



DVP510B RS-232 command set

History

No	Issue Date	Version	Description	Apply Firmware
1	2013/09/10	1.0	First version.	TBD

***Notice:**

- 1. The RS-232 command list is for **DVP510B**
- 2. The yellow highlight  means the latest update
- 3. The blue highlight  means the deleted item.

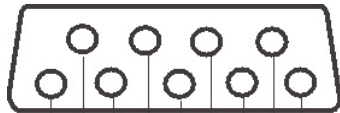
1. Communication Protocol

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



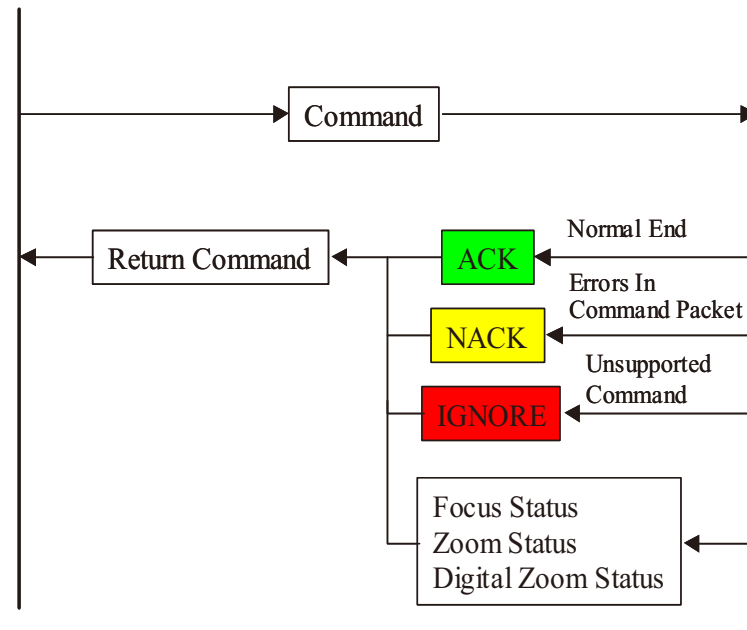
Female

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. Command Packet

Item	Function	PC AP to DVP510B Master command format						Comment
		1B	2B	3B	4B	5B	6B	
1	Preset/Factory Reset	A0h	03h	P1	P2	00h	AFh	P1=0, P2=00/01:Preset Load/Save P1=1:Factory Reset
2	Slide show On/Off	A0h	04h	P1	00h	00h	AFh	P1=00/01:Off/On
3	Slide show Delay	A0h	06h	P1	00h	00h	AFh	P1=0~5:0.5sec/1sec/3sec/5sec/10sec/Manual
4	Image/Record Quality	A0h	07h	P1	00h	00h	AFh	P1=00/01/02:High/Medium/Low
5	Copy From Nand to SD	A0h	08h	00h	00h	00h	AFh	
6	Zoom Stop	A0h	10h	00h	00h	00h	AFh	
7	Zoom Start (No AF)	A0h	11h	P1	P2	00h	AFh	P1=00/01:Tele/Wide
8	Zoom Direct (No AF)	A0h	11h	P1	P2	00h	AFh	p1:low byte p2:high byte Value:0~855 Optical Zoom: XGA:805 SXGA:802 WXGA:802 1080P:795 NTSC:810 PAL:810
9	Auto Erase	A0h	14h	P1	00h	00h	AFh	P1=00/01:Auto Erase off/on
10	Focus Stop	A0h	19h	00h	00h	00h	AFh	
11	Focus Start	A0h	1Ah	P1	P2	00h	AFh	P1=00/01:Near/Far P2=00~06:Speed
12	Focus Direct	A0h	1Bh	P1	P2	P3	AFh	P1(LowByte)P2(HighByte)=0~160(Dec), P3=00~06:Speed
13	Zoom Start (with AF)	A0h	1Dh	P1	P2	00h	AFh	P1=00/01:Tele/Wide
14	Zoom Direct(with AF)	A0h	1Dh	P1	P2	00h	AFh	p1:low byte p2:high byte Value:0~855 Optical Zoom:

