Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Exposure				
Gain			01 60 00	
	01 60 01 40	Auto Low		
	01 60 01 80	Auto Med		
	01 60 01 C0	Auto High		
Shutter			01 61 00	
	01 61 01 00	Step		
	01 61 01 02	Auto		
	01 61 01 03	Off		
Speed (Shutter=step)			01 62 00	
	01 62 01 00	1/30s		
	01 62 01 01	Flickerless		
	01 62 01 02	1/50s		
	01 62 01 03	1/60s		
	01 62 01 04	1/100s		
	01 62 01 05	1/120s		
	01 62 01 06	1/250s		
	01 62 01 07	1/500s		
	01 62 01 08	1/1000s		
	01 62 01 09	1/2000s		
	01 62 01 0A	1/3000s		
Aperture			01 08 00	
	01 08 01 00	Auto		
	01 08 01 01	2.8		
	01 08 01 02	4		
	01 08 01 03	5.6		
	01 08 01 04	8		
	01 08 01 05	11		
	01 08 01 06	16		
Image Brightness			01 64 00	
	01 64 01 F6	-10		
	01 64 01 F7	-9		
	01 64 01 F8	-8		
	01 64 01 F9	-7		
	01 64 01 FA	-6		
	01 64 01 FB	-5		
	01 64 01 FC	-4		
	01 64 01 FD	-3		
	01 64 01 FE	-2		
	01 64 01 FF	-1		
	01 64 01 00	0		
	01 64 01 01	+1		
	01 64 01 02	+2		
	01 64 01 03	+3		
	01 64 01 04	+4		

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Exposure				*continued*
	01 64 01 05	+5		
	01 64 01 06	+6		
	01 64 01 07	+7		
	01 64 01 08	+8		
	01 64 01 09	+9		
	01 64 01 0A	+10		
Back Light Compensation			01 6C 00	
	01 6C 01 00	Off		
	01 6C 01 01	Medium		
	01 6C 01 02	High		
Color				
White Balance			01 65 00	
	01 65 01 00	White Balance AUTO		
	01 65 01 02	White Balance Manual		
Perform WB				
	01 65 01 10			
R Gain (WB=Manual)			01 04 00	
	01 04 02 d0 d1	-64..+63 (0xFFC0..0x003F), -191..+63 (0xFF41..0x003F)		
		d0,d1: -100..+100 (0xFF9C..0x0064)		
B Gain (WB=Manual)			01 05 00	
	01 05 02 d0 d1	-64..+63 (0xFFC0..0x003F), -191..+63 (0xFF41..0x003F)		
		d0,d1: -100..+100 (0xFF9C..0x0064)		
Color Mode			01 6D 00	
	01 6D 01 00	Black/White		
	01 6D 01 01	Presentation		
	01 6D 01 02	Natural		
	01 6D 01 03	Video Conference		
	01 6D 01 04	Manual		
Gamma Normal Mode			01 68 00	
	01 68 01 d0	Gamma Level for Normal Mode (0x00..0x03)		
		d0: 0x00..0x03		
Saturation			01 6E 00	
	01 6E 01 d0	0% to 150% in steps of 1% (0x00..0x96) in MANUAL		
		d0: 0 %...150% (0x00..0x96)		
Pos/Neg/Blue			01 54 00	
	01 54 01 00	Positiv On		
	01 54 01 01	Negativ On		
	01 54 01 02	Blue On		
Output Control				
Detail			01 53 00	
	01 53 01 00	Off		

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Output Control				*continued*
	01 53 01 02	Medium		
	01 53 01 03	High		
Main Resolution			01 51 00	
	01 51 04 00 00 00 00	Auto		
	01 51 04 00 00 3C 01	SVGA/60 (800x600)		
	01 51 04 00 00 3C 04	XGA/60 (1024x768)		
	01 51 04 00 00 3C 0A	SXGA/60 (1280x1024)		
	01 51 04 00 00 3C 0D	UXGA/60 (1600x1200)		
	01 51 04 00 00 3C 16	720p/60 (1280x720)		
	01 51 04 00 00 1E 18	1080p/30 (1920x1080)		
	01 51 04 00 00 3C 18	1080p/60		
	01 51 04 00 00 3C 1C	WUXGA/60 (1920x1200)		
	01 51 04 00 00 3C 1E	WXGA*/60 (1280x800)		
Test Resolution DVI			01 A8 00	
	01 A8 04 d0 d1 d2 d3	Test Resolution for 10 seconds d0 d1 d2 d3: Resolutions (see above)		
Always VZ To ETH/USB			01 0B 00	
	01 0B 01 00	Off		
	01 0B 01 01	On		
Pip Mode			01 1F 00	
	01 1F 01 00	Pip		
	01 1F 01 01	Side By Side		
Freeze On/Off			01 56 00	
	01 56 01 00	Freeze Off		
	01 56 01 01	Freeze On		
	01 56 01 02	Freeze Toggle		
Picture in Picture			01 5D 00	
	01 5D 01 00	PiP Off		
	01 5D 01 01	PiP On		
	01 5D 01 02	PiP Toggle		
Preset Control				
Recall Preset			01 40 00	
	01 40 01 00	Power On Preset		
	01 40 01 01	Preset1		
	01 40 01 02	Preset2		
	01 40 01 03	Preset3		
	01 40 01 04	Preset Default		
Preset Special Function Key		Preset 1	01 42 00	
	01 42 02 01 00	Preset		
	01 42 02 01 01	Pos_Neg		
	01 42 02 01 02	Pos_Blue		
	01 42 02 01 03	Black_White		

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Preset Control				*continued*
	01 42 02 01 04	WB		
	01 42 02 01 05	Freeze		
	01 42 02 01 0D	Picture in Picture		
	01 42 02 01 12	Laser		
	01 42 02 01 13	Snapshot		
		Preset 2		
	01 42 02 02 00	Preset		
	01 42 02 02 01	Pos_Neg		
	01 42 02 02 02	Pos_Blue		
	01 42 02 02 03	Black_White		
	01 42 02 02 04	WB		
	01 42 02 02 05	Freeze		
	01 42 02 02 0D	Picture in Picture		
	01 42 02 02 12	Laser		
	01 42 02 02 13	Snapshot		
		Preset 3		
	01 42 02 03 00	Preset		
	01 42 02 03 01	Pos_Neg		
	01 42 02 03 02	Pos_Blue		
	01 42 02 03 03	Black_White		
	01 42 02 03 04	WB		
	01 42 02 03 05	Freeze		
	01 42 02 03 0D	Picture in Picture		
	01 42 02 03 12	Laser		
	01 42 02 03 13	Snapshot		
Power Control				
Mains-On			01 36 00	
	01 36 01 00	Mains-On Standby		
	01 36 01 01	Mains-On Power-On		
	01 36 01 02	Mains-On Toggle		
Auto-Power-Off Time			01 37 00	
	01 37 01 FF	Off		
	01 37 01 1E	30min until Auto-Power-Off		
	01 37 01 3C	1h until Auto-Power-Off		
	01 37 01 78	2h until Auto-Power-Off		
	01 37 01 B4	3h until Auto-Power-Off		
	01 37 01 F0	4h until Auto-Power-Off		
Display Logo			01 35 00	
	01 35 01 00	Display Logo Off		
	01 35 01 01	Display Logo On		
	01 35 01 02	Display Logo Toggle		
Power Down Mode			01 39 00	

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Power Control				*continued*
	01 39 01 00	Normal		
	01 39 01 01	Deep		
	01 39 01 03	Eco		
PowerOn Preset			01 34 00	
	01 34 01 00	PowerOn Preset Off		
	01 34 01 01	PowerOn Preset On		
	01 34 01 03	PowerOn Preset Default		
Store Preset			01 41 00	
	01 41 01 00	Power On Preset		
	01 41 01 01	Preset1		
	01 41 01 02	Preset2		
	01 41 01 03	Preset3		
Power On/Off			01 30 00	
	01 30 01 00	Power Off		
	01 30 01 01	Power On (PowerOn Preset)		
	01 30 01 02	Power Toggle		
Misc. Command				
Digital Zoom			01 29 00	
	01 29 01 00	Digital Zoom Off		
	01 29 01 01	Digital Zoom 2x		
	01 29 01 02	Digital Zoom 4x		
Digital Zoom Warning			01 2A 00	
	01 2A 01 00	Digital Zoom Warning Stop		
	01 2A 01 01	Digital Zoom Warning Message		
	01 2A 01 02	Digital Zoom Warning None		
IR Code			01 81 00	
	01 81 01 1C	Code A		
	01 81 01 1D	Code B		
	01 81 01 1E	Code C		
	01 81 01 1F	Code D		
	01 81 01 96	Code 1		
	01 81 01 98	Code 2		
	01 81 01 99	Code 3		
	01 81 01 9A	Code 4		
	01 81 01 9B	Code 5		
	01 81 01 9C	Code 6		
	01 81 01 9D	Code 7		
	01 81 01 9E	Code 8		
	01 81 01 9F	Code 9		
Erase Memory Behaviour			01 94 00	
	01 94 01 00	Erase Mem. Manual		
	01 94 01 01	Erase Mem. Standby		

