# JV-35

ProVisual Handset PTZ Camera Tester Manual

# User Manual

www.provisualusa.com

**Contents**

## 1 - Summary

The keyboard is a universal keyboard of security monitoring series, which can control the ball-type integrated camera of all kinds protocols matrix, which has been equipped with Joystick which can control the revolving of the camera and the zoom magnification of lens; with the LCD screen and the function of back-light; which can display the current operation order the control protocol name the current dome ID the current monitor ID and the state of joysticks. The user can control the CCTV system more easily with the joystick and the LCD screen.

### 1.1 - Notice

Please read the manual carefully and reserve it.

Please advert to the notice in manual.

Please don't place the keyboard in the moist place.

### 1.2 - Function and Characteristic

● RS485 Bus Line and a keyboard can connect 31 domes at most in the direct control mode.

● Can be compatible with all kinds of protocols.

● Can control the Iris Focus and Zoom.

● Can set and call the preset, run the scanning the pattern and the tour.

● Can control the matrix and through which can control the dome indirectly.

● Equipped with the 3D Joystick and a LCD screen

● The LCD can display the current operation order, the control protocol name, the current dome ID, the current monitor ID and the state of joysticks.

● Infrared ray emission, emission the same data & content as RS485

### 1.3 - Technical Data

► **Electrical character**

Input：9V-12V DC

Power：2.5W

Standby Lithium：3.6-4.2 V/3500mAh

► **Communicate character**

Communicate interface：RS485 × 1, infrared emission

Communicate frequency：2400, 4800, 9600, 19200bps

Communicate distance：RS485 can reach 1.2Km, infrared emission reaches 10m.

► **Operational environment**

Operating temperature：0°C~50°C

Relative humidity less than 90%

► Dimension

L × W × H = 168mm × 86mm × 28.3mm

Weight：0.57kg

## 2 - Keyboard Connection

There is interface on the back of the keyboard, which equipped with kinds of communication interface RS485 and

infrared emission, which can connect with and control kinds of peripheral equipments.

### 2.1 - RS485 Interfaces

RS485 interfaces are on the 2bit ribbon cable connection of the keyboard.RS485 (A+ B-) can connect with the

dome when the keyboard controls the dome directly; RS485 A+B-can connect with DVR or other keyboards when

the keyboard controls the dome by matrix
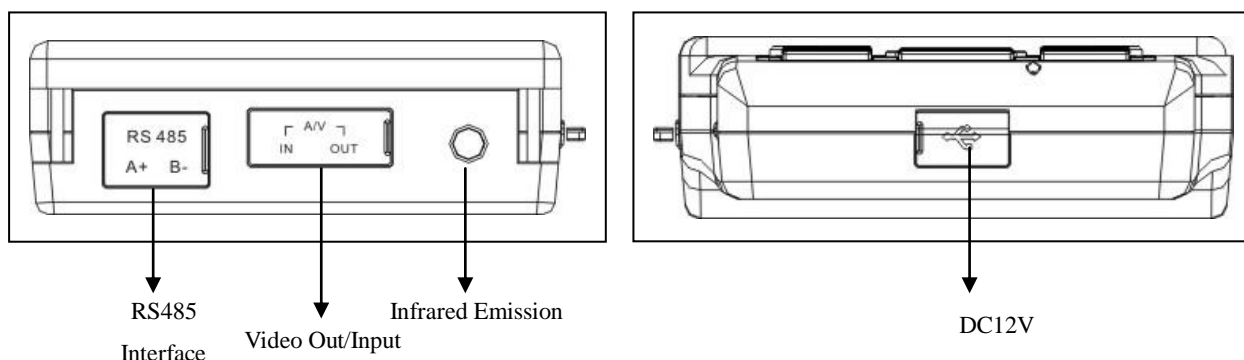


### 2. 2 - Direct Connect With Dome

Keyboard connects the Dome wit RS485. The RS485 interface of the Dome is on the commutator of the Dome.
Press the metal button in the hanging frame, open the commutator, will find a 4bit power jack, follow the surface
instruction to find RS485 (A+B-) follow the instruction. Connection maybe different when come from different
manufacturer.
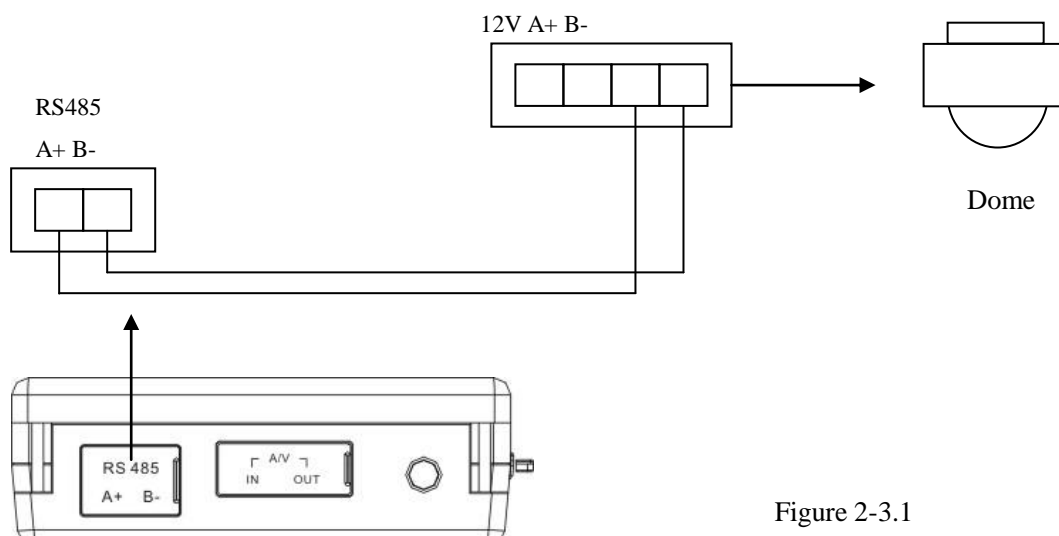


