RX300 Telemetry Receiver for ac pan & tilt heads

Installation Guide

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IMPORTANT

Before you install:

Please read the following points before servicing or installing any telemetry receiver:

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 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;
(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 PRECAUTIONS

All normal safety precautions as laid down by British Standards and the Health and Safety at Work Act should be observed and servicing should be referred to qualified service personnel.

RX300 - Introduction

The RX300 is a telemetry receiver with ac pan and tilt outputs; it allows entry level control of ac pan/ tilt & zoom/ focus with 1 auxiliary output.

The unit is suitable for 230V mains operation. As a factory fitted option, the receiver can be supplied to operate from 24V ac or 110V ac. This option must be specified at time of order.

Telemetry

Use either BBV up the coax or 20mA twisted pair.

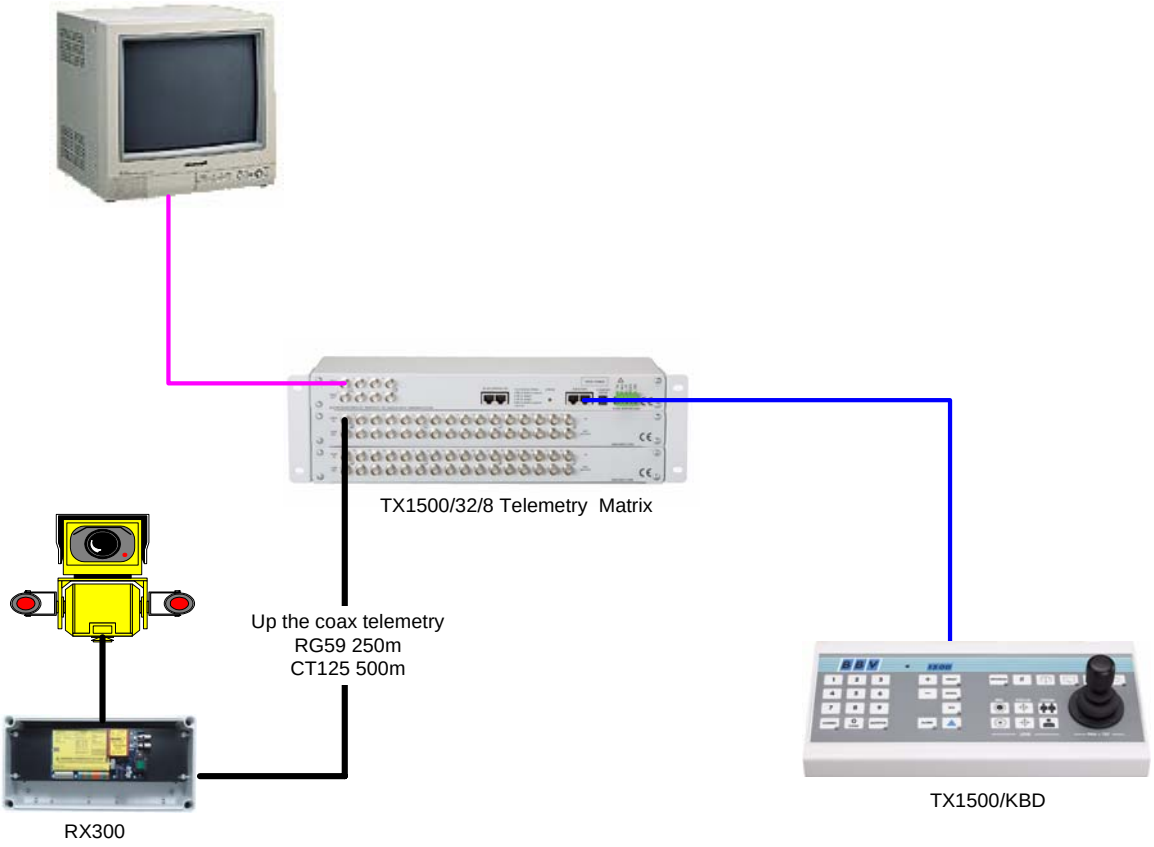


Fig 1. A simple system featuring the RX300

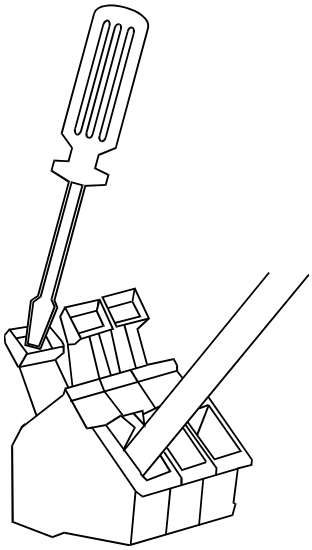
Unpacking

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

Part number	Description	RX300 PCB	Weather proof box	IEC connector	Manual	Warranty card
RX300	Telemetry receiver with ac output	X	X	X	X	X
RX300/PCB	Telemetry receiver with ac output, PCB only	X		X	X	X
RX300/24	Telemetry receiver 230V ac input 24V ac output	X	X	X	X	X
RX300/24/24	Telemetry receiver 24V ac input 24V ac output	X	X		X	X
RX300/24/24/PCB	Telemetry receiver 24V ac input 24V ac output PCB only	X			X	X
RX300/110/110	Telemetry receiver 110V ac input 110V ac output	X	X	X	X	X
RX300/110/110/PCB	Telemetry receiver 110V ac input 110V ac output PCB only	X		X	X	X
