BBV

Telemetry Interface Installation Guide

Model covered

Rx100
Dome interface

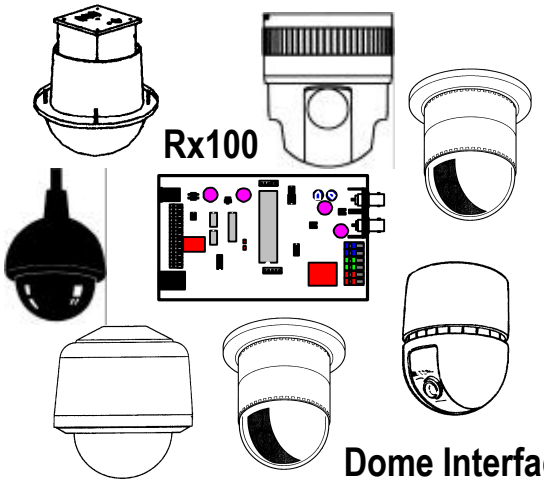

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TABLE OF CONTENTS

1. PRE-INSTALLATION CHECKS AND SAFETY PROCEDURES

UNPACKING

Check Packaging - Upon taking delivery of the unit, inspect the packaging for signs of damage. If damage has occurred, advise the carriers and/or the suppliers immediately.

Check Contents - Upon taking delivery of the unit, unpack the unit carefully and check that all the items are present and correct. If any items are missing or damaged, contact your equipment dealer.

Retain Packaging - The shipping carton is the safest container in which to transport the unit. Retain undamaged packaging for possible future use.

IMPORTANT SAFETY PRECAUTIONS

Read Instructions - All relevant safety, installation and operating instructions should be read before attempting to install, connect or operate the unit.

Retain Instructions - All safety, installation and operating instructions should be retained for future reference.

Heed Warnings - All warnings on the unit and in any relevant safety, installation or operating instructions should be adhered to.

Cleaning - Unplug the unit from the power outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

Attachments - Do not use attachments not recommended by the product manufacturer as they may cause hazards.

Water and Moisture - Do not expose the internal electronics of this unit to water or dampness; for example, in an unprotected outdoor installation, or in any area classified as a wet location. The unit as supplied conforms to ingress protection rating IP 67. This rating will be affected by any holes made in the enclosure. Cable entry points should be protected by the use of suitably rated glands and/or flexible conduit. It is not necessary to make further holes in the enclosure for mounting purposes, as mounting holes are provided at the corners of the enclosure outboard of the seal between enclosure and lid.

Accessories - Do not attach this unit to an unstable stand, bracket or mount. The unit may fall, causing serious injury to a person and serious damage to the unit.

Power Sources - This unit should be operated only from the type of power source indicated on the manufacturer's label. If you are not sure of the type of power supply you intend to use, consult your equipment dealer or local power company. For units intended to operate from battery power or other sources, refer to operating instructions.

Power Connector - This unit is equipped with coaxial power connector mounted at the edge of the PCB for low voltage power input. Do not attempt to alter this connector in any way.

Power Cord Protection - Power supply cords should be routed so that they are not likely to be trapped, pinched or otherwise damaged by items in close proximity to them, whether inside the unit or outside it. Particular attention should be paid to cords at plugs, connection units and the point of exit from the unit.

Overloading - Do not overload outlets and extension cords, as this can result in fire or electric shock.

Object and Liquid Entry - Never push objects of any kind into the unit, as they may touch dangerous voltage points or short out parts that could result in fire or electric shock. Never spill liquid of any kind on or inside the unit.

Servicing - Servicing of the unit should only be undertaken by qualified service personnel, as opening or
removing covers may expose you to dangerous voltages or other hazards.

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 internal electronics of the unit have been exposed to rain or water;
(d) If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to normal operation;
(e) If the unit has been dropped or the enclosure is damaged;
(f) If the unit exhibits a distinct change in performance. This indicates a need for service.

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

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.

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 dome in order to prevent operation while engineering work is being carried out on the Rx100.

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.

The “lightning flash with arrowhead” symbol inside an equilateral triangle is used to warn the user of this equipment that there are sufficiently high voltages within the enclosure to constitute a risk of electric shock.

The “exclamation point” symbol inside an equilateral triangle is used to alert the user of this equipment to important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

2. INTRODUCTION

GENERAL

The Rx100 telemetry interface is designed to allow control of a variety of integrated dome cameras using BBV's range of up-the-coax telemetry transmitters. See appendix A for a complete list of supported domes.

The Rx100 interface is supplied in an IP 67 rated enclosure. It will be necessary to make suitable holes in the enclosure to permit cable entry and exit. Adequately rated cable glands and or flexible conduit should be used at all times to avoid compromising the protection afforded by the enclosure as supplied. Any holes made in the enclosure for any other purpose should be sealed with a non-hardening water-proof sealant, taking care to ensure that the internal electronics are not contaminated.

Rx100 TECHNICAL SPECIFICATION

Power Requirements: 9-12V ac/dc – plug mounted PSU provided.

Current Consumption: 100mA maximum

Features:
- Serial data output either RS232, RS485, RS422.
- 4 alarm inputs.
- 1 N/C alarm output.
- Up to 16 pre-set positions can be stored within the Rx100.
- Relay capable of switching 1Kw of lighting.

Engineering Facilities:
- Unit auto-tunes to the coaxial telemetry signal.
- LED readout for continual system status.
- Video launch amplifier provided with Gain and Lift controls.
- Colour-coded cage clamp terminals. Mains terminal connections: Live, Neutral and Earth and Low Voltage.

Telemetry Signals: Telemetry signals either:
- up-the-coax (designed to operate over 500m of RG59 coax).
- or twisted pair 0-20mA current loop.

Video Input: 1v p-p 75Ω terminated input via BNC socket.
Video Output: 1v p-p to 4v p-p 75Ω impedance via BNC socket.

Up to 16 full-scene preset positions can be stored within the interface depending upon the model of dome.

