

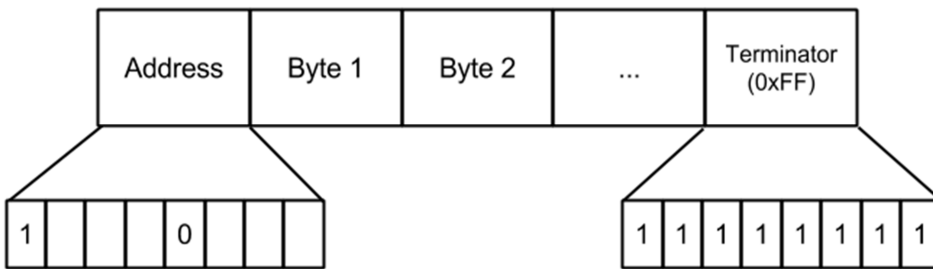
# AVER VISCA

## Specification

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## 1 Introduction

AVER VISCA protocol provides an interface through RS232 for remote devices to communicate with the conference camera. This document contains information about the use of AVER VISCA protocol, and is intended for system integrators.

## 2 RS232

- Baud rate: 2400, 4800, 9600 (default), 115200 bps.
- Data bits: 8
- Start bit: 1
- Stop bit: 1
- Parity: None
- Flow control: None.

## 3 VISCA message format

### 3.1 Commands and responses format

The minimum length of any command or response is 3 bytes:

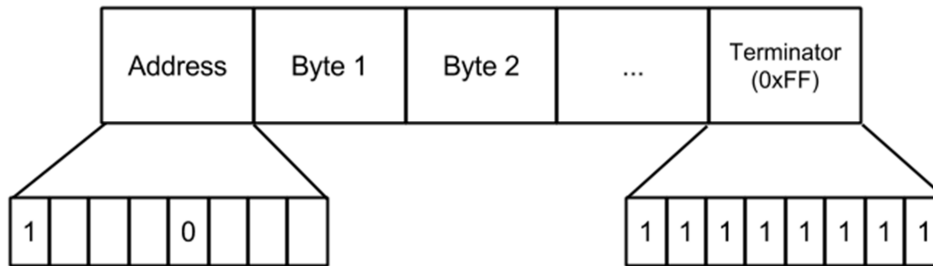
- Address byte (1)
  - Command:
 

The most significant 4 bits are sender address, and the least significant 4 bits are receiver address. We only support one host; the sender address must always be 0x8X. 7 receiver address supported, start from 1. (I.e. address 1: 0x81, address 2: 0x82 ...). Command address presents as 8x (see bellow command table).
  - Reply:
 

Only most significant 4 bits are used as reply address. (I.e. address 1: 0x90, address 2: 0xa0, ...). Reply address presents as y0 (see bellow command table).
- Message bytes (1..14)
 

You may get more information from bellow command table.
- Terminator byte (1)
 

All message must be terminated with 0xFF.