Item	Function	PC AP to DVP510B Master command form						Comment
		1B	2B	3B	4B	5B	6B	
								XGA:805 SXGA:802 WXGA:802 1080P:795 NTSC:810 PAL:810
15	White Balance (AWB, Auto Tune)	A0h	22h	P1	00h	00h	AFh	P1=00/01:Auto Tune/AWB
16	Set Pan Mode	A0h	26h	P1	00h	00h	AFh	P1=00/01 : off/on
17	Mask Mode	A0h	27h	P1	00h	00h	AFh	p1=0:Disable 1:Mask 2:Spotlight
18	Freeze	A0h	2Ch	P1	00h	00h	AFh	P1=00/01:Off/On
19	Brightness Contorl	A0h	30h	P1	00h	00h	AFh	P1=00/01:Auto/Manua P2=60/50Hz: 00~147
20	LogoDelay	A0h	34h	P1	00h	00h	AFh	P1=4~30 (sec)
21	Language Select	A0h	38h	P1	00h	00h	AFh	P1=0~18(Dec): English/ Traditional Chinese/ Simplified Chinese/ German/ French/ Spanish/ Russian/ Dutch/ Finnish/ Polish/ Italian/ Portuguese/ Swedish/ Danish/ Czech/ Arabic/ Japanese/ Korean/ Greek
22	Brightness Step	A0h	39h	P1	00h	00h	AFh	P1=00/01:-1/+1
23	Source live/PC	A0h	3Ah	P1	00h	00h	AFh	00 : Camera 01 : PC 02 : Source OFF
24	Disable Digital Zoom After Optical Zoom	A0h	40h	P1	00h	00h	AFh	P1=00/01:Disable/Enable
25	Call Master Version	A0h	45h	00h	00h	00h	AFh	Code version : P1 P2 P3(ASCII)

Item	Function	PC AP to DVP510B Master command format						Comment
		1B	2B	3B	4B	5B	6B	
26	Call AE Status	A0h	46h	00h	00h	00h	AFh	P1=00/01:Off/On
27	Enable/Disable LOGO Image	A0h	47h	P1	00h	00h	AFh	p1=00/01:default logo/user logo
28	Playback Image Index Change Page	A0h	4Ah	P1	00h	00h	AFh	P1=00/01:Page Up/Page Down
29	All OSD On/Off	A0h	4Bh	P1	00h	00h	AFh	P1=00/01:Off/On
30	Call Slave Version	A0h	4Dh	00h	00h	00h	AFh	Code version : P1 P2 P3(ASCII)
31	Frame Average	A0h	4Eh	P1	00h	00h	AFh	P1=00/01:LCD/DLP
32	Call lamp Status	A0h	50h	00h	00h	00h	AFh	00 : Lamp + Head Led OFF 01 : Lamp + Head Led ON 02 : Lamp ON 03 : Head Led ON
33	Call Text/Photo Status	A0h	51h	00h	00h	00h	AFh	P1=00/01/02:Photo/Text/Gray
34	reg1	A0h	52h	P1	P2	00h	AFh	P1=00/01:Read/Write P2=0x00~0xff
34	reg2	A0h	53h	P1	P2	00h	AFh	
36	reg3	A0h	54h	P1	P2	00h	AFh	
37	Error Code	A0h	55h	P1	00h	00h	AFh	p1=00/01:Show Error Code/Clear Error Code
38	AWB Correction	A0h	56h	00h	00h	00h	AFh	AWB Correction
39	Call AC 50/60 Hzpower state	A0h	58h	00h	00h	00h	AFh	Call AC 50/60 Hz power State.
40	Keypad Detect	A0h	59h	P1	00h	00h	AFh	p1:00/01 :Kypad Detect Stop/Start. (Enable the Debug message at this time, the detection message will be sent via RS232.)
41	Call Zoom Position	A0h	60h	00h	00h	00h	AFh	p1:low byte p2:high byte
42	Call Digital Zoom Position	A0h	62h	00h	00h	00h	AFh	XGA:805
43	Call Focus Position	A0h	64h	00h	00h	00h	AFh	SXGA:802 WXGA:802