Figure 2-3.1

### 2. 3 - Keyboard Connection In The System

Indirect control the dome when connect with matrix (as figure 2-4.1) contrariwise will control the domes directly
parallel connect the keyboard and dome to the bus of RS-485,all the keyboard can control any dome among them,
under this way, the add of the main keyboard should be "1" and baud rate should be 9600bps(as figure 2-4.1)

Figure 2-4.1



Matrix          Dome1          Dome 2
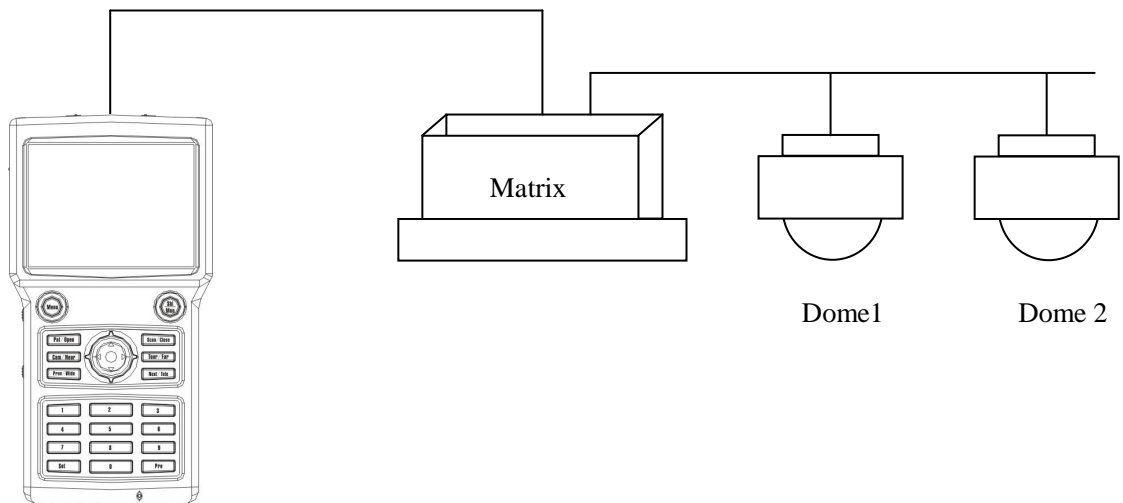
**Caution**

1. The max quantity of master equip and be charged equip controlled by a RS485 bus is, so when use the keyboard to control direct the max dome quantity is 31.

