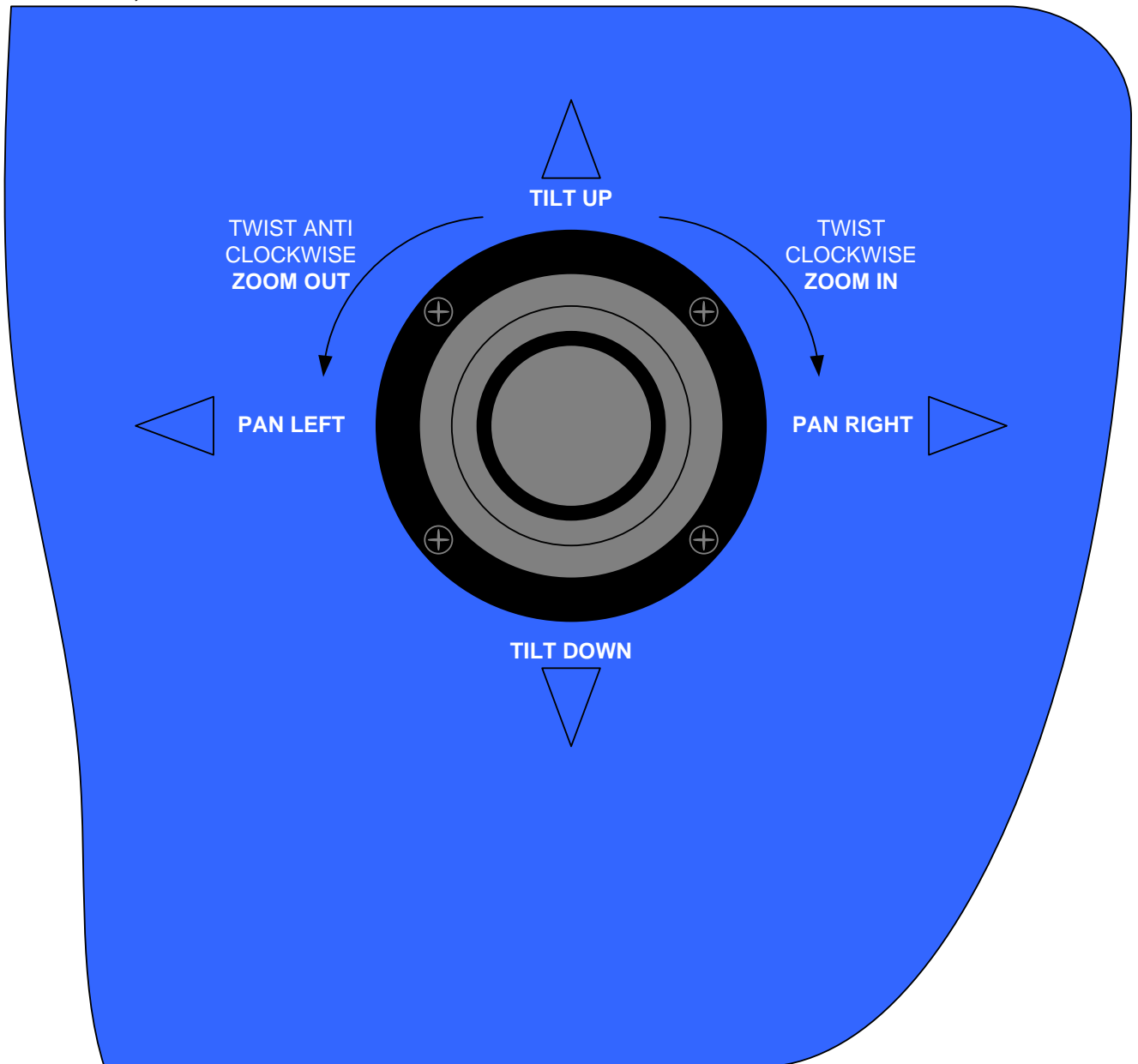


Tx40X connecting to a Breakout box

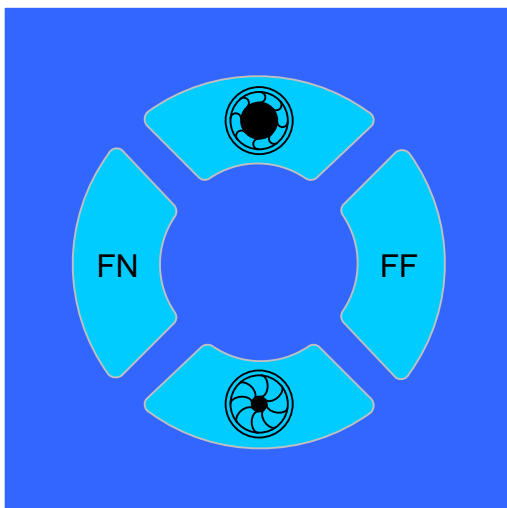
Keypad Functions

Joystick Actions

Pan, Tilt & Zoom



Lens Actions



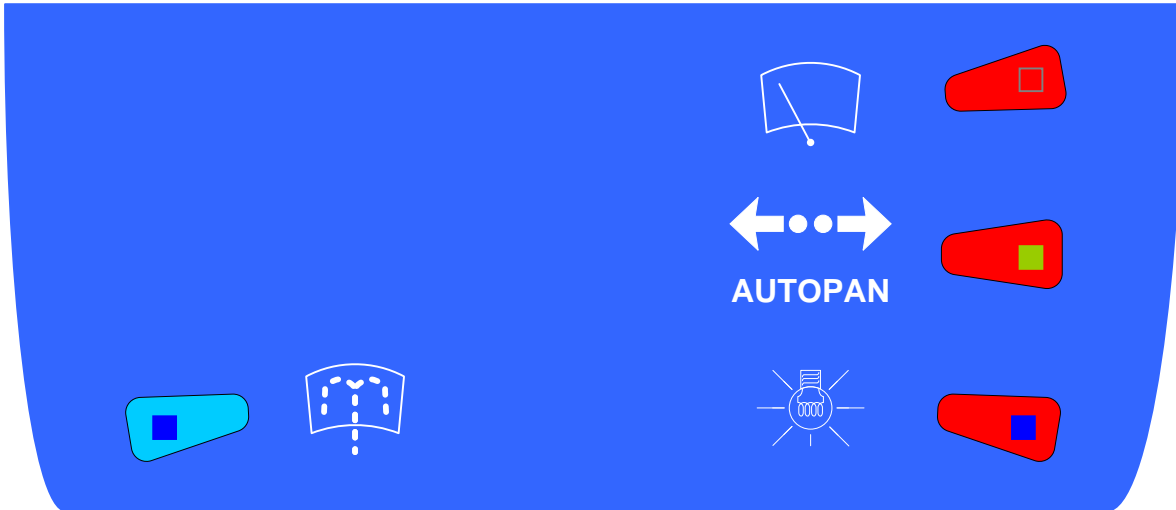
There are four lens function switches on the Tx40X keypad. These are **IRIS OPEN**, **IRIS CLOSE**, **FOCUS NEAR** and **FOCUS FAR**.

ZOOM IN & ZOOM OUT are controlled via the joystick. Clockwise will zoom in and anti-clockwise with zoom out, twist joystick until the desired picture is obtained.