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Misc. Command				*continued*
	01 94 01 02	Erase Mem. Toggle		
Fading			01 8A 00	
	01 8A 01 00	Fading Off		
	01 8A 01 02	Fading Slow		
	01 8A 01 04	Fading Standard		
	01 8A 01 08	Fading Fast		
Laser Marker Portable			01 A7 00	
	01 A7 01 00	Off		
	01 A7 01 01	On		
	01 A7 01 02	Toggle		
	01 A7 01 03	Adjust		
Keylock On/Off			01 80 00	
	01 80 01 00	Keylock Off		
	01 80 01 01	Keylock On		
	01 80 01 02	Keylock Toggle		
Recall Default Settings			01 8F 00	
	01 8F 01 00			
Source			01 9E 00	
	01 9E 01 00	Live		
	01 9E 01 01	Mem		
	01 9E 01 02	USB		
	01 9E 01 05	Net		
OSD				
Language			01 CC 00	
	01 CC 01 00	English		
	01 CC 01 01	German		
OSD Level			01 82 00	
	01 82 01 00	Quiet		
	01 82 01 01	Talk		
	01 82 01 02	Verbose		
Transparency			01 C0 00	
	01 C0 01 00	Transparency Off		
	01 C0 01 01	Transparency On		
Animation			01 3D 00	
	01 3D 01 00	Animation Off		
	01 3D 01 01	Animation On		
Ethernet				
DHCP On/Off			01 70 00	
	01 70 01 00	DHCP off		
	01 70 01 01	DHCP on		
IP Address			01 71 00	

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Ethernet				*continued*
	01 71 04 d0 d1 d2 d3	IP Address in hex (0x00 to 0xFF for each octet)		
		d0 d1 d2 d3: 0x00000000..0xFFFFFFFF		
Subnet Mask			01 72 00	
	01 72 04 d0 d1 d2 d3	Subnet Mask in hex (0x00 to 0xFF for each octet)		
		d0 d1 d2 d3: 0x00000000..0xFFFFFFFF		
Gateway IP			01 73 00	
	01 73 04 d0 d1 d2 d3	Gateway IP Address in hex (0x00 to 0xFF for each octet)		
		d0 d1 d2 d3: 0x00000000..0xFFFFFFFF		
Nameserver IP			01 3A 00	
	01 3A 04 d0 d1 d2 d3	Nameserver IP Address in hex (0x00 to 0xFF for each octet)		
		d0 d1 d2 d3: 0x00000000..0xFFFFFFFF		
Network			01 5E 00	
	01 5E 0D d0 .. d12	For setting networksettings in one command.		
		d0: 00=DHCP Off,1=DHCP On d1 d2 d3 d4: IP Address d5 d6 d7 d8: Subnet Mask d9 d10 d11 d12: Gateway IP		
Streaming				
Destination IP Address			01 77 00	
	01 77 04 d0 d1 d2 d3	Multicast IP Address in hex (0x00 to 0xFF for each octet) Valid range: 225.0.0.0..238.255.255.255 Unicast IP Address in hex Valid range: all except multicast		
		d0 d1 d2 d3: 0x00000000..FFFFFFFF		
Streaming Port			01 78 00	
	01 78 02 d0 d1	Port 8800 to 9000 in hex		
		d0 d1: 0x2260..0x2328		
Streaming Mode			01 75 00	
	01 75 01 00	Off		
	01 75 01 01	Auto		
	01 75 01 02	Continuous		
Streaming Resolution			01 79 00	
	01 79 04 00 00 00 16	HD		
	01 79 04 00 00 00 20	qHD		
	01 79 04 00 00 00 21	nHD		
Streaming Framerate			01 7A 00	
	01 7A 01 00	Low		
	01 7A 01 01	Medium		
	01 7A 01 02	High		
Streaming Format			01 4F 00	
	01 4F 01 00	MJPG		
	01 4F 01 01	RTP MJPG		

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Streaming				*continued*
	01 4F 01 02	RTP H264		
FTP				
Server IP Address			01 DA 00	
	01 DA 04 d0 d1 d2 d3	FTP Server IP Address in hex (0x00 to 0xFF for each octet) Valid range: 225.0.0.0..238.255.255.255 Unicast IP Address in hex Valid range: all except multicast		
		d0 d1 d2 d3: 0x00000000..FFFFFFFF		
Username			01 DB 00	
	01 DB ab d0 .. dn	ab: Length, max 10 Bytes d0 .. dn: String		
Password			01 DC 00	
	01 DC ab d0 .. dn	ab: Length, max 10 Bytes d0 .. dn: String		
Interval			01 DD 00	
	01 DD 01 00	Off		
	01 DD 01 01	1 min		
	01 DD 01 02	5 min		
	01 DD 01 03	10 min		
	01 DD 01 04	15 min		
	01 DD 01 05	30 min		
	01 DD 01 06	1 h		
Timestamp			01 F0 00	
	01 F0 01 00	Off		
	01 F0 01 01	On		
Transfer			09 05 00 00	
	09 05 00 01 00	Off		
	09 05 00 01 01	Delete		
	09 05 00 01 02	Keep		
Time			09 05 01 00	
	09 05 01 05 00 00 00 d0 d1	d0: Bit7: dateformat present(1=present,0=n/a) Bit6: dateformat (0=24h,1=12h) Bit5: 0 Bit4..0: hour (0..17hex) d1: minute		
Transfer Now			09 05 02 00	
	09 05 02 01 00			
WLAN				
Mode			01 E1 00	
	01 E1 01 00	Off		

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
WLAN				*continued*
	01 E1 01 01	Infrastructure		
	01 E1 01 02	Access Point		
Channel			01 E2 00	
	01 E2 01 00	1		
	01 E2 01 01	6		
	01 E2 01 02	11		
	01 E2 01 03	36		
	01 E2 01 04	40		
	01 E2 01 05	44		
SSID Auto			01 E3 00	
	01 E3 01 00	Off		
	01 E3 01 01	On		
SSID			01 E4 00	
	01 E4 ab d0 .. dn	ab: Length, max 17 Bytes d0 .. dn: String		
WLAN DHCP			01 E5 00	
	01 E5 01 00	DHCP off		
	01 E5 01 01	DHCP on		
	01 E5 01 02	DHCP toggle		
WLAN IP Address			01 E6 00	
	01 E6 04 d0 d1 d2 d3	IP Address in hex (0x00 to 0xFF for each octet)		
		d0 d1 d2 d3: 0x00000000..0xFFFFFFFF		
WLAN Subnet Mask			01 E7 00	
	01 E7 04 d0 d1 d2 d3	Subnet Mask in hex (0x00 to 0xFF for each octet)		
		d0 d1 d2 d3: 0x00000000..0xFFFFFFFF		
WLAN Gateway IP			01 E8 00	
	01 E8 04 d0 d1 d2 d3	Gateway IP Address in hex (0x00 to 0xFF for each octet)		
		d0 d1 d2 d3: 0x00000000..0xFFFFFFFF		
WLAN Nameserver IP			01 E9 00	
	01 E9 04 d0 d1 d2 d3	Nameserver IP Address in hex (0x00 to 0xFF for each octet)		
		d0 d1 d2 d3: 0x00000000..0xFFFFFFFF		
Encryption			01 EE 00	
	01 EE 01 00	Off		
	01 EE 01 01	WEP		
	01 EE 01 02	WPA/WPA2		
Password			01 ED 00	
	01 ED ab d0 .. dn	ab: Length, max 17 Bytes d0 .. dn: String		
Password Accesspoint			01 EF 00	
	01 EF ab d0 .. dn	ab: Length, max 17 Bytes d0 .. dn: String		
WLAN Activate			01 EA 00	
	01 EA 01 00			