2. Max quantity keyboard in a system is 4; also the 4 keyboards should be different ID



Keyboard 1          Keyboard 2

d 3          Dome 1     Dome 2     Dome 3     Dome 4

d 4          Dome 5     Dome 6     Dome 7     Dome 8

## 3 - Operation

Figure 2-4.2



Menu

Function

Navigation

TFT Screen

Lens control

Number

RS 485 Resistance Switch

Power Switch

Lock
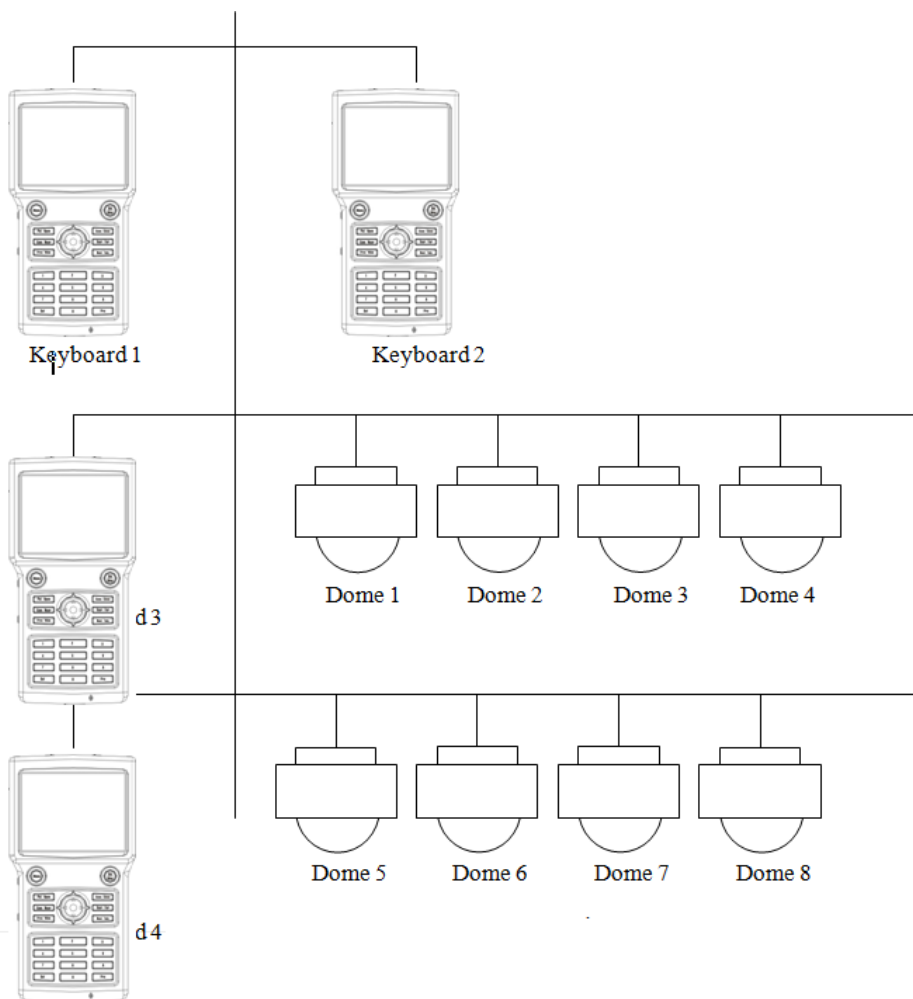
Figure 3-1.1

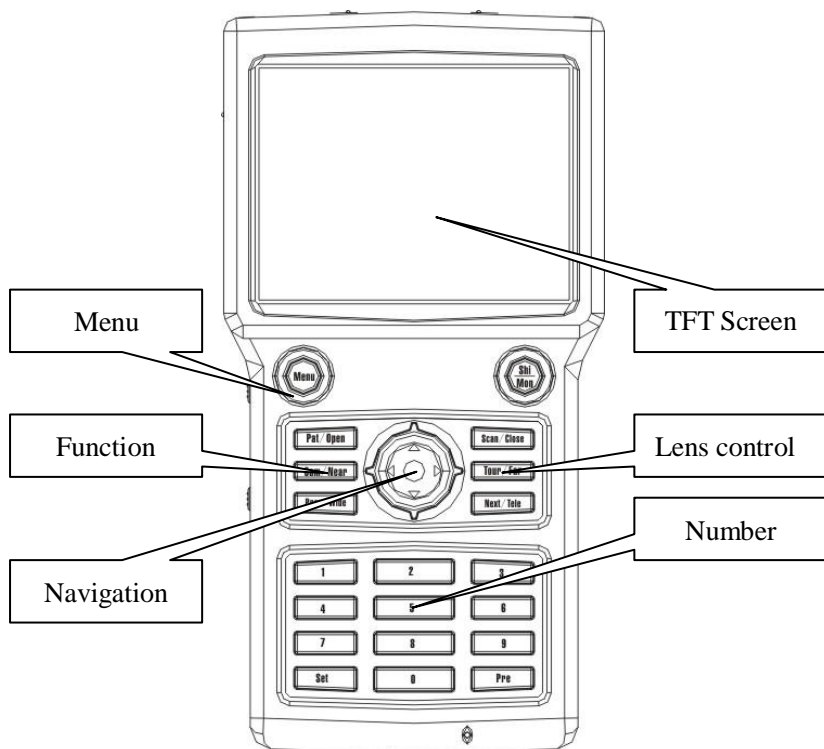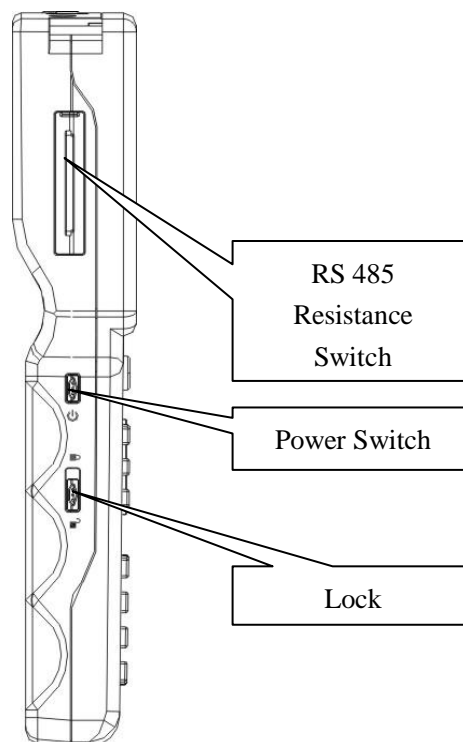Attention please because different system have some different special operation ways, so should consider the actual requirement when operation in some special systems.

### 3.1 - Electrify

When the power is on, the keyboard will automatically check the baud rate, protocol of the keyboard, aim dome and the aim monitor, and all the info. Will be displayed on LCD screen.

### 3.2 - TFT Display Screen
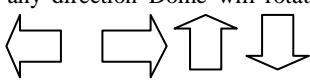
TFT screen display contents：aim dome, aim monitor and baud rate etc. And at the end of the content will show the current operation order and the states of joystick, as follows figure show .When operation, TFT back light will on, and will be off 10s after the operation.

| | |
|---|---|
| Keyboard | V 1.00 |
| Keyboard ID： | 001 |
| Camera ID： | 001 |
| Monitor ID： | 001 |
| Protocol: | Pelco-d |
| Baudrate: | 2400bps |
| Multikey： | OFF |
| | |
| 123-SET | |

Figure 3-1.2

### 3. 3 - Dome Control By Navigation Key

Functions of Navigation key, Dome rotation control and Object dome menu setup.

● When operate the Navigation key at will to any direction Dome will rotate at the same direction, and the direction will be displayed below right corner as

When for menu setup,        for the upper menu item,          for the next menu;          for the sub menu or

save the setup;          for un-save or exit.

● Direct proportion between the speed of the Dome and the lean angle of the navigation keys, lange lean angle, faster rotation speed.

### 3. 4 - Rigger The Aim Dome (Multikey ： OFF)

【N】+【CAM】

【N】for Number, input the serial number of the Dome, Press【CAM】key to amend the add of the aim dome.

