RCC1000

Sony Pan/Tilt/Zoom Camera Controller

User Manual

This controller is designed for Sony pan/tilt/zoom cameras and supports VISCA protocol. It has all the functions of the Sony PTZ camera handheld remote controller and adds a touch sensitive joystick control. In addition to the joystick and keyboard, the controller has an LCD screen for displaying commands and the camera's working status.

The contents of this manual may be updated periodically without notification.

Controller Features

- Supports VISCA protocol
- Set and call presets of Sony PTZ cameras
- Communication modes: RS232, RS422, RS485
- All camera settings/functions can be set conveniently through function keys
- Control up to seven Sony PTZ cameras with one controller in a daisy-chain configuration
- Touch sensitive joystick control of pan, tilt and zoom speed
- Selectable speed range of pan/tilt control (low, medium or high)
- Supports password lock of camera function keys
- Key-press sound ('beep') on/off function

Precautions:

- The LCD is fragile. Avoid long exposure under strong light.
- The controller should be used within the specified temperature and humidity ranges (see chart below).
- Follow the connection method defined in this manual.
- Although the controller is of durable metal construction, care must be taken to avoid dropping the unit as internal parts could be damaged. Product should be packed in original or adequate packaging whenever transported.

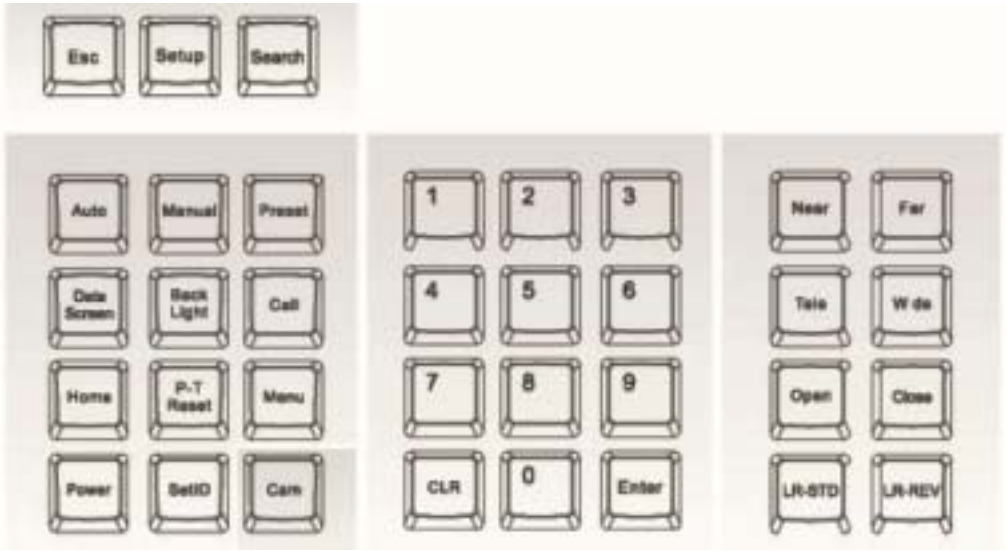
Specifications:

Power Supply	12V +/-10%
Operating Temperature	-10°C~55°C
Operating Humidity	⩽90% RH
Communication	RS232, RS422, RS485
Baud Rate	2400bps, 4800bps, 9600bps, 19200bps
Ports	RS232 and RS422 port
Display	Blue LCD screen
Size	4200mm (l) x 260mm (w) x 170mm (h)

Included Accessories:

Power Supply	12 VDC AC Adapter
Cable	8 Foot VISCA EVI CONTROL CABLE (9pin D-Sub to 8 pin Mini Din)
Instruction Manual	

Keyboard



Camera function keys

[Auto]	Enable auto focus
[Manual]	Enable manual focus
[Preset]	Camera preset setup (See 'Setting Up and Recalling Camera Preset Positions' for more details.)
[Data Screen]	Displays on-screen camera menu. At this time, the on-screen menu cannot be controlled with the RCC1000. These functions can be accessed/controlled using the [Menu] key on the controller. See 'Camera Functions' for more details.
[Back Light]	Turn on/off back light compensation
[Call]	Recall camera preset (See 'Setting Up and Recalling Camera Preset Positions' for more details.)
[Home]	Move camera to home position
[P-T Reset]	Reset the camera
[Menu]	Display camera functions menu (See 'Camera Functions' for more details.)
[Power]	Press and hold to power on/off camera
[SetID]	Camera ID setup (See 'Assigning Camera IDs' for more details.)
[Cam]	Select the camera's ID. Used when controlling more than one camera. (See 'Selecting a Camera ID' for more details.)

