

PS600,V02 Protocol

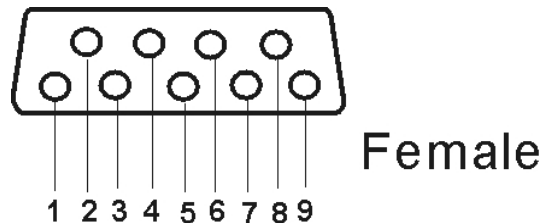
1. Communication Protocol

Transmit Method : Asynchronous Interface Half Duplex Serial Communication.

- Transmit Speed: 9600bps
- Flow control: NA
- Data Bit: 8Bit
- Parity Bit: NA
- Stop Bit: 1Bit

2. The wire diagram

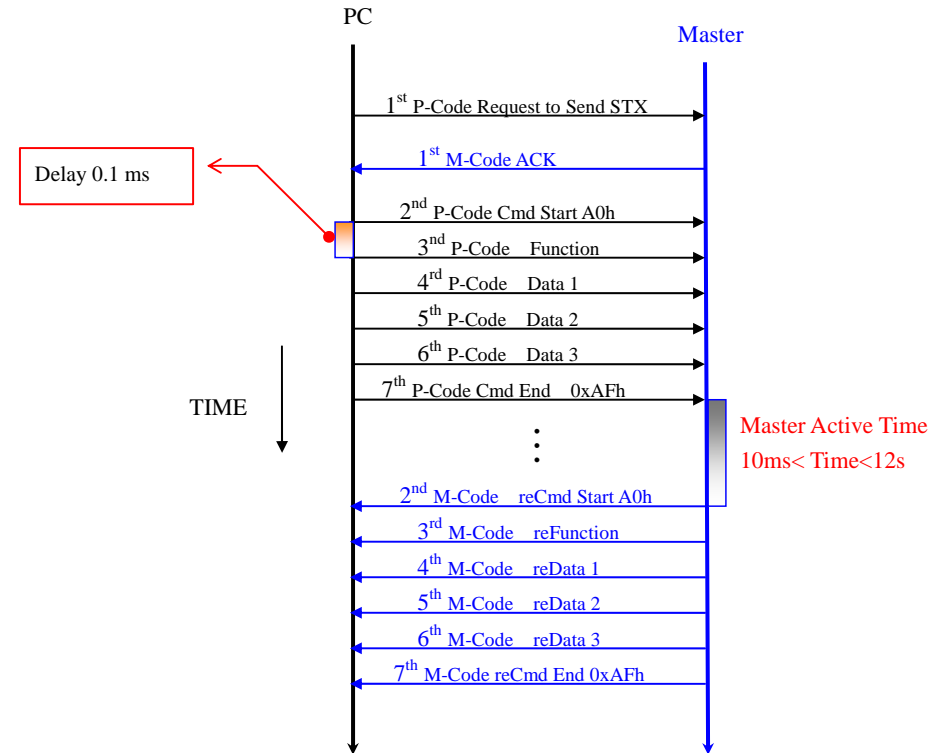
The RS232 wire diagram between presenter and remote controller as below



| CONNECTIONS | | |
|-------------|--------|-------|
| DB 9F | COLOUR | DB 9F |
| 2 | - | 3 |
| 3 | - | 2 |
| 5 | - | 5 |
| SHELL | DRAIN | SHELL |

3. The command Sets and protocol

Control method



- STX= 73H ('s') ACK= AAH
- PC request to send command by sending STX to MASTER.
- If MASTER is ready for receiving, send ACK to PC.
- When PC sends 6 bytes to MASTER, it must delay 0.1ms among bytes.
- MASTER will return message (6 bytes) when it finished work. According to different functions, the active time will be between 10(ms) and 12(s).

