



Sony Conference camera keyboard controller Use/Installation

User manual





Keyboard controller introduction

This keyboard controller is designed for Sony conference camera, support VISCA protocol completely. It has all functions of Sony conference camera's remote controller, make the operation more convenient. It has many number and function keys, number keys for selecting the ID of Sony camera, function keys for calling some special functions. It has a LCD screen for displaying the commands or Sony camera's working status.

Features of keyboard controller:

- ★ support VISCA protocol completely.
- ★ can set and call 1-46 presets of Sony video conference camera.
- ★ communication mode: RS485, RS422, RS232.
- ★ all parameter can be set conveniently through function keys.

Basic function of keyboard controller:

- ★ can control maximum 7 pcs Sony video conference camera.
- ★ all input/output ports adopt lightning protection design, communication distance up to 1200m.
- ★ support operation password function.
- ★ key-press warning on/off function.
- ★ can control Sony video conference camera rotate with variable speed by its joystick.
- ★ LCD screen for displaying commands and camera's working status.



This manual might be not accurate technically or contain minor typo. The contents of this manual about production description and program will be updated aperiodically without notification.

Note :

- § the LCD is fragile, no crash or long exposed under strong light.
- § The joystick is fragile, please make sure the product is packed in original packing material when you send it back for repairation..
- § The keyboard controller shall be used in specified environment where the temperature and humidity is suitable.
- § Please follow the connection method defined in this manual.

Parameter:

Item	Parameter
Power supply	DC 12V±10%
Working temperature	-10℃~55℃
Working humidity	≤90% RH
Communication	RS485, RS422, RS232
Baud rate	2400bps, 4800bps, 9600bps, 19200bps
Ports	RS422 and RS232 port
Display	blue LCD screen
Size	420mm(L)*260mm(W)*170mm(H)

Accessories:

name	quantity	unit	note
connector	1	pc	N/A
DC 12V adapter	1	pc	Input: 100-240vac, 50/60Hz
<user manual>	1	pc	N/A



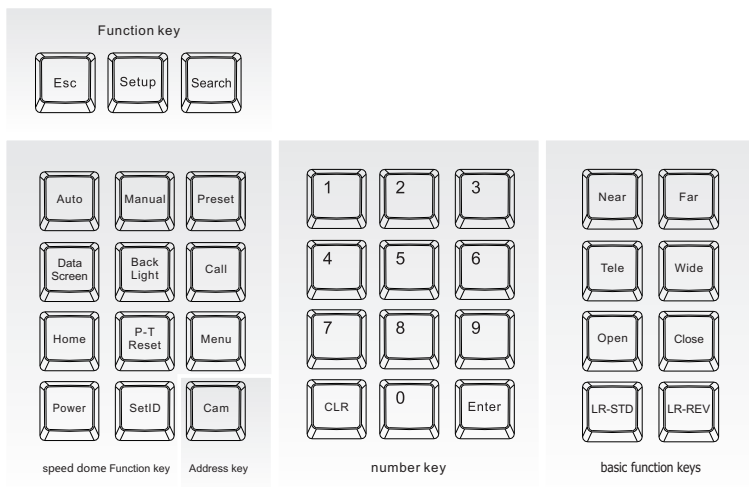
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1. Front panel and rear panel introduction

1.1 All keys' function introduction



1.1.1 keyboard controller function keys:

- [Esc]** back to previous menu.
- [Setup]** press and hold for 3s, get into setup menu.
- [Search]** inquiry the keyboard controller's model number, S/N, key-press sound and operation lock.

1.1.2 Sony video conference camera function setup/recall keys:

- [Auto]** enable auto focus



- 【Manual】** Enable manual focus.
- 【Data Screen】** open/close data screen.
- 【Back Light】** turn on/turn off back light.
- 【Home】** control the camera toward ahead.
- 【P-T Reset】** reset the camera.
- 【Power】** power on/off the camera.
- 【SetID】** camera ID setup.
- 【Preset】** camera's preset setup, it shall be used together with number key and **【Cam】** key.
- 【Call】** recall camera's preset, it shall be used together with number key and **【Cam】** key.
- 【Menu】** get into camera menu.
- 【Cam】** select the camera's ID.