### 3.2 Command

Command	Command Message	Reply Message	Comments
Network change		y0 38 FF	Network change.
Address_Set	88 30 01 FF	88 30 02 FF	Always broadcasted.
IF_Clear(broadcast)	88 01 00 01 FF	88 01 00 01 FF	The same command is returned.
IF_Clear	8x 01 00 01 FF	y0 50 FF	Ack.
CAM_VersionInq	8x 09 00 02 FF	y0 50 GG GG HH HH JJ JJ KK FF	GGGG = Vender ID HHHH = Model ID JJJJ = Version KK = Maximum socket #
PT_Pos_Inq	8x 09 06 12 FF	y0 50 0Y 0Y 0Y 0Y 0V 0V 0V 0V FF	0Y 0Y 0Y 0Y: Pan position <sup>1</sup> 0V 0V 0V 0V: Tilt position <sup>1</sup>
Zoom_Pos_Inq	8x 09 04 47 FF	y0 50 0Y 0Y 0Y 0Y FF	0Y 0Y 0Y 0Y: Zoom position <sup>1</sup>
PT_Stop	8x 01 06 01 00 00 03 03 FF	y0 50 FF	
PT_Up	8x 01 06 01 00 00 03 01 FF		
PT_Down	8x 01 06 01 00 00 03 02 FF		
PT_Left	8x 01 06 01 00 00 01 03 FF		
PT_Right	8x 01 06 01 00 00 02 03 FF		
PT_Direct	8x 01 06 02 00 00 0Y 0Y 0Y 0Y 0V 0V 0V 0V FF		0Y 0Y 0Y 0Y: Pan position <sup>1</sup> 0V 0V 0V 0V: Tilt position <sup>1</sup>
Zoom_Stop	8x 01 04 07 00 FF		
Zoom_Tele	8x 01 04 07 20 FF		
Zoom_Wide	8x 01 04 07 30 FF		
Zoom_Direct	8x 01 04 47 0Y 0Y 0Y 0Y FF		0Y 0Y 0Y 0Y: Zoom position <sup>1</sup>
CAM_Memory	8x 01 04 3F 01 YY FF		Set YY: id
CAM_Memory	8x 01 04 3F 02 YY FF		Recall YY: id
CAM_Power_ON	8x 01 04 00 02 FF		
CAM_Power_OFF	8x 01 04 00 03 FF		
CAM_Track_Trigger	8x 01 04 7D 00 00 FF		CAM540, VB342+, CAM/VC520 Pro: Framing start

CAM_Track_ON	8x 01 04 7D 02 00 FF		CAM540,VB342+,CAM520Pro,VC520 Pro: Auto framing mode
CAM_Track_OFF	8x 01 04 7D 03 00 FF		CAM540,VB342+,CAM520Pro,VC520 Pro: Manual framing mode
CAM_Track_Audio	8x 01 04 7D 04 00 FF		VB342+: Audio tracking mode
CAM_Track_Audio_Frame	8x 01 04 7D 05 00 FF		VB342+: Audio frame mode
CAM_Track_Audio_Preset	8x 01 04 7D 06 00 FF		VB342+: Audio Preset tracking mode
ADO_Mute_Toggle	8x 01 08 00 00 FF		Support: VB342+,VC520 Pro
ADO_Mute_On	8x 01 08 00 01 FF		Support: VB342+,VC520 Pro
ADO_Mute_Off	8x 01 08 00 02 FF		Support: VB342+,VC520 Pro
ADO_Volume_Up	8x 01 08 01 01 FF		Support: VB342+,VC520 Pro
ADO_Volume_Down	8x 01 08 01 02 FF		Support: VB342+,VC520 Pro

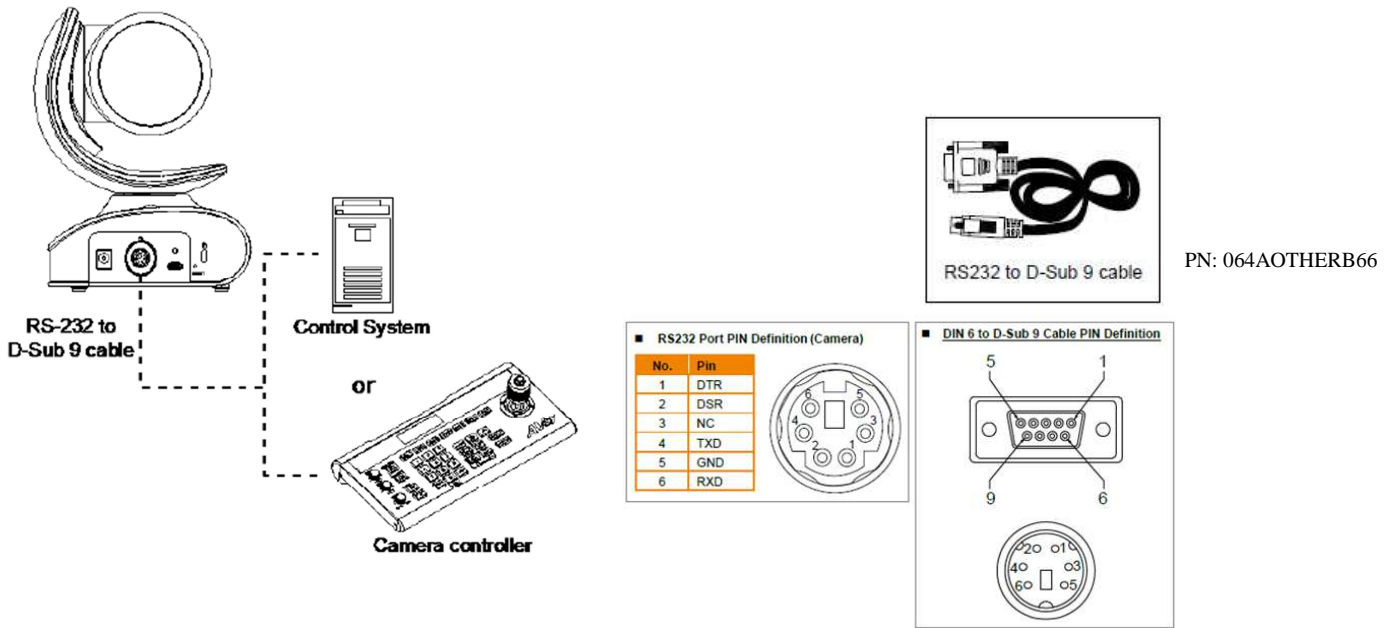
1. Position is separate into 0Y 0Y 0Y 0Y, user may assemble back as YYYY. (I.e. 0x1234 → 01 02 03 04)