### 3.5 - Lens Control (Multikey ： ON)

● Focus：

【NEXT/TELE】

【PREV/WIDE】.

●Zoom： (Multikey：ON)

【TOUR/FAR】

【CAM/NEAR】

●Lens Iris： (Multikey：ON)

【PAT/OPEN】

【SCAN/CLOSE】

### 3.6 - Dome Function Operation

### 3.6.1 - Preset

Pre set：【SET】+【N】 + 【PRESET】

Adjust pre set：【N 】+【PRESET】

【N】for the number of the pre-set.

### 3.6.2 - Scan (Multikey：OFF)

Left borderline：【SET】+【1】+【SCAN】

Right borderline：【SET】+【2】+【SCAN】

star：【1】+【SCAN】

Enter the menu to set when need change the scan speed.

### 3.6.3 - Pattern (Multikey：OFF)

●Setup the Pattern：【SET】+【N 】+【PATTERN】+path+【SET】+ 0 +【 PATTERN】

Press【SET】 key, input the number of design scan (1-4), press【PATTERN】key, enter the path setup state, when

ending press 【SET】 key first, then press【0】key, then 【PATTERN】key,

●Starting Pattern：【N】+【PATTERN】input the design scan number (1-4), press【PATTERN】key to starting.

### 3.6.4 - Tour (Multikey：OFF)

Starting：【N】 +【TOUR 】/【TOUR】press tour ID first, then 【TOUR】key, starting the tour.

Direct press the 【TOUR】 key when the system only has one tour path.

### 3.7 - Call Dome Main Menu

【9】+【5】+【PRESET】：Input 95,press 【PRESET】key, aim dome's menu will display on the monitor.

Pls reference to the Speed dome's user manual for setting the speed dome.

### 3.8 - Matrix Control
### 3.8.1 - Call Matrix Main Menu

【SHIFT】+【SET】：Call the main menu, the menu will display on the object monitor. How to use the keyboard

Setting the matrix? Pls refers the matrix operate manual.

### 3.8.2 - Confirm After Program

【ENTER】：after the matrix is programmed, press【ENTER】, reflects confirm after program.

As for the detail program, please refer to the matrix operation manual.

### 3.8.3 - Change The Monitor ID

【N】+【SHI/MON】input the monitor's ID and then press【SHI/MON】, the image and the dome camera's menu

will display on the monitor.

### 4 - Keyboard Menu Control

●    Keyboard parameter set up

Turn on the power and press the【MENU】, the system information will display on the screen, like the picture
(4.1-1), press again the system information will disappear. You can do all the keyboard operation while in the
standby condition or the system information display condition.

Press【MENU】and hold on 2 sec, you will enter the main menu as the picture (4.1.1-1) show. The entire menu
setting need enter the main menu first, and use the correspond NO or the Joy calibrate to move UP and DOWN.
While you find the item you need, move the joystick RIGHT or LEFT to enter the menu.

```
1.Keyboard setup
2. Dome setup
3. Protocol select
4. System setup
5. Exit menu
```
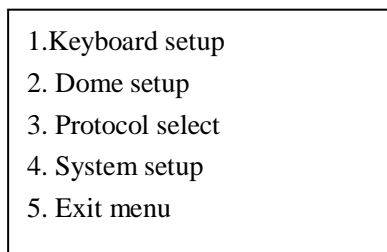Figure 4.1-1

●    Save the setting

After setting the function you need, press【ENTER】to save the setting. After finishing the setting, the TFT will
display"Success".

●    Back to Previous menu

Press the【PREV】key to back to the previous menu.

**4.1 - Keyboard Parameter Setting**

**4.1.1 - Keyboard ID Setup**

**1.** Enter the main menu

Screen will display (picture4.1.1-1)

```
1. Keyboard setup
2. Dome setup
3. Protocol select            Figure 4.1.1-1
4. System setup
5 .Exit menu
```
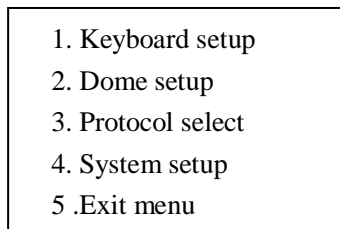
**2.** Press【1】to select the keyboard setting as TFT as (Picture4.1.1-2)

```
1.   Set KB ID(1-64):-
2.   Set Baudrate:2400bps
3.   Joy calibrate            Figure 4.1.1-2
4.   About keyboard
```
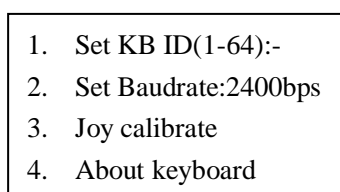
**3.** Press【1】again will show the picture (Picture4.1.1-3)
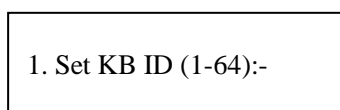
```
1. Set KB ID (1-64):-
                              Figure 4.1.1-3
```

**4.** Press【1】to select the ID Setting (Picture4.1.1-4)
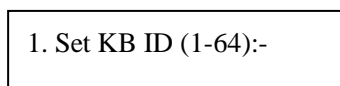
```
1. Set KB ID (1-64):-         Figure 4.1.1-4
```

Use the "Number key" to select the camera ID in the range (1-64), and then press the 【Enter】to save, the screen will display Success as picture (4.1.1-5).

```
   Success
                              Figure 4.1.1-5
```

If the NO you input is beyond the range1~64, it will display Error as picture (4.1.1-6).
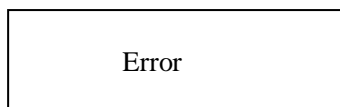
```
   Error
                              Figure 4.1.1-6
```

**5.** Press 【PREV】or use the shake toward to LEFT to back to previous menu.

### 4.1.2 - Keyboard Baud Rate Setting

Enter the main menu as the TFT picture (4.1.1-1) show.