Note: If the action is activated for longer than one second, High Speed Lens Action is activated. Inching is achieved by quick activations of the desired Action.

Auxiliary Function Switches

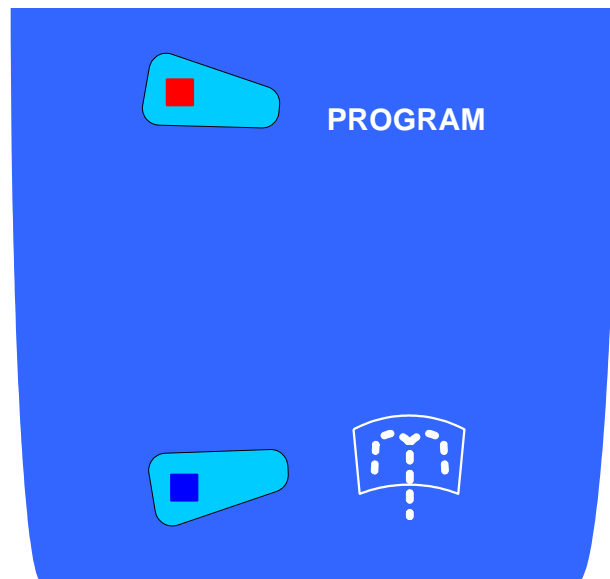
There are four auxiliary function switches on the Tx40X keypad:



- WASH - Press and hold for washer motor to run
- WIPE - Latching output, press on/press off the button goes red to signify on
- AUTOPAN - Press, button turns on and the Autopan motor starts. Panning Left or Right stops Autopan
- LIGHTS - Latching output, press on/press off the button goes red to signify on

Receiver Self Test (This function is only available for BBV coax)

