

**THE**  
**TITAN**  
**RUGGED SPEED DOME**

**INSTALLATION & PROGRAMMING MANUAL**  
**TN612 RUGGED SPEED DOME SERIES**

## WARNING



**To reduce the risk of electrical shock, use only UL certified power supplies. SAY Security Group USA LLC recommends certified power supplies from Altronix.**

For optimal functionality of the Titan rugged speed dome camera, please follow the instructions in this manual. Contact your vendor for assistance with installation.

- Use only the installation methods sanctioned by SAY Security: this manual and instruction from authorized SAY Security tech support. Haphazard installation and third-party recommendations are likely to result in camera malfunction, and in most cases will void your warranty.
- Do not back drive (i.e., rotating the moving parts of the camera manually) the pan or tilt axis of the camera. Back driving your Titan will destroy the PTZ gears and void your warranty.
- Take great care to make sure your Titan is properly wired and grounded. Faulty wiring and grounding puts your device in danger of being destroyed or potentially becoming an electrocution hazard. SAY Security Group USA LLC is not responsible for damages or injuries caused by faulty wiring.
- In highly exposed applications where there is a possibility of lightning striking your Titan, SAY Security recommends installing a lightning conductor 1.5 feet (maximum) away from your device. The conductor should be at least 5 feet higher than the Titan for suitable protection.
- SAY Security is the only entity sanctioned to service the Titan series of cameras. Any attempt to open the Titan's casing will void your warranty.
- In the event that the Titan is compromised in such a way as to become a potential danger (e.g., loose parts, damage creating the potential for electrocution or other injuries, mount failures), immediately do everything possible to ensure the safety of all people nearby, and then—if possible—attempt to deactivate the unit from a distance (e.g., remote, turning off power supply). Do not approach, handle, or attempt to operate the device if it poses an apparent danger. Use good judgment: rudimentary safety protocols should be more than ample to deal with such circumstances.

Titan Certifications
IECex and ATX standard rated Exd II CT6, Sealed to IP66 and NEMA 4X

## **SAY Security and its affiliates congratulate you on your purchase of the Titan rugged speed dome.**

The Titan series of PTZ cameras offers a robust design capable of withstanding explosions, immersion, and other severe conditions that would disable or destroy other cameras. In addition to the 8-22mm housing, the camera's powerful PTZ and zoom functions make it the perfect solution for virtually any application.

Whether it is observing a resort or a hazardous site, the Titan provides unsurpassed dependability and adaptability. Each Titan is backed by SAY Security's commitment to 100% customer satisfaction and expert tech support, guaranteeing that your Titan will deliver the best performance under virtually any conditions.

This manual describes the installation and programming procedures for the Titan Rugged Speed Dome. The Titan, Titan IR, and Titan Laser are distributed through SAY Security Group USA LLC and its affiliates.

All Rights Reserved. No part of this document may be reproduced or transmitted in any form or by any means without the written permission of SAY Security Group USA LLC.

Neither SAY Security Group USA LLC nor its affiliates shall be liable to the purchaser of this product or third parties for damages, losses, cost, or expenses incurred by the purchaser or third parties as a result of: accident, misuse, or abuse of this product or unauthorized modifications, repairs or alterations to this product, or failure to strictly comply with SAY Security Group USA LLC operating and maintenance instructions.

To learn more about the Titan or other quality security products, contact SAY Security:

[www.saysecurity.com](http://www.saysecurity.com)

[www.titancamera.com](http://www.titancamera.com)

toll free: 800-464-0831

**CONTENTS**

- OVERVIEW.....Page 5
- I. INSTALLATION.....Page 6
- II. SETUP.....Page 7
- III. OPERATION.....Page 12
- IV. FEATURE & PARAMETER.....Page 20
- V. FUNCTION EXPLANATION.....Page 26
- CONTACT INFORMATION.....Page 27

**INSTALLATION AND SERVICE NOTICE**

The installation of this product should be made by qualified service personnel and should conform to all local codes.

If you require information during installation or if service seems necessary, contact your local supplier or authorized technical support provider. You must obtain a return authorization number (RMA) and shipping instructions before returning any product for service. (Contact your vendor for details on how to obtain an RMA.)

SAY Security’s obligation is limited only to the repair or replacement of any of our under-warranty products, providing said products are used within the specified ratings and applications, and said products are applied in accordance with good engineering practices, and providing said products are proved by SAY’s Security’s examination to be defective.

This warranty does not extend to any products which have been subject to acts of accident, misuse, abuse, neglect, improper application or installation, improper operation or maintenance, connection to an improper voltage supply or to materials which have been altered or repaired outside of an authorized factory repair center.

Information furnished in this manual is believed to be accurate and reliable. However, SAY Security Group USA LLC assumes no responsibility for its use, or for any infringements of other rights of third parties, which may result from its use. No license is granted by implications or otherwise under any patent or patent rights of SAY Security.

The manufacturer declines all responsibility for any damage caused by an improper use of the appliances mentioned in this manual; furthermore, the manufacturer reserves the right to modify its contents without any prior notice. The documentation contained in this manual has been collected with great care; the manufacturer, however, cannot take any liability for its use. The same thing can be said for any person or company involved in the creation and production of this manual.



**WARNING**  
**TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THE PCB OF THIS PRODUCT TO RAIN OR MOISTURE.**

Camera module No.		18X Day/Night (Sony FCB-EX480C)	26X Day/Night (Sony FCB-EX980)	36X Day/Night (Sony FCB-EX1000) (Sony FCB-EX1010)
Series				
TN612-V8	Aluminum Alloy	TN612A-V8-18	TN612A-V8-26	TN612A-V8-36
	Stainless steel	TN612S-V8-18	TN612S-V8-26	TN612S-V8-36
TN612-V6	Aluminum Alloy	TN612A-V6-18	TN612A-V6-26	TN612A-V6-36
	Stainless steel	TN612S-V6-18	TN612S-V6-26	TN612S-V6-36
TN612-IR	Aluminum Alloy	TN612A-IR-18	TN612A-IR-26	TN612A-IR-36
	Stainless steel	TN612S-IR-18	TN612S-IR-26	TN612S-IR-36

Note: VK-654 camera module is optional for auto-tracking or Motion Detection.

