

# DC172 Command Set

## Revisions

No	Issue Date	Version	Description	Apply Firmware
1	2020/11/02	1.0	First version.	DGE104

**\*Notice:**

- 1. The RS-232 command list is for DC172.
- 2. The Yellow highlight  means the latest update
- 3. The Blue highlight  means the deleted item.

### 1. Communication Protocol

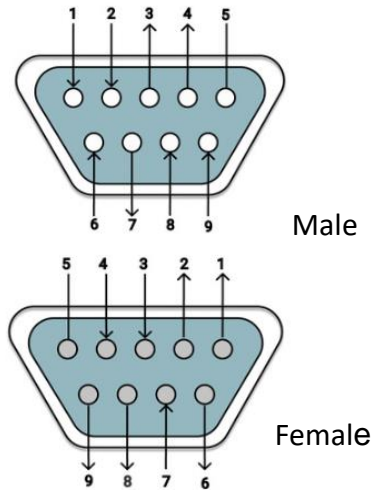
Transmit Method: Asynchronous Interface Half Duplex Serial Communication.

- 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

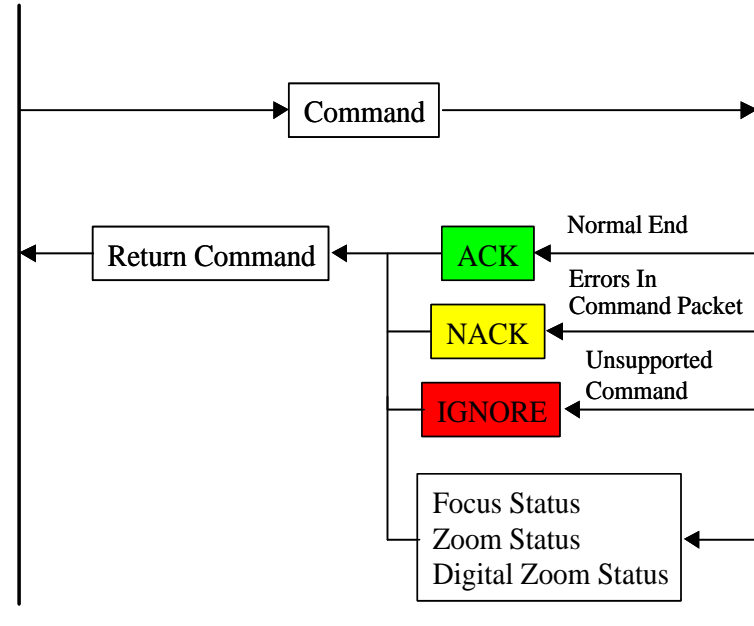
<b>Pin 1</b>	DCD
<b>Pin 2</b>	RXD
<b>Pin 3</b>	TXD
<b>Pin 4</b>	DTR
<b>Pin 5</b>	GND
<b>Pin 6</b>	DSR
<b>Pin 7</b>	RTS
<b>Pin 8</b>	CTS
<b>Pin 9</b>	RI



### 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	Reserved	
6Byte	ETX	End Of Command	: AFh

## 5. Command Packet

Item	Function	PC to DC172 Master command format						P1	P2
		1B	2B	3B	4B	5B	6B		
1	Power	A0h	B1h	P1	00h	00h	AFh	00 : standby 01 : power up	
2	Lamp	A0h	C1h	P1	00h	00h	AFh	00 : head led OFF 03 : head led ON	
3	Rotate	A0h	B4h	P1	00h	00h	AFh	00 : 0 degree 01 : 180 degree 02 : Flip 03 : Mirror 04 : 90 degree 05 : 270 degree	
4	Freeze	A0h	2Ch	P1	00h	00h	AFh	00 : OFF 01 : ON	
5	Playback	A0h	B3h	00h	00h	00h	AFh		
6	PIP	A0h	B3h	01h	00h	00h	AFh		
7	Source	A0h	3Ah	P1	00h	00h	AFh	00 : camera 01 : passthrough	
8	Pan	A0h	26h	P1	00h	00h	AFh	00 : OFF 01 : ON	
9	Record	A0h	B2h	01h	00h	00h	AFh		
10	Capture / Delete	A0h	B2h	00h	00h	00h	AFh		
11	Auto Tune	A0h	22h	00h	00h	00h	AFh		
12	AWB one push	A0h	22h	01h	00h	00h	AFh		
13	AF one push	A0h	A3h	01h	00h	00h	AFh		