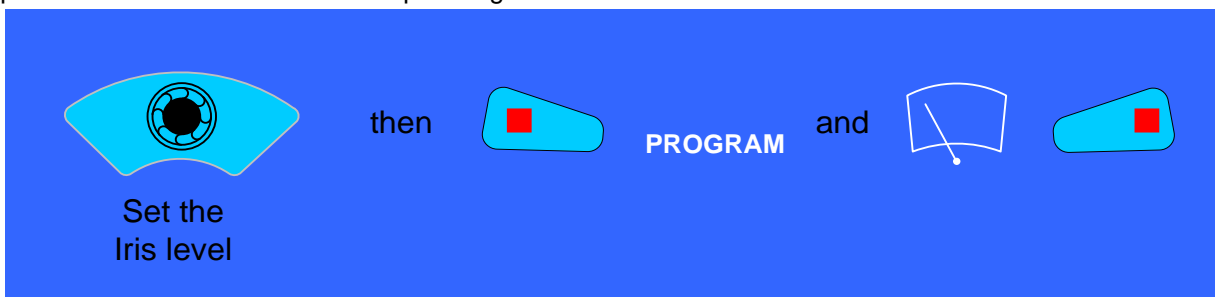
To run a receiver self test, press and hold **PROGRAM** whilst pressing **WASH**. This activates the self test routine in the BBV range of receivers. See the receiver Installation Guide for more details.



Iris Level Program (This function is only available for BBV coax)

for

To preset the aperture of the iris, press **IRIS OPEN** or **IRIS CLOSE** until the desired level is reached, and then press and hold **PROGRAM** whilst pressing **WIPE** to set.

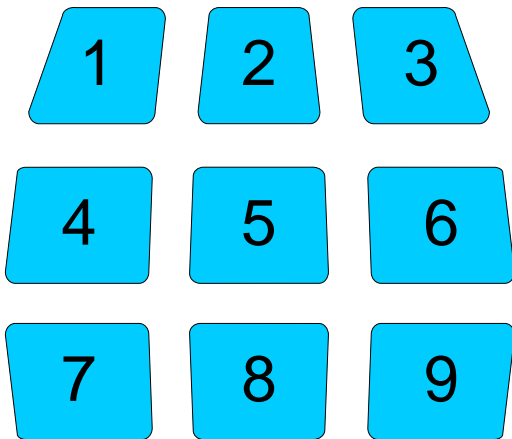


Note: After adjustment, there is a 15 second period in which to program the Iris setting. After this time, the iris reverts to its default setting.

The remainder of this manual refers to features found only on the receivers supporting presets, Rx10X dome interface, Rx400P AC preset receiver, Rx45X and Rx55X multiple protocol advanced receivers.

PRESETS

To select a programmed preset, press one of the Preset keys 1 to 9.



PROGRAMMING A PRESET

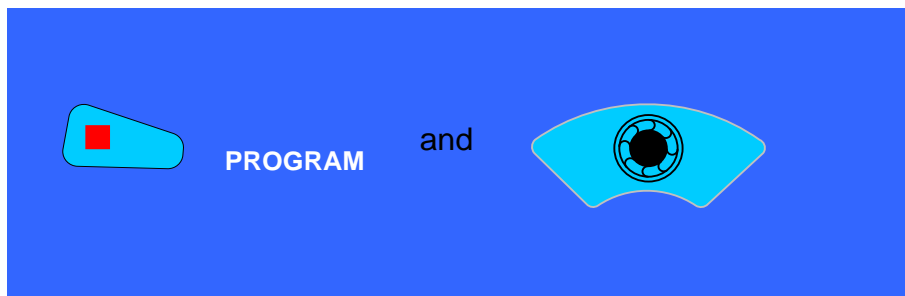
Position the camera using **UP/DOWN** and **LEFT/RIGHT** arrows. Then set Zoom and Focus. When satisfied with the position and the quality of the picture, press and hold **PROGRAM** then press and release one of the Preset keys 1 to 9.



TO ERASE A PRESET

Select the preset to be erased, then press and hold **PROGRAM** then press and release **IRIS OPEN**.

For example, to erase Preset 4, press and release preset key 4, press and hold **PROGRAM**, then press and release **IRIS OPEN**.



PATROLS (This function is only available for BBV coax)

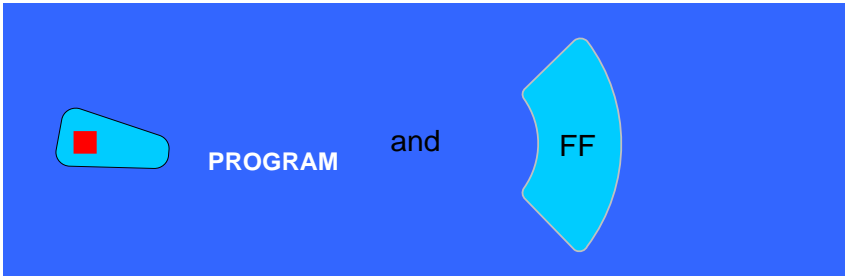
A Patrol automatically runs through a sequence of selected presets with a programmed delay between each preset. The receiver continues in this mode until a pan or tilt key is pressed.

Each BBV receiver is capable of operating two patrol modes made up of the 16 presets. The Tx40X will only control the first 9 presets. When a preset is programmed it is automatically entered into both patrols. Presets can be removed from either patrol to make up the required sequences.

If a preset is erased it is automatically removed from a patrol.

