AVIPAS

Model: AV-3104SE

4D Serial Joystick Keyboard Controller

User Manual

V1.0

(English)

Please read this user manual
thoroughly before using.

www.avipas.com

Contents

1. Product Overview

1.1 Notice

- Please read this manual thoroughly before use, and keep it handy for future reference.
- Do not use or store AV-3104SE in the environment where the product is exposed to rainwater, moisture vapor, salty water, oil, etc.
- Do not place the controller close to any exothermic object for a long time.

1.2 Key features

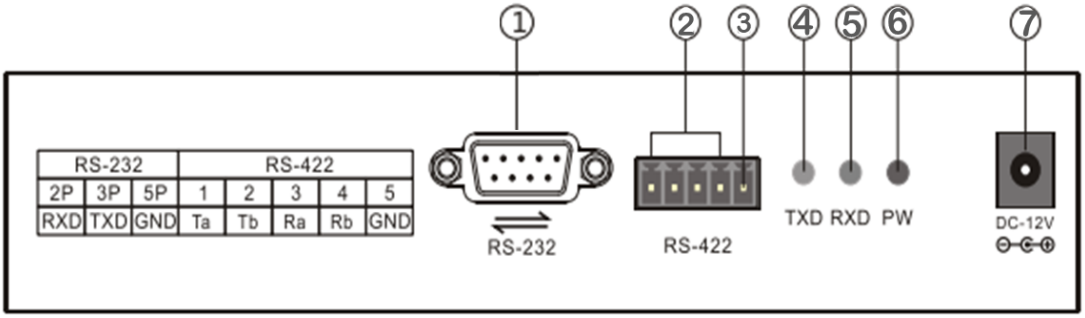
- All metal housing, Joystick and button control
- LCD display for real-time working status
- Control for up to 255 cameras
- RS232, RS422 and RS485 serial control interface
- PELCO-D, PELCO-P and VISCA protocols
- 4D joystick for Pan/ Tilt/ Zoom/Lock(unlock) PTZ movements
- Variable speed control of Pan, Tilt, Zoom and Focus
- Auto/Manual for Focus and Exposure
- Selectable button sound on/off.
- Presets save, recall and clear
- OSD (on screen menu display) ON/OFF button
- BLC (Backlight compensation) ON/OFF button
- Max communication distance is up to 3940ft (1200m, w/ 0.5mm twisted pair cable).

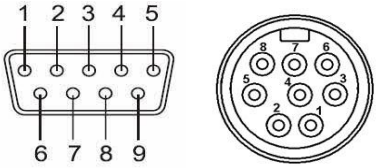
1.3 Items included

Please check the package once you get the keyboard if all parts are included and are in good condition.

4-axis joystick keyboard controller	1pc
5 POS TERM Block plug, Female socket	1pc
DC-12V power adapter	1pc
RS232 cable(DB9 Female to 8pin Mini-DIN Male)	1pc
User manual	1pc
Warranty card	1pc

2. Interface illustrations (rear panel view)



	Port	Physical interface	Description
1	RS232	9-pin DB9 RS232 Full duplex Male	RS232 DB9 to camera RS232 8-pin Mini-DIN with included RS232 cable  1 2 3 4 5 6 7 8 9 KB RS232 9-pin DB9 / Camera 8pin Mini-DIN RXD Pin 2 / TXD Pin 3 TXD Pin 3 / RXD Pin 5 GND Pin 5 / GND Pin 4
2	RS-422/ RS485	RS422/RS485 connection RS422 Full duplex RS485 Half-duplex	For RS422 or RS485 connection with the camera. Please refer to the table below RS422: KB controller / Camera Ta- / RXD IN- Tb- / RXD IN+ Ra- / TXD IN- Rb- / TXD IN+ RS485: KB controller / Camera Ta- / RS485+ Tb- / RS485-
3	Ground	Ground (G)	Signal control line to ground
4	PW	Power indicator light	The light is in steady red when keyboard is working
5	TXD	Sending data indicator light	Flashing in green when the unit is sending data
6	RXD	Receiving data indicator light	Flashing in green when the unit is receiving data
7	DC-12V	Power jack	DC12V power input

Note: for more details on how to control multi cameras, please visit https://www.avipas.com/support

