XtendLan

SDOMEOATM

USER MANUAL

Object Tracking/High Speed Mini Dome II

Thank You for Choosing our PTZ Camera!

When you open the box:

- ❒ Check that the packing and the contents are not visibly damaged. Contact the retailer immediately if any parts are either missing or damaged.
- ❒ Make sure if the contents are all included as per the packing list.
- ❒ Do not attempt to use the device with missing or damaged parts. Send the product back in its original packing if it is damaged.

The information contained in the document is subject to change without notice.

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1. SAFETY NOTES --- IMPORTANT!!!

The following important notes must be followed carefully to run the PTZ camera and respective accessories in total safety. The camera and relative accessories are called *video system* in this section.

Use the instructions correctly and fully
Read all safety rules and instructions carefully before starting to run the video system.

Follow the instructions in the instruction manual. Pay attention to all warnings on the camera and in the instruction manual. Keep the safety notes and instructions for use for future reference.

Attachments & Accessories
Do not use attachments other than those recommended in the instruction manual because this could cause risks to the products. Only use the recommended accessories for the camera for installation and operation.

Protect the video system
To protect the camera, avoid installing and using it in direct sunlight or any source of bright light. Bright light, like that from a spotlight, can cause dimming and blurs. A vertical line may appear on the screen. This does not indicate a problem.

Keep it away from rain and dust. Do not touch the zoom lens with your fingers. If needed, use a soft cloth and methylated spirit to remove traces of dust. Apply a specific cap to protect the zoom lens when the camera is not in use.

Install the camera away from video interference. The pictures could present interference if the leads are arranged near a TV set or other device. Either move the leads or re-install the device to solve the problem.

Do not use any part of the video system near water, i.e. bathtubs, wash basins, sinks, tubs, on damp surfaces, near swimming pools, etc. Do not insert objects of any kind through the camera openings to avoid touch live parts: fire and electrocution risk. Do not pour any kind of liquid on the device.

A switch for performing maintenance operations on the camera must be included. Connect the camera only to the electrical power supply shown on the ratings plate. Contact your retailer if in doubt.

Lay the power wires keeping them from being trodden on or squeezed by objects placed on top of them. Pay particular attention to leads near plugs, screws and the product outlet.

Disconnect the power lead and the wiring to protect the camera during electrical storms or when it is left unattended and not used for a long time. This will prevent damage to the

video system in the event of lightening or electrical line overload.

Do not overload the electrical power and the extensions to prevent the risk of fire or electrocution.

Do not place the camera near or over radiators or sources of heat. Check that the area is suitably ventilated before installing the camera inside partially closed areas (such as recesses, bookshelves and shelves).

Do not position the camera on unsteady trolleys, stands, brackets or tables. The camera could fall and severely injury adults and children in addition to seriously damaging the product.

Maintenance & Repairs
Always contact a qualified service technician to repair the camera (or any other part of the video system). Unauthorized opening or removing the lids may cause fire and electrocution risk and other dangers.

Disconnect all electrical parts from the mains before cleaning.

Uses spare parts specified by the manufacturer or spare parts with equivalent characteristics when replacements required. Unauthorized replacements can cause fires, electrical shocks and other dangers.

After any servicing intervention or repair to the video system, ask the technician to run a safety check to ensure that everything is working safely.

Damage requiring professional assistance
Disconnect the video system from the power mains and call qualified service personnel in the following cases:

- ❒ If the power lead or plug is damaged.
- ❒ If liquid or foreign objects accidentally penetrate inside the device.
- ❒ If the device was exposed to rain or water.
- ❒ If the device was dropped, subjected to heavy shocks or if the camera packaging was damaged.
- ❒ If the device performance changes considerably.

2. ABOUT THE PRODUCT

The **Auto Tracking/ High Speed Mini PTZ II** is based on our unique motion tracking technology with high resolution, high speed, low price and selectable communication protocols. It is widely used in surveillance system as unattended CCTV device.

2.1. FEATURES

- ❒ Auto tracking of moving object (auto PTZ) based on our motion tracking technology;
- ❒ Max 10X optical, 0.02Lux of module specifications;
- ❒ Pan: 360º at maximum speed of 250º /sec;
- ❒ Tilt: 0º to 90º at maximum speed of 250º/sec;
- ❒ Auto panning function with 256 preset positions;
- ❒ Built-in OSD Menu, to change dome parameter, save or call preset, and achieve auto scan, pattern etc;
- ❒ Password protection to prevent unauthorized changes to the dome setting;
- ❒ Windows blanking and tracking boundary for privacy purpose;
- ❒ The feature of defining specific activity when the dome parks;
- ❒ Integrated design with high reliability;
- ❒ RS-485 data communication;
- ❒ Auto-flip to follow object and surveillance of any subject that is constant and continuous;
- ❒ The speed can be adjusted automatically according to zooming times;
- ❒ Auto focus lens and auto white balance, BLC function;
- ❒ Multi protocol compatible (Pelco- D / P, DAHUA);
- ❒ Alarm input, Alarm output, Alarm action.

2.2. FUNCTIONS

Object Tracking
In auto tracking mode, the camera can track a moving object in the target area with auto pan, tilt and zoom which realizes smart unattended surveillance.

Tracking Cruise
The tracking function can be activated during cruise. At a preset of the cruise list, the

camera can track moving objects automatically.

Soft Address
The camera address can be programmed with built-in OSD menu, and the user does not need to dismount the camera from field or do any screw work.

Wide Dynamic Range (WDR)
A camera is intended to provide clear images even under back light circumstances where intensity of illumination can vary excessively, when there are both vary bright and vary dark areas simultaneously in the field of view. WDR enables the capture and display of both bright areas and dark areas in the same frame, in a way that there are details in both areas, i.e. bright areas are not saturated, and dark areas are not too dark.

Day/Night Function
The IR cut filter of camera module inside the camera can be removed by sending special command, so that the camera can change from color to mono.


Wide Dynamic Range (WDR) and Day/Night function are based on the relative modules.

Proportional Pan
Proportional pan automatically reduces or increases the pan and tilt speeds in proportion to the zooming times. At telephoto zoom settings, the pan and tilt speeds will be slower for a given amount of joystick deflection then at wide zoom settings. This keeps the image from moving too fast on the monitor when there is a large amount of zoom.

Auto Flip
When the camera tilts downward and goes just beyond the vertical angle, the camera rotates 180º. When the camera rotates (flips), the camera starts moving upward as you continue to hold joystick in the down position. Once you let go of the joystick after the dome rotates, joystick control returns to normal operation. The auto-flip feature is useful for following a person who passes directly beneath the camera.

Save/Call Preset
Preset function is that dome saves current horizontal angle and title angle of pan/tilt, zoom and position parameters into memory. When necessary dome calls these parameters and adjusts Pan/Tilt and camera to that position. User can save and call presets easily and promptly by using keyboard controller or infrared controller. The camera supports up to 256 presets.

Lens Control
1) Zoom control
User can adjust zoom in or out by controller to get desired image.

2) Focus control
System defaults Auto Focus mode, that is, the lens and camera will automatically adjust

the focus to get the best image.

Focus can also be controlled manually from the controller if required. Press Focus Near or Focus Far key to manually focus. Focus can be manual via keyboard or matrix, please refer to control keyboard or matrix operation manual for detailed operation. When adjusting position is set with auto focus status, it goes back to auto focus.

The camera will NOT auto focus in the following status.

- ❒ Target is not in the center of image.
- ❒ Targets are in near and far at the same time.
- ❒ Target is of strong light object. Such as spotlight etc.
- ❒ Target is behind the glass with water drop or dust.
- ❒ Target moves too fast.
- ❒ Large area target such as wall.
- ❒ Target is too dark or vague.

3) IRIS control

System defaults Auto IRIS. Camera can adjust immediately according to the alteration of back ground illumination so that a lightness steady image can be achieved.

You may adjust IRIS by controller to get required image brightness, and call back Auto IRIS by controlling the joystick.

Auto White Balance

Camera can automatically adjust white balance (WB) according to the alteration of background lightness to give a true color image.

Back Light Compensation (BLC)

If a bright backlight presents, the subjects in the picture may appear dark or as a silhouette. Backlight compensation enhances objects in the center of the picture. The camera uses the center of the picture to adjust the IRIS. If there is a bright light source outside this area, it will wash out to white. The camera will adjust the IRIS so that the object in the sensitive area is properly exposed.

Auto Cruise

The preset position is programmed to be recalled in sequence. This feature is called auto cruise. Up to 30 presets can be saved in each cruise tour.

Patterns

A pattern is a saved, repeating, series of pan, tilt, zoom and preset functions that can be recalled with a command from a controller or automatically by a programmed function (alarm action or park action or power-up action).

Auto, Random and Frame Scan
Auto Scan: Make the camera scan 360º ranging from the current position.
Random Scan: Make the camera random scan 360º ranging from the current position.
Frame Scan: This feature freezes the scene on the monitor when going to a preset. This allows for smooth transition from one preset scene to another.

Zones Setting
A zone is a pan area, defined by a left and right limit, on the 360º pan plane. The camera has eight zones, each with a 6-character label.

Alarms Input
The camera has four alarm inputs, which can be programmed as high, medium or low priority. When an alarm is received, an input signal to the camera triggers the user-defined action (go to preset, run pattern, etc.) programmed for the alarm.

Auxiliary Output
An auxiliary output is a programmable signal from the camera back box that can trigger another device to operate. An auxiliary output is programmable to trigger from an alarm or from a controller.

Password Protection
The camera features password protection to prevent unauthorized changes to the camera settings. You can open the System Information and Display Setup Screens, but cannot access any of the camera Settings menus.

Windows Blanking
A set window can be saved so that it is the only blanked tilt area of the scene. All other parts of the tilt area of the scene will be visible.