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Security				
Ethernet Mode		(RS232 and USB only)	01 74 00	
	01 74 01 00	Off		
	01 74 01 01	Image Only		
	01 74 01 02	Control Only		
	01 74 01 03	Image and Control		
	01 74 01 04	FW Update Only		
	01 74 01 05	Image and FW Update		
	01 74 01 06	Control and FW Update		
	01 74 01 07	Image, Control and FW Update		
	01 74 01 08	Auth		
Device Info				
FW Check			01 0C 00	
	01 0C 01 00			
Feature Pack Key			01 07 00	
	01 07 ab d0 .. dn	ab: length, max. 255 Bytes d0 .. dn: Feature String		
Description			01 1A 00	
	01 1A ab d0 .. dn	ab: length, max. 255 Bytes d0 .. dn: String		
Firmware Update				
Firmware Upload Erase Flash			01 B0 00	
	01 B0 01 00	Flash1 (uC,FPGA,NIOS)		
Firmware Upload Data Start			01 B1 00	
	01 B1 04 d0 d1 d2 d3	Length of firmware data		
		d0 d1 d2 d3: 0x00000000..0xFFFFFFFF		
Firmware Upload Data			01 B2 00	
	05 B2 ab cd d0 .. dn	ab cd: Length of bytes of long data block in hex USB max Length = 508 (512-4) ETH max Length = 1440 d0 .. dn: Data		
	01 B2 ab d0 .. dn	ab: Length of bytes of long data block in hex RS232 max Length = 253 (256-3) d0 .. dn: Data		
Firmware Upload Data Stop			01 B3 00	
	01 B3 01 00			
Firmware Downgrade			01 B4 00	
	01 B4 01 00	Command must be issued before uploading old firmware		
Firmware Update Start		Firmware from WV Webpage	01 0E 00	
	01 0E 01 00			

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Date/Time				
Time Source			01 44 00	
	01 44 01 00	Internal		
	01 44 01 01	External		
Timeserver IP			01 7C 00	
	01 7C 04 d0 d1 d2 d3	d0 d1 d2 d3: Timeserver IP Address in hex (0x00 to 0xFF for each octet)		
		d0 d1 d2 d3: 0x00000000..0xFFFFFFFF		
Timezone			01 7D 00	
	01 7D 01 00	Pacific/Apia		
	01 7D 01 01	Pacific/Honolulu		
	01 7D 01 02	America/Anchorage		
	01 7D 01 03	America/Los_Angeles		
	01 7D 01 04	America/Tijuana		
	01 7D 01 05	America/Phoenix		
	01 7D 01 06	America/Denver		
	01 7D 01 07	America/Mazatlan		
	01 7D 01 08	America/Chicago		
	01 7D 01 09	America/Regina		
	01 7D 01 0A	America/Mexico_City		
	01 7D 01 0B	America/Bogota		
	01 7D 01 0C	America/New_York		
	01 7D 01 0D	America/Caracas		
	01 7D 01 0E	America/Halifax		
	01 7D 01 0F	America/Santiago		
	01 7D 01 10	America/La_Paz		
	01 7D 01 11	America/St_Johns		
	01 7D 01 12	America/Sao_Paulo		
	01 7D 01 13	America/Buenos_Aires		
	01 7D 01 14	America/Montevideo		
	01 7D 01 15	Atlantic/South_Georgia		
	01 7D 01 16	Atlantic/Azores		
	01 7D 01 17	Atlantic/Cape_Verde		
	01 7D 01 18	Africa/Casablanca		
	01 7D 01 19	UTC		
	01 7D 01 1A	Europe/London		
	01 7D 01 1B	Europe/Berlin		
	01 7D 01 1C	Africa/Kinshasa		
	01 7D 01 1D	Europe/Istanbul		
	01 7D 01 1E	Africa/Cairo		
	01 7D 01 1F	Asia/Jerusalem		
	01 7D 01 20	Africa/Johannesburg		
	01 7D 01 21	Europe/Moscow		
	01 7D 01 22	Africa/Nairobi		
	01 7D 01 23	Asia/Baghdad		

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Date/Time				*continued*
	01 7D 01 24	Asia/Tehran		
	01 7D 01 25	Asia/Muscat		
	01 7D 01 26	Asia/Baku		
	01 7D 01 27	Asia/Kabul		
	01 7D 01 28	Asia/Karachi		
	01 7D 01 29	Asia/Kolkata		
	01 7D 01 2A	Asia/Katmandu		
	01 7D 01 2B	Asia/Almaty		
	01 7D 01 2C	Asia/Dhaka		
	01 7D 01 2D	Asia/Rangoon		
	01 7D 01 2E	Asia/Bangkok		
	01 7D 01 2F	Asia/Hong_Kong		
	01 7D 01 30	Asia/Singapore		
	01 7D 01 31	Australia/Perth		
	01 7D 01 32	Asia/Taipei		
	01 7D 01 33	Asia/Tokyo		
	01 7D 01 34	Asia/Seoul		
	01 7D 01 35	Australia/Adelaide		
	01 7D 01 36	Australia/Darwin		
	01 7D 01 37	Australia/Sydney		
	01 7D 01 38	Australia/Brisbane		
	01 7D 01 39	Pacific/Noumea		
	01 7D 01 3A	Pacific/Auckland		
	01 7D 01 3B	Pacific/Kwajalein		
Date Format			01 45 00	
	01 45 01 00	DDMMYYYY/24H		
	01 45 01 01	MMDDYYYY/12H		
Date/Time			01 7E 00	
	01 7E 05 d0 .. dn	d0: Year (0..99)(0x00..0x63) d1: Month (1..12)(0x01..0x0C) d2: Day (1..31)(0x01..0x1F) d3: Hour (0..23)(0x00..0x17) d4: Minute (0..59)(0x00..0x3B)		
USB Settings				
Picture Folder			01 D0 00	
	01 D0 ab d0 .. dn	ab: Length, max 10 Bytes d0 .. dn: String		
Picture Number			01 D1 00	
	01 D1 04 d0 d1 d2 d3	Index for pictures: Format WV# d0 .. d3: Number d0 d1 d2 d3: 0x00000000..0xFFFFFFFF		
Load Settings			01 D6 00	

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
USB Settings				*continued*
	01 D6 01 00	Off		
	01 D6 01 01	Auto		
	01 D6 01 02	Confirm		
Store Settings			01 D7 00	
	01 D7 01 00			
Audio				
Audio Microphone Select			09 04 01 00	
	09 04 01 01 00	Off		
	09 04 01 01 02	Line-In		
Audio Enable HDMI			09 04 04 00	
	09 04 04 01 00	Off		
	09 04 04 01 02	No microphone		
Audio Enable Stream			09 04 05 00	
	09 04 05 01 00	Off		
	09 04 05 01 01	All sources		
Audio Enable Line-Out			09 04 06 00	
	09 04 06 01 00	Off		
	09 04 06 01 01	All sources		
	09 04 06 01 02	No microphone		
Audio Enable Recording			09 04 07 00	
	09 04 07 01 00	Off		
	09 04 07 01 01	All sources		
Microphone Mute			09 04 02 00	
	09 04 02 01 00	Off		
	09 04 02 01 01	On		
	09 04 02 01 02	Toggle		
Audio Volume			09 04 03 00	
	09 04 03 02 d0 d1	Absolute d0,d1: 0..100%		
	09 04 03 01 01	Plus		
	09 04 03 01 02	Minus		
Extra Menu				
AF Mode			01 F1 00	
	01 F1 01 00	Spot Autofocus		
	01 F1 01 01	Multi Flied Autofocus		
Noise Suppression			01 87 00	
	01 87 01 00	Off		
	01 87 01 01	On		
Menu Lock			01 97 00	
	01 97 01 00	Off		
	01 97 01 01	On		

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Extra Menu				*continued*
Number of IR Codes			01 18 00	
	01 18 01 00	Number of IR Codes 4		
	01 18 01 01	Number of IR Codes 9		
Image Mirror			01 5B 00	
	01 5B 01 00	Off		
	01 5B 01 01	Horizontal		
	01 5B 01 02	Vertical		
	01 5B 01 03	H+V		
HDMI/VGA 5V Power Signal			01 96 00	
	01 96 01 00	Standard		
	01 96 01 01	On		
Video Output Range			01 3E 00	
	01 3E 01 00	Full		
	01 3E 01 01	Standard		
Hostname			01 49 00	
	01 49 ab d0 .. dn	ab: Length, max 17 Bytes d0 .. dn: String		
Factory Reset			01 9F 00	
	01 9F 01 00	Factory Reset (inc memories, xml files)		
Motor Control				
Stop all motors			01 2F 00	
	01 2F 01 00	Iris, Focus, Zoom,Mirror,Vergence		
Zoom Control				
Zoom			01 20 00	
	01 20 01 11	Start Zoom Wide		
	01 20 01 12	Start Zoom Tele		
	01 20 02 d0 d1	Set zoom position absolutely		
		d0 d1: 0x0000..0x0FFF (Wide..Tele)		
	01 20 03 ab d0 d1	ab: Direction (0x01 Zoom Wide, 0x02 Zoom Tele)		
		d0, d1: Speed (0x01 .. 0x0f, 0x00 Stop)		
		d0, d1: 0x00 .. 0x0f		
Focus Control				
Focus			01 21 00	
	01 21 01 11	Start Focus Far		
	01 21 01 12	Start Focus Near		
	01 21 02 d0 d1	Set Focus Position Absolutely		
		d0 d1: 0x0000..0x0FFF (Far..Near)		
	01 21 03 ab d0 d1	ab: Direction (0x01 Focus Far, 0x02 Focus Near)		
		d0, d1: Speed (0x0001 .. 0x000F, 0x0000 Stop)		
		d0, d1: 0x0000 .. 0x000F		