Dimensions (external): Width: 190 mm
Length: 280 mm
Height: 130 mm

Weight: 1.0Kg

Temperature range: -10° Celsius to +40° Celsius

TRANSMITTER COMPATABILITY CHART

	Tx300	Tx400	Tx400DC	Tx500	Tx1000	Tx1000DC	Dome
Variable Speed	2 Speeds	2 Speeds	Proportional Joystick	2 Speeds	2 Speeds	Proportional Joystick	ABCDEF
Fixed Speed	✓	✓	✓	✓	✓	✓	DG
Zoom	✓	✓	✓	✓	✓	✓	*ALL*
Focus	✓	✓	✓	✓	✓	✓	*ALL*
Iris	✓	✓	✓	✓	✓	✓	CDEF
Pre-sets	-	8	8	8	16	16	ABCEFG
Patrols	-	2	2	2	2	2	ABCEFG
Lights	✓	✓	✓	✓	✓	✓	*ALL*
Autopan	-	✓	✓	✓	✓	✓	G
Camera Functions	-	✓	✓	✓	✓	✓	ABEFG

A Alltec Apollo
B JVC TK-C675E
C Mark Mercer D250MPT
D Panasonic WV-CSR400/B
E Panasonic WV-CSR600/B
F Pelco SD-5 Spectra
G Star MD-100

Notes:
Alltec Apollo:
Full access to the camera's menu is provided.

JVC TK-C675E:
Shutter speeds and alternate Backlight zones can be accessed.

Pelco SD-5:
'Turbo' pan/tilt mode can be used by adding option link to J6. This mode is always used when driving to a pre-set position. Dome Aux. 2 output can be switched using the WASH feature available on Tx400/Tx400DC/Tx500/Tx1000/Tx1000DC transmitters. Full dome menu accessible: Tx400/400DC '#'-'1', Tx500/Tx1000/1000DC '#' – 'WASH'.

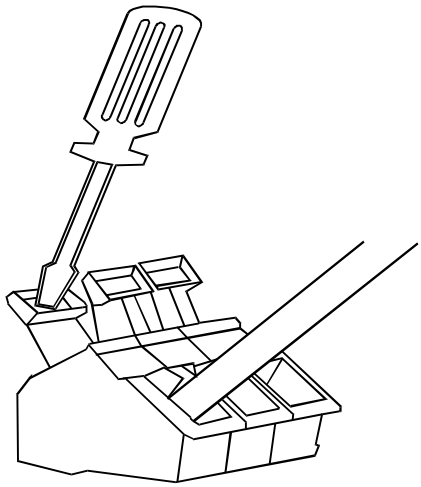
Star MD-100:
The dome provides an autopan feature between pre-set positions 7 & 8 which can be initiated using AUTOPAN on transmitter. Pan/Tilt speed fixed at 18º/second and 90º/second whilst moving to pre-set position.

May 1998

The Panasonic WV-CSR600B dome now fully supported allowing smooth variable speed control along with access to the dome's camera setup menu.

CABLE CONNECTION METHOD

Fig. 1: Wago connectors



The WAGO PCB terminal block is a simple-to-use method of attaching cables to PCBs quickly and easily. Prepare cables as follows:

- Use only cable between 0.08 and 2.5 mm²
- Strip the cable to a length of 5 to 6 mm (0.23 in)

The correct method of attachment is as follows:

1. Press down the relevant terminal block lever with a suitable screwdriver;
2. Insert wire;
3. Remove screwdriver.

The procedure for detaching wires is the reverse of the 3 attachment steps, ensuring that **power is disconnected** before starting.

CABLING RECOMMENDATIONS FOR THE Rx100 INTERFACE.

Although BBV do not specify any particular type, manufacturer or supplier of cables, the following ESD Electronic Services (01279 626777) cables have been used successfully for production and testing:

ESD Part Number:	**Description:**
0222586G (100 m)	**Co-Ax Cable (Minimum Specification)** RG59B/U ESD radio frequency coax cable to BS2316 and MIL-C-17 1/0.58mm copper-covered steel wire conductor with solid polythene dielectric, bare copper wire braid and PVC sheath Characteristic impedance: 75 Ohm Capacitance: 22pF/ft
020966D (100 m)	**Orange-Coloured Lighting Output Power Cable (1000 w)** 3183Y PVC-insulated, 3-core cable 1.25mm² 40/0.2mm annealed copper conductor Current rating: 13 amp
0140467H (100 m)	**20mA Twisted Pair Cable (Minimum Specification)** British Telecom spec CW 1308 2-core 1/0.5mm PVC-insulated Maximum conductor resistance at 20 degrees Celsius: 97.8 ohms/km