 *Windows blanking is only available for Sony Modules at present.*

2.3. TECHNICAL PARAMETERS

Signal Format	NTSC	PAL
CCD	1/4 inch color CCD	
Max. Pixels	811(H)×508(V)410K	795(H)×596(V)470K
Effective Pixels	768(H)×494(V)380K	7521(H)×582(V)440K
Horizontal Resolution	500TV Line (color), 570 TV Line(b/w)	
S/N Ratio	50dB	
Zoom	10X optical, 10X digital	
Focal Range	F1.8, f=3.8~38mm	

Sensitivity	0.7Lux(Color) / 0.02Lux(B/W), 50IRE
Switch Mode	Auto / Day/Night(ICR)
Focus	Auto / Manual /Semi Auto
Iris	Auto / Manual
Shutter Speed	X128~1/120000sec
AGC	Normal / High / Off
White Balance	Auto / MAN
BLC	Low / Mid/ High / Off
SSNR	Low / Mid/ High / Off
Rotating Range	Pan:360°continuous, Tilt: 0°~90° (Auto flip)
Pan/Tilt Speed	Pan:0.05°～400°/s; Tilt:0.03°～240°/s
Preset	256
Auto Cruise	Presets switch sequentially from 1 to 30 automatically
Pattern Cruise	4
Regional Setting	8
Alarm Input	4
Alarm Output	2
COMM. Port	RS-485
Baud Rate	1200bps, 2400bps,4800bps, 9600bps
Address Range	0~63
Power	DC24V
Operating Temperature	-20°C~70°C(Without Heater)/ -50°C~70°C(With Heater)
Dome Size	4 inch
IP Code	IP66
Mounting Modes	Wall (Outdoor or Indoor), Pole (Outdoor or Indoor), Surface (Indoor)

Table 1: Samsung Modules

Parameters vary if cameras other than Samsung are equipped with.

The specifications are subject to change without notice.

3. INSTALLATION

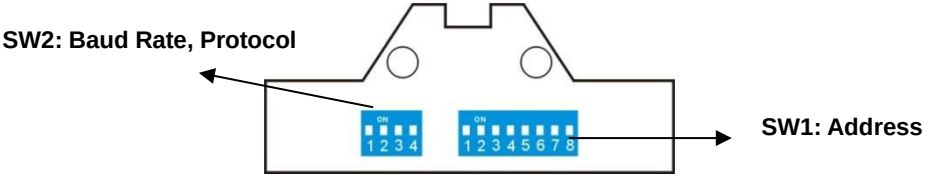
This section contains detailed instructions for installing the camera. These instructions assume that the installer has a good knowledge of installation techniques and is capable of adopting safe installation methods.

3.1. DIP SWITCH SETTING

Before installing the camera drive, check the DIP switch; configure the receiver address, communication protocol, and baud rate setting. Pic. 1 shows switch position and default settings. For normal user, setting switches to default position is suggested.

Pic. 1 Switch Position

The camera can be controlled via various communication protocols by setting SW2 switch (3 and 4 bit) and operate at 1200bps, 2400bps, 4800bps and 9600bps baud rate by setting SW2 switch (1and 2 bit). Refer to Table 2: SWITCH SETTING for address, communication protocol and baud rate settings, do not set the switches to reserved position.



Pic. 2 DIP Switches

Please refer to the below table to set baud rate, communication protocol type and camera address.

POS (SW1)	Addr	1	2	3	4	5	6	7	8
Addr	0	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
	1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF

	2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
	3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
	4	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
	5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
	6	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
	7	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
	8	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
	9	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
	10	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF
	11	ON	ON	OFF	ON	OFF	OFF	OFF	OFF
	12	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF
	…	…	…	…	…	…	…	…	…
	253	ON	OFF	ON	ON	ON	ON	ON	ON
	254	OFF	ON	ON	ON	ON	ON	ON	ON
	255	ON	ON	ON	ON	ON	ON	ON	ON
POS (SW2)	**BAUD RATE**	**1**	**2**						
BAUD RATE (BPS)	1200	OFF	OFF						
	2400	ON	OFF						
	4800	OFF	ON						
	9600	ON	ON						
POS (SW2)	**PROTOCOL**			**3**	**4**				
COMM PTOL	PELCO (PELCO-P/ PELCO-D)			OFF	OFF				
	reserved			ON	OFF				
	reserved			OFF	ON				
	reserved			ON	ON				

Table 2: SWITCH SETTING

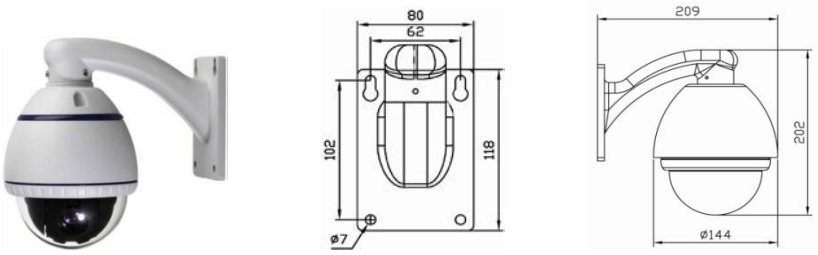
3.2. INSTALLATION

Step 1. **Install lower dome.**

Line up the mounting screw holes, and install the three mounting screws. Push the lower dome inside the back box.

Step 2. <u>Install the bracket for wall-mounted dome</u>

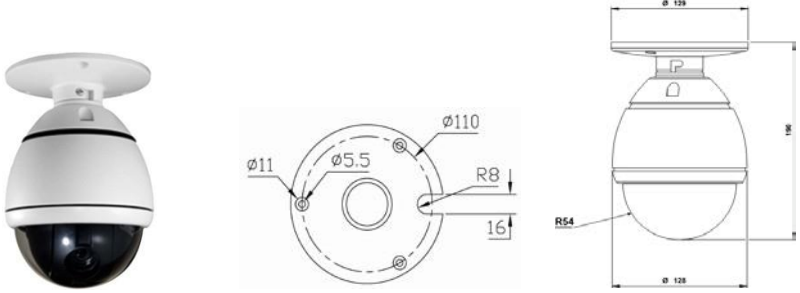
Dig four holes on the wall as Pic. 3. Take out the cables from the backward of the bracket. Install the bracket on the wall.



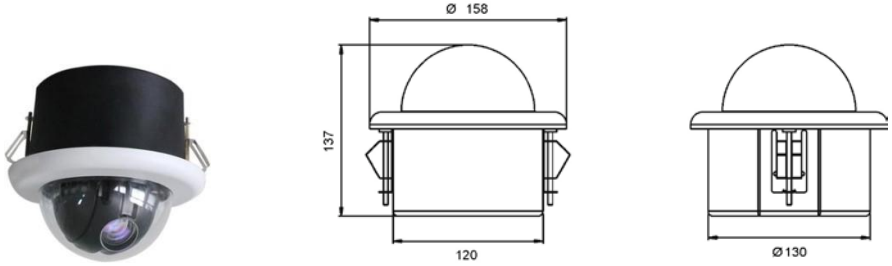
Pic. 3

When installing outdoors, make sure installation is properly sealed to keep moisture out.

The surface, pole and in-ceiling mounting modes are like the wall mounting mode.



Pic. 4



Pic. 5

4. OPERATION GUIDE

4.1. OPERATION AT POWER UP

The camera employs the default settings the first time it is switched on. Changes to the settings will be permanently stored and will be made available the next time the camera is switched on. You can return to the default settings by means of the appropriate menu option at any time.

The camera will work as follows when it is switched on.

The camera will run a calibration procedure and a message showing the following information will appear on the video output OSD (On Screen Display): software version, address, protocol, baud rate and zoom module brand.

Check that the data are suitable for operation. Otherwise, refer to the section in this document that shows how to install the camera correctly.

```
            MINI DOME II

SOFT VERSION:       5.3
ADDRESS:            1
PROTOCOL:           PELCO—D/P
BAUD RATE:          2400
TEMPERATURE         25C

SAMSUNG SERIES CAMERA
```

At the end of the calibration step, the camera will switch to stand-by as programmed (**PTZ > POWER UP > ACTION**). The camera will continue working this way until any command is received from the keypad. The camera during this phase can be pointed to a fixed point or pan across the field. Refer to the details described in the **POWER UP** menu section.

4.2. HOW TO USE OUR CONTROL KEYBOARD

The camera is ready to receive commands from our control keyboard (see figure below) after connecting.

4.2.1. CONTROL KEYPAD PASSWORD AND ACCESS

The system will wait for the password to be entered after being switched on.
The control panel requires a 6-digit password.
The entered digits will be replaced by a "*" symbol on the screen for privacy.
Access to the menu is gained after entering all the digits correctly.
Refer to the corresponding manual for using the control panel.

📖 *The default user password is "000000".*

📖 *It is advisable to change the default password to prevent intrusions.*

📖 *Do not lose or forget the programmed password.*

4.2.2. CONTROL KEYPAD COMMAND SYNTAX

Controls can use the joystick, single keys or key combinations.
The key command syntax is shown below.

Key command syntax
The syntax used in this manual for controls using keys consists of various elements (words and three digit numbers). Each command is always in braces and each element is separated by commas. Each word or decimal digit used in the syntax is identified by a corresponding key on our control panel. Words can be enclosed in round brackets, square brackets or no brackets. Three digit decimals are never enclosed in brackets.

The following words only can be used: **PRESET**, **CALL**, **ESC**, **OPEN**, **CLOSE**, **NEAR**, **FAR**, **ZOOM OUT**, **ZOOM IN**, **CAM**, **MON**, **SCAN**, **ENTER**. The decimal digits are: **0**, **1**, **2**, **3**, **4**, **5**, **6**, **7**, **8**, and **9**.

Some application examples of controls are shown in detail below.

Using the joystick
A command can also be given simply by moving the joystick because this generates actions on the camera or OSD (On Screen Display) menu.

Using a single key
Pressing a single key can cause camera action. For example, the following command will zoom out of the frame. Underling indicates the key is in use.

ZOOM OUT

Key combinations
Pressing a key combination in rapid sequence extents the command set. For example, the following command (select camera address 1) is performed by pressing the following keys:

CAM + **1** + **ENTER**

4.2.3. CONTROL KEYPAD COMMAND TYPES

There are four command types:

- ❒ Select camera,
- ❒ Move camera (tilt and pan, zoom, adjust focus and IRIS opening, go to preset positions),
- ❒ Adjust camera operation mode using menus,
- ❒ Various quick controls operable from the control panel.