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Focus Control				*continued*
Auto Focus			01 31 00	
	01 31 01 00	AF Off		
	01 31 01 01	AF On		
	01 31 01 02	AF Toggle		
Iris Control				
Iris			01 22 00	
	01 22 01 11	Start Iris Open		
	01 22 01 12	Start Iris Close		
	01 22 02 d0 d1	Set Iris Position Absolutely (0x0000..0x0FFF)		
		d0 d1: 0x0000..0x0FFF (Close..Open)		
	01 22 03 ab d0 d1	ab: Direction (0x01 Iris Open, 0x02 Iris Close)		
		d0, d1: Speed (0x0001 normal spd, 0x0002 full Spd, 0x0000 Stop)		
		d0, d1: 0x0000..0x0002		
Unit Menu Control				
Menu On/Off			01 98 00	
	01 98 01 00	Menu Off		
	01 98 01 03	Standard Menu On		
	01 98 01 04	Extra Menu On		
	01 98 01 05	Memory Menu On		
	01 98 01 06	USB Menu On		
Menu Control			01 99 00	
	01 99 01 02	Function Up		
	01 99 01 08	Function Down		
	01 99 01 04	Data Left		
	01 99 01 06	Data Right		
	01 99 01 05	Enter		
	01 99 01 10	Help		
	01 99 01 90	Menu Item Reset		
Video Playback	01 99 01 91	Playback Pause/Resume		
	01 99 02 ab d0	ab: Direction (0x01 Fast Forward, 0x02 Fast Backward)		
		d0: Speed (0x01 .. 0x0f, 0x00 Stop)		
Image Storing Cmd				
Memory Off			01 90 00	
	01 90 01 00			
Memory Recall			01 91 00	
	01 91 01 01	Recall Memory1		
	01 91 01 02	Recall Memory2		
	01 91 01 03	Recall Memory3		
	01 91 01 04	Recall Memory4		
	01 91 01 05	Recall Memory5		

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Image Storing Cmd				*continued*
	01 91 01 06	Recall Memory6		
	01 91 01 07	Recall Memory7		
	01 91 01 08	Recall Memory8		
	01 91 01 09	Recall Memory9		
Memory Store			01 92 00	
	01 92 01 01	Store Memory1		
	01 92 01 02	Store Memory2		
	01 92 01 03	Store Memory3		
	01 92 01 04	Store Memory4		
	01 92 01 05	Store Memory5		
	01 92 01 06	Store Memory6		
	01 92 01 07	Store Memory7		
	01 92 01 08	Store Memory8		
	01 92 01 09	Store Memory9		
	01 92 01 10	Auto Snapshot		
	01 92 01 20	Erase Memory		
Copy to USB			01 DE 00	
	01 DE 01 00			
Snapshot			01 95 00	
	01 95 01 00	Store Picture to Mem/USB		
Authentication				
Login			01 D4 00	
	01 D4 24 d0 .. dn	MD5 (SessionID, Username, Password, IP) + Username + IP Strings are padded with 0's MD5=16Bytes,Username=16Bytes,IP=4Bytes Padding for calculateing MD5: SessionID=4Bytes,Username=16Bytes,Password=10Bytes,IP=4Bytes		
SIP Login				
	01 1D 01 00	Single IP Authentication Request	01 1D 01 01	Device busy
			01 1D 08 d0..dn	Auth Request
				d0..d2: Color 1 (RGB)
				d3..d5: Color 2 (RGB)
				d6: Pattern (number)
				d7: Timeout (max sequence time)
	01 1D 01 01	SIP Logout	01 1D 00	
Logout			01 D5 00	
	01 D5 01 00			
vSolution Connect				
Video Recording			09 03 01 00	
	09 03 01 01 00	Stop Recording		

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
vSolution Connect				*continued*
	09 03 01 01 01	Start Recording		
	09 03 01 01 02	Pause/Resume		
vSolution Connect Streaming Resolution			09 03 05 00	
	09 03 05 01 01	1024x768		
	09 03 05 01 02	1280x960		
	09 03 05 01 03	1280x720		
	09 03 05 01 04	1280x800		
	09 03 05 01 05	1920x1080		

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Exposure				
Gain	00 60 00			
			00 60 01 40	Auto Low
			00 60 01 80	Auto Med
			00 60 01 C0	Auto High
Shutter	00 61 00			
			00 61 01 00	Step
			00 61 01 02	Auto
			00 61 01 03	Off
Speed (Shutter=step)	00 62 00			
			00 62 01 00	1/30s
			00 62 01 01	Flickerless
			00 62 01 02	1/50s
			00 62 01 03	1/60s
			00 62 01 04	1/100s
			00 62 01 05	1/120s
			00 62 01 06	1/250s
			00 62 01 07	1/500s
			00 62 01 08	1/1000s
			00 62 01 09	1/2000s
			00 62 01 0A	1/3000s
Aperture	00 08 00			
			00 08 01 00	Auto
			00 08 01 01	2.8
			00 08 01 02	4
			00 08 01 03	5.6
			00 08 01 04	8
			00 08 01 05	11
			00 08 01 06	16
Image Brightness	00 64 00			
			00 64 01 F6	-10
			00 64 01 F7	-9
			00 64 01 F8	-8
			00 64 01 F9	-7
			00 64 01 FA	-6
			00 64 01 FB	-5
			00 64 01 FC	-4
			00 64 01 FD	-3
			00 64 01 FE	-2
			00 64 01 FF	-1
			00 64 01 00	0
			00 64 01 01	+1
			00 64 01 02	+2
			00 64 01 03	+3
			00 64 01 04	+4

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Exposure				*continued*
			00 64 01 05	+5
			00 64 01 06	+6
			00 64 01 07	+7
			00 64 01 08	+8
			00 64 01 09	+9
			00 64 01 0A	+10
Back Light Compensation	00 6C 00			
			00 6C 01 00	Off
			00 6C 01 01	Medium
			00 6C 01 02	High
Color				
White Balance	00 65 00			
			00 65 01 00	Auto
			00 65 01 02	Manual
R Gain (WB=Manual)	00 04 00			
			00 04 02 d0 d1	
				d0,d1: -100..+100 (0xFF9C..0x0064)
B Gain (WB=Manual)	00 05 00			
			00 05 02 d0 d1	
				d0,d1: -100..+100 (0xFF9C..0x0064)
Color Mode	00 6D 00			
			00 6D 01 00	Black/White
			00 6D 01 01	Presentation
			00 6D 01 02	Natural
			00 6D 01 03	Video Conference
			00 6D 01 04	Manual
Gamma Normal Mode	00 68 00			
			00 68 01 d0	d0: Gamma Curves
				d0: 0x00..0x03
Saturation	00 6E 00			
			00 6E 01 d0	d0: Saturation in percent
				d0: 0 %...150% (0x00..0x96)
Pos/Neg/Blue	00 54 00			
			00 54 01 00	Pos
			00 54 01 01	Neg
			00 54 01 02	Blue
Output Control				
Detail	00 53 00			
			00 53 01 00	Off
			00 53 01 02	Medium
			00 53 01 03	High

