HQView/LEDView
API Protocol

Revision History

Version	Author	Modification	Date
1.00	DB	Initial Release	05.03.2010
1.01	DB	Added Edge Blend Offset API	09.03.2010
1.02	DB	Added embedded WARP API	11.03.2010
1.03	DB	Added Output Blank API	10.05.2010
1.04	DB	Added Blend Reset API	20.07.2010
1.05	DB	Added HQView-5xx APIs and HQView-xxx V2 APIs such as Black Level Uplift and PTZ	03.08.2010
1.06	DB	Added HQView-500 3GSDI mapping, audio API, Moving Test Pattern and VGA o/p Sync Mode APIs. Corrected PiP Input List Indices	27.10.2010
1.07	DB	Added API for DVI port configuration as DVI-A or DVI-D Corrected API index to 4202 in chapter 2.84.3 byOsdSaveEnableAnnounceMessages: Function names corrected under 2.85.3, 2.86.3, 2.102.3 and 2.103.3 Added Test Pattern Selection API Added Alpha Map Activation API	12.05.2011
1.08	DB	Corrected Output Gamma Parameter Range Changed DVI o/p range list box items	21.11.2011
2.00	DB	LEDView specific commands added	06.06.2012

This manual details the protocol used to remotely control your HQView and LEDView image scaler.

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Contents

1. Communication

1.1. API Call

Communication between the PC and the Scaler Board is through remote API calls and corresponding answers. Note: All values indicated blue are fixed. They need to be sent or received, but the values will not change in the given context.

An API function call has a 16 Byte logical header, followed by a 16 byte application Header, followed by the data package of variable length. The logical header for RS232 based API calls is (hex):

53 41 50 01 FF FF FF FF ww xx yy zz 00 00 00 00

ww xx yy zz is the payload size (type UWORD32) of the following transmission in bytes (application header size (16 bytes) + data package size of variable length).

The application header for API remote calls is (hex):

54 50 01 00 00 00 00 00 ww xx yy zz 00 00 00 00

ww xx yy zz is the payload size (type UWORD32) of the following transmission in bytes (data package size of variable length).

The data package carries the information on the API called and all (Input) parameter values (hex):

50 46 uu vv 00 00 00 00 ww xx yy zz data

uu vv is the Index (type UWORD16) of the API to be called. ww xx yy zz is the size of the parameter data buffer. data are the parameter values to be passed. The ordering has to be matched with the API prototype parameter ordering and size.

Example: The brightness shall be changed. Brightness is changed by calling API function BYTE byOSDBrighntessSet(UWORD32 u32_value). This API has the index 0x0068 and the parameter is a 4 byte value. Let us assume we want 50% of the available brightness, i.e. u32_value = 0x7FFFFFFF.

The data to be sent is (hex):

53 41 50 01 FF FF FF FF 00 00 00 20 00 00 00 00
54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00
50 46 00 68 00 00 00 00 00 00 00 04 7F FF FF FF

1.2. Handshake

All API calls (and API returns) are acknowledged by the RS232 receiver with the following (logical header only) (hex):

73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00

1.3. API Return

The acknowledgement is followed by the API return. This return has the same structure as a call, first a 16 byte logical header, followed by a 16 byte application header, followed by the data package of variable length. The logical header is for an API return is (hex):

53 41 50 01 FF FF FF FF ww xx yy zz 00 00 00 00

ww xx yy zz is the payload size (type UWORD32) of the following transmission in bytes (application header size (16 bytes) + data package size of variable length).

The application header is (hex):

74 50 01 00 00 00 00 00 ww xx yy zz 00 00 00 00

ww xx yy zz is the payload size (type UWORD32) of the following transmission in bytes (data package size of variable length).

The data package returns the parameter values (hex):

70 46 uu vv 00 00 00 00 ww xx yy zz data

uu vv is the Index (type UWORD16) of the API that has been called. ww xx yy zz is the size of the parameter data buffer. The first byte of the data is the return value of the function -here: always a 1 byte error code -, followed by the values of all (Output) parameters. The ordering has to be matched with the API prototype parameter ordering and size.

Example: The Scaler Board answers to the BYTE byOSDBrighntessSet(UWORD32 u32_value) API call. The return value is 0x00, i.e. no error; the function has no other return values:

The data sent is (hex):

73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00
74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
70 46 00 68 00 00 00 00 00 00 00 01 00

Again the RS232 receiver, this time the PC, acknowledges the message with (hex):

73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00

1.4. Data Types

The following input/output data types exist:

- BYTE
  Unsigned 8-bit value one single byte
- UWORD16
  Unsigned 16-bit value, MSB first (2 bytes)
- SWORD16
  Signed 16-bit value, two's complement, MSB first (2 bytes)
- UWORD32 (a.k.a. DWORD)
  Unsigned 32-bit value, MSB first (4 bytes)
- SWORD32
  Signed 32-bit value, two's complement, MSB first (4 bytes)
- CHAR[]
  Array of UTF-8 characters preceded by its length sent as UWORD32

Length of array				1st char	2nd char	3rd char	4th char
MSB	…	…	LSB	BYTE	BYTE	BYTE	BYTE

- WHCAR[]
  Array of UTF-16 characters preceded by its length sent as UWORD32

Length of array				First WCHAR		Second WHCAR	
MSB	…	…	LSB	MSB	LSB	MSB	LSB

1.5. UART Connector and UART Configuration

The board UART connector is PL9 or SK18.
PL9 Connector Type: 3-way 0.1" male, mating type 3-way 0.1" female

PL9 Pin	SK18 Pin	Signal name	Function
1	3	RXDA232	RS232 levels, Rx (from the HOST)
2	2	TXDA232	RS232 levels, Tx (to the HOST)
3	5	DGND	Ground

Connect the PC's serial port to the PV6 Scaler SK18 connector using a 9-pin serial extension cable, that is one wired pin-pin with a male connector on one end and a female on the other. A null-modem or crossover cable should never be used.
The board UART is configured to the following parameters: Baudrate: 9600; Stop Bits: 1; Number of Bits in the Byte transmitted and received: 8; Parity: No Parity; Flow Control: Off

1.6. TCP/IP Communication

The TCP/IP communication protocol is as the RS232 protocol but with all logical headers omitted. Port 30000 is used. The foregoing brightness example is as follows:

API Call:
54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00
50 46 00 68 00 00 00 00 00 00 00 04 7F FF FF FF

Handshake (from Scaler Board): No explicit handshake

API Return:
74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
70 46 00 68 00 00 00 00 00 00 00 01 00

Handshake (from PC): No explicit handshake

1.7. Examples

The following examples are used to explain how the API calls and protocol work:
1.) Change the Contrast Setting for runtime use. Increase the contrast (gain) by 10%.
2.) Save the Contrast Setting such that it is permanently stored in non-volatile memory (flash) and used the next time the system is reset or powered up again.
3.) Read back the Contrast Setting from non-volatile memory.
4.) Switch between inputs.
5.) Rename a User.

