



Robo NiteDevil 2020 + IR

Installation and Operation Manual

PTZ960 *HIGH* Speed Armoured Pan Tilt Zoom 24V AC model with Infrared Camera & Wiper

Models Covered

PTZ960N 30x Zoom



Version 1.0

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Please read this operation manual carefully
before installing and using this unit !!!!



Please read the following;

1. Please read the operation manual carefully before installing and operating the product.
2. The PTZ960 requires a 24v AC 2.5A power supply. The rated input voltage of the camera in the PTZ is 12V!!!! This gets its power from the PTZ960 and does not require a separate PSU. Do not connect 24V AC to the camera under any circumstances!!
3. During the course of transportation, storage and installation, the product should be handled with care avoiding vibration and any weight pressure, which may cause damage to the sophisticated optical and electronic equipment inside the machine.
4. Do not attempt to disassemble the camera. In order to prevent electric shock, do not remove screws or covers. There are no user-serviceable parts inside the camera.
5. Always use and stick to current electrical safety standards to install and use the PTZ960. Use a correctly rated power supply. The RS-485 and video signal cables should be kept way from other high voltage equipment such as mains cables and especially fluorescent lights. Using an anti surge protection device is recommended to prevent damage to the PTZ960 from lightning and mains surges. Damage to units by lightning or mains voltage surges is not covered under the product warranty.
6. Do not operate in areas exceeding the stipulated limitations concerning temperature, humidity and power supply.
7. Do not aim the camera directly towards the sun or an extreme light source whether it is switched on or not. Do not let the camera focus on bright and stationary objects for a long time. Doing either of these may damage the camera.
8. Do not use strong detergents to clean the main body of the camera as these may damage the PTZ paintwork. Wipe dirt away with dry cloth. If needed a *mild* detergent can be used.
9. Operate the PTZ camera with care avoiding shock or vibration. If operated incorrectly, the PTZ could be damaged.
10. Ensure the PTZ is not dropped. The PTZ960 weighs approximately 7.5Kgs so never mount the unit on a structure that cannot support its weight.
11. When this unit is in use, avoid direct eye contact with the infrared lights.
12. The unit's outer case can heat up to 55°C when in use and care should be taken to ensure that this PTZ is fitted where it cannot be easily touched. It must also not be fitted in close proximity of any flammable materials.

KEY FUNCTIONS

The Armoured PTZ960 –

Description of Functions

This intelligent armoured PTZ is a hi-tech CCTV product, which incorporates a high-clarity colour camera. It has a panoramic variable speed PAN/TILT movement, a multifunctional decoder, a character generator and an on-board processor for logic handling. The PTZ960 is easy to connect, install, maintain and operate, and has many special features. Its unique design and shape offers a more obvious deterrent with its infrared capability and robust construction. The PTZ960 has more vandal resistant features than a standard PTZ dome and is a good choice for both indoor and external surveillance.

1. Integrated Multi-Protocol Decoder

- a. The integrated multifunctional decoder can communicate with 16 different protocols. The baud rate can be independently set allowing compatibility with numerous systems with selectable baud rates from 2400 bps to 19200 bps. Dip switches control the selection of the protocol and baud rate thus making this PTZ easy to set up and use.
- b. The PTZ960 uses RS485 serial control with address ranges between 1 and 1023 using binary dipswitch settings.

2. Integrated Speed-Variable PAN/TILT

- a. The PTZ can turn 360° horizontally and continuously with unlimited positions with a manual speed from 0° ~ 160°/s and vertical rotation from -90°~ 90° with a manual speed of 0° ~ 80°/s. The PTZ can run at low speed, low noise, and does not show any picture shake.
- b. The PTZ960 is a high precision unit and maintains preset positions up to $\pm 0.1^\circ$.

3. High Intelligent Settings

- a. This PTZ can store up to 128 preset positions in non-volatile memory that are not lost with a power failure. Refer to the section “Presets and other functions.”
- b. The PTZ can scan horizontally between two points and the scan speed can be modified. The PTZ can scan a range larger or smaller than 180° between any two points with adjustable speed settings. Refer to the section on “Auto Scan.”
- c. Six sets of tours (patrols) each with 16 preset positions can be programmed. The running speed and the dwell times are adjustable. Refer to the section on “Patrols (Tours).”
- d. The PTZ camera can simulate a route operated by you for at least a 120 second interval by utilising the Record Pattern facility. Refer to the section on “Record Pattern.”
- c. The logical structure of the menu makes all setups and programming of the PTZ camera more convenient and easy to operate.
- d. Long focus speed-limited function. The PTZ can automatically adjust the manual control speed to ensure rapid and accurate target searching. The larger the magnification, the slower the manual control speed.

4. NiteDevil Feature

- a. The NiteDevil camera module incorporates a slower shutter speed allowing the camera to see more at low light levels. This camera option is best suited to slow moving scenes or stationary scenes.

-
- b. If you have an N camera module you will notice that there are different keyboard commands used. Extended commands are available by setting the MORE option in the Advanced menu so that for example a tour can be initiated using a CALL 65. A full list is detailed and options detailed in the MAIN MENU instructions. **NOTE that the N module is integrated into the PTZ menu functionality and therefore does not have a separate camera module menu.**

5. Special Dome Features

4 channel alarm input activation & single channel alarm output

One of the special features of this dome is that it has four in-built alarm channels to call four independent presets. This means that for example you may have a door contact and when the contact is closed, it sends a 0 volt alarm switch to the dome on one of the four alarm channels. The dome will then call a previously set preset position and lock the camera onto that position. A single channel alarm out, allows the connection of an audible alarm, lighting or other warning device. When more than one alarm input channel is utilised and activated, the dome will switch to the next channel after two seconds. However once an alarm input channel has been activated, the dome will remain locked to the preset position/s and will not resume a patrol, auto scan or a record pattern until the alarm condition is cleared. However the ALARM SETUP options in the dome SYSTEM SETUP menu can be set to return to a home position if necessary. Four alarm channels can call preset positions 1 ~ 50. Example: Alarm channel 1 ... could call preset number 29, Alarm channel 2 preset 30, Alarm channel 3 preset 31 and Alarm channel 4 preset number 32. See “Physical installation of the dome.”

Do not use Preset 1 for an alarm trigger as initiating two preset 1 commands in quick succession triggers the PTZ menu display.

Infrared System

The infrared system runs normally under automatic control. The PTZ960 has an automatic intelligent IR light facility that is coupled to the focus operation so that wide angle shots are given a wide diffused IR beam whilst longer distance shots are given a more powerful narrower IR beam.



The Infrared lamps illuminate in a low light condition and switch off when light levels improve. A menu default option is set to **OFF** for **normal operation**. The user may set the option to **ON to force the Infrareds to illuminate** but if it is required to return to normal mode the option must be set to **OFF**. To stop the PTZ from oscillating between infrared illumination on and off during low light conditions, the PTZ is automatically set to keep the infrared illumination on for 30 minutes once it has been triggered.

Wiper Control

The PTZ960 incorporates a wiper facility to clean the front glass cover. Note that the wiper is not a windscreen wiper as used in a car. The purpose of the wiper is to clear away dust on a periodic basis from the front glass lens cover without having to have physical access to the PTZ. It is recommended to do this in wet weather so that the wiper has some lubrication.

Heater Control

The PTZ960 incorporates a heater to clear condensation. The option is found under DEFOGGER in the Control Setup menu.

Getting the PTZ up and running!



You **MUST** connect up the PTZ and your control equipment on a workbench or kitchen table before the actual site installation and **CHECK YOU KNOW HOW TO INSTALL IT CORRECTLY!!!!!!!!!!!!!!!!!!!!!!**.

By doing this you can set-up any DIP switches, adjust the camera, and learn about how it operates before taking it to site. This will save you hours of time on-site trying to work out why a particular item doesn't function as you expected it to. There is nothing worse than installing something and then having to take it down to see how to get it working!! Do the learning curve in the comfort of your own premises!!!!

Do you KNOW how to install PTZ equipment that is controlled by RS485 data signals?

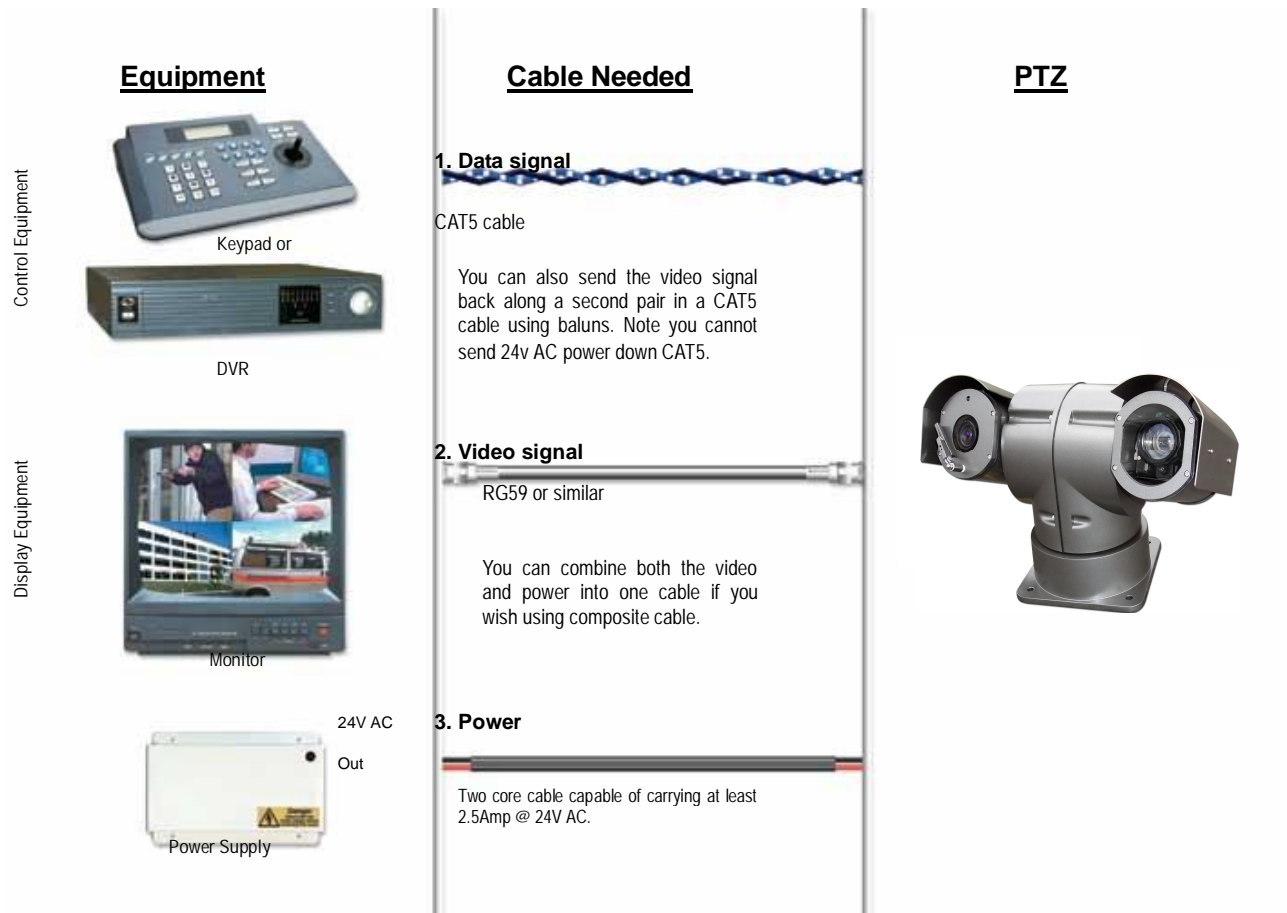
If not please read the following introduction to PTZ >>>....

Overview- introduction to fitting PTZ equipment

Generally speaking, PTZs require four things;

- 1- They require a power supply and a cable to supply this power to the PTZ. The PTZ960 operates on 24V A.C like many external PTZ domes but some mini pan and tilt domes are 12V.
- 2- They require a cable to get the video signal back to the monitor or recording device.
- 3- They require a cable to transmit the "RS485 control signal" from the keypad or DVR to tell the PTZ to pan and tilt etc.
- 4- They require something to control them, either a keypad or a DVR.

The following diagram indicates the basic cable requirements for a PTZ system.

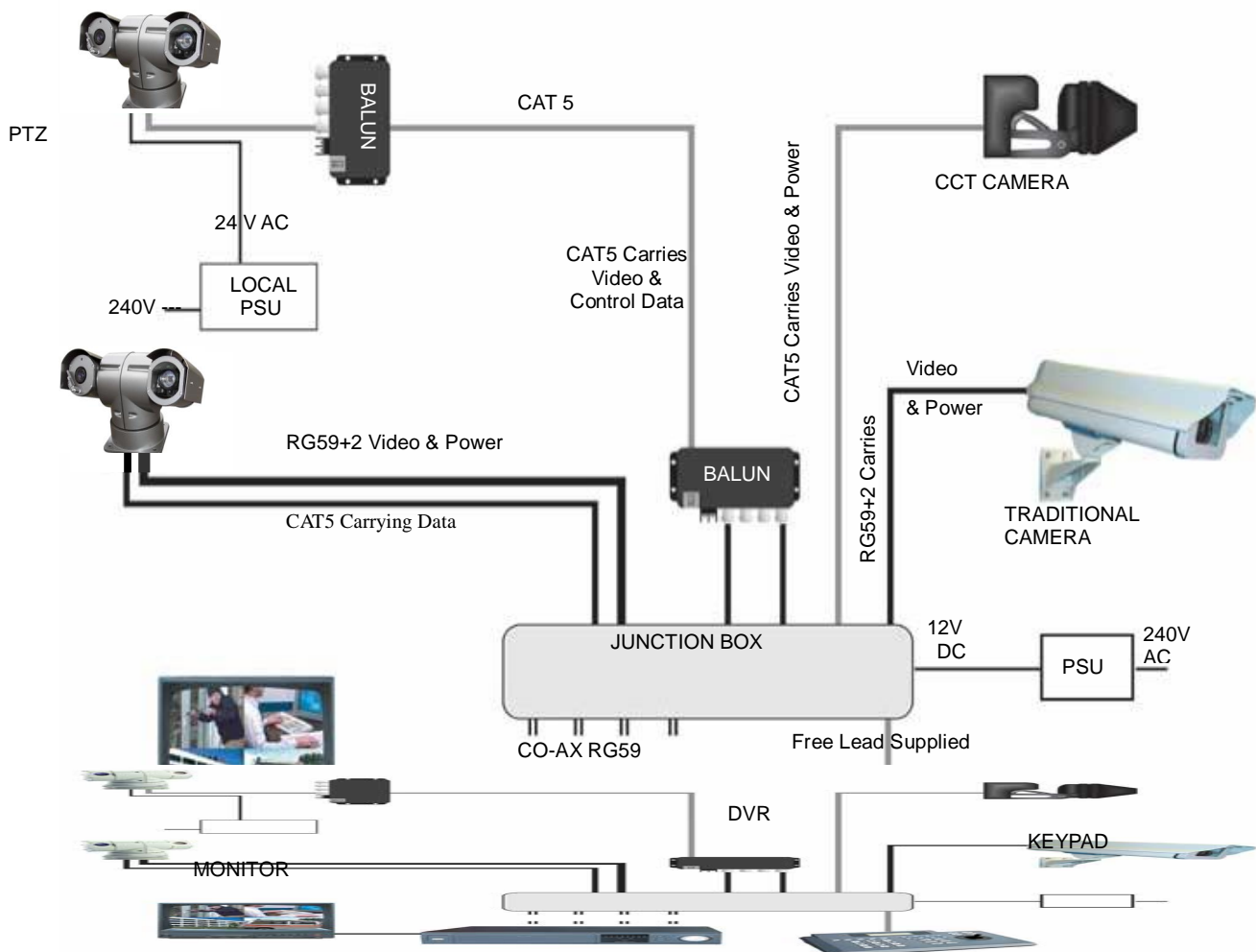


You can get “composite” cables that will carry both the power and the video signals and this has the benefit of combining two of the three cables into one. You may choose to power the PTZ locally to it, so you may only need to get the video signal back from the PTZ and the RS485 control signals to it. If this is the case you may choose to use a pair of BALUNS. By using baluns you can send the video signal and control signal down the same CAT5 cable just using different cores for each signal.