The method for accessing these controls will be shown in details in the following paragraphs.

4.3. SELECT A CAMERA

The camera to be controlled must be selected first. For example, the following command selects camera 1:

CAM + **1** + **ENTER**

After this operation, the message **CAM 1** will appear on the control panel display.

4.4. CAMERA MOTIONS

After selecting a camera, it can be moved either directly using the control panel as described below:

- ❒ Panning (horizontal) and tilting (vertical).
- ❒ Zooming, focusing and IRIS opening.
- ❒ Preset positions programming and recalling.

These functions can be directly accessed using a single key or joystick or a simple key combination.

4.4.1. PAN AND TILT FUNCTIONS

The camera may be moved using our keyboard controller. Move the joystick vertically to tilt the camera and horizontally to pan it.

The maximum pan span is from 0º to 360º with continuous rotation. The maximum tilt span is from 0º (camera in vertical position) and 90º.

The panning and tilting speed can be modulated by operating the joystick appropriately.

Note that the maximum speed that can be obtained by operating the joystick is not always equal to that programmed in the working settings. This in fact depends on the value of the **PTZ** > **MOTION** > **PROPORTIONAL PAN** setting. If the option is ON, the maximum rotation speed which can be obtained using the joystick is proportional to the magnification used to obtain the best frame.

Panning (horizontal)
Tip the joystick rightwards to turn the camera horizontally clockwise and tip it leftwards to turn it anticlockwise.

If no advanced options are set (e.g. range limits set enabled), the camera can be turned continuously without interruptions.

The pan span may be limited between two angles in **PTZ** > **MOTION** > **MANUAL LIMIT**.

Tilting (vertical)
Tip the joystick upwards to turn the camera vertically upwards and tip it downwards to turn the camera downwards. The camera rotation is limited upwards by the horizontal plane or downwards by the vertical axis.

Performance will change considerably near the vertical axis according to whether the **AUTO FLIP** is on or not (default setting is on).

- With **AUTO FLIP** off, the camera will stop in perfectly vertical position and will stop turning when the joystick is tipped downwards.
- With **AUTO FLIP** on, the camera will proceed over the vertical axis when the joystick is tipped downwards. This is because, when the vertical axis is reached, the camera flips automatically by 180 degrees and resumes the initial trajectory.

The **AUTO FLIP** function can be used to follow a subject arriving in a certain direction passes under the camera and continues in a straight line. To do this, hold the joystick tipped downwards following the movement of the subject. Observe that in this case the joystick performance after the camera passes over the vertical axis opposite to the normal axis because tipping the joystick downwards will turn the camera upwards.

Normal operation of the joystick will be resumed as soon as the downward tip is interrupted (also only for an instant). At this point, to follow the subject in the same direction, you will need to tip the joystick upwards, as you would normally.

4.4.2. ZOOM FUNCTIONS

The camera frame may be adjusted by using the **ZOOM IN** and **ZOOM OUT** commands. Use **ZOOM IN** to zoom into the detail; use **ZOOM OUT** to zoom out.

Zoom can be set as per the zoom specifications of relative modules, combined between optical zoom and digital zoom. Refer to the specific section for programming the function.

4.4.3. FOCUS FUNCTIONS

The camera focus may be adjusted manually using the **NEAR** and **FAR** controls.

As the auto focus function is always on, a manual setting made using **NEAR** and **FAR** will be kept only until a pan, tilt or zoom command is used. In this case, auto focus will adjust focus automatically again.

Refer to the specific section for additional details on focusing and on the various options.

The auto focus function cannot work correctly in the following cases:

- ❒ *The object to be focused on it not in the middle of the image.*
- ❒ *There are far and near object in the frame.*
- ❒ *Bright light is shining on the subject.*
- ❒ *The subject is behind a glass pane covered in drops or dust.*
- ❒ *The subject is moving very quickly.*
- ❒ *The subject is not well lit.*
- ❒ *The subject is too big.*

4.4.4. IRIS OPENING FUNCTIONS

The IRIS opening may be controlled manually using the **OPEN** and **CLOSE** commands.

The manual setting made using **OPEN** and **CLOSE** will be kept only until a pan, tilt or zoom command is used if the automatic IRIS opening option is enabled (the default setting is on). In this case, the opening will be controlling automatically again.

Refer to the specific section for additional details on IRIS opening adjustment.

4.4.5. PRESET POSITIONS PROGRAMMING AND RECALLING

The camera can store up to 256 panning, tilting and zooming configurations (called preset positions) which can be recalled at any time.

The manual focusing and IRIS opening settings cannot be stored.

📖 *When storing presets, it is important to remember that some are reserved and cannot be either stored or used for positioning the camera.*

- ❒ *Presets from 80 to 99 are reserved for management controls*
- ❒ *Presets from 100 to 103, 170 to 173 are reserved for Tracking and Pattern controls*

The following examples show how to program the free Presets and recall them.

Example: programming preset number 32

1) Position the camera in a certain pan, tilt and zoom configuration.
2) Enter the command **PRESET** + **32** + **ENTER**.

From this moment onwards, simply enter the command **CALL** + **32** + **ENTER** to move the camera to the preset position.

📖 *The saved value will be written over if the setting is reprogrammed.*

📖 *The Presets are saved in a permanent memory area of the camera where they are maintained also when power is disconnected. However, restoring default settings will delete all preset values.*

📖 *Press* **PRESET** + **83** + **ENTER** *to delete all the saved preset values.*

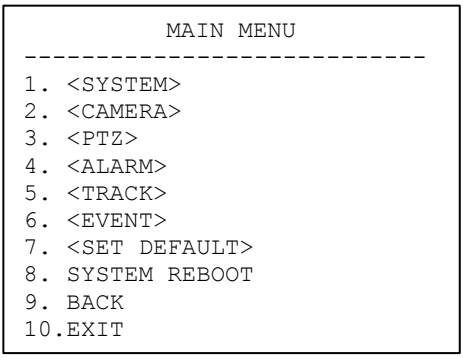
📖 *The Presets store the coordinates according to an angular reference system. Therefore, the reference system zero point may become misaligned with the camera mechanics after prolonged use of the tilting and panning functions. Minor inaccuracies in preset positions may occur. In this case, calibrate the angular coordinate system using the* **REBOOT SYSTEM** *command. This calibration is automatically run when the camera is switched on.*

4.5. FUNCTION PROGRAM MENU

Use the following control panel command to access the function programming menu.

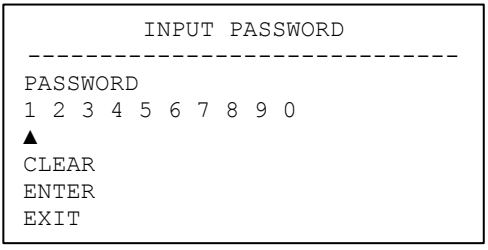
PRESET + **95** + **ENTER**

At this point, if no password is required for access, the following first level menu will appear on the screen:



Screen 1: Main Menu

If a password is required, the following prompt will appear. The password is a numeric combination (max. 4 digits).



Screen 2: Password Protection

Select the password digits by moving the joystick in the horizontal direction. Symbol "▲" indicates the digit to be entered.

Press **OPEN** to enter the selected digit. The entered numbers will be replaced by an "x" symbol on the screen for privacy.
Select **ENTER** and press **OPEN** to access the first level menu after entering all the digits correctly.

THE DEFAULT PASSWORD IS "1111".

It is advisable to change the default password to prevent intrusions.

Do not lose or forget the programmed password.

Simply move the joystick vertically to scroll the menu and point the cursor to the menu item to be selected: at this point, select **OPEN** to access the selected second level.

Simply press **BACK** and use **OPEN** or just press **CLOSE** to go back to the previous level menu.
`

Option	Value	Explanation
SYSTEM		System setting menu **(See Section 4.5.1)**
CAMERA		Lens parameters setting menu **(See Section 4.5.2)**
PTZ		PTZ Setting Menu **(See Section 4.5.3)**
ALARM		Alarm setting menu **(See Section 4.5.4)**
TRACK		Tracking setup menu **(See Section 4.5.5)**
EVENT		Event function setting menu **(See Section 4.5.6)**
SET DEFAULT		This function restarts the device by clearing the settings performed by the user. The camera is repositioned.
SYSTEM REBOOT		This function restarts the device without clearly the settings performed by the user. The camera is repositioned.

Table 3

4.5.1. SYSTEM MENU

In the main menu, select **SYSTEM** to set the parameters such as protocol, baud rate, camera address, dome label, display setup, password, bootup screen and position memory.

```
            SYSTEM
----------------------------
1. <SOFT DIP SWITCH>
2. <DOME LABEL>
3. <DISPLAY SETUP>
4. <PASSWORD>
5. <BOOTUP SCREEN>
6. POSITION MEMORY:  OFF
7. BACK
8. EXIT
```

Screen 3: System

Option	Value	Explanation

SOFT DIP SWITCH		Program protocol, address, baud rate via OSD menu.
DOME LABEL		Dome label setting submenu
DISPLAY SETUP		Display submenu: program the info to be displayed on screen.
PASSWORD		Password submenu
BOOTUP SCREEN		Boot up screen submenu
POSITION MEMORY	**ON/OFF**	Remember the camera position of last power off.

Table 4

4.5.1.1. SOFT DIP SWITCH

The **SOFT DIP SWITCH** submenu is used to set protocol, address and baud rate operated by OSD menu.

```
        SOFT DIP SWITCH
----------------------------
1. SOFT ADDR:              1
2. SOFT ADDR ENABLE:    OFF
3. SOFT PTOL:      PELCO-D/P
4. SOFT BAUD RATE:     2400
5. SOFT B.RATE/PTOL:    OFF
6. BACK
7. EXIT
```

Screen 4: Protocol Menu

Option	Value	Explanation
SOFT ADDR	**0~255**	Set the soft address
SOFT ADDR ENABLE	**ON, OFF**	Enable the soft addressor not.
SOFT PTOL	**DAHUA, PELCO-D/P**	Set the protocol via OSD menu instead of hard DIP switch
SOFT BAUD RATE	**1200, 2400, 4800,9600**	Set the soft baud rate
SOFT B.RATE/PTOL	**ON, OFF**	Enable the soft baud rate and protocol or not.