Change Contrast Setting:
The API byOSDContrastSet is used to change the contrast setting.
The API Index is decimal 124, i.e. hexadecimal **0x00 7C**. There is only one parameter passed to the API function and this is the gain of UWORD32 type, i.e. a 4 byte value. The range of the parameter is from 0x00000000 (OSD slider position -50, gain of $1-1/\sqrt{2}$) to 0xFFFFFFFF (OSD slider position 50, gain of $1+1/\sqrt{2}$). A value of 0x7FFFFFFF corresponds to a gain factor of 1 which corresponds to the OSD slider position in the middle respectively 0.
Increasing the contrast by 10% corresponds to a gain of 1.1. The parameter thus has to be 0x7FFFFFFF + (0xFFFFFFFF – 0x7FFFFFFF)*(0.1/(1/ /√2)) = **0x92 1A 18 50**.
The return value(s) of this API function is only an error code of BYTE type, i.e. a 1 byte value. It is **0x00** if the call was successful or an error occurred if it is not zero. Let us assume the call was successful for this example.
All blue values are fixed and always identical for all commands.
The black values indicate the following payloads in bytes. For the API call the data is 4 = 0x04 bytes long. The data package (line 3) is 12 bytes long plus the length of the data. Therefore, the application header (line 2) indicates a payload of 12 + 4 = 16 = 0x10 bytes. The logical header (line 1) indicates a payload of 16 bytes application header plus 16 bytes of the data package, i.e. 32 = 0x20 bytes.
The API answer has a payload of 0x01 byte, the error code. The data package (line 3) is 12 bytes long plus the length of the data. Therefore, the application header (line 2) indicates now a payload of 13 = 0x0D bytes. The logical header (line 1) indicates a payload of 16 bytes application header plus 13 bytes of the data package, i.e. 29 = 0x1D bytes.

Direction	RS232 data
PC sends command	53 41 50 01 FF FF FF FF 00 00 00 20 00 00 00 00 54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00 50 46 00 7C 00 00 00 00 00 00 00 04 92 1A 18 50
Board acknowledges to have received a command	73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
Board sends answer (return	53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00

values)	74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00 70 46 00 7C 00 00 00 00 00 00 00 01 00
PC acknowledges to have received an answer	73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00

Direction	TCP/IP data
PC sends command	54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00 50 46 00 7C 00 00 00 00 00 00 00 04 92 1A 18 50
Board acknowledges to have received a command	None
Board sends answer (return values)	74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00 70 46 00 7C 00 00 00 00 00 00 00 01 00
PC acknowledges to have received an answer	None

Save contrast setting:

The API byOSDContrastSave is used to store the current contrast setting in non-volatile memory. The API Index is decimal 125, i.e. hexadecimal **0x00 7D**. There is no parameter passed to the API function.

The return value(s) of this API function is only an error code of BYTE type, i.e. a 1 byte long. It is **0x00** if the call was successful or an error occurred if it is not zero. Let us assume the call was successful for this example.

For the API call the data is 0 = 0x00 bytes long since there are no parameters passed. The data package (line 3) is 12 bytes long plus the length of the data. Therefore, the application header (line 2) indicates a payload of 12 + 0 = 0x0C bytes. The logical header (line 1) indicates a payload of 16 bytes application header plus 12 bytes of the data package, i.e. 28 = 0x1C bytes.

Direction	RS232 data
PC sends command	53 41 50 01 FF FF FF FF 00 00 00 1C 00 00 00 00 54 50 01 00 00 00 00 00 00 00 00 0C 00 00 00 00 50 46 00 7D 00 00 00 00 00 00 00 00
Board acknowledges to have received a command	73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
Board sends answer (return values)	53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00 74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00 70 46 00 7D 00 00 00 00 00 00 00 01 00
PC acknowledges to have received an answer	73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00

Direction	TCP/IP data
PC sends command	54 50 01 00 00 00 00 00 00 00 00 0C 00 00 00 00 50 46 00 7D 00 00 00 00 00 00 00 00
Board acknowledges to have received a command	None
Board sends answer (return values)	74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00 70 46 00 7D 00 00 00 00 00 00 00 01 00
PC acknowledges to have received an answer	None

Read the contrast setting:

The API byOSDContrastGet is used to read the current contrast setting.

The API Index is decimal 126, i.e. hexadecimal **0x00 7E**. There is one parameter passed to the API function which is the retrieval method. The type of the parameter is BYTE, i.e. 1 byte long. The retrieval method indicates from where the contrast setting is to be read. That can be either from the system parameter database (SPD) which is stored in non-volatile memory or from cache which carries the latest

contrast setting. The value in the SPD and cache can differ, if a change was issued by calling byOSDContrastSet which was not yet stored in non-volatile memory by calling byOSDContrastSave. Let us assume we want to read the SPD value, the parameter is **0x01**.
The return value(s) of this API function is the error code of BYTE type, i.e. a 1 byte value. It is **0x00** if the call was successful or an error occurred if it is not zero. Let us assume the call was successful for this example. The other return value is the current contrast setting of UWORD32 type, i.e. a 4 byte value. Let us assume it is the by 10% increased value of the foregoing example, i.e. **0x92 1A 18 50**. The payload of the data is 5 bytes. The payload of the data package is 12 + 5 bytes = 0x11 bytes. The payload of data package and application header is 17 + 16 = 0x21 bytes.