1.1.3 Number keys:

- [CLR]** delete key: delete all information which is keyed in.
- [0] ~ [9]** number key: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9.
- [Enter]** confirm key: confirm and save all information which is keyed in.

1.1.4 Video conference camera basic function keys:

- [Near]** in manual focus mode, focus near.
- [Far]** in manual focus mode, focus far.
- [Tele]** zoom near in slow speed, enlarge the magnification, reduce the view angle, enlarge the object (note: screw the joystick clockwise, zoom near in high speed).
- [Wide]** zoom far in slow speed, reduce the magnification, enlarge the view angle, reduce the object (note: screw the joystick counterclockwise, zoom far in high speed).
- [Open]** in manual aperture mode: enlarge camera aperture.
- [Close]** in manual aperture mode: reduce camera aperture.
- [LR-REV]** press this key, camera will move toward opposite direction when operate the joystick.









[LR-STD] press this key, camera will move toward correct direction when operate the joystick.

1.2 LCD screen

All operation of the keys or joystick will have corresponding information showed on the LCD screen. LCD screen will get into power saving mode if user do not operate the keyboard controller over 30s (its brightness reduce to lowest, information which showed on the screen will back to initial status).

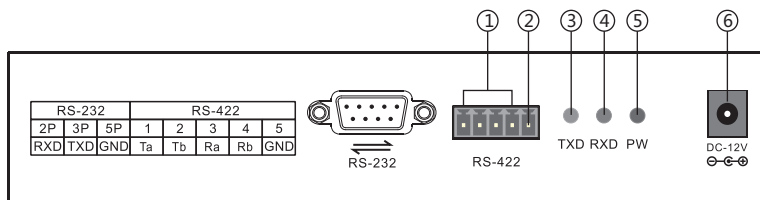
1.3 Joystick function

operation	Output control	operation	Output control	operation	Output control
	up		down		left
operation	Output control	operation	Output control	operation	Output control
	right		Zoom near		Zoom far



1.4 Rear panel introduction

Rear panel: 5 ports for RS422, 1 RS232 port, 1 DC 12V input port, 3 status indicate light. Details as below:



1.5 Function item specification:

item	mark	interface	description
①	RS-422	Control command output port: Connector 1-4	Connect to RS422 port of video conference camera: Ta to RXD IN-, Tb to RXD IN+ Ra to TXD IN-, Rb to TXD IN+
②	Ground	Control line ground port	Control line ground port
③	TXD	Send command indicator	Flicking and green denote it is sending commands
④	RXD	Receive command indicator	Flicking and green denote it is receiving commands
⑤	PW	Power input indicator	It will be always on and red when keyboard controller is powered on
⑥	DC-12V	Power input port	DC 12V input port



2. Operation introduction

2.1 Single function key and combined function key introduction

2.1.1 Single function key means: press this key, camera will recall a function.

Single function keys: **【Auto】**、**【Data Screen】**、**【Home】**、**【Back Light】**、
【P-T Reset】、**【Tele】**、**【Wide】**、**【Open】**、
【Close】、**【LR-STD】**、**【LR-REV】**、**Joystick**.

2.1.2 Combined function key means: need to press and hold for over 2s then camera will recall a function.

Combined function keys: **【Manual】**、**【Preset】**、**【Call】**、**【Menu】**、
【Cam】、**【Power】**、**【SetID】**、**【CLR】**。

2.2 Combined function key specification

2.2.1 get into control status:

If LCD screen display:

CAM : 001
P.VISCA BR.9600

 , denote keyboard controller is in control status. If it display other information, please press **【Esc】** key back to control status.

2.2.2 Select camera ID:

Press **【Cam】** key, key in camera ID number, press **【Enter】** .

For example: select camera ID "2"



Operation: press **【Cam】** key, LCD screen will display:

CAM : 001
CAM :

Press '2' key, LCD screen will display:

CAM : 001
CAM : 2

press **【Enter】**, LCD screen will display:

CAM : 002
P.VISCA BR.9600

2.3 Camera ID setup:

Sony D70/D100 video conference camera ID will be set as '1' automatically after power on each time, so it shall be set by keyboard controller.