Controller function keys

[Esc]	Back to previous menu
[Setup]	Press and hold to enter controller settings menu information (See 'Controller Settings' for more details.)
[Search]	Display controller information (See 'Controller Settings Display' for more details.)

Number keys

[CLR]	Delete all information keyed in
[0] - [9]	Number keys: 0,1,2,3,4,5,6,7,8,9
[Enter]	Confirm and save all information keyed in

PTZ function keys

[Near]	In manual focus mode, focus near
[Far]	In manual focus mode, focus far
[Tele]	Zoom-in, increase magnification (to zoom-in faster, use joystick and turn clockwise)
[Wide]	Zoom-out, decrease magnification (to zoom-out faster, use joystick and turn counter-clockwise)
[Open]	In manual aperture mode, enlarge camera aperture
[Close]	In manual aperture mode, reduce camera aperture
[LR-STD]	Change direction of controller; camera moves in same direction as joystick
[LR-REV]	Change direction of controller; camera moves in opposite direction as joystick

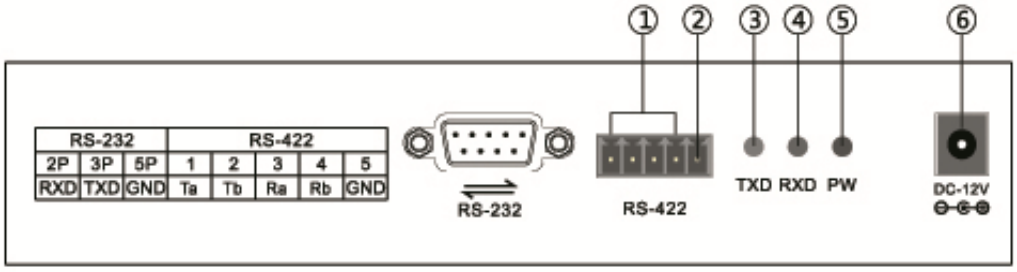
LCD Screen

All operations of keys and joystick will display on LCD screen when pressed. LCD screen will go into power saving mode (brightness level is reduced) if there is no user activity for more than 30 seconds.

Joystick

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

Rear panel



1	RS-422	Control command output terminal: connector 1-4	Connect to RS422 terminal of video conference camera
2	Ground	Control line ground terminal	Connect to ground RS422 terminal of camera
3	TXD	Send command indicator	Flickering green light indicates unit is sending commands
4	RXD	Receive command indicator	Flickering green light indicates unit is receiving commands
5	PW	Power input indicator	Continuous red light indicates unit is powered on
6	DC-12V	Power input port	DC 12V input port

Controller Settings

To view/modify the controller settings, press and hold down [Setup]. You will be prompted to enter the controller password. Enter '8888' and press [Enter].

To scroll through the controller settings item, move the joystick left/right. Press [Enter] to view/modify a particular setting.

1 EDIT PW - To change the controller password:

You will be prompted to enter the old controller password. Enter the old password (factory default is '8888') and press [Enter]. You will then be prompted to enter the new password. Enter the new password and press [Enter]. Re-enter the new password again when prompted and press [Enter].

2 FACTORY - To revert controller to default factory settings:

You will be asked to verify that you want to revert to default factory settings. Press [Enter] to proceed or [Esc] to abort.

3 SET SPEED - To set the pan/tilt speed range:

Move joystick left or right to select HIGH or LOW or MEDIUM. Press [Enter] to select a speed range. Press [Esc] to save selection and return to controller settings menu.

4 SOUND - To turn the key-press sound ('beep') on/off:

Move joystick left or right to select SOUND OFF or SOUND ON. Press [Enter] to make selection.

5 KB ID: To assign an ID to the controller:

Enter a number [0] - [15] and press [Enter].

6 LOCK SET - To lock camera function keys on controller:

Move joystick left or right to select LOCK OFF or LOCK ON. Select LOCK ON and press [Enter]. You will be prompted to enter a Lock Password (LOCK PW). Enter a 4-digit password and press [Enter].

