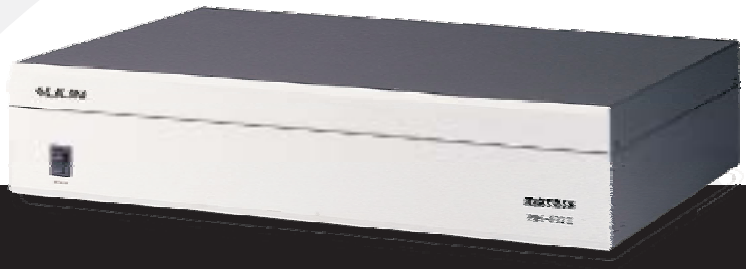
LILIN®



Video Matrix Switch Series

PIH-816III/832III/864III

INSTRUCTION MANUAL

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FEATURES

- PIH-816III : 16 video inputs, 8 video outputs
  PIH-832III : 32 video inputs, 8 video outputs
  PIH-864III : 64 video inputs, 16 video outputs

- Allows monitoring of cameras、PTZs、pan/tilt heads etc.

- On Screen display for easy set up and operation.

- Keyboard provides the ability to select and switch different channels.

- RS-485 to control Fast Domes and PIH-820III Receivers.

- Variable speed to control movement of Fast Domes.

- Ability to control lens movement such as zoom, focus and iris.

- Horizontal 180° flip button for easy tracking purpose.

- Each Fast Dome can set up to 128 preset points.

- Each Fast Dome can set up to 4 groups of preset points.

- PIH-816III : 16 alarm inputs and 1 alarm outputs
  PIH-832III : 32 alarm inputs and 1 alarm outputs
  PIH-864III : 64 alarm inputs and 1 alarm outputs

- Buzzer and warning display under video loss or alarm situation.

- Record up to 10 alarm events.

- Password setup for security purpose.

- 6 months memory protection for power shut down.

WARNINGS & CAUTIONS

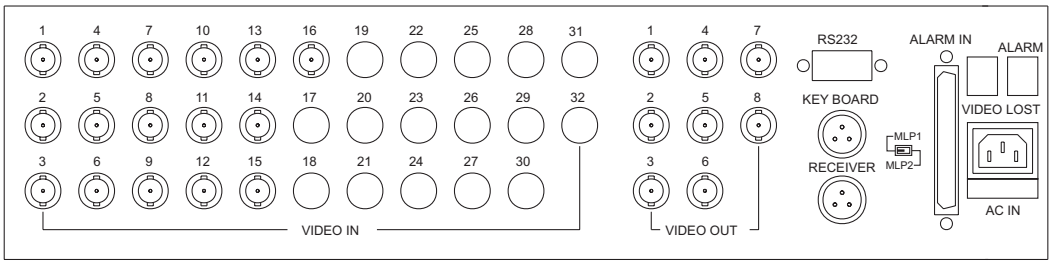
Please read the manual before attempting installation or operation

1. Please be aware of the warning and caution notices.
2. Don't use any chemical detergent to clean the machine surface, use a damp cotton cloth only.
3. Please install the Matrix in a dry area, water and high humidity may cause damage of internal parts. An external housing should be used for outdoor installation.
4. Please use parts supplied by the manufacturer only, any unqualified part using in the equipment may violate the warranty.
5. Avoid installing the equipment in an unstable area. Make sure the area is firm and stable. Falling equipment may injure personnel and damage the equipment.
6. Do not install the equipment near any flammable gas. This may cause fire or injury.
7. Avoid running video cable and signal cable through or passing interference sources such as video waves, broadcast station, power generator, elevator motor or high voltage area.....etc. This may cause interference.
8. Make sure the power cable is properly fixed. Un-suitably fixed cable may cause serious short circuit or fire.
9. Correct cable connection is important. Do not place any object on the connection cable and change the cable if there is damage on cable.
10. Make sure ground is well connected to avoid damage caused by lightning.
11. Do not put any foreign objects inside the equipment and do not spray any liquid on equipment. This will avoid short circuit damage.
12. Do not touch power connection with wet hands to avoid short circuit or electricity shock.
13. Do not apply smash-force on the equipment. This may cause damage.
14. Do not install the equipment in a location that may expose the equipment directly to sunlight. This may cause colour fading or damage.
15. Do not install the equipment in high temperature or low temperature environment to avoid damage. The normal operational temperature is between -5°C~+50°C.
16. Matrix contains high sensitive electric parts inside. Do not try to repair without qualified personnel.
17. Turn off the power immediately and contact the technician when the following occurs:
    A. Damage on power cable or plug.
    B. Water leak into the equipment.
    C. Matrix can not be operated normally.
    D. Equipment falling on ground or damage on external case.
    E. Unusual occurrence.
18. Warning: Do not try to repair the equipment. Only a qualified technician may disassemble and repair the equipment. Shut off the power before open the case and don't put power on unless the case is completely assembled.

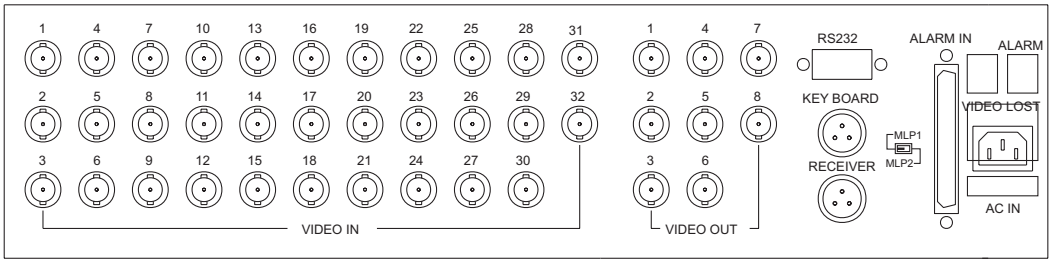


CONNECTION PANEL

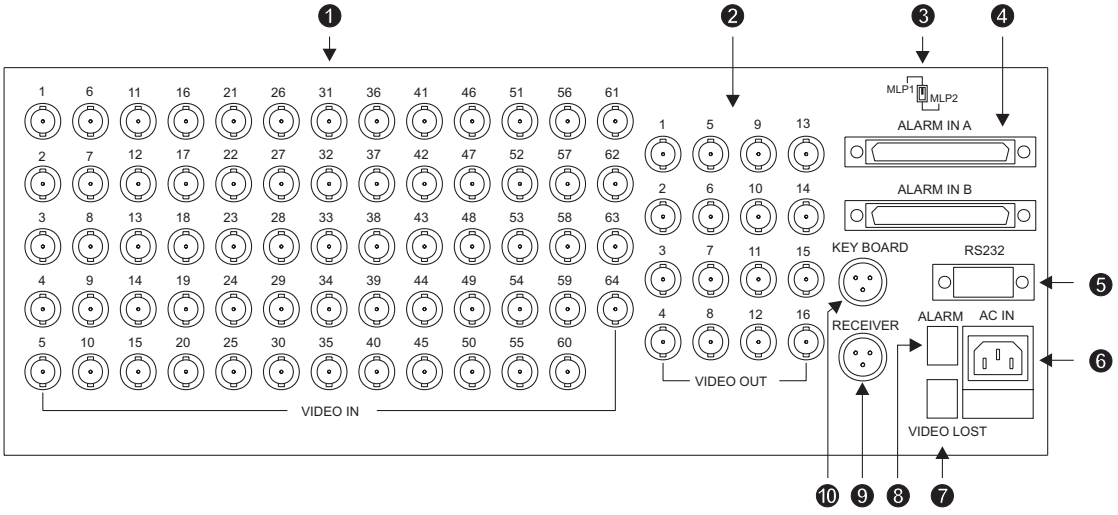
PIH-816III (16 video inputs, 8 video outputs)



PIH-832III (32 video inputs, 8 video outputs)