2.3.1 There is only one video conference camera

Connect camera to keyboard controller properly, press and hold **【SetID】** key for 2s, LCD screen will display

CAM : 001	
SET CAM ID :	001

, denote the camera ID has been set as '1'.

2.3.2 there are more than one video conference camera(max. 7)

Connect camera to keyboard controller properly, all cameras shall be connected in cascade mode, press and hold **【SetID】** key for 2s, LCD screen will display,

CAM : 001	
SET CAM ID :	001

 denote the cameras' ID have been set in sequence as '1', '2', '3'..., the ID of the camera which directly connect to keyboard will be set as '1', and so on.

2.4 preset setup and recall

Preset setup: select the camera ID, then press **【Preset】** key, LCD screen will display,

CAM : 001	
SET PRESET :	

 after adjusting the camera's direction and zoom near/far, key in a number as this preset's number, for example: '6', then press **【Enter】**, setup finish. Repeat above steps for other preset setup, or press **【Esc】** key to exit.



Preset recall: select the camera ID, then press **【Call】** key, LCD screen will display `CAN : 001
CALL PRESET:` , key in preset number.

For example '6', LCD screen will display , `CAN : 001
CALL PRESET: 6` press **【Enter】**, one preset is recalled. Repeat above steps for recalling other preset, press **【Esc】** key to exit.

2.5 Menu setup

Following operation can change parts of camera's functions, for camera's detail functions, please refer to camera's user manual.

Note: move joystick up/down to select different sub-menu, move joystick left/right to set the sub-menu.

2.5.1 when keyboard controller is in control mode, press **【Menu】** key:







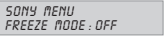

1: CAM_DZoomModeInq, LCD screen display `SONY MENU
DZOOM : ON` ,move joystick left/right to select D-Zoom ON or D-Zoom OFF.

2: CAM_DZoomC/SModeInq, LCD screen display `SONY MENU
DZOOMMODE : COMBINE` , move joystick left/right to select Combine Mode or Separate Mode.


3: CAM_AFSensitivityInq, LCD screen display `SONY MENU
AF SENSITIVITY : LOW` ,move joystick left/right to select AF Sensitivity Normal or AF Sensitivity Low.


4: CAM_AFModeInq, LCD screen display `SONY MENU
AF MODE : NORMAL` , move joystick left/right to select Normal AF or Interval AF.




- 5: CAM_WBModeInq, LCD screen display  , move joystick left/right to select Auto, In Door, Out Door, One Push WB, ATW or Manual.
- 6: CAM_AEModeInq, LCD screen display  , move joystick left/right to select Full Auto, Manual, Shutter Priority, Iris Priority, Bright.
- 7: CAM_SlowShutterModeInq, LCD screen display  , move joystick left/right to select Auto, Manual.
- 8: CAM_ExpCompModeInq, LCD screen display  , move joystick left/right to select On, Off.
- 9: CAM_SpotAEMModeInq, LCD screen display  , move joystick left/right to select On, Off.
- 10: CAM_LR_ReverseModeInq, LCD screen display  , move joystick left/right to select On, Off.
- 11: CAM_FreezeModeInq, LCD screen display  , move joystick left/right to select On, Off.
- 12: CAM_PictureEffectModeInq, LCD screen display  , move joystick left/right to select Off, Neg.Art or B&W.



13: CAM_ICRModeInq, LCD screen display  , move joystick left/right to select On, Off

14: CAM_AutoICRModeInq, LCD screen display  , move joystick left/right to select On, Off

 **Note:**

1. the keyboard control will receive answer code from camera when perform above operation, if the answer code is not correct, the keyboard controller's LCD screen will display "RE DATA UNKNOWN".
2. When finish setup for sub-menu, press **【Esc】** key, LCD screen display  if press **【Esc】** key again, setup will be saved at present, after power off, it will be deleted. If press **【Enter】** key, setup will be saved forever till it is modified by user next time.