RX300/110/24	Telemetry receiver 110V ac input 24V ac output	X	X	X	X	X

Technical Specification

Power requirements	230V 50/60Hz (options are available for 24V ac or 110V ac supply)		
Load	5A at 230V max		
Current	6VA max		
F2: Auxiliary output fuse	Supply	Output	Fuse F2
	230	230	5A T
	230	24	315mA T
	110	110	5A T
	110	24	630mA T
	24	24	5A T
Outputs	5 single pole changeover relays (snubbed): 1. Left motor 2. Right motor 3. Up motor 4. Down motor 5. Single auxiliary output selectable as wash, wipe, lights (max 1kW) and autopan (interlocks with pan left/right) 6. Zoom drive 7. Focus drive 8. Iris override		
Telemetry	Up the coax: RG59: 250m CT125: 500m Twisted pair: 20mA loop (1200,E,8,1)		
Auto iris output	Returns to original setting 15 seconds after key release Level programmable from keypad To drive override input for Cosmicar, or Seiko style lens		
Video input	1V p-p 75R terminated input via BNC socket		
Video output	1V – 4V p-p 75R impedence via BNC socket		
Cabling	Belden 8723 or CAT3 (minimum)		
Dimensions	**RX300 PCB**	**RX300 Boxed**	
Depth	100mm	190mm	
Width	190mm	380mm	
Height	38mm	130mm	
Weight	0.4kg	2.5kg	



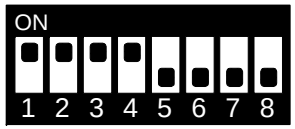
Connectors

BBV use a simple to use method of attaching cables to PCBs quickly and easily. The correct method of attachment is as follows:

1. Use only cable between 0.08 and 2.5 mm²
2. Strip the cable to a length of 5 to 6 mm (0.23 in)
3. Press down the relevant terminal block lever with a screwdriver
4. Insert wire
5. Remove screwdriver

Detachment of wires is the reverse procedure of steps 3 to 5, ensuring that **power is disconnected** before starting.

All connections to the PCB must be via terminal blocks or by plug and socket.