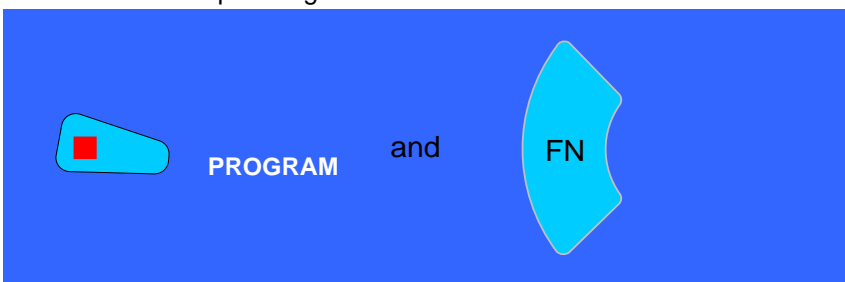
To remove a preset from Patrol 1:

Select the preset you wish to remove from the patrol by pressing the appropriate Preset key. Press and hold PROGRAM whilst pressing FOCUS FAR.



To remove a preset from Patrol 2:

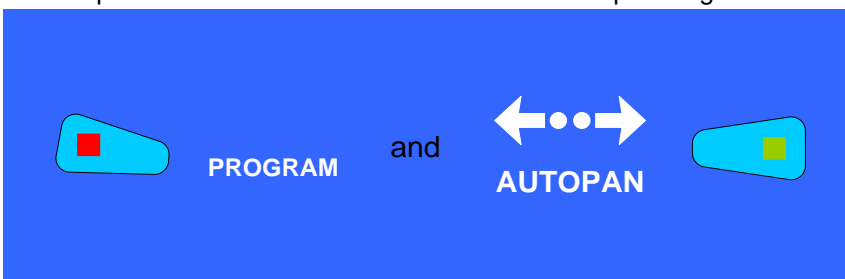
Select the preset you wish to remove from the patrol by pressing the appropriate Preset key. Press and hold PROGRAM whilst pressing FOCUS NEAR.



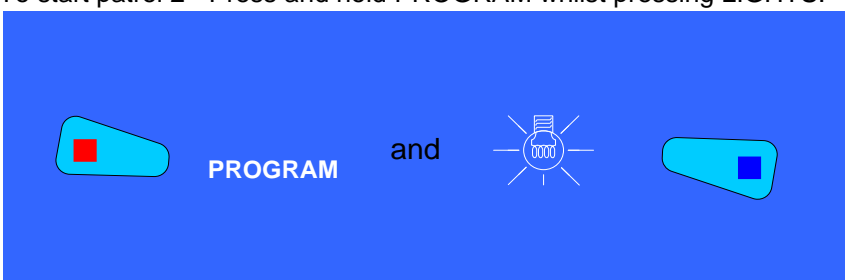
Starting a Patrol:

On starting a patrol the receiver will immediately move to the first preset in the patrol.

To start patrol 1 - Press and hold PROGRAM whilst pressing AUTOPAN.



To start patrol 2 - Press and hold PROGRAM whilst pressing LIGHTS.



Stopping a Patrol: Patrols can be stopped at any time by moving the joystick LEFT, RIGHT, UP or DOWN.

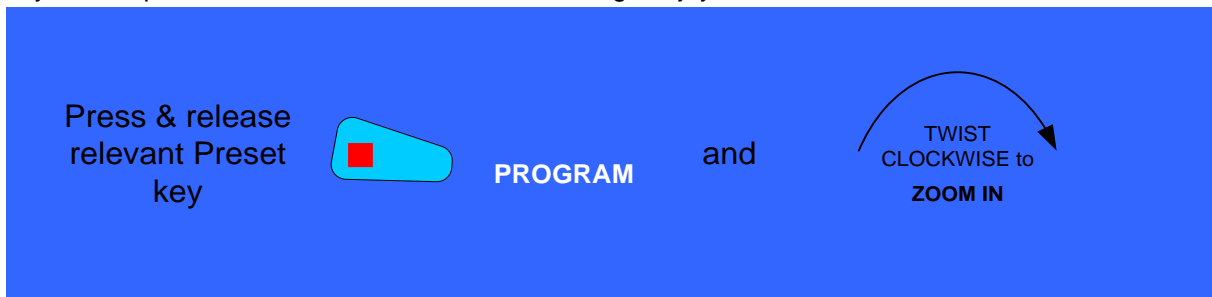
Programming the Patrol delay (This function is only available for BBV coax):

The default delay is 30 seconds. To programme a different delay, first determine the time delay required from the table below:

Preset Key 1	-	Random switching from 0 to 100 seconds
Preset Key 2	-	12 Seconds switching
Preset Key 3	-	24 Seconds switching
Preset Key 4	-	36 Seconds switching
Preset Key 5	-	48 Seconds switching
Preset Key 6	-	60 Seconds switching
Preset Key 7	-	72 Seconds switching
Preset Key 8	-	84 Seconds switching