Direction	RS232 data
PC sends command	53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00 54 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00 50 46 00 7E 00 00 00 00 00 00 00 01 01
Board acknowledges to have received a command	73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
Board sends answer (return values)	53 41 50 01 FF FF FF FF 00 00 00 21 00 00 00 00 74 50 01 00 00 00 00 00 00 00 00 11 00 00 00 00 70 46 00 7E 00 00 00 00 00 00 00 05 00 92 1A 18 50
PC acknowledges to have received an answer	73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00

Direction	TCP/IP data
PC sends command	54 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00 50 46 00 7E 00 00 00 00 00 00 00 01 01
Board acknowledges to have received a command	None
Board sends answer (return values)	74 50 01 00 00 00 00 00 00 00 00 11 00 00 00 00 70 46 00 7E 00 00 00 00 00 00 00 05 00 92 1A 18 50
PC acknowledges to have received an answer	None

Switch between inputs:
The API byOSDInputFormatSet is used to change the input channel.
The API Index is decimal 318, i.e. hexadecimal **0x01 3E**. If we want to switch to e.g. the HDMI channel **0x00 00 00 08** (UWORD32 type) has to be transmitted.
The return value(s) of this API function is the error code of BYTE type. **0x00** means no error occurred.

Direction	RS232 data
PC sends command	53 41 50 01 FF FF FF FF 00 00 00 20 00 00 00 00 54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00 50 46 01 3E 00 00 00 00 00 00 00 04 00 00 00 08
Board acknowledges to have received a command	73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
Board sends answer (return values)	53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00 74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00 70 46 01 3E 00 00 00 00 00 00 00 01 00
PC acknowledges to have received an answer	73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00

Direction	TCP/IP data
PC sends command	54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00 50 46 01 3E 00 00 00 00 00 00 00 04 00 00 00 08

Board acknowledges to have received a command	None
Board sends answer (return values)	74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00 70 46 01 3E 00 00 00 00 00 00 00 01 00
PC acknowledges to have received an answer	None

Rename a user:

The API byOSDUserRenameSet is used to change the user name for a certain user number.
The API Index is decimal 2953, i.e. hexadecimal **0x0B 89**. We want to give the second user the new name "SURGEON 1". The user number is of type UWORD32 with length 4 bytes. The range starts at 0, thus user 2 is **0x00 00 00 01.** The name is of CHAR[] type, an array of UTF-8 codes (equals ASCII for the first 128 characters) preceded by its length sent as UWORD32. The UTF-8 codes of "SURGEON 1" are **"0x53 55 52 47 45 4F 4E 20 31"** and the string is followed by the null termination **"0x00"**. The length of the string is 10 bytes, i.e. **0x00 00 00 0A**. The total number of data bytes are 18 = 0x12 bytes which is the data payload. The payload of the data package is 18 + 12 bytes = 0x1E bytes. The payload of data package and application header is 30 + 16 = 0x2E bytes.
The order in which the parameters are transmitted are given by the order in the table describing the API, i.e. user number first, name second.
The return value(s) of this API function is the error code of BYTE type. **0x00** means no error occurred.

Direction	**RS232 data**
PC sends command	53 41 50 01 FF FF FF FF 00 00 00 2E 00 00 00 00 54 50 01 00 00 00 00 00 00 00 00 1E 00 00 00 00 50 46 0B 89 00 00 00 00 00 00 00 12 00 00 00 01 00 00 00 0A 53 55 52 47 45 4F 4E 20 31 00
Board acknowledges to have received a command	73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
Board sends answer (return values)	53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00 74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00 70 46 0B 89 00 00 00 00 00 00 00 01 00
PC acknowledges to have received an answer	73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00

Direction	**TCP/IP data**
PC sends command	54 50 01 00 00 00 00 00 00 00 00 1E 00 00 00 00 50 46 0B 89 00 00 00 00 00 00 00 12 00 00 00 01 00 00 00 0A 53 55 52 47 45 4F 4E 20 31 00
Board acknowledges to have received a command	None
Board sends answer (return values)	74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00 70 46 0B 89 00 00 00 00 00 00 00 01 00
PC acknowledges to have received an answer	None

2. API Functions

APIs may have a “Get”, “Set” and “Save” function. “Get” reads values, “Set” writes values into volatile RAM and “Save” writes values into the System Parameter Database which is located in non-volatile Flash. E.g. setting the brightness by a byOSDBrightnessSet API call will change the image brightness at runtime. After a Scaler Board reset the (default) value stored in the SPD is used to initialize the brightness setting. Thus, to restart the Scaler Board with the last brightness setting it had to be stored into flash with a byOSDBrightnessSave API call.

2.1. Input

2.1.1. byOsdInputFormatSet

API index: 318
Sets the main input channel given by the controlling application.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Composite 1 1: Composite 2 2: S-Video 3: Component 4: VGA 5: HDSDI 6: DVI 7: HDMI 8: Test Pattern	Main input channel
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Note: The Parameters shown above are for HQView-4xx. Other products have the following:
HQView-100: 0: Composite 1, 1: Composite 2, 2: S-Video, 3: Test Pattern
HQView-200: 0: 3GSDI, 1: Test Pattern
HQView-3xx: 0: RGB/YPbPr, 1: VGA, 2: DVI, 3: Test Pattern
HQView-5xx: 0: Composite 1, 1: Composite 2, 2: S-Video, 3: Component, 4: VGA, 5: 3G-SDI, 6: DVI, 7: HDMI, 8: DVI-A, 9: Test Pattern

2.1.2. byOsdInputFormatGet

API index: 320
Retrieves the main input channel from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Composite 1 1: Composite 2 2: S-Video 3: Component 4: VGA 5: HDSDI 6: DVI 7: HDMI 8: Test Pattern	Main input channel

2.1.3. byOsdInputFormatSave

API index: 319
Saves the main input channel from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.2. Black-Level Offset Compensation

2.2.1. byOsdBlackLevelOffsetSet

API index: 148
Sets the black level offset.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: 0 IRE 1: 7.5 IRE	Black level offset to compensate
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.2.2. byOsdBlackLevelOffsetGet

API index: 150
Retrieves the black level offset from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: 0 IRE 1: 7.5 IRE	Black level offset to compensate

2.2.3. byOsdBlackLevelOffsetSave

API index: 149
Saves the black level offset from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.3. Black-Level

2.3.1. byOsdBlackLevelSet

API index: 104 (sic!)
Sets the black level offset.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x00000000: -25 IRE 0x7FFFFFFF: 0 IRE 0xFFFFFFFF: +25 IRE	Black level
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.3.2. byOsdBlackLevelGet

API index: 123
Retrieves the black level offset from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0x00000000: -25 IRE 0x7FFFFFFF: 0 IRE 0xFFFFFFFF: +25 IRE	Black level

2.3.3. byOsdBlackLevelSave

API index: 122
Saves the black level offset from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.4. Contrast

2.4.1. byOsdContrastSet

API index: 124
Sets the contrast (gain).