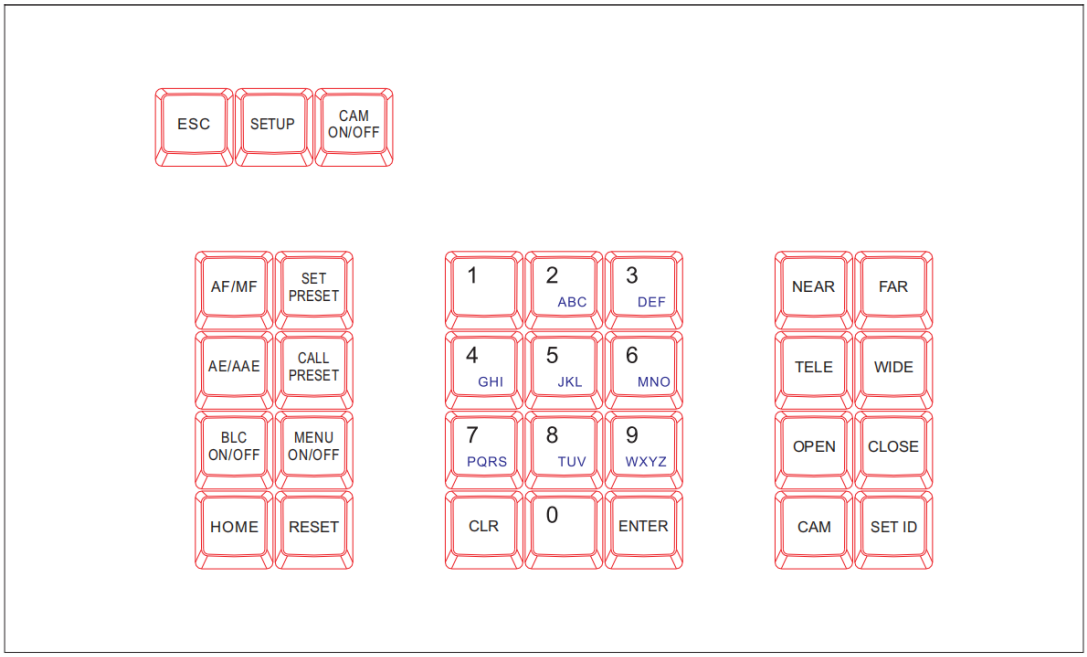
3. Technical Specifications

Communication interface	RS232 Full duplex, RS422 Full duplex, RS485 Half-duplex
Baud Rate	2400bps, 4800bps, 9600bps, 19200bps
Protocol	VISCA, PELCO-D, PELCO-P
Joystick	4D control: up/ down/ left/ right/twist/push down
Maximum cameras	255 (via PELCO), 7 via VISCA
Recommended max cable distance	RS-232: 50 feet (15 Meters) RS-485: 3,937 feet (1200 Meters) RS-422: 3,937 feet (1200 Meters)
Display	Backlight LCD screen
Input voltage	DC12V ±10%
Power consumption	6W max
Working Temperature	-10℃~50℃
Working Humidity	≦90%RH (No frosting)
Net weight	5.5LB
Dimension	13*7*4 inch (320*179.3*106.4mm)

Note: 4D joystick for Pan, Tilt, Zoom(twist) and Lock/unlock PTZ movement.
The button on the top of joystick, Push down-> “LOCK”, push again-> “Unlock”

4. Controller Operations

4.1 Keyboard



【ESC】 Exit or back to the previous menu.

【SETUP】 Parameter settings: press and hold the button for 3sec to enter the KBD setting page.

【CAM ON/OFF】 Camera power on/off

【AF/MF】 Auto/ Manual focus (Manually focus adjustment is done by 【NEAR】/【FAR】

【SET PRESET】 Preset setting: to set a preset position, use key combination【SET PRESET】 + number keys【0~255】+【ENTER】.

【CALL PRESET】Call preset: to call a preset position, use key combination【CALL PRESET】 + number keys【0~255】+【ENTER】.

【AE/AAE】 Auto aperture / Aperture priority: when choose Aperture priority, aperture adjustment is done by 【OPEN】/【CLOSE】.

【BLC ON/OFF】 Back light compensation on/off.

【MENU ON/OFF】 keyboard controller menu on/off.

【HOME】 HOME position.

【RESET】 Pan/tilt position reset.

【CLR】 Clear current input.

【0】~【9】Number keys.

【ENTER】 Confirmation key: confirm the current input.

【NEAR】 Focus in: manually focus in to make far distance objects clearer.

