THE TITAN

RUGGED SPEED DOME

INSTALLATION & PROGRAMMING MANUAL

TN612 RUGGED SPEED DOME SERIES

www.dvrsystems.net **www.explosionproofcameras.com**

WARNING

To reduce the risk of electrical shock, use only UL certified power supplies. OPT Web Properties LTD 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 OPT DVR: this manual and instruction from authorized OPT DVR 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. OPT DVR 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, OPT DVR 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.

- OPT DVR 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

OPTDVR 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 OPT DVR'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 OPT Web Properties LTD and its affiliates.

Neither OPT Web Properties LTD 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 OPT Web Properties LTD operating and maintenance instructions.

To learn more about the Titan or other quality security products, contact OPT DVR:

www.dvrsystems.net **www.explosionproofcameras.com**

toll free: 800 807 1271

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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.)

OPT DVR'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, OPT Web Properties LTD 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 OPT DVR.

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.

Series \ Camera module No.		18X Day/Night (Sony FCB EX480C)	26X Day/Night (Sony FCB EX980)	36X Day/Night (Sony FCB EX1000) (Sony FCB EX1010)
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:

Series \ Camera module No.		23X Day/Night (Hitachi VK454)	35X Day/Night (Hitachi VK654)
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

TN612 V6

TN612 LASER IR

TN612 IR

PACKAGE:

The package includes:

TN612: 1pcs

Glove: 1pcs

DIP tool: 1pcs

Manual: 1pcs

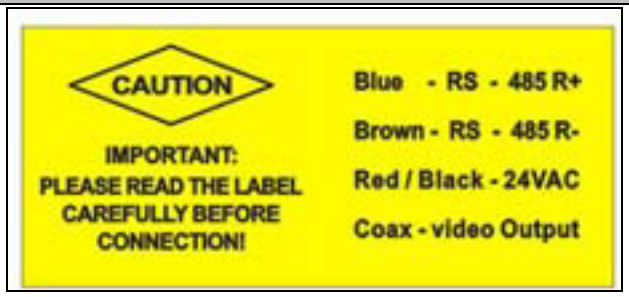
GLOVE

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:

a) Please connect the keyboard with data cable. Blue cable=RS485+, brown cable= RS485 .
b) Please connect the monitor with BNC connector.
c) 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

Step 1

Step 2

Step 3

Step 4

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 withote communication input of remdome 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								
Dip Switch	1	2	3	4	5	6	7	8
Titan	off	off	—	—	—	—	—	—
Pelco-P	on	off	—	—	—	—	—	—
Pelco-D	off	on	—	—	—	—	—	—
1200	—	—	—	—	—	—	off	off
2400	—	—	—	—	—	—	on	off
4800	—	—	—	—	—	—	off	on
9600	—	—	—	—	—	—	on	on
SONY	—	—	on	off	on	off	—	—
HITACHI	—	—	off	on	on	off	—	—

SW2 Address								
PELCO-P								
Dip Switch	1	2	3	4	5	6	7	8
Addess 1	off	off	off	off	off	off	off	off
Addess 2	on	off	off	off	off	off	off	off
Addess 256	on	on	on	on	on	on	on	on
PELCO-D								
Dip Switch	1	2	3	4	5	6	7	8
Addess 1	on	off	off	off	off	off	off	off
Addess 2	off	on	off	off	off	off	off	off
Addess 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: +0ºand 93º
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

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

2	3	Note
SYSTEM	**DISPLAY SETUP**	
<SYSTEM INFORMATION >	DOME TITLE OFF	"ON"/"OFF" optional
<DISPLAY SETUP>	TEMPERATURE OFF	"ON"/"OFF" optional

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

<DOME SETTING> INSTRUCTION

1	2
TN612 <SYSTEM > **<DOME SETTING>** EXIT	**DOME SETTING** **1. <EDIT TITLE >** **2. <CAMERA>** **3. <PANTILT>** **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.

