TM

Installation Instructions

Manual 12 – Coaxial, Telemetry-Transmitter

PY-COX-L, PY-COX-H

Use this manual in conjunction with

- Manual 1 : Operating Instructions
- Manual 2 : Network Wiring
- The instructions provided with your Telemetry Receivers

Please read this manual completely before installing your PY-COX

BLANK.

Product Safety

Please follow these instructions as you install your pyramid module and keep them for future use. If you have any problems contact your Baxall agent.

> **WARNING**: Installation is only to be carried out by competent, qualified and experienced personnel
>
> **WARNING**: Wire in accordance with your national wiring regulations. Failure to do so can result in injury or death by electric shock
>
> **WARNING**: Use a class 2 isolated power supply for the 12V DC

This product must not be used for intrinsically safe or medical applications.

> **CAUTION**: Do not exceed the voltage and temperature limits given in the specification.

Electromagnetic Compatibility (EMC)

> **CAUTION** : 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.
>
> **CAUTION** : If you are using the PCB version of this product in way other than correctly installed in our Pyramid System weather-proof boxes, then it is your responsibility to meet EMC requirements.

This product is intended for use in general purpose CCTV applications in a residential, commercial or light industrial EMC environment, refer to Baxall Security before using the product in an industrial EMC environment.

The product must be installed in accordance with good installation practice for EMC to enable the product to function as intended and to prevent EMC problems.

Contact Baxall Security Technical Support Department to obtain a specification defining the acceptable levels of product degradation with regard to EMC immunity.

MANUFACTURER'S DECLARATION OF CONFORMANCE

CAUTION : The declaration of conformance applies only to the boxed version and PCBs which are correctly installed in our Pyramid System weatherproof box.

Baxall Security Ltd declare the Pyramid module supplied with this manual is compliant with the essential protection requirements of the EMC directive 89/336 and is tested to the requirements of standards EN 55022 for emissions and IEC801 parts 2, 3 and 4 for immunity.

Contents

1. *Description*

1.1 Coaxial telemetry

Coaxial telemetry is a Baxall proprietary standard which transmits the telemetry information to the receiver along the same coaxial cable as the receiver transmits the video signal from the camera. This means that only one cable need be run from the transmitter to the receiver rather than two if the telemetry data is sent separately.

Note : The receivers for this telemetry are not Pyramid Receivers. They are Baxall Telemetry Receivers such as the ZR-minis

1.2 The Pyramid Network

The Pyramid network sends all the instructions for all the modules in the system over the same wires. The individual units recognise their instructions because at the start of every instruction is a network address. Each receiver must therefore have its own network address. This is called the module address on the Pyramid system and is the number written on the bar-code labels.

1.3 The PY-COX

The basic function of the PY-COX is to receive instructions via the Pyramid network and convert the data into coaxial-telemetry for upto 8 outputs.

The PY-COX contains 8 coaxial-telemetry channels. Each channel has a module address and 2 BNCs (In and Out) for adding telemetry data to the coaxial cable (see figure 1). It only requires a single connection to the Pyramid network via a network card.
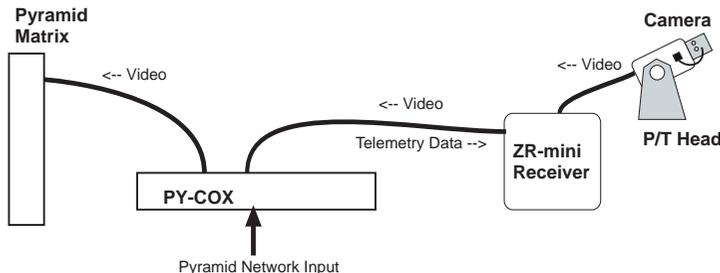
Figure 1. Illustration showing coaxial connection from matrix to receiver

Your PY-COX has 8 network addresses, and 8 bar-codes, one for each of the 8 channels.

1.4 The Front Panel

Figure 2 shows the front panel of the PY-COX.