The control signal (RS485) is nearly always sent along a “twisted-pair” type cable. The twists in the cable help prevent interference affecting the data signal by “shielding” it. Many installation companies use a CAT5 type or similar cable to run out to the PTZs to carry the data signal.

If you are considering using baluns please note - DVR’s tend to require very good video signals to function correctly and “passive baluns” can loose some signal strength over the 50 metre mark so try to restrict the use of passive baluns to below 50 metre cable runs when using them with DVRs. Above this distance perhaps consider an active balun. Active baluns require power, passive baluns do not.

You can mix and match how you wire up your PTZ installation and the following general diagram gives you a guideline about how to do it. Remember this is a GUIDE and is not an instruction what to fit!



Many installation companies can get the power and video signal correct, but struggle with the control of the PTZ using the keypad or DVR using the RS485 data.

The key to successfully installing the data cabling to the PTZ is to get the basics right. Use a quality data cable such as CAT5 (never use just a standard untwisted cable such as alarm cable for the RS485 signal).

Also, you must follow the RS485 wiring convention; the following section explains this:

RS485 Wiring methods & Tips >>>>>

1. Characteristics of RS485

As specified by RS485 standards, RS485 is a half-duplex data transmission type with characteristic impedance of 120Ω . The maximum load capacity is 32 units (PTZs, keyboards and DVRs).

2. Transmission distances of RS485 Signals using CAT5 or similar cables

Selecting a CAT5 or similar sized twisted pair data transmission cable, the maximum theoretical transmitting distances are as follows:

Baud Rate	<u>Maximum</u> Transmitting Distance
2400 Bps (PELCO-D)	1500m
4800 bps	1000m
9600 bps	600m

PLEASE NOTE - Using inferior cables, or installing the PTZ in an environment with strong electromagnetic interference, or connecting a lot of PTZ domes to the same cable carrying the RS485 signal will reduce the maximum transmitting distance.

3. RS485 Connection methods

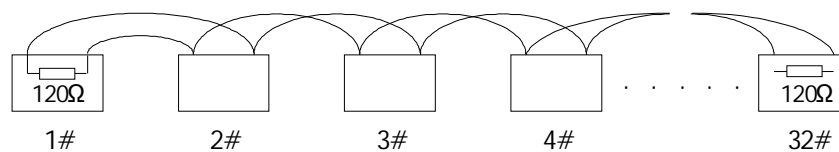
METHOD 1 – DAISY CHAIN CONNECTION.

The general RS485 standard recommends a “daisy chain” connection of equipment that is to be controlled. This means that the control cable is looped out of the one PTZ to the next PTZ and so on. The last PTZ in the line is then fitted with what is known as a “termination resistor”. This has a value of $120\ \Omega$.

The resistor is built in the PTZs and is activated by moving the appropriate “jumper” in the PTZ. The keyboard itself generally has a built-in $120\ \Omega$ resistor. These termination resistors help make the signal more stable and give the system better reliability so the PTZs function as expected. A common mistake installers make is not making sure the $120\ \Omega$ resistor is switched ON in the LAST PTZ. Also installers often select the resistor to ON in another PTZ in the chain; these errors will make control of the PTZ unpredictable.

A simplified Daisy chain is shown below;

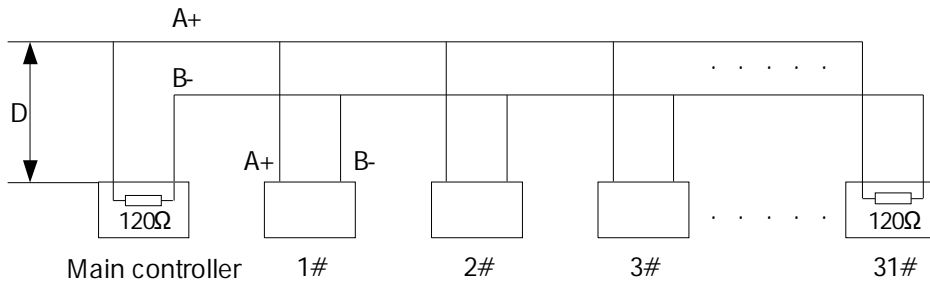
This first diagram shows the cables looping in one PTZ and out of another;



Standard Daisy-Chain connection for the RS485 PTZ control signal

(just the last PTZ only has the $120\ \Omega$ resistor set to on, the first device is the keyboard and has the $120\ \Omega$ built in as default)

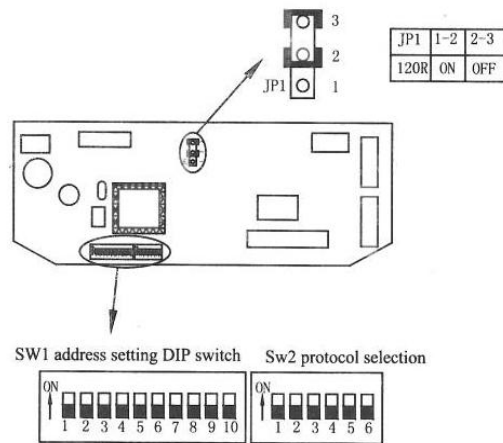
This next diagram is a slight variation on the Daisy Chain arrangement. Again it’s one cable going out to all the PTZs but instead of the cable going into each PTZ then back out to the next one, a junction box is used to “Spur-Off” to each PTZ. Whilst this can be done THE SPUR LENGTH (D) must be NO MORE THAN 10 metres!!!!!!!!!!!!!! The overall cable length between the Controller and the last PTZ is limited to around 300 metres in such an arrangement.



Daisy-Chain connection WITH SHORT SPURS for the RS485 PTZ control signal

(one main radial with very short spurs to each PTZ off it, keeping the spurs to less than 10 meters)

TIP - The connection of a 120 Ω termination resistor: The JP1 termination resistor is ready fitted on the PTZ pcb, all you have to do to set it, is to move the jumper from Pins 2 &3 to pins 1 & 2.



SPECIAL NOTE:

DO NOT GET JUMPER SWITCHES CONFUSED.

JP1 IS THE 120 Ω TERMINATION & MUST NOT BE CONFUSED WITH OTHER SWITCHES FOR EXTERNAL SYNCHRONISATION IE. THE JP2 JUMPER MUST NOT BE CHANGED AND MUST BE LEFT SET TO EXT SYNC OFF

STAR method of connection.

In some circumstances you may need to adopt a star configuration for practical purposes. For instance, all the PTZs may be so scattered on a large site that running out separate spurs to each PTZ in a “STAR” array is the only practical solution.

So how do you do this in practice?

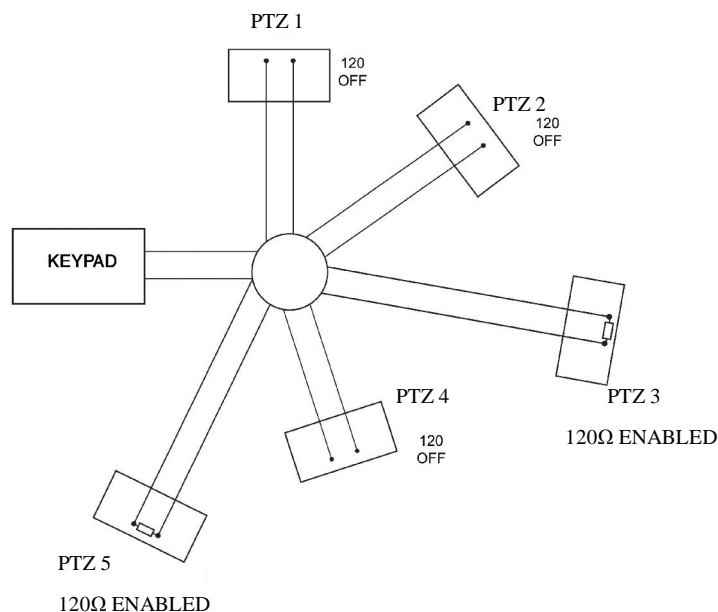
The termination resistors must be connected to the two PTZs that are farthest away from each other, such as PTZs 3 and 5 in the following “Star diagram”. Note that all the other PTZs do not have the 120 Ω resistor connected. The resistors are already fitted to the PTZ’s PCB but by default are not in circuit. To put them in circuit you must move the small “jumper” as previously indicated.

As the star configuration is not in conformity with the requirements of RS485 standards, problems such as signal reflections may arise, especially when there are long cable connections. The results are that control signals are decreased and the PTZ may not respond to, or just responds intermittently to the controller.

If your STAR circuit is not too extensive with each spur in the region of 20-50 metres you can expect quite good reliable performance using this technique. If you experience any problems though, there is a RS485 distribution box available CODE PT750 to help overcome any problems.

The Star circuit for wiring PTZ's.

The two furthest PTZs need the 120 Ω resistors enabling, by moving the “Jumper”
In this example it's PTZs 3 & 5.



Overcoming RS485 data loss using an RS485 distributor

In the real world not everything always works exactly as it's expected to!

RS485 data signals that control the PTZs' movements are tiny signals that can get corrupted for many reasons. Poor cable quality, not using a PAIR of cores from a CAT5 but using one core from TWO separate pairs, running the CAT5 cable near mains equipment such as florescent lighting all will have a detrimental effect on the signal. These are things that you can correct with good installation practices.

Where you wish to run several separate CAT5 cables out to send the RS485 data signal out to the PTZs you

are in effect correcting the STAR method of RS485 data distribution. As previously mentioned the problem with the Star method is that it is not actually designed for RS485 but generally works okay if you follow the previous notes on getting the 120 Ω resistor setting right, as per the previous notes. One way that takes the guesswork out of installing the Star method is to utilise an RS485 distributor. This has the advantage that the RS485 signal is correctly distributed to the PTZs so that they behave as expected. You can create up to 4 spurs to the PTZs and put up to 4 PTZs on each spur. Just like the Daisy chain method the end PTZ on each spur needs to have the 120 Ω resistor enabled.

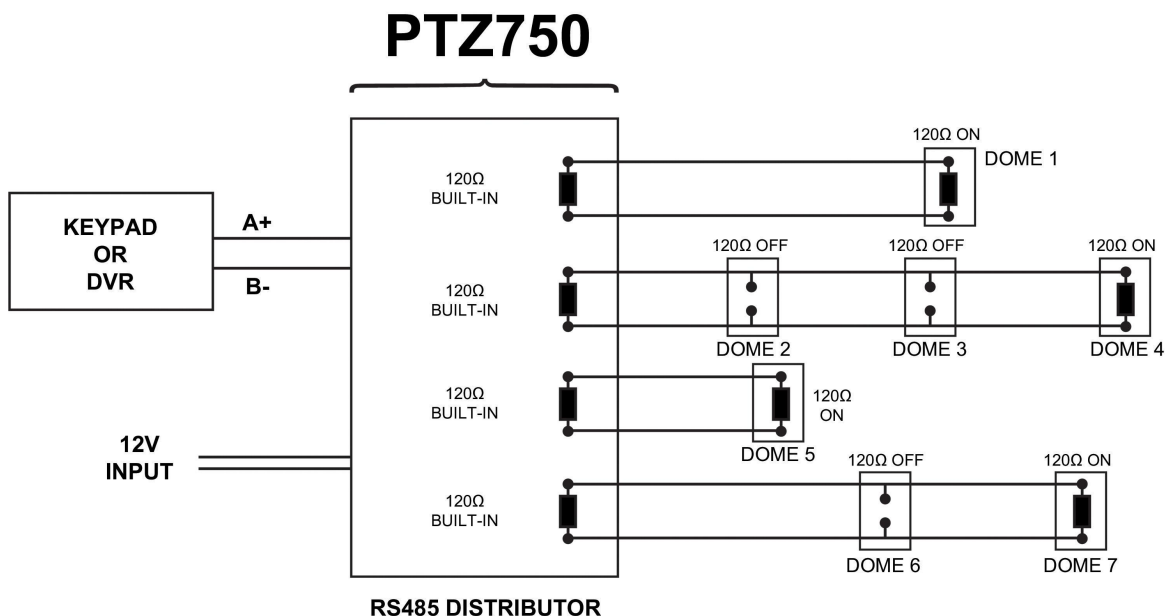
Although the RS485 distributor is a small additional expense, it takes some of the guess work out of the installation design and gives a more flexible approach to cabling which itself can save time and money on the installation. Not forgetting you get more predictable results!

The RS485 distributor (PTZ750) amplifies the RS485 control signal and distributes it evenly to 4 separate

spurs, each spur can have up to 4 PTZs. This means that you could theoretically have up to 4 individual spurs of over 1000 metres each to control up to 16 PTZs in total.

Ideally you would put just one PTZ on each spur from the PTZ750 but up to 4 PTZs are generally acceptable. The following diagram shows a typical use of the PTZ750 RS485 distributor.

In the following example and diagram, PTZs 1,4,5 and 7 are at the end of each spur and therefore require the 120 Ω resistor enabling by moving the jumper setting within the PTZs. PTZs 2,3 and 6 are all “midway” in each spur and do not need the 120 Ω resistor and can be left as default. The PTZ750 itself has four 120 Ω resistors built in as shown and you do not have to do anything with the PTZ750 as the resistors are permanently connected within it.



(Diagram showing how to use an RS485 distributor to improve PTZ control reliability)

Please note if you have the PTZ750 located within 5mtrs of the keypad or DVR you can connect up to 3 of them in parallel.