4. Command Packet

| Item | Function | PC AP to PS600,V02 Master command format | | | | | | Comment |
|------|--|--|-----|-----|-----|-----|-----|--|
| | | 1B | 2B | 3B | 4B | 5B | 6B | |
| 1 | Factory Reset | A0h | 03h | P1 | 00h | 00h | AFh | P1:00=Factory |
| 2 | Digital Zoom On/Off | A0h | 0Fh | P1 | 00h | 00h | AFh | P1:00/01=OFF/ ON |
| 3 | Zoom Direct (Tracking) (No AF) | A0h | 12h | P1 | 00h | 00h | AFh | P1:Zoom Position= 0~92(d)(73~92-Digital Zoom) |
| 4 | Auto Tune | A0h | 21h | 00h | 00h | 00h | AFh | P1:00/01=OFF/ ON |
| 5 | AWB | A0h | 22h | 00h | 00h | 00h | AFh | AWB once trigger |
| 6 | Freeze | A0h | 2Ch | P1 | 00h | 00h | AFh | P1:00/01=Off/On |
| 7 | AE status | A0h | 30h | P1 | 00h | 00h | AFh | P1:00/01=off/on |
| 8 | Image | A0h | 36h | P1 | 00h | 00h | AFh | P1:00/01/02/03=Normal/Flim/Positive/Microscopoe |
| 9 | Source | A0h | 37h | P1 | 00h | 00h | AFh | P1:00/01=Camera/PC |
| 10 | Lamp | A0h | 38h | P1 | 00h | 00h | AFh | P1:00/01/02=Off/Upper/Backlight |
| 11 | Brightness Control | A0h | 39h | P1 | P2 | 00h | AFh | P1:01/00 =Brightness(+ 1)/ Brightness(- 1) |
| 12 | Zoom Control | A0h | 3Ah | P1 | 00h | 00h | AFh | P1:01/00 = ZoomIn(+ 1)/ZoomOut(- 1) ; PR1(LOW) RP2(HIGH) = Zoom Position |
| 13 | Focus Control | A0h | 3Bh | P1 | 00h | 00h | AFh | P1:01/00 = Focus(+ 1)/Focus(- 1) ; PR1(LOW) RP2(HIGH) = Focus Position |
| 14 | ReFlash SPS and Important values on EEPROM | A0h | 42h | P1 | 00h | 00h | AFh | P1:01/02/03/04=SPS/Image Data/User Preset/Error Code, this command will auto erase the parameters that saved in EEPROM, and recover default after reboot |
| 15 | Service Menu On | A0h | 43h | EEh | DDh | CCh | AFh | The default of SPS and Menu are close, after send this command, the status of SPS and Menu will be open. |
| 16 | Media | A0h | 44h | P1 | 00h | 00h | AFh | P1:00/01=internal/ PC Card |
| 17 | Call Version x.xx | A0h | 45h | 00h | 00h | 00h | AFh | version CN P1 . P2 P3 |