【FAR】 Focus out: manually focus out to make near distance objects clearer.

【TELE】 Narrow-angle button/ Zoom-in: reduce the field of view, zoom in to the target object.

【WIDE】 Wide-angle button/ Zoom out: expand the field of view, zoom out from the target object.

【OPEN】 Aperture +: Increase aperture. When the aperture is at its maximum, the image will display in full white. When the LCD shows the camera menu, press 【OPEN】 will enter the selected submenu.

【CLOSE】Aperture -: Reduce aperture. When the aperture is at its minimum, the image will display in full black. When the LCD shows the camera menu, press 【CLOSE】 will go back to the previous menu.

【CAM】 Select the address of a target device (decoder or camera). Use with key combination number keys 【0~255】+【ENTER】.

【SET ID】 Set ID: press and hold the button for 3sec to set the cascading camera protocol address.

4.2 LCD screen display

All operations will be displayed on the LCD screen. If there is no operation or movement for 30 sec, the controller will enter the power saving mode (with the lowest backlight), with the current status displayed.

4.3 Joystick control

Operation	Output Control	Operation	Output Control	Operation	Output Control
	UP		Down		Left
Operation	**Output Control**	**Operation**	**Output Control**	**Operation**	**Output Control**
	Right		Zoom In		Zoom Out

- Push the button on top to “lock” the PTZ movement and Push again to “unlock”.

5. Keyboard Setups

5.1 PTZ setup

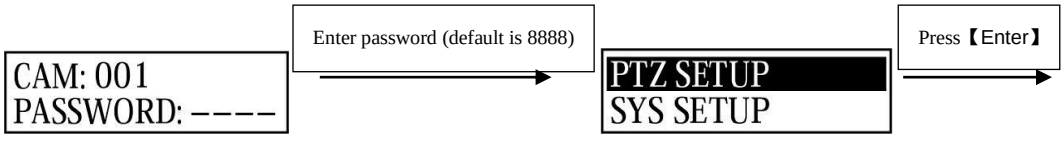
Example used in the following section:

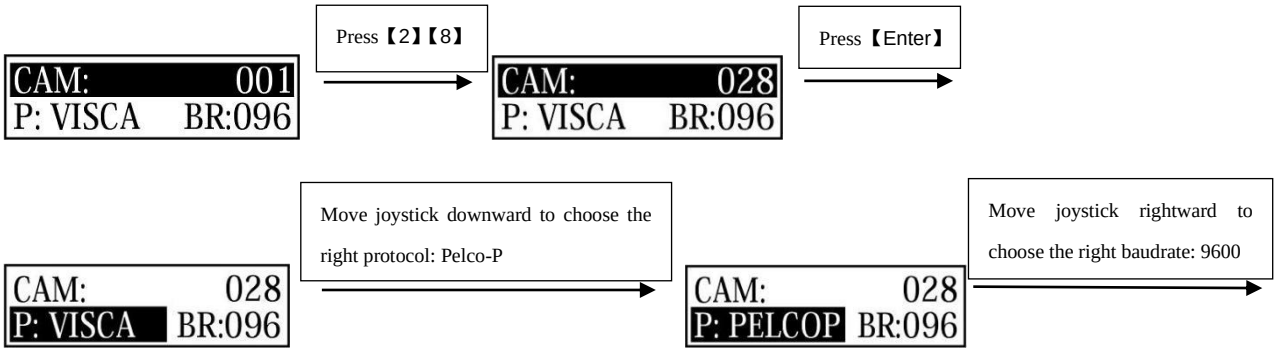
- Camera Address (Camera ID): 28

- Protocol used: Pelco-P

- Baud rate: 9600 bps

Press and hold【SETUP】button for 3 seconds (under normal working mode), then follow the steps below:





Press【ENTER】to confirm the selected baud rate. There will be a 1-sec beep sound once the setup is complete.
Press【ESC】3 times to exit the setup mode and return to normal working mode.

Note: if all the devices/ cameras are to be set to the same protocol and baud rate, please follow the steps as follows:

Enter the setup page 

and choose the corresponding protocol and baud rate.

Press【ENTER】to confirm. All the devices with an address of 0-255 will be set to the same protocol and baud rate.