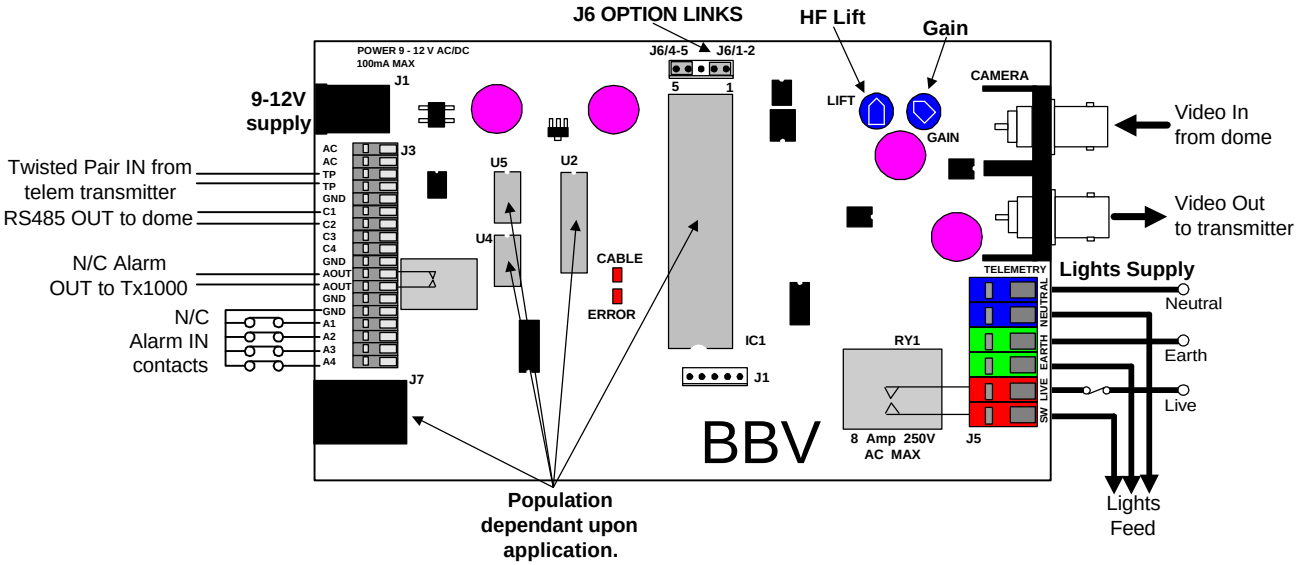
3. INSTALLATION

OPERATING VOLTAGE

The Rx100 requires all connections to the PCB to be made by the installer, and via terminal blocks or by plug and socket. These connections are: power in, video in, video out, serial data to dome. In addition connections for alarm in, alarm out and lights if required are provided. See fig.2 below for correct connections.

The Rx100 is supplied pre-configured to suit the application for which it is intended, i.e. to control an integrated dome camera.

Fig. 2 Rx100 PCB connections



Function	Connector	Type	
Power In	J1	2.1mm coaxial	
or	J3/AC-AC	Grey WAGO	
Video In	CAMERA	BNC SOCKET	
Video Out	TELEMETRY	BNC SOCKET	
Twisted Pair Telemetry	J3/TP-TP	Grey WAGO	
Serial to dome	J3/C1-C4-GND	Grey WAGO	
or	J7	FCC68	
Alarm 1 contact in	J3/A1-GND	Grey WAGO	(optional if alarm input required)
Alarm 2 contact in	J3/A2-GND	Grey WAGO	(optional if alarm input required)
Alarm 3 contact in	J3/A3-GND	Grey WAGO	(optional if alarm input required)
Alarm 4 contact in	J3/A4-GND	Grey WAGO	(optional if alarm input required)
Alarm contact out	J3/AOUT-AOUT	Grey WAGO	(optional if alarm input required)
Lighting relay required)	J5	Coloured WAGO (optional if lighting control	

(clean contact between orange connectors)

4. SETUP

DIAGNOSTIC AIDS

Two L.E.D.s are mounted on-board to give simple system status information. Their functions are as follows:

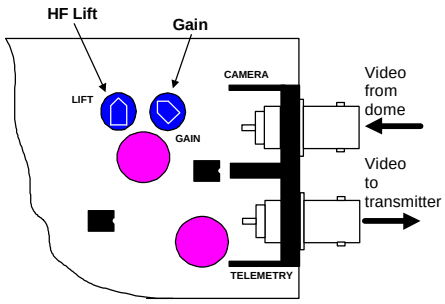
Cable LED		
Regular Blinking	-	Telemetry and video signals are OK.
Blinking but mainly ON	-	No Telemetry from the transmitter.
Blinking but mainly OFF	-	No video from the camera.
Error LED		
On	-	Telemetry transmission error.
Both LEDs		
Off	-	No power or major PCB fault.

All BBV equipment is designed to auto-tune and compensate for any discrepancies in the transmitted telemetry signal, there are no further adjustments that need to be made.

VIDEO LAUNCH AMPLIFIER AND CABLE LENGTH COMPENSATION

The interface features a video launch amplifier with two variable controls situated close to the BNC connectors: Lift and Gain. These are pre-adjusted for a cable distance of 500m of RG59, are and adjustable to compensate for video detail or signal losses if and when longer or shorter cable lengths are used to connect the telemetry transmitter to the interface.

Fig. 3 Launch Amplifier



The purpose of each control is:

GAIN varies the overall signal level.

LIFT boosts the high frequency component of the video signal. If the high frequency component is too low, picture appears 'washed out' and lacking detail.

Default position adjusted for 500M of RG59.
For shorter cable lenghts, turn the Gain control anti-clockwise until 1V p-p is present at the telemetry transmitter. For longer cable lengths, turn the Gain control clockwise until 1V p-p is present at the telemetry transmitter.

5. SYSTEM SCHEMATIC DIAGRAMS

Fig.4
SYSTEM SCHEMATIC SHOWING INTEGRATION OF DOME INTO CONVENTIONAL SYSTEM.