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Output Control				*continued*
Main Resolution	00 51 00		00 51 04 d0 d1 d2 d3	d0: Not Used d1: Mode (00=Auto) d2: Frequency (00=N/A,Frequency in Hex, eg 3C=60Hz) d3: Resolution
			00 51 04 00 00 00 00	Auto
			00 51 04 00 00 3C 01	SVGA/60 (800x600)
			00 51 04 00 00 3C 04	XGA/60 (1024x768)
			00 51 04 00 00 3C 0A	SXGA/60 (1280x1024)
			00 51 04 00 00 3C 0D	UXGA/60 (1600x1200)
			00 51 04 00 00 3C 16	720p/60 (1280x720)
			00 51 04 00 00 1E 18	1080p/30 (1920x1080)
			00 51 04 00 00 3C 18	1080p/60 (1920x1080)
			00 51 04 00 00 3C 1C	WUXGA/60 (1920x1200)
			00 51 04 00 00 3C 1E	WXGA*/60 (1280x800)
Always Live To ETH/USB	00 0B 00			
			00 0B 01 00	Off
			00 0B 01 01	On
PiP Mode	00 1F 00			
			00 1F 01 00	PiP
			00 1F 01 01	Side By Side
Freeze	00 56 00			
			00 56 01 00	Off
			00 56 01 01	On
Picture in Picture	00 5D 00			
			00 5D 01 00	PiP Off
			00 5D 01 01	Pip On
ResInfo DVI	00 55 00			
			00 55 ab d0..dn	DVI Resolution String (eg 1280x960/60Hz or Resolution in AUTO)
Preset Control				
Preset Special Function Key	00 42 01 01	Preset1		
			00 42 02 01 00	Preset
			00 42 02 01 01	Pos_Neg
			00 42 02 01 02	Pos_Blue
			00 42 02 01 03	Black_White
			00 42 02 01 04	WB
			00 42 02 01 05	Freeze
			00 42 02 01 0D	Picture in Picture
			00 42 02 01 12	Laser
			00 42 02 01 13	Snapshot
	00 42 01 02	Preset2		
			00 42 02 02 00	Preset

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Preset Control				*continued*
			00 42 02 02 01	Pos_Neg
			00 42 02 02 02	Pos_Blue
			00 42 02 02 03	Black_White
			00 42 02 02 04	WB
			00 42 02 02 05	Freeze
			00 42 02 02 0D	Picture in Picture
			00 42 02 02 12	Laser
			00 42 02 02 13	Snapshot
	00 42 01 03	Preset3		
			00 42 02 03 00	Preset
			00 42 02 03 01	Pos_Neg
			00 42 02 03 02	Pos_Blue
			00 42 02 03 03	Black_White
			00 42 02 03 04	WB
			00 42 02 03 05	Freeze
			00 42 02 03 0D	Picture in Picture
			00 42 02 03 12	Laser
			00 42 02 03 13	Snapshot
List of SFK functions	00 43 00			
			00 43 ab d0 .. dn	ab: Length of variable list of supported functions. d0 .. dn: List Preset is excluded , because always present.
				01=Pos_Neg
				02=Pos_Blue
				03=Black_White
				04=Whitebalance
				05=Freeze
				0D=Picture in Picture
				12=Laser
				13=Snapshot
Power Control				
Power On Preset	00 34 00			
			00 34 01 00	Off
			00 34 01 01	On
			00 34 01 03	Default
Display Logo	00 35 00			
			00 35 01 00	Off
			00 35 01 01	On
Mains-On	00 36 00			
			00 36 01 00	Standby
			00 36 01 01	Power-On

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Power Control				*continued*
Auto-Power-Off Time	00 37 00			
			00 37 01 FF	Off
			00 37 01 1E	30min until Auto-Power-Off
			00 37 01 3C	1h until Auto-Power-Off
			00 37 01 78	2h until Auto-Power-Off
			00 37 01 B4	3h until Auto-Power-Off
			00 37 01 F0	4h until Auto-Power-Off
Power Down Mode	00 39 00			
			00 39 01 00	Normal
			00 39 01 01	Deep
			00 39 01 03	Eco
Power	00 30 00			
			00 30 01 00	Off
			00 30 01 01	On
Supply Source	00 DF 00			
			00 DF 01 00	NA
			00 DF 01 01	Mains
			00 DF 01 02	LPS
			00 DF 01 03	POE
			00 DF 01 04	POE +
Misc. Command				
Fading	00 8A 00			
			00 8A 01 00	Off
			00 8A 01 02	Slow
			00 8A 01 04	Standard
			00 8A 01 08	Fast
IR Code	00 81 00			
			00 81 01 1C	Code A
			00 81 01 1D	Code B
			00 81 01 1E	Code C
			00 81 01 1F	Code D
			00 81 01 96	Code 1
			00 81 01 98	Code 2
			00 81 01 99	Code 3
			00 81 01 9A	Code 4
			00 81 01 9B	Code 5
			00 81 01 9C	Code 6
			00 81 01 9D	Code 7
			00 81 01 9E	Code 8
			00 81 01 9F	Code 9
Laser Marker Portable	00 A7 00			
			00 A7 01 00	Off

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Misc. Command				*continued*
			00 A7 01 01	On
			00 A7 01 03	Adjust
Erase Memory	00 94 00			
			00 94 01 00	Manually
			00 94 01 01	Standby
Digital Zoom Mode	00 29 00			
			00 29 01 00	Off
			00 29 01 01	2x
			00 29 01 02	4x
Digital Zoom Warning	00 2A 00			
			00 2A 01 00	Stop
			00 2A 01 01	Message
			00 2A 01 02	None
Keylock	00 80 00			
			00 80 01 00	Off
			00 80 01 01	On
Source	00 9E 00			
			00 9E 01 00	Live
			00 9E 01 01	Mem
			00 9E 01 02	USB
			00 9E 01 05	Net
OSD				
OSD Level	00 82 00			
			00 82 01 00	Quiet
			00 82 01 01	Talk
			00 82 01 02	Verbose
Transparency	00 C0 00			
			00 C0 01 00	Transparency Off
			00 C0 01 01	Transparency On
Animation	00 3D 00			
			00 3D 01 00	Animation Off
			00 3D 01 01	Animation On
OSD Layout Supported	00 CD 00			
			00 CD 01 01	Supported. If not supported, Error 2 (Invalid Cmd) is reported
OSD Layout	00 CA 00			
			02 01 CA ab cd ef gh d0 .. dn	ab cd ef gh: Length d0..dn: XML File
Language	00 CC 00			
			00 CC 01 00	English
			00 CC 01 01	German

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Ethernet				
DHCP	00 70 00			
			00 70 01 00	Off
			00 70 01 01	On
IP Address	00 71 00			
			00 71 04 d0 d1 d2 d3	
				d0 d1 d2 d3: IP Address in hex (0x00 to 0xFF for each packet)
Subnet Mask	00 72 00			
			00 72 04 d0 d1 d2 d3	
				d0 d1 d2 d3: Subnet Mask in hex (0x00 to 0xFF for each packet)
Gateway IP	00 73 00			
			00 73 04 d0 d1 d2 d3	
				d0 d1 d2 d3: Gateway IP Address in hex (0x00 to 0xFF for each packet)
Nameserver IP	00 3A 00			
			00 3A 04 d0 d1 d2 d3	
				d0 d1 d2 d3: Nameserver IP Address in hex (0x00 to 0xFF for each packet)
MAC	00 69 00			
			00 69 11 d0 .. dn	MAC Address d0 .. dn: String Example: "00:0C:92:BC:61:2B"
DHCP State	00 6F 00			
			00 6F 01 00	Off
			00 6F 01 01	Failed
			00 6F 01 02	Trying
			00 6F 01 03	Ok
			00 6F 01 04	Unknown
Streaming				
Multicast IP Address	00 77 00			
			00 77 04 d0 d1 d2 d3	
				d0 d1 d2 d3: Multicast IP Address in hex (0x00 to 0xFF for each packet)Valid range: 225.0.0.0..238.255.255.255
Streaming Port	00 78 00			
			00 78 02 d0 d1	
				d0 d1: Port 8800 to 9000 in hex (0x2260..0x2328)
Streaming Mode	00 75 00			
			00 75 01 00	Off
			00 75 01 01	Auto
			00 75 01 02	Continuous
Streaming Resolution	00 79 00			
			00 79 04 00 00 00 16	HD

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Streaming				*continued*
			00 79 04 00 00 00 20	qHD
			00 79 04 00 00 00 21	nHD
Streaming Framerate	00 7A 00			
			00 7A 01 00	Low
			00 7A 01 01	Medium
			00 7A 01 02	High
Streaming Format	00 4F 00			
			00 4F 01 00	MJPG
			00 4F 01 01	RTP MJPG
			00 4F 01 02	RTP H264
Multicast Resolution Table	00 7B 00			Table of resolutions available for streaming
			04 7B ab cd d0 .. dn	ab cd: Length, max 65535 Bytes d0 .. dn:n*72Byte:Name (64Bytes), Width (2Bytes), Height (2Bytes), ID (4Bytes) Example: "Name, 64 byte padded with spaces", 0x0500, 0x03C0, 0x00000001
FTP				
Server IP Address	00 DA 00			
			00 DA 04 d0 d1 d2 d3	
				d0 d1 d2 d3: FTP Server IP Address in hex (0x00 to 0xFF for each packet)
Username	00 DB 00			
			00 DB ab d0 .. dn	ab: Length, max 10 Bytes d0 .. dn: String
Password	00 DC 00			
			00 DC ab d0 .. dn	ab: Length, max 10 Bytes d0 .. dn: String "**********"
Interval	00 DD 00			
			00 DD 01 00	Off
			00 DD 01 01	1 min
			00 DD 01 02	5 min
			00 DD 01 03	10 min
			00 DD 01 04	15 min
			00 DD 01 05	30 min
			00 DD 01 06	1 h
Timestamp	00 F0 00			
			00 F0 01 00	Off
			00 F0 01 01	On
Transfer	08 05 00 00			
			08 05 00 01 00	Off
			08 05 00 01 01	Delete
			08 05 00 01 02	Keep