SW1 Lens Voltage
ON = 6V,
OFF = 12V

SW2 Iris Override
ON = 2.5-5.5V,
OFF = 2.5-12V

SW3/SW4 Aux selection

Function	SW3	SW4
WASH	ON	ON
LIGHTS	ON	OFF
WIPE	OFF	ON
AUTOPAN	OFF	OFF

SW8 ON = Start Self Test

LENS Lens voltage. 6 - 12V
INCH Inch Speed 0-100%

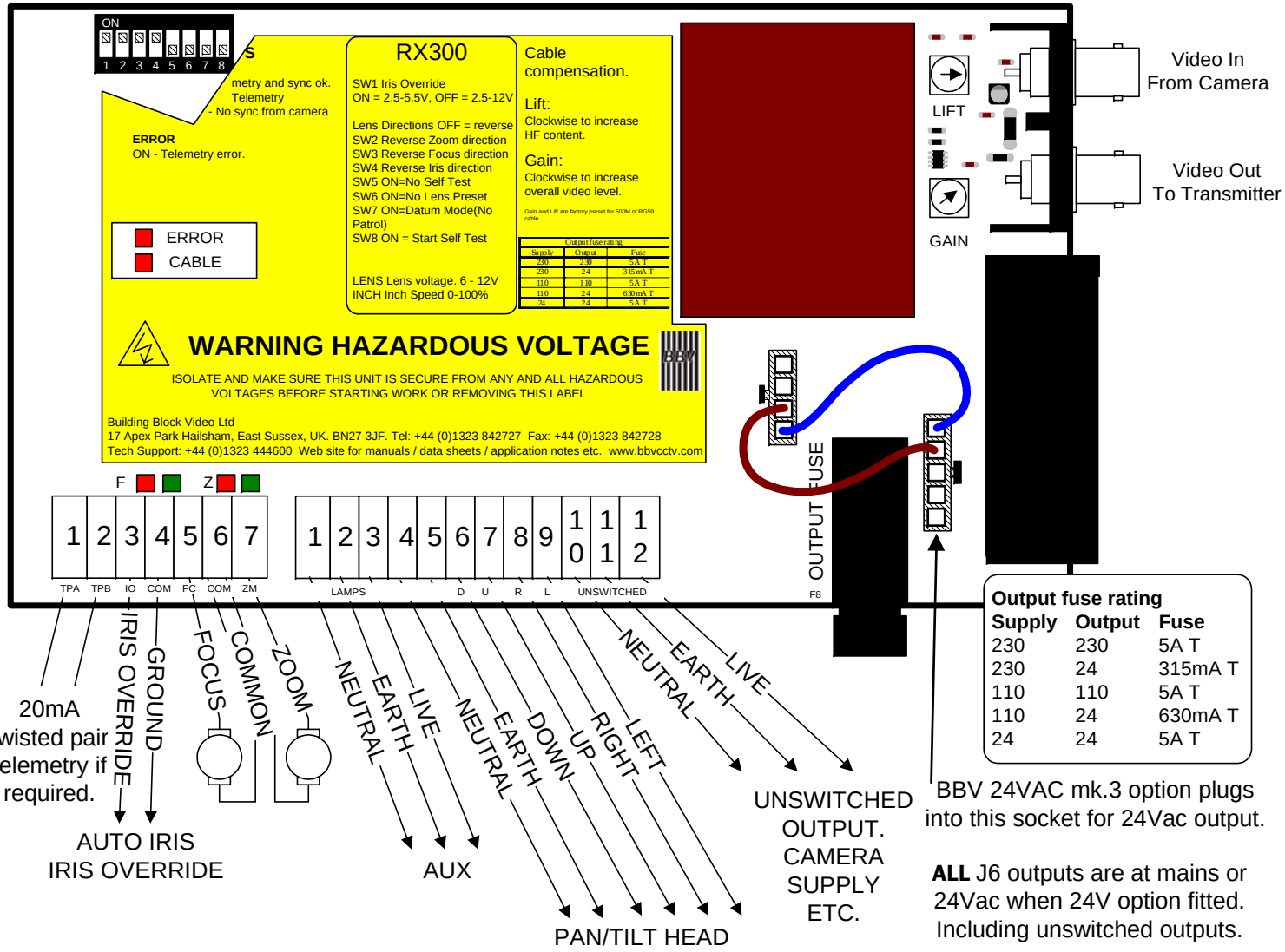


Fig.2 Wiring diagram

Rx300 Mark III Issue 10 Connections

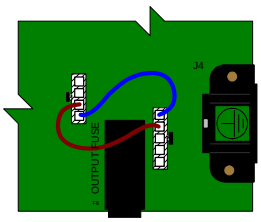
Connection Table

Function	Connection
Main Cable (18 Core)	
Camera Power Live	J6-12
Camera Power Ground	J6-11
Camera Power Neutral	J6-10
Pan Left	J6-9
Pan Right	J6-8
Tilt Up	J6-7
Tilt Down	J6-6
Motor Head Earth	J6-5
Motor Head Return	J6-4
Auxiliary Function Autopan	J6-3 **
Auxiliary Function Wash Live	J6-3 **
Auxiliary Function Wipe Live	J6-3 **
Auxiliary Function Earth	J6-2
Auxiliary Function Neutral	J6-1
Lens Drive Zoom Motor	J3-7
Lens Drive Motor Return (Ground)	J3-6
Lens Drive Focus Motor	J3-5
Auto Iris Override Ground	J3-4
Auto Iris Override	J3-3
20 mA Twisted Pair Connection	J3-2
20 mA Twisted Pair Connection	J3-1
Lighting Cable (Orange 3 Core)	
Auxiliary Function Lights Live	J6-3 **
Auxiliary Function Earth	J6-2
Auxiliary Function Neutral	J6-1

Depending on the jumper selection of SW3 and SW4, only **one of the four auxiliary functions can be selected at any one time.

Fig 3. Connection table

Connecting power



For mains voltage pan and tilt heads, the **110Vac or 230Vac** supply is made via the IEC socket J4 .

When using 24Vac heads, if the receiver is operating from a 110Vac or 230Vac supply, either a 230/24Vac kit or 110/24Vac kit is used. The jumper fitted between J4 & J5 is removed and the plugs supplied with the kit are connected in its place. Fuse F2 is changed to the value shown in the Technical Specification.

When operating from a 24Vac supply, power connection is by means of a screw terminal replacing the IEC socket:

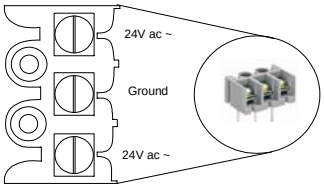


Fig 5. Screw terminal

Setting your DIL switches:

Switch	On	Off
SW1	6V lens motor drive	12V lens motor drive
SW2 (Iris remote control features)	Cosmicar lens (2.5 – 5.5V)	Seiko/Video Technical lens (2.5 – 12V)
SW3	Select auxiliary function (see table below)	
SW4		
SW5	Overrides random pan (patrol 1)	
SW6	Not used	