| | | | | | | | | |
|----|----------------------------|-----|-----|-----|-----|-----|-----|--|
| 18 | Video | A0h | 46h | P1 | 00h | 00h | AFh | P1: 0:Auto/ 1:NTSC / 2:PAL |
| 19 | VGA Output Freq. 60Hz/75Hz | A0h | 49h | P1 | 00h | 00h | AFh | VGA output Frequency P1:00/01 = 60Hz/75Hz ; Default : 75Hz |
| 20 | Call lamp Status | A0h | 50h | 00h | 00h | 00h | AFh | P1:00/01/02=off lamp/upper lamp/lower lamp (use 3 mode) |
| 21 | Call text/photo Status | A0h | 51h | 00h | 00h | 00h | AFh | P1:00/01/02=photo/text/Gary |
| 22 | Call Zoom Position | A0h | 60h | 00h | 00h | 00h | AFh | P1P2:00(Wide)~72(Tele) |
| 23 | Call Digital Zoom Position | A0h | 62h | 00h | 00h | 00h | AFh | P1:00(Wide)~40(Tele) |
| 24 | Call Focus Position | A0h | 64h | 00h | 00h | 00h | AFh | P1P2:00(Near)~508(Far) |
| 25 | Call Freeze Status | A0h | 78h | 00h | 00h | 00h | AFh | P1:00/01=Off/On |
| 26 | Call flip Status | A0h | 79h | 00h | 00h | 00h | AFh | P1:00/01=Off/On |
| 27 | Call Iris Status | A0h | 80h | 00h | 00h | 00h | AFh | P1:00/01=Manual/Auto P2=Brightness value 50HZ 0~100(d), 60HZ 0~100(d) |
| 28 | Call Image | A0h | 87h | 00h | 00h | 00h | AFh | P1:00/01/02/03/04=Normal/Gray/Flim/Positive/Microscopoe |
| 29 | Call Mix Zoom Position | A0h | 8ah | 00h | 00h | 00h | AFh | P1(LOW BYTE) / P2(HIGH BYTE) |
| 30 | Key Function | A0h | A0h | P1 | 00h | 00h | AFh | P1:01/02/03/04/05/06=Set/Up/Down/Left/Right/menu |
| 31 | Set R/B value | A0h | A1h | P1 | P2 | 00h | AFh | P1:Red value (0~96) P2:Blue value (0~96) |
| 32 | Call R/B value | A0h | A2h | 00h | 00h | 00h | AFh | P1:Red value (0~96) P2:Blue value (0~96) |
| 33 | AF | A0h | A3h | 00h | 00h | 00h | AFh | AF once trigger |
| 34 | Preset | A0h | A4h | P1 | 00h | 00h | AFh | P1:0/1/2 =Call Preset Menu / Load / Save |
| 34 | Set Zoom A4/A5 Size | A0h | A5h | P1 | 00h | 00h | AFh | P1:02/01 = A5/A4 |
| 36 | Set Sharpness(Gamma) | A0h | A7h | P1 | 00h | 00h | AFh | P1: 00/01/02 = Photo/Text/Gray |
| 37 | Power On/Off | A0h | B1h | P1 | 00h | 00h | AFh | P1:00/01=Off/On |
| 38 | Capture | A0h | B2h | 00h | P2 | 00h | AFh | P2 : 00 = Normal Capture (In order), RP2 : Amount current saved picture |
| 39 | PlayBack | A0h | B3h | 00h | P2 | 00h | AFh | P2 : 00 = Normal Playback (64 Index Picture) RP2 : Amount current saved picture |
| 40 | Flip | A0h | B5h | P1 | 00h | 00h | AFh | P1:00/01=disable/Flip |

| | | | | | | | | |
|-----------|------------------------|-----|-----|-----|-----|-----|-----|--|
| 41 | Delete | A0h | B6h | P1 | P2 | 00h | AFh | P1:00/01/02=delete one picture/delete all picture/Format P2 : 00 = Normal Delete One Image (Under Playback Only) RP2 : Amount current saved picture. |
| 42 | Output Format SVGA/XGA | A0h | B9h | P1 | 00h | 00h | AFh | P1: 00/01=SVGA/XGA |
| 43 | PBP | A0h | BAh | 00h | 00h | 00h | AFh | |
| 44 | Auto Erase | A0h | 14h | P1 | 00h | 00h | AFh | P1: 0:OFF / 1:ON |
| 45 | Call Modle | A0h | 15h | 00h | 00h | 00h | AFh | Return Modle Code ex: if PS400's version is PZ130, RP1= 'P' and RP2 = 'Z' |
| 46 | Language | A0h | 16h | P1 | 00h | 00h | AFh | P1=0/1/2/3/4/5/6/7:English / Deutsch / Francais / Italiano / Eapanol / Р у с с к и й /中繁/中簡 |
| 47 | AC Freq. | A1h | 17h | P1 | P2 | 00h | AFh | P1: 0/1=Read/Write P2:When P1=1,0/1=50Hz/60Hz RP2:The AC status 0/1=50Hz/60Hz |