Press【1】will show on the TFT as picture (4.1.1-2)

Press【2】select the Baud Rate setting, as Picture (4.1.2-1)

> 2. Set Baudrate: 2400bps (4800bps/9600bps/19200bps)

Figure 4.1.2-1

2400bps\4800bps\9600bps\19200bps is available (commonly under the IR emission mode, baud rate is 2400bps or 4800bps). You can select the Baud rate you need and press the 【ENTER】 to save. If you operate success, the screen will show"Success".

Press 【PREV】 or move the joystick to LEFT to back to previous menu.
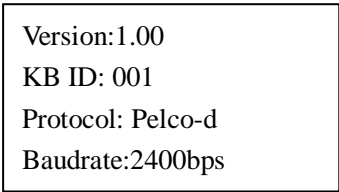
**Caution：**
> If connect to the matrix, baud rate must be 9600bps. Several keyboards work together, it must use 9600bps or 19200bps

### 4.1.4 - Keyboard Information Display

Enter the keyboard information display menu as LCD (Picture 4.1.1-2)

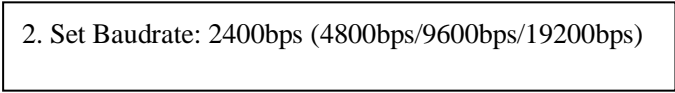Press【2】to check the keyboard information as LCD (Picture 4.1.4-1)

> Version:1.00
> KB ID: 001
> Protocol: Pelco-d
> Baudrate:2400bps

Figure 4.1.4-1

### 4.2 - Dome Setup

### 4.2.1 - Preset Setup

Enter the main menu as picture (4.1.1-1) and press【2】 to enter the dome setting menu as picture (4.2.1-1).

This part you can set the follow function: Preset, Scan, Pattern, and Tour.

> 1. Set dome preset
> 2. Set dome scan
> 3. Set dome pattern
> 4. Set dome tour

Figure 4.2.1-1

Press【1】 enter the dome Preset function setting as picture (4.2.1-2)
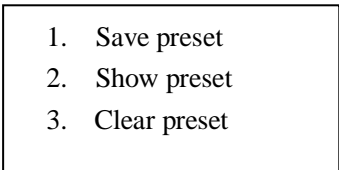
> 1. Save preset
> 2. Show preset
> 3. Clear preset

Figure 4.2.1-2

Item 1: Save preset; Item 2: Show the preset; Item 3: delete the preset

Press【1】 enter the preset, you can input the preset NO as picture (4.2.1-3) show.

```
Preset num:_____
(1-128)
Press PREV to back
```
Figure 4.2.1-3

After enter the preset menu you can use navigate key control the dome directly, and input the preset NO to save as the picture 4.2.1-4 show. And on the TFT screen will display "Success".

```
        Success!
```
Figure 4.2.1-4

Press【Prev】back to previous men

Caution：

```
        Under commonly mode, navigate key and other keys operation is invalid; While enter the dome preset menu,
the keyboard navigate key will directly control the dome and the lens control zone also can control the dome's
lens.
```
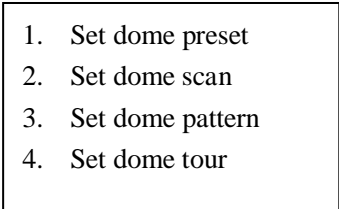
Press【2】enter the "Show the preset" menu as picture 4.2.1-5

```
Preset num:_____
(1-128)
Press PREV to back
```
Figure 4.2.1-5

   Input the Preset NO that want delete, and press the 【ENTER】to call it, and the TFT will display"Success".
Use the navigate

Key or 【PREV】 back to previous menu. Press【3】 enter the "clear the Preset" to clear preset information as picture 4.2.1-6 show.

```
Preset num:_____
(1-128)
Press PREV to back
```
Figure 4.2.1-6

   Input the PRESET NO which you want to clear, and press the Enter to clear it, and it will show "Success" and back to previous menu.


### 4.2.2 - Dome Scan Setup

Enter the menu (4.1.1-1)

Press【2】 enter the dome setting menu as the picture (4.2.1-1)

Press【2】again to enter the dome scan setting as picture 4.2.2-1

```
1. Set left limit
2. Set right limit
3. Run scan
```
Figure 4.2.2-1

Dome scan setting include the: Left limit, Right Limit and Run scan

Press【1】 to set the Left limit as picture 4.2.2-2 show.

Press ENTER sure
Press PREV to back

Figure 4.2.2-2

While enter the dome limit setting menu, move the dome to the suitable position, and press【Enter】to save and will show "Success" and back to previous menu.

Select the item 2 to set the Right limit, and do the same as the left limit setting,

Back to the menu and press【3】to operate the Run Scan.

Caution：

Under commonly mode, navigate key and other keys operation is invalid; While enter the dome's LEFT or RIGHT limit setting menu, the keyboard navigate key will directly control the dome and the lens control zone also can control the dome's lens.

### 4.2.3 - Pattern Setup

Enter the menu as the picture (4.1.1-1)

Press【2】 enter the dome setting menu as the picture (4.2.1-1)

And then press【3】 enter the pattern setting as picture 4.2.3-1 show

1. Pattern num:__
2. Set pattern
3. Run pattern

Figure 4.2.3-1

After enter the menu, the system need input the pattern information you want, you can put in the NO1~4 and Press the 【ENTER】. The mouse will skip to the next item automatically to set the second patter you need. If you already have it, you can skip it and select the 【3】 to run the pattern directly.