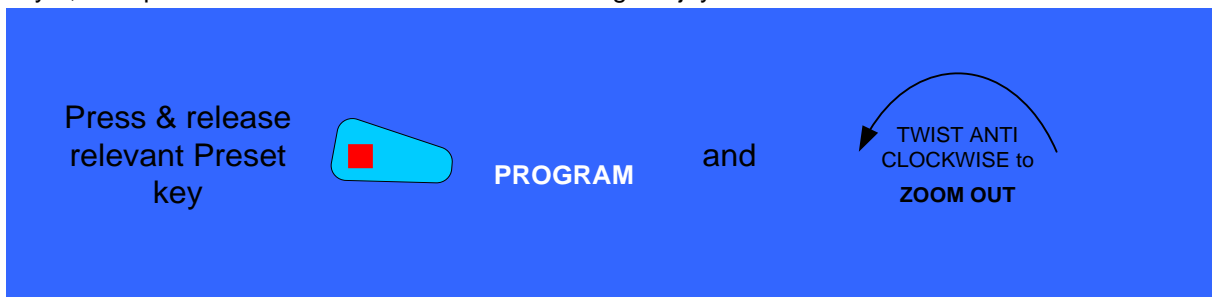
Programming a Patrol delay on Patrol 1:

Press and release the preset key that corresponds with the delay desired, then press and hold PROGRAM whilst pressing ZOOM IN to set patrol 1 delay. For example, to set a delay of 12 seconds, press and release Preset Key 2, then press and hold PROGRAM whilst turning the joystick to ZOOM IN.



Programming a Patrol delay on Patrol 2:

Press and release the preset key that corresponds with the delay desired, then press and hold PROGRAM whilst pressing ZOOM OUT to set patrol 2 delay. For example, to set a delay of 84 seconds, press and release Preset Key 8, then press and hold PROGRAM whilst turning the joystick to ZOOM OUT.

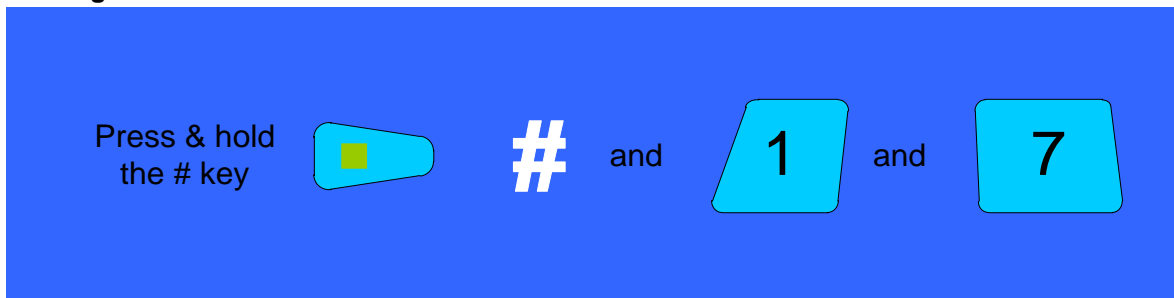


Spare Outputs

Depending on the receiver the spare output is used to provide additional outputs or used for advanced features with the Rx10X and Rx45X/55X range.

To activate, press and hold # whilst pressing Preset key 1, 2, 3, 4, 5 or 6

Sending # Commands



# Command	BBV RS422	Pelco P	Pelco D
1	Save Preset 95	Save Preset 95	Save Preset 95
2	Go to Preset 33	Run Pattern 1	Run Pattern 1
3	Go to Preset 94	Set Pattern start	Set Pattern start
4	Remote Reset	Set Pattern stop	Set Pattern stop
5	N/A	180 flip	Go to 0 Pan
6	N/A	Remote Reset	Remote Reset
7	N/A	Go to Preset 95	Go to Preset 95

If #&1 does not enter your dome menu then try #&7.

If this does not work either then you will need to consult the camera manufacture and enquire how to enter the menu this may not be supported by the Tx40X.