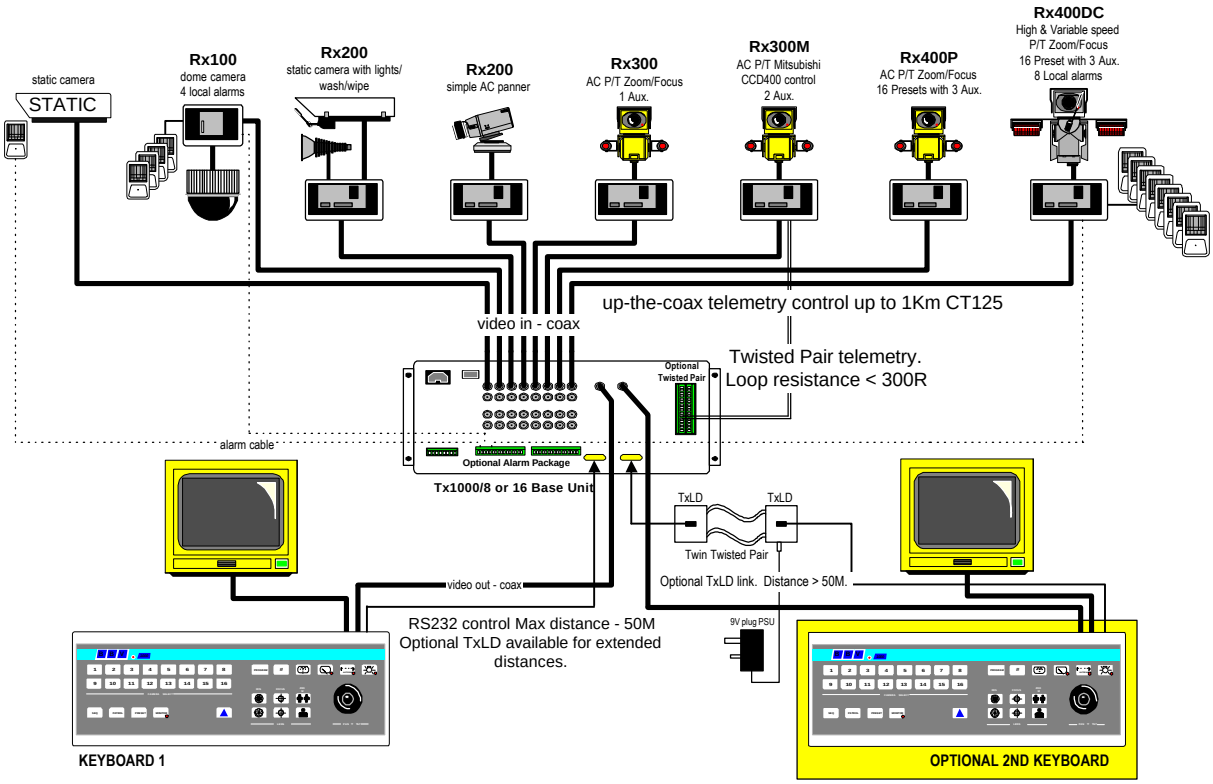
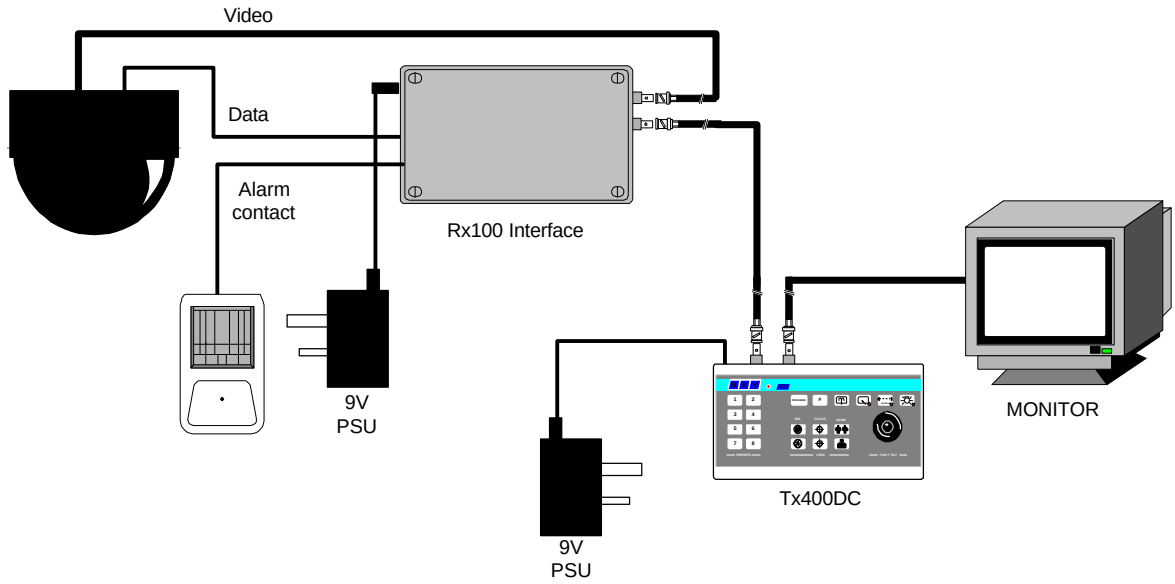


Fig. 5 SIMPLE SINGLE CAMERA SYSTEM



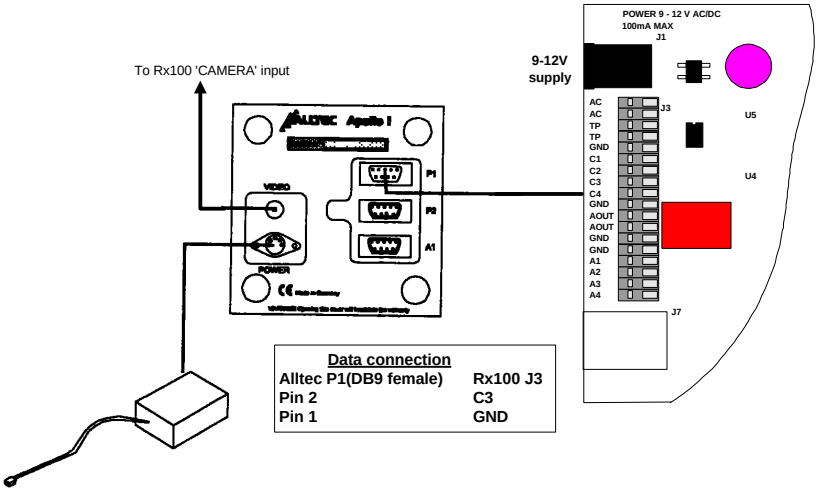
Appendix A - Dome connection details

Alltec Apollo

The dome must be powered from the power supply packaged with the dome.

Data connection via 2 wire RS232 using DB9-female to connect to P1 on the rear panel of the dome. The free end connects to J3 of the Rx100.

Video connection BNC plug – BNC plug from dome to 'CAMERA' input of Rx100.



COMMISSIONING

Connect dome and Rx100 as shown. Link Rx100 video out to telemetry transmitter using coaxial cable.

Power up Rx100 first, cable LED should blink.

Next the dome can be powered at which point a self test is performed. The dome will check both pan and tilt motors, initialise it's camera and calibrates it's preset positioning. The dome then resets the camera resulting in a temporary loss of video. When the video image has reappeared the dome is ready for operation.

FEATURES

The Rx100 provides the following features.