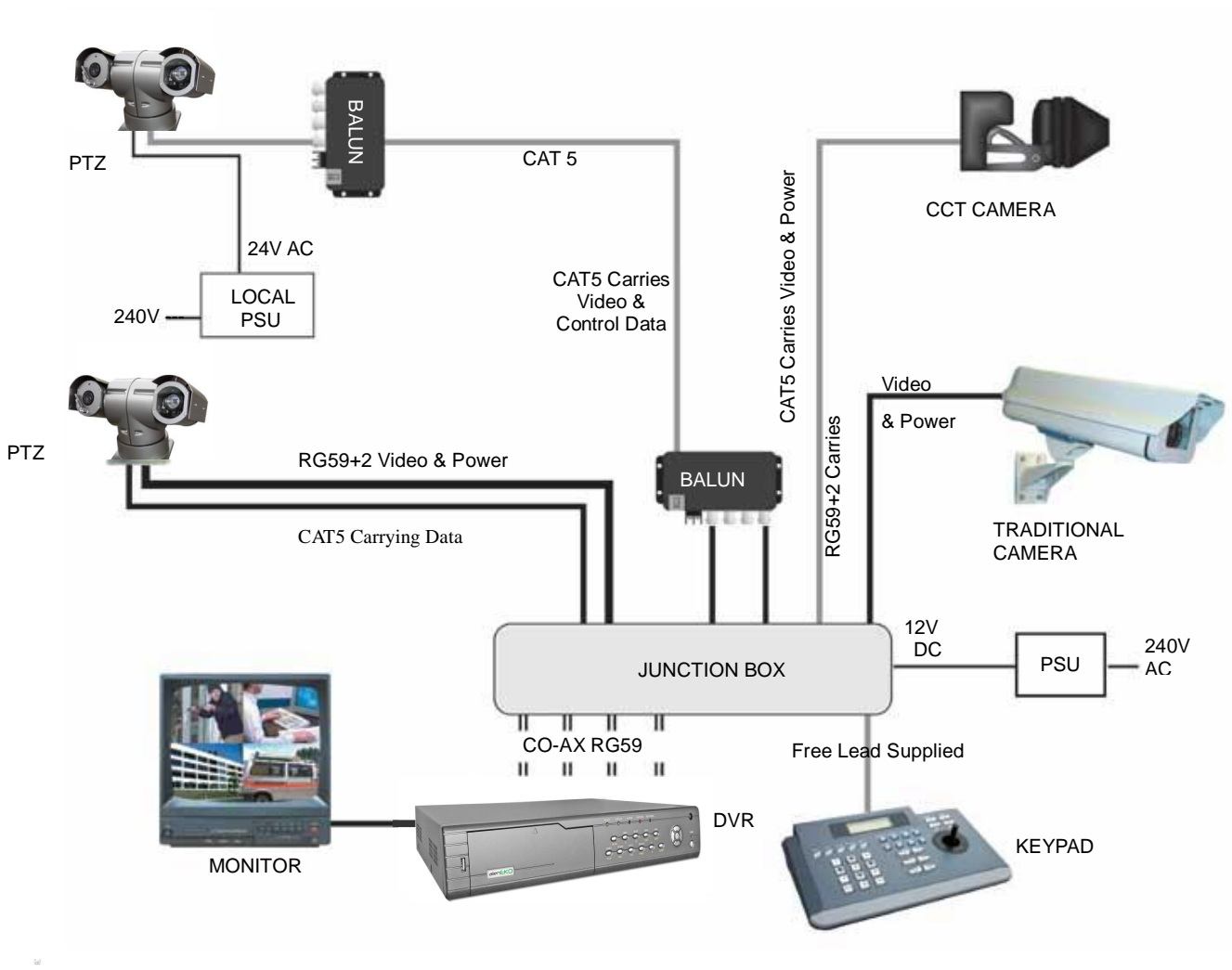
Setting up the PTZ Camera

1. Connection of the System

There are many ways to wire up a PTZ system.

If you have read the introduction at the beginning of these instructions you should have got a good idea what your options are.

Below is a general schematic diagram showing you some of these options.

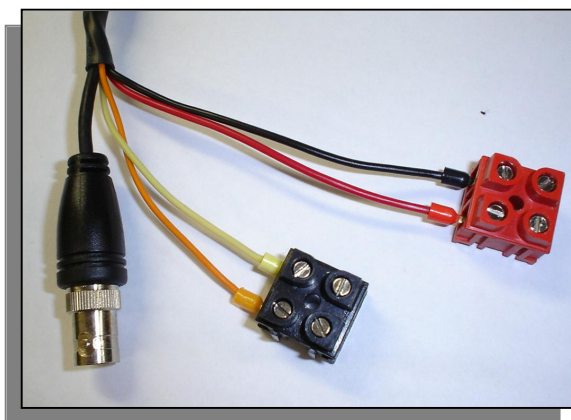


Powering the PTZs-

All the PTZs will need power. For this PTZ it is a 24V A.C power supply. The power supply must be capable of delivering at least 2.5A per PTZ.

You can either power each PTZ with its own PSU locally to it or have the PSU's remotely situated perhaps near the keyboard or DVR. The PTZs require a current of about 2.1A so you must take this into consideration when working out maximum cable runs.

A popular way to power the PTZs is using our COMPOSITE VIDEO cable (or shotgun as its also known) as this cable can carry the power to the PTZ and the video signal back to the monitor or DVR.



The power connection

The RED & BLACK cable coming out of the PTZ connected to the RED terminal block are for power. Connect a suitable 24V A.C power supply to this pair of cores.

The BNC connector is the “VIDEO-OUT” from the camera and goes to the monitor or “VIDEO-IN” of a DVR camera input.

The Orange and Yellow pair of cores that go in to the BLACK terminal block are the data cables. These are the cores that carry the RS485 control signal to the PTZ from either the keyboard or the DVR. The next section of the instructions gives more detail on how to connect the RS485 data. Please also read the RS485 WIRING METHODS & TIPS section towards the beginning of these instructions.

If the voltage of the PTZ drops below around 20V A.C it will fail to initialise. Obviously you can power the PTZs locally if you wish.

RS485 connection - *Connecting the Keypad or DVR to the Dome.*

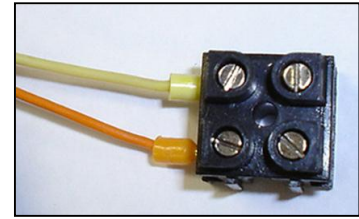


The dome is controlled by an RS485 data signal that is given by either a KEYPAD or a suitable DVR. This data signal tells the dome to pan, tilt, zoom etc. Its important that you read the early section of these instructions to understand the fundamental principle of RS485 cabling techniques so that you get it right.

RS485 has two cores, A and B or sometimes known as RS485 + (A) and RS485 – (B) if you get these two the wrong way around then you will not be able to control the dome. Sometimes installers get the connections right on one dome but not on the other and find only one dome works. They then swap the wires around at the keyboard only to find out one dome has now burst in to life and the other one now failed!! But they don't put 2 + 2 together and realize their mistake that they have wired one dome different to the other. Take great care getting these the right way around and make sure you wire each dome IDENTICALLY so that if you have to swap the A & B lines over at the keyboard you know all domes are wired the same!!

The PTZ960 range adopts the following RS485 convention:

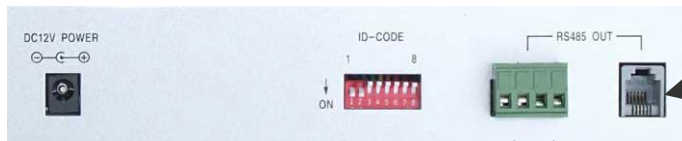
ORANGE = RS485 + or A
 YELLOW = RS485 - or B



You should initially be wiring the dome to the keyboard or DVR on your workshop bench or at least your kitchen table to prove you know how to get everything to work. Once you have done this, it is just a job of extending the cables and physically installing the domes on site. You must obviously take note of the RS485 wiring techniques mentioned at the beginning of these instructions and get the 120ohm resistors correct in the "End of line" domes. Generally speaking you will always be extending the RS485 signal from either the keypad or the dome using a CAT5 or similar cable.

The PTZ730 and PTZ700 are two keypads that can be used with the PTZ960 range. On the rear of the keypads you will see the RS485 connections. Ensure they are connected correctly i.e the RS485 + A line and the RS485 - B line. Note that both these keypads need to be set to the same protocol as the PTZ dome. Refer to the relevant keypad instruction manuals on the keypad dipswitch settings.

PTZ730 keypad



Rear of PTZ730

RS485 connections

IF USING THE RJ45 CONNECTION LEAD, THE FOLLOWING CABLES ARE USED:

- RED = RS485 +
- BLACK = RS485 -
- GREEN = GROUND
- YELLOW = RS232 OUT



RS485 connections

Rear of PTZ700

PTZ700 keypad



If you use cores from two different pairs in the CAT5 cable you will not get the benefit of the shielding effect of the cable twists and the dome will function erratically. You must always use a core from a PAIR, not two cores from two different pairs!!

Connecting the video out of the PTZ

The PTZ960 has a short BNC lead attached to it, this is the lead that carries the video signal from the built-in camera. You need to extend this lead to the “VIDEO-IN” of the DVR or monitor. Use a good quality RG59 coax cable or similar to do this.

TIP – If you can’t get a picture at the remote end you could always take your test monitor to your PTZ and check the picture quality on its own short BNC lead.

If you’re testing the equipment on a workbench you now have a one PTZ system.

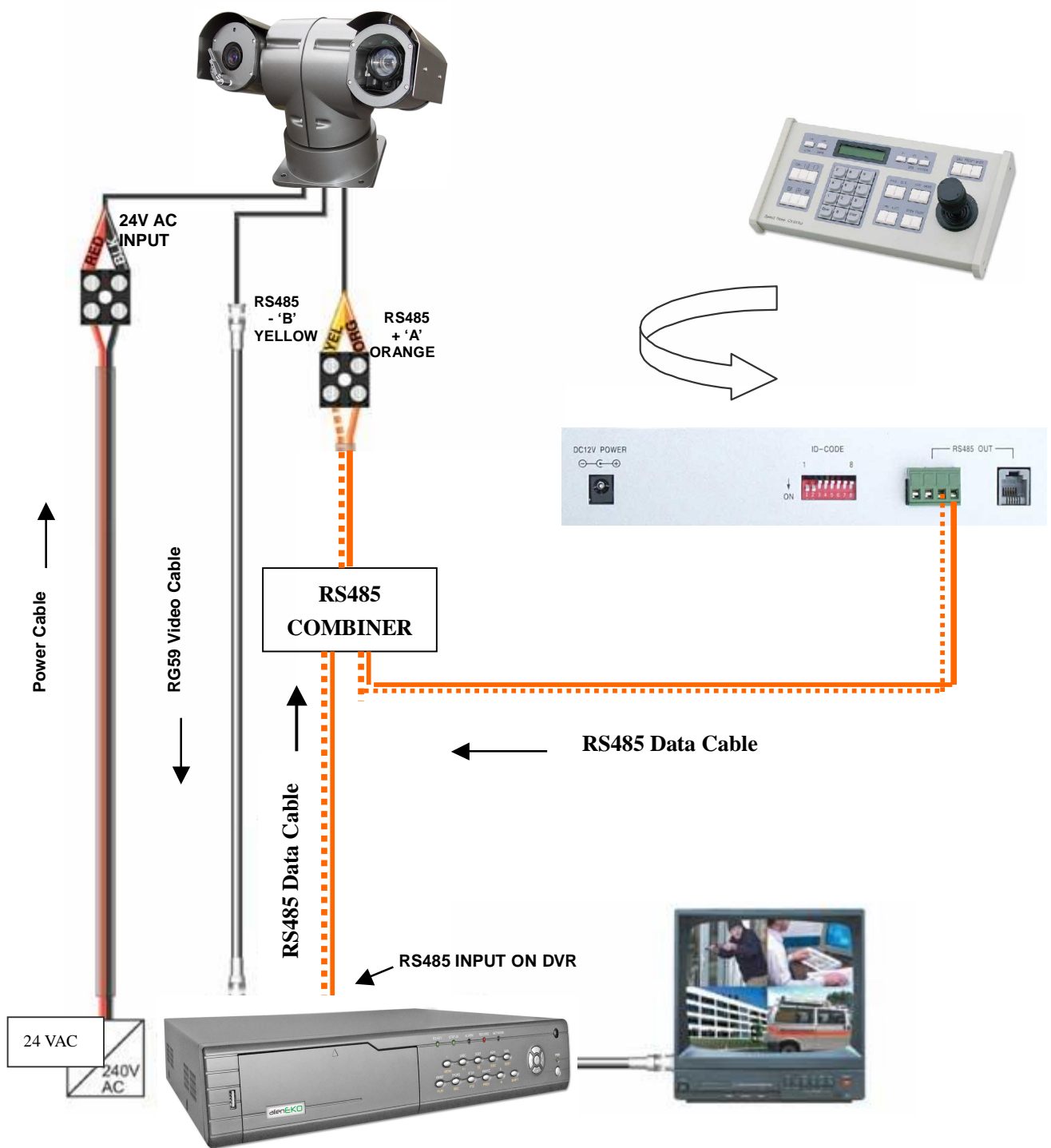
For setting up the keyboard and testing the PTZ please read sections on default PTZ settings and using the keyboard.

You can use a keyboard or a suitable DVR to control the PTZ960. A suitable DVR would be one with PTZ functionality built into it and preferably Pelco-D protocol. If your DVR has a list of protocols it’s always best to try the “Pelco-D” protocol first, as this is very widely available. In the DVR, with Pelco-D set, you must make sure you set up the “baud-rate” to 2400.

If you want to connect more than one keypad to the PTZ or use a keypad and DVR, then you can do this by including a RS485 Data Combiner..

A typical site installation would look like the following diagram on the next page.

It shows the PTZ connected to the keypad plus how the PTZ could also be connected to a DVR instead of the keypad or at the same time. DVR’s that have the capabilities of PTZ control will have a terminal or connection on them somewhere, where the PTZ’s RS485- A and RS485- B line can connect to. Please refer to the individual DVR instructions of how to do this.



If you're using more than one PTZ on a site

Each PTZ has a unique “address” so that if you are using more than one on a site the keyboard “talks” to the right unit when you want it to PTZ. If you only have the one PTZ on the site then the default “address” of “1” is okay and you have no reason to change the PTZ from this.

With multiple PTZ sites you need to set up each PTZ address separately.

The following diagram shows the switch options.

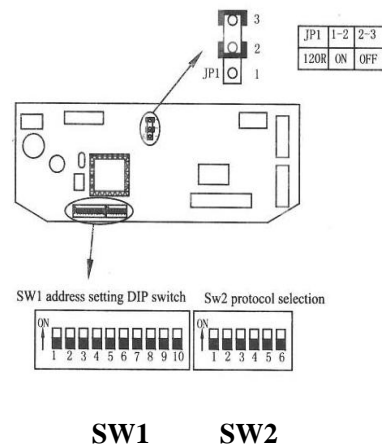
SW2 sets up the protocol. This switch is dealt with later in these instructions.

For most System Q equipment they should always be set to PELCO-D 2400 baud rate. In the diagram this is correct. The Jumper on the far right either enables or disables the 120 Ω resistor.

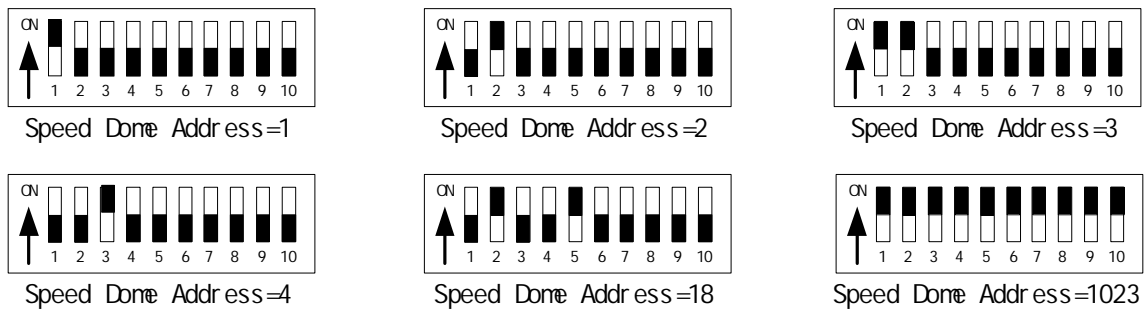
Setting up a unique ADDRESS in the PTZ960 –

SW1 is used to set address of the PTZ960 from 1 ~ 1023.