3. parameter setup and inquiry


3.1 system parameter setup

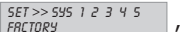
the keyboard controller's system parameter include: password, default factory, key-press sound on/off, ID, lock. Please refer to following setup description of 'default factory setup' and 'keyboard lock setup' for setup method.


3.1.1 default factory setup

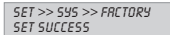
press and hold **【Setup】** key for 3s, LCD screen display ,

key in password(default is 8888), press **【Enter】** key, LCD screen display




move joystick right, LCD screen display ,

press **【Enter】** key, LCD screen display ,

press **【Enter】** key again, buzzer will sound for about 1s, LCD screen display,  setup is finished(press **【Esc】** key to quit and setup will not be saved),

press **【Esc】** key for 2 time back to normal mode.

3.1.2 Keyboard lock on/off setup

press and hold **【Setup】** key for 3s, LCD screen display 



key in password, press **【Enter】** key, LCD screen display `SET >> SYS 1 2 3 4 5
EDIT PW` ,

move joystick to select item 6, LCD screen display `SET >> SYS >> 6
LOCK SET` ,

press **【Enter】** key, LCD screen display `SET >> SYS >> LOCK SET
LOCK OFF` , it means the keyboard lock function is off,

move joystick left or right, LCD screen display `SET >> SYS >> LOCK SET
LOCK ON` ,

press **【Enter】** key, LCD screen display `SET >> SYS >> LOCK SET
LOCK PW` ,

key in 4 digit password (please keep it in mind), press **【Enter】** key again, LCD screen display `SET >> SYS >> LOCK SET
SET SUCCESS` ,

press **【Esc】** key for 2 times to quit and back to normal mode.

3.1.3 use method of keyboard lock function

in normal mode, press **【Esc】** key, LCD screen display `LOCKED
LOCK PW` ,

key in password, press **【Enter】** key, LCD screen display `LOCKED` , it means keyboard controller is locked now.

press each key, LCD screen display `LOCKED
OPEN LOCK :` ,

key in password, press **【Enter】** key, keyboard controller will back to unlock mode.



3.2 parameter setup framework

>SYSTEM Setup	>SET PASSWORD	OLD PW :	4 digit
		NEW PW :	4 digit
		AGAIN PW :	4 digit
	>LOAD DEFAULT	SURE?	【Enter】 to confirm 【Esc】 to quit
	LOAD ISP	SURE?	【Enter】 to confirm 【Esc】 to quit
	SOUND	ON	Move joystick to select, 【Enter】 to confirm
		OFF	
	KB ID	ID	Number 【0】 - 【15】
LOCK SET	ON	Move joystick to select, 【Enter】 to get into sub-menu	
	OFF		

3.2 system parameter inquiry

Press 【Search】 key, following information will display:

System inquiry	MODLE:XXXXXXXXXX	Maximum 10 digit
	SN : XXXXXXXX	8 digit
	KB ID: XXX	2 digit
	LOCK(ON/OFF)	Keyboard lock status(on or off)
	SOUND(ON/OFF)	Key-press sound status(on or off)