	Tx400DC	Tx1000DC
Pan/Tilt	Joystick	Joystick
Zoom	Zoom keys	Zoom keys
Focus	Focus keys (Holding for 2½ seconds enables auto focus)	Focus keys (Holding for 2½ seconds enables auto focus)
Save pre-set	Hold **PROGRAM** & tap **1 - 8**	Press **PROGRAM** then **1** then **1 16**
Goto pre-set	Tap **1 - 8**	Hold **PRESET** & tap **1 - 16**
Start Patrol 1	Hold **PROGRAM** & tap **AUTOPAN**	Hold **PATROL** & tap **1**
Start Patrol 2	Hold **PROGRAM** & tap **LIGHTS**	Hold **PATROL** & tap **2**

Camera Menu Commands		
Enter/Exit	Hold # & tap **1**	Hold # & tap **WASH**
UP Menu	Hold # & tap **2**	Hold # & tap **WIPE**
DOWN Menu	Hold # & tap **4**	Hold # & tap **LIGHTS**
SET	Hold # & tap **3**	Hold # & tap **AUTOPAN**

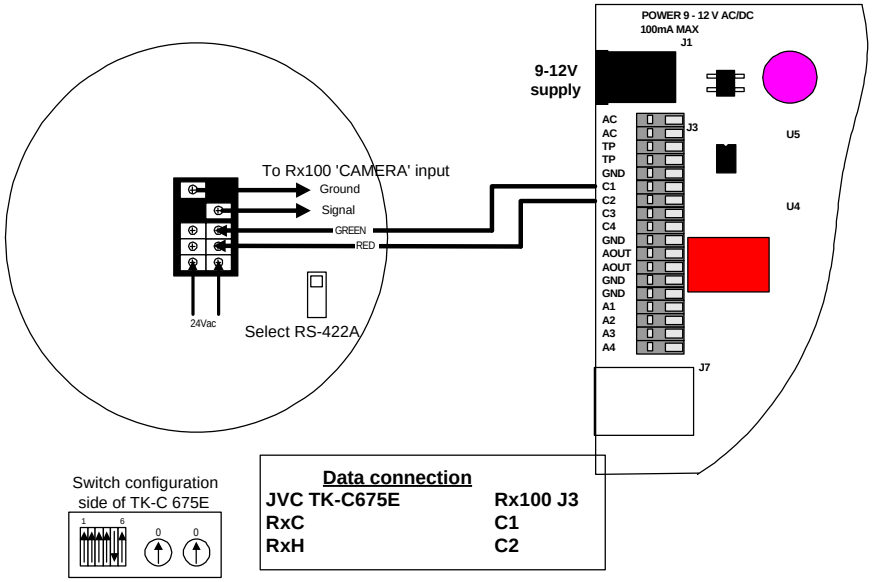
The Camera menu can only be accessed when the OPTION LINK on J6 of the Rx100 is removed.
*To prevent the camera from hanging please **ensure that you EXIT after using end option** in the camera menu.*
It is recommended that the camera menu is not accessed unless conversant with the camera settings.

Local alarm activation 1-4 will drive dome to pre-set position 1-4 if programmed.

JVC TK-C675E

The dome must be powered from a 24Vac supply.

Data connection via 2 wire RS422 using screw terminals on the dome base plate and J3 on the Rx100.
Video connection from screw terminals on dome base plate to 'CAMERA' BNC socket on the Rx100.



Switch configuration side of TK-C 675E

Data connection	
JVC TK-C675E	**Rx100 J3**
RxC	**C1**
RxH	**C2**

NOTE:
Ensure that switch on base plate set to RS-422A and that Switches 4 & 5 of DIP switch set as shown.

COMMISIONING
Connect dome and Rx100 as shown. Link Rx100 video out to telemetry transmitter using coaxial cable.
Power up Rx100 first, cable LED should blink.
Next dome can be powered at which point a self test is performed. Both pan and tilt are checked.
The dome is ready for operation.

FEATURES
The Rx100 provides the following features.

	Tx400DC	Tx1000DC
Pan/Tilt	Joystick	Joystick
Zoom	Zoom keys	Zoom keys
Focus	Focus keys	Focus keys
Save pre-set	Hold **PROGRAM** & tap **1 - 8**	Press **PROGRAM** then **1** then **1-16**
Goto pre-set	Tap **1 - 8**	Hold **PRESET** & tap **1 - 16**
Start Patrol 1	Hold **PROGRAM** & tap **AUTOPAN**	Hold **PATROL** & tap **1**
Start Patrol 2	Hold **PROGRAM** & tap **LIGHTS**	Hold **PATROL** & tap **2**

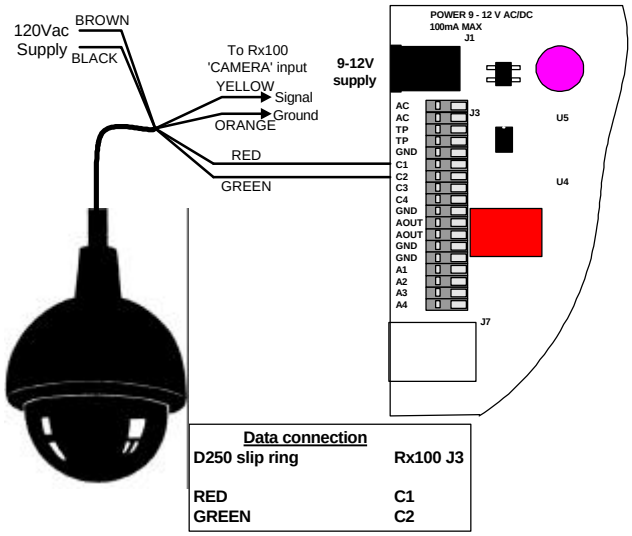
Camera		
Shutter Speed	Hold # & tap **1** (cycle 1/60,1/100, 1/1000,1/2000,1/10000 sec)	Hold # & tap **WASH** (cycle 1/60, 1/100,1/1000,1/2000,1/10000 sec)
Backlight Zones	Hold # & tap **2** (cycle Off, Zone 1,Zone 2,Zone 3,Zone 4)	Hold # & tap **WIPE** (cycle Off, Zone 1,Zone 2,Zone 3,Zone 4)
Reset camera shutter to 1/60 sec and Backlight off.	Hold # & tap **4**	Hold # & tap **LIGHTS**

Local alarm activation 1-4 will drive dome to pre-set position 1-4 if programmed.

Mark Mercer D250MPT

The dome must be powered from a 120Vac supply.

Data connection via 2 wire RS422 using terminal block from slip rings and J3 on the Rx100.
Video connection from terminal block to 'CAMERA' BNC socket on the Rx100.



COMMISSIONING
Connect dome and Rx100 as shown. Link Rx100 video out to telemetry transmitter using coaxial cable.
Power up Rx100 first, cable LED should blink.
Next, dome can be powered at which point a short self test operation is performed. The dome is ready for operation shortly after self test.