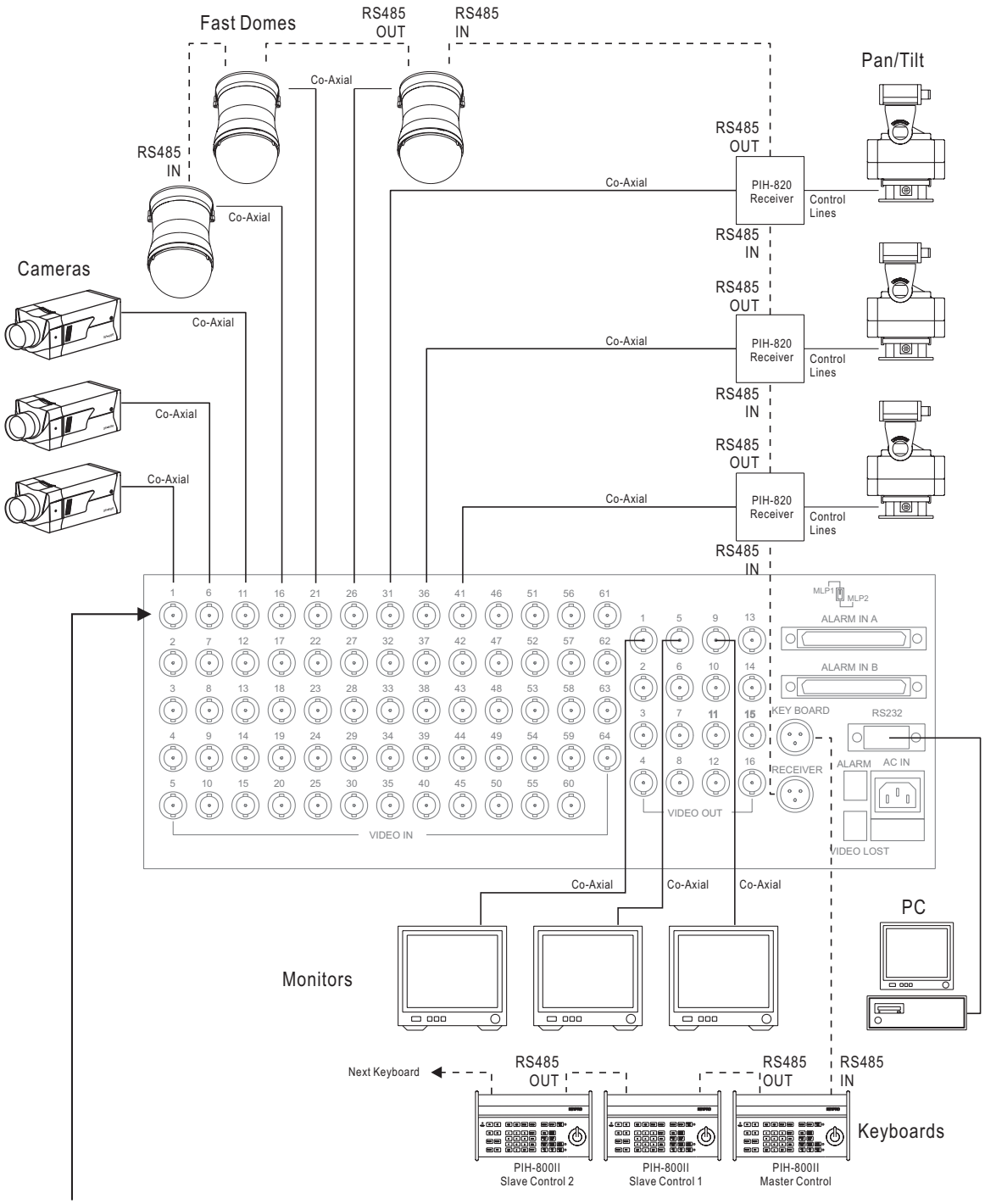


PIH-864III (64 video inputs, 16 video outputs)



❶ Video Input(Max. 64 cameras)
❷ Video Output(Max. 16 monitors)
❸ MLP1 is same as LILIN 717 protocol
MLP2 is new version LILIN protocol
❹ Alarm Input/Output
(Max. 64 alarm inputs and 1 output: Type NO/NC)
❺ DSUB 9PIN RS-232 Port for PC control
❻ Power input(110Vac or 220Vac)
❼ Audio and Alarm warning will also be canceled when VIDEO LOST is released.
❽ Audio and Alarm warning will also be canceled when ALARM is released.
❾ Connect to receiver or Fast Dome (Max.64) via RS-485
❿ Connection to keyboards via RS-485
(Max. 8 keyboards)

SYSTEM DIAGRAM



Note: 1st Video input must be connected when power up the system.

SYSTEM CONNECTION

The Matrix System has the ability to process multi-input video signals and control up to 64 external RS-485 receivers and Fast Domes via twist pair cable.

Matrix and Fast Domes/RS-485 Receiver connection

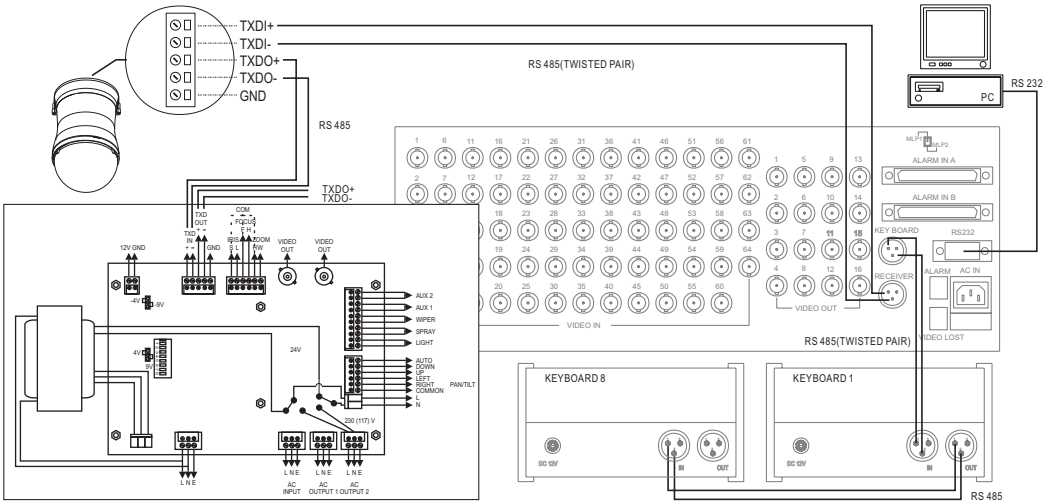
Connection of first Dome/Receiver to Matrix:

TXD+ of RECEIVER connector located at the back of matrix system should be connected to TXDI+ on Dome/Receiver.

And TXD- of RECEIVER connector located at the back of matrix system should be connected to TXDI- on Dome/Receiver.

Connection between Domes/Receivers:

TXDO+ of first Dome/Receiver should be connected to TXDI+ of second Dome/Receiver. And TXDO- of first Dome/Receiver should be connected to TXDI- on second Dome/Receiver.

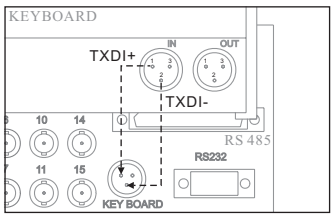


A total of 8 PIH-800II (1 master and 7 slave) keyboards can be linked to a matrix system. Use the dip switch located at the bottom of the keyboard to set up master/slave keyboard. (Check bottom of keyboard for info.)

Keyboard and Matrix connection

TXDI+ on IN connector located at the back of first keyboard should be connected to TXD+ on KEYBOARD connector located at the back of matrix system.

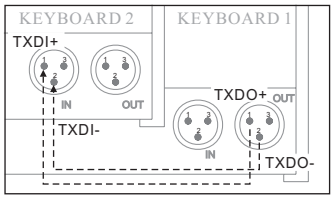
TXDI- on IN connector located at the back of first keyboard should be connected to TXD- on KEYBOARD connector located at the back of matrix system.



Connections between Keyboards:

TXDO+ on OUT connector located at the back of first keyboard should be connected to TXDI+ on IN connector located at the back of second keyboard.

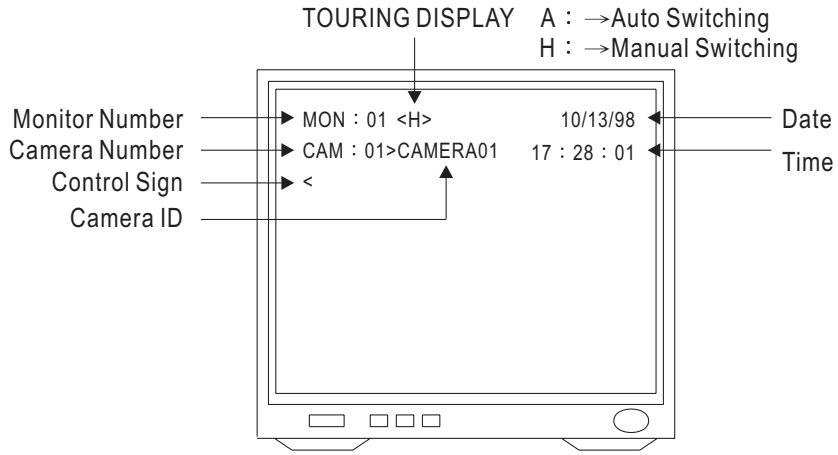
TXDO- on OUT connector located at the back of first keyboard should be connected to TXDI- on IN connector located at the back of second keyboard.