4. Typical wiring diagram

4.1 Typical wiring diagram

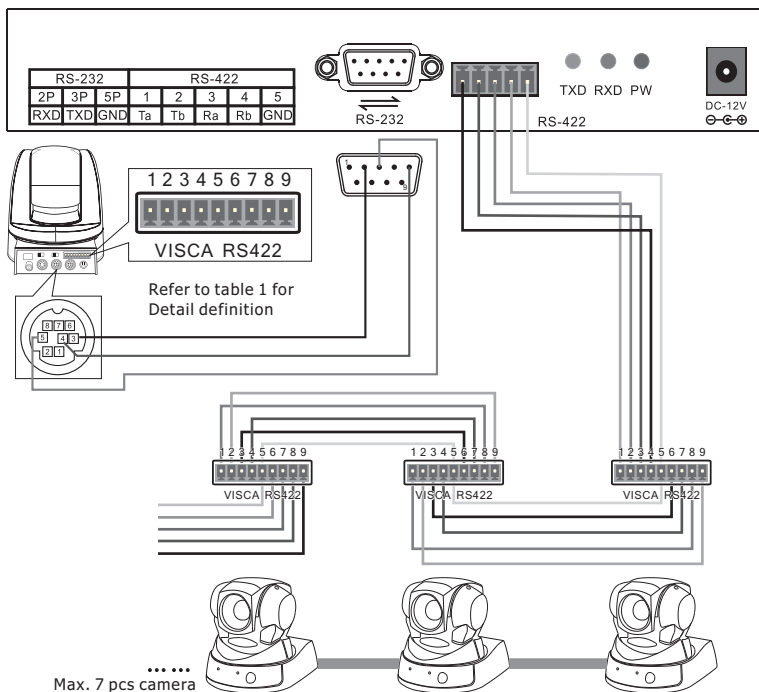


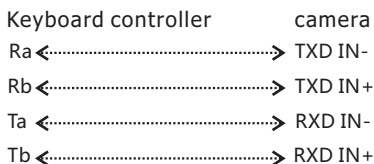
Table 1. VISCA RS422 port definition:

item	1	2	3	4	5	6	7	8	9
definition	TXD IN+	TXD IN-	RXD IN+	RXD IN-	GND	TXD OUT+	TXD OUT-	RXD OUT+	RXD OUT-

4.2 specification:

4.2.1 connection between keyboard controller and camera

When adopt RS422 control bus, the 3rd port of keyboard controller(Ra) connect to the 3rd port of camera(TXD IN-), the 4th port of keyboard controller(Rb) connect to the 4th port of camera(TXD IN+), the 1st port of keyboard controller(Ta) connect to the 1st port of camera(RXD IN-), the 2nd port of keyboard controller(Tb) connect to the 2nd port of camera (RXD IN+).



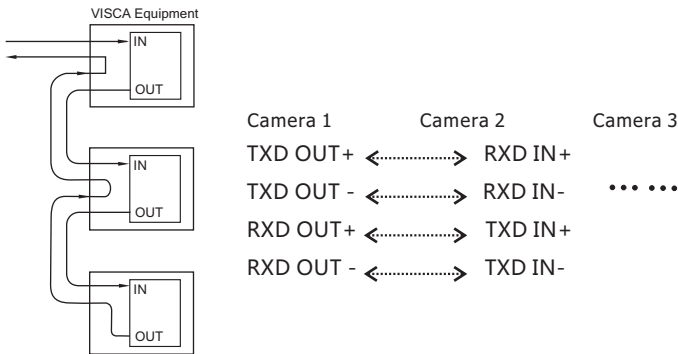
When adopt RS232 control bus, the 1st connector(RXD) of keyboard controller RS232 port connect to the 3rd connector(TXD) of camera RS232 port, the 2nd connector(TXD) of keyboard controller RS232 port connect to the 5th connector(RXD) of camera RS232 port, the 3rd connector(GND) of keyboard controller RS232 port connect to the 4th connector(GND) of camera RS232 port(or use a standard RS232 cable to connect both devices).



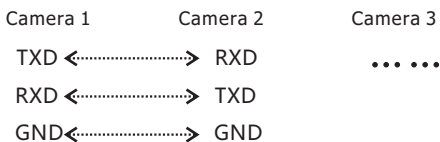
Client can select each of above connection method.

4.2.2 connection between cameras

When adopt RS422 control bus, the 1st camera's output port connect to the 2nd camera's input port, the 2nd camera's output port connect to the 3rd camera's input port, and so on. Please refer to following figure:



When adopt RS232 control bus, connection method is almost same, the 1st camera's output port connect to the 2nd camera's input port, the 2nd camera's output port connect to the 3rd camera's input port, and so on. Please refer to following figure:





5.FAQ

Phenomenon	Reason	Solve method
Keyboard can not control the camera	Faulty wiring	Please refer to section 4.2 for correct wiring method
	Faulty setup	Please make sure the baud rate is correct
some cameras can be controlled, the other can not	Faulty wiring	Please refer to section 4.2 for correct wiring method
	Faulty setup	Confirm the camera's setup is correct
All cameras will be controlled together	Faulty wiring	Please refer to section 4.1 for correct wiring method
Forget the keyboard lock password	reset the password	

Keyboard controller

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