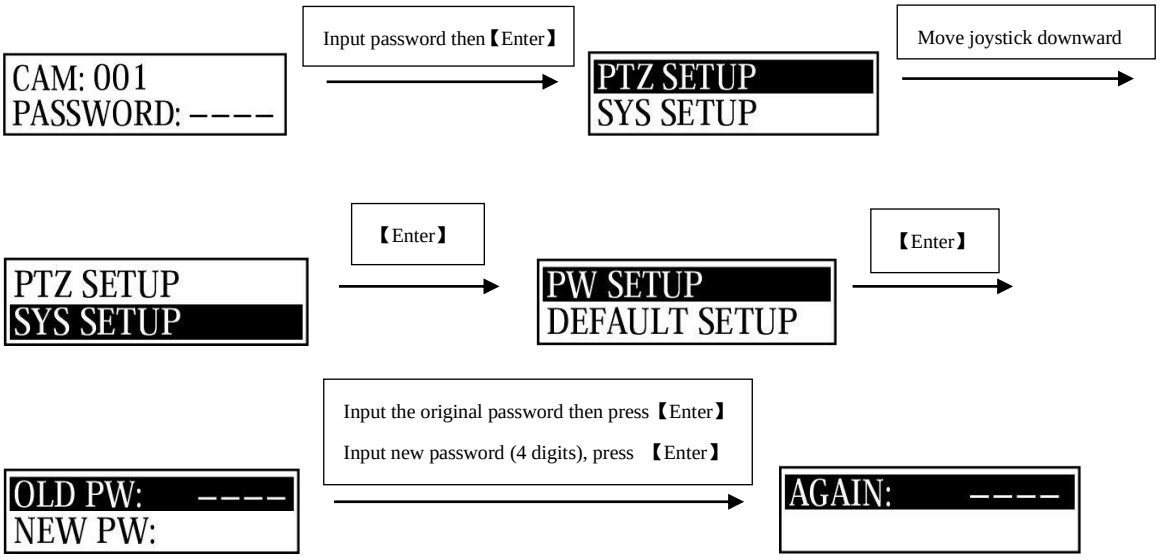
5.2 System setup

System setup includes:

- Change password
- Restore factory setting
- Indicate sound switch setting
- Keyboard ID
- Keyboard lock switch setting

5.2.1 Password setting

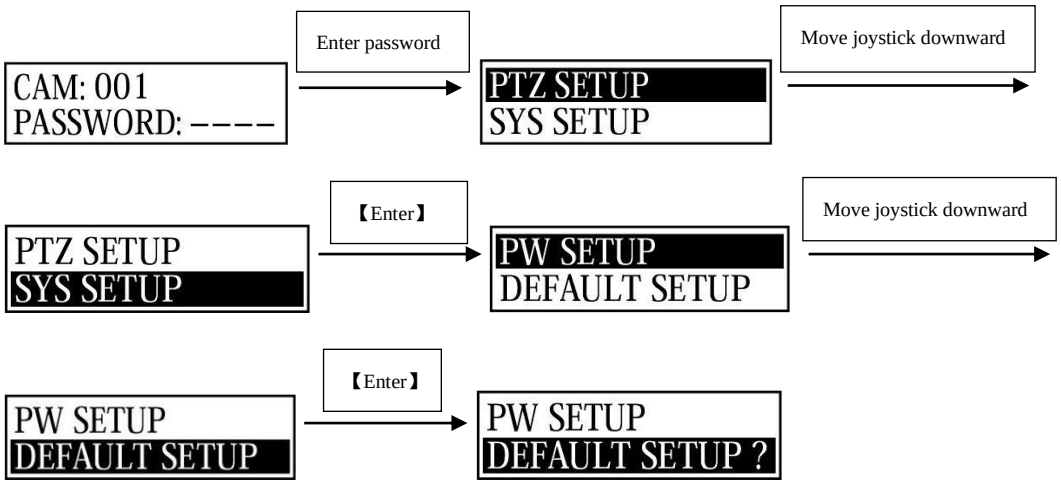
Press and hold【SETUP】for 3 seconds (under normal working mode), then follow the steps below:



Input the new password again then press【ENTER】. There will be a 1-sec beep sound once the setup is complete.
Press【ESC】twice (2) to exit password setup page and return to the normal working mode.

5.2.2 Restore factory settings

Press and hold【SETUP】for 3 seconds (under normal working mode), then follow the steps below:



Press 【ENTER】 to confirm. There will be a 1-sec beep sound once the setup is complete.
Press【ESC】twice (2) to exit password setup page and return to the normal working mode.