FEATURES
The Rx100 provides the following features.

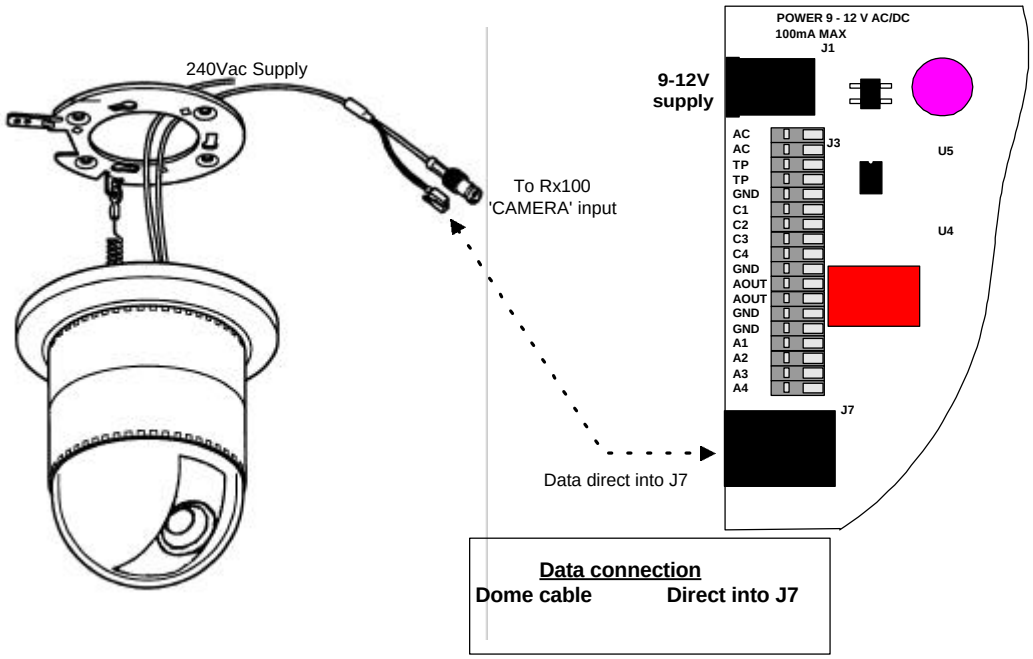
	Tx400DC	Tx1000DC
Pan/Tilt	Joystick	Joystick
Zoom	Zoom keys	Zoom keys
Focus	Focus keys	Focus keys
Iris(when fitted)	Iris keys	Iris keys
Save pre-set	Hold **PROGRAM** & tap **1 - 8**	Press **PROGRAM** then **1** then **1-16**
Goto pre-set	Tap **1 - 8**	Hold **PRESET** & tap **1 - 16**
Start Patrol 1	Hold **PROGRAM** & tap **AUTOPAN**	Hold **PATROL** & tap **1**
Start Patrol 2	Hold **PROGRAM** & tap **LIGHTS**	Hold **PATROL** & tap **2**

Local alarm activation 1-4 will drive dome to pre-set position 1-4 if programmed.

Panasonic WV-CSR400B (fixed speed)

The dome requires a 240Vac source.

Data connection using FCC68 modular cable included with dome direct into J7 of Rx100.
Video connection from BNC socket via plug-socket into 'CAMERA' socket of Rx100.



COMMISSIONING
Connect dome and Rx100 as shown. Link Rx100 video out to telemetry transmitter using coaxial cable.
Power up Rx100 first, cable LED should blink.
Next, dome can be powered up and is immediately ready for use.

FEATURES
The Rx100 provides the following features.

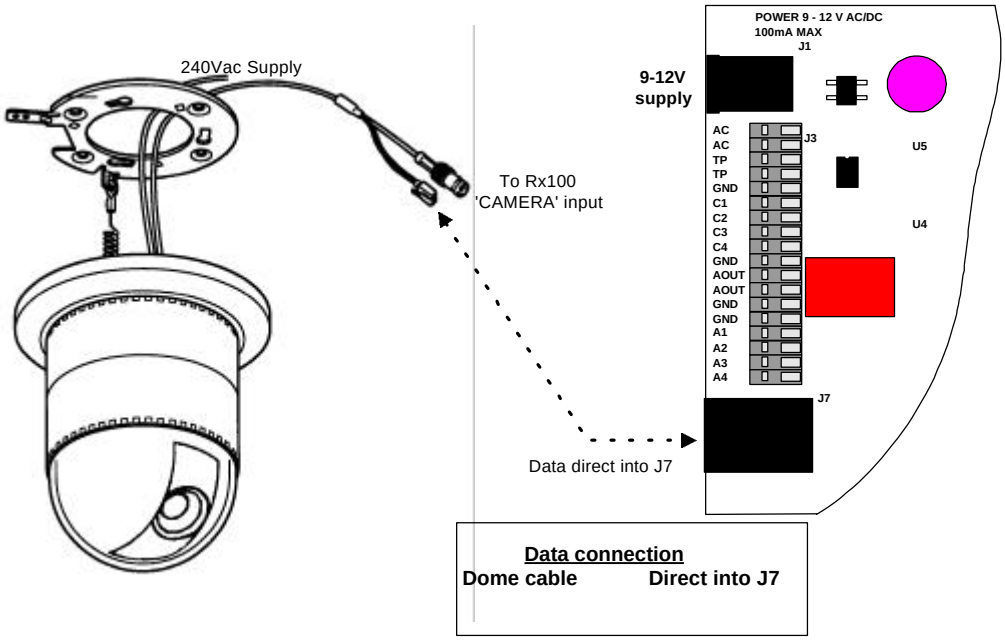
	Tx400DC	Tx1000DC
Pan fixed 24º/sec Tilt fixed 12º/sec	Joystick or Keys if none DC	Joystick or Keys if none DC
Zoom	Zoom keys	Zoom keys
Focus	Focus keys	Focus keys
Iris	Iris keys	Iris keys

Local alarm activation 1-4 will trigger alarm. The dome does not have pre-set capability, therefore head will not move following alarm activation.

