

CL511 RS-232 command set

History

No	Issue Date	Description	Apply Firmware
1	2021/10/04	First version.	PIG103_PIF100_PIE100
2	2022/02/10	Modify command: 1. Preset load 2. Preset save	PIG105_PIF100_PIE101

***Notice:**

- 1. The RS-232 command list is for CL511.
- 2. The yellow highlight  means the latest update.
- 3. The blue highlight  means the deleted item.

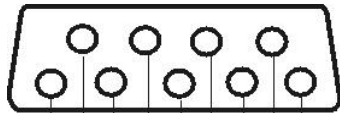
1. Communication Protocol

Transmit Method: Asynchronous Interface Half Duplex Serial Communication.

- Transmit Speed: 9600bps
- Start bit: 1Bit
- Parity Check: NA
- Data Bit: 8Bit
- Stop Bit: 1Bit

2. The wire diagram

The RS232 wire diagram between presenter and remote controller as below



Female

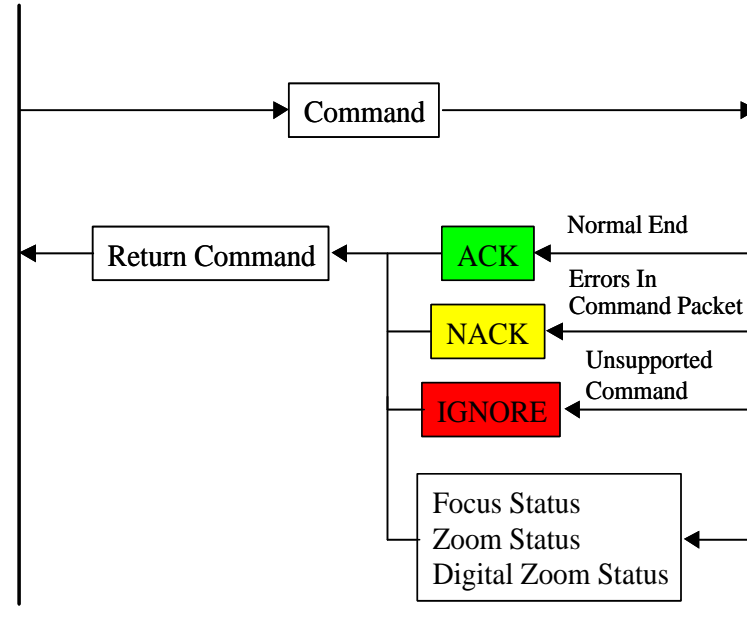
1 2 3 4 5 6 7 8 9

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

3. Communication Program

Host Controller

Camera Module



4. Command Format

4.1 Command Packet Format

1Byte	STX	Start Of Command	: A0h
2Byte	Command	Command	: 00~FFh
3Byte	Parameter1	Data	: 00~FFh
4Byte	Parameter2	Data	: 00~FFh
5Byte	Parameter3	Data	: 00~FFh
6Byte	ETX	End Of Command	: AFh

4.2 Return Packet Format

1Byte	STX	Start Of Command	: A0h	
2Byte	Command	Command	: 00~ FFh	
3Byte	Parameter1	Data	: 00~FFh	
4Byte	Parameter2	Data	: 00~FFh	
5Byte	Status	<Bit>	<Contents>	
		7	(0)	
		6	Iris Moving Status (1)/(0)Stop Status	
		5	Zoom Moving Status (1)/(0)Stop Status	
		4	Focus Moving Status (1)/(0)Stop Status	
		3	(0)	
		2	(0)	
		1	Communication Response 0=ACK/1=NAK/2=IGNORE/3=Not Used	
0	Communication Response			
6Byte	ETX	End Of Command	: AFh	
Communication Response		Bit1	Bit0	Status

ACK	0	0	Capable Of Normal End Or Normal Operation
NAK	0	1	Detecting Errors In Command Packet(STX, ETX Byte)
			Parity Error ,Framing Error, Overrun Error
			Data in out of specified range
IGNORE	1	0	Cannot execute the transmitted command for other operations
			Unsupported command
Not Used	1	1	