Controller Settings Display

Press [Search] to display the following information about the controller (move joystick up/down to scroll through dislpay):

MODEL:	SONY
SN:	RCC1000 serial number (8-digit)
KB ID:	Programmable keyboard ID (2-digit)
SOUND:	Key-press sound status (ON/OFF)
LOCK:	Keyboard lock status (ON/OFF)

Assigning Camera IDs

Assigning a Camera ID for single camera use:

Connect camera to controller, camera ID will be set as '1' automatically after powering on both camera and controller.

Assigning a Camera ID for multiple cameras:

Connect first camera to controller and subsequent cameras in a daisy chain configuration. Press and hold [SetID] for 2 seconds. Camera IDs will be set in sequence as '1', '2', '3', etc.

Selecting a Camera ID

When controlling multiple cameras, to select the camera you would like to control, press [Cam], enter camera ID number, press [Enter]

For example, to select Camera 2: Press [Cam], Press [2], Press [Enter]

Setting Up and Recalling Camera Preset Positions

Setting Up a Preset Position
Select camera ID and press [Preset]. Adjust the camera to desired position and zoom, key in a number for this preset (e.g., 1, 2, 3 ...) and press [Enter]. Repeat steps to setup other presets or press [Esc] to exit.

Recalling a Preset Position
Select camera ID and press [Call]. Key in the preset number and press [Enter]. Repeat steps to recall other presets or press [Esc] to exit.

Camera Functions

To access camera functions, press and hold [Menu]. You will be prompted to enter the Camera Functions Menu password: '6666'

To scroll through the menu items, move the joystick up/down.

To select a menu item option, move the joystick left/right.

When finished making selections, there are two options for saving the settings:
1. Press [Enter] to save current settings until it is modified by user (settings will be saved even if controller is powered off).
2. Press [Esc] to save current settings only until controller is powered off.

The following camera functions can be operated by the controller. Refer to your camera manual for more information on each function.

DZOOM
Digital Zoom: Move joystick left or right to select OFF or ON

DZOOMMODE
Digital Zoom Mode: Move joystick left or right to select COMBINE or SEPARATE

AF SENSITIVITY
Auto Focus Sensitivity: Move joystick left or right to select NORMAL or LOW

AF MODE
Auto Focus Mode: Move joystick left or right to select NORMAL AF or INTERVAL AF or ZOOM TRIGGER

WB MODE
White Balance Mode: Move joystick left or right to select AUTO or INDOOR or OUTDOOR or ONE PUSH or ATW or MANUAL

AE MODE
Automatic Exposure Mode: Move joystick left or right to select AUTO or MANUAL or SHUTTER PRIORITY or IRIS PRIORITY or BRIGHT

SHUTTER MODE
Shutter Mode: Move joystick left or right to select AUTO or MANUAL

EXP COMP MODE
Exposure Compensation: Move joystick left or right to select OFF or ON

SPOT AE MODE
Spot Exposure Mode: Move joystick left or right to select OFF or ON

LR REV MODE
Mirror Image: Move joystick left or right to select OFF or ON

FREEZE MODE
Freeze: Move joystick left or right to select OFF or ON

PIC EFFECT
Picture Effect: Move joystick left or right to select OFF or NEGATIVE ART or B&W

ICR MODE
IR Cut Removable Mode: Move joystick left or right to select OFF or ON

AUTO ICR MODE
Auto IR Cut Removable Mode: Move joystick left or right to select OFF or ON

Note: If a camera feature is not available for the connected camera, the LCD screen will display 'RE DATA UNKNOWN'.