Table 5

4.5.1.2. DOME LABEL

```
          DOME LABEL
----------------------------
1. <EDIT DOME LABEL>
2. <CLEAR DOME LABEL>
3. BACK
4. EXIT
```

Screen 5: Dome Label Menu

Option	Value	Explanation
EDIT DOME LABEL		This submenu is used to edit a dome label (see below).
CLEAR DOME LABEL		This submenu is to clear the label of the camera.

Table 6

EDIT DOME LABEL submenu

The operations needed to associate a label to a camera are:

1) Use the joystick to point the cursor to the "**EDIT DOME LABEL**" option.
2) Press **OPEN**. The following menu will appear on the display:

```
     DOME
DOME LABEL
 0123456789 YZ YZ

ABCDEFGHIJKLMNOPQRSTUVWX

abcdefghijklmnopqrstuvwx

  OK    CN   SP   BP
```

Screen 6: Dome Label

3) Point the cursor to the first character to be used and press **OPEN**. Point the cursor to "**BP**" (BACKSPACE) to delete it.
4) After writing the text, point the cursor to **OK** and press **OPEN** to save and go back to the main screen.
5) **OK** means CONFIRMATION, **CN** means CANCEL, **SP** means character SPACE, **BP** means character BACKSPACE

4.5.1.3. DISPLAY SETUP

The **DISPLAY SETUP** submenu is used to enable the labels to be displayed for the various camera functions.

```
        DISPLAY SETUP
---------------------------
1. <CLOCK>
2. <ORIENTATION>
3. DOME LABEL:          ON
4. ZOOM:                ON
5. AZIMUTH/ELEVATION:   ON
6. PRESET LABEL:        ON
7. ZONE LABEL:          ON
8. EVENT LABEL:         ON
9. <LABEL POSITION>
10. BACK
11. EXIT
```

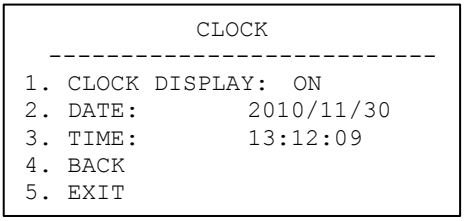
Screen 7: Display Setup

Option	Value	Explanation
CLOCK		Set the date and time.
ORIENTATION		The orientation setting submenu.
DOME LABEL	**ON/OFF**	Show or hide the label
ZOOM	**ON/OFF**	Show or hide zoom labels.
AZIMUTH/ELEVATION	**ON/OFF**	Show or hide camera pan/tilt labels. The coordinates refer to the monitor centre.
PRESET LABEL	**ON/OFF**	Show or hide preset labels.
ZONE LABEL	**ON/OFF**	Show or hide zone label.
EVENT LABEL	**ON/OFF**	Show or hide event label.
LABEL POSITION		Label positioning submenu

Table 7

Clock Submenu

The **CLOCK** submenu is used to set the date and the time.



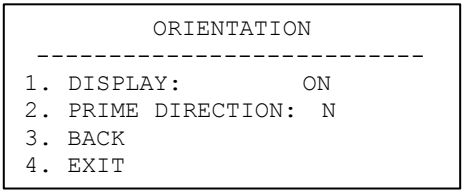
Screen 8: Clock

Option	Value	Explanation
CLOCK DISPLAY	**ON/OFF**	Show or hide the date and time
DATE		Set the date. The format is YYYY/MM/DD.
TIME		Set the time. The format is 24 hour (HH:MM:SS).

Table 8

Orientation Submenu

The **ORIENTATION** submenu is used to set the direction. The camera can tell which direction the camera is facing.



Screen 9: Orientation

Option	Value	Explanation
DISPLAY	**ON/OFF**	Show or hide the orientation
PRIME DERECTION	**N/S/E/W/NW/NE/ SW/SE**	Set the prime direction

Table 9

Label Position Submenu

The labels may be positioned where required on the screen.

```
ZONE   CAMERA      PRESET
                   ORIENT
                   EVENT
        SAVE
        RESET

AZIMUTH            ZOOM
TIME                DATE
```

Screen 10: Label Position

To establish a position:
1) Point the cursor to the label to be moved by moving the joystick vertically.
2) Press **OPEN**.
3) Symbol "■" will appear.
4) Position the entire label in the chosen position using the joystick.
5) Press **OPEN**.
6) Repeat this operation for each label.
7) Point the cursor "►" to **SAVE** and press **OPEN**.

4.5.1.4. PASSWORD

```
              PASSWORD
--------------------------------
1. ENABLE PASSWORD:   OFF
2. <EDIT PASSWORD>
3. BACK
4. EXIT
```

Screen 11: Password

Option	Value	Explanation
ENABLE PASSWORD	**ON/OFF**	This enables or disables the password.
EDIT PASSWORD		This is the password entry procedure.

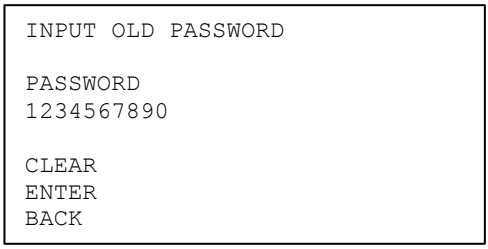
Table 10

The password is a numeric combination (max. 10 digits).

📖 *THE DEFAULT PASSWORD IS "1111".*

📖 *It is advisable to change the default password to prevent intrusions.*

📖 *Do not lose or forget the programmed password.*

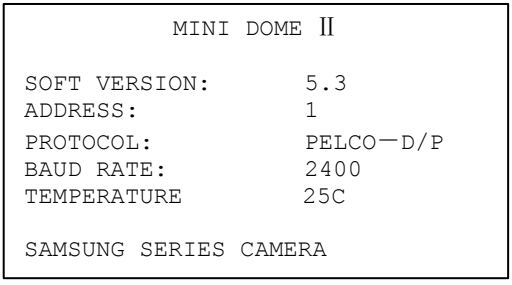


Screen 12: Edit Password

1) Select the password digits by moving the joystick horizontally. Symbol "▲" indicates the digit to be entered.
2) Press **OPEN** to enter the selected digit.
3) The entered numbers will be replaced by a "*" symbol on the screen for privacy.
4) Enter all the digits correctly and select **ENTER** to confirm.
5) During the password change procedure you will be asked to enter the old password. Enter the new password and enter it again for confirmation.

4.5.1.5. BOOTUP SCREEN

In the **SYSTEM** menu, select **BOOTUP SCREEN** to display information concerning software version, address, protocol, baud rate and zoom module brand. The information in this menu cannot be edited.



Screen 13: Bootup Screen

4.5.2. CAMERA

In the first level menu, select **CAMERA** and enter the corresponding submenu.

```
            CAMERA
---------------------------
1. DIGITAL ZOOM:        OFF
2. BACKLIGHT COMP:      OFF
3. <EXPOSURE>
4. <WHITE BALANCE>
5. <DAY/NIGHT>
6. <FOCUS/ IRIS>
7. <PRIVACY>            N/A
8. <ADDITIONAL>
9. BACK
10. EXIT
```

Screen 14: Camera

Option	Value	Explanation
DIGITAL ZOOM	**ON/OFF**	Switch digital zoom **ON** or **OFF**.
BACKLIGHT COMP	**ON/OFF**	Switch back light compensation **ON** and **OFF**. The **BACKLIGHT COMPENSATION** function is useful for improving visibility when the background light is very bright.
EXPOSURE		Automatic exposure submenu
WHITE BALANCE		Automatic white balance submenu
DAY/NIGHT		Day/Night submenu
FOCUS/IRIS		Focus/iris submenu
PRIVACY		Privacy setting submenu. This programs windows blanking, which is based on zoom module support.
ADDITIONAL		Other settings submenu

Table 11

Camera parameters vary with different zoom modules. Some parameters may be N/A (not available). Please refer to relative camera specifications for details. This manual is based on Samsung 10X.

For regular users, the parameters are suggested as default.

4.5.2.1. EXPOSURE

In **CAMERA** menu, select **EXPOSURE** and the corresponding submenus to access the main menus.

```
            EXPOSURE
-------------------------------
1. AE MODE:                 N/A
2. LOW LIGHT MODE:          N/A
3. LOW LIGHT LIMIT:         N/A
4. IRIS LEVEL:              N/A
5. AGC LEVEL:               N/A
6. SHUTTER SPEED:          1/50
7. SPOT AE:                 N/A
8. SENSE UP:                 X8
9. BACK
10. EXIT
```

Screen 15: Exposure

Option	Value	Explanation
AE MODE	**N/A**	Not available.
LOW LIGHT MODE	**N/A**	Not available.
LOW LIGHT LIMIT	**N/A**	Not available.
IRIS LEVEL	**N/A**	Not available.
AGC LEVEL	**N/A**	Not available.
SHUTTER SPEED	**128X ~ 1/20000**	
SPOT AE	**N/A**	Not available
SENSE UP		This is based on Samsung module.

Table 12

Please refer to the official catalog of relative zoom modules for programming. For regular users, the parameters are suggested as default.