## 4 Revision History

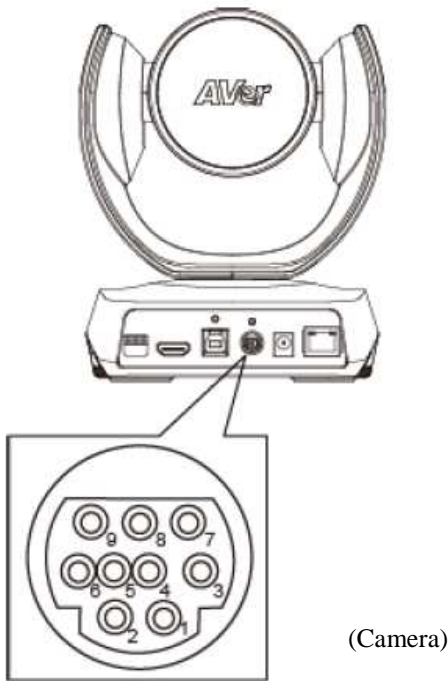
Date	Rev.	Author	Content
2015.07.31	1.0	Drama	Draft
2016.02.23	1.1	Drama	Modified. Zoom_Tele & Zoom_Wide.
2018.09.25	1.2	William	Add. CAM_Power_ON & CAM_Power_OFF
2019.10.08	1.3	William	Add. CAM_Track Command
2019.12.24	1.4	Drama	Add. CAM520Pro/VC520 Pro
2020.06.23	1.5	William	Add. ADO_Mute & ADO_Volume
2020.7.10	1.6	Sarah	Add CAM520Pro/VC520 Pro RS232 connection
2020.8.18	1.7	Sarah	Correction on CAM520Pro/VC520 Pro RS232 connection

## 5 RS232 connection

Model: CAM520,VC520+, CAM540, VB342+



Model: CAM520 Pro/ VC520 Pro

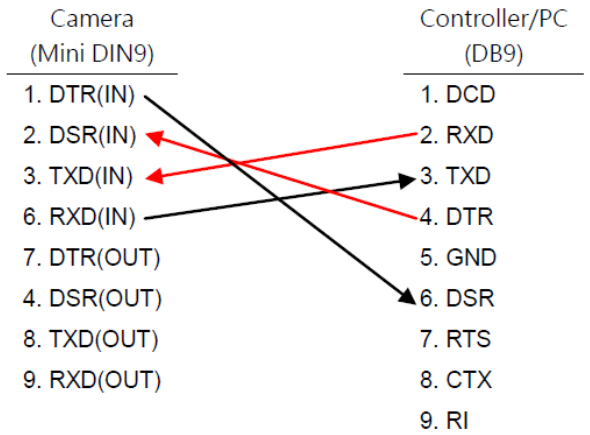
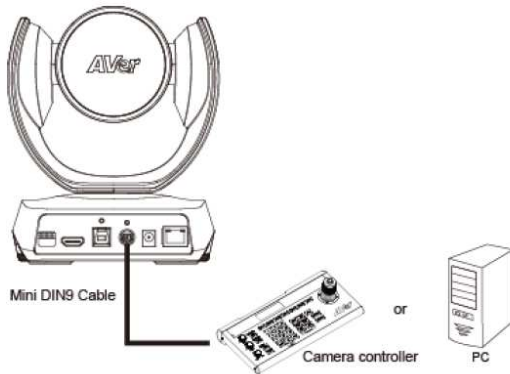