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
FTP				*continued*
Time	08 05 01 00			
			08 05 01 05 00 00 00 d0 d1	d0: Bit7: dateformat present(1=present,0=n/a) Bit6: dateformat (0=24h,1=12h) Bit5: 0 Bit4..0: hour (0..17hex) d1: minute
Transfer Now	08 05 02 00			
			08 05 02 00	Dummy
WLAN				
WLAN DHCP	00 E5 00			
			00 E5 01 00	Off
			00 E5 01 01	On
WLAN IP Address	00 E6 00			
			00 E6 04 d0 d1 d2 d3	
				d0 d1 d2 d3: IP Address in hex (0x00 to 0xFF for each packet)
WLAN Subnet Mask	00 E7 00			
			00 E7 04 d0 d1 d2 d3	
				d0 d1 d2 d3: Subnet Mask in hex (0x00 to 0xFF for each packet)
WLAN Gateway IP	00 E8 00			
			00 E8 04 d0 d1 d2 d3	
				d0 d1 d2 d3: Gateway IP Address in hex (0x00 to 0xFF for each packet)
WLAN Nameserver IP	00 E9 00			
			00 E9 04 d0 d1 d2 d3	
				d0 d1 d2 d3: Nameserver IP Address in hex (0x00 to 0xFF for each packet)
WLAN MAC	00 EB 00			
			00 EB 11 d0 .. dn	MAC Address d0 .. dn: String Example: "00:0C:92:BC:61:2B"
WLAN DHCP State	00 EC 00			
			00 EC 01 00	Off
			00 EC 01 01	Failed
			00 EC 01 02	Trying
			00 EC 01 03	Ok
			00 EC 01 04	Unknown
Channel	00 E2 00			
			00 E2 01 00	1
			00 E2 01 01	6
			00 E2 01 02	11

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
WLAN				*continued*
			00 E2 01 03	36
			00 E2 01 04	40
			00 E2 01 05	44
SSID	00 E4 00			
			00 E4 ab d0 .. dn	ab: Length, max 25 Bytes d0 .. dn: String
SSID Auto	00 E3 00			
			00 E3 01 00	Off
			00 E3 01 01	On
Encryption	00 EE 00			
			00 EE 01 00	Off
			00 EE 01 01	WEP
			00 EE 01 02	WPA/WPA2
Password	00 ED 00			
			00 ED ab d0 .. dn	ab: Length, max 17 Bytes d0 .. dn: String "**********"
Password Accesspoint	00 EF 00			
			00 ED ab d0 .. dn	ab: Length, max 17 Bytes d0 .. dn: String, Plaintext
Mode	00 E1 00			
			00 E1 01 00	Off
			00 E1 01 01	Infrastructure
			00 E1 01 02	Access point
Security				
Ethernet Mode	00 74 00			

			00 74 01 d0	d0: Data
				  Bit0: IMG 0=Image Blocked,1=Image Allowed
				  Bit1: CTRL 0=Control Blocked,1=Control Allowed
				  Bit2: FW 0=Firmware Update Blocked,1=Firmware Upload Allowed
				  Bit3: AUTH 0=Authentication Off,1=Authentication On

Device Info				
Model	00 11 00			
			00 11 ab d0 .. dn	ab: Length, max 255 Bytes d0 .. dn: String"VZ9P","VZ9P-3","VZ-C12-II","VZ-C12-3","VZ-C32","EYE-12","SCB-12","VZ-C32-3","VZ-P18","VZ-P38", "VZ3"
Model Display	00 3F 00			
			00 3F ab d0 .. dn	ab: Length, max 255 Bytes d0 .. dn: String"VZ-9plus-3"
Serialnumber	00 12 00			
			00 12 04 d0 d1 d2 d3	

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Device Info				*continued*
				d0 d1 d2 d3: 0x00000000..0xFFFFFFFF
Version	00 13 00			
			00 13 ab d0 .. dn	ab: Length d0 .. dn: StringExample: "V1.10a"
Adjuster	00 14 00			
			00 14 ab d0 .. dn	ab: Length, max 255 Bytes d0 .. dn: String Example: "MSc"
Production Date	00 15 00			
			00 15 02 d0 d1	d0: week d1: year
RC Features	00 16 00			
			00 16 08 d0 d1 d2 d3 d4 d5 d6 d7	8 Bytes: to specify the available functions on the remote control
				d0: Byte0
				Bit7:Zoom
				Bit6:Iris
				Bit4:Focus
				Bit3:AF
				Bit2:Power
				d1: Byte1
				Bit6:WB
				Bit2:Freeze
				d2: Byte2
				Bit7:Preset1
				Bit6:Preset2
				Bit5:Preset3
				Bit4:Record
				Bit3:Pause
				Bit2:Stop
				Bit1:Volume
				Bit0:Mute
				d3: Byte3
				d4: Byte4
				Bit2:Snapshot
				d5: Byte5
				Bit7:Not Used (FWUpdate)
		Picture transfer demosaicing while in dig Zoom		Bit4:StrToggle (PT_dem_dZoom)
		Picture transfer demosaicing while not in Img Turn		Bit3:Help? (PT_dem_0deg)
				d6: Byte6:
				Bit7:PiP
				Bit6:VZ
				Bit5:Mem
				Bit4:USB

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Device Info				*continued*
				d7: Byte7:
				Bit7:Mem/USB Navigation(Pos1,End,Left,Right,Ok)
				Bit5:Str
				Bit4:Video Navigation(Pos1,End,FF,FB,Ok)
Resolution Table	00 17 00			Table of Resolutions available for single picture transfer
			04 17 ab cd d0 .. dn	ab cd: Length, max 65535 Bytes d0 .. dn:n*72Byte:Name (64Bytes), Width (2Bytes), Height (2Bytes), ID (4Bytes) Example: "Name, 64 byte padded with spaces", 0x0500, 0x03C0, 0x00000001
Buildnumber	00 1C 00			
			00 1C 0E d0 .. dn	d0 .. dn: String Example: "20091028140601"
Description	00 1A 00			
			00 1A ab d0 .. dn	ab: Length, max. 255 bytes d0 .. dn: String
Feature Pack Key	00 07 01 00			
			00 07 02 00 00	Failed
			00 07 02 00 01	Ok
	00 07 01 01			
			00 07 ab 01 d0 .. dn	ab: Length, max. 255 bytes d0 .. dn: String
	00 07 01 02			
			00 07 05 02 d0 d1 d2 d3	32 bit features
Feature Pack Streaming	08 02 00 00			
			08 02 00 01 00	Disabled
			08 02 00 01 01	Enabled
Feature Pack PiP	08 02 01 00			
			08 02 01 01 00	Disabled
			08 02 01 01 01	Enabled
Feature Pack IR Remote	08 02 02 00			
			08 02 02 01 00	Disabled
			08 02 02 01 01	Enabled
Feature Pack Internal Memory	08 02 03 00			
			08 02 03 01 00	Disabled
			08 02 03 01 01	Enabled
Feature Pack USB Host	08 02 04 00			
			08 02 04 01 00	Disabled
			08 02 04 01 01	Enabled
Feature Pack Fading	08 02 05 00			
			08 02 05 01 00	Disabled
			08 02 05 01 01	Enabled
Feature Pack 60FPS	08 02 06 00			
			08 02 06 01 00	Disabled