The model number as below:

Camera module No.		23X Day/Night (Hitachi VK454)	35X Day/Night (Hitachi VK654)
Series			
TN612-V8	Aluminum Alloy	TN612A-V8-23	TN612A-V8-35
	Stainless steel	TN612S-V8-23	TN612S-V8-35
TN612-V6	Aluminum Alloy	TN612A-V6-23	TN612A-V6-35
	Stainless steel	TN612S-V6-23	TN612S-V6-35
TN612-IR	Aluminum Alloy	TN612A-IR-23	TN612A-IR-35
	Stainless steel	TN612S-IR-23	TN612S-IR-35

Remark: 1. "NTSC" camera will add "N" at the end of model no.

2. Optional color: Silver, Green and Black

### TN612 PHOTOS



### PACKAGE:

The package includes:

- TN612: 1pcs
- Glove: 1pcs
- DIP tool: 1pcs
- Manual: 1pcs



GLOVE

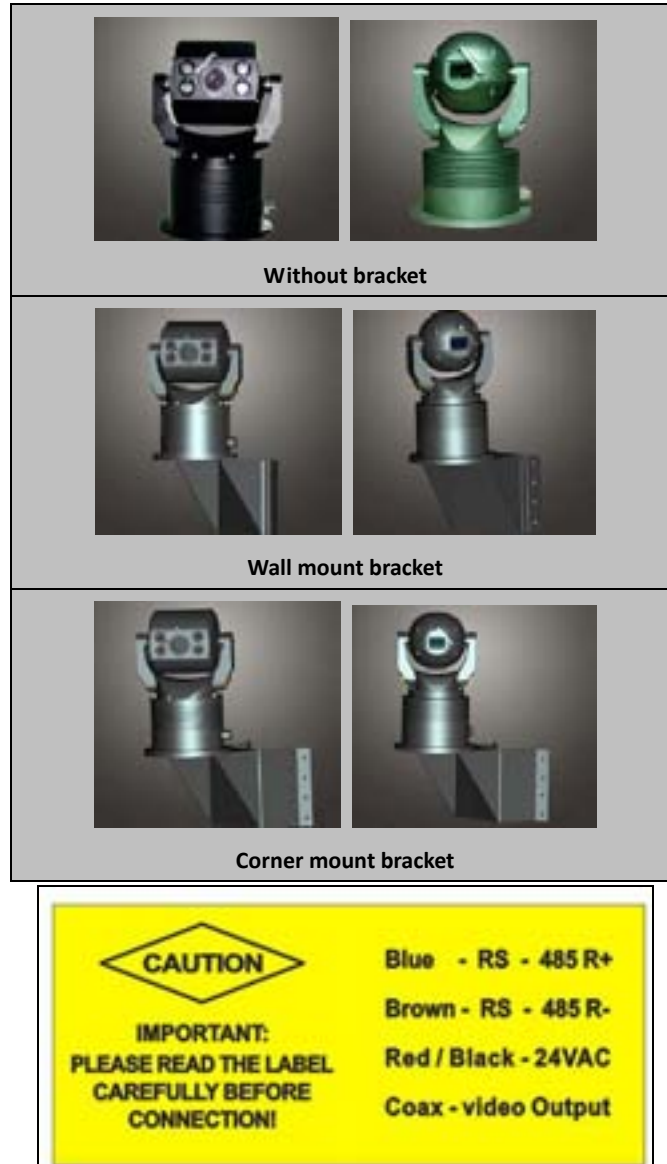


DIP TOOL

Please inspect the package box to make sure all parts are present.

## CHAPTER-I INSTALLATION

### ➡ TN612-V6 and TN612-IR LASER Installation



#### Installation process:

- Please connect the keyboard with data cable. Blue cable=RS485+, brown cable= RS485-.
- Please connect the monitor with BNC connector.
- Please connect the power supply with the RED & BLACK cables for 24VAC power supply.

**Note: The polarity power supply of is auto recognized.**

### ➡ TN612 series with Motion Detection installation

If you need alarm out, Please connect RS485 with the alarm box when to use this function and refer to the alarm box manual instruction.

**CHAPTER-II SETUP**



**➡ Operation:**

- a) The DIP switch cover is on the back of the Titan dome head (see step 1)
- b) Open the cover by turning the DIP tool counterclockwise. (See step 2)
- c) Be careful to take off the four screws, the cover and the water proof rubber (see step 3)
- d) Set up the DIP switch. (Reference **SW1 and SW2 SETUP**)

**(NOTE: the factory set up is Pelco D protocol, 2400 band rate, and address 1)**

**➡ Titan Dome Control**

When connecting more than 2pcs speed domes that should combine one 120ohm with communication input of remote dome to make sure the Signal is well

**➡ SW1 SETUP**

(Note: SW1 is use to set up communication protocol, baud rate and camera. )

SW1 Protocol/Camer/Baud Selection									SW2 Address								
Dip Switch	1	2	3	4	5	6	7	8	PELCO-P								
Titan	off	off	—	—	—	—	—	—	Dip Switch	1	2	3	4	5	6	7	8
Pelco-P	on	off	—	—	—	—	—	—	Address 1	off	off	off	off	off	off	off	off
Pelco-D	off	on	—	—	—	—	—	—	Address 2	on	off	off	off	off	off	off	off
1200	—	—	—	—	—	—	off	off	Address 256	on	on	on	on	on	on	on	on
2400	—	—	—	—	—	—	on	off	PELCO-D								
4800	—	—	—	—	—	—	off	on	Dip Switch	1	2	3	4	5	6	7	8
9600	—	—	—	—	—	—	on	on	Address 1	on	off	off	off	off	off	off	off
SONY	—	—	on	off	on	off	—	—	Address 2	off	on	off	off	off	off	off	off
HITACHI	—	—	off	on	on	off	—	—	Address 256	on	on	on	on	on	on	on	on

For example:

- 1. Protocol P, 4800bps, Sony camera = 1, 3, 5, 8 are "ON"
- 2. Protocol D, 2400bps, Sony camera = 2, 3, 5, 7 are "ON"