Power LED   Channel Indicators and Service Pins
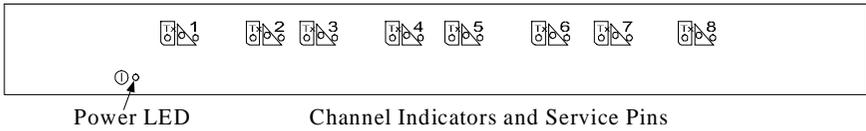
Figure 2. Front panel detail

Your PY-COX is standard 19" x 1U rack mounting equipment.

The 8 channels have 3 cut-outs each on the front panel (figure 3).

Coaxial Tx   Service Pin   Service Pin
   LED   Access   Tx LED
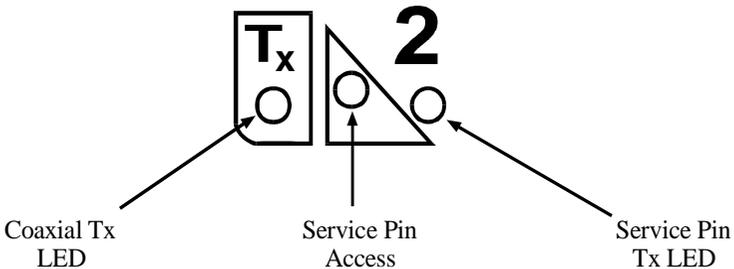
Figure 3. Channel Indicators and Service Pin Button

The central cut-out is a push button which transmits the channel's Neuron ID onto the Pyramid network. This is called the Service Pin on the other Pyramid components.

The cut-out to the right of the service pin (below the channel number) is an indicator LED which lights briefly when the push button is pressed to indicate that the Neuron ID has been transmitted.

The other cut-out to the left of the service pin (below the Tx symbol) contains an LED which indicates when coaxial telemetry is being transmitted to the receiver. The LED will flash rapidly when a video signal is connected to its channel.

1.5 Installation and the Installation Tool

Once the unit is physically installed it must be installed on the network using the installation tool. The installation tool is a computer kit that includes software and a plug-in card which communicate between your computer (PC-compatible - refer to installation tool instructions for minimum requirements) and the Pyramid network.

The installation tool performs a process called binding. Binding must be applied to all the Pyramid modules in order that they work together. Its purpose is to introduce the new module onto the network by informing the other Pyramid modules of the channel addresses (Neuron IDs) so that they can talk to each other.

To bind the system the installation tool must know the module address of each of the channels. To do this you can either scan the bar-code labels, type in the numbers under the bar-codes (using the PC keyboard) or push the service-pins on the front panel.

Note : the installation tool can only bind channels while a video-signal is connected.

2. Unpacking

Keep your packaging for use if your PY-COX is stored for a time or needs to be returned for whatever reason. The packaging should contain:-

- *Your PY-COX-H or PY-COX-L (check the serial number label on the unit)*
- *A 5-way network terminal block*
- *A mains connector*
- *A Module Description Sheet (for installation details)*
- *These Instructions*
- *8 individual bar-codes*

Check the product code on the serial number label. If you have an incorrect item or it is damaged then inform the suppliers and carriers immediately. If this is the case then do not attempt to use your PY-COX.

3. Installation

This consists of connecting the coaxial cables, connecting the Pyramid network, and connecting the power. Once this is done all the physical connections are made and it only remains to bind the channels to the network using the installation tool.

3.1 Network Card

A PY-COX-H has a PY-FTT, and a PY-COX-L has a PY-COM combination network card already fitted. The PY-COX-H runs a 78k FTT10 network and a PY-COX-L runs a low-speed RS485 network.

3.2 Connecting the Coaxial Cable

Figure 4 shows the back panel of your PY-COX.
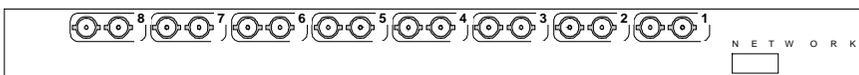
Figure 4. PY-COX back-panel

The BNC connectors for each channel are numbered from right to left.