Function	Mini DIN9 PIN #	I/O Type	Signal	Description
VISCA IN	1	Output	DTR	Data Terminal Ready
	2	Input	DSR	Data Set Ready
	3	Output	TXD	Transmit Data
	6	Input	RXD	Receiver Data
VISCA OUT	7	Output	DTR	Data Terminal Ready
	4	Input	DSR	Data Set Ready
	8	Output	TXD	Transmit Data
	9	Input	RXD	Receiver Data
	5	---	---	Not connect

■ **Computer/Keyboard Controller and Camera Connection**

Direct Connection

If users don't buy AVer RS232 adaptor cable, please refer to the pin connection shown below.



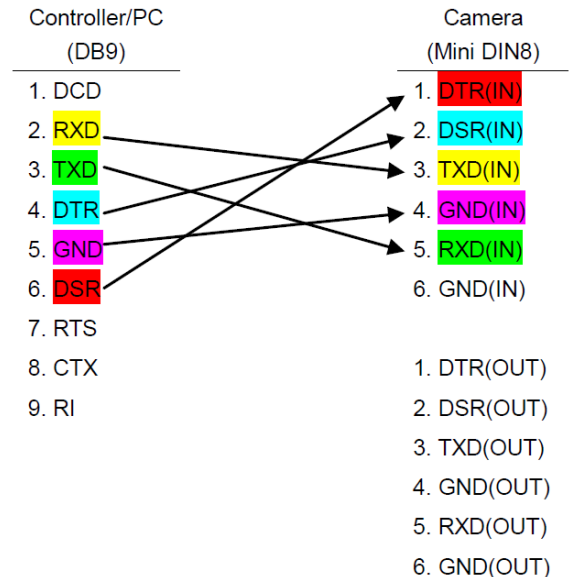
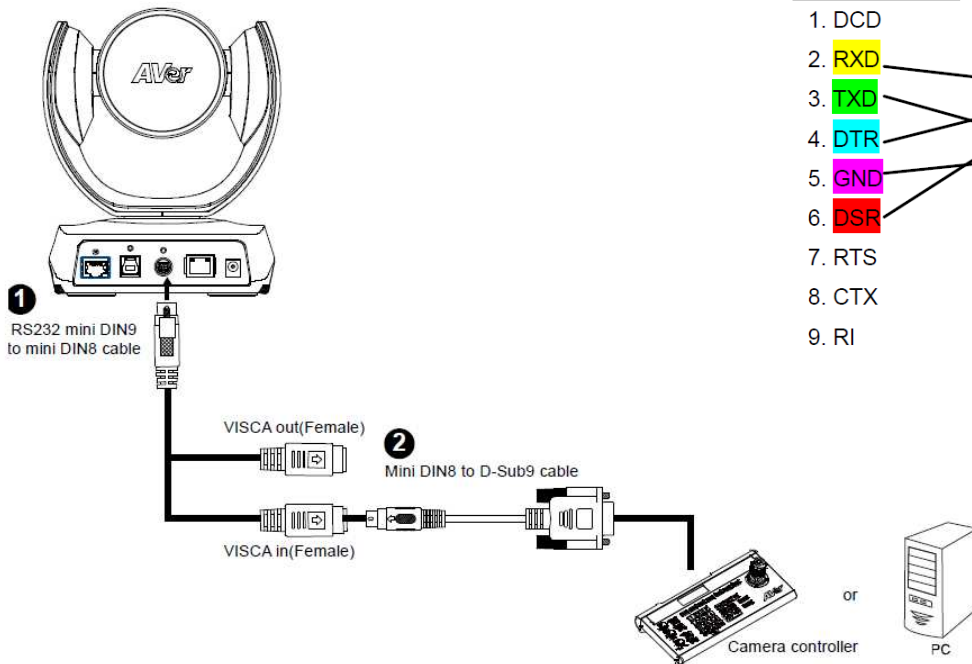
**Use the RS232 mini DIN9 to mini DIN8 cable** (included with CAM520 Pro(PoE) SKU, otherwise sold separately).