5. Return Packet

| Item | Function | PC AP to PS400 Master command format | | | | | | Comment |
|------|--|--------------------------------------|-----|-----|-----|----|-----|--|
| | | 1B | 2B | 3B | 4B | 5B | 6B | |
| 1 | Factory Reset | A0h | 03h | P1 | 00h | St | AFh | P1:00=Factory |
| 2 | Digital Zoom On/Off | A0h | 0Fh | P1 | 00h | St | AFh | P1:00/01=OFF/ ON |
| 3 | Zoom Direct (Tracking) (No AF) | A0h | 12h | P1 | 00h | St | AFh | P1:Zoom Position= 0~92(d)(73~92-Digital Zoom) |
| 4 | Auto Tune | A0h | 21h | 00h | 00h | St | AFh | P1:00/01=OFF/ ON |
| 5 | AWB | A0h | 22h | 00h | 00h | St | AFh | AWB once trigger |
| 6 | Freeze | A0h | 2Ch | P1 | 00h | St | AFh | P1:00/01=Off/On |
| 7 | AE status | A0h | 30h | P1 | 00h | St | AFh | P1:00/01=off/on |
| 8 | Image | A0h | 36h | P1 | 00h | St | AFh | P1:00/01/02/03=Normal/Flim/Positive/Microscopoe |
| 9 | Source | A0h | 37h | P1 | 00h | St | AFh | P1:00/01=Camera/PC |
| 10 | Lamp | A0h | 38h | P1 | 00h | St | AFh | P1:00/01/02=Off/Upper/Backlight |
| 11 | Brightness Control | A0h | 39h | RP1 | P2 | St | AFh | P1:01/00 =Brightness(+ 1)/ Brightness(- 1) |
| 12 | Zoom Control | A0h | 3Ah | RP1 | RP2 | St | AFh | P1:01/00 = ZoomIn(+ 1)/ZoomOut(- 1) ; PR1(LOW) RP2(HIGH) = Zoom Position |
| 13 | Focus Control | A0h | 3Bh | RP1 | RP2 | St | AFh | P1:01/00 = Focus(+ 1)/Focus(- 1) ; PR1(LOW) RP2(HIGH) = Focus Position |
| 14 | ReFlash SPS and Important values on EEPROM | A0h | 42h | P1 | 00h | St | AFh | P1:01/02/03/04=SPS/Image Data/User Preset/Error Code, this command will auto erase the parameters that saved in EEPROM, and recover default after reboot |
| 15 | Service Menu On | A0h | 43h | EEh | DDh | St | AFh | The default of SPS and Menu are close, after send this command, the status of SPS and Menu will be open. |
| 16 | Media | A0h | 44h | P1 | 00h | St | AFh | P1:00/01=internal/ PC Card |
| 17 | Call Version x.xx | A0h | P1 | P2 | P3 | St | AFh | version CN P1 . P2 P3 |