5. Send Packet

Item		Function	PC AP to the Master command format						Comment
			1B	2B	3B	4B	5B	6B	
1	SET	Power	A0h	B1h	P1	00h	00h	AFh	P1=00 : standby 01 : power up IR -> Power
2		Rotate	A0h	B4h	P1	00h	00h	AFh	P1=00 : 0 degree 01 : 180 degree 02 : Flip 03 : Mirror 04 : 90 degree 05 : 270 degree OSD -> Rotate
3		Freeze	A0h	2Ch	P1	00h	00h	AFh	P1=00 : OFF 01 : ON IR -> Freeze
4		Playback	A0h	B3h	00h	00h	00h	AFh	IR -> Playback
5		PIP	A0h	B3h	01h	00h	00h	AFh	IR -> PIP
6		Pan	A0h	26h	P1	00h	00h	AFh	P1=00 : OFF 01 : ON IR -> Pan
7		Record	A0h	B2h	01h	00h	00h	AFh	IR -> Record
8		Capture / Delete	A0h	B2h	00h	00h	00h	AFh	IR -> Capture / Delect
9		Auto Tune	A0h	22h	00h	00h	00h	AFh	OSD -> Auto Tune
10		AWB one push	A0h	22h	01h	00h	00h	AFh	OSD -> Auto White Balance
11		AF one push	A0h	A3h	01h	00h	00h	AFh	HW -> AF Key
12		Mask / Spotlight	A0h	27h	P1	00h	00h	AFh	P1=0 : disable 1 : mask 2 : spotlight OSD -> Mask OSD -> Spotlight
13		Zoom Limit	A0h	40h	P1	00h	00h	AFh	P1=02 : 40x (lens 10x * dzoom 4x) 03 : 100x (lens 10x * dzoom 10x) 04 : 300x (lens 10x * dzoom 30x) OSD -> Zoom Limit

Item		Function	PC AP to the Master command format						Comment
			1B	2B	3B	4B	5B	6B	
14	SET	Zoom Direct Step	A0h	13h	P1	P2	00h	AFh	P1=low byte 0 - (215 +127) P2=high byte 0 - (215 +127) lens zoom = 347 sensor + digital zoom = 88
15		Zoom Step	A0h	12h	P1	P2	00h	AFh	P1=00 : -A, follow IR behavior 01 : +A, follow IR behavior P2= step unit : 0 - 255
16		Zoom Start	A0h	11h	P1	00h	00h	AFh	P1=tele : 0x20 - 0x27 are available wide : 0x30 - 0x37 are available stop : 0x00 OSD -> Zoom
17		Brightness Direct	A0h	30h	P1	P2	P3	AFh	P1= 00 : ae OFF 01 : ae ON P2=low byte ae OFF : 0 - 297 ae ON : 0 - 18 P3=high byte ae OFF : 0 - 297 ae ON : 0 - 18 OSD -> Brightness
18		Brightness Step	A0h	39h	P1	00h	00h	AFh	P1=00 : -A, follow IR behavior 01 : +A, follow IR behavior OSD -> Brightness
19		Focus Start	A0h	1Ah	P1	00h	00h	AFh	P1=far : 0x20 - 0x27 are available near : 0x30 - 0x37 are available stop : 0x00 OSD -> Manual Focus
20		Focus Direct	A0h	1Bh	P1	P2	00h	AFh	P1=low byte (full range 0 - 1551) P2= high byte (full range 0 - 1551)
21		Focus Step	A0h	1Ch	P1	00h	00h	AFh	P1=00 : -A, follow IR behavior 01 : +A, follow IR behavior
22	Image Mode	A0h	A9h	P1	00h	00h	AFh	P1=00 : normal 01 : film 02 : slide	

Item		Function	PC AP to the Master command format						Comment	
			1B	2B	3B	4B	5B	6B		
									OSD -> Mode	
23	SET	Photo / Text	A0h	A7h	P1	00h	00h	AFh	P1=00 : photo 01 : text 02 : gray OSD -> Photo / Text	
24		Slide Show	A0h	04h	P1	00h	00h	AFh	P1=00 : OFF 01 : ON OSD -> Slide Show	
25		Menu	A0h	A0h	06h	00h	00h	AFh	IR -> Menu	
26		Up	A0h	A0h	02h	00h	00h	AFh	IR -> Up	
27		Down	A0h	A0h	03h	00h	00h	AFh	IR -> Down	
28		Left	A0h	A0h	04h	00h	00h	AFh	IR -> Left	
29		Right	A0h	A0h	05h	00h	00h	AFh	IR -> Right	
30		Enter	A0h	A0h	01h	00h	00h	AFh	IR -> Enter	
31		Preset Load	A0h	03h	00h	00h	P1	AFh	P1= 1 -8 : group index OSD -> Preset Load	
32		Preset Save	A0h	03h	00h	01h	P1	AFh	P1= 1 -8 : group index OSD -> Preset Save	
33		Factory Reset	A0h	03h	01h	00h	00h	AFh	OSD -> Factory Reset	
34		Audio Levels	A0h	D4h	P1	00h	00h	AFh	P1=0 - 10 OSD -> Audio Levels	
35		Audio Out Volume	A0h	D6h	P1	00h	00h	AFh	P1=0 - 31 OSD -> Audio Out Volume	
1		GET	Call Power	A0h	B7h	00h	00h	00h	AFh	P2= 00 : standby 01 : power up
2			Call Lamp	A0h	50h	00h	00h	00h	AFh	P1=00 : Lacer OFF 02 : Lacer ON
3	Call Rotate		A0h	77h	00h	00h	00h	AFh	P1=00 : 0 degree 01 : 180 degree 02 : Flip 03 : Mirror 04 : 90 degree 05 : 270 degree	