4.5.2.2. WHITE BALANCE

The **WHITE BALANCE MENU** is used to set the parameters of white balance.

```
        WHITE BALANCE
---------------------------
1. WHITE BALANCE: ATW
2. R GAIN:          214
3. B GAIN:          164
4. BACK
5. EXIT
```

Screen 16: white balance

Option	Value	Explanation
AUTO WHITE BALANCE	**ATW**	White Balance (WB) is performed in auto tracking mode (Auto Tracking White). This mode automatically balances the white level by analyzing a wide range of colors, i.e. all those with temperatures comprised in the range between 2000K and 10000K.
	AUTO	This mode automatically adjusts the white balance by analyzing a more restricted range with respect to the previous option i.e. those with temperatures in the range from 3000K and 7500K.
	OUT	This function automatically balances the whites for outdoor use.
	IN	This function automatically balances the whites for indoor use.
	MAN	In this mode, white balancing may be performed by manually selecting the amount of red (R GAIN) and blue (B GAIN).
R GAIN	**1 ~ 255**	Adjust the red components using these values. This is adjustable only when **AUTO WHITE BALANCE** is set **MAN**.
B GAIN	**1 ~ 255**	Adjust the blue components using these values. This is adjustable only when **AUTO WHITE BALANCE** is set **MAN**.

Table 13

4.5.2.3. DAY/NIGHT

The **DAY/NIGHT** menu is used to set the parameters of day/night switch.

```
          DAY/NIGHT
---------------------------
1. DAY/NIGHT:       AUTO
2. D/N LEVEL:          20
3. DWELL TIME:        N/A
4. BACK
5. EXIT
```

Screen 17: Day/Night

Option	Value	Explanation

DAY/NIGHT	**AUTO, COLOR, BW, EXT**	Set the D/N level and dwell time by user This mode automatically adjusts the environment.
D/N LEVEL		
DWELL TIME		This is not supported by Samsung module.

Table 14

4.5.2.4. FOCUS/IRIS

The **FOCUS/IRIS** menu is used to set the parameters of focus and iris.

```
          FOCUS/IRIS
--------------------------
1. ZOOM SPEED:          N/A
2. AUTO FOCUS:          ON
3. AUTO IRIS:           ON
4. IRIS VALUE:   F3.32
5. AUTO IRIS PEAK:    N/A
6. BACK
7. EXIT
```

Screen 18: Focus/IRIS

Option	Value	Explanation
ZOOM SPEED	**MAN**	Set the D/N level and dwell time by user
AUTO FOCUS	**AUTO/MAN**	This mode automatically adjusts the environment.
AUTO IRIS	**ON/OFF**	The auto IRIS may operate automatically (**ON**) or at a predetermined level in the "**IRIS LEVEL**" menu. If enabled manually, this function will remain operative until the camera performs an angular movement of less than 15 degrees. It will switch automatically.
IRIS VALUE	**F2.0, F1.6, F1.4, OFF, F22, F19, F16, F14, F11, F 9.6, F8.0, F6.8, F5.6, F4.8, F4.0, F3.4, F2.8, F2.4**	IRIS adjustment (parameter F). It is used to manually set the IRIS opening time.
AUTO IRIS		

PEAK		

Table 15

4.5.2.5. PRIVACY

The **PRIVACY** submenu is used to set the parameters of windows blanking.

Some zoom modules may not support this function. Please refer to the data sheet of the module.

```
            PRIVACY
---------------------------
1. PRIVACY:              1
2. DISPLAY:            OFF
3. <EDIT>
4. <DELETE>
5. BACK
6. EXIT
```

Screen 19: Privacy

Option	Value	Explanation
PRIVACY	**1~8**	This option is used to select a windows blanking. Press the **OPEN** button and use the joystick to set the required privacy number. Press **OPEN** to confirm.
DISPLAY	**ON/OFF**	This switches the privacy zone selected in **PRIVACY NUMBER** on and off.
EDIT		This option is used to activate the privacy zone positioning procedure (see below).
DELETE		This deletes the privacy zone selected in **PRIVACY NUMBER**.

Table 16

EDIT (WINDOW LOCATION) submenu

This menu may be used to define the position of the privacy zones to be created.

1) Press **OPEN** on **EDIT WINDOW LOCATION.**
2) Press **OPEN**. The following screen will appear.

```
EDIT WINDOWS LOCATION
-----------------------------
IRIS OPEN TO CONTINUE
IRIS CLOSE TO CANCEL
```

Screen 20: Edit Windows Location Sub-Menu

3) A cross-shaped pointer will appear on the monitor: this pointer will correspond to the middle of the privacy zones being created.
4) Point the cross-shaped cursor to the required position by moving the joystick in the vertical and horizontal directions.
5) Press **OPEN**. A square will appear on the monitor (with the previously defined features).
6) Use the joystick to obtain the required dimensions of the privacy zone:
   a) Move leftwards to increase the left and right edges of the blanking zone
   b) Move rightwards to decrease the left and right edges of the blanking zone
   c) Move upwards to increase the upper and lower edges of the blanking zone
   d) Move downwards to decrease the upper and lower edges of the blanking zone
7) Press **OPEN** to confirm after reaching the required dimensions.
8) At this point, either selects a new privacy zone or select **CLOSE** to quit the menu.

Remarks on Privacy Zones

- ❒ Privacy zones can be programmed (and therefore the menu can be opened) in optical zoom situations only. The privacy zone works also in digital zoom conditions.
- ❒ The privacy zone rectangle will move on the screen when panning and tilting. Zooming will expand and contract the rectangle.
- ❒ The rectangle will expand twice in the vertical direction and four times in the horizontal position to avoid viewing protected areas when panning, tilting and zooming.
- ❒ After panning and tilting, the privacy zone rectangle will shift and return to the correct dimensions. After zooming, the rectangle will remain either contracted or expanded according to the applied zoom (regardless of the x2 or x4 factor applied while zooming).
- ❒ It is advisable to make the privacy areas slightly larger than the area to be concealed.
- ❒ Privacy zones can only be rectangular or squares, but several rectangles can be placed to mask the area as required.

📖 *It is preferable to set the privacy zones with a zoom level of 1x.*

4.5.2.6. ADDITIONAL

The additional submenu is used to program other parameters of the zoom module.

```
            ADDITIONAL
  ---------------------------
1. SHARPNESS:           ON
2. SHARPNESS LEVEL:      8
3. DNR:              MIDDLE
4. WDR:                 N/A
5. VR:                  N/A
6. HIGH RESOLUTION:     N/A
7. BACK
8. EXIT
```

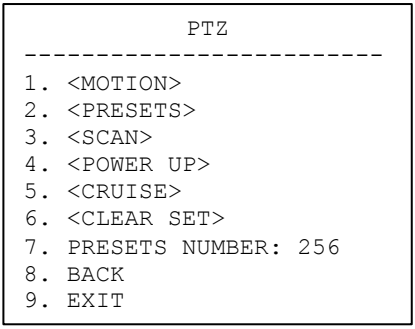
Screen 21: Additional Sub-Menu

Option	Value	Explanation
SHARPNESS	**ON/OFF**	The sharpness of the image may be adjusted automatically (**ON**) or to a level defined in the "**SHARPNESS LEVEL**" menu.
SHARPNESS LEVEL	**0 ~ 31**	Sharpness can be programmed in the range from 0 to 31 (31 corresponds to maximum sharpness). This parameter can be adjusted only when the **SHARPNESS** is set to **OFF**.
DNR	**OFF/LOW/ MIDDLE/H IGH**	Setting the parameters of digital noise reduction
WDR		Wide Dynamic Range This function is not supported in Samsung lens.
VR		Vibration Reduction This function is not supported in Samsung lens.
HIGH RESOLUTION		This function is not supported in Samsung lens.

Table 17

4.5.3. PTZ MENU

In the main menu, select **<PTZ>** and the corresponding submenus to access the menu.



Screen 22: PTZ Menu

Option	Value	Explanation
MOTION		Camera motion parameter programming submenu
PRESETS		Preset parameter submenu
SCAN		Pattern and zone parameter submenu
POWER UP		Power up parameter submenu
CRUISE		Cruise parameter programming submenu
CLEAR SET		Clear settings submenu
PRESET NUMBER	**256/64/40**	Maximum number of Presets. Always enter 256

Table 18

4.5.3.1. MOTION

The first level of this menu contains the following options grouped as shown in the following table.

```
            MOTION
 ---------------------------
1. AUTO FLIP:           ON
2. PROPORTIONAL PAN:    ON
3. PARK TIME:           15S
4. PARK ACT:            NONE
5. <SPEED SETTING>
6. <MANUAL LIMIT>
7. <ZONES>
8. BACK
9. EXIT
```

Screen 23: Motion

Option	Value	Explanation
AUTO FLIP	**ON/OFF**	When this option is on, the movements of a subject moving underneath the camera can be followed by moving the joystick vertically only. This is possible because after reaching vertical position, the camera will automatically pan by 180 degrees to be repositioned and resume the tilt stroke.
PROPORTIONAL PAN	**ON/OFF**	If this mode is on, the pan and tilt speed applied by the keypad is proportion to the set zoom so that the movement speed decreases when the zoom increases.
PARK TIME	**15 S ~ 12 H**	With this function, the camera will resume the function defined in "**PARK ACTION**" by specifying a value (in 1s, 1m, 1h steps) following a stop or interruption of the performed function and after the programmed time.
PARK ACTION	**NONE**	No action is performed at the end of the park time.
	AUTO SCAN	The camera performs an auto scan at the end of the park time: the camera performs a 360 horizontal scan operation.

	RANDOM SCAN	The camera performs a random scan at the end of the park time: the camera performs a random 360 degree scan pausing for approximately 2" every 142°.
	FRAME SCAN	The camera performs a frame scan at the end of the park time: the horizontal scan is performed in the **SET SCAN** limits.
	PRESET 1/PRESET 8	The camera goes to preset 1 or preset 8 at the end of the park time.
	PATTERN 1 ~ 4	The camera performs one of the 4 patterns at the end of the park time (command sequence continuously performed).
	CRUISE	The camera performs a cruise (preset sequence) at the end of the park time: the camera runs a cycle of up to 30 preset positions.
	REPEAT LAST	The camera simply resumes the operation it was performing before being interrupted at the end of the park time.
	TRACKING	The camera performs a tracking operation at the end of the park time. This is only available on tracking ptzs.
SPEED SETTING		This submenu set the pan/tilt speed of the scan
ZONES		Zone parameter programming submenu
MANUAL LIMIT	**ON/OFF**	If the option is ON, horizontal automatically scanning is performed within the right and left scanning limits open. To set the left and right scanning limit, position the camera at the required pan angle and press **OPEN** to set. The two angles must be at least 10 degrees apart. A preset position may be called up outside these scanning limits.