 **SW2: Setup camera address.**

 **Protocol PELCO- P :**

Add.	DIP SWITCH SET UP							
	1	2	3	4	5	6	7	8
1	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
3	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
4	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
5	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
6	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
7	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
8	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
9	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
10	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
11	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF
12	ON	ON	OFF	ON	OFF	OFF	OFF	OFF
13	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF
14	ON	OFF	ON	ON	OFF	OFF	OFF	OFF
15	OFF	ON	ON	ON	OFF	OFF	OFF	OFF
16	ON	ON	ON	ON	OFF	OFF	OFF	OFF
17	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
18	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF
19	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF
20	ON	ON	OFF	OFF	ON	OFF	OFF	OFF
21	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF
22	ON	OFF	ON	OFF	ON	OFF	OFF	OFF
23	OFF	ON	ON	OFF	ON	OFF	OFF	OFF
24	ON	ON	ON	OFF	ON	OFF	OFF	OFF
25	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF
26	ON	OFF	OFF	ON	ON	OFF	OFF	OFF
27	OFF	ON	OFF	ON	ON	OFF	OFF	OFF
28	ON	ON	OFF	ON	ON	OFF	OFF	OFF
29	OFF	OFF	ON	ON	ON	OFF	OFF	OFF
30	ON	OFF	ON	ON	ON	OFF	OFF	OFF
31	OFF	ON	ON	ON	ON	OFF	OFF	OFF
32	ON	ON	ON	ON	ON	OFF	OFF	OFF
33	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF
34	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF
35	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
36	ON	ON	OFF	OFF	OFF	ON	OFF	OFF



37	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF
38	ON	OFF	ON	OFF	OFF	ON	OFF	OFF
39	OFF	ON	ON	OFF	OFF	ON	OFF	OFF
40	ON	ON	ON	OFF	OFF	ON	OFF	OFF
41	OFF	OFF	OFF	ON	OFF	ON	OFF	OFF
42	ON	OFF	OFF	ON	OFF	ON	OFF	OFF
43	OFF	ON	OFF	ON	OFF	ON	OFF	OFF
44	ON	ON	OFF	ON	OFF	ON	OFF	OFF
45	OFF	OFF	ON	ON	OFF	ON	OFF	OFF
46	ON	OFF	ON	ON	OFF	ON	OFF	OFF
47	OFF	ON	ON	ON	OFF	ON	OFF	OFF
48	ON	ON	ON	ON	OFF	ON	OFF	OFF
49	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF
50	ON	OFF	OFF	OFF	ON	ON	OFF	OFF
51	OFF	ON	OFF	OFF	ON	ON	OFF	OFF
52	ON	ON	OFF	OFF	ON	ON	OFF	OFF
53	OFF	OFF	ON	OFF	ON	ON	OFF	OFF
54	ON	OFF	ON	OFF	ON	ON	OFF	OFF
55	OFF	ON	ON	OFF	ON	ON	OFF	OFF
56	ON	ON	ON	OFF	ON	ON	OFF	OFF
57	OFF	OFF	OFF	ON	ON	ON	OFF	OFF
58	ON	OFF	OFF	ON	ON	ON	OFF	OFF
59	OFF	ON	OFF	ON	ON	ON	OFF	OFF
60	ON	ON	OFF	ON	ON	ON	OFF	OFF
61	OFF	OFF	ON	ON	ON	ON	OFF	OFF
62	ON	OFF	ON	ON	ON	ON	OFF	OFF
63	OFF	ON	ON	ON	ON	ON	OFF	OFF
64	ON	ON	ON	ON	ON	ON	OFF	OFF
-----	-----	-----	-----	-----	-----	-----	-----	-----
255	OFF	ON	ON	ON	ON	ON	ON	ON
256	ON	ON	ON	ON	ON	ON	ON	ON

■ PELCO- D setup :

Add.	DIP SWITCH SET UP							
	SW2-1	SW2-2	SW2-3	SW2-4	SW2-5	SW2-6	SW2-7	SW2-8
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
13	ON	OFF	ON	ON	OFF	OFF	OFF	OFF
14	OFF	ON	ON	ON	OFF	OFF	OFF	OFF
15	ON	ON	ON	ON	OFF	OFF	OFF	OFF
16	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
17	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF
18	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF
19	ON	ON	OFF	OFF	ON	OFF	OFF	OFF
20	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF
21	ON	OFF	ON	OFF	ON	OFF	OFF	OFF
22	OFF	ON	ON	OFF	ON	OFF	OFF	OFF
23	ON	ON	ON	OFF	ON	OFF	OFF	OFF
24	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF
25	ON	OFF	OFF	ON	ON	OFF	OFF	OFF
26	OFF	ON	OFF	ON	ON	OFF	OFF	OFF
27	ON	ON	OFF	ON	ON	OFF	OFF	OFF
28	OFF	OFF	ON	ON	ON	OFF	OFF	OFF
29	ON	OFF	ON	ON	ON	OFF	OFF	OFF
30	OFF	ON	ON	ON	ON	OFF	OFF	OFF
31	ON	ON	ON	ON	ON	OFF	OFF	OFF
32	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF
33	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF
34	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
35	ON	ON	OFF	OFF	OFF	ON	OFF	OFF
36	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF
37	ON	OFF	ON	OFF	OFF	ON	OFF	OFF
38	OFF	ON	ON	OFF	OFF	ON	OFF	OFF