OPERATION

Monitor Display When Power Up

1st Video input must be connected when power up the system. Otherwise unreadable codes will be displayed. Remaining Video inputs may be connected randomly. When matrix is powered up, the system will perform an auto-test including video-input signals, and non-connected Video-input will be displayed(See diagram below).

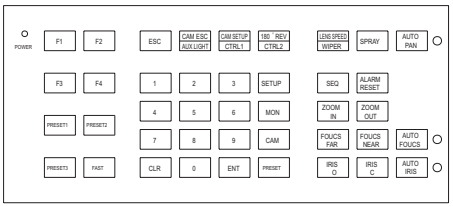


Prompt "<"

1. Matrix system can only be controlled and operated when "<" sign is displayed.
   After the system is power up, press numeric keys (1~9) followed by MON key to select a monitor.
   "<" control sign will appear on the monitor signaling the system is ready for set up or operation.
2. "<" control sign will disappear automatically when there isn't any operation for 5 minutes.

Setting Mode

Press SETUP key under "<" control sign, the SETUP MENU will appear as shown below. (No initial password was set)



1. SYSTEM SETUP:
   Set up Date, Time, Password and to clear all Settings.

2. SEQUENCE TABLE:
   Up to 16 sequence tables can be set. Each table can set up 32 camera inputs and corresponding dwell time.
   Note: When camera is not included in sequence table. It will not be displayed.

3. MONITOR SETUP:
   Maximum 2 sequence tables are allowed to be assigned to each monitor to view up to 64 cameras according to set up in the sequence tables. Including switching time, alarm and video loss displays.

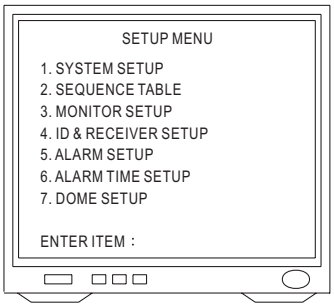
＊Set up SEQUENCE TABLE and MONITOR SETUP first so that keyboard provides the ability to select and switch different channels. (Please refer more operation details from P9~P11)

4. ID & RECEIVER SETUP:
   To set camera ID and Receiver number.

5. ALARM SETUP:
   To set up corresponding alarm and camera.

6. ALARM SETUP:
   To set up alarm switching and dwell time.

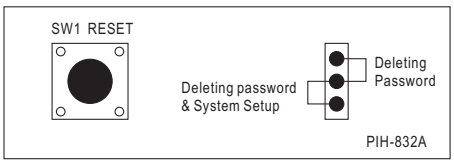
7. DOME SETUP:
   To set the preset positions of Fast Dome Camera.



If password is assigned to the system, message below will be displayed when the SETUP key is pressed. To enter SETUP mode, password must be entered correctly. If password is incorrectly entered, further process will not be allowed.

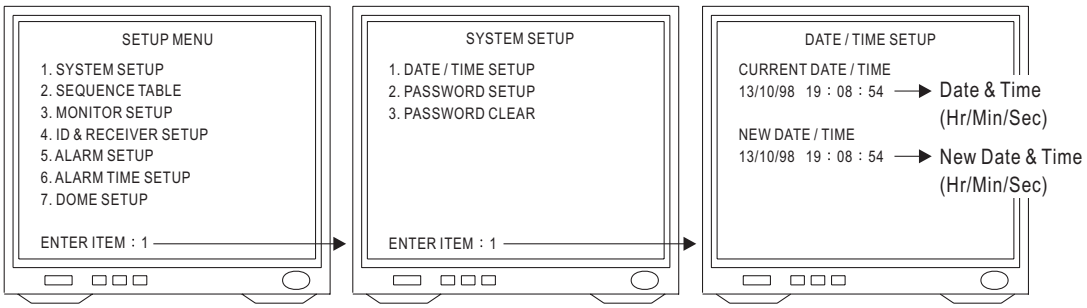


* If password is forgotten, password must be deleted using SW1 PRESET located on PC board under is matrix turned on.(open the cover of matrix) See diagram below.



Setting Time & Date

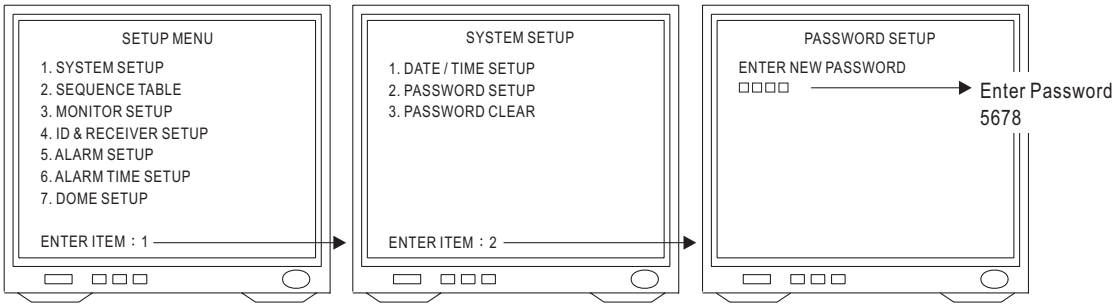
To set or change date & time:



1. Press numeric key 1 from SYSTEM MENU. To enter SYSTEM SETUP.
2. Press numeric key 1 from SYSTEM SETUP. To setup date and time.
3. To setup or change date and time. Enter time and date using blinking cursor. Use the Joystick to move blinking cursor.
4. Press ESC key, when finish setting.

Setting Password

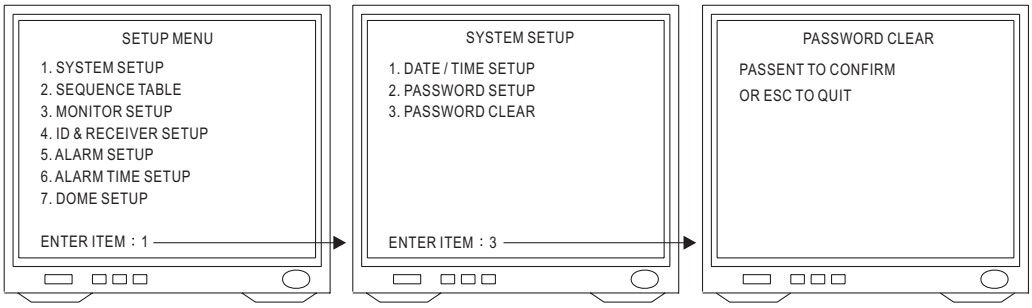
For security reason, password can be set up as follows:



1. Press numeric key [1] from SETUP MENU to enter SYSTEM SETUP.
2. Press numeric key [2] from SYSTEM SETUP to enter PASSWORD SETUP.
3. Four digit numbers can be entered as password.
   Eg.
   Enter numeric keys [5][6][7][8] ,followed by [ENT] key. Password will be memorized and Menu will switch back to SYSTEM SETUP. To leave, press [ESC] key.

Deleting Password

To delete Password:

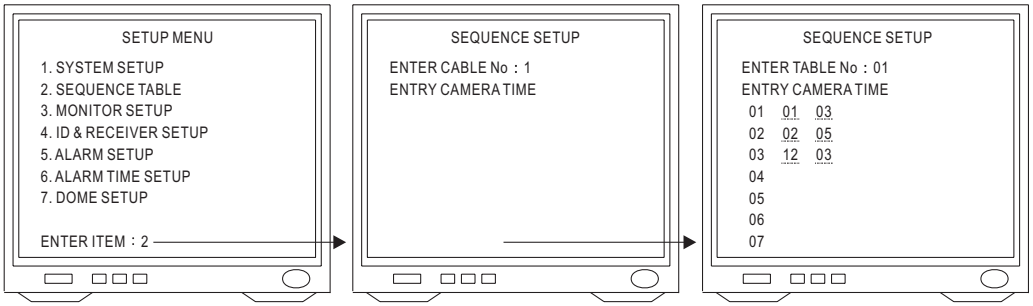


1. Press numeric key [1] from SETUP MENU to enter SYSTEM SETUP.
2. Press numeric key [3] from SYSTEM SETUP to enter PASSWORDS CLEAR.
3. Press [ENT] key, the password will be deleted and MENU will switch back to SYSTEM SETUP.
   Press [ESC] key to leave.