To set the PTZ address at 1 put switch 1 up.
 To set the PTZ at address 2 put switch 2 up
 To set the PTZ at address 3 put switches 1 & 2 up.
 ..and so on..



The following table indicates how this is done.



Dome Address	ID-CODE Status									
	DIP-1	DIP-2	DIP-3	DIP-4	DIP-5	DIP-6	DIP-7	DIP-8	DIP-9	DIP-10
1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
4	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
6	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
7	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
8	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
9	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
10	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
11	ON	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
12	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
13	ON	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
14	OFF	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
15	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
16	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
17	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
18	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
...
1023	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON

Table 1

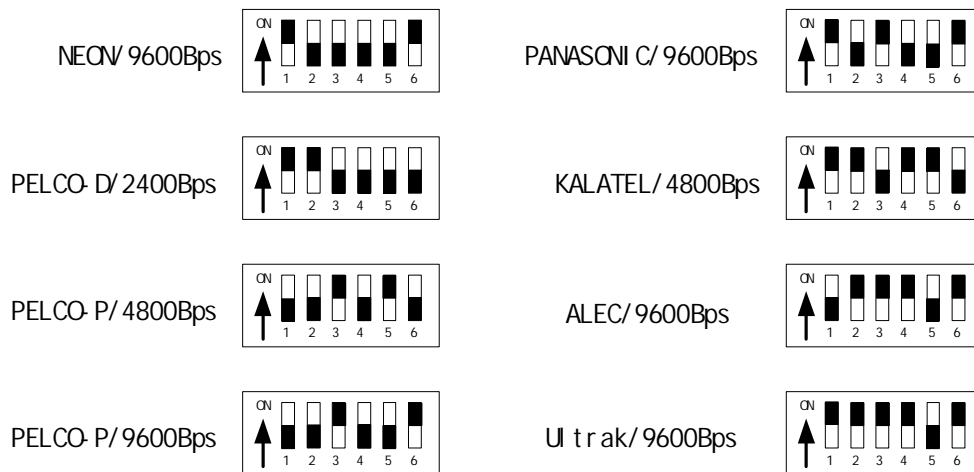
2. Setup of the Protocol and the Default Baud Rate.



As shown in Table 2, SW2 is used to set the protocol and the baud rate used by the PTZ camera. DIP-1 to DIP-4 of SW2 is used to select protocols and a maximum of 16 different protocols can be selected. Pelco-D 2400 is used for most System Q equipment. DIP-5 and DIP-6 are for the baud rate.

Protocols	DIP status				Normal Baud Rate	
	DIP-1	DIP-2	DIP-3	DIP-4	DIP-5	DIP-6
SAMSUNG	ON	OFF	OFF	OFF	OFF	ON
B01	ON	OFF	OFF	OFF	OFF	ON
NEON	ON	OFF	OFF	OFF	OFF	ON
Santachi	OFF	ON	OFF	OFF	OFF	ON
PELCO-D	ON	ON	OFF	OFF	OFF	OFF
PELCO-P/4800	OFF	OFF	ON	OFF	ON	OFF
PELCO-P/9600					OFF	ON
PANASONIC	ON	OFF	ON	OFF	OFF	ON
Longcomity	OFF	ON	ON	OFF	OFF	ON
HUNDA600	ON	ON	ON	OFF	OFF	ON
LILIN	OFF	OFF	OFF	ON	OFF	ON
VICON	ON	OFF	OFF	ON	ON	OFF
MOLYNX	OFF	ON	OFF	ON	OFF	ON
KALATEL	ON	ON	OFF	ON	ON	OFF
VCL	OFF	OFF	ON	ON	OFF	ON
Reserved	ON	OFF	ON	ON	OFF	ON
ALEC	OFF	ON	ON	ON	OFF	ON
Ultrak	ON	ON	ON	ON	OFF	ON

Some protocols and the setting of the dipswitches on normal baud rates for these protocols are shown as follows:



Setup of the Baud Rate.

As shown in Figure 2, SW2 is used to set the protocol of communication and the baud rate used by the PTZ960 camera. DIP-5 and DIP-6 of SW2 are used to select the baud rate and 4 different baud rates can be selected. If the controller adopts a non-standard baud rate, you can adjust it to be identical with that of the controller, as per the following table.

Baud Rate of Communication	DIP-1	DIP-2	DIP-3	DIP-4	Setup of Baud Rate	
					DIP-5	DIP-6
2400bps					OFF	OFF
4800bps					ON	OFF
9600bps					OFF	ON
19200bps					ON	ON

Using the PTZ730 keypad with the PTZ960



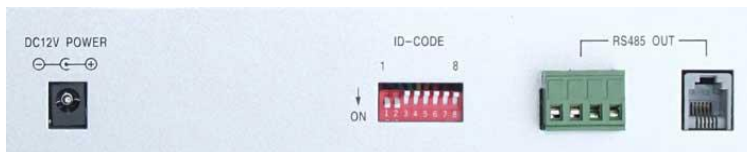
PTZ730 keypad

NOTE 1: For more detailed instructions in setting up the keypad or using one of our other keypads, please refer to the instruction manual supplied with the product.

NOTE 2: The PTZ730 keypad requires you to press the function key first followed by the value e.g **<CAM> 01 <Enter>** whereas some keypads e.g PTZ700 require the value first, then the function e.g **01 <CAM>**

When you first take the keyboard out of the box you will need to set it up for the domes that you are using.

The dome you have purchased has the default settings of; PELCO-D 2400-BAUD rate Address 1



Rear of PTZ730 keypad

First read through the keypad instruction manual supplied. Set the protocol and baud rate in the keypad using the dipswitches on the rear of the unit. Note that all PTZ domes controlled by this keypad must have identical protocol and baud rate settings. The manual supplied with the keypad will show you what these settings should be.

Next connect the RS485 connections from the dome/s ensuring that the A and B lines are connected correctly.

Finally connect the power supply. Both the PTZ730 and PTZ700 keypads require a 12V DC PSU (500mA minimum). It is recommended to use a POW802 for this purpose. Now press the keypad ON button.

Select a PTZ camera by pressing CAM button followed by camera address and Enter*. The LCD display will indicate the camera channel selected. CAM 01 indicates that the keyboard is ready to talk to camera with address 1, if you have another dome set at camera address 2, press CAM button followed by 02 and Enter. This would change the display screen to CAM 02.

If you have multiple domes you will need to change the address of each dome so they are different but PLEASE LEAVE THE DOMES ON PELCO-D 2400 BAUD RATE.

- see NOTE 2 above.

PRESETS and other functions.

The PTZ960 has up to 128 presets that once programmed will stay in the PTZ's non-volatile memory so they will be retained even after a power cut.

What is a preset? A preset is a particular area or object that the PTZ was looking at and has been stored into its memory so when the preset is "called-up" the PTZ will select the area again without the operator using the joystick to do this. Even the zoom at the time is stored into the preset. This means that you could for example store a PRESET of a car-park entrance. When the operator calls up this preset the camera automatically zooms in on this area. By storing more than one preset you can add even more functionality to the PTZ. By having two presets, you can then get the PTZ to "SCAN" between the two locations. You can even vary the speed of this scan.

Having 3 or more presets you can get the PTZ to go on a TOUR (PATROL) of the presets. When you run the patrol the PTZ goes to one preset, then waits a short period then on to the next preset and so on. The PTZ continues to cycle around this patrol until you cancel it. The length of time the camera stays at one location and the speed of travel between each preset point can be set in the menu.

PRESETS -How to set up a preset

Aim the PTZ where you want it to look, zoom in or out to get the correct scene and let the camera auto focus. Now press the following keys on the keypad : **PRESET xx Enter** (where **xx** is the preset number you wish to store). For example **PRESET 01 Enter** would store **PRESET 01** and the camera would always go to this location when **01** is "CALLED".

To test if the preset is stored correctly use the joystick to move the camera to a point in a new location. Now press **CALL xx Enter** (where **xx** is the preset you wish the camera to go to). In this example if you press **CALL 01 Enter** the PTZ960 should go straight to the PRESET 01 location.

TIP -You may wish to write down a list of presets that you have stored next to the keypad for the operator.

CALLING a preset

This may be as follows:

PRESET 01 = MAIN GATE (a long zoom shot)

PRESET 02 = ENTRANCE DOOR

PRESET 03 = FIRE ESCAPE

PRESET 04 = EMERGENCY EXIT

PRESET 05 = CAR PARK (zoomed-out wide angle)

PRESET 06 = CAR PARK (zoomed-in narrow angle)

When the operator wishes to quickly zoom in on the MAIN GATE all he has to do is press **CALL 01 Enter**.

To go to the EMERGENCY EXIT he would press **CALL 04 Enter** and so on.

To call up any previously stored preset camera location, simply press **CALL xx Enter**, where **xx** is the preset number.

Patrols (Tours) – How to set them up and use them

A patrol (tour) is simply a collection of at least three preset camera locations that are run in sequence with the PTZ stopping at each location for a brief period of time and then moving on to the next preset.

For example, you could use a patrol so that an outside PTZ camera points at a gate, then at a side doorway, then zooms out to get an overall shot of a car park and finally zooming in on a delivery bay, before repeating the whole cycle again. Patrols can be useful for both outside and internal PTZ's. For a shop they could be used to cover key areas like clothes rails, tills and changing rooms in a sequence.

To set up a patrol you need to set up the individual stop points where the camera will pause. These are called *presets*.

An example four preset mini-tour

Setting the presets using the keypad

STEP 1- Using the keypad joystick, move to where you wish to start the tour and then press **PRESET 01 Enter**

STEP 2- Now move to the next location and press **PRESET 02 Enter**

STEP 3- Now move to the third location and press **PRESET 03 Enter**

STEP 4- Finally move to where you wish to end the tour and press **PRESET 04 Enter**

Deleting a preset

You may wish to delete a preset.

To do this press **PRESET xx OFF** (xx = preset number).

For example to delete preset 1, press **PRESET 01 OFF** Obviously if you wish to overwrite a preset with a new location, simply aim the camera at the new location and store the preset as normal, this will simply overwrite the old preset.

Setting the Patrol (Tour)

To setup the patrol/tour you need to enter the Advanced Menu System by selecting <CALL> **95** <Enter> on the keypad or <CALL> **64** <Enter>. (Call varies according to module type). You will see the **Main Menu** displayed on the screen.

Enter the password to enter the menu. The Default is **111111**. See Advance Setup menu to change.

Using the joystick up/down direction movement, select the **MOTION SETUP** menu.

Use the joystick pan right movement to enter this menu.

Now use the Joystick up/down direction movement to select **PATROLS**. To the right of this, is the patrol sequence number. By moving the Joystick to the right this number can be increased from 01 to 06 (up to six patrols/tours can be programmed) or decreased using the left direction movement. Start with sequence **01**.

Now select **EDIT PATROL** and press the **OPEN** button to select edit mode. A table will be displayed showing 16 patrol item numbers. Note that the screen is divided into two halves with two patrol positions per line. Only the odd patrol item numbers are identified down the left hand side of the display. In the bottom left hand corner the patrol sequence number is displayed. This can be 01 ~ 06.

In the example we are setting twelve presets in the first patrol sequence.

To edit a patrol sequence

NO Patrol Item No.
POS No. of Preset Position
TM Dwell time at this position
Time 0 ~ 99 seconds

SEQ:nn The Patrol number. (01 ~ 06)

NO	POS	TM		NO	POS	TM
01	001	01		02	002	01
03	003	01		04	004	01
05	005	01		06	006	01
07	007	01		08	008	01
09	009	01		10	010	01
11	011	01		12	012	01
13	---	--		14	---	--
15	---	--		16	---	--
PATROL: 01				CLOSE:EXIT		

Special Note: The patrol item number (**NO**) is an ascending number list of the preset items within this sequence. It may not necessarily reflect the actual preset number. You could for instance have preset item (NO) 01 with preset position 004 as the first preset required.

Enter the preset position number (**POS**) and the dwell time (**TM**) for each preset by using the Joystick up/down movement. Move the Joystick to the right to move to the next field.

After including all the presets required in this patrol/tour, press the Keypad **CLOSE** button to exit. If you add extra presets later and wish to incorporate into a patrol/tour already created, you must add the additional preset positions in the necessary EDIT PATROL table sequence.

Now exit the menu by moving the Joystick down, selecting **EXIT** and then moving the Joystick to the right to return to the Main Menu. Again use the Joystick to select **EXIT** and exit the Advanced Menu System by selecting the right pan movement.

Calling the Patrol (Tour)

There are two methods of initiating the patrol or tour. If you enter <CALL> 65 <Enter> to run Tour 1 or enter <CALL> 66 <Enter> to run Tour 2. Only works if Shortcut set to ON in Advanced menu.

You may also initiate a patrol or tour through the Advanced Menu System.

Enter <CALL> 95 <Enter> or <CALL> 64 <Enter> on the keypad. Enter the password to enter the menu.

The Default password is **111111**. See Advance Setup menu to change.

You will then see the **Main Menu** displayed on the screen.

Using the joystick up/down direction movement, select the **MOTION SETUP** menu.

Use the joystick pan right movement to enter this menu.

Now use the Joystick up/down direction movement to select **PATROLS**. To the right of this, is the patrol sequence number (**xx**). By moving the Joystick to the right this number can be increased from 1 ~ 6 (up to six patrols/tours can be programmed) or decreased using the left direction movement. Now select **RUN PATROL** button to initiate the patrol/tour sequence number.

Special Note: If you notice that some expected presets are not being incorporated in a patrol/tour, check that the PATROL table has been setup correctly and shows all presets for the required sequence. A full explanation of the values to be set can be found in the previous section ***Setting the Patrol (Tour)***.

TIP - To stop the PATROL just move the joystick slightly.

AUTO SCAN- How to set it up

Auto-scan scans between two points. These are not presets as per the patrol(tour) facility but auto scan selection points. You may program up to 3 auto scans.

STEP 1 – Select the required camera by pressing the <CAM> button and then entering <camera address> on the keypad.

To setup the Auto Scan you need to enter the Menu System by selecting <CALL> 95 <Enter> or <CALL> 64 <Enter> on the keypad.

Enter the password to enter the menu.

The Default password is **11111**. See Advance Setup menu to change.

You will see the **Main Menu** displayed on the screen.

Using the joystick up/down direction movement, select the **MOTION SETUP** menu.

Use the joystick pan right movement to enter this menu.

In the **AUTO SCAN** menu select the scan number (maximum 3), then the speed. Now position the camera where you wish to start scanning from. Using the joystick select **SET START LIMIT**. Then press the **CLOSE** button to save the start position.

Now aim the camera where you wish to end the scanning point. Now select the **SET END LIMIT** followed by **CLOSE** button to save.

Calling the Auto Scan

First you must set the start and end positions of the auto scan as above. This runs the auto scan function between these two points. There are two methods of initiating the auto scan. If you enter **<CALL> 67 <Enter>** to run Auto Scan 1 or enter **<CALL> 68 <Enter>** to run Auto Scan 2. **Only works if Shortcut set to ON in Advanced menu.**

You may also initiate the auto scan through the Advanced Menu System. Enter the Main Menu by selecting **<CALL> 95 <Enter>** or **<CALL> 64 <Enter>** on the keypad.