39	ON	ON	ON	OFF	OFF	ON	OFF	OFF
40	OFF	OFF	OFF	ON	OFF	ON	OFF	OFF
41	ON	OFF	OFF	ON	OFF	ON	OFF	OFF
42	OFF	ON	OFF	ON	OFF	ON	OFF	OFF
43	ON	ON	OFF	ON	OFF	ON	OFF	OFF
44	OFF	OFF	ON	ON	OFF	ON	OFF	OFF
45	ON	OFF	ON	ON	OFF	ON	OFF	OFF
46	OFF	ON	ON	ON	OFF	ON	OFF	OFF
47	ON	ON	ON	ON	OFF	ON	OFF	OFF
48	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF
49	ON	OFF	OFF	OFF	ON	ON	OFF	OFF
50	OFF	ON	OFF	OFF	ON	ON	OFF	OFF
51	ON	ON	OFF	OFF	ON	ON	OFF	OFF
52	OFF	OFF	ON	OFF	ON	ON	OFF	OFF
53	ON	OFF	ON	OFF	ON	ON	OFF	OFF
54	OFF	ON	ON	OFF	ON	ON	OFF	OFF
55	ON	ON	ON	OFF	ON	ON	OFF	OFF
56	OFF	OFF	OFF	ON	ON	ON	OFF	OFF
57	ON	OFF	OFF	ON	ON	ON	OFF	OFF
58	OFF	ON	OFF	ON	ON	ON	OFF	OFF
59	ON	ON	OFF	ON	ON	ON	OFF	OFF
60	OFF	OFF	ON	ON	ON	ON	OFF	OFF
61	ON	OFF	ON	ON	ON	ON	OFF	OFF
62	OFF	ON	ON	ON	ON	ON	OFF	OFF
63	ON	ON	ON	ON	ON	ON	OFF	OFF
64	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF
-----	-----	-----	-----	-----	-----	-----	-----	-----
254	OFF	ON	ON	ON	ON	ON	ON	ON
255	ON	ON	ON	ON	ON	ON	ON	ON

## CHAPTER-III OPERATION

### ➡ Power on states:

Once you've connected the device, power on the dome. The dome will begin to initiate configuration and then show the system info as follows:

TN612	
PROTOCOL	PELCO-P
DOME ADDRESS	1
COMM	2400.N.8.1
VERSION	4.14
CONFIGURING	

TN612	
PROTOCOL	PELCO-P
DOME ADDRESS	1
COMM	2400.N.8.1
VERSION	4.14
CONFIGURE OK	

Please use the following function after the configuration.

#### Hot-key instruction.

PRESET		FUNCTION
98		1~8# Preset tour (sequence)
33		180°flip
34	※	Zero calibration position
76		Open wiper (60 second)
77		Continues wiping 15minutes
78		OFF wiper
79		ON digital zoom
80		OFF digital zoom
81		Auto DAY/NIGHT shift
82		B/W ON (LASER ON---only for TN612-IR)
83		Color ON (LASER OFF---only for TN612-IR)
84		ON wide dynamic
85		OFF wide dynamic
86		ON BLC
87		OFF BLC
88		ON video freeze
89		OFF video freeze
90		Laser high current
92	※	Left position limit for scan
93	※	Right position limit for scan

94	Quit OSD menu
95	Access OSD menu
96	Stop scan
98	Preset Tour
99	Auto scan



**Remark:**

1. Before you want to setup the preset function, we suggest do Zero calibration position first. (For Example: call “34” + “Preset”)
2. Before you want to setup “92” and “93” function, please enter OSD menu first (call “95”+“PRESET”), then enter <DOME SETTING>---<PAN/TILT> menu, please change the submenu <MANUAL STOPS> and <SCAN STOPS> are “ON”.
3. “90”+“PRESET” can increase the laser current in 60S.

Operate	Procedure
Pan/Tilt	1.For 3-axis joystick to move the up-down-left-right to control the direction, the speed is according to the moving angle, bigger angle moved, faster speed goes! 2. For the PC software, call the direction key to control the rotation, the speed is according to set up speed code, that according to the software instruction, details please check with the software supplier! This series dome pan: 360°continuous rotation, Tilt: +0°and-93°
Zoom Tele	1.Call ZOOM TELE or clockwise the joystick until get the image you want 2. Release the button or joystick, zoom stop.
Zoom wide	1. Call ZOOM WIDE or clockwise the joystick until get the image you want 2. Release the button or joystick, the zoom will stop.
OPEN	Iris ON
CLOSE	Iris OFF
NEAR	Persist call NEAR key , focus will from far to near , image will clearly- illegibility-clearly
FAR	Persist call FAR key , focus will from near to far, image will clearly- illegibility-clearly
PRESETS	1 . Set up preset , Call “preset number”+“ PRESET ” key (wait 3 second), then will display “preset X” 2 . Call preset, please call “PRESET+NUMBER” 3 . Pls refer to the instruction of the controller.



**Menu instruction**



**Operation instruction**

The Titan series of cameras have a built-in OSD in the camera. This OSD can set up parameters of the camera and lens. The operation instruction is below.

Menu options include: move menu item, enter next menu, return upper menu, select menu, set up parameter and confirm/cancel setup of basic operation,

- ◆ Pan/Tilt up/down: move menu item and setup
- ◆ Iris open: enter menu and select menu
- ◆ Iris close: return upper menu and cancel setup



**Open/close menu**

“9”+“5”+“PRESET”: Open menu

“9”+“4”+“PRESET”: Close menu

Remark:

1. Menu item with “< >” is including sub-menu
2. Move cursor “→” by UP and DOWN, to confirm/exit by OPEN/CLOSE
3. The cursor will change mark “ ” after call OPEN. You can setup parameter by UP/DOWN and call OPEN to confirm.

**➡ MAIN MENU INSTRUCTION**

TN612
<SYSTEM >
<DOME SETTING>
EXIT

**➡ <SYSTEM> INSTRUCTION**

<u>1</u>	<u>2</u>	<u>3</u>
<u>TN612</u>	<u>SYSTEM</u>	<u>SYSTEM INFORMATION</u>
<SYSTEM > <DOME SETTING>  EXIT	<SYSTEM INFORMATION > <DISPLAY SETUP> SET DEFAULT SYSTEM RESET  ⊗SET AZIMUTH ZERO  ⊗TEMPERATURE LIMIT 80  ⊗AUTO TRACK OFF  BACK	MODLE TN612 COMM 2400.N.8.1 PROTOCOL PELCO- P DOME ADDRESS 1 VERSION 1.10 TEMPERATURE 30.5C  BACK

**Note:**

- TEMPERATURE LIMIT: 60-80°C for optional (when the temperature gets toward the maximum threshold, the dome will stop working)
- SET AZIMUTH ZERO: PRESET/ PRAVCY MASK functions should be re-set after setup a new Azimuth like P:000
- AUTO TRACKING: Only for VK-S654 AND VK-S454 Camera

<u>2</u>	<u>3</u>	Note
<u>SYSTEM</u>	<u>DISPLAY SETUP</u>	
<SYSTEM INFORMATION > <DISPLAY SETUP>	DOME TITLE OFF TEMPERATURE OFF	“ON”/“OFF” optional “ON”/“OFF” optional