Setting Sequence Table

16 sequence tables can be set in this Matrix System. Each sequence table contains 32 positions allowing set up of 32 cameras and corresponding dwell time. Each SEQUENCE TABLE can be assigned to different monitors as follows.

Note: Monitor will only display cameras with dwell time set up in each sequence table when GLOBAL DWELL TIME in MONITOR SETUP is set to 0 sec.

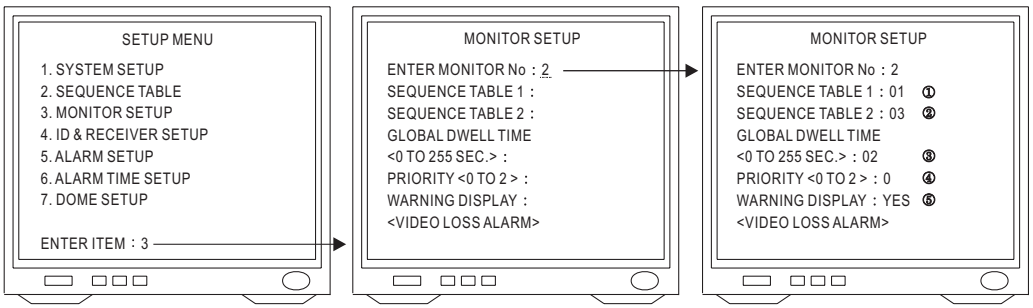


1. Press numeric key [2] to enter SEQUENCE TABLE from SETUP MENU.
2. Press numeric key [1] ,followed by [ENT] key to enter first sequence table.(1 of 16 tables may be entered) See MENU shown above.
3. In sequence table, enter Camera ID Number using blinking cursor.
   Ex.
   Press numeric key [1] ,followed by [ENT] key(1st camera is set in 1st position). Blinking cursor will move waiting dwell time to be entered. Press numeric key [3] ,followed by [ENT] key(dwell time is set to 3 sec). Blinking cursor will move to 2nd position. Repeat the steps above.
4. Press [ESC] key to escape from the MENU.

NOTE: ∗ Use Joystick to move cursor.
∗ To clear set up, move cursor to position and press [CLR]
∗ Each screen will display only 8 sets of information, the system will roll over to the next 8 sets of data automatically.

Setting Monitor

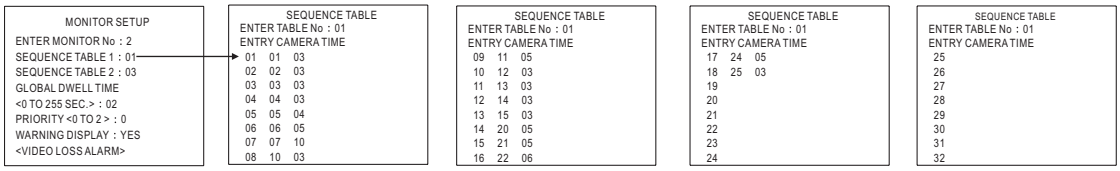
The purpose of Setting Monitor is to assign specific sequence table to corresponding monitor to display alarm, video loss and CH-Switching as follows.(Each monitor can be assigned 2 sequence tables)



1. Press numeric key [3] to enter MONITOR SETUP from SETUP MENU.
2. Press numeric key [2] followed by [ENT] key. The 2nd monitor is selected as shown above.
   (1~16 monitors can be selected depending on the model purchased)
3. Use blinking cursor to set up after monitor is selected.
   ① Press numeric key [1] followed by [ENT] key to set 1st sequence table.
   ② Press numeric key [3] followed by [ENT] key to set 3rd sequence table.
   ③ Press numeric key [2] followed by [ENT] key to set dwell time as 2 seconds.
   (If GLOBAL DWELL TIME is set to 0 secretary, camera dwell time will match sequence table's initial setting)
   ④ Press numeric key [0] followed by [ENT] key to set Monitor as 0 priority.
   ⑤ Press numeric key [0] or [1] (NO or YES) selecting to display or not to display Video Loss and Alarm signals.
   Press [ESC] key to escape.

NOTE: ∗ Use the Joystick to move blinking cursor.
∗ Move blinking cursor to the position to clear data and press [CLR] key to clear.
∗ Set up in sequence table 1 and 2 decide the monitor auto sequence order.
∗ Monitor's Priority should be set as 0. There are 3 priority rankings:
0,1 and 2 where 0 has the highest priority. Camera with lower priority than monitor will not be displayed by monitor.
∗ When warning Display is set to YES, monitor will switch automatically to alarm position when received alarm signal.

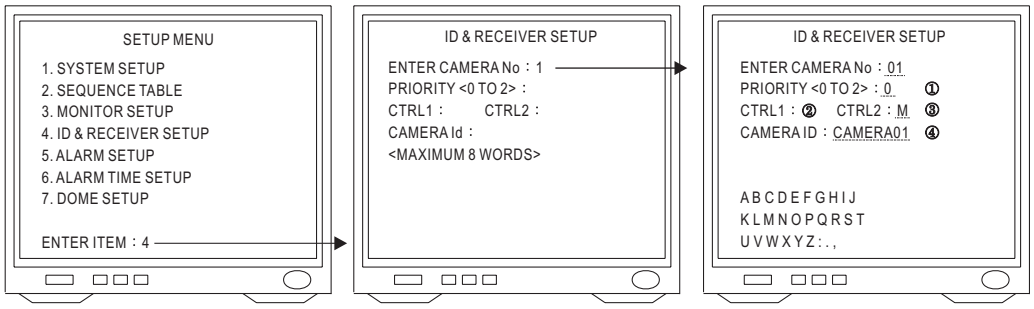
Sequence Table：



1st Sequence Table (1~8) | 1st Sequence Table (9~16) | 1st Sequence Table (17~24) | 1st Sequence Table (25~32)

ID & Receiver Setup

Camera ID and Receiver can be set under ID & Receiver Setup.

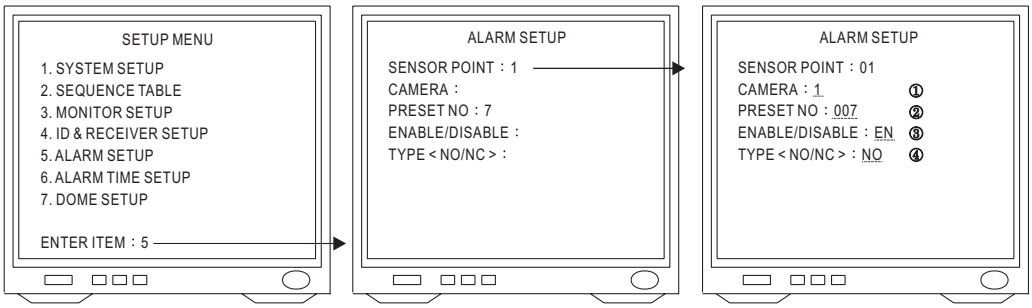


1. Press numeric key [4] to enter ID & RECEIVER SETUP from SETUP MANU.
2. Press numeric key [1] followed by [ENT] key from ID & RECEIVER SETUP, to select 1st camera/receiver.
   (Up to 64 cameras/receiver can be selected. Depend on the model. See MENU shown above)
3. Use blinking cursor to key in data.
   ① Press numeric key [0] followed by [ENT] setting Priority to 0.
   ② CTRL 1: Not available.
   ③ Press numeric key [1] and [CTRL2] setting control type to T type.(see notes)
   Press numeric key [2] and [CTRL2] setting control type to M type.(see notes)
   ④ Up to 8 letters can be used for each camera title. To enter camera title, Press F1 to display 26 letters.
   Use joystick moving blinking cursor to select desired letter and press [ENT]
   Press [ESC] when finished.

NOTE: ∗ Joystick can be used to move cursor.
∗ To remove unwanted letter, move cursor to position and press [CLR]
∗ When camera has higher priority than the monitor, manual camera switching is not possible.
0=highest priority, 2=lowest priority
∗ T and M type control only available when using PIH-820Ⅲ receiver
T= When [CTRL2] is pressed once to turn on relay and [CTRL2] pressed again to turn off relay
M= Relay is on when [CTRL2] is to pressed and hold. Once [CTRL2] is released, relay is turned off.