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x00000000: 1–1/√2 0x7FFFFFFF: 1 0xFFFFFFFF: 1+1/√2	Contrast (signal gain)
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.4.2. byOsdContrastGet

API index: 126
Retrieves the contrast (gain) from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0x00000000: 1–1/√2 0x7FFFFFFF: 1 0xFFFFFFFF: 1+1/√2	Contrast (signal gain)

2.4.3. byOsdContrastSave

API index: 125
Saves the contrast (gain) from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.5. Saturation

2.5.1. byOsdColorSet

API index: 127
Sets the color saturation.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x00000000: min 0x7FFFFFFF: normal 0xFFFFFFFF: max	Color saturation
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.5.2. byOsdColorGet

API index: 129
Retrieves the color saturation from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0x00000000: min 0x7FFFFFFF: normal 0xFFFFFFFF: max	Color saturation

2.5.3. byOsdColorSave

API index: 128
Saves the color saturation from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.6. Hue

2.6.1. byOsdHueSet

API index: 151
Sets the hue value.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x00000000: -180° 0x7FFFFFFF: 0° 0xFFFFFFFF: +180°	Hue value
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.6.2. byOsdHueGet

API index: 153
Retrieves the hue value from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0x00000000: -180° 0x7FFFFFFF: 0° 0xFFFFFFFF: +180°	Hue value

2.6.3. byOsdHueSave

API index: 152
Saves the hue value from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.7. R/G/B Bias

2.7.1. byOsdR/G/BOffsetSet

API indices: 2809/2812/2815
Sets the offset. For the individual color channel

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x00000000: -25 IRE 0x7FFFFFFF: 0 IRE 0xFFFFFFFF: +25 IRE	R/G/B Offset
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.7.2. byOsdR/G/BOffsetGet

API indices: 2810/2813/2816
Retrieves the R/G/B offset from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0x00000000: -25 IRE 0x7FFFFFFF: 0 IRE 0xFFFFFFFF: +25 IRE	R/G/B Offset

2.7.3. byOsdR/G/BOffsetSave

API indices: 2811/2814/2817
Saves the R/G/B offset from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.8. R/G/B Gain

2.8.1. byOsdR/G/BGainSet

API indices: 2800/2803/2806
Sets the gain value for the individual color channel.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x00000000: 1–1/√2 0x7FFFFFFF: 1 0xFFFFFFFF: 1+1/√2	R/G/B gain
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.8.2. byOsdR/G/BGainGet

API indices: 2801/2804/2807
Retrieves the gain value from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0x00000000: 1–1/√2 0x7FFFFFFF: 1 0xFFFFFFFF: 1+1/√2	Contrast (signal gain)

2.8.3. byOsdR/G/BGainSave

API indices: 2802/2805/2808
Saves the gain level from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.9. Color Temperature

2.9.1. byOsdColorTempSet

API index: 349
Sets the color temperature to match the source color temperature.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: 5500k 1: 6500k 2: 7500k 3: 9300k	Source color temperature
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.9.2. byOsdColorTempGet

API index: 351
Retrieves color temperature value from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: 5500k 1: 6500k 2: 7500k 3: 9300k	Output color temperature

2.9.3. byOsdColorTempSave

API index: 350
Saves the color temperature value from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.10. Input Gamma

2.10.1. byOsdGammaInSet

API index: 343
Sets the gamma value of the input signal to compensate for.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Gamma=1.0 1: Gamma=1.5 2: Gamma=2.2 3: Gamma=2.8	Input Gamma to compensate
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.10.2. byOsdGammaInGet

API index: 345
Retrieves input gamma value from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Gamma=1.0 1: Gamma=1.5 2: Gamma=2.2 3: Gamma=2.8	Input Gamma to compensate

2.10.3. byOsdGammaInSave

API index: 344
Saves the input gamma value from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.11. Horizontal Position

2.11.1. byOsdMainHorizontalSet

API index: 362
Sets the horizontal position of the input image.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0 .. Htotal-HSync-Hbackporch	Horizontal input position
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.11.2. byOsdMainHorizontalGet

API index: 364
Retrieves horizontal position from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0 .. Htotal-HSync-Hbackporch	Horizontal input position

2.11.3. byOsdMainHorizontalSave

API index: 363
Saves the horizontal position from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.12. Vertical Position

2.12.1. byOsdMainVerticalSet

API index: 365
Sets the vertical position of the input image.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0 .. Vtotal-VSync-Vbackporch	Vertical input position
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.12.2. byOsdMainVerticalGet

API index: 367
Retrieves vertical position from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0 .. Vtotal-VSync-Vbackporch	Vertical input position

2.12.3. byOsdMainVerticalSave

API index: 366
Saves the vertical position from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.13. Edge control

2.13.1. byOsdLeft/Right/Top/BottomEdgeSet

API indices: 2925/2928/2931/2934
Moves left/right/top/bottom edge of captured image inwards or outwards.

Input Parameters			
Name	Type	Range	Description
Value	SWORD32	-100: 100px out 100: 100px in	Input capture edge position relative to output format edge
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.13.2. byOsdLeft/Right/Top/BottomEdgeGet

API indices: 2926/2929/2932/2935
Retrieves left/right/top/bottom edge value from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	SWORD32	-100: 100px out 100: 100px in	Input capture edge position relative to output format edge

2.13.3. byOsdLeft/Right/Top/BottomEdgeSave

API indices: 2927/2930/2933/2936
Saves the left/right/top/bottom edge value from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.14. Aspect Ratio Control

Note: This feature is only available on HQView-100, -200 and -3xx.

2.14.1. byOsdPreserveAspectSet

API index: 3270
Controls the output resolution set-up. It is either manually or automatically following input resolution.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Scale 1: Preserve	0: Scale = The o/p resolution is set under Output. 1: Preserve = If there is an o/p resolution that is matching the i/p resolution it is set automatically.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.14.2. byOsdPreserveAspectGet

API index: 3271
Retrieves the aspect ratio control setting.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	SWORD32	0: Scale 1: Preserve	Aspect ratio control setting.

2.14.3. byOsdPreserveAspectSave

API index: 3272
Saves the aspect ratio control setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.15. Auto Setup

2.15.1. byOsdAutoConfigSet

API index: 417
Initiates auto setup of VGA signal.

Input Parameters			
Name	Type	Range	Description
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.16. Clock

2.16.1. byOsdAbsoluteClockSet

API index: 2938
Sets the absolute clock value for sampling the VGA input image.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	Depending on VGA signal	Absolute clock value
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.16.2. byOsdAbsoluteClockGet

API index: 2939
Retrieves the absolute clock value either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	Depending on VGA signal	Absolute clock value

2.16.3. byOsdAbsoluteClockGetRange

API index: 4000
Retrieves the allowed range for the absolute clock value.