Pattern setting：After enter the pattern setting menu, move the dome do the suitable position and press the 【1】 to start record the scan track. The screen will display "Start ……, like the picture4.2.3-2. Press"0" to finish the scan record and the screen will show "Success" and back to the previous menu.

Press 1 to start
Press 0 to start
Press PREV to back

Figure 4.2.3-2

Caution：

Under commonly mode, navigate key and other keys operation is invalid; While enter the dome's PATTERN setting menu, the keyboard navigate key will directly control the dome and the lens control zone also can control the dome's lens.

### 4.2.4 - Tour Setup

Press【2】 enter the dome setting menu, as the picture 4.2.1-1 show,

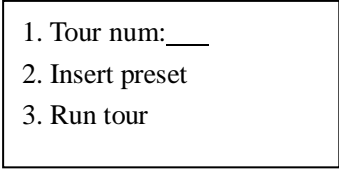And then press【4】enter the tour setting as the picture 4.2.4-1 show.

```
1. Tour num:____
2. Insert preset
3. Run tour
```
Figure 4.2.4-1

After enter the menu, you need input the TOUR information, the range you can put is 1~6, and press the 【ENTER】confirm. Then the mouse will auto skip to the second TOUR setting. If first one is ok, Users can skip it. And it will show the"Success" and back to the previous menu.

Select the Item 2 as picture (4.2.4-2), you need input the tour preset, and in the second item you need put in the speed information, the range is (1-127); In the third item you need input the time how long it need to stop, the range is (1-255). After finishing all the step, press the 【ENTER】 and will display "Success"and back to previous menu.
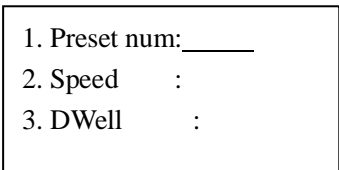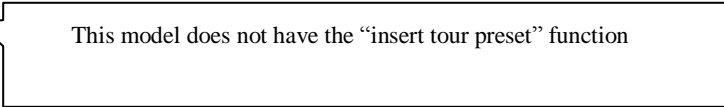
```
1. Preset num:_____
2. Speed      :
3. DWell      :
```
Figure 4.2.4-2

Press【3】Run the TOUR

Caution：
```
This model does not have the "insert tour preset" function
```

## 4.3 - Protocol Setup

Enter the menu as picture (4.1.1-1), Press 【3】enter the Protocol setting as picture (4.3-1)
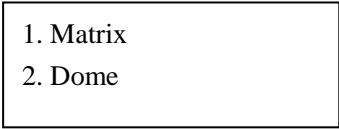
```
1. Matrix
2. Dome
```
Figure4.

## 4.3.1 - Pelco Matrix Model

Press【1】 enter the PELCO Matrix model as the picture (4.3.1-1);

And then press the 【ENTER】 to select the Protocol and back to previous menu.

```
1.   Pelco Matrix
2.   DH DVR
```
Figure 4.3.1-1

## 4.3.2 - Dome Control Model

Press 【2】enter the dome control model as the picture (4.3.2-1).

According to the user's need, select the suitable PROTOCOL and back to the previous menu.
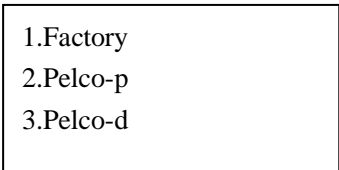
```
1.Factory
2.Pelco-p
3.Pelco-d
```
Figure 4.3.2-1

**4.4 - System Setting (Press the NO 4 Key Directly)**

```
1.System mode：     PAL/NTSC
2.IR Function：      ON/OFF
3.Screen time/s：    000~255
4.key Backlight/s    000~255
5.LCD Backlight：    000~100
6.Brightness：       000~255
7.Contrast：         000~255
8.Saturation：       000~255
9.Language:          CHN/ENG
10.Init System：     ON/OFF
Press PREV to back
```

Figure 4.4

**4.5 - Exit Menu**

Press 【5】 Exit Menu.

**5 - Appendix**

**5.1 - RS485 Bus Basic Character**

●According to RS485 industrial standards, RS485 Bus is of half-duplex data transmission cables with characteristic impedance as 120. The maximum load capacity is 32 unit loads (including main controller and controller equipment)

●**Distance of RS485 bus transmission**

While use the 0.56mm (24AWG) twisted cable as the communication, the farthest distance it can reach as follow based on the different Baud rate:

| Baud Rate | Max, Distance |
|-----------|---------------|
| 2400bps   | 1800M         |
| 4800bps   | 1200M         |
| 9600bps   | 800M          |
| 19200bps  | 600M          |

If user selects thinner cables, or installs the dome in an environment with strong electromagnetic interference, or connects lots of equipment to the RS485 Bus, the maximum transmitting distance will be decreased. To increase the maximum transmitting distance, do the contrary.