Item		Function	PC AP to the Master command format						Comment
			1B	2B	3B	4B	5B	6B	
4		Call Freeze	A0h	78h	00h	00h	00h	AFh	P1=00 : OFF 01 : ON
5	GET	Call Image Mode	A0h	7Ah	00h	00h	00h	AFh	P1=00 : normal 01 : film 02 : slide
6		Call Photo / Text	A0h	51h	00h	00h	00h	AFh	P1=00 : photo 01 : text 02 : gray
7		Call Zoom Limit	A0h	61h	00h	00h	00h	AFh	P1=02 : 40x (lens 10x * dzoom 4x) 03 : 100x (lens 10x * dzoom 10x) 04 : 300x (lens 10x * dzoom 30x)
8		Call Zoom	A0h	8Ah	00h	00h	00h	AFh	P1=0 - (215+127) lens zoom = 347 sensor + digital zoom = 88
9		Call Auto Exposure	A0h	46h	00h	00h	00h	AFh	P1=00 : ae OFF 01 : ae ON
10		Call Brightness	A0h	89h	00h	00h	00h	AFh	P1=low byte ae OFF : 0 - 297 ae ON : 0 - 18 P2= high byte ae OFF : 0 - 297 ae ON : 0 - 18
11		Call Focus	A0h	64h	00h	00h	00h	AFh	P1=low byte (full range 0 - 1551) P2=high byte (full range 0 - 1551)
12		Call Audio Levels	A0h	D5h	00h	00h	00h	AFh	P1=0 - 10
13		Call Audio Out Volume	A0h	D7h	00h	00h	00h	AFh	P1=0 - 31

6. Return Packet

Item	Function	PC AP to the Master command format						Comment
		1B	2B	3B	4B	5B	6B	
1	Power	A0h	B1h	P1	00h	St.	AFh	P1=00 : standby 01 : power up IR -> Power
2	Rotate	A0h	B4h	P1	00h	St.	AFh	P1=00 : 0 degree 01 : 180 degree 02 : Flip 03 : Mirror 04 : 90 degree 05 : 270 degree OSD -> Rotate
3	Freeze	A0h	2Ch	P1	00h	St.	AFh	P1=00 : OFF 01 : ON IR -> Freeze
4	Playback	A0h	B3h	00	00h	St.	AFh	IR -> Playback
5	PIP	A0h	B3h	01h	00h	St.	AFh	IR -> PIP
6	Pan	A0h	26h	P1	00h	St.	AFh	P1=00 : OFF 01 : ON IR -> Pan
7	Record	A0h	B2h	01h	00h	St.	AFh	IR -> Record
8	Capture / Delete	A0h	B2h	00h	00h	St.	AFh	IR -> Capture / Delect
9	Auto Tune	A0h	22h	00h	00h	St.	AFh	OSD -> Auto Tune
10	AWB one push	A0h	22h	01h	00h	St.	AFh	OSD -> Auto White Balance
11	AF one push	A0h	A3h	01h	00h	St.	AFh	HW -> AF Key
12	Mask / Spotlight	A0h	27h	P1	00h	St.	AFh	P1=0 : disable 1 : mask 2 : spotlight
13	Zoom Limit	A0h	40h	P1	00h	St.	AFh	P1=02 : 40x (lens 10x * dzoom 4x) 03 : 100x (lens 10x * dzoom 10x) 04 : 300x (lens 10x * dzoom 30x) OSD -> Zoom Limit
14	Zoom Direct Step	A0h	13h	P1	P2	St.	AFh	P1=low byte 0 - (215 +127) P2=high byte