Input Parameters			
Name	Type	Range	Description
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
MinValue	UWORD32	Depending on VGA signal	Minimum absolute clock value
MaxValue	UWORD32	Depending on VGA signal	Maximum absolute clock value

2.16.4. byOsdAbsoluteClockSave

API index: 2940
Saves the absolute clock value from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.17. Phase

2.17.1. byOsdAbsolutePhaseSet

API index: 2941
Sets the absolute phase value for sampling the VGA input image.

Input Parameters			
Name	Type	Range	Description
Value	SWORD32	-15 .. +15	Absolute phase value
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.17.2. byOsdAbsolutePhaseGet

API index: 2942
Retrieves the absolute phase value either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	SWORD32	-15 .. +15	Absolute phase value

2.17.3. byOsdAbsolutePhaseSave

API index: 2943
Saves the absolute phase value from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.18. Select Warp Application

2.18.1. byOsdProjectionAppsSet

API index: 1645
Selects the embedded warp API.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Keystone 1: 4-Corner 2: Rotation	Selects embedded warp API. Only certain combinations of non-linear scaling are applicable. Keystone can be combined with Pin/Barrel, Rotation with Pin/Barrel and Anyplace is stand alone. The PC generated free form warp API is started by selecting a UserMap. To switch off the free form warp API select UserMap 0 first and thereafter, any of the three embedded warp APIs can be activated again. The OSD has additional selections: Off, Portrait 90 and Portrait 270. Off is achieved by selecting one of the three apps (Keystone, 4-Corner, Rotation AND setting all values to 0). Portrait 90 can be called by selecting User Map 9 and Portrait 270 by selecting User Map 10.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.18.2. byOsdProjectionAppsGet

API index: 1647
Retrieves the embedded warp API setting.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Keystone 1: Anyplace 2: Rotation	Retrieves the embedded warp API setting.

2.18.3. byOsdProjectionAppsSave

API index: 1646
Saves the value from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.19. Select Warp Map Slot

2.19.1. byOsdUserMapSet

API index: 139
Selects the embedded warp API.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Off 1: Slot1 2: Slot2 ... 8: Slot8	Switches on (1 .. 8) the PC generated free from warp map processing and selects a warp map being downloaded into the given slot. With parameter 0 = off no warp map is applied. Slot 9 and Slot 10 are reserved for Portrait 90 and Portrait 270 warp maps.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.19.2. byOsdUserMapGet

API index: 141
Retrieves the number of the slot being selected.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Off 1: Slot1 2: Slot2 ... 8: Slot8	Retrieves the number of the selected slot.

2.19.3. byOsdUserMapSave

API index: 140
Saves the value from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.20. Horizontal Keystone

2.20.1. byOsdHKeystoneSet

API index: 332
Selects the embedded warp API.

Input Parameters			
Name	Type	Range	Description
Value	SWORD32	-40 ..+40	Sets the horizontal keystone value.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.20.2. byOsdHKeystoneGet

API index: 334
Retrieves the number of the slot being selected.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	SWORD32	-40 ..+40	Retrieves the horizontal keystone value.

2.20.3. byOsdHKeystoneSave

API index: 333
Saves the value from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.21. Vertical Keystone

2.21.1. byOsdVKeystoneSet

API index: 336
Selects the embedded warp API.

Input Parameters			
Name	Type	Range	Description
Value	SWORD32	-30 ..+30	Sets the vertical keystone value.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.21.2. byOsdVKeystoneGet

API index: 338
Retrieves the number of the slot being selected.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	SWORD32	-30 ..+30	Retrieves the vertical keystone value.

2.21.3. byOsdVKeystoneSave

API index: 337
Saves the value from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.22. 4-Corner Upper Left Corner

Note: The range (absolute) limit is -1000 to +1000. It is further limited by the i/p and o/p mode resolution. If values not supported for a given i/p o/p resolution combination are called the API will report back an error code (0x9C).

2.22.1. by4CornerX1SetValue

API index: 780
Moves the x-position of the upper left corner. The value is stored in cash and SPD, there is no separate Save function.

Input Parameters			
Name	Type	Range	Description
Value	SWORD32	-1000 .. +1000	Moves the x-position of the upper left corner.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.22.2. byOsd4CornerX1Get

API index: 734
Retrieves the position.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	SWORD32	-1000 .. +1000	Retrieves the position.

2.22.3. by4CornerY1SetValue

API index: 781
Moves the y-position of the upper left corner. The value is stored in cash and SPD, there is no separate Save function.

Input Parameters			
Name	Type	Range	Description
Value	SWORD32	-1000 .. +1000	Moves the y-position of the upper left corner.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.22.4. byOSD4CornerY1Get

API index: 735
Retrieves the position.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	SWORD32	-1000 .. +1000	Retrieves the position.

2.23. 4-Corner Upper Right Corner

2.23.1. by4CornerX2SetValue

API index: 782
Moves the x-position of the upper right corner. The value is stored in cash and SPD, there is no separate Save function.

Input Parameters			
Name	Type	Range	Description
Value	SWORD32	-1000 .. +1000	Moves the x-position of the upper right corner.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.23.2. byOsd4CornerX2Get

API index: 736
Retrieves the position.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	SWORD32	-1000 .. +1000	Retrieves the position.

2.23.3. by4CornerY2SetValue

API index: 783
Moves the y-position of the upper right corner. The value is stored in cash and SPD, there is no separate Save function.

Input Parameters			
Name	Type	Range	Description
Value	SWORD32	-1000 .. +1000	Moves the y-position of the upper right corner.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.23.4. byOSD4CornerY2Get

API index: 737
Retrieves the position.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	SWORD32	-1000 .. +1000	Retrieves the position.

2.24. 4-Corner Lower Left Corner

2.24.1. by4CornerX3SetValue

API index: 784
Moves the x-position of the lower left corner. The value is stored in cash and SPD, there is no separate Save function.

Input Parameters			
Name	Type	Range	Description
Value	SWORD32	-1000 .. +1000	Moves the x-position of the lower left corner.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.24.2. byOsd4CornerX3Get

API index: 738
Retrieves the position.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	SWORD32	-1000 .. +1000	Retrieves the position.