Enter the password to enter the menu.

The Default password is **11111**. See Advance Setup menu to change.

You will see the **Main Menu** displayed on the screen.

Using the joystick up/down direction movement, select the **MOTION SETUP** menu.

Use the joystick pan right movement to enter this menu.

In the **AUTO SCAN** menu select **RUN SCAN**. If the start position is the same as the end position it will do a 360° scan. Now press the **CLOSE** button to save and initiate the Auto Scan.

TIP - To stop the scan just move the joystick slightly.

RECORD PATTERN- What is a record pattern

This dome has an option to store a record pattern. A record pattern consists of a continuous sequence of standard pan and tilt movements or lens commands recorded for at least a 120 second interval. A record pattern does not use presets. You can limit movement at a required position and pan and tilt within the 120 second time restriction. Once the recording is complete, i.e you have closed the recording or the record time has expired, you may use an option in the Motion Setup Menu to replay the recorded pattern. Once this recorded pattern is initiated, the dome will run the record pattern continuously until a keypad movement is detected or an alarm is activated.

RECORD PATTERN- What is the difference between a pattern & a patrol (tour)

A patrol (tour) uses presets and when initiated, the dome will move to a maximum of 16 preset positions using the dwell times as set in the Patrol Table. The speed of dome movement between any two presets is a constant speed and not a variable speed. A patrol (tour) can run for an extensive length of time with a dwell time of a maximum of 99 seconds at each of sixteen preset positions. In addition up to six different patrols (tours) can be stored each with different preset parameters whereas only three record patterns can be recorded. When a preset is stored the dome stores not only the preset position but also zoom and camera attributes. A record pattern does not record zoom attributes.

A record pattern does not use presets. It however allows the user to record a continuous sequence of standard pan and tilt movements or lens commands but does not allow presets, flip, digital zoom, proportional pan or turbo speed. The record pattern sequence can be recorded using the keypad pan and tilt joystick and records for a number of changing activations that should give a recording duration of more than 120 seconds. A record pattern allows the user a continuous view rather than selected preset positions and is similar to an auto scan except that an auto scan only allows a selected movement speed whereas the record pattern reflects the user movements made during the recording of the record pattern.

RECORD PATTERN- How to set it up

Record Pattern allows a pattern to be recorded which consists of any standard pan and tilt or lens command within a 120 second interval. A pattern is automatically closed when the interval is exceeded or by pressing the CLOSE button. Note that the following are not allowed in a pattern: presets, flip, digital zoom, proportional pan and turbo.

STEP 1 – Select the required camera by pressing the **CAM** button and entering <camera address> followed by <Enter> on the keypad.

Position the camera where you wish to start the record pattern sequence. Enter the Main Menu System by selecting <CALL> **95** <Enter> or <CALL> **64** <Enter> on the keypad.

Enter the password to enter the menu.

The Default password is **11111**. See Advance Setup menu to change.

You will see the **Main Menu** displayed on the screen.

Using the joystick up/down direction movement, select the **MOTION SETUP** menu.

Use the joystick pan right movement to enter this menu.

STEP 1 - In the **PATTERNS** menu select **PATTERN NUMBER** and enter number from 1 ~3 .
Now select **RECORD PATTERN**.

STEP 2 – Now move the camera using the keypad joystick to record at least up to a 120 second sequence and follow this by pressing the **CLOSE** button to save. The record pattern will be stored for future replay.

Running the Record Pattern

First you must have recorded a record pattern as detailed above. This runs a record pattern of at least a 120 second duration. Enter **<CALL> 69 <Enter>** to run Pattern 1 or enter **<CALL> 70 <Enter>** to run Pattern 2. Only works if Shortcut set to ON in Advanced menu.

You can also run the Record Pattern through the Main Menu. Enter the Main Menu by selecting **<CALL> 95 <Enter>** or **<CALL> 64 <Enter>** on the keypad.

Enter the password to enter the menu.

The Default password is **11111**. See Advance Setup menu to change.

You will see the **Main Menu** displayed on the screen.

Using the joystick up/down direction movement, select the **MOTION SETUP** menu.

Use the joystick pan right movement to enter this menu.

In the **PATTERNS** menu select **RUN PATTERN**. Now press the **CLOSE** button to save and initiate the Pattern sequence. This will run continuously. *TIP - To stop the record pattern just move the joystick slightly.*

Using the N camera module

When using the N module camera, there are different preset functions available. Note that you must have the Shortcut option set to ON in the Advanced menu for all call functions to work.

CALL 1	CALL TWICE FOR MENU		Reserved
CALL 64	OPEN PTZ MENU		Reserved
CALL 65	START TOUR PRESETS 1-16	PRESET 65	SET PRESETS 1-16 FOR TOUR
CALL 66	START TOUR PRESETS 17-31	PRESET 66	SET PRESETS 17-31 FOR TOUR
CALL 67	RUN AUTOSCAN 1	PRESET 67	SET START OF AUTOSCAN 1
CALL 68	RUN AUTOSCAN 2	PRESET 68	SET END OF AUTOSCAN 1
CALL 69	RUN PATTERN 1	PRESET 69	SET START OF AUTOSCAN 2
CALL 70	RUN PATTERN 2	PRESET 70	SET END OF AUTOSCAN 2
CALL 74	WIPER SINGLE ACTION		Reserved
CALL 75	WIPER CONTINUOUS		Reserved
CALL 81	SWITCH OFF LIGHTING		Reserved
CALL 82	SWITCH ON LIGHTING		Reserved
CALL 83	LIGHTING ON AUTOMATIC		Reserved
CALL 96	Reserved	PRESET 96	Switch on 3D Noise Reduction

NOTE: There is no camera menu accessible using the N camera module.

SCHEDULE - What is it?

The schedule allows you to set an Autoscan, Tour or Pattern from a specified date and time to a specified date and time on a day or days of the week.

SCHEDULE - How to set it up

1. The schedule requires the Time to be set first in the Advance menu.

MAIN MENU	
1.	SYSTEM SETUP
2.	DISPLAY SETUP
3.	CAMERA SETUP
4.	MOTION SETUP
5.	PRIVACY MASK
6.	ADVANCE SETUP
7.	SYSTEM RESET
8.	EXIT

ADVANCE SETUP	
<HOME SETUP>	(1)
<PASSWORD>	(2)
<CAM ID SETUP>	(3)
<FAN CONTROL>	(4)
< TIME SET >	(5)
RESERVED	(6)
<MORE>	(7)
RETURN	

TIME SET*

This is the time setting menu and is used by the SCHEDULE in the MOTION SETUP menu and for display.

DATE FORMAT YMD/MDY/DMY

Select date format required. This can be YY-MM-DD / MM-DD-YY / DD-MM-YY

TIME SET	
DATE FORMAT:	YYMMDD
TIME DISP:	ON
YY-MM-DD:	12-04-30
HH-MM-SS:	13-53-35
SAVE TIME:	
RETURN	

***SPECIAL NOTE: Whilst you can set either of the above formats for display purposes only the YY-MM-DD format is used for the Schedule.**

TIME DISPLAY ON / OFF

If set to ON and after exiting menu, time will be displayed at bottom right of display screen.

YY-MM-DD 00-00-00 Today's Date - Must be set as Year -Month- Day

HH-MM-SS 00-00-00 Current Time - Must be Hours-Minutes-Seconds

SAVE TIME Saves the time If not Saved the changes will not be applied.

RETURN Return to the previous menu.

Now go to the **MOTION** menu and select Schedule

2. How to set Schedule

SCHEDULE

Allows a schedule to be selected for controlling what the PTZ is required to do. Ensure Time is set in Advanced menu first. See 1 above.

SCH ID

Select from 1 ~ 8 different schedules. The software requires the highest priority set first.

ENABLED OFF / ON

Set enable to ON for the SCH ID selected.

REPEAT OFF / ON

Switch to ON if same action is to be repeated. You will notice that if you set this to ON no date will be changeable in the TIME menu only the time from and to.

ACTION NONE / 1~3 SCANS / 1~32 PRESETS / 1~6 PATROLS / 1~3 PATTERNS

Select the option required.

<TIME>

START DATE 00 – 00 – 00

END DATE 00 – 00 – 00

This identifies the Year, Month and Day as set in the Advance Setup menu. Only enter in YY-MM-DD format.

START TIME 00 – 00 – 00

END TIME 00 – 00 – 00

This identifies Hours, Minutes and Seconds.

<REPEAT SET>

Select days for the schedule to operate.

SCHEDULE	
SCH ID:	1
ENABLED	ON
REPEAT	OFF
ACTION	1 PATROL
<TIME>	
<REPEAT SET>	
SAVE	
CLEAR	
RETURN	

SCHEDULE TIME	
START DATE	00 – 00 – 00
START TIME	00 – 00 – 00
END DATE	00 – 00 – 00
END TIME	00 – 00 – 00
RETURN	

SCHEDULE DUTY	
SUNDAY	OFF
MONDAY	OFF
TUESDAY	OFF
WEDNESDAY	OFF
THURSDAY	OFF
FRIDAY	OFF
SATURDAY	OFF

SAVE

After making changes to the schedule you must save them or they will not be applied. Note that if the date range is incorrect then it will not be able to save the schedule. The user will be informed with a prompt in the bottom left side of the display screen.

CLEAR

This clears the schedule.

RETURN

This returns to you to the previous menu.

SPECIAL TIPS

If you are using an Alien DVR for controlling the PTZ960, the following may help you with setting the Time and Schedule menus but applies to all settings in all menus. Start by selecting the PTZ camera in full screen display in monitoring mode.

1. Right click the mouse and select PTZ option.
2. Left click on Preset and then scroll down to Preset 64 and highlight it then click Call and OK.
3. Use down arrow button and stop on Advance Menu.
4. Click right arrow to enter Advance Setup menu.
5. Use down arrow key and stop on Time Set.
6. Click right arrow key to enter Time Set menu.
7. Select date format using right arrow key.
8. Select down arrow to move to Time Disp. Use right arrow to switch ON or OFF.
9. Use down arrow key to move down to YY-MM-DD.
10. Click on right arrow to access YY and then use up and down arrows to select year.
11. Do the same for MM and DD.
12. When day set press the **Iris** – button to enter complete string of characters.
13. Click down arrow to move to HH-MM-SS and right arrow to enter the hours.
14. Complete changes in menu before entering Motion Schedule menu.

The above extract shows you how to update the Time menu. Use the same methodology for entering the Schedule menu in the Motion menu.

USING THE DOME'S ADVANCED FUNCTIONS-

On Screen Graphics (OSD) –

The PTZ960 series boasts six patrol (tour) options, three auto scan options and three record pattern options. All these can be configured using the OSD.

To bring up the camera menu press <CALL> **95** <Enter> or <CALL> **64** <Enter> (varies with module type).

Note that entering Preset 01 twice within 4 seconds will also open the menu.

Enter the password to enter the menu.

The Default password is **111111**. See Advance Setup menu to change.

The OSD is then displayed on the screen. You can navigate between the various options using the Joystick control – up to increase and down to decrease – right pan to enter and left pan to exit. You can also use the OPEN button to enter and the CLOSE button to save and exit.

THE MENU SYSTEM

Using the Menu System.

This menu system allows the user to alter the dome menu instruction options and settings using a control keypad. This first page shows the initial main menu page and only describes the general functions. The following pages show the main menu option selected on the left hand side of the page and a breakdown of that menu page on the right hand side of the page.

MAIN MENU

To enter the main menu system press <CALL> **64** <Enter> on the Keypad. Enter the password to enter the menu. The Default password is **111111**. See Advance Setup to change.

Use the Joystick control pan up or pan down to increase or decrease a value and pan left or pan right to enter a selection.

The OPEN button can also be used to enter a selection and the CLOSE button to exit.

To leave the main menu press EXIT in Main Menu.

MAIN MENU

- 1. SYSTEM SETUP**
- 2. DISPLAY SETUP**
- 3. CAMERA SETUP**
- 4. MOTION SETUP**
- 5. PRIVACY MASK**
- 6. ADVANCE SETUP**
- 7. SYSTEM RESET**
- 8. EXIT**

DESCRIPTION OF MENU OPTIONS

SYSTEM SETUP: Displays System Information – switches auto flip on or off – sets proportional pan speed - selects alarm function on or off – sets action after alarm.

DISPLAY SETUP: Switches camera name display - angle display – preset label display – dome label display - positions of each display.

CAMERA SETUP: D-Zoom on or off – Camera info display – Focus mode - Auto/day/night – BLC on or off – Line Sync – Slow shutter – Automatic exposure – White balance mode – WDR – Exposure compensation.

MOTION SETUP: Set presets – Auto Scan – Patrols – Patterns – Clear options.

PRIVACY MASK: Set Privacy Mask areas and Mask colour.

ADVANCE SETUP: Sets the Home option – Password – Camera ID setup – Fan control temperature – Language - Set North position and Shortcut option - Wiper and Demister Options.

SYSTEM RESET: To select camera default settings.

EXIT: To exit menu.

To access System Setup press the OPEN button on keypad or move the Joystick to the right. The menu below will be displayed.

- MAIN MENU**

 1. **SYSTEM SETUP**
 2. DISPLAY SETUP
 3. CAMERA SETUP
 4. MOTION SETUP
 5. PRIVACY MASK
 6. ADVANCE SETUP
 7. SYSTEM RESET
 8. EXIT



- SYSTEM SETUP**

 1. **SYSTEM INFORMATION**
 2. **AUTO FLIP** **OFF**
 3. **PROP PAN SPD** **OFF**
 4. **LOW POWER** **ON**
 5. **<ALARM SETUP>** **<see below>**
 6. **RETURN**

SYSTEM INFORMATION

This displays system information.

AUTO FLIP ON / OFF

When this is set to ON the PTZ will automatically flip at 180°.

PROP PAN SPD ON / OFF

Proportional Pan Speed function allows speed control dependent on current speed ratio.

LOW POWER ON / OFF

Low power consumption option.

<ALARM SETUP>

ALARM NO:

Select alarm channel

ACTION:

Select the action following an alarm.

Select from list :- Preset 01 ~ 50,

PATROL 1, SCAN 1 or PATT 1.

After 3 seconds of the alarm function clearing, the PTZ will return to original setting.

- ALARM SETUP**

 1. **ALARM NO:** **001 ~ 004**
 2. **ACTION:** **<see list>**
 3. **ALARM** **ON / OFF**
 4. **RETURN**

ALARM ON / OFF

This setting must be switched ON for each alarm channel required.

RETURN

Returns to System Setup menu.

Move the Joystick down to select Display Setup and press the OPEN button or move the Joystick to the right. The menu below will be displayed.

MAIN MENU	
1.	SYSTEM SETUP
2.	DISPLAY SETUP
3.	CAMERA SETUP
4.	MOTION SETUP
5.	PRIVACY MASK
6.	ADVANCE SETUP
7.	SYSTEM RESET
8.	EXIT



DISPLAY SETUP	
<CAMERA ID>	<see 1 below>
<ANGLE DISPLAY>	<see 2 below>
<PRESET LABEL>	<see 3 below>
<DOME LABEL>	<see 4 below>
RETURN	

CAMERA ID (1)	
DISPLAY	ON
POSITION	TOP-R
RETURN	

DISPLAY

When set to ON the camera ID will be displayed.