5.3 Keyboard menu

PTZ Setup	Camera address: 0-255 (to be set)	Protocol	PELCO-D, PELCO-P, VISACA
		Baud Rate	2400/ 4800/ 9600/ 19200
	Camera address：0-255 (uniform settings for all devices)	Same as above	
SYSTEM Setup	SET PASSWORD	OLD PW：old password	4 digits
		NEW PW: new password	4 digits
		AGAIN PW: confirm change	4 digits
	LOAD DEFAU (Restore factory setting)	Confirm?	Press 【ENTER】to confirm Press【ESC】to exit
SYSTEM Setup	SOUND SETUP (Button sound on/off)	ON	Move joystick right/left to select Press【ENTER】to confirm
		OFF	
	HOST ID SET	Keyboard address	Number【0】-【15】
	LEARN SETUP (Keyboard lock setting)	ON	Move joystick right/left to select Press【ENTER】to confirm
		OFF	

5.4 Keyboard parameters

Protocol: X Baud rate: X	Current control protocol and baud rate		
Camera query	Camera protocol: 001	Protocol	Corresponding protocol
		Baud rate	Corresponding baud rate
System query	Model number: XXXXXXXX	10 digits max	
	Serial number: XXXXXXXX	8-digit serial number on camera	
	Device number: XX	2-digit keyboard ID number	
	Keyboard lock: ON/OFF	Display the current keyboard lock setting	
	Sound: ON/OFF	Display the current button sound prompt setting	

6. Trouble shooting

Issue	Analysis	Solution
PTZ cameras not responsive	Check cable connections	Check and secure all connecting cables
	Check the correspondence of camera protocol and baud rate settings if matching with KBD	change the protocol and baud accordingly, to let camera and KBD to match each other or restore the KBD default settings and change the camera settings accordingly
	Check the PTZ indicator light when move the controller	If PTZ indicator light flashing, check other possibilities; PTZ indicator light is not flashing, check the cable connections. If the connection is normal, please contact AViPAS for repairing. Send email to service@avipas.com
PTZ camera not fully response	Not fully functional on PTZ camera	If using other brand name PTZ camera, cannot guarantee fully compatible
Cameras move together	Check camera address (camera ID) setting	Check if the address numbers of the cameras (those moving together) are the same. Set identical address to each camera Note: you need to reboot the camera after changing settings
Forgot password	Press and hold 【SETUP】to enter the system settings menu. Reset the password.	

7. Maintenance Service Terms

7.1 Warranty

- AViPAS warrants its new product against defects in materials and workmanship for a period of TWO (2) YEAR from the date of original invoice.
- Within three months after the 1-year warranty, if the product is noticed to have the same malfunction as before the warranty ends, it will obtain free maintenance service.
- This warranty does NOT cover problems or damage resulting from, but not limited to, any of the following: any accident, disassembly, or misapplication; any improper operation that is not in accordance with the supplied product instructions; any other cause which does not relate to a product defect in materials or workmanship.
- Please avoid stress, vibration or soakage during transport, storage and installation. Problems or damage resulting from the above are NOT covered by warranty.
- Please remain the way of fission package and our original package for transport. Any damage resulting from integrated package or customer package are NOT covered by warranty.
- This warranty does NOT cover any problem or damage resulting from unauthorized repair or disassembly.
- Our company does offer repair services to out-of-warranty products. Please notice that service fees will be charged.
- For the defected products: if it's still under warranty, please fill out the warranty form with all the information needed, describing the problems in detail. Customers may be asked to furnish proof of ownership and date of purchase by showing the sales receipt/purchase invoice/warranty card.
- We are not responsible for the damage or loss caused by specific usage or applications. Any compensation made by the company regarding breach of contract, negligence or infringement won't exceed the amount of the product. The factory won't bear any responsibility for special, unexpected or continue damage caused by any other reasons.
- Our company has the final right of explanation for the above terms.

7.2 Repair service

- If the product needs to be sent back to the manufacturer for repair. please contact us at service@avipas.com for the RMA form. Our company is only responsible for the one-way shipping fee from the manufacturer to customer after repair or maintenance.

Copyright Notice

Contact Details:

AViPAS, Inc.

Address: 1700 Wyatt Drive, Suite #3

Santa Clara, CA 95054

Phone: 1-844-228-4727

Fax: (408) 228-8438

Email: info@avipas.com

Website: www.avipas.com