DOME TITLE
DOME TITLE : xxxxxxxxxx
BACK

2. <CAMERA> Instructions:

CAMERA		
AUTO FOCUS	ON	Note□"ON"/"OFF" optional
ZOOM LIMIT	X216	Note□18/26/36/72/144/21 6 optional
ZOOM SPEED	4	Note□0 7optional
AUTO SHARPNESS	ON	Note□"ON"/"OFF" optional
SHARPNESS LEVE	26	When OFF state have□1 30optional
AUTO WHITE BALANCE	ON	Note□"ON"/"OFF" optional
R GAIN	125	When OFF state have□1 255optional
B GAIN	125	when OFF state have□1 255optional
VIDEO FREEZE	OFF	Note□"ON"/"OFF" optional
<NEXT>		
BACK		

NEXT		
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:

PANTILT	
MOUNT MODE UP	Note□"UP"/"DOWN" optional
PROPORTIONAL P/T ON	Note□"ON"□"OFF" optional
PARK ACTION NONE	*□Home place□*PARK ACTION setting□1□NONE□1□2□ 7□8PRESET optional 2□AUTO SCAN optional 3□PRESET TOUR TIME 4□PATTERN optional
PARK TIME 30	Note□0—60 minutes optional
PRESET TOUR TIME 10	Note 5—60 second optional
SCAN SPEED 10	Note□1 –40optional
MANUAL STOPS OFF	Note□"ON"/."OFF" optional
SCAN STOPS OFF	Note□"ON"/"OFF" optional
IR/LASER ON	Note□"ON"/"OFF" optional
CURRENT 3	Note□1□2□3 optional □when in 3 state, the pan/tilt motor current get the maximum□
BACK	

4. <POWER UP> Instructions

POWER UP	Note:
POWER UP ACTION NONE	POWER UP ACTION□
POWER UP TIME 10	1□Note□NONE□1□2□ 7□8PRESET optional
BACK	

	2□Note□AUTO SCAN optional 3□Note□PRESET TOUR 4□Note□PATTERN optional POWER UP TIME□1 10minutes optional

5. <LINE SYNC> Instructions:

LINE SYNC LINE SYNC ON LINE SYNC PHASE 0 BACK	Note□"ON"/"OFF" optional Note□0□1 358□359 optional

6. <PRIVACY MASK>

PRIVACY MASK MASK NUMBER 1 **Note□ 1 8 for option** MASK ENABLED ON **Note□ ON/OFF for option** **<MASK SETUP>** BACK	MASK SETUP MOVE TARGET TO CENTER	RANGING MASK

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>

PASSWORD INPUT PASSWORD: ENABLE PASSWORD OFF/ON BACK

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>

TIME SETUP	
DATE□2007/07/12	Note□Year□Month□Date Setup
TIME□00□00□00	Note□Hour□Minute□Second Setup
CALIBRATE TIME 0H BACK	Note□0 24 hours optional

9. <MOTION DETECTION> Instruction□

MOTION DETECTION		
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		

SET MODE			
	AREA	LEVEL	**AREA: 0 64 optional (motion detection area optional**
BUFFER 1	0	0	**LEVEL: 0 5 optional (sensitive testing optional)**
BUFFER 2	0	0	**Buffer 1~8 are the motion detection setup**
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: 120º/s; Tilt: 100º/s
Preset accuracy: +/ 0.1º
Variable manual pan speed 0.1º 100º/s
Variable manual tilt speed 0.1º 120º/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: 20ºC +50ºC
- Storage temperature: 40 ºC +60ºC
- 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

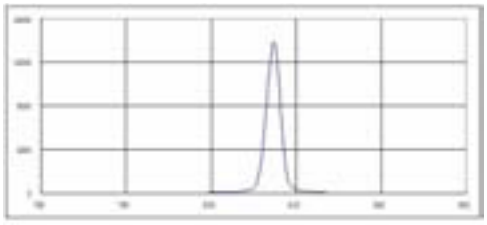
- Package Measurement: 72*48*36cm
- Dimension: see chart

Mechanical Parameter Description

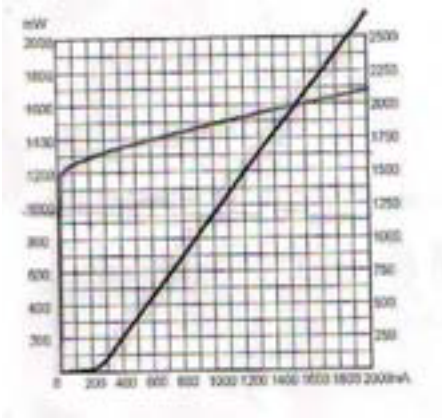
TN612 V6

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



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 0.1º 120º/s Tilt: 0.1º 100º/s
- Preset speed: Pan 120º/s Tilt 100º/s
- Preset Accuracy: 0.03º
- Auto scan: 1º 40º/s
- Pan rotation: 360º continues
- Tilt rotation: 360ºcontinues
- 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/1/4sec	0.1Lux/1/3sec
	B/W	0.01Lux/1/4sec	0.001Lux/1/3sec	0.001Lux/1/4sec	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 360º 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.

THE TITAN
RUGGED SPEED DOME

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