POSITION TOP-L, TOP-R, BOTT-R, BOTT-L

Positions the camera ID on the screen. Choose from TOP-L (top left corner), TOP-R (top right corner), BOTT-R (bottom right) & BOTT-L (bottom left).

ANGLE DISPLAY (2)	
DISPLAY	ON
POSITION	TOP-R
RETURN	

DISPLAY

When set to ON the angle will be displayed. ONEPUSH displays for 4 seconds only.

POSITION TOP-L, TOP-R, BOTT-R, BOTT-L

Positions the angle display on the screen. Choose from TOP-L (top left corner), TOP-R (top right corner), BOTT-R (bottom right) & BOTT-L (bottom left).

PRESET LABEL (3) DOME LABEL (4)	
DISPLAY	ON
POSITION	TOP-R
RETURN	

DISPLAY

When set to ON the PRESET No. or DOME No. will be displayed.

POSITION TOP-L, TOP-R, BOTT-R, BOTT-L

Positions the angle display on the screen. Choose from TOP-L (top left corner), TOP-R (top right corner), BOTT-R (bottom right) & BOTT-L (bottom left).

Move the Joystick down to select Camera Setup and press the OPEN button or move the Joystick to the right. The menu below will be displayed.

MAIN MENU	
1.	SYSTEM SETUP
2.	DISPLAY SETUP
3.	CAMERA SETUP
4.	MOTION SETUP
5.	PRIVACY MASK
6.	ADVANCE SETUP
7.	SYSTEM RESET
8.	EXIT



CAMERA SETUP	
D-ZOOM	OFF
DISPLAY	OFF
FOCUS MODE	AF AUTO
ICR	AUTO
BLC	OFF
L-SYNC	OFF
SLOW SHUTTER	ON
<WB/AE SETUP>	
RETURN	

NOTE: The following camera setup options depend on the camera type installed.

D-ZOOM ON / OFF

The digital zoom can be set by switching this to ON.

DISPLAY ON / OFF / N/A

The camera information is displayed if this option set to ON. Note that if camera setting is displayed as N/A it means the camera does not support this feature.

FOCUS MODE MANUAL / A-AUTO / F-AUTO / AF-AUTO

MANUAL NON – manual iris and focus

A-AUTO - auto iris

F-AUTO - auto focus

AF-AUTO - auto iris and focus

ICR AUTO / DAY / NIGHT

This option selects AUTO for colour in day and b/w at night

DAY stays in colour mode

NIGHT stays in b/w mode

BLC ON / OFF

This switches on backlight compensation

L-SYNC ON / OFF

Line sync only used for some special cameras.

SLOW SHUTTER MANUAL / AUTOMATIC

This provides frame accumulation in MAUAL or AUTOMATIC mode

When camera screen is opened in automatic mode, ASS (Automatic Slow Shutter) is displayed on

screen. (Only Sony cameras have this function.)

<WB/AE SETUP>

White Balance Mode/Automatic Exposure.

WB/AE SETUP	
AE MODE	AUTO
SHUTTER	N/A
WB MODE	AUTO
R GAIN	N/A
B GAIN	N/A
WDR MODE	ON / OFF
<EXPCOMP SETUP>	
RETURN	

AE MODE MANUAL / AUTO / SHUTTER

Normally set to AUTO.

SHUTTER

Only available if AE MODE is set to SHUTTER **1 ~ 1000**

WB MODE ATW / MANUAL / AUTO / INDOOR / OUTDOOR / ONEPUSH

This option is used to set White Balance mode. Normally set to AUTO.

R GAIN

Only available for pulsing red when WB MODE set to MANUAL.

B GAIN

Only available for pulsing blue when WB MODE set to MANUAL.

WDR MODE ON / OFF

This option switches on Wide Dynamic Range mode.

< EXPCOMP SETUP>

Exposure compensation.

EXPCOMP ON / OFF

Sets exposure compensation

EXPCOMP SETUP	
EXPCOMP	ON
AMOUNT	-7
RETURN	

AMOUNT -7 ~ +7

Sets the value of exposure compensation

RETURN

Return to WB/AE SETUP menu.

Move the Joystick down to select Motion Setup and press the OPEN button or move the Joystick to the right.

The menu below will be displayed.



MAIN MENU

1. SYSTEM SETUP
2. DISPLAY SETUP
3. CAMERA SETUP
- 4. MOTION SETUP**
5. PRIVACY MASK
6. ADVANCE SETUP
7. SYSTEM RESET
8. EXIT

MOTION SETUP

<PRESETS> (1)

<AUTOSCAN> (2)

<PATROLS> (3)

<PATTERNS> (4)

<SCHEDULE> (5)

<CLEAR> (6)

EDIT DOME LABEL

RETURN

<PRESETS> (1)

Enter the preset menu.

PRESETS

PRESET NO. 01

EDIT LABEL

CLR LABEL

RETURN

PRESET NO 01 ~ 128

EDIT LABEL

This option allows editing of the preset label. The edit label refers to the preset number selected. The PANLEFT/RIGHT can move the cursor and TILT UP/DOWN can modify the number. Press the CLOSE to save and exit. Up to 10 characters can be specified including 0 ~ 9, A ~ Z and special characters including < = > ? , @ \ + - . /] The first character must be either 0 ~ 9 or A ~ Z. When testing the preset display it will only show NO.XXX and not the label name.

PRESET NO: 01

LABEL: NO LABEL

CLOSE:EXIT

<AUTO SCAN> (2)

This option allows the setting and the running of the Auto Scan.

SCAN NO.

Sets the scanning number. Maximum is 03.

AUTO SCAN

SCAN NO. 001

SPEED 001

SET START LIMIT

SET END LIMIT

RUN SCAN

CLEAR SCAN

RETURN

SET START LIMIT

To set the start position enter this menu item and then move the joystick to position the camera at the starting position and then press CLOSE to save the start position.

SET END LIMIT

To set the end position select this menu item and then move the joystick to position the camera at the end position and then press CLOSE to save the end position.

RUN SCAN

To run a scan first set the start and end position. Note that if the start and end position are the same the dome will scan 360 degrees. Press CLOSE to exit.

CLEAR SCAN

If you wish to clear the auto scan select this item and then press CLOSE to exit.

<PATROLS> (3)

Enter this menu to set a patrol.
(Also known as tours or sequences)

PATROL NO 1 ~ 6

Set the patrol (tour) number

EDIT PATROL

This option allows editing .

NO Preset point number

POS Preset number

TM Time stopping in seconds

SPECIAL NOTE

Two patrol presets are displayed per line.

--- means no preset set

PATROL NO 1 ~ 6

Relates to patrol number. Maximum 6.

Press Pan LEFT/RIGHT to move cursor and Tilt UP/DOWN to change data. Then press CLOSE to save and exit.

PATROLS	
PATROL NO.	001
EDIT PATROL	
RUN PATROL	
CLEAR PATROL	
RETURN	

NO	POS	TM		NO	POS	TM
01	001	01		02	002	01
03	003	01		04	004	01
05	005	01		06	006	01
07	007	01		08	008	01
09	009	01		10	010	01
11	011	01		12	012	01
13	---	--		14	---	--
15	---	--		16	---	--
PATROL: 01				CLOSE:EXIT		

RUN PATROL

Click on this menu item and then press **CLOSE** to start patrol.

CLEAR PATROL

Click to clear a patrol.

RETURN

Returns to **MOTION SETUP** menu.

<PATTERNS> (4)

Allows recording of a pattern for up to 120 seconds.
Up to 3 patterns can be recorded.

RECORD PATTERN

Click on this menu item to start pattern recording
and when complete press **CLOSE** to save.

RUN PATTERN

Start the run of a pattern and exit from the menu. Any movement of the joystick will stop this function.

CLEAR PATTERN

Click on this to clear the pattern.

RETURN

Click on this to return to the **MOTION SETUP** menu.

<SCHEDULE> (5)

Allows a schedule to be selected for
controlling what the PTZ is required to do

SCH ID

Select from 1 ~ 8 different schedules

ENABLED OFF / ON

Enable respective schedule selected

REPEAT OFF / ON

Select ON if no time applicable

ACTION NONE / 1~3 SCANS / 1~32 PRESETS / 1~6 PATROLS / 1~3 PATTERNS

PATTERNS	
PATTERN NO.	001
RECORD PATTERN	
RUN PATTERN	
CLEAR PATTERN	
RETURN	

SCHEDULE	
SCH ID:	1
ENABLED	OFF
REPEAT	OFF
ACTION	NONE
<TIME>	
<REPEAT SET>	
SAVE	
CLEAR	
RETURN	

<TIME>

START DATE 00 – 00 – 00

END DATE 00 – 00 – 00

This identifies the day, month or year according to the format set in Advance Setup in Time Set – YMD / MDY / DMY

START TIME 00 – 00 – 00

END TIME 00 – 00 – 00

This identifies Hours, Minutes and Seconds.

SCHEDULE TIME	
START DATE	00 – 00 – 00
START TIME	00 – 00 – 00
END DATE	00 – 00 – 00
END TIME	00 – 00 – 00
RETURN	

<REPEAT SET>

Select days for the schedule to operate.

SCHEDULE DUTY	
SUNDAY	OFF
MONDAY	OFF
TUESDAY	OFF
WEDNESDAY	OFF
THURSDAY	OFF
FRIDAY	OFF
SATURDAY	OFF

SAVE

After making changes to the schedule you must save them or they will not be applied. Note that if the date range is incorrect then it will not be able to save the schedule. The user will be informed with a prompt in the bottom left side of the display screen.

CLEAR

This clears the schedule.

RETURN

This returns to you to the previous menu.

<CLEAR> (6)

This option clears all options.

CLEAR ALL PRELABEL Clears all presets.

CLEAR ALL SCAN Clears all scans.

CLEAR ALL PATROLS Clears all patrols.

CLEAR ALL PATTERNS Clears all patterns.

RETURN Returns to MOTION SETUP menu.

EDIT DOME LABEL This options allows editing of Dome Label. Refer to EDIT LABEL in PRESETS menu for details. The label is made up of 10 characters.

RETURN Return to main menu.

<p style="text-align: center;">CLEAR</p> <p>CLEAR ALL PRELABEL CLEAR ALL SCAN CLEAR ALL PATROLS CLEAR ALL PATTERNS RETURN</p>

<p style="text-align: center;">MAIN MENU</p> <p>1. SYSTEM SETUP 2. DISPLAY SETUP 3. CAMERA SETUP 4. MOTION SETUP 5. PRIVACY MASK 6. ADVANCE SETUP 7. SYSTEM RESET 8. EXIT</p>

<p style="text-align: center;">PRIVACY MASK</p> <p>PRIVACY MASK 01 MASK SHADE WHITE DISPLAY ON EDIT MASK RETURN</p>
--

PRIVACY MASK 01 ~ 08

Up to 8 privacy mask areas to be set according to camera options available.

MASK SHADE This allows the colour of the mask area to be set.

DISPLAY ON / OFF This option can switch on or off the privacy mask function

EDIT MASK This option allows editing of the mask area.

Alien DVR Right click mouse button and select PTZ. Click on Preset and scroll down to preset 95. Highlight line and click on CALL. The Main menu will display. Now OK preset box leaving

Main Menu displayed and use the PTZ down direction key to move down to Privacy Masking and press right direction key to enter.
Select Privacy Mask area number from 01 – 08, select shade (Black, White or Grey), switch display on and enter EDIT MASK using down and right arrow direction keys.
Position cross-hair in centre of masked area by using direction keys, then press IRIS minus button. Then press ZOOM minus to enlarge width of masked area and FOCUS minus to increase height. Then press IRIS minus to exit, move down with direction button and right button to exit, then exit.

Keypad Enter menu with CALL 95 and using joystick move down to Privacy Masking. Move joystick right to enter option. Select Privacy Mask area number from 01 – 08, select shade (Black, White or Grey), switch display on and enter EDIT MASK using joystick direction keys. Position cross-hair in centre of masked area by using joystick, then press CLOSE or IRIS minus button. Then press ZOOM minus to enlarge width of masked area and FOCUS minus to increase height. Then press CLOSE or IRIS minus to exit, move down menu and right to exit, then exit menu.

RETURN

Click to return to main menu.

MAIN MENU	
1.	SYSTEM SETUP
2.	DISPLAY SETUP
3.	CAMERA SETUP
4.	MOTION SETUP
5.	PRIVACY MASK
6.	ADVANCE SETUP
7.	SYSTEM RESET
8.	EXIT

ADVANCE SETUP	
< HOME SETUP >	(1)
<PASSWORD>	(2)
<CAM ID SETUP>	(3)
<FAN CONTROL>	(4)
<TIME SET>	(5)
<AUX CONTROL	(6)
<MORE>	(7)
RETURN	

<HOME SETUP> (1)

This option must not be confused with the Alarm function that can be set with different timing settings.

AUTO HOME ON / OFF

If the AUTO HOME is set to ON the dome camera will revert to the home position without any action in the PARK TIME.

HOME SETUP	
AUTO HOME	ON
HOME ACTION	01
PARK TIME	01 MIN
PWR RESUME	ON
RETURN	

HOME ACTION PATROL n / SCAN n / PATTERN n / 01 ~ 50 (preset no.) / RESUME

This is used to set the auto home action. For example this option will restart a patrol, auto scan, pattern or move to a specific preset point if the current action is interrupted e.g manual movement of the joystick, reboot etc. Resume returns to the position prior to manual intervention.

PARK TIME nn

This sets the wait time duration for the dome. The time can be set from 01 ~ 99 minutes.

PWR RESUME ON / OFF

If this is set to ON the dome camera will resume the operation that it was handling prior to loss of power.

RETURN

This returns to the Advance Setup menu.

MAIN MENU	
1.	SYSTEM SETUP
2.	DISPLAY SETUP
3.	CAMERA SETUP
4.	MOTION SETUP
5.	PRIVACY MASK
6.	ADVANCE SETUP
7.	SYSTEM RESET
8.	EXIT

ADVANCE SETUP	
<HOME SETUP>	(1)
< PASSWORD >	(2)
<CAM ID SETUP>	(3)
<FAN CONTROL>	(4)
<TIME SET>	(5)
<AUX CONTROL	(6)
<MORE>	(7)
RETURN	

PASSWORD (2)

This option allows password protection.

PASSWORD ON / OFF

If this is set to ON password protection is Initiated. The default password is **11111**

MODIFY KEY nnnnnn

This is for entering a new password. 6 character numeric field.

CONFIRM KEY nnnnnn

This is to confirm the new password.

RETURN

This returns to the ADVANCE SETUP menu.

PASSWORD	
PASSWORD	ON
MODIFY KEY	* * * * *
CONFIRM KEY	* * * * *
RETURN	

MAIN MENU

1. SYSTEM SETUP
2. DISPLAY SETUP
3. CAMERA SETUP
4. MOTION SETUP
5. PRIVACY MASK
- 6. ADVANCE SETUP**
7. SYSTEM RESET
8. EXIT

ADVANCE SETUP

- <HOME SETUP> (1)
- <PASSWORD> (2)
- <CAM ID SETUP> (3)**
- <FAN CONTROL> (4)
- <TIME SET> (5)
- <AUX CONTROL> (6)
- <MORE> (7)
- RETURN

CAM ID SETUP (3)

This enters the software ID settings menu

CAMERA S/N:

Displays the dome series number

INPUT S/N:

Inputs the dome series number.