SET DEFAULT	PRESET TITLE	2S	ON、OFF、2、3、4、5optional
SYSTEM RESET	ZOOM	2S	
SET AZIMUTH ZERO	ANGLE	2S	ON、OFF、2、3、4、5optional
TEMPERATURE LIMIT	AUTO EXIT TIME	6M	
AUTO TRACK	80	OFF	ON、OFF、2、3、4、5optional
BACK	BACK		
			5、6、7、8、9、10 minutes optional

**➡ <DOME SETTING> INSTRUCTION**

<b>1</b>	<b>2</b>
<u>TN612</u>	<u>DOME SETTING</u>
<SYSTEM >	1. <EDIT TITLE >
<DOME SETTING>	2. <CAMERA>
	3. <PANTILT>
EXIT	4. <POWER UP>
	5. <LINE SYNC>
	6. <PRIVACY MASK>
	7. <PASSWORD>
	8. <TIME SET UP>
	9. <MOTION DETECTION>
	BACK

**1. <EDIT TITLE > Instruction:**

Note: 0~9 and A~Z optional, the maximum is 12pcs characters.

<u>DOME TITLE</u>
DOME TITLE : xxxxxxxxxxxx
BACK

**2. <CAMERA> Instructions:**

<u>CAMERA</u>	
AUTO FOCUS	ON
ZOOM LIMIT	X216
ZOOM SPEED	4
AUTO SHARPNESS	ON
SHARPNESS LEVE	26
AUTO WHITE BALANCE	ON
R GAIN	125
B GAIN	125
VIDEO FREEZE	OFF
<NEXT>	
BACK	

Note : "ON"/"OFF" optional  
 Note : 18/26/36/72/144/216 optional  
 Note : 0--7optional  
 Note : "ON"/"OFF" optional  
 When OFF state have : 1--30optional  
 Note : "ON"/"OFF" optional  
 When OFF state have : 1--255optional  
 when OFF state have : 1--255optional  
 Note : "ON"/"OFF" optional

<u>NEXT</u>	
AUTO SHUTTER	ON
	Note : "ON"/"OFF" optional

SHUTTER SPEED	1/100	OFF state: 1、1/2、1/3、1/6、1/12、1/25、1/50、1/75、1/100、1/120、1/150.....1/6000、1/10000 ( total22 ) optional
AGC MODE	AUTO	Note : ON、OFF optional
GAIN	0	When OFF state have : 0/6/12/18/24/30 optional
AUTO IRIS	ON	Note : “ON”/“OFF” optional
IRIS LEVEL	8	Note: OFF state have : 0—17optional
IRIS PEAK	5	When OFF state have : 1—10optional
DAY/NIGHT	AUTO	Note : AUTO 、ON、OFF optional
BACKLIGHT COMP	OFF	Note : “ON” and “OFF” optional
WDR	OFF	Note: “ON” and “OFF” optional
BACK		

**3. <PANTILT> Instructions:**

<u>PANTILT</u>		
MOUNT MODE	UP	Note : “UP”/“DOWN” optional
PROPORTIONAL P/T	ON	
PARK ACTION	NONE	Note : “ON”和“OFF” optional
		* ( Home place ) *PARK ACTION setting : 1、NONE、1、2、--7、8PRESET
PARK TIME	30	
PRESET TOUR TIME	10	optional 2、AUTO SCAN optional 3、PRESET TOUR TIME 4、
SCAN SPEED	10	
MANUAL STOPS	OFF	PATTERN optional
SCAN STOPS	OFF	Note : 0—60 minutes optional
IR/LASER	ON	
CURRENT	3	Note 5—60 second optional
BACK		Note : 1—40optional
		Note : “ON”/“OFF” optional
		Note : “ON”/“OFF” optional
		Note : “ON”/“OFF” optional
		Note : 1、2、3 optional ( when in 3 state, the pan/tilt motor current get the maximum )

**4. <POWER UP> Instructions**

<u>POWER UP</u>		Note:
POWER UP ACTION	NONE	POWER UP ACTION :
POWER UP TIME	10	
BACK		1、 Note : NONE、1、2、--7、8PRESET optional



	<p>2、 Note : AUTO SCAN optional</p> <p>3、 Note : PRESET TOUR</p> <p>4、 Note : PATTERN optional</p> <p>POWER UP TIME : 1-10minutes optional</p>
--	--

**5. <LINE SYNC> Instructions:**

<p><u>LINE SYNC</u></p> <p>LINE SYNC                      ON</p> <p>LINE SYNC PHASE              0</p> <p>BACK</p>	<p>Note : "ON"/"OFF" optional</p> <p>Note : 0、 1--358、 359 optional</p>
--	---

**6. <PRIVACY MASK>**

<p><u>PRIVACY MASK</u></p> <p>MASK NUMBER      1    <b>Note : 1-8 for option</b></p> <p>MASK ENABLED    ON   <b>Note : ON/OFF for option</b></p> <p>&lt;MASK SETUP&gt;</p> <p>BACK</p>	<p><u>MASK SETUP</u></p> <p>MOVE TARGET TO CENTER</p>	<p>RANGING MASK</p>
--	---	---------------------

1> Move the target to the center place you want to mask. Adjust the range with the joystick.

2> Tap "open" to confirm the range

NOTE:

Since the limitation of SONY Camera module, tilt: 44~90 degree, no privacy mask.