ALARM SETUP (Alarm and corresponding Camera)

Matrix contains 64 Alarm inputs, camera with corresponding alarm or preset positions of Fast Dome Camera can be setup. One Camera may link to multiple alarms any input can trigger any camera and send any specific dome to any preset. Steps to set up as follows:



1. Press numeric key [5] to enter ALARM SETUP from SETUP MENU.
2. Press numeric key [1] followed by [ENT] key from ALARM SETUP to select 1st Alarm input.
   (Up to 64 Alarm inputs can be set depend on the model, see Menu above)
3. Use blinking cursor to enter data after 1st Alarm input is selected.
   ① Press numeric key [1] followed by [ENT] key, to set 1st Camera corresponding to 1st alarm Input.
   ∗ Fast Dome Camera contains 6 Alarm Inputs.
   Preset NO: 1 should correspond with 1st alarm input of Fast Dome.
   Preset NO: 2 should correspond with 2nd alarm input.
   Preset NO: 3 should correspond with 3rd alarm input.

Preset NO: 4 should correspond with 4th alarm input.
Preset NO: 5 should correspond with 5th alarm input.
Preset NO: 6 should correspond with 6th alarm input.

② If alarm from matrix was linked to a Fast Dome Camera then PRESET NO should start from 7 and onward. (If the dome also has alarms connected.)

Eg.

1st Alarm input of Matrix corresponding to 7th preset position of Fast Dome.

Press numeric key [7] followed by [ENT] key.

③ Press numeric key [1] to select "ENABLE" to enable alarm function.

Press numeric key [0] to select "DISABLE" to disable alarm function.

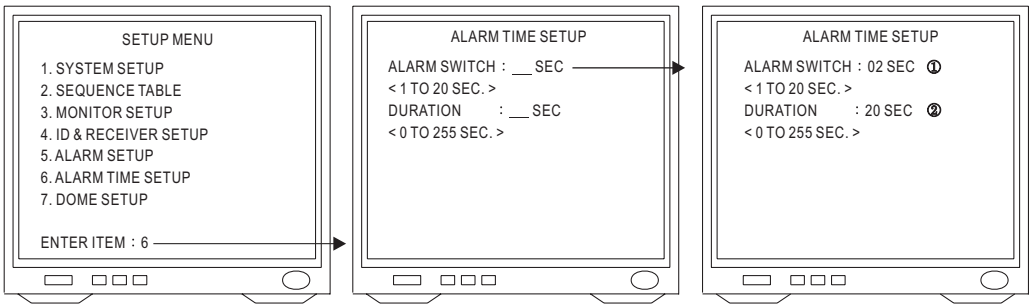
④ Press numeric key [1] to set Alarm Type as N.O.

Press numeric key [0] to set Alarm Type as N.C.

Press [ESC] key to escape.

Alarm Time Setup

When multiple alarm inputs are connected, alarm channel switching time can be set up from the Matrix as follows:



1. Press numeric key [6] to enter ALARM TIME SETUP from SETUP MENU.
2. Following the Flash Sign when entered the ALARM TIME SETUP.
   ① Press numeric key [2] followed by [ENT] key to set time as 2 second.(Time can be set from 1sec~20sec)
   ② Press numeric key [2][0] followed by [ENT] key to set DURATION time as 20sec. (Time can be set from 1sec~255sec)

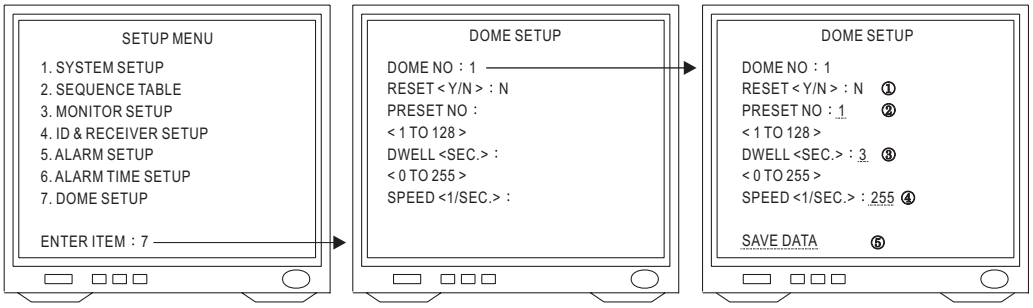
NOTE 1: ∗ If duration is set as 0 sec, monitor will display the alarm until it is canceled manually and back to Auto CH-switching mode.
∗ Audio and Alarm warning will also be canceled when alarm is released.
∗ If alarm Duration was set, monitor will display the alarm accordingly and back to Auto CH-switching mode.
∗ When system is back to Auto CH-switching mode, you still have to manually cancel the audio warning buzzer.

NOTE 2: ∗ If SWITCH time is set longer than Duration time, 10sec will be added to DURATION set up time automatically.

Display "<" sign and press [ALARM RESET] key to stop audio warning reminder.

Dome Setup (Fast Dome)

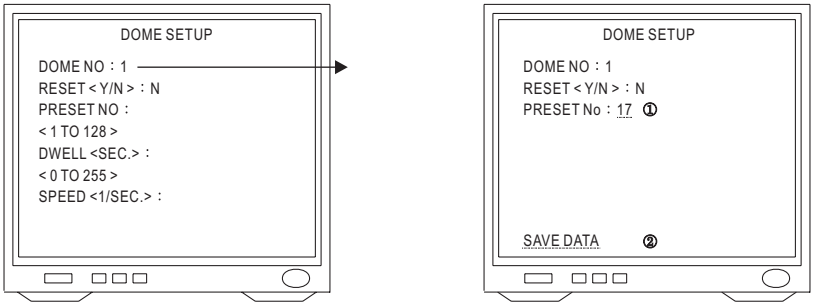
Matrix can connect to Fast Dome Cameras. 128 preset positions can be set for a Fast Dome Camera. As follows:



1. Press numeric key [7] to enter DOME SETUP from SETUP MENU.(set preset positions)
2. If a Fast Dome was set as 1st Camera, Press numeric key [1] followed by [ENT] key for DOME NO, to connect matrix with 1st Camera(Fast Dome).
   ① Press numeric key [0] for RESET. (Not to clear preset data) If numeric key [1] is pressed for RESET, all 128 preset data will be deleted.
   ② To set 1~16 preset position as follows:
   Press numeric key [1] followed by [ENT] key to select 1st preset position. (1~16 preset positions can be set, but 17~128 preset positions can be set differently according to next page)
   * Move Joystick to position camera to desired viewing angle.
   * Adjust ZOOM IN/ZOOM OUT.
   * Adjust FOCUS FAR/FOCUS NEAR or AUTO FOCUS.
     It is recommended using manual focus mode when setting up presets to maintain optimal focus level.
   * Adjust IRIS O/IRIS C or AUTO IRIS for optimum picture.
   ③ Set dwell time.
   Press numeric key [3] followed by [ENT] key to set time as 3sec.(Time can be set from 3sec~255sec)
   ④ Set the speed of moving from previous preset point to current preset point.
   Press numeric keys [2][5][5] followed by [ENT] key to set speed as 255°/sec.
   (Speed can be set from 1°/sec ~ 255°/sec)
   ⑤ Save data
   Press [PRESET] key on the keyboard to save the above data.

   Press [ESC] key returning to step2. Step2 to step5 can be repeated for more setup.
   Press [ESC] key again to escape.