Typical Camera Connection Diagram

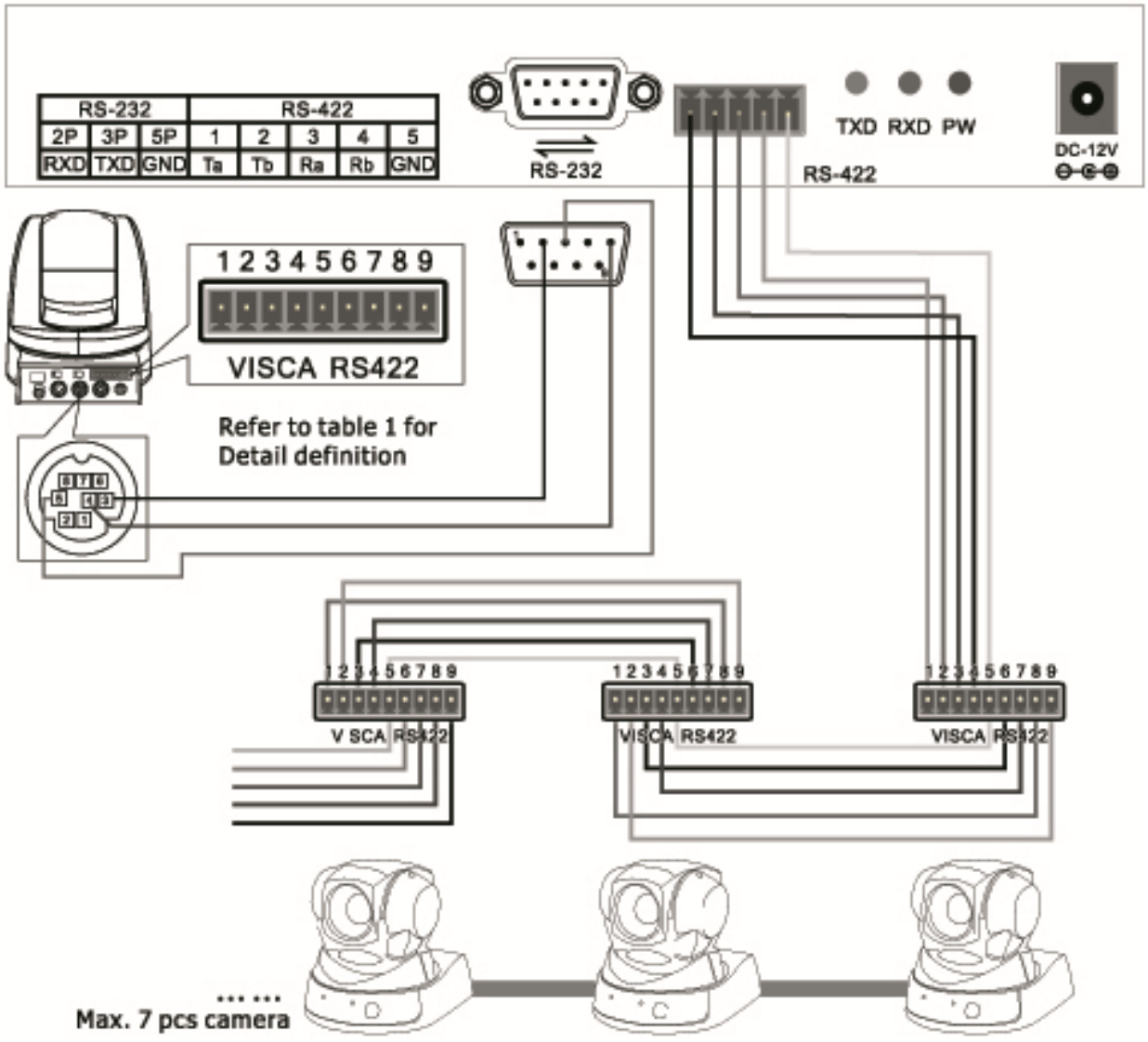


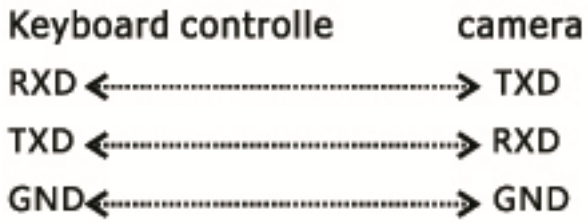
TABLE 1 VISCA RS422 Port Definition

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-

Camera Connection Details

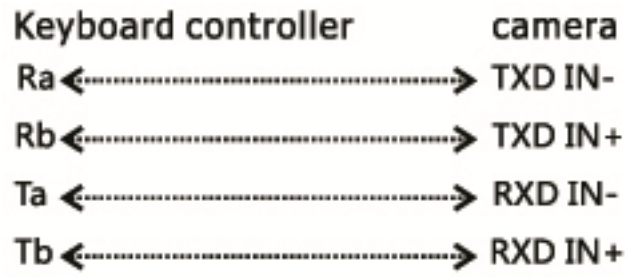
Connection between camera and controller using RS232:

When using the RS232 connection, the 1st connector of the controller (RXD) connects to the 3rd connector of the camera (TXD), the 2nd connector of the controller (TXD) connects to the 5th connector of the camera (RXD), the 3rd connector of the controller (GND) connects to the 4th connector of the camera (GND). Or use a standard RS232 cable (EVI CONTROL CABLE) to connect both devices.