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Device Info				*continued*
			08 02 06 01 01	Enabled
Feature Pack WLAN	08 02 07 00			
			08 02 07 01 00	Disabled
			08 02 07 01 01	Enabled
Feature Pack vConnect	08 02 08 00			
			08 02 08 01 00	Disabled
			08 02 08 01 01	Enabled
Feature Security	08 02 09 00			
			08 02 09 01 00	Disabled
			08 02 09 01 01	Enabled
Feature Demo	08 02 0A 00			
			08 02 0A 01 00	Disabled
			08 02 0A 01 01	Enabled
Firmware Update				
Firmware Server Version	00 0F 00			
			00 0F ab d0 .. dn	ab: Length d0 .. dn: String Example: "V1.10a" "-------" in case of no connection
Firmware Update Status	00 0D 00			
			00 0D 01 00	Checking
			00 0D 01 01	No Connection
			00 0D 01 02	Out Of Date
			00 0D 01 03	Up To Date
Firmware Upload Erase Flash	00 B0 00			
			00 B0 01 d0	100% to 0% firmware to be erased. State of firmware erasing, counts from 100 down to 00% = Flash erased
				d0: 0x64..0x00
Date/Time				
Time Source	00 44 00			
			00 44 01 00	Internal
			00 44 01 01	External
Timeserver IP	00 7C 00			
			00 7C 04 d0 d1 d2 d3	
				Timeserver IP Address in hex (0x00 to 0xFF for each octet)
Timezone	00 7D 00			
			00 7D 01 00	Pacific/Apia
			00 7D 01 01	Pacific/Honolulu
			00 7D 01 02	America/Anchorage
			00 7D 01 03	America/Los_Angeles
			00 7D 01 04	America/Tijuana

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Date/Time				*continued*
			00 7D 01 05	America/Phoenix
			00 7D 01 06	America/Denver
			00 7D 01 07	America/Mazatlan
			00 7D 01 08	America/Chicago
			00 7D 01 09	America/Regina
			00 7D 01 0A	America/Mexico_City
			00 7D 01 0B	America/Bogota
			00 7D 01 0C	America/New_York
			00 7D 01 0D	America/Caracas
			00 7D 01 0E	America/Halifax
			00 7D 01 0F	America/Santiago
			00 7D 01 10	America/La_Paz
			00 7D 01 11	America/St_Johns
			00 7D 01 12	America/Sao_Paulo
			00 7D 01 13	America/Buenos_Aires
			00 7D 01 14	America/Montevideo
			00 7D 01 15	Atlantic/South_Georgia
			00 7D 01 16	Atlantic/Azores
			00 7D 01 17	Atlantic/Cape_Verde
			00 7D 01 18	Africa/Casablanca
			00 7D 01 19	UTC
			00 7D 01 1A	Europe/London
			00 7D 01 1B	Europe/Berlin
			00 7D 01 1C	Africa/Kinshasa
			00 7D 01 1D	Europe/Istanbul
			00 7D 01 1E	Africa/Cairo
			00 7D 01 1F	Asia/Jerusalem
			00 7D 01 20	Africa/Johannesburg
			00 7D 01 21	Europe/Moscow
			00 7D 01 22	Africa/Nairobi
			00 7D 01 23	Asia/Baghdad
			00 7D 01 24	Asia/Tehran
			00 7D 01 25	Asia/Muscat
			00 7D 01 26	Asia/Baku
			00 7D 01 27	Asia/Kabul
			00 7D 01 28	Asia/Karachi
			00 7D 01 29	Asia/Kolkata
			00 7D 01 2A	Asia/Katmandu
			00 7D 01 2B	Asia/Almaty
			00 7D 01 2C	Asia/Dhaka
			00 7D 01 2D	Asia/Rangoon
			00 7D 01 2E	Asia/Bangkok
			00 7D 01 2F	Asia/Hong_Kong
			00 7D 01 30	Asia/Singapore

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Date/Time				*continued*
			00 7D 01 31	Australia/Perth
			00 7D 01 32	Asia/Taipei
			00 7D 01 33	Asia/Tokyo
			00 7D 01 34	Asia/Seoul
			00 7D 01 35	Australia/Adeleide
			00 7D 01 36	Australia/Darwin
			00 7D 01 37	Australia/Sydney
			00 7D 01 38	Australia/Brisbane
			00 7D 01 39	Pacific/Noumea
			00 7D 01 3A	Pacific/Auckland
			00 7D 01 3B	Pacific/Kwajalein
Date Format	00 45 00			
			00 45 01 00	DDMMYYYY/24H
			00 45 01 01	MMDDYYYY/12H
Date/Time	00 7E 00			
			00 7E 05 d0 .. dn	d0: Year (0..99 without century)(0x00..0x63) d1: Month (1..12)(0x01..0x0C) d2: Day (1..31)(0x01..1F) d3: Hour (0..23)(0x00..0x17) d4: Minute (0..59)(0x00..3B)
USB Settings				
Picture Folder	00 D0 00			
			00 D0 ab d0 .. dn	ab: Length, max 10 Bytes d0 .. dn: String
Picture Number	00 D1 00			
			00 D1 04 d0 d1 d2 d3	
				d0 d1 d2 d3: 0x00000000..0x000F423F
Picture Format	00 D2 00			
			00 D2 01 00	Bmp
			00 D2 01 01	Jpg
Load Settings	00 D6 00			
			00 D6 01 00	Off
			00 D6 01 01	Auto
			00 D6 01 02	Confirm
USB Stick Mounted	00 CB 00			
			00 CB 01 00	Not Mounted
			00 CB 01 01	Mounted
Audio				
Audio Microphone Select	08 04 01 00			
			08 04 01 01 00	Off
			08 04 01 01 02	Line-In

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Audio				*continued*
Audio Mute	08 04 02 00			
			08 04 02 01 00	Off
			08 04 02 01 01	On
Audio Volume	08 04 03 00			
			08 04 03 02 d0 d1	Absolute Value d0,d1: 0..100%
Audio Enable HDMI	08 04 04 00			
			08 04 04 01 00	Off
			08 04 04 01 01	All sources
			08 04 04 01 02	No microphone
Audio Enable Stream	08 04 05 00			
			08 04 05 01 00	Off
			08 04 05 01 01	All sources
Audio Enable Line-Out	08 04 06 00			
			08 04 06 01 00	Off
			08 04 06 01 01	All sources
			08 04 06 01 02	No microphone
Audio Enable Recording	08 04 07 00			
			08 04 07 01 00	Off
			08 04 07 01 01	All sources
Recording Time Left	08 04 08 00			
			08 04 08 02 d0 d1	Time in seconds d0,d1: 0..16535
Extra Menu				
Menu Lock	00 97 00			
			00 97 01 00	Off
			00 97 01 01	On
Number IR Codes	00 18 00			
			00 18 01 00	Number of IR Codes 4
			00 18 01 01	Number of IR Codes 9
Image Mirror	00 5B 00			
			00 5B 01 00	Off
			00 5B 01 01	Horizontal
			00 5B 01 02	Vertical
			00 5B 01 03	H+V
AF Mode	00 F1 00			
			00 F1 01 00	Single Field AF
			00 F1 01 01	Multi Field AF
Noise Suppression	00 87 00			
			00 87 01 00	Off
			00 87 01 01	On

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Extra Menu				*continued*
HDMI/VGA 5V Power Signal	00 96 00			
			00 96 01 00	Standard
			00 96 01 01	On
Video Output Range	00 3E 00			
			00 3E 01 00	Full
			00 3E 01 01	Standard
Hostname	00 49 00			
			00 49 ab d0 .. dn	ab: Length, max 17 Bytes d0 .. dn: String
Zoom Control				
Zoom Position	00 20 00			
			00 20 02 d0 d1	d0 d1: Position
				d0 d1: 0x0000..0x0FFF (Wide..Tele)
Focus Control				
Focus Position	00 21 00			
			00 21 02 d0 d1	d0 d1: Position
				d0 d1: 0x0000..0x0FFF (Far..Near)
AF	00 31 00			
			00 31 01 00	Off
			00 31 01 01	On
Iris Control				
Iris Position	00 22 00			
			00 22 02 d0 d1	d0 d1: Position
				d0 d1: 0x0000..0x0FFF (Close..Open)
VZ Menu Control				
Menu	00 98 00			
			00 98 01 00	Off
			00 98 01 01	Standard Menu
			00 98 01 02	Extra Menu
			00 98 01 03	View Menu
Image Storing Cmd				
ShowAll				
	00 93 00		00 93 01 00	Off
			00 93 01 01	On
			00 93 01 02	ViewModeSingle (Single Picture Selected While in ViewMode)
Picture Transfer				