Item	Function	PC to DC172 Master command format						P1	P2
		1B	2B	3B	4B	5B	6B		
14	Mask / Spotlight	A0h	27h	P1	00h	00h	AFh	0 : disable 1 : mask 2 : spotlight	
15	Digital Zoom On	A0h	40h	P1	00h	00h	AFh	00 : OFF 01 : ON	
16	Zoom Direct Step	A0h	13h	P1	00h	00h	AFh	0 - 127	
17	Zoom Step	A0h	12h	P1	00h	00h	AFh	00 : -A, follow IR behavior 01 : +A, follow IR behavior	
18	Brightness Direct	A0h	30h	P1	P2	00h	AFh	00 : ae OFF 01 : ae ON	ae OFF : 0 - 220 ae ON : 0 - 18
19	Brightness Step	A0h	39h	P1	00h	00h	AFh	00 : -A, follow IR behavior 01 : +A, follow IR behavior	
20	Focus Direct	A0h	1Bh	P1	P2	00h	AFh	low byte (full range 0 - 560)	high byte (full range 0 - 560)
21	Focus Step	A0h	1Ch	P1	00h	00h	AFh	00 : -A, follow IR behavior 01 : +A, follow IR behavior	
22	Image Mode	A0h	A9h	P1	00h	00h	AFh	00 : normal 01 : film 02 : slide 03 : microscope	
23	Photo / Text	A0h	A7h	P1	00h	00h	AFh	00 : photo 01 : text 02 : gray	
24	Slide Show	A0h	04h	P1	00h	00h	AFh	00 : OFF 01 : ON	

Item	Function	PC to DC172 Master command format						P1	P2
		1B	2B	3B	4B	5B	6B		
25	Menu	A0h	A0h	06h	00h	00h	AFh	0 : disable 1 : mask 2 : spotlight	
26	Up	A0h	A0h	02h	00h	00h	AFh	IR -> Menu	IR -> Menu
27	Down	A0h	A0h	03h	00h	00h	AFh	IR -> Up	IR -> Up
28	Left	A0h	A0h	04h	00h	00h	AFh	IR -> Down	IR -> Down
29	Right	A0h	A0h	05h	00h	00h	AFh	IR -> Left	IR -> Left
30	Enter	A0h	A0h	01h	00h	00h	AFh	IR -> Right	IR -> Right
31	Preset Load	A0h	03h	00h	00h	00h	AFh	IR -> Enter	IR -> Enter
32	Preset Save	A0h	03h	00h	01h	00h	AFh	OSD -> Preset Load	OSD -> Preset Load
33	Factory Reset	A0h	03h	01h	00h	00h	AFh	OSD -> Preset Save	OSD -> Preset Save
34	Microphone Levels	A0h	D4h	P1	00h	00h	AFh	0 - 10	
35	Audio Out Volume	A0h	D6h	P1	00h	00h	AFh	0 - 31	
36	Call Power	A0h	B7h	00h	00h	00h	AFh		00 : standby 01 : power up
37	Call Lamp	A0h	50h	00h	00h	00h	AFh	00 : head led OFF 03 : head led ON	
38	Call Rotate	A0h	77h	00h	00h	00h	AFh	00 : 0 degree 01 : 180 degree 02 : Flip 03 : Mirror 04 : 90 degree 05 : 270 degree	
39	Call Freeze	A0h	78h	00h	00h	00h	AFh	00 : OFF 01 : ON	

Item	Function	PC to DC172 Master command format						P1	P2
		1B	2B	3B	4B	5B	6B		
40	Call Source	A0h	79h	00h	00h	00h	AFh	00 : camera 01 : passthrough	
41	Call Image Mode	A0h	7Ah	00h	00h	00h	AFh	00 : normal 01 : film 02 : slide 03 : microscope	
42	Call Photo / Text	A0h	51h	00h	00h	00h	AFh	00 : photo 01 : text 02 : gray	
43	Call Digital Zoom On	A0h	61h	00h	00h	00h	AFh	00 : OFF 01 : ON	
44	Call Zoom	A0h	8Ah	00h	00h	00h	AFh	0 - 127	
45	Call Auto Exposure	A0h	46h	00h	00h	00h	AFh	00 : ae OFF 01 : ae ON	
46	Call Brightness	A0h	89h	00h	00h	00h	AFh	ae OFF : 0 - 220 ae ON : 0 - 18	
47	Call Focus	A0h	64h	00h	00h	00h	AFh	low byte (full range 0 - 560)	high byte (full range 0 - 560)
48	Call Microphone Levels	A0h	D5h	00h	00h	00h	AFh	0 - 10	
49	Call Audio Out Volume	A0h	D7h	00h	00h	00h	AFh	0 - 31	

## 6. Return Packet

Item	Function	PC to DC172 Master command format						P1	P2
		1B	2B	3B	4B	5B	6B		
1	Power	A0h	B1h	P1	00h	St.	AFh	00 : standby 01 : power up	
2	Lamp	A0h	C1h	P1	00h	St.	AFh	00 : head led OFF 03 : head led ON	
3	Rotate	A0h	B4h	P1	00h	St.	AFh	00 : 0 degree 01 : 180 degree 02 : Flip 03 : Mirror 04 : 90 degree 05 : 270 degree	
4	Freeze	A0h	2Ch	P1	00h	St.	AFh	00 : OFF 01 : ON	
5	Playback	A0h	B3h	00	00h	St.	AFh		
6	PIP	A0h	B3h	01h	00h	St.	AFh		
7	Source	A0h	3Ah	P1	00h	St.	AFh	00 : camera 01 : passthrough	
8	Pan	A0h	26h	P1	00h	St.	AFh	00 : OFF 01 : ON	
9	Record	A0h	B2h	01h	00h	St.	AFh		
10	Capture / Delete	A0h	B2h	00h	00h	St.	AFh		
11	Auto Tune	A0h	22h	00h	00h	St.	AFh		
12	AWB one push	A0h	22h	01h	00h	St.	AFh		
13	AF one push	A0h	A3h	01h	00h	St.	AFh		