2.24.3. by4CornerY3SetValue

API index: 785
Moves the y-position of the lower left corner. The value is stored in cash and SPD, there is no separate Save function.

Input Parameters			
Name	Type	Range	Description
Value	SWORD32	-1000 .. +1000	Moves the y-position of the lower left corner.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.24.4. byOSD4CornerY3Get

API index: 739
Retrieves the position.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	SWORD32	-1000 .. +1000	Retrieves the position.

2.25. 4-Corner Lower Right Corner

2.25.1. by4CornerX4SetValue

API index: 786
Moves the x-position of the lower right corner. The value is stored in cash and SPD, there is no separate Save function.

Input Parameters			
Name	Type	Range	Description
Value	SWORD32	-1000 .. +1000	Moves the x-position of the lower right corner.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.25.2. byOsd4CornerX4Get

API index: 740
Retrieves the position.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	SWORD32	-1000 .. +1000	Retrieves the position.

2.25.3. by4CornerY4SetValue

API index: 787
Moves the y-position of the lower right corner. The value is stored in cash and SPD, there is no separate Save function.

Input Parameters			
Name	Type	Range	Description
Value	SWORD32	-1000 .. +1000	Moves the y-position of the lower right corner.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.25.4. byOSD4CornerY4Get

API index: 741
Retrieves the position.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	SWORD32	-1000 .. +1000	Retrieves the position.

2.26. Pin/Barrel

2.26.1. byOsdPinBarrelSet

API index: 476
Sets the Pin/Barrel distortion value.

Input Parameters			
Name	Type	Range	Description
Value	SWORD32	-20 ..+20	Sets the Pin/Barrel distortion value.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.26.2. byOsdPinBarrelGet

API index: 840
Retrieves the Pin/Barrel distortion value.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	SWORD32	-20 ..+20	Retrieves the pin/barrel distortion value.

2.26.3. byOsdPinBarrelSave

API index: 842
Saves the value from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.27. Rotation

2.27.1. byOsdRotationAngleSet

API index: 843
Sets the Rotation Angle.

Input Parameters			
Name	Type	Range	Description
Value	SWORD32	-180 ..+180	Sets the Rotation Angle.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.27.2. byOsdRotationGet

API index: 844
Retrieves the Pin/Barrel distortion value.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	SWORD32	-20 ..+20	Retrieves the Rotation Angle value.

2.27.3. byOsdRotationSave

API index: 846
Saves the value from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.28. Picture Format

2.28.1. byOsdAspectRatioSet

API index: 186
Sets the picture format / aspect ratio treatment.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Standard 1: Full Screen 2: Crop 3: Anamorphic	Picture format index
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.28.2. byOsdAspectRatioGet

API index: 188
Retrieves setting for picture format / aspect ratio treatment from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Standard 1: Full Screen 2: Crop 3: Anamorphic	Picture format index

2.28.3. byOsdAspectRatioSave

API index: 187
Saves the picture format / aspect ratio treatment value from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.29. Overscan

2.29.1. byOsdOverscanSet

API index: 2944
Sets the input overscan percentage.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: 0% 1: 2.5% 2: 5% 3: 7.5%	Overscan value
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.29.2. byOsdOverscanGet

API index: 2945
Retrieves overscan setting from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Standard 1: Full Screen 2: Crop 3: Anamorphic	Overscan value

2.29.3. byOsdOverscanSave

API index: 2946
Saves the overscan setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.30. PIP Input

2.30.1. byOsdPipInputFormatSet

API index: 321
Sets the PIP input channel.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Composite 1 1: Composite 2 2: S-Video 3: Component 4: VGA 5: HDSDI 6: DVI 7: HDMI	PIP input channel
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.30.2. byOsdPipInputFormatGet

API index: 323
Retrieves the PIP input channel setting from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Composite 1 1: Composite 2 2: S-Video 3: Component 4: VGA 5: HDSDI 6: DVI 7: HDMI	PIP input channel

2.30.3. byOsdPipInputFormatSave

API index: 322
Saves the pip input channel setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.31. PIP Mode

2.31.1. byOsdPipOnOffSet

API index: 315
Sets the PIP mode.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Off 1: PIP 2: PAP 3: POP	PIP mode
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.31.2. byOsdPipOnOffGet

API index: 317
Retrieves the PIP mode setting from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Off 1: PIP 2: PAP 3: POP	PIP mode

2.31.3. byOsdPipOnOffSave

API index: 316
Saves the pip mode setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.32. PIP Size

2.32.1. byOsdAbsolutePipSizeSetSave

API index: 2974
Sets the PIP mode and saves the setting in the SPD immediately.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Small 1: Medium 2: Large	PIP size
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.32.2. byOsdPipSizeGet

API index: 361
Retrieves the PIP size setting from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Small 1: Medium 2: Large	PIP size

2.33. PIP Position

2.33.1. byOsdPipPosSet

API index: 368
Sets the PiP Position.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Top Left 1: Top Right 2: Bottom Left 3: Bottom Right 4: Free H/V	PIP position
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.33.2. byOsdPipPosGet

API index: 370
Retrieves the PiP Position from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Top Left 1: Top Right 2: Bottom Left 3: Bottom Right 4: Free H/V	PIP position

2.33.3. byOsdPipPosSave

API index: 369
Saves the PiP Position setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.34. PIP H-Pos

2.34.1. byOsdPipXSet

API index: 3211
Sets the PiP Horizontal Position.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0 ... 100	PiP Horizontal position in % of the main image, i.e. 0% PiP left edge aligns with main left edge and 100% PiP right edge aligns with main right edge.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.34.2. byOsdPipXGet

API index: 3212
Retrieves the PiP Horizontal Position from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0 ... 100	PIP Horizontal position in % of the main image, i.e. 0% PiP left edge aligns with main left edge and 100% PiP right edge aligns with main right edge.

2.34.3. byOsdPipXSave

API index: 3213
Saves the PiP Horizontal Position setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.35. PIP V-Pos

2.35.1. byOsdPipYSet

API index: 3214
Sets the PiP Vertical Position.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0 ... 100	PIP Vertical position in % of the main image, i.e. 0% PiP top edge aligns with main top edge and 100% PiP bottom edge aligns with bottom edge.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.35.2. byOsdPipYGet

API index: 3215
Retrieves the PiP Vertical Position from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0 ... 100	PIP Vertical position in % of the main image, i.e. 0% PiP top edge aligns with main top edge and 100% PiP bottom edge aligns with bottom edge.