● **Connection and termination resistance**

The RS485 standards require a daisy-chain connection between the equipment. There must be termination resistance with 120 impedance at both ends of the connection (refer to picture 4-1.1).Please refer to picture 4-1.2 for simple connection But "D" should not exceed 7m.
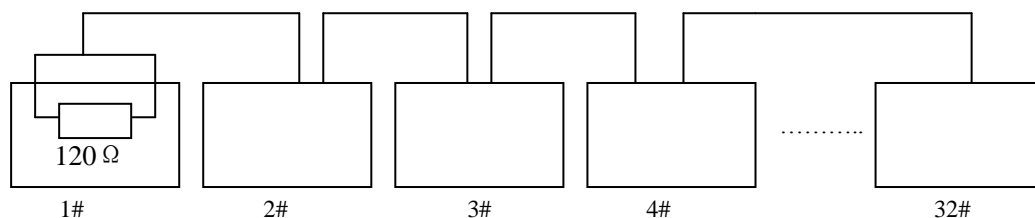


图 4-1.1
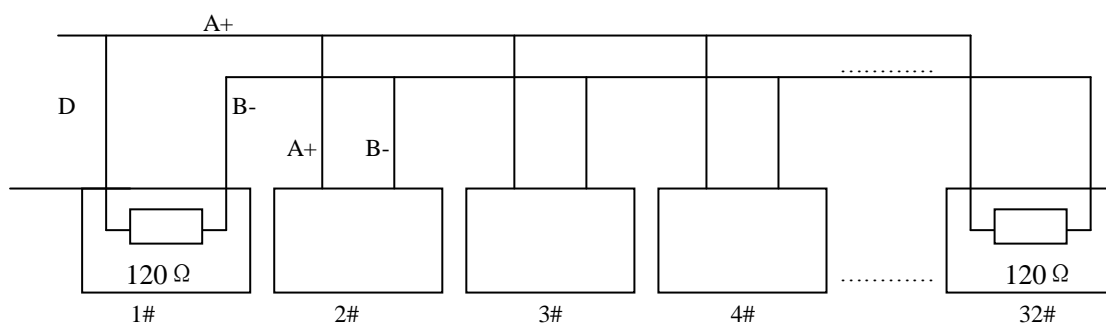


Figure 4-1.2

● **Problems in practical use**

In some circumstances user adopts a star configuration in practical connection. The termination resistors must be connected to the two equipments that are father away from each other, such as equipment1# and 15# (refer to picture 4-1.3). As the star configuration is not in conformity with the requirements of RS485 standards, problems such as signal reflections, lower anti-interference performance arise when the cables are long in the connection. The reliability of control signals are decreased with the phenomena that the dome dose not responds to or just responds at intervals to the controller, or dose continuous operation without stop.

In such circumstances the factory will recommends the usage of Rs485 distributor. The distributor can change the star configuration connection to the mode of connection stipulated in the RS485standards. The new connection achieves reliable data transmission (refer to picture 4-1.4)
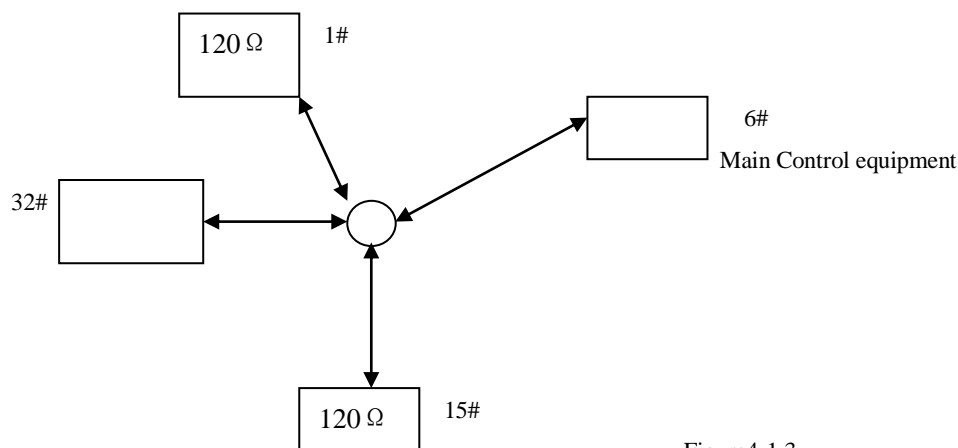


Figure4-1.3

Here under this situation suggest use the RS485 Distributor.RS485 (4-1.4)
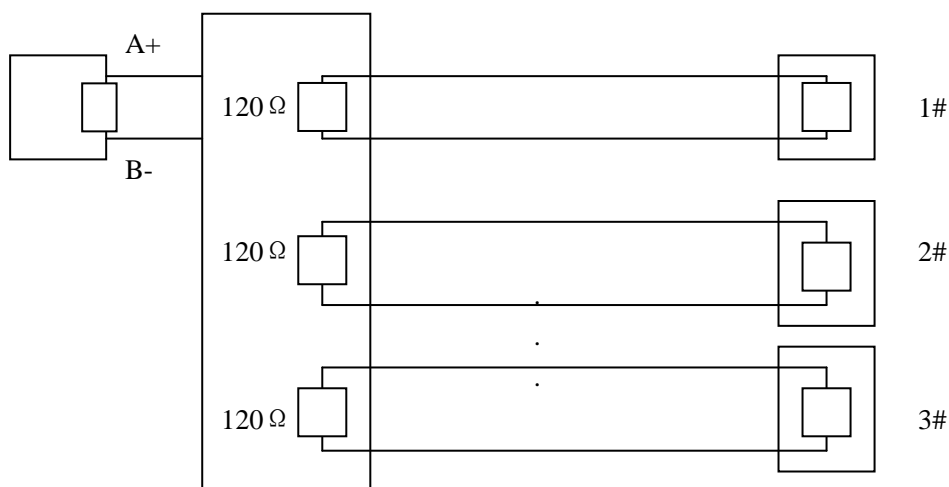