**7. <PASSWORD>**

<p><u>PASSWORD</u></p> <p>INPUT PASSWORD:</p> <p>ENABLE PASSWORD      OFF/ON</p> <p>BACK</p>
--

- a) Make ENABLE PASSWORD as "ON"
- b) Make the INPUT PASSWORD: 0~9+PRESET.  
Such as: 1preset 2preset 3preset 4 preset 5preset 6preset

Max input numbers : 6

8. <TIME SET UP>

<u>TIME SETUP</u>		
DATE : 2007/07/12		Note : Year、Month、Date Setup
TIME : 00 : 00 : 00		Note : Hour、Minute、Second Setup
CALIBRATE TIME	0H	Note : 0-24 hours optional
BACK		

9. <MOTION DETECTION> Instruction :

<u>MOTION DETECTION</u>			
MOTION DETECT	ON		"ON" or "OFF" optional
DETECT DISPLAY	ON		"ON" or "OFF" optional
<DETECT MODE>	SET		"SET" or "DETECT\" optional
DETECT ALARM	ON		"ON" or "OFF" optional
BACK			

<u>SET MODE</u>				
		AREA	LEVEL	AREA: 0-64 optional (motion detection area optional)
				LEVEL: 0-5 optional (sensitive testing optional)
				Buffer 1~8 are the motion detection setup
BUFFER 1	0	0		
BUFFER 2	0	0		
BUFFER 3	0	0		
BUFFER 4	0	0		
BUFFER 5	0	0		
BUFFER 6	0	0		
BUFFER 7	0	0		
BUFFER 8	0	0		
BACK				

 Remark :

1. When "DETECT MODE" is in the "SET" state, please confirm with keyboard and enter the motion detection menu.
2. In the motion detection setup, you should change the "DETECT MODE" to "DETECT" to use the motion detection function
3. Make sure the "MOTION DETECT" is set to the "ON" state; when it is "OFF" state, you have

stopped this function.

4. When you use the motion detection and auto-tracking functions, the camera will not use the following functions.

- Can not PRIVACY MASK
- Can not Zoom
- Can not digital zoom
- Can not auto Day/Night shift
- Can not DSS (Digit Slow Shutter)

5. Motion detection and auto-tracking cannot be used at the same time.

Note: There are 64 areas on the screen. The maximum is 8 detection zones. It is invalid when the detection zone is 0.

Detection zone define:

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64

## CHAPTER-IV FEATURES & PARAMETER

### ➡ FEATURES

- Built-in hi-resolution and big zoom IOP module (See camera SPECS)
- Built-in temperature control
- On-Screen-Display programming menu
- On-Screen-Display inside temperature
- On-Screen-Display pan/tilt/zoom position
- User definable temperature alert
- User definable 8 preset tours
- User definable preset frozen
- User definable 128 target presets and PTZ learn pattern
- User definable auto-scan/random scans
- User definable scan speed
- User definable power-up action
- User definable 8 motion detection zone, with alarm function
- Toughened glass with antistatic and enhanced transparency film
- Preset speed: Pan: 120°/s; Tilt: 100°/s
- Preset accuracy: +/-0.1°
- Variable manual pan speed 0.1°-100°/s
- Variable manual tilt speed 0.1°-120°/s
- RS-485 PELCO-P/D
- Proportional pan speed
- Surge protection & non-volatile memory
- IP66/CE/FCC/MA/RoHS compliance
- Explosion-proof compliance
- With the long distance laser (For TN612-IR Laser)

### ➡ DESCRIPTION

The Titan dome is machined from 8mm~22mm thick Aluminum alloy or Stainless steel. Its truly robust design makes it explosion proof, bullet proof, vandal proof and water proof. Flat designed optics window from filmed and toughened glass (5mm thick) offers distortion free image and maximum vandal resistant protection for IOP (Integrated Optical Package) camera module. Sealed to IP68, capable of with standing complete submersion. 360°continuous rotation for both pan and tilt, User adjustable 30°angle yoke allows the camera to look vertically downs from pole top. The system is noted for its high acceleration rate and smooth, steady motion with flexible presets programming and setup. The Titan dome system is available for base mount and pendant mount installation. The dome is capable of 360°continuous pan /tilt rotation. Up 128 target presets could be setup to see specific target scenes automatically after receiving a preset call command is to avoid un-useful fast moving scene during preset call up period, thus only presets are displayed one by one on the screen. And sequence tour is available to call up to 8 presets in sequence with user programmable dwell time. The pattern, which is also called PTZ learning in some countries, enables the user to control the pan/tilt/zoom and call presets, and the dome will learn and save the user's operation. The user could call up the pattern and let the dome run automatically, just like the

operator is controlling the dome. And pre-programmed presets could also be included inside the pattern; in this case, you could do as many presets sequence .The On-Screen-Display menu makes it detailed system programming easy.

**➡ Mechanical Parameter Description**

- Thickness of die-cast aluminum alloy or stainless steel body: 8mm ~ 22mm
- Thickness of flat designed optics window from filmed and toughened glass: 5mm
- Continuous working temperature: -20°C -- +50°C
- Storage temperature: -40 °C -- +60°C
- Net Weight:

	Aluminum Alloy	Stainless steel
TN612-V8	8.5KGS	18KGS
TN612-V6	11KGS	24KGS
TN612-IR LASER	14KGS	30KGS
Base mount bracket-2	2KGS	6KGS
Base mount bracket-1	1KGS	3KGS

Power supply of TN612-V8: 1KGS

Power supply of TN612-V6 or TN612-IR: 2KGS

- Gross weight (Including the package and power supply):

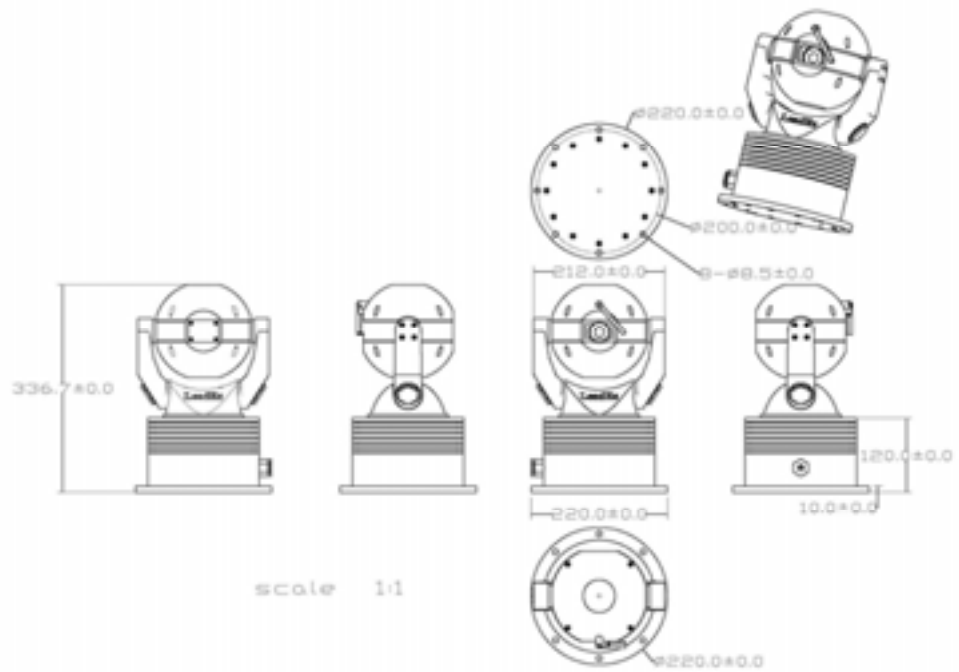
	Aluminum Alloy	Stainless steel
TN612-V8	18KGS	30KGS
TN612-V6	19KGS	32KGS
TN612-IR	22KGS	38KGS