Protocols selection:

The Tx40X transmits BBV Up The Coax and 1 of the supported RS422/485 protocols:

BBV RS422

Pelco D 2400 N 8 1

Pelco D 4800 N 8 1

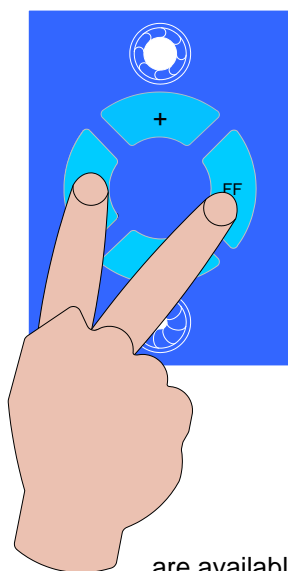
Pelco D 9600 N 8 1

Pelco P 2400 N 8 1

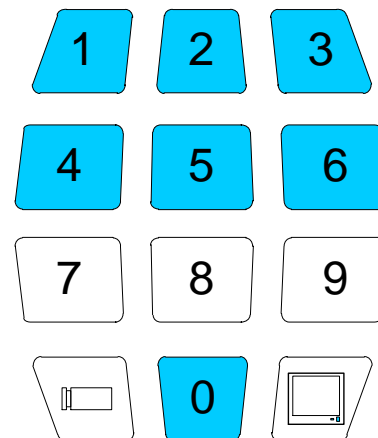
Pelco P 4800 N 8 1

Pelco P 9600 N 8 1

To select the desired Twisted pair control Protocol you will need to power up the Tx40X whilst holding FN & FF.



You will then see either 1 to 6 or 0 illuminate this shows your current Twisted Pair protocol. Simply press one of the buttons to change to that protocol. After a few seconds the unit will return to an operational state.



Protocols that are available are:



BBV422



Pelco D 2400 N 8 1



Pelco D 4800 N 8 1



Pelco D 9600 N 8 1



Pelco P 2400 N 8 1





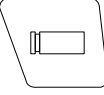
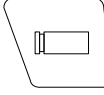
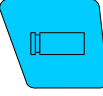
Pelco P 4800 N 8 1



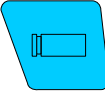
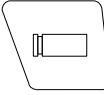


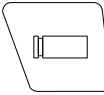
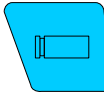
Pelco P 9600 N 8 1

Camera address selection:

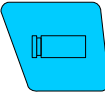
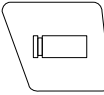

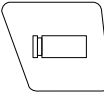
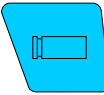
If the keypad is being used to control multiple cameras via one of the serial protocols you will need to select different cameras. This is done by the use of the number pad.

To select a camera press and hold  when it is held down the blue background will go off  while holding down the  press the required camera number and release the  and it will return to .

Example:

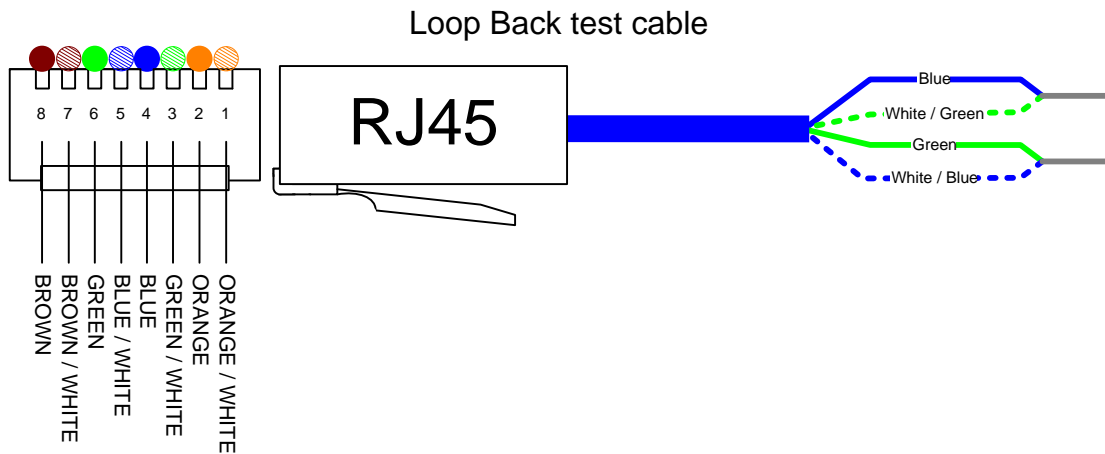
Press and hold  then it will go to  the tap  then  release the  and it will go to  and you will have control of camera 12.

To control camera 1 you would follow this example:


Press and hold  then it will go to  the tap  release the  and it will go to  and you will have control of camera 1.

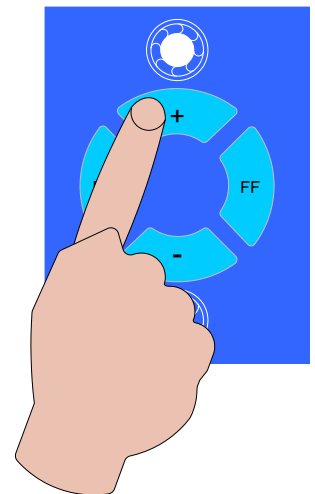
The keypad will remember the camera number that you are controlling even after you power down the keypad.