| | | | | | | | | |
|----|----------------------------|-----|-----|-----|-----|----|-----|--|
| 18 | Video | A0h | 46h | P1 | 00h | St | AFh | P1: 0:Auto/ 1:NTSC / 2:PAL |
| 19 | VGA Output Freq. 60Hz/75Hz | A0h | 49h | P1 | 00h | St | AFh | VGA output Frequency P1:00/01 = 60Hz/75Hz ; Default : 75Hz |
| 20 | Call lamp Status | A0h | 50h | P1 | 00h | St | AFh | P1:00/01/02=off lamp/upper lamp/lower lamp (use 3 mode) |
| 21 | Call text/photo Status | A0h | 51h | P1 | 00h | St | AFh | P1:00/01/02=photo/text/Gary |
| 22 | Call Zoom Position | A0h | 60h | P1 | P2 | St | AFh | P1P2:00(Wide)~72(Tele) |
| 23 | Call Digital Zoom Position | A0h | 62h | P1 | 00h | St | AFh | P1:00(Wide)~40(Tele) |
| 24 | Call Focus Position | A0h | 64h | P1 | P2 | St | AFh | P1P2:00(Near)~508(Far) |
| 25 | Call Freeze Status | A0h | 78h | P1 | 00h | St | AFh | P1:00/01=Off/On |
| 26 | Call flip Status | A0h | 79h | P1 | 00h | St | AFh | P1:00/01=Off/On |
| 27 | Call Iris Status | A0h | 80h | P1 | P2 | St | AFh | P1:00/01=Manual/Auto P2=Brightness value 50HZ 0~100(d), 60HZ 0~100(d) |
| 28 | Call Image | A0h | 87h | P1 | 00h | St | AFh | P1:00/01/02/03/04=Normal/Gray/Flim/Positive/Microscopoe |
| 29 | Call Mix Zoom Position | A0h | 8ah | P1 | P2 | St | AFh | P1(LOW BYTE) / P2(HIGH BYTE) |
| 30 | Key Function | A0h | A0h | P1 | 00h | St | AFh | P1:01/02/03/04/05/06=Set/Up/Down/Left/Right/menu |
| 31 | Set R/B value | A0h | A1h | P1 | P2 | St | AFh | P1:Red value (0~96) P2:Blue value (0~96) |
| 32 | Call R/B value | A0h | A2h | P1 | P2 | St | AFh | P1:Red value (0~96) P2:Blue value (0~96) |
| 33 | AF | A0h | A3h | 00h | 00h | St | AFh | AF once trigger |
| 34 | Preset | A0h | A4h | P1 | 00h | St | AFh | P1:0/1/2 =Call Preset Menu / Load / Save |
| 34 | Set Zoom A4/A5 Size | A0h | A5h | P1 | 00h | St | AFh | P1:02/01 = A5/A4 |
| 36 | Set Sharpness(Gamma) | A0h | A7h | P1 | 00h | St | AFh | P1: 00/01/02 = Photo/Text/Gray |
| 37 | Power On/Off | A0h | B1h | P1 | 00h | St | AFh | P1:00/01=Off/On |
| 38 | Capture | A0h | B2h | 00h | RP2 | St | AFh | P2 : 00 = Normal Capture (In order), RP2 : Amount current saved picture |
| 39 | PlayBack | A0h | B3h | 00h | RP2 | St | AFh | P2 : 00 = Normal Playback (80 Index Picture) RP2 : Amount current saved picture |
| 40 | Flip | A0h | B5h | P1 | 00h | St | AFh | P1:00/01=disable/Flip |

| | | | | | | | | |
|----|------------------------|-----|-----|-----|-----|----|-----|--|
| 41 | Delete | A0h | B6h | P1 | RP2 | St | AFh | P1:00/01/02=delete one picture/delete all picture/Format P2 : 00 = Normal Delete One Image (Under Playback Only) RP2 : Amount current saved picture. |
| 42 | Output Format SVGA/XGA | A0h | B9h | P1 | 00h | St | AFh | P1: 00/01=SVGA/XGA |
| 43 | PBP | A0h | BAh | 00h | 00h | St | AFh | |
| 44 | Auto Erase | A0h | 14h | P1 | 00h | St | AFh | P1: 0:OFF / 1:ON |
| 45 | Call Modle | A0h | 15h | RP1 | RP2 | St | AFh | Return Modle Code ex: if PS400's version is PZ130, RP1= 'P' and RP2 = 'Z' |
| 46 | Language | A0h | 16h | P1 | 00h | St | AFh | P1=0/1/2/3/4/5/6/7:English / Deutsch / Francais / Italiano / Eapanol / Р у с с к и й /中繁/中簡 |
| 47 | AC Freq. | A1h | 17h | P1 | RP2 | St | AFh | P1: 0/1=Read/Write P2:When P1=1,0/1=50Hz/60Hz RP2:The AC status 0/1=50Hz/60Hz |

* St : 0 =Action Succeed, 1= NAK (Commands correct but no Action), 2 = Ignore (The command is not in the command list.)