Users can purchase AVer RS232 min DIN9 to mini DIN8 adaptor cable\* to connect with Computer or keyboard/controller.

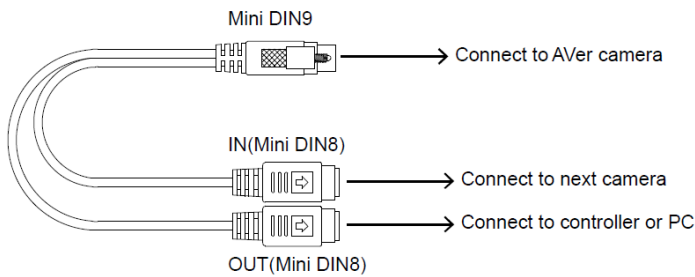
1. RS232 (mini DIN9 to mini DIN8) adaptor cable (PN: 064AOTHERCDC)

2. Users can also purchase a miniDIN8 to D-Sub9 cable to connect with camera controller.

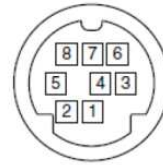
(PN: 064AOTHERBPK)



■ RS232 mini DIN9 to mini DIN8 Cable Pin Definition



Mini DIN8 Pin Definition



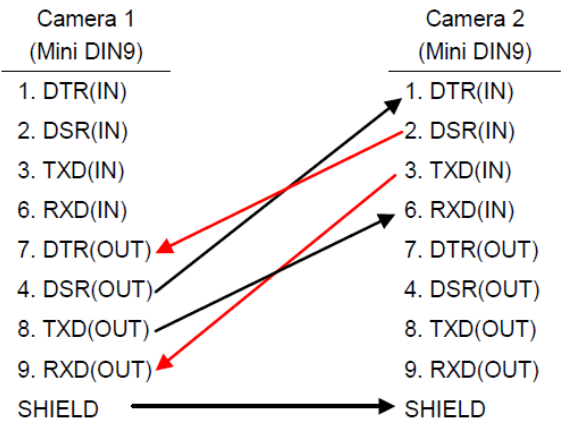
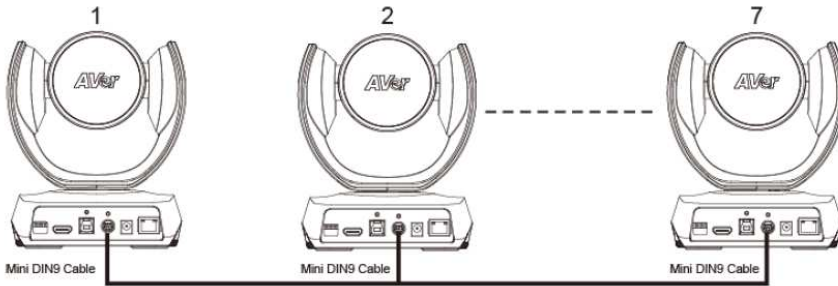
No.	Pin
1	DTR
2	DSR
3	TXD
4	GND
5	RXD
6	GND
7	NC
8	NC

■ Camera Cascade Connection

Direct Connection

If users don't buy AVer RS232 adaptor cable, please refer to the pin connection shown below for cascading cameras.

Total can connect up to 7 cameras.



Use the RS232 mini DIN9 to mini DIN8 cable

Total can connect up to 7 cameras.

To facilitate the camera cascade, users can purchase AVer RS232 adaptor cable.

Connect camera with AVer mini DIN9 to mini DIN8 adaptor cable. Connect the mini DIN8 female side to male mini DIN8 Visca cable (Users have to buy it in the market) and then connect AVer mini DIN9 to mini DIN8 adaptor cable again to connect to next camera.