Item	Function	PC AP to DVP510B Master command format						Comment
		1B	2B	3B	4B	5B	6B	
								1080P:795 NTSC:810 PAL:810 p1:low byte p2:high byte XGA:50 SXGA:53 WXGA:53 1080P:60 NTSC:45 PAL:45 P1(LowByte)P2(HighByte)=0~160(Dec)
44	Call Freeze Status	A0h	78h	00h	00h	00h	AFh	P1=00/01:Off/On
45	Call Brightness Position	A0h	89h	00h	00h	00h	AFh	P1=60/50Hz: 00~147(dec)
46	Call Mix Zoom Position	A0h	8Ah	00h	00h	00h	AFh	p1:low byte p2:high byte 0~855 Optical Zoom: XGA:805 SXGA:802 WXGA:802 1080P:795 NTSC:810 PAL:810
47	Call Menu Status	A0h	8Bh	00h	00h	00h	AFh	P1=00/01:Off/On
48	Capture Action	A0h	96h	P1	00h	00h	AFh	00 : Single Capture 01 : Time Lapse 02 : Record

Item	Function	PC AP to DVP510B Master command format						Comment
		1B	2B	3B	4B	5B	6B	
								03 : Disabled
49	Capture time	A0h	97h	P1	00h	00h	AFh	P1=00/01/02/03/04/05/06:1hr/ 2hr/ 4hr/ 8hr/ 24hr/48hr/72hr
50	Capture interval	A0h	98h	P1	00h	00h	AFh	00 : 3 sec. 01 : 5 sec. 02 : 10 sec. 03 : 30 sec. 04 : 1 min. 05 : 2 min. 06 : 5 min.
51	Key Function	A0h	A0h	P1	00h	00h	AFh	P1=01/02/03/04/05/06=Enter/Up/Down/Left/Right/Menu
52	Set R/B Gain	A0h	A1h	P1	P2	P3	AFh	P1=01/02:Red Gain/Blue Gain P2(LowByte)P3(HighByte)=0x100~0xFFFF(hex):Gain
53	Call R/B Gain	A0h	A2h	P1	00h	00h	AFh	Send : P1=01/02:Red Gain/Blue Gain Return : P1(LowByte)P2(HighByte)=0x100~0xFFFF(Dec):Gain
54	AF One Push Trigger	A0h	A3h	01h	00h	00h	AFh	
55	Set Gamma Mode	A0h	A7h	P1	00h	00h	AFh	P1=00/01/02:Photo/Text/Gray
56	Set Image Mode	A0h	A9h	P1	00h	00h	AFh	P1=00/01/02/03:Normal/Slide/Film/Microscope
57	System ON/OFF	A0h	B0h	P1	00h	00h	AFh	P1=00/01:Off/On
58	Power	A0h	B1h	P1	00h	00h	AFh	P1=00/01:Off/On
59	Capture	A0h	B2h	P1	00h	00h	AFh	P1=00/01:Capture/Record
60	Playback thumbnail	A0h	B3h	P1	00h	00h	AFh	P1=00:Thumbnail
61	Preview rotation	A0h	B4h	P1	00h	00h	AFh	P1=00/01/02/03:Rotate 0/180/Flip/Mirror
62	Delete	A0h	B6h	P1	00h	00h	AFh	P1=00/01/02: Delete one/Delete all/Format