2.35.3. byOsdPipYSave

API index: 3216
Saves the PiP Position setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.36. Sharpness

2.36.1. byOsdSharpnessSet

API index: 130
Sets the characteristic of the sharpness filter.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x00000000: soften 0x7FFFFFFF: off 0xFFFFFFFF: sharpen	Sharpness filter characteristic
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.36.2. byOsdSharpnessGet

API index: 132
Retrieves the characteristic of the sharpness filter from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	Sharpness filter characteristic	Sharpness filter characteristic

2.36.3. byOsdSharpnessSave

API index: 131
Saves the characteristic of the sharpness filter from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.37. Detail Enhancement

2.37.1. byOsdDetailSet

API index: 133
Sets the level of the detail enhancement algorithm.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x00000000: off 0xFFFFFFFF: max	Detail enhancement value
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.37.2. byOsdDetailGet

API index: 135
Retrieves the level of the detail enhancement algorithm from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0x00000000: off 0xFFFFFFFF: max	Detail enhancement value

2.37.3. byOsdDetailSave

API index: 134
Saves the level of the detail enhancement algorithm from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.38. LTI Level

2.38.1. byOsdSTILTISet

API index: 608
Sets the level of the LTI (luma transient improvement) filter.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Off 1: Low 2: High	LTI value
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.38.2. byOsdSTILTIGet

API index: 610
Retrieves the level of the LTI filter from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Off 1: Low 2: High	LTI value

2.38.3. byOsdSTILTISave

API index: 609
Saves the level of the LTI filter from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.39. CTI Level

2.39.1. byOsdSTICTISet

API index: 611
Sets the level of the CTI (chroma transient improvement) filter.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Off 1: Low 2: High	CTI value
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.39.2. byOsdSTICTIGet

API index: 613
Retrieves the level of the CTI filter from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Off 1: Low 2: High	CTI value

2.39.3. byOsdSTICTISave

API index: 612
Saves the level of the CTI filter from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.40. TRNR

2.40.1. byOsdTRNRSet

API index: 239
Sets the level of the TRNR (temporal recursive noise reduction) algorithm.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Off 1: Low 2: Medium 3: High	TRNR value
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.40.2. byOsdTRNRGet

API index: 241
Retrieves the level of the TRNR from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Off 1: Low 2: Medium 3: High	TRNR value

2.40.3. byOsdTRNRSave

API index: 240
Saves the level of the TRNR from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.41. MNR

2.41.1. byOsdCNRSet

API index: 251
Sets the level of the MNR (MPEG Codec noise reduction) algorithm.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Off 1: Low 2: Medium 3: High	MNR value
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.41.2. byOsdCNRGet

API index: 253
Retrieves the level of the MNR from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Off 1: Low 2: Medium 3: High	MNR value

2.41.3. byOsdCNRSave

API index: 252
Saves the level of the CNR from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.42. CCS

2.42.1. byOsdCCSSet

API index: 2975
Switches CCS (cross colour suppression) filter on/off for the CVBS input.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Off 1: On	CCS switch
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.42.2. byOsdCCSGet

API index: 2976
Retrieves the status of the CCS from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Off 1: On	CCS switch

2.42.3. byOsdCCSSave

API index: 2977
Saves the status of the CCS from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.43. User

2.43.1. byOsdCurrentUserSet

API index: 2947
Selectes the current user profile.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0 .. 3	Profile number
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.43.2. byOsdCurrentUserGet

API index: 2948
Retrieves the currently selected profile number from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0 .. 3	Profile number

2.43.3. byOsdCurrentUserSave

API index: 2959
Saves the profile number from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.44. Input Name

2.44.1. byOsdInputRenameSet

API index: 2950
Renames one of the inputs.

Input Parameters			
Name	Type	Range	Description
InpNumber	UWORD32	0 .. 8	Input number
Name	CHAR[]	[A..Z ; 0..9]	Input name (null terminated)
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.44.2. byOsdInputRenameGet

API index: 2951
Retrieves an input name from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
InpNumber	UWORD32	0 .. 8	Input number
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
InpName	CHAR[]	[A..Z ; 0..9]	Input name (null terminated)

2.44.3. byOsdInputRenameSave

API index: 2952
Saves an input name from cache into the SPD.

Input Parameters			
InpNumber	UWORD32	0 .. 8	Input number
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.45. User Name

2.45.1. byOsdUserRenameSet

API index: 2953
Renames one of the user profiles.

Input Parameters			
Name	Type	Range	Description
UsrNumber	UWORD32	0 .. 3	User number
Name	CHAR[]	[A..Z ; 0..9]	User name (null terminated)
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.45.2. byOsdUserRenameGet

API index: 2954
Retrieves a user name from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
UsrNumber	UWORD32	0 .. 3	User number
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
UsrName	CHAR[]	[A..Z ; 0..9]	User name (null terminated)

2.45.3. byOsdUserRenameSave

API index: 2955
Saves a user name from cache into the SPD.

Input Parameters			
UsrNumber	UWORD32	0 .. 3	User number
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.46. Reset Profile

2.46.1. byOsdProfileReset

API index: 2956
Resets all settings in the currently active profile to their defaults.

Input Parameters			
Name	Type	Range	Description
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.47. Load profile from

2.47.1. byOsdProfileLoadFrom

API index: 2957
Copies all settings from a given profile into the current one.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0 .. 3	Profile number to load from
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.48. Save profile as

2.48.1. byOsdProfileSaveAs

API index: 2958
Copies all settings from the current profile into another one.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0 .. 3	Profile number to save to
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.49. Component Mode

2.49.1. byOsdComponentModeSet

API index: 2959
Sets the component input mode.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: 3-wire 1: 4-wire 2: Automatic	Component mode
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.49.2. byOsdComponentModeGet

API index: 2960
Retrieves setting for the component mode from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: 3-wire 1: 4-wire 2: Automatic	Component mode

2.49.3. byOsdComponentModeSave

API index: 2961
Saves the setting for the component mode from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.50. Component Type

2.50.1. byOsdComponentTypeSet

API index: 2962
Sets the component input type, i.e. colorspace.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: RGB 1: YUV	Component type (colorspace)
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.50.2. byOsdComponentTypeGet

API index: 2963
Retrieves setting for the component type from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: RGB 1: YUV	Component type (colorspace)

2.50.3. byOsdComponentTypeSave

API index: 2964
Saves the setting for the component type from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.51. DVI Equalization

2.51.1. byOsdDVI1EQSet

API index: 2832
Sets the DVI port equalization

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Off 1: On	Boost Equalization
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.51.2. byOsdDVI1EQGet