3. Set 17~128 presets as follows:



① Press numeric keys 1 7 followed by ENT key to select 17th preset position.(As shown above)

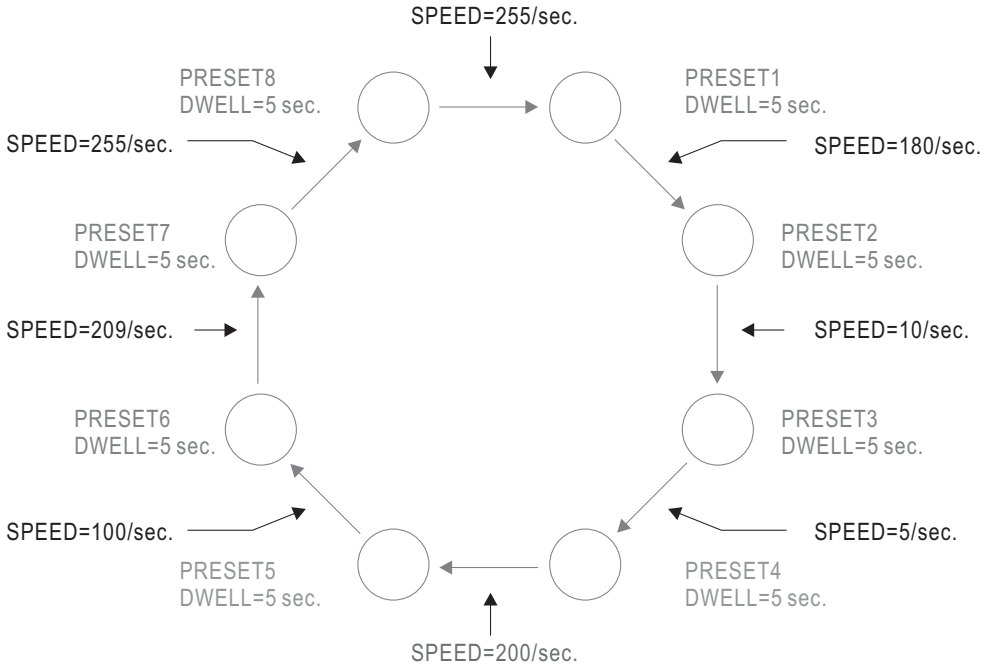
- ∗ Move the joystick to position camera to desired viewing angle.
- ∗ Adjust ZOOM IN/ZOOM OUT.
- ∗ Adjust FOCUS FAR/FOCUS NEAR or AUTO FOCUS.
- ∗ Adjust IRIS O/IRIS C or AUTO IRIS for optimum picture.

② Save data

Press PRESET key on the keyboard to save.

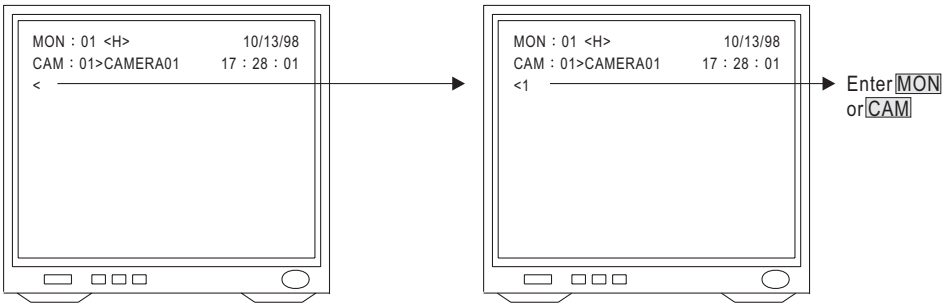
Press ESC key returning to step1. Step1 to step2 can be repeated. Or press ESC key again to escape.

4. Preset point data:

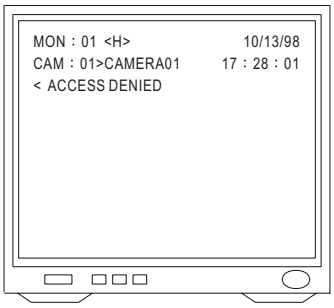


Recalling Monitor or Camera

The Matrix can switch up to 16 monitors and 64 cameras. It is necessary to recall a monitor then the camera to gain control:

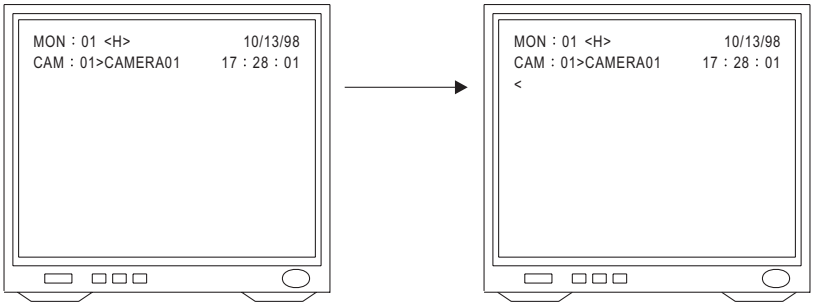


1. From the Master keyboard, press numeric key (monitor ID) [1] followed by [MON] key. Control sign "<" will appear on 1st monitor. Only the master keyboard can enter setting mode and slave keyboards only can enter operation mode.
2. Under the "<" sign, other monitors can also be selected, steps as above. When finish selection, the "<" will appear on the selected monitor.
   Eg.
   Press numeric key [2] followed by [MON] key. Control sign "<" will appear on 2nd monitor.
   Press numeric key [3] followed by [MON] key. Control sign "<" will appear on 3rd monitor.
3. From the keyboard, press numeric key (camera ID) [1] followed by [CAM] key, 1(1st camera) number will appear on the monitor.
   Eg.
   Press [1] [CAM] to select camera 1.
   Press [1] [6] [CAM] to select camera 16.
4. If incorrect data is entered, "ACCESS DENIED" will appear on the monitor as shown below.
   Eg.
   If [6] [5] [CAM] is entered, ACCESS DENIED will appear. Since this system can only control a max of 64 cameras.
   If [3] [CAM] keys are pressed and the ACCESS DENIED appears, that means the 3rd video input is not connected or the 3rd camera is not set in the sequence table.



Controlling Scanner or Fast Dome Camera

Manual control Scanner or Fast Dome Camera as follows:



Select the monitor and camera first. If Fast Dome Camera or Scanner is set as Camera 1 and the 1st monitor is selected, start the process from the MENU As shown above:

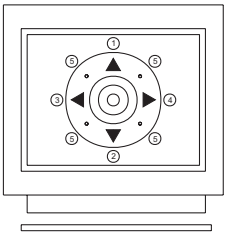
1. Press numeric key [1] followed by [MON] key to bring up the "<" sign.
2. Under the "<" sign, press numeric [1] followed by [CAM] key to select Camera 1. (Scanner or Fast Dome Camera)
3. When the scanner or fast dome camera is in Auto Pan mode, you must cancel the Auto Pan mode before manual operation.

* PAN/TILT Control

  Joystick can be used to move scanner or to control Fast Dome Camera up, down, left and right. Scanner's moving range depends on your setting. Fast Dome Camera's PAN is 360 degree continuously, TILT is 100 degree.

* FOCUS & AUTO FOCUS Control

  [FOCUS FAR] key: Object becomes further.
  [FOCUS NEAR] key: Object becomes nearer.
  [AUTO FOCUS] key: Auto focusing.



* IRIS & AUTO IRIS Control

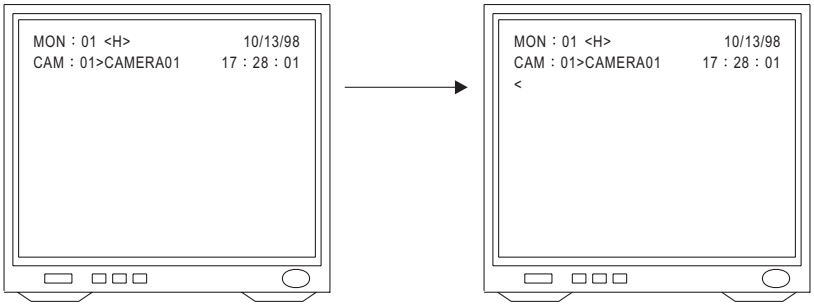
  [IRIS O] key: Iris open.
  [IRIS C] key: Iris close.
  [AUTO IRIS] key: Auto iris.

* ZOOM IN/OUT Control

  [ZOOM IN] key: Viewing angle become narrower, stop when key is released.
  [ZOOM OUT] key: Viewing angle become wider, stop when key is released.

Recalling Preset Position

To recall presets as follows:



Select monitor and camera. If Fast Dome Camera is set as Camera 1 of 1st monitor, start the process as shown above:

1. Press key [1] followed by [MON] key to bring "<" on 1st monitor.
2. Under "<" sign press numeric key [1] followed by [CAM] key to select Camera 1.(Fast Dome Camera)
3. Under "<" sign press numeric key [1] followed by [PRESET] key to select 1st position.

Ex.

[1] + [PRESET] keys for 1st preset
[2] + [3] + [PRESET] keys for 23th preset
[1] + [2] + [8] + [PRESET] keys for 128th preset.