Item	Function	PC AP to DVP510B Master command format						Comment
		1B	2B	3B	4B	5B	6B	
63	call system status	A0h	B7h	00h	00h	00h	AFh	P1(system status)=00/01: not ready/ Read to receive the command P2(Power Status)=00/01:Off/On
64	Lamp On/Off	A0h	C1h	P1	00h	00h	AFh	00 : Lamp + Backlight OFF 01 : Lamp ON 02 : Backlight ON
65	Firmware Upgrade	A0h	CBh	P1	00h	00h	AFh	P1=00/01:osd/no osd
66	Set Audio Volume	A0h	D6h	P1	00h	00h	AFh	P1=0~31(Dec):Volume
67	Call Audio Volume	A0h	D7h	00h	00h	00h	AFh	P1=0~31(Dec):Volume
68	PE Storage Test Data(Save)	A0h	E8h	P1	P2	P3	AFh	P1=1~7:Address P2=0x00~0xff:DATA
69	PE Storage Test Data(Load)	A0h	E9h	P1	P2	P3	AFh	P1=1~7:Address P2=0x00~0xff:DATA

6. Return Packet

Item	Function	PC AP to DVP510B Master command format						Comment
		1B	2B	3B	4B	5B	6B	
1	Preset/Factory Reset	A0h	03h	P1	P2	St.	AFh	P1=0, P2=00/01:Preset Load/Save P1=1:Factory Reset
2	Slide show On/Off	A0h	04h	P1	00h	St.	AFh	P1=00/01:Off/On
3	Slide show Delay	A0h	06h	P1	00h	St.	AFh	P1=0~5:0.5sec/1sec/3sec/5sec/10sec/Manual
4	Image/Record Quality	A0h	07h	P1	00h	St.	AFh	P1=00/01/02:High/Medium/Low
5	Copy From Nand to SD	A0h	08h	00h	00h	St.	AFh	
6	Zoom Stop	A0h	10h	00h	00h	St.	AFh	
7	Zoom Start (No AF)	A0h	11h	P1	P2	St.	AFh	P1=00/01:Tele/Wide
8	Zoom Direct (No AF)	A0h	11h	P1	P2	St.	AFh	p1:low byte p2:high byte Value:0~855 Optical Zoom: XGA:805 SXGA:802 WXGA:802 1080P:795 NTSC:810 PAL:810
9	Auto Erase	A0h	13h	P1	00h	St.	AFh	P1=00/01:Auto Erase off/on
10	Focus Stop	A0h	19h	00h	00h	St.	AFh	
11	Focus Start	A0h	1Ah	P1	P2	St.	AFh	P1=00/01:Near/Far P2=00~06:Speed
12	Focus Direct	A0h	1Bh	P1	P2	St.	AFh	P1(LowByte)P2(HighByte)=0~160(Dec), P3=00~06:Speed
13	Zoom Start (with AF)	A0h	1Dh	P1	P2	St.	AFh	P1=00/01:Tele/Wide
14	Zoom Direct(with AF)	A0h	1Dh	P1	P2	St.	AFh	p1:low byte p2:high byte Value:0~855 Optical Zoom: XGA:805