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Picture Transfer				*continued*
Picture Header	00 B8 05 d0 d1 d2 d3 d4		00 B8 14 d0 .. dn	
		d0: ModeByte		
		d1,d2,d3,d4: Resolution		
Get Picture Block2 (V1: ETH only. V2: ETH and USB)	00 BA 16 d0 .. dn			
		d0: Flags (from Picture Header)	02 01 BA ab cd ef gh d0 .. dn	
		d1: Mode Byte (from Picture Header)		
		d2 d3 d4 d5: Offset from image start		
		(V1:JPG: in bytes,BMP:in lines.V2: in bytes)		
		d6 d7 d8 d9: Block length (in bytes)		
		d10 d11: Width (from Picture Header)		
		d12 d13: Height (from Picture Header)		
		d14 d15 d16 d17: Total Size (DMA Size from Picture Header)		
		d18 d19: Memory Page (from Picture Header)		ab cd ef gh: Length
		d20 d21: Out Offset (from Picture Header)		d0 .. dn: Data
Authentication				
SessionID (ETH only)	00 D3 00			
			00 D3 04 d0 d1 d2 d3	Session ID Randomnumber
				d0 d1 d2 d3: 0x00000000..0xFFFFFFFF
SIP Login (ETH only)	00 1D 00			
			00 1D 01 d0	d0: Status
				Bit2: SIP Access Bit1(0=Somebody has SIP,1=Nobody has SIP,2=I have SIP)
				Bit1: SIP Access Bit0
				Bit0: Logged in
Block Inquiry				
Positions	00 10 01 02			
		Byte3=Blocknumber	00 10 11 02 d0 .. dn	0x02: Blocknumber
				d0..dn: Data, same as blk# 0C but only 17 bytes length
Positions2	00 10 01 0D			
		Byte3=Blocknumber	00 10 81 0D d0 .. dn	0x0D: Blocknumber
				d0..dn: Data
				d0,1: Zoom Position
				d2,3: Digital Zoom Position
				d4,5: Focus Position
				d6,7: Iris Position
				d8,9: Mirror Position
				d10,11: Mirror X Position (not used)

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
				d12,13: Mirror Y Position (not used)
				d14,15: Light Focus Position (not used)
				d16,17: Vergence
				d18...d127: Not Used
Flags and Unit Information	00 10 01 03			
		Byte3=Blocknumber	00 10 18 03 d0 .. dn	0x03: Blocknumber
				d0..dn: Data, same as blk# 0B but only 24 bytes length
Flags and Unit Information2	00 10 01 0B			
		Byte3=Blocknumber	00 10 81 0B d0 .. dn	0x0B: Blocknumber
				d0..dn: Data
				d0:
				Bit7: Power, 0=Off,1=On
				Bit6: Top Light, 0=Off,1=On
				Bit5: Light Box, 0=Disabled,1=Enabled
				Bit4: Slide Box, 0=Disabled,1=Enabled
				Bit3: Auto Focus, 0=Off,1=On
				Bit2: Auto Iris, 0=Off,1=On
				Bit1: Text Enhancer, 0=Off,1=On
				Bit0: Extern/Intern 1=Extern,0=Intern
				d1:
				Bit7: Freeze, 0=Off,1=On
				Bit5: Show All/View, 0=Off,1=On
				Bit4: Keylock, 0=Off,1=On
				Bit3: Lamp Blown, 0=Ok,1=Blown
				Bit2: Lamp2 Blown, 0=Ok,1=Blown
				Bit1: Lamp1 Blown, 0=Ok,1=Blown
				Bit0: OSD Menu, 0=Off,1=On
				d2:
				Bit7,6,5,4: Color Mode,
				0=Black/White,1=Presentation,2=Natural,3=Manual
				Bit3,2: Pos/Neg/Blue, 0=Positive,1=Negative,2=Blue
				Bit1,0: Image Turn, 0=Off,1=-90,2=180,3=+90
				d3:
				Bit7,6: Macro
				Bit5,4,3,2: Arm
				Bit1,0: Not Used
				d4:
				Bit7: Not Used
				Bit6: Not Used
				Bit5: Not Used
				Bit4: Not Used
				Bit3: FrameNumber Bit3 (1..9)
				Bit2: FrameNumber Bit2
				Bit1: FrameNumber Bit1

Block Inquiry   *continued*

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Block Inquiry				*continued*
				Bit0: FrameNumber Bit0
				d5: Ethernet Mode
				d6: Resolution DVI Legacy
				d7: Resolution RGB Legacy
				d8,9,10,11: Serialnumber
				d12,13,14,15,16,17,18: Version
				d19:
				Bit7: Memory Page Bit3 (0=Live, 1..9=Memory 1..9)
				Bit6: Memory Page Bit2
				Bit5: Memory Page Bit1
				Bit4: Memory Page Bit0
				Bit3: Memory Zoom
				Bit2: Picture in Picture
				Bit1: MenuMode Bit1 (00=off, 01=standard, 10=extra, 11=view)
				Bit0: MenuMode Bit0
				d20:
				Bit7: State Bit1 (00=Live,01=Mem,10=USB,11=MemSinglePic)
				Bit6: State Bit0
				Bit5: Standby Mode (0=Normal,1=Deep)
				Bit4: 1x1, 1=On
				Bit3: USB or Mem, 1=On, 0=Live/Extern
				Bit2: Slide Show
				Bit1: Aspectratio Bit1 (00=4:3,01=16:9,10=16:10)
				Bit0: Aspectratio Bit0
				d21: HDTV Mask Position
				d22: Not Used
				d23: Status Number HB
				d24: Status Number LB
				d25:
				Bit7..2: Status Time
				Bit1..0: Status Level
				d26: Status Timestamp HB
				d27: Status Timestamp LB
				d28...d35: Status Substring (d35=0, if str > 7 d34='.')
				d36...d39: Resolution Main
				d40...d43: Resolution Aux
				d44:
				Bit7: Not Used
				Bit6: Not Used
				Bit5: Not Used
				Bit4: Not Used
				Bit3: Not Used
				Bit2: Streaming Active (1=Active,0=Inactive)
				Bit1: Streaming Off (0=Any,1=Off)

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Block Inquiry				*continued*
				Bit0: 2D/3D(0=2D,1=3D)
				d45...d48: Operating Hours
				d49...d52: Standby Hours
				d53...d56: Lamp1 Hours
				d57...d60: Lamp2 Hours
				d61...d64: Feature Pack Bits
				d61:
				Bit31: Feature Pack Valid (1=Enabled,0=Disabled)
				Bit24 - Bit30: Not Used
				d62:
				Bit16 - Bit23: Not Used
				d63:
				Bit7: Not Used
				Bit6: Not Used
				Bit5: Not Used
				Bit4: Not Used
				Bit3: Not Used
				Bit2: Not Used
				Bit1: Feature Demo
				Bit0: Feature vConnect
				d64:
				Bit7: Feature WLAN
				Bit6: Feature Streaming
				Bit5: Feature PiP
				Bit4: Feature IR Remote
				Bit3: Feature Internal Memory
				Bit2: Feature USB Host
				Bit1: Feature Fading
				Bit0: Feature 60FPS
				d65:
				Bit7: Recording Bit1 (0=Idle,1=Recording,3=Pause)
				Bit6: Recording Bit0
				Bit5: Video Playback Bit1 (0=Idle,1=Playing,3=Pause)
				Bit4: Video Playback Bit0
				Bit0..3: Source (0=Live,1=Mem,2=USB,3=Ext,4=Ext2,5=Net)
				d66:
				Bit7: Not Used
				Bit6: Not Used
				Bit5: Not Used
				Bit4: Not Used
				Bit3: Not Used
				Bit2: Not Used
				Bit1: Not Used
				Bit0: Mute

Function / Command Description	Command Packet	Comment	Reply Packet	Comment
Block Inquiry				*continued*
				d67...d127: Not Used
Menu Ethernet2	00 10 01 0C			
		Byte3=Blocknumber	00 10 81 0C d0 .. dn	0x0C: Blocknumber
				d0..dn: Data
				d0:
				Bit7..5: Not Used
				Bit4..1: Ethernet Mode
				Bit0: DHCP
				d1: Not Used (Streaming Reso in Blk 0x06)
				d2:
				Bit7..4: Streaming Framerate
				Bit3..0: Streaming Mode
				d3: Not Used
				d4..7: IP Address
				d8..11: Subnet IP Address
				d12..15: Gateway IP Address
				d16..19: Multicast IP Address
				d20,21: Multicast Port
				d22..d25: Streaming Resolution
				d26: Streaming Format
				d27..30: Nameserver IP Address
vSolution Connect				
Video Recording	08 03 01 00			
			08 03 01 01 00	Rec: Stopped
			08 03 01 01 01	Rec: Recording
			08 03 01 01 02	Rec: Paused
Recording Time Left	08 03 06 00			
			08 03 06 05 00 00 00 d0 d1	d0: hours
				Bit7: 1..Dateformat present
				Bit6: 0..Always 24h format
				Bit4..0: Time hh
				d1: minutes
Recording Space Left	08 03 07 00			
			08 03 07 04 d0 d1 d2 d3	d0 d1 d2 d3: Available recording space (MB)
vConnect Streaming Resolution	08 03 05 00			
			08 03 05 01 01	1024x768
			08 03 05 01 02	1280x960
			08 03 05 01 03	1280x720
			08 03 05 01 04	1280x800
			08 03 05 01 05	1920x1080