Note : each pair of BNCs can be used in either direction (figure 5)
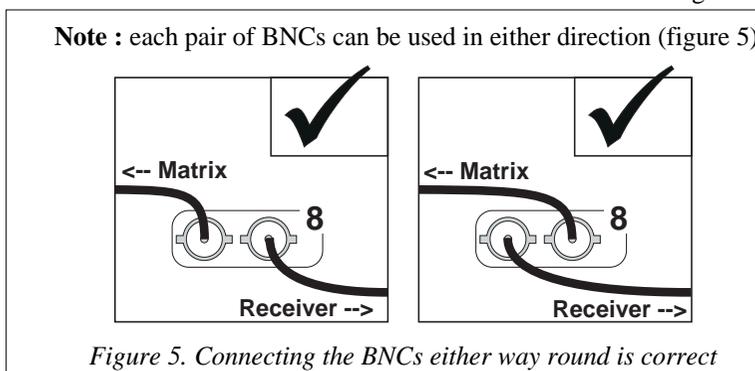
Figure 5. Connecting the BNCs either way round is correct

All video connections must be via 75 ohm BNC connectors and video coaxial cable.

- Connect each of your receivers to one of each of the pairs of BNCs.
- Connect the other BNC of each pair to your matrix

3.3 Connecting the Pyramid Network

The network plug provided has 5 terminals. Figure 6 shows the network connections for both the FTT10 and RS485 networks (-H and -L).
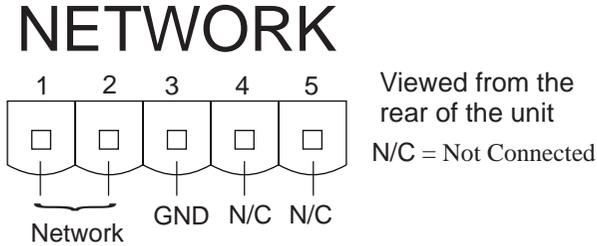
NETWORK

Figure 6. Network Connections

Note : The FTT10 (PY-COX-H) and RS485 (PY-COX-L) networks are polarity insensitive.

Using the 5-way plug provided:-

- Connect your PY-COX to the network.
- Connect the cable screen to GND on pin 3.

3.4 Connecting the Power

Your PY-COX has an external 115/230V at 47 to 63 Hz auto-line-switching power supply.

An IEC connector is provided to connect a mains lead to the power supply (shown in figure 7).
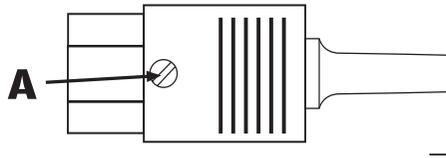
Figure 7. Illustration of IEC plug provided

To power your PY-COX firstly wire the IEC connector according to the instructions below.

Warning : ensure that all power supplies are off before wiring the IEC connector. Failure to do so may result in electric shock.

- Remove the top from the IEC connector by turning the screw indicated with an **A** in figure 7 anticlockwise using an appropriate screwdriver.

Then, referring to figure 8:

- Connect the Neutral (blue) wire to the terminal marked N.

- Connect the Earth (green and yellow) wire to the terminal labelled E or marked by a ⏚ symbol.

- Connect the Live (brown) wire to the terminal marked L.

the Xs indicate contact labels:
N = Neutral : Blue
E = Earth ⏚ : Green/Yellow
L = Live   : Brown
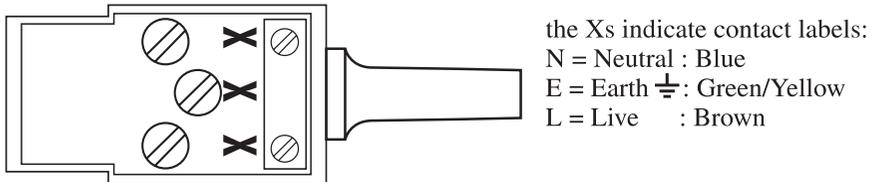
Figure 8. Internal connections on the IEC plug

Next,

- Tighten the cord grip

- Refit the lid and tighten down using the screw labelled A in figure 7.

- Insert the mains connector into the socket on the power supply

- Connect and switch on the power.

3.5 Using the Installation Tool to install your PY-COX

Once you have physically connected your PY-COX and receivers they require binding to the network using the installation tool (see the installation tool instructions).

Note : Your Pyramid system and installation tool must be running to perform these operations. Also note that the installation tool can only bind channels while a video-signal is connected.