Item		Function	PC AP to the Master command format						Comment
			1B	2B	3B	4B	5B	6B	
									0 - (215 +127) lens zoom = 347 sensor + digital zoom = 88
15	SET	Zoom Step	A0h	12h	P1	P2	St.	AFh	P1=00 : -A, follow IR behavior 01 : +A, follow IR behavior P2= step unit : 0 - 255
16		Zoom Start	A0h	11h	P1	00h	St.	AFh	P1=tele : 0x20 - 0x27 are available wide : 0x30 - 0x37 are available stop : 0x00 OSD -> Zoom
17		Brightness Direct	A0h	30h	P1	P2	St.	AFh	P1= 00 : ae OFF 01 : ae ON P2=low byte ae OFF : 0 - 297 ae ON : 0 - 18 P3=high byte ae OFF : 0 - 297 ae ON : 0 - 18 OSD -> Brightness
18		Brightness Step	A0h	39h	P1	00h	St.	AFh	P1=00 : -A, follow IR behavior 01 : +A, follow IR behavior OSD -> Brightness
19		Focus Start	A0h	1Ah	P1	00h	St.	AFh	P1=far : 0x20 - 0x27 are available near : 0x30 - 0x37 are available stop : 0x00 OSD -> Manual Focus
20		Focus Direct	A0h	1Bh	P1	P2	St.	AFh	P1=low byte (full range 0 - 1551) P2= high byte (full range 0 - 1551)
21		Focus Step	A0h	1Ch	P1	00h	St.	AFh	P1=00 : -A, follow IR behavior 01 : +A, follow IR behavior
22		Image Mode	A0h	A9h	P1	00h	St.	AFh	P1=00 : normal 01 : film 02 : slide OSD -> Mode
23	Photo / Text	A0h	A7h	P1	00h	St.	AFh	P1=00 : photo 01 : text	

Item		Function	PC AP to the Master command format						Comment
			1B	2B	3B	4B	5B	6B	
									02 : gray OSD -> Photo / Text
24	SET	Slide Show	A0h	04h	P1	00h	St.	AFh	P1=00 : OFF 01 : ON OSD -> Slide Show
25		Menu	A0h	A0h	06h	00h	St.	AFh	IR -> Menu
26		Up	A0h	A0h	02h	00h	St.	AFh	IR -> Up
27		Down	A0h	A0h	03h	00h	St.	AFh	IR -> Down
28		Left	A0h	A0h	04h	00h	St.	AFh	IR -> Left
29		Right	A0h	A0h	05h	00h	St.	AFh	IR -> Right
30		Enter	A0h	A0h	01h	00h	St.	AFh	IR -> Enter
31		Preset Load	A0h	03h	00h	00h	St.	AFh	OSD -> Preset Load
32		Preset Save	A0h	03h	00h	01h	St.	AFh	OSD -> Preset Save
33		Factory Reset	A0h	03h	01h	00h	St.	AFh	OSD -> Factory Reset
34		Audio Levels	A0h	D4h	P1	00h	St.	AFh	P1=0 - 10 OSD -> Audio Levels
35		Audio Out Volume	A0h	D6h	P1	00h	St.	AFh	P1=0 - 31 OSD -> Audio Out Volume
1	GET	Call Power	A0h	B7h	01h	P2	St.	AFh	P2= 00 : standby 01 : power up
2		Call Lamp	A0h	50h	P1	00h	St.	AFh	P1=00 : Lacer OFF 02 : Lacer ON
3		Call Rotate	A0h	77h	P1	00h	St.	AFh	P1=00 : 0 degree 01 : 180 degree 02 : Flip 03 : Mirror 04 : 90 degree 05 : 270 degree
4		Call Freeze	A0h	78h	P1	00h	St.	AFh	P1=00 : OFF 01 : ON
5		Call Image Mode	A0h	7Ah	P1	00h	St.	AFh	P1=00 : normal 01 : film 02 : slide

Item		Function	PC AP to the Master command format						Comment
			1B	2B	3B	4B	5B	6B	
5	GET	Call Photo / Text	A0h	51h	P1	00h	St.	AFh	P1=00 : photo 01 : text 02 : gray
7		Call Zoom Limit	A0h	61h	P1	00h	St.	AFh	P1=02 : 40x (lens 10x * dzoom 4x) 03 : 100x (lens 10x * dzoom 10x) 04 : 300x (lens 10x * dzoom 30x)
8		Call Zoom	A0h	8Ah	P1	00h	St.	AFh	P1=0 - (215+127) lens zoom = 347 sensor + digital zoom = 88
9		Call Auto Exposure	A0h	46h	P1	00h	St.	AFh	P1=00 : ae OFF 01 : ae ON
10		Call Brightness	A0h	89h	P1	P2	St.	AFh	P1=low byte ae OFF : 0 - 297 ae ON : 0 - 18 P2= high byte ae OFF : 0 - 297 ae ON : 0 - 18
11		Call Focus	A0h	64h	P1	P2	St.	AFh	P1=low byte (full range 0 - 1551) P2=high byte (full range 0 - 1551)
12		Call Audio Levels	A0h	D5h	P1	00h	St.	AFh	P1=0 - 10
13		Call Audio Out Volume	A0h	D7h	P1	00h	St.	AFh	P1=0 - 31

** St : 0 =Action Succeed, 1= NAK (No Action), 2 = Ignore (Command is not in the command list.)