SW7	Overrides remote self test	
SW8	Activates self test (see pg 11)	

Fig 5. Setting your DIL switches

SW3	SW4	Auxiliary Function
On	On	Wash
On	Off	Lights
Off	On	Wipe
Off	Off	Autopan

Fig 6. Setting SW3 & SW4 DIL switches

Status LEDs

Error and Cable LEDs are mounted on board to give simple system status information. Their functions are as follows:

Cable LED

Regular Blinking - Telemetry and Sync signals OK
Blinking but mainly ON - No telemetry information from the transmitter
Blinking but mainly OFF - No sync information from the camera

What to do if your cable LED is OFF:
Check you have connected power to the RX300. If power is connected and the cable LED is still not on, please contact BBV technical support team (01323 444600)

Error LED

On - Transmission error (e.g. framing error, parity error)

Both LEDs

Off - No power, or major PCB error

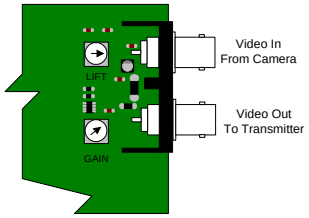
Note: As all BBV equipment is designed to auto tune and compensate for any discrepancies in the transmitter signal, there are no further adjustments that need to be made.

LAUNCH AMPLIFIER

There are two variable controls, Lift and Gain, situated close to the BNC connector J1. These are pre-adjusted for a cable distance of 500m, and are adjustable to compensate for video detail or signal losses if and when longer or shorter cable lengths are used to connect the monitor to the receiver. The ideal sync level is 300mV.

The purpose of each control is:

Lift: boosts the high frequency signal. Turn clockwise to increase HF content.
Gain: adjusts the gain of the video signal. Turn clockwise to increase overall video level.



ATTENTION: Ensure that the cable is terminated at the monitor end **ONLY**

Self Test

The diagnostic and status check is activated either locally from the PCB or via the BBV keypad.

To activate the self test locally, turn SW8 ON momentarily. This activates each camera function for two seconds in turn.

The Cable LED should be on; ie flashing or continuously. (If the Cable LED is not on, please see the Status LED section on page 9.)

The Error LED flashes at a two second rate during self test. (If the Cable LED fails to extinguish, then the unit is unable to self tune and should be returned for repair.)