Self test of the Keypad

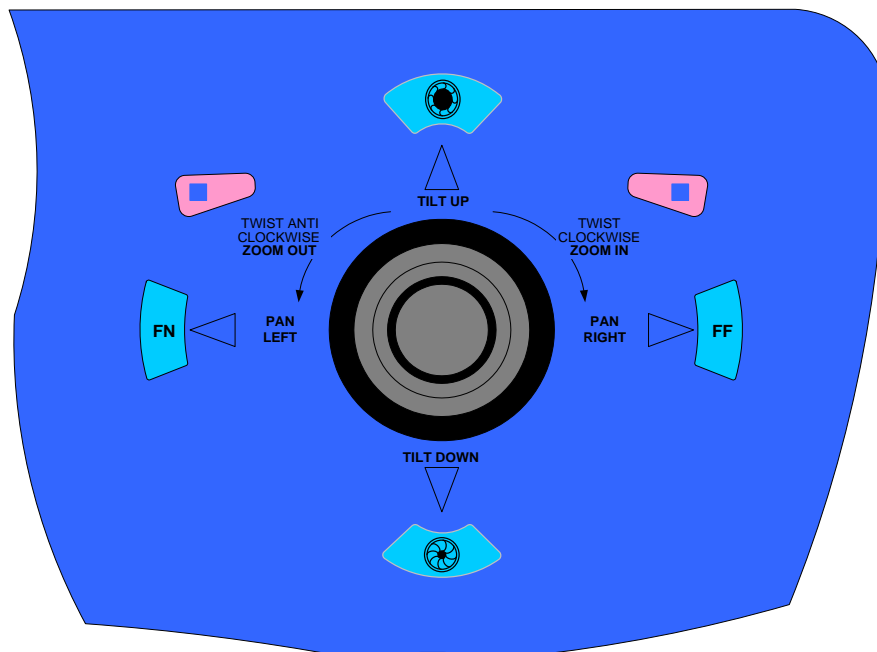











The keypad supports a self test for in the field testing. This will enable the services engineer to confirm the functionality on the Tx40X in the field. To perform this test you will need to make a Loop Back test cable.

To enter the self test mode you press & hold the  key and apply the power.











When the power is applied you will see the function keys glow pink & the number keys glow blue. When you press the keys the back lights will go out behind each key. If the Loop Back cable is not fitted or the RS422/485 port is faulty the back light will not go out. The last key you should press is  you will enter the joystick test mode. This will be signified by the Program key turn pink. When you move the joystick in the different direction you will see the respective keys illuminate.



Tx1000		<p>The Tx1000 MK2 series combines a video switch with the simplicity of installation associated with coax controlled systems. These combinations provide a flexible, cost-effective control solution for both internal and external pan / tilt / zoom and dome applications. Like all BBV products, simplicity of use and aesthetic casework are inherent in the design. The Tx1000 series supports coaxial telemetry and BBV422 telemetry as standard and 20mA twisted pair operation as an option, allowing integration with infrared, microwave and fibre-optic links, IP links an optional factory-fitted alarm card with programmable functions is available for connection to up to 16 external detection devices.</p>
Tx1500		<p>The Tx1500 series combines a state-of-the-art-video matrix with the simplicity of installation associated with coax controlled systems. This combination provides a flexible and cost-effective control solution for internal and external pan / tilt / zooms and dome applications.</p> <p>The Tx1500 series supports BBV up-the-coax and BBV 422 twisted pair Telemetry as standard, allowing integration with IR, microwave and fibre-optic Links IP. Modules can be added allowing control of several different domes or receiver types on one system. 20mA telemetry available via add-on optional Tx/MK2/TPO Additional 16-way alarm cards with programmable functions are available for connection of up to 16 external detection devices per card. Up to 6 alarm cards can be added, either local to the Tx1500, or distributed around the site allowing up to 96 inputs. System features include variable sequence dwell time, advanced alarm options including multiple events per alarm and keypad programmed to limit access to cameras and monitors</p>
FBM		<p>Available from 16 to 512 camera inputs and 16, 32, 48 or 64 monitor outputs. Distributed units allow systems of up to 4,096 cameras to be designed Up to 16 keypads Up to 512 alarm inputs</p> <p>The FBM series combines a state-of-the-art video matrix with the simplicity of installation associated with all BBV products. This combination provides a flexible and cost-effective control solution for both internal and external pan / tilt / zooms and dome applications.</p> <p>The FBM series supports BBV422/485 twisted pair telemetry as standard, allowing integration with IR, microwave and fibre-optic links. Modules can be added, allowing control of several different domes or receiver types on one system. Coaxial output cards are available for up-the-coax control of PTZ and domes. Additional alarm cards with programmable functions are available for connection of up to 16 external detection devices per card. Up to 32 alarm cards can be added either locally to the FBM or distributed around the site, allowing up to 512 inputs. Programmable features include variable sequence dwell time, multiple events and programmable alarm text per alarm upon activation. Keyboards can be programmed to limit access to cameras and monitors.</p>
AD121 Converter		<p>The AD 1-2-1 converter is designed to provide single address protocol conversion. The AD 1-2-1 converter accepts AD422 data from a single source, converts it to one of the range of possible RS485/422 protocols.</p>
BBV121 Converter		<p>The BBV 1-2-1 converter is designed to provide single address protocol conversion. The 1-2-1 converter accepts RS485/422 data from a single source, converts it to one of a wide range of possible RS485/422 protocols.</p>
Star Repeater 16		<p>The Star Repeater 16 provides a simple and cost-effective solution in the installation of RS422/485 telemetry systems. The Star repeater 16 takes RS422/485 data from one source and repeats it across 16 isolated outputs, which can be wired in a star format. This unit is optimized for camera systems that only require unidirectional commands.</p>
Starcard		<p>The Starcard provides a simple and cost-effective solution in the installation of RS485/422 telemetry systems. The Starcard takes RS485/422 data from one source and distributes it across 8 isolated outputs which can be wired in a star format or allow up to 31 cameras to be daisy chained. 8 RS422/485 outputs to allow star wiring of telemetry systems and Tx1500 Key boards and alarm Cards can also be used when star wiring is required for other systems</p>
Starcard Converter		<p>The Starcard Converter is designed to provide simple and cost effective RS485/422 protocol conversion. The Starcard converter accepts RS485/422 Data from one source converts it to one of a wide range of possible RS485/422 protocols and distributes it across eight isolated outputs. The outputs can be wired in a star format or a daisy format to allow up to 31 cameras to be controlled from each output.</p>
ASGARD HD Decoder		<p>The Asgard HD Decoder is a 30fps, 1080p standalone unit, which facilitates the streaming of camera images from one or more media servers, without the need of a PC. This enables display monitors to be mounted remotely around the premises or network. The unit can be additionally controlled by simple CGI commands from control workstations or hand held devices.</p>