Table 19

SPEED SETTING submenu

1) Use the joystick to point the cursor to" **SPEED SETTING**" option.
2) Press **OPEN**. The following menu will appear on the display:

```
          SPEED SETTING
--------------------------------
1. PAN SPEED<DEG/S>: 150
2. TILT SPEED<DEG/S>: 150
3. BACK
4. EXIT
```

Screen 24: SPEED SETTING Sub-Menu

Option	Value	Explanation
PAN SPEED <DEG/S>	**50 ~ 250**	This will specify the rotation speed for automatic horizontal scans.
TILT SPEED <DEG/S>	**50 ~ 250**	This will specify the rotation speed for automatic vertical scans.

Table 20

MANUAL LIMIT Submenu

1) Use the joystick to point the cursor to" **MAMUAL LIMIT**" option.
2) Press **OPEN**. The following menu will appear on the display:

```
          MANUAL LIMIT
------------------------------
1. <SET MANUAL STOPS >
2. LIMIT STOPS:          OFF
3. BACK
4. EXIT
```

Screen 25: MANUAL LIMIT

Option	Value	Explanation
<SET MANUAL STOPS>		To set the left and right scanning limit, position the camera at the required pan angle and press **OPEN** to set. The two angles must be at least 10 degrees apart. A preset position may be called up outside these scanning limits.

LIMIT STOPS	**ON/OFF**	If the option is ON, horizontal automatically scanning is performed within the right and left scanning limits open.

Table 21

SET MANUAL STOPS SUBMENU

1) Use the joystick to point the cursor to the "**SET MANUAL STOPS**" option.
2) Press **OPEN**. The following menu will appear on the display:

```
     SET MANUAL STOPS

LEFT LIMIT POSITION
IRIS OPEN TO CONTINUE
IRIS CLOSE TO CANCEL
```

SCREEN 26: SET LEFT LIMIT

3) Use the joystick to position left limit and press **OPEN** to save.

```
     SET MANUAL STOPS

RIGHT LIMIT POSITION
IRIS OPEN TO CONTINUE
IRIS CLOSE TO CANCEL
```

SCREEN 27: SET RIGHT LIMIT

4) Use the joystick to position right limit and press **OPEN** to save.

Zones Submenu

```
              ZONES
------------------------------
1. ZONE NUMBER:              1
**ZONE NOT DEFINED**
2. <EDIT ZONE LABEL>
3. <EDIT ZONE>
4. ZONE ENABLE:            OFF
5. <CLEAR ZONE >
6. BACK
7. EXIT
```

Screen 28: ZONES Sub-Menu

A zone is a space defined on the display by the user. It may be associated to a label. Up to 8 zones may be defined.

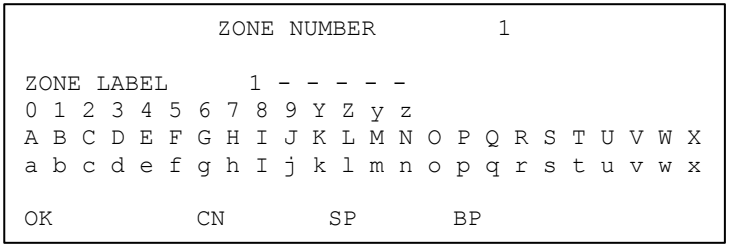
Option	Value	Explanation
ZONE NUMBER	**1 ~ 8**	This option is used to select a zone.
EDIT ZONE LABEL		This submenu is used to associate a label to a zone (see below).
EDIT ZONE		This submenu is used to create a zone (see below).
ZONE ENABLED	**ON/OFF**	This is used to enable/disable each zone selected in the "**ZONE NUMBER**" field.
CLEAR ZONE		This submenu is used to delete the zone selected in the "**ZONE NUMBER**" field.

Table 22

EDIT ZONE LABEL submenu

This includes the operations needed to enter labels to be associated to zones.

1) Use the joystick to point the cursor to the"**EDIT ZONE LABEL**" option.
2) Press **OPEN**. The following menu will appear on the display:



Screen 29: Zone Label

3) Point the cursor to the first character to be used and press **OPEN**. Point the cursor to "**BP**" to delete it.
4) After writing the text, point the cursor to **OK** and press **OPEN** to save and go back to the main screen.

EDIT ZONE submenu

This includes all the operations needed to program a zone.

1) Press "►" on "**EDIT ZONE**".
2) Press **OPEN** to confirm.
3) Use the joystick to point to the required position to define the left limit of the zone to be created.
4) Press **OPEN** to confirm.
5) Use the joystick to point to the required position to define the right limit of the zone to be created.
6) Press **OPEN** to confirm.

7) Press **CLOSE** to cancel the operation.

4.5.3.2. PRESETS

```
            PRESETS
------------------------------
1. PRESET NUMBER:       1
**PRESET NOT DEFINED**
2. <EDIT PRESET LABEL>
3. <EDIT PRESET POSITION>
4. <CLEAR PRESET>
5. BACK
6. EXIT
```

Screen 30: Presets

Option	Value	Explanation
PRESET NUMBER	**1-64**	This option is used to select a presetting for entering a descriptive label. This operation is allowed for up to 64 Presets.
EDIT PRESET LABEL		This submenu is used to access writing mode for associating a label to a presetting (see below).
EDIT PRESET POSITION		This submenu is used to store the Presets.
CLEAR PRESET		The submenu is used to delete the presetting descriptions.

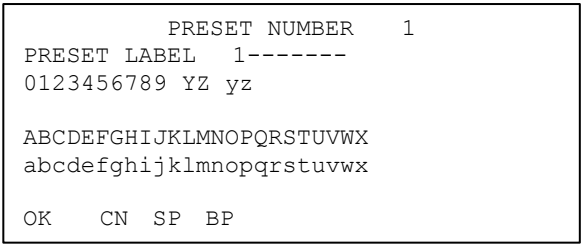
Table 23

The camera will start a scanning cycle when a presetting or pattern is recalled. This scanning cycle may be interrupted simply by moving the joystick.

EDIT PRESET LABEL submenu

This includes the operations needed for associating a label to a presetting.

1) Use the joystick to point the cursor to "**EDIT PRESET LABEL**" option.
2) Press **OPEN**. The following menu will appear on the display:



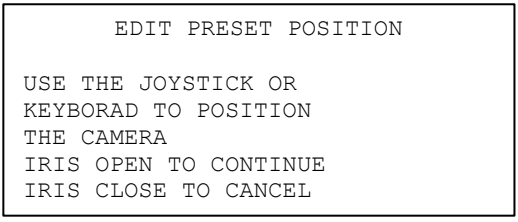
Screen 31: Preset Label Sub-Menu

3) Point the cursor to the first character to the use and press **OPEN**. Point the cursor to "**BACKSPACE**" to delete it.
4) After writing the text, point the cursor to **OK** and press **OPEN** to save and go back to the main screen.

EDIT PRESET SCAENE submenu

This includes the operations needed for associating a scene to a presetting.

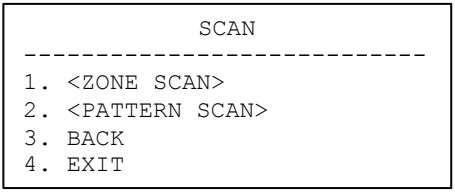
1) Use the joystick to point the cursor to "**EDIT PRESET SCAENE**" option.
2) Press **OPEN**. The following menu will appear on the display:



Screen 32: Preset scene Sub-Menu

3) Use the joystick or keyboard to position the camera and get satisfactory image
4) Press **OPEN** to save and go back to the main screen.
5) Press **CLOSE** button does not save the scene, but return to the preset setting menu

4.5.3.3. SCAN



Screen 33: Scan Sub-Menu

Option	Value	Explanation
ZONE SCAN		Zone parameter submenu
PATTERN SCAN		Pattern parameter submenu

Table 24

Zone Scan Submenu

```
            ZONE SCAN
--------------------------------
1. SCAN SPEED<DEG/S>:          1
2. <SET ZONE SCAN>
3. BACK
4. EXIT
```

Screen 34: Zone Scan Sub-Menu

Option	Value	Explanation
SCAN SPEED	**1 ~ 32**	This option is used to set scan speed.
SET ZONE SCAN		This submenu is used to set scan stops.

Table 25

SET ZONE SCAN submenu

This includes all the operations needed to set scan stops.

1) Use the joystick to point the cursor to the "**SET ZONE SCAN**" option.
2) Press **OPEN**. The following menu will appear on the display:

```
       SET ZONE SCAN
-------------------------
1. <SET SCAN STOPS>
2. <CLEAR SCAN STOPS>
3. EXIT
```

SCREEN 35: SET ZONE SCAN

SET SCAN STOPS SUBMENU

1) Use the joystick to point the cursor to the "**SET SCAN STOPS**" option.
2) Press **OPEN**. The following menu will appear on the display:

```
       SET SCAN STOPS

LEFT LIMIT POSITION
IRIS OPEN TO CONTINUE
IRIS CLOSE TO CANCEL
```

SCREEN 36: SET ZONE SCAN

3) Use the joystick to position left limit and press **OPEN** to save.

```
       SET SCAN STOPS

RIGHT LIMIT POSITION
IRIS OPEN TO CONTINUE
IRIS CLOSE TO CANCEL
```

SCREEN 37: SET ZONE SCAN

4) Use the joystick to position right limit and press **OPEN** to save.

CLEAR ZONE STOPS Submenu
This includes the operations for deleting the selected zone stops.

Patterns Submenu

```
          PATTERN SCAN
--------------------------
1. PATTERN NUMBER:      1
2. <PROGRAM PATTERN>
3. <CLEAR PATTERN>
4. BACK
5. EXIT
```

Screen 38: Patterns Sub-Menu

A pattern is a sequence of movements and functions which may be stored and repeated manually or automatically.