Panasonic WV-CSR600B

The dome requires a 240Vac source.

Data connection using FCC68 modular cable included with dome direct into J7 of Rx100.
Video connection from BNC socket via plug-socket into 'CAMERA' socket of Rx100.



COMMISSIONING
Connect dome and Rx100 as shown. Link Rx100 video out to telemetry transmitter using coaxial cable.
Power up Rx100 first, cable LED should blink.
Next, dome can be powered up at which point a self test operation is performed. The dome is ready for use when test is completed.

FEATURES
The Rx100 provides the following features.

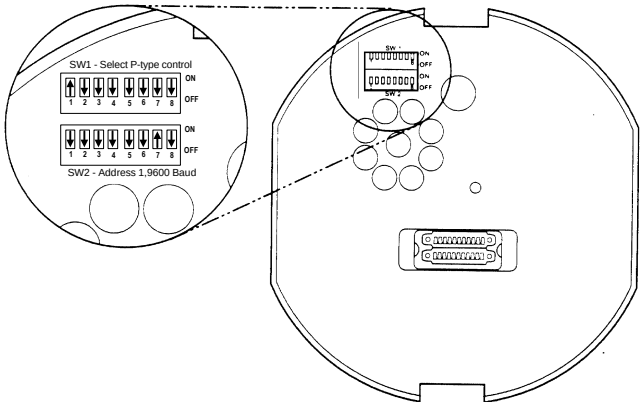
	Tx400DC	Tx1000DC
Pan/Tilt	Joystick	Joystick
Zoom	Zoom keys	Zoom keys
Focus	Focus keys	Focus keys
Iris(when fitted)	Iris keys	Iris keys
Save pre-set	Hold **PROGRAM** & tap **1 - 8**	Press **PROGRAM** then **1** then **1-16**
Goto pre-set	Tap **1 - 8**	Hold **PRESET** & tap **1 - 16**
Start Patrol 1	Hold **PROGRAM** & tap **AUTOPAN**	Hold **PATROL** & tap **1**
Start Patrol 2	Hold **PROGRAM** & tap **LIGHTS**	Hold **PATROL** & tap **2**

Local alarm activation 1-4 will drive dome to pre-set position 1-4 if programmed.

Pelco SD-5 ‘Spectra’ dome

The dome must be powered from a 24Vac supply.

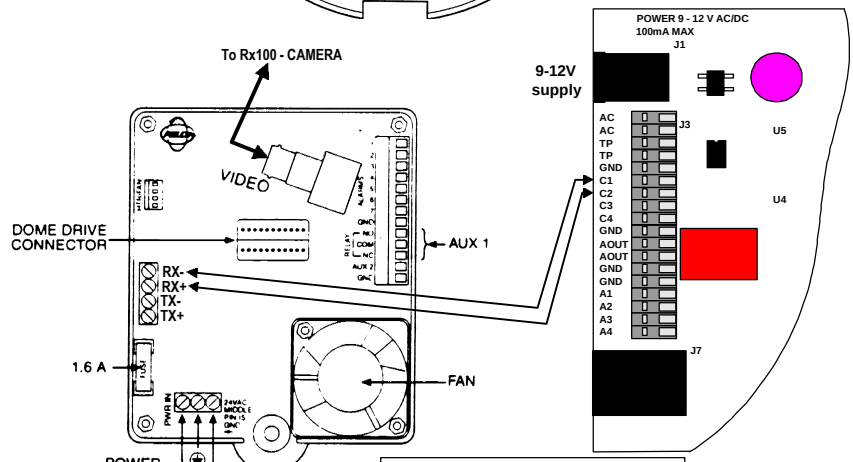
Data connection via 2 wire RS422 using screw terminals on dome back box and J3 on the Rx100.
Video connection from BNC socket on dome back box to ‘CAMERA’ BNC socket on the Rx100.



SET SWITCHES ON BASE OF DOME AS SHOWN ON THE LEFT.

SW1:1 ON, remainder OFF
SW2:7 ON, remainder OFF

These select P-type control with 9600 baud data rate.



Data connection	
Dome Back Box	**Rx100 J3**
RX-	**C1**
RX+	**C2**

COMMISSIONING
Connect dome and Rx100 as shown. Link Rx100 video out to telemetry transmitter using coaxial cable.
Power up Rx100 first, cable LED should blink.
Next dome can be powered at which point a self test is performed. On completion of the test, the dome is ready for operation.

FEATURES

The Rx100 provides the following features.

	Tx400DC	Tx1000DC
Pan/Tilt	Joystick	Joystick
Zoom	Zoom keys	Zoom keys
Focus	Focus keys	Focus keys
Iris	Iris keys	Iris keys
Save pre-set	Hold **PROGRAM** & tap **1 - 8**	Press **PROGRAM** then **1** then **1-16**
Goto pre-set	Tap **1 - 8**	Hold **PRESET** & tap **1 - 16**
Start Patrol 1	Hold **PROGRAM** & tap **AUTOPAN**	Hold **PATROL** & tap **1**
Start Patrol 2	Hold **PROGRAM** & tap **LIGHTS**	Hold **PATROL** & tap **2**
Aux2. Dome back box output.	**WASH**	**WASH**

Dome Menu	Hold # & tap **1**	Hold # & tap **WASH**

Note: Very high speed, 'Turbo mode' can be enabled when joystick moved to limits by fitting the OPTION LINK to J6 of Rx100. If the link is removed then standard speeds will be used. Turbo mode speed is used when responding to an alarm activation.

Local alarm activation 1-4 will drive dome to pre-set position 1-4 if programmed.

Note:
The dome menu is accessed by using the keystrokes shown in the above table. This key sequence sends a 'Program Preset 95' command to the dome which is a special function. The exact menu structure is explained in the SD5 Installation/Operation Manual.

As an example, the following keystrokes are used to set the maximum zoom ratio to 48. The example assumes that a Tx1000 is controlling the Rx100. Please use the keystrokes corresponding to the Tx400dc if that unit is controlling the Rx100.