Follow keys can be used for speed recalled:

[PRESET 1] key for 1st preset
[PRESET 2] key for 2nd preset
[PRESET 3] key for 3rd preset
[PRESET 4] key for 4th preset

Setting Preset Groups

First 16 preset positions of a Fast Dome Camera can be split to 4 groups. Switching if these 4 groups can be set. To set preset groups, select monitor and camera. If the Fast Dome Camera is set as Camera 1 of 1st monitor, start the process As shown above:

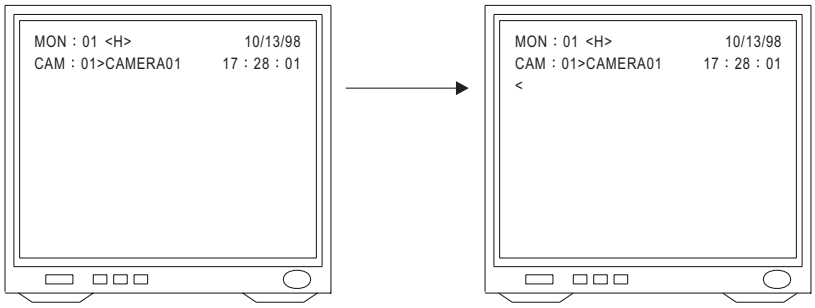
1. Press numeric key [1] followed by [MON] key to display "<" on monitor 1.
2. Under "<" sign press numeric key [1] followed by [CAM] key to select Camera 1.(Fast Dome Camera)
3. Under "<" sign press numeric key [1] followed by [F4] key to set 1st group.

Ex.

To set Group 1	[1][F4]	1st group includes preset position of 1~4
To set Group 1,2	[1][2][F4]	1st and 2nd group includes preset position of 1~8
To set Group 3,4	[3][4][F4]	3rd and 4th group includes preset position of 9~16
To set Group 1,2,3	[1][2][3][F4]	1st,2nd and 3rd group includes preset position of 1~12
To set Group 2,3,4	[2][3][4][F4]	2nd,3rd and 4th group includes preset position of 5~16
To set Group 1,2,3,4	[1][2][3][4][F4]	1st,2nd,3rd and 4th group includes preset position of 1~16

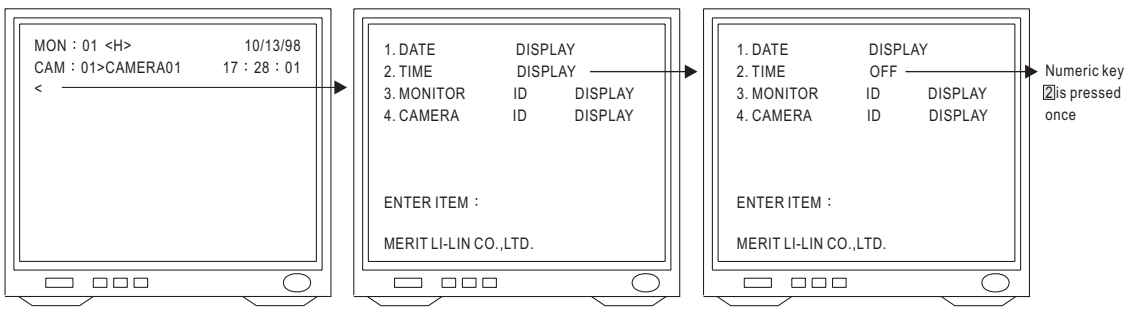
Auto Touring Activate/Stop

When preset positions were set and the groups were selected, Auto Touring can be activated by pressing AUTO PAN key.



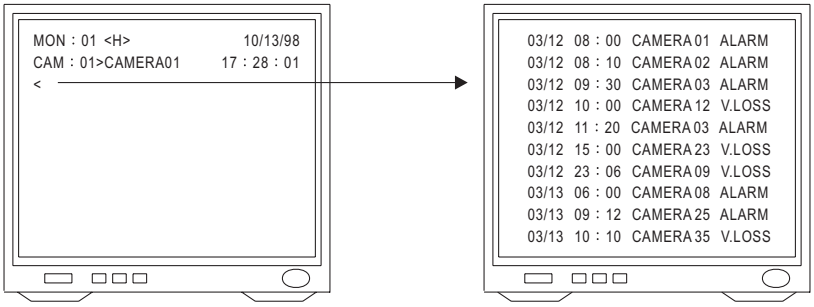
1. Fast Dome Camera will auto tour the selected groups.
2. Scanner will scan as the setting ranges.
3. To activate/stop Auto Touring as follows:
   Select monitor and camera. If a Fast Dome Camera is set as Camera 1 of 1st monitor. Start the process as shown above:
   - ∗ Press numeric key [1] followed by [MON] key to display "<" sign on 1st monitor.
   - ∗ Under "<" sign press numeric key [1] followed by [CAM] key to select 1st camera. (Fast Dome Camera or Scanner)
   - ∗ Under "<" sign press [AUTO PAN] key to activate auto tour, LED will lit.
   - ∗ Under "<" sign press [AUTO PAN] key to stop auto tour, LED will be off. Then you can start control manually.

Monitor Display control



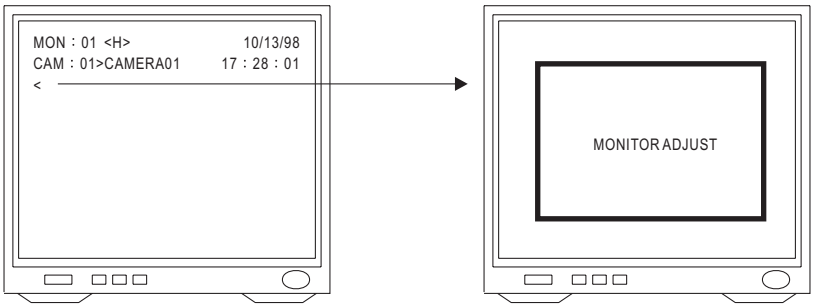
1. Under "<" sign, press [F1] key, the monitor will display as above.
2. Press numeric keys (1~4) to display or not display DATE, TIME, MONITOR ID and CAMERA ID.
3. Press numeric keys (1~4) once, OFF for no display.
   Press numeric keys (1~4) twice, to display.
4. Press [ESC] key to return to control mode.

Recording Alarm Video Loss Signals



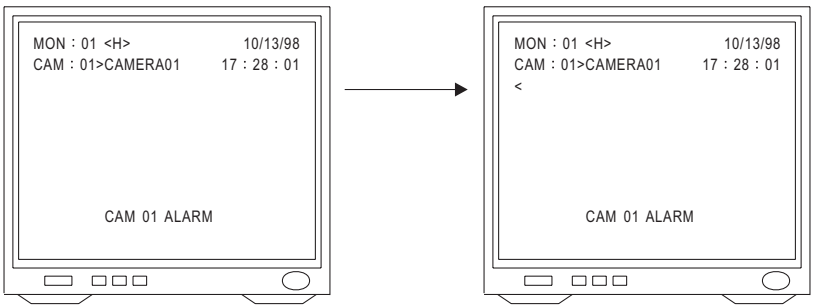
1. Under "<" sign, press F2 key, the monitor shown as above.
2. Press ESC key to return to control mode.

Adjusting Monitor Display



1. Under "<" sign, press F3 key, monitor shown as above.
2. Joystick can be used to move monitor display's position.
3. Press ESC to return to control mode.

Stop Alarm Viewing



When alarmed, Menu will display as above and screen will switch to view alarm position.
Above Menu demonstrate which camera is experiencing alarm, as shown above it is 1st camera of 1st monitor.

1. Press numeric key 1 followed by MON key to bring up "<" sign.
2. Under "<" sign, press ALARM RESET key to stop viewing alarmed camera.
3. For Video Loss warning, cable must be re-connected and camera must be recalled again for signal testing.