Order of function test:

Camera Moves Left
Camera Moves Right
Camera Moves Up
Camera Moves Down
Auxiliary Function
Lens Zoom In
Lens Zoom Out
Lens Focus Near
Lens Focus Far
Auto Iris Open
Auto Iris Close
Diagnostic Check Complete, unit resets and continues normal operation.

Fig 7. Self test sequence

Random Pan

The Random Pan feature allows the receiver to drive the head in a left or right direction at random for a random time. The head will pause for a random time between movements. Over a period of time, the head will move between the right and left end stops. This feature does not require an autopan card to be fitted to the head.

How to start Random Pan:

Issue a PATROL 1 command from the telemetry controller. The key strokes required will vary depending upon the model of controller. Please refer to the controller handbook for details.

Installation Instructions for PCB based receivers

WARNING: THIS EQUIPMENT MUST BE EARTHED.

1. **When mounting BBV receivers on metalwork, it is essential to maintain correct earthing**

2. **CORRECT CLEARANCE**. Metal spacers M3 x 10mm long should be used to mount the PCB on the metalwork. These should be earthed to ensure optimum performance. Spacers of the correct length will ensure that minimum air gaps are exceeded.

3. Use all of the mounting points to ensure adequate support with minimum flexing when connections are made to the unit. *See diagram*.

4. In case of queries, technical assistance is available on +44 (0)1323 842727.

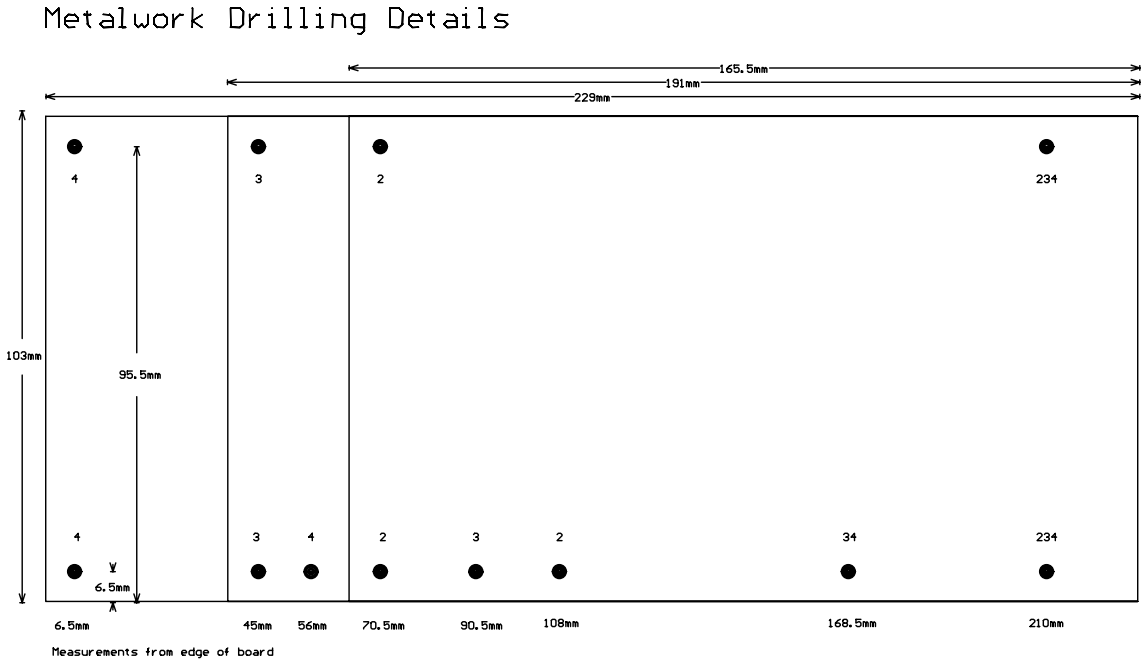


Fig 8.

Retrofitting

When using 24Vac heads, if the receiver is operating from a 110Vac or 230Vac supply, either a 230/24Vac kit or 110/24Vac kit is used. The jumper fitted between J4 & J5 is removed and the plugs supplied with the kit are connected in its place. Fuse F2 is changed to the value shown in the Technical Specification

Extend your BBV Warranty from 12 months to 3 years

As of the 1st September 2008 BBV have offered our customers the opportunity to extend the standard 12 month warranty to 3 years.