Option	Value	Explanation
PATTERN NUMBER	**1 ~ 4**	This option is used to select a pattern.
PROGRAM PATTERN		This submenu is used to program a pattern (see below)
CLEAR PATTERN		This submenu is used to delete a pattern (see below)

Table 26

PROGRAM PATTERN submenu
This includes all the operations needed to program a pattern.

1) Use the joystick to point the cursor to the "**PATTERN NUMBER**" option.
2) Select the required pattern and press **OPEN**.
3) Position the cursor under "**PROGRAM PATTERN**" option and press the **OPEN** button.

The number of actions available (including zoom operations) for programming the Pattern is shown in percentage form on the screen while they are each being programmed. 100 operations are available for each pattern.

CLEAR PATTERN submenu
This includes the operations for deleting the selected pattern.

4.5.3.4. POWER UP

```
            POWER UP
 --------------------------
1. ACTION:   NONE
2. BACK
3. EXIT
```

Screen 39: Power UP Sub-Menu

Option	Value	Explanation
ACTION	NONE	No action is performed at the end of power up.
	AUTO SCAN	The camera performs an auto scan at the end of power up: the camera performs a 360 horizontal scan operation.
	RANDOM SCAN	The camera performs a random scan at the end of power up: the camera performs a random 360° scan pausing for approximately 2" every 142°.
	FRAME SCAN	The camera performs a frame scan at the end of power up: the horizontal scan is performed in the SET SCAN limits.
	PRESET 1/ PRESET 8	The camera goes to preset 1 or 8 at the end of power up.
	PATTERN 1 ~ 4	The camera performs one of the 4 patterns at the end of power up.
	CRUISE	The camera performs a cruise at the end of power up: the camera runs a cycle consisting of up to 30 preset positions.

	TRACKING	The camera performs tracking action at the end of power up. This is only available for the tracking ptzs.

Table 27

4.5.3.5. CRUISE SETTING

```
              CRUISE
 ----------------------------
1. DWELL TIME<SECS>:   5
2. CRUISE TRACKING:  OFF
3. PRESET LIST:         1
   1 ON   0 OFF
1234567890 <PRESET 1-10>
0000000000

4. BACK
5. EXIT
```

Screen 40: Cruise

The **CRUISE** function is used to make the camera run a cycle consisting of up to 30 preset positions.

This menu item is used to enable each of the preset positions used in the cruise cycle.

For the cruise cycle to be effective, the preset positions must be actually stored.

Option	Value	Explanation
DWELL TIME <SECS>	**5 ~ 250**	Duration (in seconds) of the dwelling time on each presetting.
CRUISE TRACKING	**ON/OFF**	Set tracking or not when the dome is cruising.
PRESET LIST	**1 ~ 3**	Value 1 selects the first group of Presets from 1 to 10, value 2 selects the second group from 11 to 20, and value 3 selects the third group from 21 to 30. The following 10 digits (1/10) are used to switch the corresponding preset in the corresponding ten (1-10, 11-20, 21-30) either on or off (1=**ON**; 0=**OFF**).

Table 28

4.5.3.6. CLEAR SET

```
          CLEAR SET
 ----------------------------
1. <CLEAR ZONES>
2. <CLEAR PRESETS>
3. <CLEAR PATTERNS>
4. <LOAD DEFAULTS>
5. BACK
6. EXIT
```

Screen 41: Clear Set Submenu

This menu is used to delete the settings of several elements at one time.

Option	Value	Explanation
CLEAR ZONES		This option is used to delete all the zone settings.
CLEAR PRESETS		This is used to delete all the Presets.
CLEAR PATTERNS		This is used to delete all the pattern settings.
SET DEFAULT		This performs a total reset and loads the default settings. The operations may take a few seconds (approximately 20 seconds): the message "**WAIT**" will appear on the monitor.

Table 29

4.5.4. ALARM

In the main menu, select **<ALARM>** and the corresponding submenus to access the other menus.

```
             ALARM
----------------------------
1. ALARM NUMBER:     1
2. SEQUENCE (SECS):   1
3. ALARM ACT       NONE
4. ALARM AUX        OFF
5. ALARM CONTACT   OFF
6. <CLEAR SET>
7. DWELLTIME<SECS>1:  0
8. BACK
9. EXIT
```

Screen 42: Alarm

The camera has 4 alarm inputs and 2 alarm outputs.
The actions defined by the user may be associated to an alarm.
The camera has 2 alarm outputs (AUX1& AUX2) which may be programmed to activate the external devices in the case of alarm. The 2outputs closed to ground.

Option	Value	Explanation
ALARM NUMBER	**1 ~ 4**	This option allows selecting one of the 4 alarm inputs.
SEQUENCE (SECS)	**1 ~ 250**	Duration time (in seconds) of the action related to each alarm when several alarms occur at the same time.
ALARM ACT	**NONE**	No action occurs during the alarm.
	PRESET	The camera goes to the corresponding presetting following the alarm (correspondence is fixed: Alarm 1 - Preset 1; Alarm 2 - Preset 2, etc.).
	PATTERN	The alarm performs the corresponding pattern following the alarm (correspondence is fixed: Alarm 1 - Pattern 1; Alarm 2 - Pattern 2; etc.)
	AUTO SCAN	The camera performs an auto scan after the alarm: the camera performs a 360 horizontal scan operation.
	RANDM SCAN	The camera performs a random scan after the alarm: the camera performs a random 360° scan pausing for approximately 2" every 142°.
	FRAME SCAN	The camera performs a frame scan after the alarm: the horizontal scan is performed in the **SET SCAN** limits.
	CRUISE	The camera performs a cruise after the alarm: the camera runs a cycle of up to 30 preset positions.
	TRACKING	The camera performs a tracking operation after the alarm, starting from the preset position associated with the alarm. This is only available for tracking ptz.
ACTIVATE AUX	**OFF**	No action occurs after the alarm.
	AUX1	**AUX1** output is activated following the alarm: e.g. a siren.
	AUX2	**AUX2** output is activated following the

		alarm: e.g. a siren.
ALARM CONTACT	**ON/OFF**	Alarm output polarity: normally open (**ON**) or normally closed (**OFF**). The circuit will open to generate an alarm if it is "**NC**" and will close if it is "**NO**".
ALARM SETTINGS		This submenu contains the alarm settings.
CLEAR SETTINGS		This submenu is used to delete the alarm programming.
DWELL TIME 1	**0 ~ 30**	Time (in seconds) of activation of the AUX1 output.
DWELL TIME 2	**0 ~ 30**	Time (in seconds) of activation of the AUX2 output.

Table 30

If an alarm is triggered during any automatic operation of the camera (Pattern, Auto Tracking, etc.), the operation in progress is stopped and the camera executes the action that has been set in the **ALARM ACT** *menu:*

- *In the event of Preset action, the camera moves to the preset position. Then, if the option* **PARK ACTION** *is set to execute an action, the action will be executed after the* **PARK TIME** *period has expired.*
- *In the event of "***PATTERN, CRUISE***" actions, the action is executed by the camera permanently and can only be stopped by one of the following actions: any command sent by a controller or any alarm event.*

4.5.5. TRACK

```
                TRACK
 ----------------------------------
1. <DEFAULT SETTING>
2. SIZE SNS:               MEDIUM
3. GRAY SNS:              MEDIUM
4. LOST ACT:          TO HOME TRA
5. ZOOM SETTING:             OFF
6. WAIT TIME<S>:               15
7. <TRACKING BOUNDARY>
8. AUX:                       OFF
9. TRACKING SPEED:           AUTO
10. TRACKING TIME<M>:        AUTO
11. BACK
12. EXIT
```

Screen 43: Tracking Setting Sub-Menu

The auto tracking function is used to automatically track moving objects by detecting grayscale variations in the frame.

Option	Value	Explanation
DEFAULT SETTING		This function is used to load the auto tracking default settings.
SIZE SNS	**LARGE/MEDIUM/SMALL**	This option defines the total dimensions of the object to be tracked. The parameters are **LARGE/MEDIUM/SMALL**. An object larger than one fourth of the screen is **LARGE**. An object smaller than one eighth of the screen is **SMALL**.
GRAY SNS	**HIGH/MEDIUM/LOW**	This option determines the auto tracking sensitivity. The sensitivity measures the grey scale variations of a certain point in the frame in the unit of time.
LOST ACT	**HOME N TRA**	This option is used to establish the action to be performed if the camera loses the tracked object: the **HOME N TRA** option commands the camera to go back to preset number 1 and tracking is enabled from this position.
	KEEP TRACK	The **KEEP TRACK** option keeps the camera in the position reached and the tracking function is kept on waiting for an object to be intercepted again.
	STOP TRACK	The **STOP TRACK** option leaves the camera in the position reached and deactivates the tracking function.
ZOOM SETTING	**OFF, 1 ~ 18**	This option determines the maximum zoom value that the camera / may use for tracking the object.

WAIT TIME	**5, 10, 15, 20, 25, 30, 35, 40 SECONDS**	This option determines the time which must elapse before performing an action after losing a motion in frame. The action (**LOST ACT**) may consist in: - The camera goes back to preset number 1 and tracking is enabled from this position. (**HOME N TRA**). - The camera is left in the position reached and the tracking function is kept on waiting for an object to be intercepted again (**KEEP TRACK**). The camera is left in the position reached and deactivates the tracking function (**STOP TRACK**).
TRACKING BOUNDARY	**UP/DOWN/LEFT/RIGHT**	This option is used to define the zone in which the camera performs the tracking.
AUX	**OFF, 1, 2**	This option is used to activate one of the 2 alarm outputs if the tracking function is on (**OFF** = no active alarm output).
TRACKING SPEED	**AUTO, 1 ~ 63**	This option establishes the camera movement speed. If **AUTO** is selected, the camera is automatically "adapted" to the motion of the target. The **MANUAL** options allow selecting the expected speed of the object to be tracked (1 slow, 63 fast).
TRACKING TIME	**AUTO,1~15 (MINUTES)**	This option allows setting the max. Tracking duration, in minutes, during which the camera automatically tracks moving objects. Once the tracking time has expired, the camera executes the action set in the option "**LOST ACT**", independently of the movement in the scene. If the value "**AUTO**" is set, there is no time limitation on the tracking action and, in case of no movement in the scene at all, the camera executes the option "**WAIT TIME**".