Item	Function	PC AP to DVP510B Master command format						Comment
		1B	2B	3B	4B	5B	6B	
								SXGA:802 WXGA:802 1080P:795 NTSC:810 PAL:810
15	White Balance (AWB, Auto Tune)	A0h	22h	P1	00h	St.	AFh	P1=00/01:Auto Tune/AWB
16	Set Pan Mode	A0h	26h	P1	00h	St.	AFh	P1=00/01 : off/on
17	Mask Mode	A0h	27h	P1	00h	St.	AFh	p1=0:Disable 1:Mask 2:Spotlight
18	Freeze	A0h	2Ch	P1	00h	St.	AFh	P1=00/01:Off/On
19	Brightness Contorl	A0h	30h	P1	00h	St.	AFh	P1=00/01:Auto/Manua P2=60/50Hz: 00~147
20	LogoDelay	A0h	32h	P1	00h	St.	AFh	P1=4~30 (sec)
21	Language Select	A0h	38h	P1	00h	St.	AFh	P1=0~18(Dec): English/ Traditional Chinese/ Simplified Chinese/ German/ French/ Spanish/ Russian/ Dutch/ Finnish/ Polish/ Italian/ Portuguese/ Swedish/ Danish/ Czech/ Arabic/ Japanese/ Korean/ Greek
22	Brightness Step	A0h	39h	P1	00h	St.	AFh	P1=00/01:-1/+1
23	Source live/PC	A0h	3Ah	P1	00h	St.	AFh	00 : Camera 01 : PC 02 : Source OFF
24	Disable Digital Zoom After Optical Zoom	A0h	40h	P1	00h	St.	AFh	P1=00/01:Disable/Enable
25	Call Master Version	A0h	45h	P1	P2	P3	AFh	Code version : P1 P2 P3(ASCII)
26	Call AE Status	A0h	46h	P1	00h	St.	AFh	P1=00/01:Off/On

Item	Function	PC AP to DVP510B Master command format						Comment
		1B	2B	3B	4B	5B	6B	
27	Enable/Disable LOGO Image	A0h	47h	P1	00h	St.	AFh	p1=00/01:default logo/user logo
28	Playback Image Index Change Page	A0h	4Ah	P1	00h	St.	AFh	P1=00/01:Page Up/Page Down
29	All OSD On/Off	A0h	4Bh	P1	00h	St.	AFh	P1=00/01:Off/On
30	Call Slave Version	A0h	4Dh	P1	P2	P3	AFh	Code version : P1 P2 P3(ASCII)
31	Frame Average	A0h	4Eh	P1	00h	St.	AFh	P1=00/01:LCD/DLP
32	Call lamp Status	A0h	50h	P1	00h	St.	AFh	00 : Lamp + Head Led OFF 01 : Lamp + Head Led ON 02 : Lamp ON 03 : Head Led ON
33	Call Text/Photo Status	A0h	51h	P1	00h	St.	AFh	P1=00/01/02:Photo/Text/Gray
34	reg1	A0h	52h	P1	P2	St.	AFh	P1=00/01:Read/Write P2=0x00~0xff
34	reg2	A0h	53h	P1	P2	St.	AFh	
36	reg3	A0h	54h	P1	P2	St.	AFh	
37	Error Code	A0h	55h	00h	00h	St.	AFh	p1=00/01:Show Error Code/Clear Error Code
38	AWB Correction	A0h	56h	00h	00h	St.	AFh	AWB Correction
39	Call AC 50/60 Hzpower state	A0h	58h	00h	00h	St.	AFh	Call AC 50/60 Hz power State.
40	Keypad Detect	A0h	59h	00h	00h	St.	AFh	p1:00/01 :Kypad Detect Stop/Start. (Enable the Debug message at this time, the detection message will be sent via RS232.)
41	Call Zoom Position	A0h	60h	P1	P2	St.	AFh	p1:low byte p2:high byte
42	Call Digital Zoom Position	A0h	62h	P1	00h	St.	AFh	XGA:805
43	Call Focus Position	A0h	64h	P1	P2	St.	AFh	SXGA:802 WXGA:802 1080P:795

Item	Function	PC AP to DVP510B Master command format						Comment
		1B	2B	3B	4B	5B	6B	
								NTSC:810 PAL:810 p1:low byte p2:high byte XGA:50 SXGA:53 WXGA:53 1080P:60 NTSC:45 PAL:45 P1(LowByte)P2(HighByte)=0~160(Dec)
44	Call Freeze Status	A0h	78h	P1	00h	St.	AFh	P1=00/01:Off/On
45	Call Brightness Position	A0h	89h	P1	00h	St.	AFh	P1=60/50Hz: 00~147(dec)
46	Call Mix Zoom Position	A0h	8Ah	P1	P2	St.	AFh	p1:low byte p2:high byte 0~855 Optical Zoom: XGA:805 SXGA:802 WXGA:802 1080P:795 NTSC:810 PAL:810
47	Call Menu Status	A0h	8Bh	P1	00h	St.	AFh	P1=00/01:Off/On
48	Capture Action	A0h	96h	P1	00h	St.	AFh	00 : Single Capture 01 : Time Lapse 02 : Record 03 : Disabled