- Package Measurement: 72\*48\*36cm
- Dimension: see chart

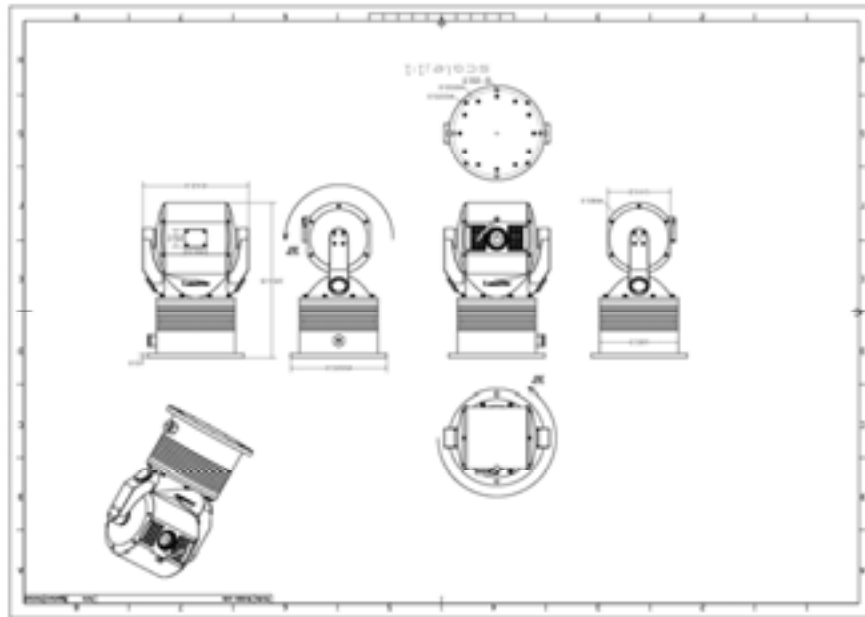


➡ Mechanical Parameter Description

TN612-V6

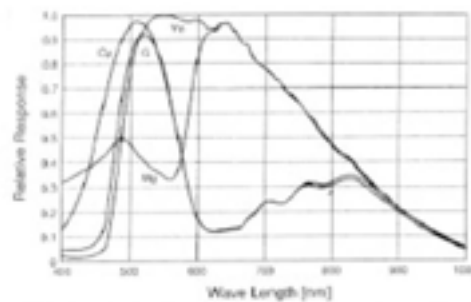
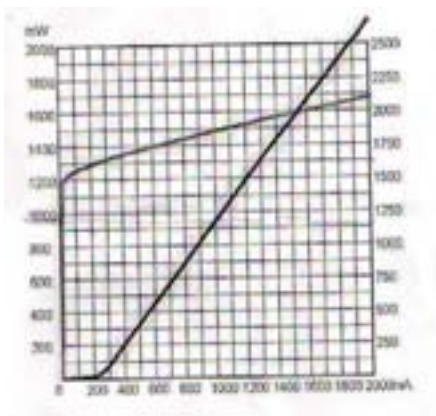
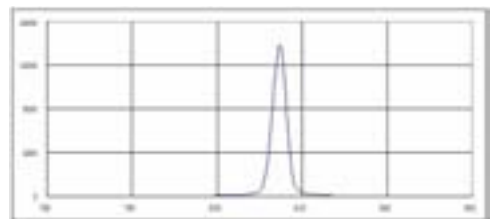


**TN612-IR LASER**



**➡ Laser Lamp-house Parameter**

- Laser electric current: Average 245mA
- Laser working voltage: Average 2050 mV
- Slope efficiency: Average 1.20
- Laser wavelength: 808nm  
(Please see the Laser spectrogram)
- Electric working electric current: 2000 mA
- Electric light efficiency: 2000 mW (TN612-IR can build in 4pcs laser, the maximum power is 8000 mW)
- Laser electric current- Power Specification chart
- Take SONY FCB-EX1000P 36X camera module as an example, see attached camera optics frequency respond curve



The typical characteristics of Sony FCB-EX1000/EX1000P camera module

**UNIVERSAL SPECIFICATION**

**Electric specification:**

- Input voltage: 18VAC—30VAC /18VDC-30VDC
- Input power: 60VA (without Laser) 100VA (with Laser)
- Heat up and defrost: control by temperature sensor

**Pan/Tilt specification**

- Pan/tilt speed: Pan 0.1°-120°/s Tilt: 0.1°-100°/s
- Preset speed: Pan 120°/s Tilt 100°/s
- Preset Accuracy: 0.03°
- Auto scan: 1°-40°/s
- Pan rotation: 360° continues
- Tilt rotation: 360° continues
- Preset: 8 preset tours with dwell time 1~99seconds.