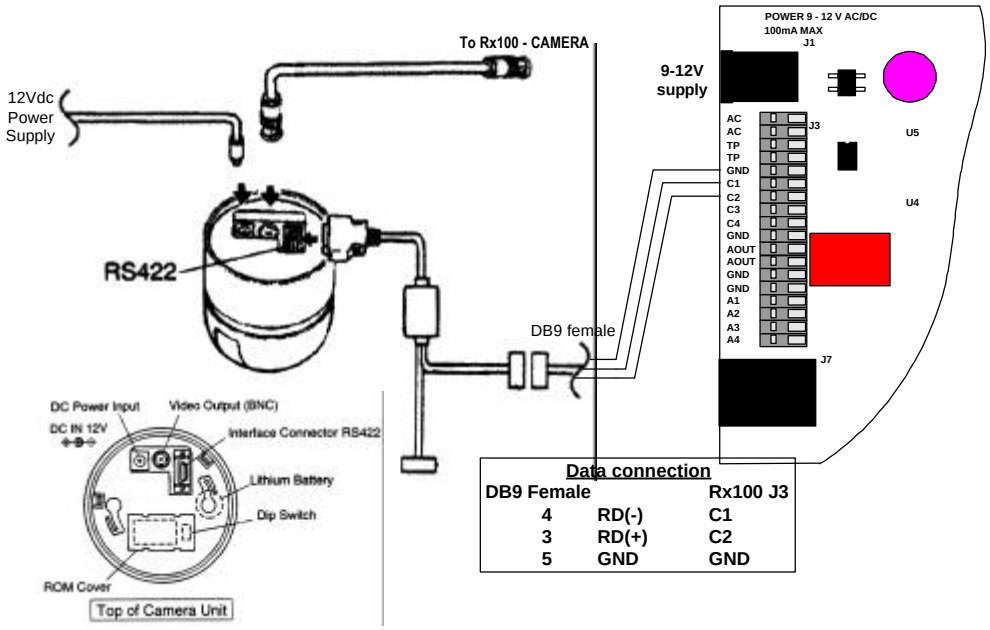
1. Select the camera to be programmed.
2. Hold # & tap **WASH.** The display shows: **<Camera>**
   <Line Sync>
   <Other>
   Exit
3. Press '**IRIS OPEN'.** The changes to indicating that this function is selected. Hold # & tap **WASH**
4. The Camera menu is now displayed: **Backlight comp Off**
   Zoom limit x96
   Reset camera
   <Gain/AGC>
   <Auto iris>
   Next
   Exit
5. The can be moved up & down by either pressing the tilt up & down keys or moving the joystick up and down. When the is beside the Zoom limit line, press '**IRIS OPEN',** the will change to indicating that this function is selected. Hold # & tap **WASH.**
6. The Zoom limit line now shows: Zoom limit **x96**. The zoom ratio can be changed by either pressing the up and down keys or moving the joystick up and down. When the correct value is displayed press '**OPEN IRIS'** to select this value. Hold # & tap **WASH.**
7. To exit from the menu, move the down to Exit and press **'OPEN IRIS'** and then Hold # & tap **WASH.**
8. Repeat step 7 to exit completely and return to normal operation.

Please refer to the Pelco documentation for a complete description of available menu settings.
The above function is available with Rx100 software Revision 2 and later. Please contact BBV for a software upgrade if required.

STAR MD-100

The dome must be powered from a 12Vdc supply.

Data connection via 3 wire RS422 using DB9 female to supplied dome cable and J3 on the Rx100.
Video connection from BNC socket on dome base to 'CAMERA' BNC socket on the Rx100.



NOTE:
Ensure that all switches on DIP switch set to OFF.

COMMISIONING
Connect dome and Rx100 as shown. Link Rx100 video out to telemetry transmitter using coaxial cable.
Power up Rx100 first, cable LED should blink.
Next dome can be powered at which point a self test is performed. Both pan and tilt are checked.
The dome is ready for operation.

FEATURES
The Rx100 provides the following features.

	Tx400DC	Tx1000DC
Pan/Tilt 18º/Sec	Joystick	Joystick
Zoom	Zoom keys	Zoom keys
Focus	Focus keys	Focus keys
Save pre-set	Hold **PROGRAM** & tap **1 - 8**	Press **PROGRAM** then **1** then **1-16**
Goto pre-set	Tap **1 - 8**	Hold **PRESET** & tap **1 - 16**
Start Patrol 1	Hold **PROGRAM** & tap **AUTOPAN**	Hold **PATROL** & tap **1**
Start Patrol 2	Hold **PROGRAM** & tap **LIGHTS**	Hold **PATROL** & tap **2**
Autopan between preset 7 & 8	Tap **AUTOPAN** after programming preset positions 7 & 8.	Tap **AUTOPAN** after programming preset positions 7 & 8.
Camera		
Shutter	Hold # & tap **1** (toggle Fixed/Auto)	Hold # & tap **WASH** (toggle Fixed/Auto)

Local alarm activation 1-4 will drive dome @ 90º/Sec to pre-set position 1-4 if programmed.

Appendix B - Trouble shooting guide.

Symptom: No video from interface.
Possible causes:
1. Camera is not powered or not connected to ‘CAMERA’ BNC on interface.
   Check power and cabling.
2. Interface is not powered.
   Check power.
3. Video out not connected to ‘TELEMETRY’ BNC on interface.
   Check cabling.

If the after following the above check list video still not present then remove both BNCs from the interface and connect together using a female/female barrel connector to check video path from camera to control point.

Symptom: No camera control but lights relay operates with LIGHTS key on transmitter.
Possible causes:
1. Dome data cable is not connected correctly.
   Check cabling, most commonly due to data cables swapped.
2. Dome configuration switches if fitted not set correctly.
   Check configuration.

Symptom: No camera control and lights relay not operating.
Possible causes:
1. Interface not seeing Telemetry signal.
   Check that telemetry is present on video cable using either oscilloscope or adjust v.hold on monitor to view frame blanking period and check for black/white band. If missing, power down/up the transmitter. Should this fail, swap video between working and non working channels.
2. Earth loops can interrupt telemetry operation if sufficiently severe.
   If hum bars are apparent, fit isolation transformer to coaxial cable.
3. Check cable and error LEDs on interface.
   See SETUP section earlier in this manual for correct indication.

If the problem persists having followed the above steps, technical assistance can be received from Building Block Video. Tel: +44 (0)1323 444600