Table 31

TRACKING BOUNDARY submenu
Operations needed to establish an intervention zone for the tracking function.

```
        TRACKING BOUNDARY
---------------------------
1. BOUNDARY LIMIT:       OFF
2. <CLEAR BOUNDARY>
3. LEFT LIMIT:            OFF
4. RIGHT LIMIT:           OFF
5. UP LIMIT:              OFF
6. DOWN LIMIT:           OFF
7. BACK
8. EXIT
```

Screen 44: Tracking Boundary Sub-Menu

Option	Value	Explanation
BOUNDARY LIMIT	**ON/OFF**	This switches tracking function intervention zone on and off.
CLEAR BOUNDARY		This deletes the intervention area.
LEFT LIMIT	**ON/OFF**	Left limit of the intervention zone.
RIGHT LIMIT	**ON/OFF**	Right limit of the intervention zone.
UP LIMIT	**ON/OFF**	Upper limit of the intervention zone.
DOWN LIMIT	**ON/OFF**	Lower limit of the intervention zone.

Table 32

Advice for Correct Auto Tracking Use

General warnings

- The tracking function should mainly be used in indoor environments. Outdoor use is highly problematic: the variety of objects (leafs, flags, litter, etc.) moved by the wind makes use unreliable.
- Provide the best lighting possible in the detection zone: in poor lighting conditions, the inevitable presence of noise on the image makes grayscale variations extremely critical. In poor lighting conditions, the camera may easily lose the tracked object.
- If IR illuminators are used, remember that:
  - The camera must be programmed to operate in B/W only because the Slow Shutter will make tracking unreliable in color mode
  - The lighting entirely covers the frame where motion is tracked, possibly by restricting the range of action of the camera in tracking mode (using the

TRACKING BOUNDARY option).

- ❒ Avoid background objects in the frame which could trick the motion detector, such as blinds, gates, doors with grid and objects with very marked, contrasting contours. A chequer board background is certainly the worst condition for satisfactory operation.
- ❒ Do not use the privacy zone function in frames where auto tracking is used: the privacy zone can trick the auto tracking function.
- ❒ Do not use the auto tracking function if the object to be tracked and/or monitored moves too fast.

Recommended control parameters

SIZE SENS: select **SMALL** particularly in poor lighting conditions to improve performance.

GRAY SENS: most false alarms are caused by the tracking of unexpected objects. For this reason, it is preferable to select low sensitivity.

ZOOM SETTING: it is advisable to use the lowest possible zoom values. Excessive detail makes tracking difficult (the movement must be fastener and consequently or the risk of loosing the object is much higher).

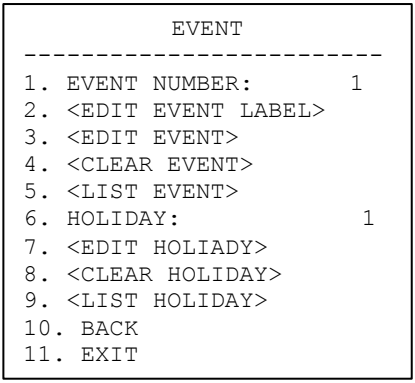
WAIT TIME: particularly, in the case of poor lighting conditions or frames with interference, it is preferable to set the lowest possible time to prevent the camera from constantly tracking unexpected objects (e.g. “video noise” in the frame).

TRACKING SPEED: the **AUTO** setting should always be preferred, unless the object to be tracked does not always move at low, constant speed.

TRACKING BOUNDARY: it is strongly advised to delimit the tracking zone, avoiding including unnecessary parts in the frame.

4.5.6. EVENT

In the main menu, select **<EVENT>** and the corresponding submenus to access the menus.



Screen 45: Event menu

Option	Value	Explanation
EVENT NUMBER	**1~4**	This option is used to select a presetting for entering a descriptive label. This operation is allowed for up to 4 Presets. Press the **OPEN** button and use the joystick to set the number of the event to the stored. Press **OPEN** to confirm.
EDIT EVENT LABEL		This submenu is used to access writing mode for associating a label to an event. Specific operating point of reference to the edit of the preset title.
EDIT EVENT		Edit event submenu
CLEAR EVENT		This submenu is used to clear all the settings of the selected event. Press the **OPEN** button to clear the selected event, press **CLOSE** to cancel.
LIST EVENT		The event list submenu. Show all the number and state of the events established.
HOLIDAY		This option is used to select a presetting for entering a descriptive label. This operation is allowed for up to 64 Presets. Press the **OPEN** button and use the joystick to set the number of the holiday to be stored. Press **OPEN** to confirm.
EDIT HOLIDAY		Edit holiday submenu
CLEAR		This submenu is used to clear all the settings of the

HOLIDAY		selected holiday. Press the **OPEN** button to clear the selected holiday, press **CLOSE** to cancel.
LIST HOLIDAY		The holiday list submenu. Press **OPEN** to show all the number and date of the holidays established.

Table 33

EDIT EVENT submenu

This includes the operations needed for programming an event.

1) Use the joystick to point the cursor to "**EDIT EVENT**" option.
2) Press **OPEN**. The following menu will appear on the display:

```
            EDIT EVENT
---------------------------------
1. EVENT NUMBER                1
2. EVENT LABEL:
3. EVENT ACTIVE:              OFF
4. START TIME:              00:00
5. STOP TIME:               00:00
6. ACTION:            AUTO SCAN

   **GO TO NEXT PAGE**
```

Screen 46: Edit event Sub-Menu (1)

```
7. EVENT OCCURS
    SUNDAY:             OFF
    MONDAY:             OFF
    TUESDAY:            OFF
    WEDNESDAY:          OFF
    THURSDAY:           OFF
    FRIDAY:             OFF
    SATURDAY:           OFF
    HOLIDAY:            OFF
8. SAVE
9. BACK
10. EXIT
```

Screen 47: Edit Event Sub-Menu (2)

Option	Value	Explanation
EVENT LABEL		Show the label of the event.

EVENT ACTIVE	**ON/OFF**	Set of events and non-implementation of the implementation parameters on and off, set to open when the implementation of the stipulated time period selected events, set to off when the selected event does not perform.
START TIME		Set the start time of the selected events.
STOP TIME		Set the stop time of the selected events.
ACTION	**AUTO SCAN**	Select the type of the event.
	TRACKING	
	CRUISE	
	PATTERN 1~4	
	PRESET 1OR 8	
	FRAME SCAN	
	RANDOM SCAN	
	DAY & NIGHT	
EVENT OCCURS	**SUNDAY**	Select which day(s) of the week when the event occurs.
	MONDAY	
	TUESDAY	
	WEDNESDAY	
	THURESDAY	
	FRIDAY	
	SATURDAY	
HOLIDAY		Set the selected events on this date does not perform. Parameters on and off.
NUMBER		Show the number of the event.

Table 34

EDIT HOLIDAY Submenu

This includes the operations needed for programming a holiday.

1) Use the joystick to point the cursor to "**EDIT HOLIDAY**" option.
2) Press **OPEN**. The following menu will appear on the display:

```
        EDIT HOLIDAY
--------------------------
1. HOLIDAY NUMBER:    1
2. MONTH:           OCT
3. DAY:               28
4. SAVE
5. CANCEL
6. EXIT
```

Screen 48: Edit Holiday Sub-Menu

Option	Value	Explanation
HOLIDAY NUMBER	**1~14**	Select number of the holiday.
MONTH	**JAN~DEC**	Select the month of the selected holiday.
DAY	**1~31**	Select the date of the selected holiday.

Table 35

4.5.7. SET DEFAULT

This menu is to set the camera or all ptz parameters to factory default.

```
         SET DEFAULT
--------------------------
1. <RESET CAMERA>
2. <RESET ALL>
3. BACK
4. EXIT
```

Screen 49: Set Default

4.6. SPECIAL CONTROL PANEL COMMANDS

The camera can be programmed and operated using various quick control panel commands.

Control panel command	Function
PRESET + **95** + **ENTER**	Accesses main menu
PRESET + **XXX** + **ENTER**	Stores preset position (Preset) xxx.
CALL + **XXX** + **ENTER**	Recalls preset position (Preset) xxx.
CALL + **80** + **ENTER**	Starts the tracking function

CALL + **81** + **ENTER**	Stops the tracking function
CALL + **82** + **ENTER**	Starts the cruise function
CALL + **83** + **ENTER**	Delete all Presets
CALL + **84** + **ENTER**	Start pattern 1
CALL + **85** + **ENTER**	Start pattern 2
CALL + **86** + **ENTER**	Start pattern 3
CALL + **87** + **ENTER**	Start pattern 4
CALL + **88** + **ENTER**	Start park action function
CALL + **89** + **ENTER**	Stop park action function
CALL + **97** + **ENTER**	Start random scan function
CALL + **98** + **ENTER**	Start frame scan function
CALL + **99** + **ENTER**	Start auto scan function

Table 36

When storing Presets, it is important to remember that some are reserved and cannot be either stored or used for positioning the camera.

- ❒ *Presets from 80 to 99 are reserved for management controls*
- ❒ *Presets from 100 to 103, 170 to 173 are reserved for Tracking and Pattern controls*

5. TROUBLE SHOOTING

Problem	Possible Reason	Solution
Power on normally but no video signal	Wrong wire connections	Check and reconnect wires
	Wrong or bad power source	Change power source
	Fuse broken.	Change fuse
	Power cable is disconnected	Reconnect power wiring
Pan/Tilt not initializing when power on	Address, protocol, and baud rate is not correctly set	Check and set the parameters again.
	RS-485 cable is not correctly connected	Check and reconnect RS485 cable
Video is not stable	Video cable is wrong	Check and reconnect video
	Power source is wrong	Change the power source
Control center is not stable	RS-485 wiring error	Check and reconnect the RS485

Table 37