**Optional accessories:**

- Bracket: pls see pages 3 chart 2
- Power supply: AC 24V/60VA/ AC 24V/100VA
- Keyboard controller: KBD-D

**Reference specifications of built-in IOP camera module**

Model number		TN612-18S		TN612-26S	
Signal system		NTSC	PAL	NTSC	PAL
Camera Model		FCB-EX480 Sony	FCB-EX480P	FCB-EX980 Sony	FCB-EX980P
Picture elements		~380K (768X494)	~440K (752X582)	~380K	~440K
Horizontal resolution		470TVL	460TVL	470TVL	460TVL
Image sensor		1/4 type IT CCD		1/4" Super HAD CCD	
Optical Zoom		18X		26X	
Digital Zoom		12X		12X	
Lens		F=4.1mm~73.8mm, F=1.4~3.0		f=3.5mm~91mm, F=1.6~3.8	
Angle of view		54.2°(WIDE end) to 2.2° (TELE end)		54.2°(WIDE end) to 2.2° (TELE end)	
Synchronization		Internal/External (V-lock)		Internal/External (V-lock)	
Min. illumination	Color	0.1Lux/1/4sec	0.1Lux/1/3sec	0.2Lux/1/4sec	0.2Lux/1/3sec
	B/W	0.01Lux/1/4sec	0.01Lux/1/3sec	0.01Lux/1/4sec	0.01Lux/1/3sec
S/N Ratio		>50dB		>50dB	
BLC		ON/OFF		ON/OFF	
Shutter speed		1/1 to 1/10000sec	1/1 to 1/10000sec	1/4 to 1/10000sec	1/3 to 1/10000sec
Shutter		Auto/Manual		Auto/Manual	
White balance		Auto/Manual		Auto/Manual	
Gain Ctrl		Auto/Manual		Auto/Manual	
Video Output		VBS:1Vp-p (sync negative), Y/C		VBS:1Vp-p (sync negative), Y/C	



Iris Ctrl	Auto/Manual	Auto/Manual
Focus Ctrl	Auto/Manual	Auto/Manual

**Reference specifications of built-in IOP camera module**

Model number	TN612-IR-35S		TN612-36S	
Signal system	NTSC	PAL	PAL--SONY	NTSC
Camera Model	VK-S654R Hitachi	VK-S654ER	FCB-EX1000P FCB-EX1010P	FCB-EX1000 FCB-EX1010
Picture elements	~380K (768X494)	~440K (752X582)	~440K	~380K
Horizontal resolution	540TVL	540TVL	460TLV	470TVL
Image sensor	1/4 type SONY CCD		1/4 type EXview HAD CCD	
Optical Zoom	35X		36X	
Digital Zoom	12X		12X	
Lens	f=3.4mm~119mm, F=1.4~4.2		f=3.4mm~122.4mm F=1.6~4.5	
Angle of view	55.8°(WIDE end) to 1.7° (TELE end)		57.8°(WIDE end) to 1.7° (TELE end)	
Synchronization	Internal/External (V-lock)		Internal/External (V-lock)	
Min. illumination	Color	0.1Lux/1/4sec	0.1Lux/1/3sec	0.1Lux/1/3sec
	B/W	0.01Lux/1/4sec	0.001Lux/1/3sec	0.01Lux/1/3sec
S/N Ratio	>50dB		>50dB	
BLC	ON/OFF		ON/OFF	
Shutter speed	1/1.5 to 1/30000sec	1/1.5 to 1/30000sec	1/3 to 1/10000sec	1/3 to 1/10000sec
Shutter	Auto/Manual		Auto/Manual	
White balance	Auto/Manual		Auto/Manual	
Gain Ctrl	Auto/Manual		Auto/Manual	
Video Output	VBS:1Vp-p (sync negative)		VBS:1Vp-p (sync negative), Y/C	
Iris Ctrl	Auto/Manual		Auto/Manual	
Focus Ctrl	Auto/Manual		Auto/Manual	

## CHAPTER-V FUNCTION EXPLANATION

**PTZ function**

Pan speed is proportional to the zoom. The Titan series of cameras' manual pan speed is 0.1~150°/second, the manual tilt speed is 0.1~100°/second.

**Function explanation**

**OSD function :**

All the info and parameters settings will display on the screen through the OSD menu.

✿ **Proportional shift function**

Pan/ Tilt speed is changed in proportion to the extent to which the camera is zoomed in: when the camera is set to maximum zoom the PTZ speed is automatically adjusted to mimic the PTZ speed when the camera is zoomed out.

✿ **AUTO SCAN**

Auto scans means to keep the angle in certain situation, and the dome goes 360° continuous rotation in lever line and displays the zone image function! Auto scan also can set up left and right limitation, and scan in this range.

✿ **AUTO FLIP**

When the camera tilts to a position that would produce an inverted image, the dome rotates 180 degrees automatically. When the dome rotates, the camera starts moving upward as long as you continue to hold the joystick in the down position. This is very useful for following a person who passes directly beneath the camera.

✿ **PRESET**

Any PTZ situation can be saved as a Preset. Presets can be set up, deleted, and transferred between cameras.

✿ **PRESET SEQUENCE**

The Titan dome will call presets from 1 to 8 automatically with dwell time from 2 to 200 seconds.

✿ **POWER-UP INITIALIZATION**

This function requires the dome to perform pan/tilt/zoom automatically on start up to test the hardware functions and to find the “zero”. The process takes around 10 seconds.

✿ **Low Lux shift (color, day/night) function**

The camera will shift the CCD according to different light levels. The image will change from color to B/W under low lux, and in high lux the image will change from B/W into color (depending upon camera module).

✿ **AUTO FOCUS & AUTO IRIS MODE**

The lens will optimize focus and adjust the iris automatically when receiving no manual adjustment command.

✿ **BLC Function**

Open the black light compensation can help to distinguish the image when the background is difficult to distinguish due to strong light.



A Technology of



**For ordering and other sales inquiries**

**UNITED STATES**

Phone: 800-464-0831

Fax: 800-464-0832

Email: [sales@saysecurity.com](mailto:sales@saysecurity.com)

**INTERNATIONAL**

Phone: +1-419-634-5788

Fax: +1-212-500-3378

Email: [sales@saysecurity.com](mailto:sales@saysecurity.com)

**SAY Security Group Mexico**

Phone: 800-464-0831

Fax: +52-222-268-1486

Email: [miguel@saysecurity.com](mailto:miguel@saysecurity.com)

**Visit Us Online**

[www.titancamera.com](http://www.titancamera.com)

[www.saysecurity.com](http://www.saysecurity.com)

**Explore Our Other Security Solutions**

[www.mobilewitness.com](http://www.mobilewitness.com) **Mobile Witness:** Powerful Mobile DVRs and Accessories

[www.digitalvideowitness.com](http://www.digitalvideowitness.com) **Digital Video Witness:** DVRs, NVRs, Cameras and Other Solutions