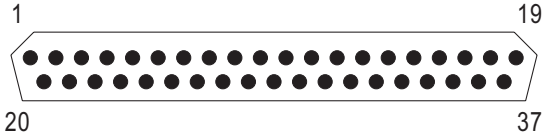
ALARM CONNECTIONS

GROUP 1

JACK	ALARM POINT	JACK	ALARM POINT	JACK	ALARM POINT
1	1	14	14	27	24
2	2	15	15	28	25
3	3	16	16	29	26
4	4	17	NO OUTPUT	30	27
5	5	18	NC OUTPUT	31	28
6	6	19	COMMON	32	29
7	7	20	17	33	30
8	8	21	18	34	31
9	9	22	19	35	32
10	10	23	20	36	COM OUTPUT
11	11	24	21	37	COMMON
12	12	25	22		
13	13	26	23		

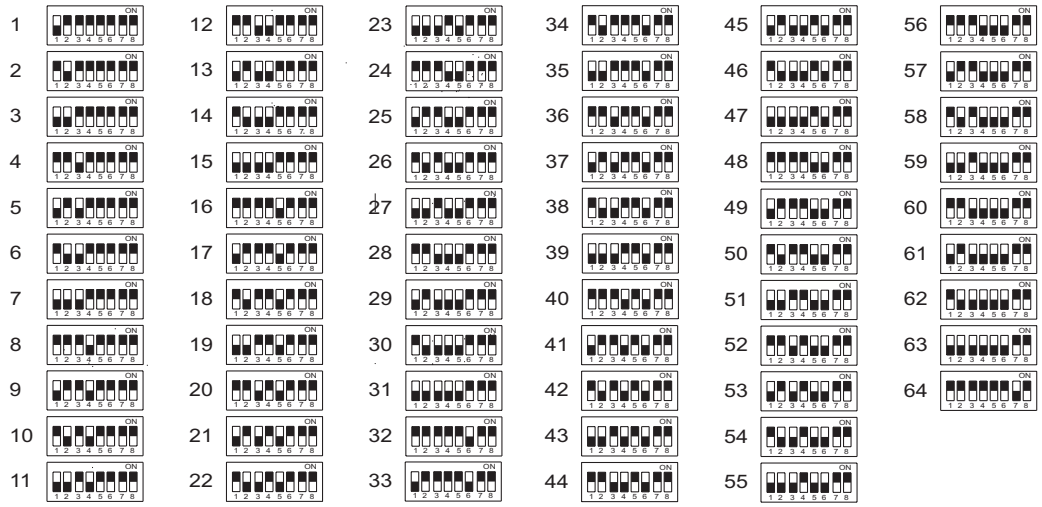
GROUP 2

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

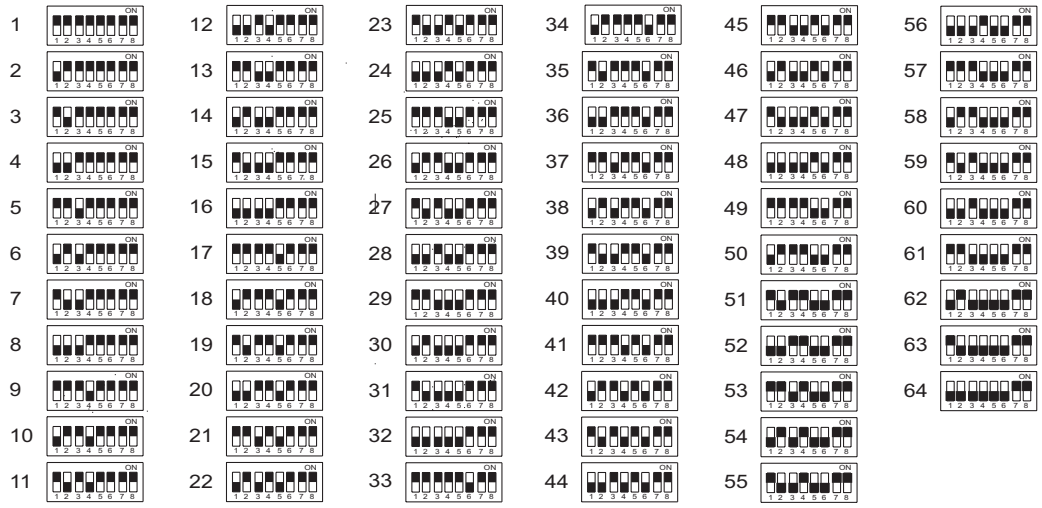


SETTING SWITCH OF RECEIVER

1. The data transmission between matrix and receiver, receiver and receiver is transmitted via screened, twisted pair cables, usually in serial configuration.
2. Connections: Refer to system connection P.4
3. MLP1 is same as LILIN 717 protocol. Camera address (ID number) set up:



4. MLP2 is new version LILIN protocol. Camera address (ID number) set up:



Note: Black on top represents "ON"

* MLP2 (Merit LILIN Protocol 2) is the new protocol for controlling fast dome cameras. The protocol contains 7 bytes which include a check-sum byte and extra control codes. The check-sum byte, for example, can prevent RS-485 interference affecting a protocol. The extra control codes, for example, can provide the feature of controlling absolute position of a fast dome camera.
* Camera/Receiver number does not have to match position of camera in system serial configuration. But Camera/Receiver number must correspond to matching video input channel on matrix.

  Eg. Camera/Receiver number = 18 Corresponding matrix video input = 18th channel

SPECIFICATION TABLE

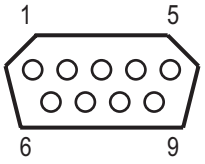
MODEL NO.	PIH-816Ⅲ	PIH-832Ⅲ	PIH-864Ⅲ
Camera Input	16	32	64
Video Output	8	8	16
Alarm Port Input	16	32	64
Alarm Port Output	1	1	1
RS485 Control	RS 485 standard,9600 baud		
Protocol	8 data bit, 1 stop bit, no parity		
Display Mode	1. Camera I.D. & Title (8 Characters)		
	2. Time & Date (MM/DD/YY)(HH/MM/SS)		
Frequency Response	10Hz to 8MHz, -3dB		
S/N Ratio	Better than 60dB		
Switching Interval	0 to 255 SEC		
Alarm Contact	0 to 255 SEC		
Alarm Output	N/O and N/C		
RS 232	Yes		
Input Voltage	AC 117V/230V		
Power Consumption	14 WATTS (1.2A)		
Operating Temperature	-5°C to +60°C		
Weight -PIH-816Ⅲ/PIH-832Ⅲ	5.7Kg		
-PIH-864Ⅲ	8.0Kg		
Dimension -PIH-816Ⅲ/PIH-832Ⅲ	434(W)3 90(H)3290(D)mm		
-PIH-864Ⅲ	434(W)3135(H)3290(D)mm		

QUICK REFERENCE TABLE

PROJECT	KEYS	FUNCTION
1	[NUMERIC]+[MON] = "<"	MONITOR SWITCH/CHOOSE
2	< +[NUMERIC]+[CAM]	CAMERA SWITCH/CHOOSE
3	< +[NUMERIC]+[PRESET]	TO CHOOSE PRESET POSITION
4	[ENT]	TO CONFIRM
5	[ESC]	TO EXCAPE
6	< +[F1]	MONITOR DISPLAY CONTROL
7	< +[F2]	RECORDS OF ALARM & VIDEO LOSS SIGNALS
8	< +[F3]	ADJUST OF DISPLAY POSITION
9	< +[1,2,3,4]+[F4]	SET GROUPS
10	< /[NUMERIC]+[CAM]+[PRESET 1]	RECALL PRESET 1
11	< /[NUMERIC]+[CAM]+[PRESET 2]	RECALL PRESET 2
12	< /[NUMERIC]+[CAM]+[PRESET 3]	RECALL PRESET 3
13	< /[NUMERIC]+[CAM]+[PRESET 4]	RECALL PRESET 4
14	< /[NUMERIC]+[CAM]+[ZOOM IN]	LENS ZOOMING IN
15	< /[NUMERIC]+[CAM]+[ZOOM OUT]	LENS ZOOMING OUT
16	< /[NUMERIC]+[CAM]+[FOCUS FAR]	OBJECT BECOMES FURTHER
17	< /[NUMERIC]+[CAM]+[FOCUS NEAR]	OBJECT BECOMES NEARER
18	< /[NUMERIC]+[CAM]+[AUTO FOCUS]	AUTO FOCUSING
19	< /[NUMERIC]+[CAM]+[IRIS O]	IRIS OPEN
20	< /[NUMERIC]+[CAM]+[IRIS C]	IRIS CLOSE
21	< /[NUMERIC]+[CAM]+[AUTO IRIS]	AUTO IRISING
22	< /[NUMERIC]+[CAM]+[AUTO PAN]	TO ACTIVATE AUTO TOURING

RS-232 9PIN D-SUB CONNECTION

PIN number	PIN Asignment	
1	X	
2	RXD	Received Data
3	TXD	Transmitted Data
4	DTR	Data Terminal Ready
5	GND	Signal Ground
6	DSR	Data Set Ready
7	DTR	Data Terminal Ready
8	X	
9	X	



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