You must register for the extended warranty within 12 months of the date of manufacture.

How to register for the 3 year warranty

Registering for the new, longer 3 year warranty term is quick and easy.

Either:

Complete the warranty application card that comes in the box with your BBV product, and return it FREEPOST to BBV:

BBV 3 Year Warranty

If this card is returned with the serial number of the product and the Installation company details BBV will extend the warranty period from 12 Months to 36 Months.

☐ Number of Units, ☐ Start Serial No. ☐ Final Serial No.

Contact Name._____

Company Name._____

Phone Number._____

Site Name._____

Address 1._____

Address 2._____

Address 3._____

Post Code._____

e-mail address._____

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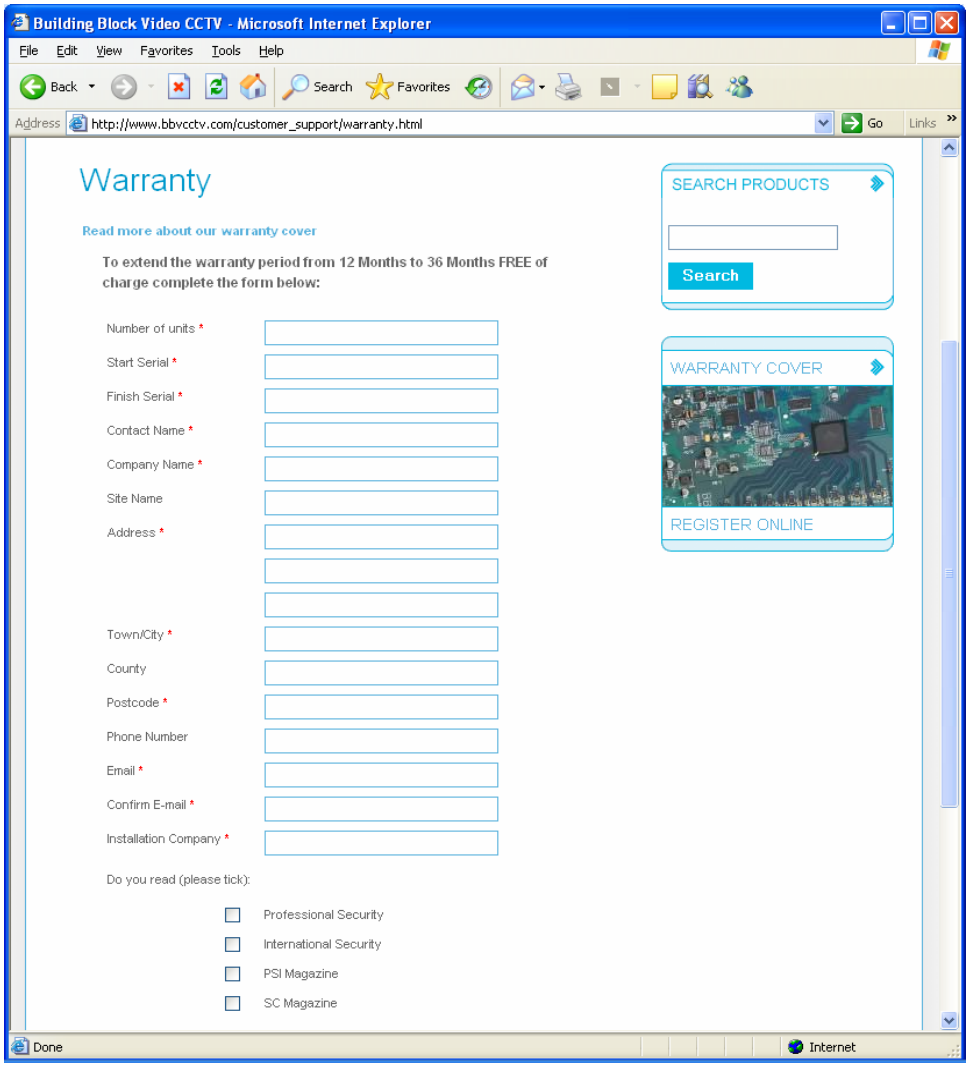

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