Item	Function	PC to DC172 Master command format						P1	P2
		1B	2B	3B	4B	5B	6B		
14	Mask / Spotlight	A0h	27h	P1	00h	St.	AFh	0 : disable 1 : mask 2 : spotlight	
15	Digital Zoom On	A0h	40h	P1	00h	St.	AFh	00 : OFF 01 : ON	
16	Zoom Direct Step	A0h	13h	P1	00h	St.	AFh	0 - 127	
17	Zoom Step	A0h	12h	P1	00h	St.	AFh	00 : -A, follow IR behavior 01 : +A, follow IR behavior	
18	Brightness Direct	A0h	30h	P1	P2	St.	AFh	00 : ae OFF 01 : ae ON	
19	Brightness Step	A0h	39h	P1	00h	St.	AFh	00 : -A, follow IR behavior 01 : +A, follow IR behavior	
20	Focus Direct	A0h	1Bh	P1	P2	St.	AFh	low byte (full range 0 - 560)	
21	Focus Step	A0h	1Ch	P1	00h	St.	AFh	00 : -A, follow IR behavior 01 : +A, follow IR behavior	
22	Image Mode	A0h	A9h	P1	00h	St.	AFh	00 : normal 01 : film 02 : slide 03 : microscope	
23	Photo / Text	A0h	A7h	P1	00h	St.	AFh	00 : photo 01 : text 02 : gray	
24	Slide Show	A0h	04h	P1	00h	St.	AFh	00 : OFF 01 : ON	

Item	Function	PC to DC172 Master command format						P1	P2
		1B	2B	3B	4B	5B	6B		
25	Menu	A0h	A0h	06h	00h	St.	AFh	0 : disable 1 : mask 2 : spotlight	
26	Up	A0h	A0h	02h	00h	St.	AFh	IR -> Menu	
27	Down	A0h	A0h	03h	00h	St.	AFh	IR -> Up	
28	Left	A0h	A0h	04h	00h	St.	AFh	IR -> Down	
29	Right	A0h	A0h	05h	00h	St.	AFh	IR -> Left	
30	Enter	A0h	A0h	01h	00h	St.	AFh	IR -> Right	
31	Preset Load	A0h	03h	00h	00h	St.	AFh	IR -> Enter	
32	Preset Save	A0h	03h	00h	01h	St.	AFh	OSD -> Preset Load	
33	Factory Reset	A0h	03h	01h	00h	St.	AFh	OSD -> Preset Save	
34	Microphone Levels	A0h	D4h	P1	00h	St.	AFh	0 - 10	
35	Audio Out Volume	A0h	D6h	P1	00h	St.	AFh	0 - 31	
36	Call Power	A0h	B7h	01h	P2	St.	AFh		
37	Call Lamp	A0h	50h	P1	00h	St.	AFh	00 : head led OFF 03 : head led ON	
38	Call Rotate	A0h	77h	P1	00h	St.	AFh	00 : 0 degree 01 : 180 degree 02 : Flip 03 : Mirror 04 : 90 degree 05 : 270 degree	
39	Call Freeze	A0h	78h	P1	00h	St.	AFh	00 : OFF 01 : ON	
40	Call Source	A0h	79h	P1	00h	St.	AFh	00 : camera	

Item	Function	PC to DC172 Master command format						P1	P2
		1B	2B	3B	4B	5B	6B		
								01 : passthrough	
41	Call Image Mode	A0h	7Ah	P1	00h	St.	AFh	00 : normal 01 : film 02 : slide 03 : microscope	
42	Call Photo / Text	A0h	51h	P1	00h	St.	AFh	00 : photo 01 : text 02 : gray	
43	Call Digital Zoom On	A0h	61h	P1	00h	St.	AFh	00 : OFF 01 : ON	
44	Call Zoom	A0h	8Ah	P1	00h	St.	AFh	0 - 127	
45	Call Auto Exposure	A0h	46h	P1	00h	St.	AFh	00 : ae OFF 01 : ae ON	
46	Call Brightness	A0h	89h	P1	00h	St.	AFh	ae OFF : 0 - 220 ae ON : 0 - 18	
47	Call Focus	A0h	64h	P1	P2	St.	AFh	low byte (full range 0 - 560)	
48	Call Microphone Levels	A0h	D5h	P1	00h	St.	AFh	0 - 10	
49	Call Audio Out Volume	A0h	D7h	P1	00h	St.	AFh	0 - 31	