Figure 4-1.4

## 5.2 - Shortcut Keys Operation

| MODE | SHORTCUT KEY | OPERATED OBJECT | FUNCTION |
|---|---|---|---|
| ALL THE MODE | 【POWER】2S | Keyboard | Power ON/OFF |
| | 【LOCK/UNLOCK】 | Keyboard | Lock ON/OFF |
| | 【SHI/MON】2S | Keyboard | Multikey:ON/OFF |
| | 【MENU】 | Keyboard | Display system information |
| | 【N】+【CAM/NEAR】 | High Speed Dome | Input Dome ID, press 【CAM/NEAR】 to select object dome. |
| | 【NEXT/TELE】 | High Speed Dome | Press【NEXT/TELE】,Zoom out |
| | 【PREV/WIDE】 | High Speed Dome | Press【PREV/WIDE】,Zoom in |
| | 【TOUR/FAR】 | High Speed Dome | Press【TOUR/FAR】,Far focus |
| | 【CAM/NEAR】 | High Speed Dome | Press【CAM/NEAR】,Near Focus |
| | 【SCAN/CLOSE】 | High Speed Dome | Press【SCAN/CLOSE】,reduce Iris |
| | 【PAT/OPEN】 | High Speed Dome | Press【PAT/OPEN】,increase Iris |
| | 【SET】+【N】+【PRE】 | High Speed Dome | Adjust the image to object position, Press【SET】to input the preset, and press【PRE】to set the preset |
| | 【N】+ 【PRE】 | High Speed Dome | Input preset ID, press【Preset】to call the preset |
| | 【SET】+【1】+【SCAN/CLOSE】 | High Speed Dome | Adjust the image to object position, press Set to input【1】, then press Scan to set【scan/Close】left limit. |
| | 【SET】+【2】+【SCAN/CLOSE】 | High Speed Dome | Adjust the image to object position, press Set to input【2】, then press Scan |

| | | | to set【scan/Close】left limit. |
|---|---|---|---|
| | 【1】+【SCAN/ CLOSE】 | High Speed Dome | Input 【1】, press 【Scan/Close】 to run scan. |
| | 【SET】+【N】+【PAT/OPEN】 | High Speed Dome | Press【SET】, enter the pattern NO, and press【PAT/OPEN】,it will start record the pattern information |
| | 【SET】+【0】+【PAT/OPEN】 | High Speed Dome | Press 【SET】,enter 0,and press 【PAT/OPEN】, it will save and finish the pattern |
| | 【N】+【PAT/OPEN】 | High Speed Dome | Enter the patter NO(1-4),and press the 【PAT/OPEN】to start pattern |
| | 【N】+【TOUR/FAR】 | High Speed Dome | Input the TOUR NO, press 【TOUR/Far】 or directly press 【TOUR/Far】to start the Tour |
| | 【9】+【5】+【PRE】 | High Speed Dome | Input 95,call the camera menu |
| **PELCO MATRIX MODE** | 【SHI/MON】+ 【SET】 | Matrix | Press【SHI/MON】和【SET】,Call the matrix menu |
| | 【PREV / WIDE】 | Matrix | Press 【PREV/WIDE】skip to the previous dome, hold on 2sec on 【PREV/WIDE】to continuously skip the sixteen domes of connection matrix forwards |
| | 【NEXT/TELE】 | Matrix | Press 【NEXT/TELE】skip to the previous dome, hold on 2sec on 【NEXT/TELE】to continuously skip the sixteen domes of connection matrix backwards |
| | 【ENTER】 | keyboard | After program, press 【 Enter 】 to confirm. |
| | 【N】+ 【SHI/MON】 | Matrix | Input monitor ID, press【SHI/Cam】to select object monitor |

Remark：【PRE】=【PRESET】　　【PAT】=【PATTERN】　　【SHI=SHIFT】　　【ENT=【ENTER】

Multi key：【OPEN】,【CLOSE】,【NEAR】,【FAR】,【WIDE】,【TELE】

## 6 - Keyboard Menu Index

Preset num:_____(1-128)

Press PREV to back

Preset num:_____(1-128)

Press PREV to back

Preset num:_____(1-128)

Press PREV to back

1. Save preset
2. Show preset
3. Clear preset

1. Keyboard setup

1. Set KB ID(1-64):-
2. Set Baudrate:2400bps
3. Joy calibrate
4. About keyboard

1. Set left limit
2. Set right limit
3. Run scan

Press ENTER sure

Press PREV to back

Press ENTER sure

Press PREV to back

2. Dome setup

1. Set dome preset
2. Set dome scan
3. Set dome pattern
4. Set dome tour

1. pattern num:__
2. Set pattern
3. Run pattern

Press 1 to start

Press 0 to start

Press    PREV    to

1. Tour num:___
2. Insert preset
3. Run tour

1. Preset num:_____
2. Speed     :
3. Well      :

3. Protocol setup

1. Matrix
2. Dome

1. Pelco Matrix
2. DH/DVR.

1. Factory
2. Pelco-p
3. Pelco-d

4. System setup

1.System mode：    PAL/NTSC
2.IR Function：    ON/OFF
3.Screen time/s：  000~255
4. key Backlight/s  000~255
5. LCD Backlight：  000~255
6.Brightness：     000~255
7.Contrast：       000~255
8.Saturation：     000~255
9.Language        CHN/ENG
10.Init System：   ON/OFF
Press PREV to back

5. Exit menu

Keyboard      V1.00
Keyboard    ID：001
Camera       ID：001
Monitor     ID：001
Protocol     : pelco-d
Baudrate  : 2400bps
Multikey:    ON/OFF
123-set