Once you are running the installation tool the PY-COX is defined one channel at a time as follows:

- Run the installation tool and open your site

- From the Definitions menu select Matrices then click on the Video Sources tab in the dialogue box

- Select the relevant camera input using the prior and next buttons

- Activate the receiver check-box

> **Note :** The channels on the PY-COX can be bound as any of the available types of receiver and still operate correctly.

- Select the type of receiver as <u>any</u> of those listed in the Type list box.

- Click on the Neuron ID box and enter the Neuron ID using one of the methods detailed in Appendix A.

- Repeat the above for all 8 channels.

Bind the PY-COX channels using the installation tool as you would any other receiver.

- From the Tools menu select <u>B</u>inding

- Click on the <u>M</u>anual configure button

- Select each channel in turn and click on Bind

4. Trouble Shooting

4.1 Updating your PY-COX software

To load enhancements to your PY-COX you can use the installation tool utilities section and send a .NXE file. The new software file should be sent to each of the PY-COX channels in turn because they each have an individual Neuron ID.

> **Note :** the software can only be down-loaded while a video-signal is connected.
>
> **Note** : This is not a standard operation and is only intended to be carried out by installers

- Power your Pyramid system and PY-COX so that it is running

- Ensure that a live video source is connected to each channel as it is updated.

- Start Windows and run the Pyramid Utilities program (it may be a separate icon in the program manager or it may be selected from the tools menu of the Installation Tool program)

- Use the method listed above (section 3) to capture the Neuron ID for a channel

- Select the correct .NXE file and select the 'Program' button in the Utilities dialogue box.

Do this for each channel (8-times). Once for each Neuron ID.

4.2 Setting Presets

If your presets are already set from the previous transmitter you do not need to change them. They are stored in the receiver and can still be called by the Pyramid system.

You can set the presets on your PY-COX receivers as you would with a Pyramid receiver if you have a ZR4-mini from after March '96. See the Pyramid Advanced Operating Instructions - Manual 1b.

The PY-COX uses enhanced mode preset setting, this is not compatible with Baxall receivers built before March '96.

If you cannot set the presets and you have an older receiver then see Appendix B - Setting Presets in Standard Mode.

4.3 'No Rx' message for a camera which has a receiver.

Rx is an abbreviation for receiver

You may have 'Receiver present' switched off in the 'Video Source Config' menu. Enter the menu system and change the setting.

4.4 Switching your PY-COX between a PY-COX-H and a PY-COX-L

The difference between the two versions of the PY-COX is the network speed. To change between them requires a change of software and the moving of a link.

> **Note** : This is not a standard operation and is only intended to be carried out by installers

To change your PY-COX between high and low speeds

- Download the correct software to each channel (see section 4.1) then,

- Refer to figure 9 and move the link to the correct speed setting.
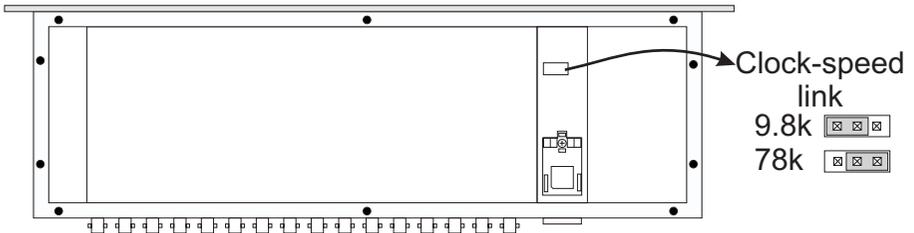
Figure 9 Location of Speed Link Inside the PY-COX

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5. Specification

Video

8 loop through non-terminated channels (2 BNCs per channel)

All video composite video 1V pk-pk into 75 ohms

Telemetry

8 channels

Baxall Proprietary Coaxial-Telemetry according to Baxall Telemetry Standard

Operates Baxall coaxial-telemetry receivers (post 1988 only).

Network

8, separate Neuron IDs (module addresses) 1 for each channel.

PY-COX-L standard, low-speed (9k8 Manchester Encoded), RS485, non-terminated, Pyramid network provided by a PY-COM network card.

PY-COX-H standard, high-speed (78k Manchester Encoded), FTT10, Pyramid network provided by a PY-FTT network card.