Item	Function	PC AP to DVP510B Master command format						Comment
		1B	2B	3B	4B	5B	6B	
49	Capture time	A0h	97h	P1	00h	St.	AFh	P1=00/01/02/03/04/05/06:1hr/ 2hr/ 4hr/ 8hr/ 24hr/48hr/72hr
50	Capture interval	A0h	98h	P1	00h	St.	AFh	00 : 3 sec. 01 : 5 sec. 02 : 10 sec. 03 : 30 sec. 04 : 1 min. 05 : 2 min. 06 : 5 min.
51	Key Function	A0h	A0h	P1	00h	St.	AFh	P1=01/02/03/04/05/06=Enter/Up/Down/Left/Right/Menu
52	Set R/B Gain	A0h	A1h	P1	P2	St.	AFh	P1=01/02:Red Gain/Blue Gain P2(LowByte)P3(HighByte)=0x100~0xFFFF(hex):Gain
53	Call R/B Gain	A0h	A2h	P1	P2	St.	AFh	Send : P1=01/02:Red Gain/Blue Gain Return : P1(LowByte)P2(HighByte)=0x100~0xFFFF(Dec):Gain
54	AF One Push Trigger	A0h	A3h	01h	00h	St.	AFh	
55	Set Gamma Mode	A0h	A7h	P1	00h	St.	AFh	P1=00/01/02:Photo/Text/Gray
56	Set Image Mode	A0h	A9h	P1	00h	St.	AFh	P1=00/01/02/03:Normal/Slide/Film/Microscope
57	System ON/OFF	A0h	B0h	P1	00h	St.	AFh	P1=00/01:Off/On
58	Power	A0h	B1h	P1	00h	St.	AFh	P1=00/01:Off/On
59	Capture	A0h	B2h	P1	00h	St.	AFh	P1=00/01:Capture/Record
60	Playback thumbnail	A0h	B3h	P1	00h	St.	AFh	P1=00:Thumbnail
61	Preview rotation	A0h	B4h	P1	00h	St.	AFh	P1=00/01/02/03:Rotate 0/180/Flip/Mirror
62	Delete	A0h	B6h	P1	00h	St.	AFh	P1=00/01/02: Delete one/Delete all/Format
63	call system status	A0h	B7h	P1	P2	St.	AFh	P1(system status)=00/01: not ready/ Read to receive the command

Item	Function	PC AP to DVP510B Master command format						Comment
		1B	2B	3B	4B	5B	6B	
								P2(Power Status)=00/01:Off/On
64	Lamp On/Off	A0h	C1h	P1	00h	St.	AFh	00 : Lamp + Backlight OFF 01 : Lamp ON 02 : Backlight ON
65	Firmware Upgrade	A0h	CBh	P1	00h	St.	AFh	P1=00/01:osd/no osd
66	Set Audio Volume	A0h	D6h	P1	00h	St.	AFh	P1=0~31(Dec):Volume
67	Call Audio Volume	A0h	D7h	P1	P2	St.	AFh	P1=0~31(Dec):Volume
68	PE Storage Test Data(Save)	A0h	E8h	P1	P2	St.	AFh	P1=1~7:Address P2=0x00~0xff:DATA
69	PE Storage Test Data(Load)	A0h	E9h	P1	P2	St.	AFh	P1=1~7:Address P2=0x00~0xff:DATA

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