*OLD ID:

Displays the old dome address.

NEW ID:

Displays the new dome address. Input the series number before inputting the new address.

SAVE & RETURN

To save and return to the ADVANCE SETUP menu.

CANCEL & RETURN

To cancel and return to the ADVANCE SETUP menu.

*ID CHANGE

This is the long distance dome address setting. The Camera serial number is a 7 bit non-modifiable Serial number. Set the Input Serial number to the same as the Camera serial number using the joystick. The OLD ID known as the HID (Hardware ID) displays the old dome address and is non-modifiable. The NEW ID known as the SID (Software ID) is the new dome address.

Note that if the INPUT S/N is not correctly entered in advance of this entry, an error "S/N ERROR!" will be displayed at bottom of display screen. Also the dome ID address range allows 1 ~ 999 to be addressed but different protocols limit the software (SID) addressable range. The PELCO protocol allows the 1 ~ 255 (SID) address range to be allocated. To specify an address outside this range, set the address using the HID (dipswitch) and power down then up. The dome will then set the HID = SID. Save & Return saves the new setting and returns to the previous menu or Cancel & Return does not save the setting and returns to the previous menu.

CAM ID SETUP

CAMERA S/N:	0001
INPUT S/N:	0001
OLD ID	001
NEW ID	001
SAVE & RETURN	
CANCEL & RETURN	

MAIN MENU	
1.	SYSTEM SETUP
2.	DISPLAY SETUP
3.	CAMERA SETUP
4.	MOTION SETUP
5.	PRIVACY MASK
6.	ADVANCE SETUP
7.	SYSTEM RESET
8.	EXIT

ADVANCE SETUP	
<HOME SETUP>	(1)
<PASSWORD>	(2)
<CAM ID SETUP>	(3)
< FAN CONTROL >	(4)
<TIME SET>	(5)
<AUX CONTROL	(6)
<MORE>	(7)
RETURN	

FAN CONTROL (4)

To set the fan control menu settings.

SWITCH FAN ON / OFF / AUTO

The fan working conditions can be set. Setting to ON will set fan running and OFF will switch fan off.

If set to AUTO the working temperature of the fan can be set in OPEN TEMP.

FAN CONTROL	
SWITCH	ON
OPEN TEMP:	39
TEMP DISPLAY	ON
RETURN	

OPEN TEMP: nn

Allows the working temperature of the fan to be set if FAN option is set to AUTO
Temperature adjustable between 28°C to 55°C. Default 40°C.

TEMP DISPLAY ON / OFF

If set to ON the temperature of dome will be displayed.

RETURN

Return to ADVANCE MENU setup.

MAIN MENU	
1.	SYSTEM SETUP
2.	DISPLAY SETUP
3.	CAMERA SETUP
4.	MOTION SETUP
5.	PRIVACY MASK
6.	ADVANCE SETUP
7.	SYSTEM RESET
8.	EXIT

ADVANCE SETUP	
<HOME SETUP>	(1)
<PASSWORD>	(2)
<CAM ID SETUP>	(3)
<FAN CONTROL>	(4)
< TIME SET >	(5)
<AUX CONTROL	(6)
<MORE>	(7)
RETURN	

TIME SET

This is the time setting menu and is used by the SCHEDULE in the MOTION SETUP menu.

DATE FORMAT YMD/MDY/DMY

Select date format required

TIME DISPLAY ON / OFF

If set to ON and after exiting menu, time will be displayed at bottom right of display screen.

TIME SET	
DATE FORMAT:	YYMMDD
TIME DISP:	ON
YY-MM-DD:	12-04-02
HH-MM-SS:	13-53-35
SAVE TIME:	
RETURN	

YY-MM-DD 00-00-00 Set as required.

HH-MM-SS 00-00-00 Set as required.

SAVE TIME Save the time.

RETURN Return to the previous menu.

MAIN MENU	
1.	SYSTEM SETUP
2.	DISPLAY SETUP
3.	CAMERA SETUP
4.	MOTION SETUP
5.	PRIVACY MASK
6.	ADVANCE SETUP
7.	SYSTEM RESET
8.	EXIT

ADVANCE SETUP	
<HOME SETUP>	(1)
<PASSWORD>	(2)
<CAM ID SETUP>	(3)
<FAN CONTROL>	(4)
<TIME SET>	(5)
< AUX CONTROL >	(6)
<MORE>	(7)
RETURN	

WIPER ON / OFF

This sets Wiper option ON or OFF

WIPER MODE 1 TIMES / CONTIN / N TIMES

1 TIMES is single wipe - CONTIN is continuous wipe - N TIMES is night wipe

DEFOGGER ON / OFF

Demisting ON or OFF

LIGHTING ON / OFF / AUTO

Laser switching no on this model.

MORE

Select this option to provide the following:

Language English or Chinese -

Set North position -

Shortcut for Camera N module commands -

Pan Speed change

Click on More to display Advance Setup 2

AUX CONTROL	
WIPER:	ON
WIPER MODE:	1 TIMES
DEFOGGER:	ON
LIGHTING:	AUTO
RETURN	

ADVANCE SETUP	
<HOME SETUP>	(1)
<PASSWORD>	(2)
<CAM ID SETUP>	(3)
<FAN CONTROL>	(4)
<TIME SET>	(5)
RESERVED	(6)
< MORE >	(7)
RETURN	

LANGUAGE (1)

Set English or Chinese

SET NORTH (2)

Set direction for calculating Privacy Mask

SHORTCUT (3)

Set ON if you have the SONY N camera module.

This option allows the user to start a Tour, Autoscan or Pattern using a keyboard or DVR with PTZ control. The following CALL commands can be used:

ADVANCE SETUP2			
LANGUAGE:	ENGLISH	(1)	
SET NORTH:		(2)	
SHORTCUT:	OFF / ON		
(3)			
PAN SPEED	100	(4)	
RETURN			

CALL PRESET 1 in quick succession to open menu

CALL PRESET 64 open menu

CALL PRESET 65 run Tour 1

CALL PRESET 66 run Tour 2

CALL PRESET 67 run Autoscan 1

CALL PRESET 68 run Autoscan 2

CALL PRESET 69 run Pattern 1

CALL PRESET 70 run Pattern 2

SET PRESET 67 Set start of AutoScan 1

SET PRESET 68 Set end of AutoScan 1

SET PRESET 69 Set start of AutoScan 2

SET PRESET 70 Set end of AutoScan 2

PAN SPEED 70, 80, 90, 100, 160°/s

Set the horizontal pan speed

RETURN

Return to ADVANCE SETUP setup.

MAIN MENU
1. SYSTEM SETUP
2. DISPLAY SETUP
3. CAMERA SETUP
4. MOTION SETUP
5. PRIVACY MASK
6. ADVANCE SETUP
7. SYSTEM RESET
8. EXIT

SYSTEM RESET

Selecting this option resets the PTZ menu.

The dome will undertake a self test after it undertakes the reset. The following functions are reset: Auto Flip on, PTZ SPD Rate on, ID Display on, Angle Display off, Dome Label Display Off, D-Zoom Off, PT Interlock – AF Auto, BLC off, Auto Home off, Park Time 4 mins, Fan Auto, Temp Display off.

EXIT

Exit the main menu.

Using the N camera module

If the N module camera is used, there are different preset functions available. Note that you must have the Shortcut option set to ON in the Advanced menu for all call functions to work.

CALL 1	CALL TWICE FOR MENU		Reserved
CALL 64	OPEN PTZ MENU		Reserved
CALL 65	START TOUR PRESETS 1-16	PRESET 65	SET PRESETS 1-16 FOR TOUR
CALL 66	START TOUR PRESETS 17-31	PRESET 66	SET PRESETS 17-31 FOR TOUR
CALL 67	RUN AUTOSCAN 1	PRESET 67	SET START OF AUTOSCAN 1
CALL 68	RUN AUTOSCAN 2	PRESET 68	SET END OF AUTOSCAN 1
CALL 69	RUN PATTERN 1	PRESET 69	SET START OF AUTOSCAN 2
CALL 70	RUN PATTERN 2	PRESET 70	SET END OF AUTOSCAN 2
CALL 74	WIPER SINGLE ACTION		Reserved
CALL 75	WIPER CONTINUOUS		Reserved
CALL 81	SWITCH OFF LIGHTING		Reserved
CALL 82	SWITCH ON LIGHTING		Reserved
CALL 83	LIGHTING ON AUTOMATIC		Reserved
CALL 96	Reserved	PRESET 96	Switch on 3D Noise Reduction
CALL 98	Reserved	PRESET 98	Switch on stabiliser

NOTE: Functions will depend on camera module fitted to this PTZ unit

NOTE: There is no camera menu accessible using the N camera module.

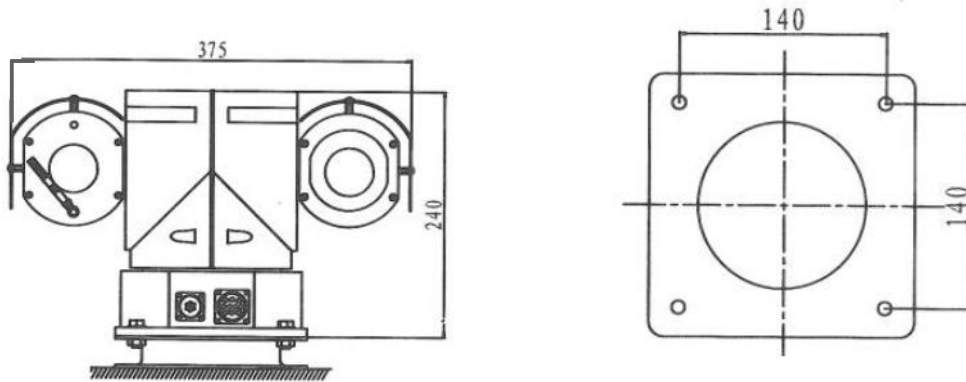
Controlling one camera then another.

If you look at the image of the LCD display you can see the CAM=001 indicates that the keyboard is ready to talk to camera with address 1. In the dome the address 1 is set as default in the factory. You need to alter the DIP-switches within the domes to address 2, 3 etc if you have multiple domes on the same site, refer to the previous instructions how to set the DIP Switches. If you have another dome set at camera address 2, press CAM followed by 2. This would change the screen to CAM=002. And so on.



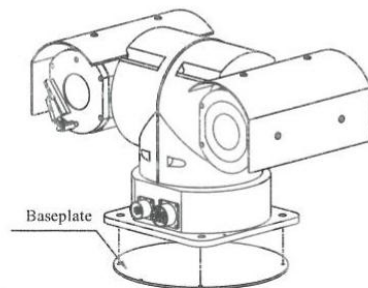
Installation Instructions

Product Dimensions

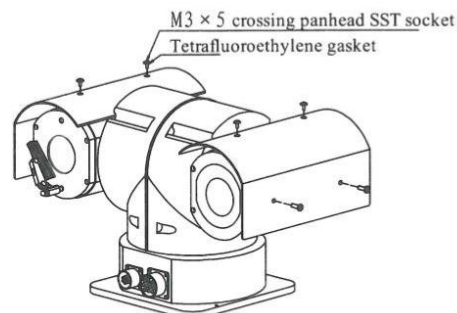


Installation Steps

1. Remove the bottom plate of the pan/tilt.
2. In accordance with the instructions detailed earlier in this manual set the address, protocol, baud rate and termination jumper.
3. Install the bottom plate of the pan/tilt and ensure that the waterproof seal is carefully located ensuring a good seal.

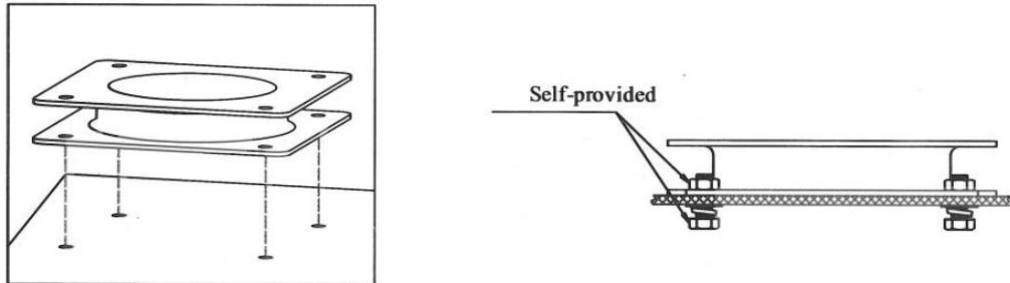


4. Installing the sunshade covers
Use four M3 screws and four tetrafluoroethylene screw gaskets with each sun shield cover and attach to main unit as per diagram below.

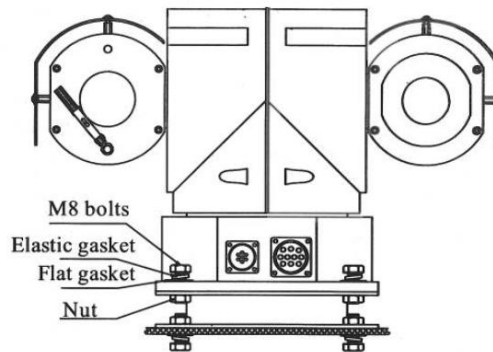


5. Board Mount

Using the anti-shock device use it as a template for drilling mounting holes through the support. You will need to provide necessary bolts to hold the device securely.

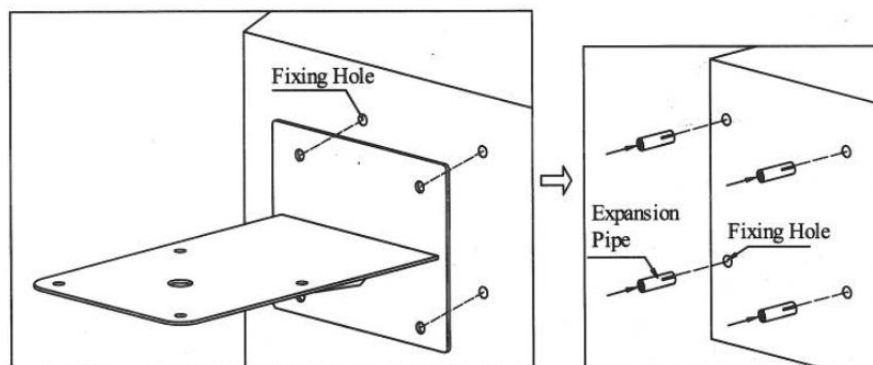


Now fit the anti-shock device top plate to the base of the PTZ with the four M8 bolts using one elastic gasket and one flat gasket on each bolt as per diagram below.

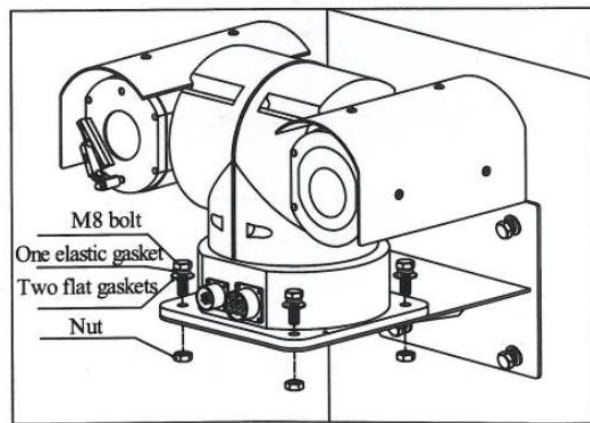
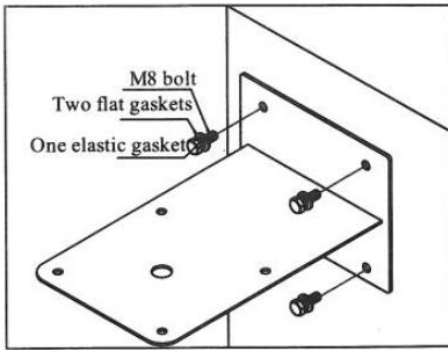


6. Wall Mounting

Take the wall mount supporting bracket and use it as a template to mark the required holes for the expansion bolts and spacers.