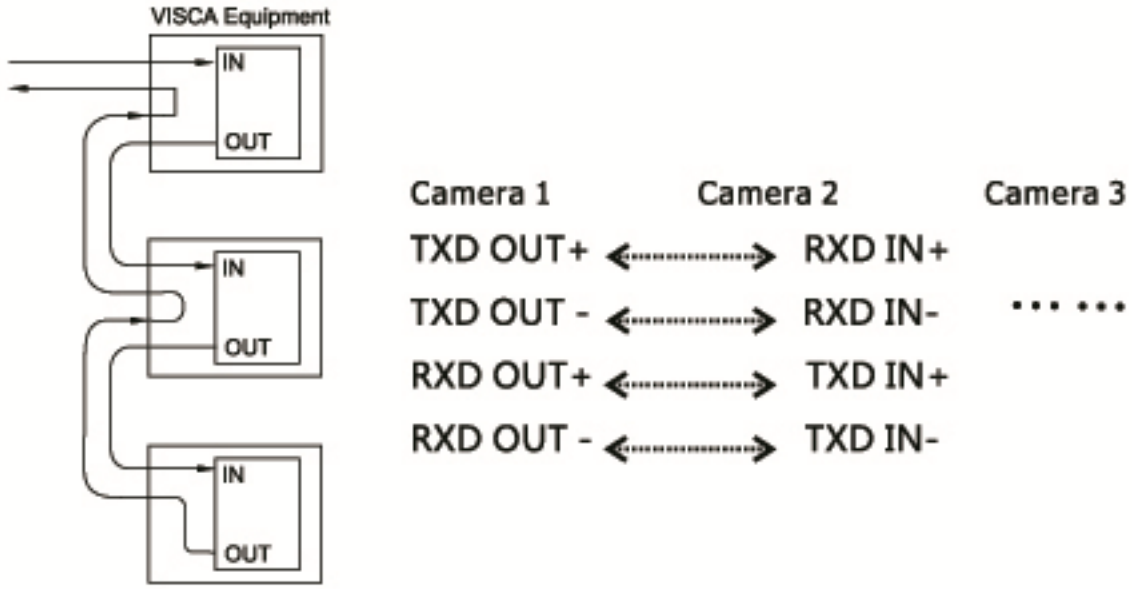
Connection between camera and controller using RS422:

When using the RS422 connection, the 3rd port of the controller (Ra) connects to the 3rd port of the camera (TXD IN-), the 4th port of the controller (Rb) connects to the 4th port of the camera (TXD IN+), the 1st port of the controller (Ta) connects to the 1st port of the camera (RXD IN-) and the 2nd port of the controller (Tb) connects to the 2nd port of the camera (RXD IN+).



Connection between cameras:

When using RS422 control, the 1st camera's output connects to the 2nd camera's input, the 2nd camera's output connects to the 3rd camera's input, and so on.



When using RS232 control, the connection method is the same. The 1st camera's output connects to the 2nd camera's input, the 2nd camera's output connects to the 3rd camera's input, and so on. Use RS232 EVI DS-CABLE to connect camera to camera.

Troubleshooting

Problem	Solution
Camera is not responding to controller	Verify connections. If using RS232 connection, verify you are plugged into VISCA IN of camera. If using RS422 connection, verify wiring is correct per 'Camera Connection Details' section in manual.
	Verify the baud rate is correct (should match baud rate setting of camera)
	Verify camera dip switch is correctly set to communication mode being used with RCC1000 (RS232 or RS422)
Some cameras can be controlled but others cannot	Verify all connections/wiring is correct per 'Camera Connection Details' section in manual.
All cameras are being controlled simultaneously	Verify all connections/wiring are correct per 'Camera Connection Details' section in manual.
LCD display is malfunctioning.	This can occur with static electricity. Unplug the unit for a few seconds and repower.

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