**BBV design and manufacture a wide range of CCTV products, specialising in protocol conversions.
If you can't see what you require, please call for assistance.
01323 444600**

Rx10X		The Rx10X is designed to offer a simple solution for applications where there is a need to control one of a variety of 3rd Party Dome Cameras. The receiver offers considerable opportunities for upgrading existing BBV telemetry systems as it is now possible to add a wide range of integrated domes into the system.
Rx200/WBX		The Rx200 offers control of AC driven pan only or wash / wipe / lights for static cameras. The compact dimension of this PCB allows it to be fitted within a camera housing or dome as an alternative to the more usual weather-proof enclosure.
Rx300/WBX		The Rx300 offers control of AC driven pan, tilt and zoom cameras, whether mounted externally or internally. This gives you entry level control of AC Pan/Tilt/Focus with 1 auxiliary output. Controlled by BBV up-the-coax and 20mA twisted pair. The compact dimensions of the PCB allow it to be fitted within camera housing as an alternative to the more usual weather-proof enclosure.
Rx400/WBX		The Rx400P Telemetry Receiver is ideal for controlling full function ac pan/tilt/zoom Cameras in an external environment where accessories such as wiper, washer etc. are the norm. The Rx400P offers up to 16 full scene presets. These may be used as a method of visually patrolling large areas of a site. They may be interlinked with detection devices in automated system designs. Presets effectively reduce reliance on the operator.
Rx25X		The Rx25X Multiple Protocol Auxiliary Relay Receiver is designed to offer a simple, cost effective solution to activate an auxiliary output, for example to activate a Washer, Wiper or Lights in a static Camera application via a twisted pair cable. The compact dimensions of the PCB allows fitting within the camera housing.
Rx35X/WBX		The Rx35X is a telemetry receiver with ac pan and tilt outputs. It supports BBV RS422, Pelco P, Pelco D, Molynx D type, Sensormatic RS422, Vista RS485 & VCL RS485 telemetry and it allows entry level control of ac pan/tilt and zoom/focus with a wiper auxiliary output. The compact dimensions of the PCB allow it to be fitted within a camera housing as an alternative to the more usual weather proof enclosure. The unit is suitable for 230V mains operation. As a factory fitted option, the receiver can be supplied to operate from 24Vac or 110Vac. This option must be specified at the time of order.
Rx45X/WBX		The Rx45X MK5 is designed to control fixed speed AC pan & tilts heads from BBV and Baxall up-the-coax telemetry and a range of BBV485/422 telemetry protocols. The receiver offers system designers the option of using traditional P/T/Z heads for applications where it is necessary to specify a range of camera / lens combinations.
Rx55X/WBX		The Rx55X MK5 is designed to control variable speed DC pan & tilts heads from BBV and Baxall up-the-coax, and a range of RS485/422 telemetry protocols. The receiver offers system designers the option of using traditional P/T/Z heads for applications where it is necessary to specify a range of camera / lens combinations.