Power Supply

Physical input is a standard IEC connector (provided)

Physical output 800 mm flying lead to main unit

Electrical Input : 115/230V AC, 1.2A at 47 to 63 Hz. Automatic line switching

Electrical Output : 13.5V at max. 2.8A

Physical

Weight (main unit) : 1.6 kg

Weight (power supply) : 0.4 kg

Dimensions (main unit) : 19" x 1U standard rack mounting equipment (482 x 44.5 x 152 mm)

Dimensions (power supply) : 128 x 75 x 43 mm

Temperature Specification

Operational temperature limits:-

-10ºC to +50ºC at 10% to 80% relative humidity (non-condensing)

Storage temperature limits:-

-20ºC to +60ºC at 10% to 95% relative humidity (non-condensing)

Appendix A

Selecting a Neuron ID box in the installation tool presents the following message
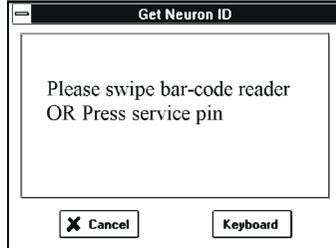
Use one of the following 3 methods to enter the Neuron ID:

CAUTION : The Service Pin Access (figure A) is less than 5 mm deep. Do not force any objects further inside the access cut-out as this will result in damage to your PY-COX.

1.) Using a jewellers screwdriver or similar fine object to push the button through the service pin access on the front panel (figure A)

| Coaxial Tx | Service Pin | Service Pin |
| LED | Access | Tx LED |
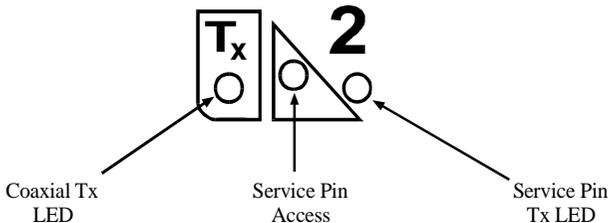
Figure A. The 2 indicator LEDs and service pin locations

As you press the Service Pin the Service Pin Tx LED should light (figure A) and the Neuron ID box should immediately display the Neuron ID (an alpha-numeric hexadecimal number).

If it does not then check all your connections and check that all your modules have the correct network cards and are running at the correct speed.

2.) Swipe the bar-code using the bar-code reader.

3.) Click on the Keyboard button and type in the Neuron ID written below the bar-code.

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6. Appendix B

NOTE
The presets are stored in the receiver. If the receiver was previously used you need not change the presets, they can still be called from the Pyramid System. If you have difficulty setting presets then you can set them using a different Baxall transmitter and call them from the Pyramid system.

To set presets in standard mode, starting with preset 1:

- Select the camera (ensure that the LCD indicates telemetry-control by offering a choice of auxiliaries)

Entering Preset Setting Mode

- Set the Auxiliaries as shown on the following illustration of the LCD display[*].

```
Auxiliary B V:0001 M:001
Chng  ON:A D  OFF:B C
```
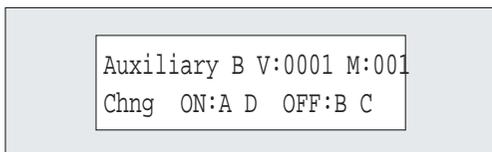
- Switch Auxiliary B, ON then OFF, 4 times

The camera should move to the first preset.

You are now in Preset Setting Mode.

Setting the Presets (in Preset Setting Mode)

Preset Setting Mode terminates after 60 seconds of inactivity or after Preset 8.

- Adjust Pan, Tilt, Focus and Zoom for the current preset.

- Press either IRIS key to store the preset

- Switch Auxiliary C, ON then OFF, once to move to the next preset

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[*] For those not accustomed to auxiliaries : Use the LIST-Up/LIST-Down arrows to the right of the LCD to select which preset to change. For each auxiliary, press the softkey below 'Chng' to toggle between OFF and ON (as displayed on the LCD).

- move through the 8 preset positions (IRIS to store and Aux C - ON then OFF to move to the next preset)

After preset 8 the ZR4-mini returns to normal mode

> **Note :** Standard mode applies to ZR4-mini receiver manufactured before March '96. It is preferable to use Enhanced mode wherever possible as this is a faster and more convenient method.

NOTES.

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Visit our web-site at www.baxall.com