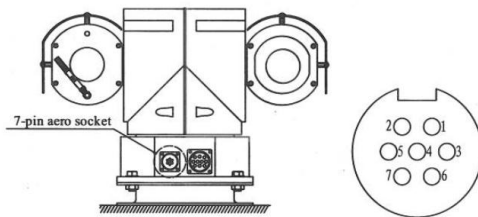
Now thread the RS485 cable, video cable and power cable through the wall supporting bracket, and then bolt the bracket to the wall camera using 4 x M8 bolts one elastic and two flat gaskets per bolt. Then fix the PTZ to the wall bracket using the 4 x M8 x 30 SST bolts and nuts with flat elastic gaskets as shown.



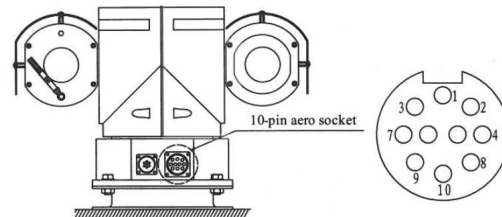
7. Cable Connections

There are two cable sockets, one 7 pin and one 10 pin. The 7 pin is for power, video and RS485 connection and the 10 pin for alarm connection. Note that the 24vAC PTZ960 has alarm connections but the 12vDC PTZ950 has no alarm connections.

7 PIN CONNECTOR

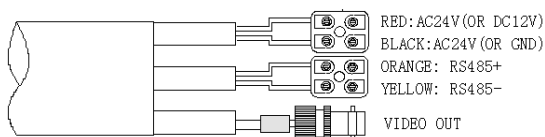


10 PIN CONNECTOR



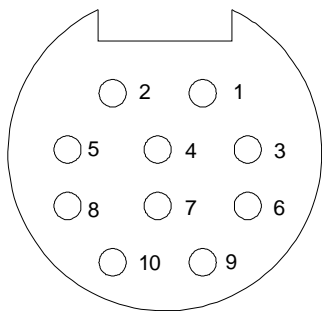
PIN 1	24V AC	RED
PIN 2	24V AC	BLACK
PIN 3	RS485 -	YELLOW
PIN 4	NOT USED	
PIN 5	RS485 +	ORANGE
PIN 6	VIDEO +	
PIN 7	VIDEO -	

1.	Alarm-1 in: red
2.	Alarm-2 in: orange
3.	Alarm-3 in: yellow
4.	Alarm-4 in: green
5.	NC
6.	Alarm in COM: black
7.	Alarm Out COM: black
8.	NC
9.	Alarm NO out: blue
10.	Alarm NC COM: pink



4 channel alarm input activation & single channel alarm output

One of the special features of this PTZ is that it has four in-built alarm channels to call four independent presets. This means that for example you may have a door contact and when the contact is closed, it sends a 0 volt alarm switch to the PTZ on one of the four alarm channels. The PTZ will then call a previously set preset position and lock the camera onto that position. A single channel alarm out, allows the connection of an audible alarm, lighting or other warning device. When more than one alarm input channel is utilised and activated, the PTZ will switch to the next channel after two seconds. However once an alarm input channel has been activated, the PTZ will remain locked to the preset position/s and will not resume a patrol, auto scan or a record pattern or go to a specified preset point unless the Alarm Action option is set.



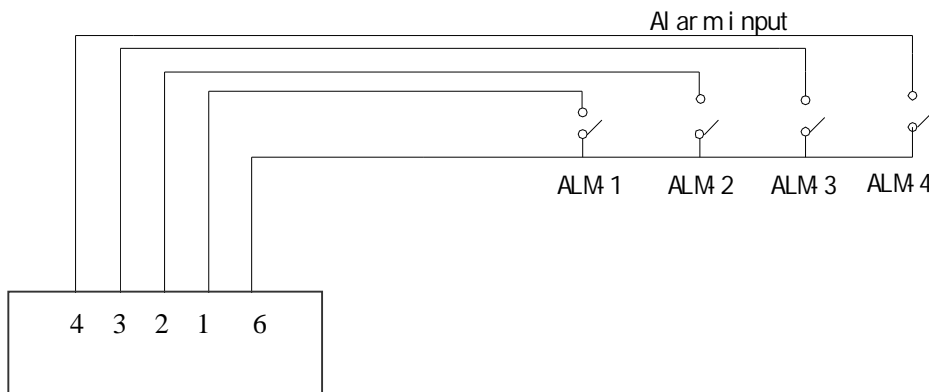
10-Core Input Terminal

- | |
|-------------------------|
| 1. Alarm-1 in: red |
| 2. Alarm-2 in: orange |
| 3. Alarm-3 in: yellow |
| 4. Alarm-4 in: green |
| 5. NC |
| 6. Alarm in COM: black |
| 7. Alarm Out COM: black |
| 8. NC |
| 9. Alarm NO out: blue |
| 10. Alarm NC COM: pink |

NOTE: THE ALARM INPUT MUST BE VOLTAGE FREE OR YOU MAY DAMAGE THE PTZ

8) Connecting the Input Alarm devices

Refer to above 10 core input terminal. You will need to decide how many alarm channels will be utilised. For each alarm channel you will need a pair of cable connections and it is recommended that a CAT5 twisted pair be utilised. Connect one core to the selected input alarm channel and the other to the Alarm in COM (6). The Alarm in COM (6) is a common connection for all four alarm channels. At the alarm end (see diagram below) connect to the alarm device. This must be a 0 volt switch and maybe for example a door switch. Check that the alarm device passes a voltage free switch as any other input signal may damage the PTZ.



Each of the four alarm channels call a different dedicated preset number when the 0v switch is detected by the PTZ. This allows the PTZ to move immediately to the selected preset position in an alarm condition. The following example shows how a preset can be triggered:

when Alarm Channel No 1 is activated it calls preset number 29
when Alarm Channel No 2 is activated it calls preset number 30
when Alarm Channel No 3 is activated it calls preset number 31
when Alarm Channel No 4 is activated it calls preset number 32

To set these special presets, if you have set up alarm channel 1, move the PTZ camera to where you wish alarm 1 preset to move to, and using the keypad press 29 followed by the Preset button.

Then if you have set up alarm channel 2, move the PTZ camera to where you wish alarm 2 preset to move to, and using the keypad press 30 followed by the Preset button and so on.

When more than one alarm channel is utilised and activated, the PTZ will respond to each alarm by calling the relevant preset and switching to the next preset after two seconds. The PTZ will lock on to the last alarm activated and will not resume a patrol, auto scan or record pattern or go to a specified preset point unless the Alarm Action option is set.

Example: Connecting Alarm 1 channel to a door contact

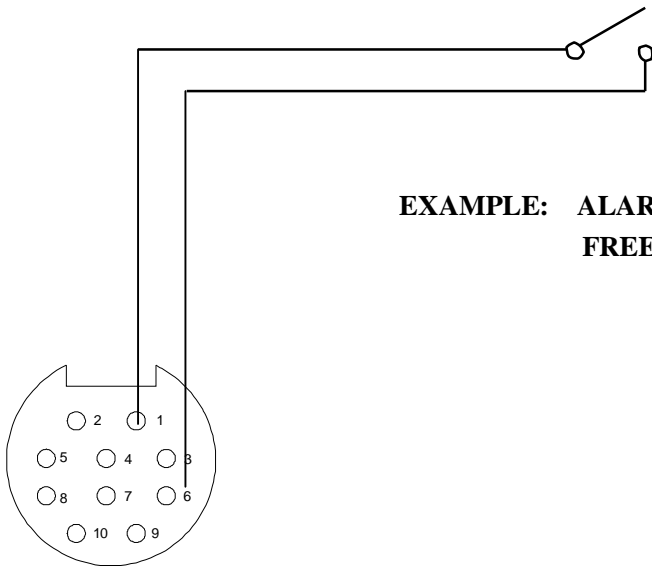
Here is an example scenario.

A company requires a PTZ to run a patrol (tour) continuously viewing four preset points. One of the preset points is the main entrance door to the building. The requirement is to ensure that during out of hours the entrance door is not breached.

The PTZ alarm 1 channel is connected to a door contact on the main entrance door. A CAT5 twisted pair is connected at the PTZ to the **10 pin connector**, pin 1 (red) for the Alarm 1 in, and pin 6 (black) for the common ground.

At the door contact end the twisted pair is connected either way round. The PTZ is then set up for the tour using presets 01 to 04. In addition preset 29 is setup focusing the PTZ camera at the door entrance. When the building is vacated the PTZ is left running a tour of the four presets. If the door contact is closed a voltage free switch is made on the Alarm 1 channel. The PTZ then automatically calls preset 29 which locks onto the main entrance door.

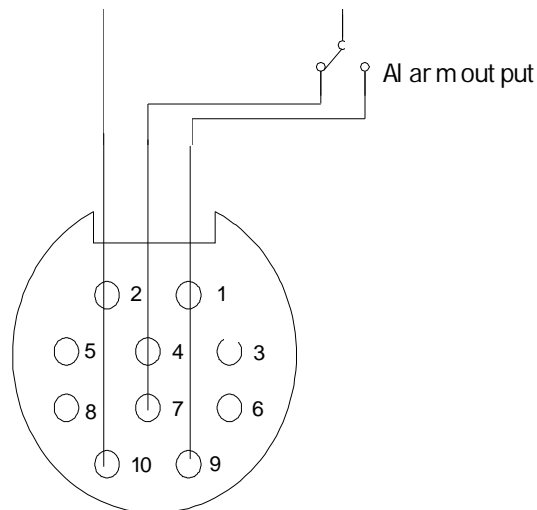
See example diagram below:



**EXAMPLE: ALARM 1 CONNECTED TO VOLTAGE
FREE DOOR CONTACT**

13) Connecting the Output Alarm

In addition to the alarm inputs, the PTZ960 will activate an alarm output if an alarm input is triggered. There are two connections for the alarm output, a common and either a normally open or a normally closed connection. Again this is a 0 volt switch and could be used for example to close a circuit to an audible alarm, lighting or other warning devices. Ensure that the switch line does not carry any voltage. Again this switch remains activated until the input alarm/s have been cleared/reset.



NOTE: You do not have to use the alarm output feature when using alarm inputs.

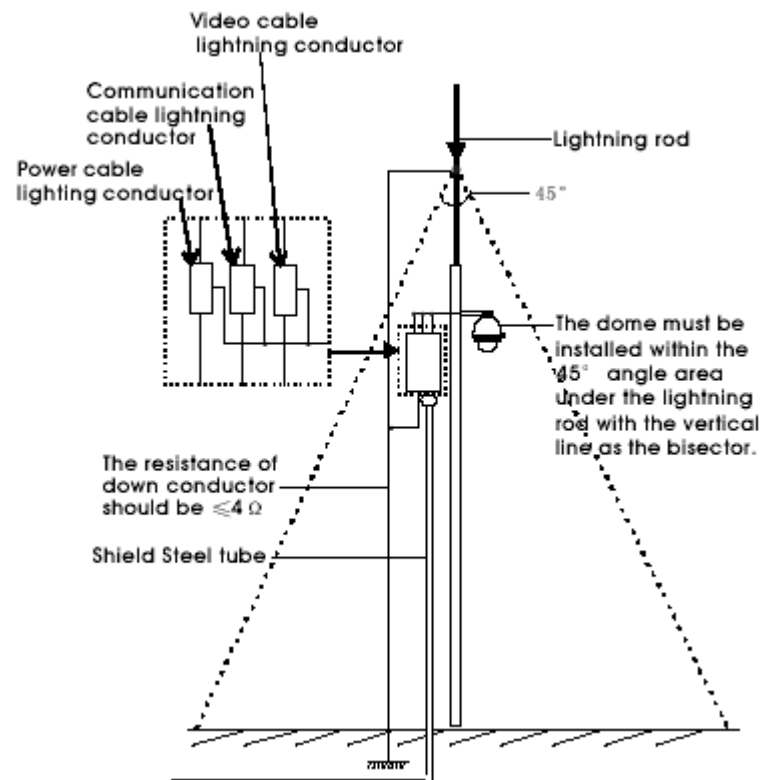
VI. Technical data table

Specifications	CCD	Sony N module
	Resolution	580TVL
	Optical Zoom	30x
	In-Phase System	In-Phase Inside
	Video Output	1.0 V _{p-p} /75 Ω
	White Balance	Auto / Manual
	Power Supply	AC 24V ± 10% 2.5A
	Power Consumption	50 VA
	Weight	7.5Kg
	Operating Temperature	-35°C ~ 55°C
	Waterproof Class	IP66
	Installation	Internal/External
	Illumination	0.0015 Lux, 0 Lux when IRs on
	Signal/Noise Ratio	≥ 50db
	Relative Humidity	10~90%
Dome Function	Pan Preset Speed	160°/s
	Tilt Preset Speed	80°/s
	Pan Manual Speed	0°~160°/s
	Tilt Manual Speed	0°~55°/s
	Preset	128 presets (max)
	Patrol	At best 6 tours
	AutoScan	0.5°~30°/s
	Pattern	40 sec.
	Privacy Masking	Yes
	Wiper/Demister	Yes
Infrared Lamps	Infrared LEDs	1 x IR equivalent to 63 x IR Leds
	Wavelength	850nm
	Projection Distance	Up to 50 metres
	Power Consumption	5 watts
	Infrared Control	Auto/Manual control via menu
Alarm	4 x Channel Inputs	Normally Open, closing for alarm
	1 x Channel Output	Normally Open, closing on output

Appendix A: Lightning Proof and Surge Signal Proof

This product adopts TVS lightning proof technology to prevent damage by a lightning strike below 1500 W and surge impulse signals. However it is also necessary to ensure that the following precautions are taken to ensure electrical safety:

- Keep the communication cables at least 50 meters away from high voltage equipment or cables.
- Where possible locate outdoor cables under eaves to provide best protection.
- In an open area run cables in steel tubing and attach a single point ground to the tube.
- In areas prone to thunderstorms or high EMF (such as a high voltage transformer substation), additional lightning proof equipment must be installed.
- Always design the installation taking account of the building lightning proof requirements and grounding of outdoor equipment in accordance with the national and industrial standards.
- The system must be grounded with equal potentials. The earth ground connection must satisfy anti-interference and electrical safety requirements and must not short circuit the high voltage electricity network. When the system is grounded separately, the resistance of the down conductor should be $\leq 4 \Omega$ and the sectional size of the down conductor should be $\leq 25\text{mm}^2$ (refer to Fig 36).



NOTE: This technology HELPS prevent the PTZ from being damaged by lightning strikes but under no circumstances does it guarantee protection. PTZs struck by lightning will not be covered by the warranty.