API index: 2833
Retrieves setting for DVI port equalization from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Off 1: On	Boost Equalization

2.51.3. byOsdDVI1EQSave

API index: 2834
Saves the setting for the DVI port equalization type from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.52. Display Mode

2.52.1. byOsdProcessingModeSet

API index: 2965
Sets the processing mode.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: CRT (low latency) 1: LCD (best picture)	Processing mode
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.52.2. byOsdProcessingModeGet

API index: 2966
Retrieves the processing mode setting from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: CRT (low latency) 1: LCD (best picture)	Processing mode

2.52.3. byOsdProcessingModeSave

API index: 2967
Saves the processing mode setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.53. Menu Display Time

2.53.1. byOsdMenuTimeSet

API index: 2968
Sets menu display timeout.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: 5s 1: 10s .. 5: 30s 6: infinite	Menu display time
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.53.2. byOsdMenuTimeGet

API index: 2969
Retrieves the menu display timeout setting from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: 5s 1: 10s .. 5: 30s 6: infinite	Menu display time

2.53.3. byOsdMenuTimeSave

API index: 2970
Saves the menu display timeout setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.54. Menu Position

2.54.1. byOsdMenuPositionSet

API index: 2971
Sets menu position on screen.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Center 1: Top Left 2: Top Right 3: Bottom Left 4: Bottom Right	Menu position
Return Values			
Name	Type	Range	1. Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.54.2. byOsdMenuPositionGet

API index: 2972
Retrieves the menu position setting from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Center 1: Top Left 2: Top Right 3: Bottom Left 4: Bottom Right	Menu position

2.54.3. byOsdMenuPositionSave

API index: 2973
Saves the menu position setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.55. OSD Messaging

2.55.1. byOsdOsdMessagesSet

API index: 3273
Switches OSD Messaging On/Off.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Off 1: On	Switch OSD Messaging On/Off
Return Values			
Name	Type	Range	2. Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.55.2. byOsdOsdMessagesGet

API index: 3274
Retrieves the set-up of OSD messaging.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Off 1: On	OSD messaging setting

2.55.3. byOsdOsdMessagesSave

API index: 3275
Saves the OSD messaging set-up from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.56. OSD Language

2.56.1. byOsdLanguageSet

API index: 445
Sets the OSD language.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: English AE 1: English BE 2: German	OSD Language
Return Values			
Name	Type	Range	3. Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.56.2. byOsdLanguageGet

API index: 447
Retrieves the OSD language setting from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: English AE 1: English BE 2: German	Menu position

2.56.3. byOsdLanguageSave

API index: 446
Saves the OSD language setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.57. Keypad Lock/Unlock

2.57.1. byOsdKeypadLockSet

API index: 2824
Activates/Deactivates the keypad locking.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Off 1: On	OSD Language
Return Values			
Name	Type	Range	4. Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.57.2. byOsdKeypadLockGet

API index: 2825
Retrieves the keypad lock setting from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Off 1: On	Menu position

2.57.3. byOsdKeypadLockSave

API index: 2826
Saves the keypad lock setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.58. Display Type

2.58.1. byOsdDisplayTypeSet

API index: 3303
Sets the Ouput Display Type.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: LCD/Plasma 1: Projector	Set Display Type, i.e. configure system such that the maximum feature set is available for a certain use case.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Note: The Parameters shown above are for HQView. LEDView have the following: 0: LCD/Plasma, 1: Projector, 2: LED.
Note: OEM models may have more entries in this list box, e.g. particular projector models. The value is given by the position of the item in the list box. The entry order typically is: 0: LCD/Plasma, 1: Projector, 2: OEM Projector 1st Type 1, 3: OEM Projector 2nd Type, 4: OEM Projector 3rd Type, etc.

2.58.2. byOsdDisplayTypeGet

API index: 3304
Retrieves the Output Display Type from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: LCD/Plasma 1: Projector	Get Display Type setting.

2.58.3. byOsdDisplayTypeSave

API index: 3305
Saves the Display Type setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.59. Optimise for Display

2.59.1. byOsdPV6OptimiseSet

API index: 2818
Activates communication with a display and sets optimum output display timing and color depth.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: DVI/HDMI 1: Optimized 2: DVI-forced	1: Activates optimization mechanism 0,2: Deactivates optimization mechanism. DVI-forced outputs 8 bit per color only. DVI/HDMI selects color depth automatically.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.59.2. byOsdPV6OptimiseGet

API index: 2819
Retrieves the optimisation setting from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: DVI/HDMI 1: Optimized 2: DVI-forced	Optimization settings.

2.59.3. byOsdPV6OptimiseSave

API index: 2820
Saves the optimisation setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.60. Ouput Mode

2.60.1. byOsdOuputFormatSet

API index: 324
Sets the Ouput Mode Resolution.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: 640x480 1: 800x600 2: 1024x768 3: 1280x768 4: 1280x800 5: 1280x1024 6: 1400x1050 7: 1600x1200 8: 1920x1200 9: 720p 10: 1080p	Ouput Resolution
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Note: The Parameters shown above are for HQView-4xx. Other products have the following:
HQView-100, -200, -3xx: 0: 640x480, 1: 800x600, 2: 1024x768, 3: 1280x768, 4: 1280x800, 5: 1280x1024, 6: 1400x1050, 7: 1600x1200, 8: 1920x1200, 9: 720p, 10: 1080p, 11: 480p, 12: 576p
HQView-5xx: 0: 640x480, 1: 800x600, 2: 1024x768, 3: 1280x768, 4: 1280x800: 5: 1280x1024, 6: 1400x1050, 7: 1600x1200, 8: 1920x1200, 9: 480i, 10: 576i, 11: 480p, 12: 576p, 13: 720p, 14: 1080i, 15: 1080p

2.60.2. byOsdOutputFormatGet

API index: 326
Retrieves the Output Mode Resolution from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: 640x480 1: 800x600 2: 1024x768 3: 1280x768 4: 1280x800 5: 1280x1024 6: 1400x1050 7: 1600x1200 8: 1920x1200 9: 720p 10: 1080p	Get Output Resolution.

2.60.3. byOsdOutputFormatSave

API index: 325
Saves the Output Mode Resolution setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.61. Ouput Frame Rate

2.61.1. byOsdFrameRateSet

API index: 2821
Sets the Ouput Mode Frame Rate.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: 60Hz 1: 50Hz 2: Auto	Ouput Mode Frame Rate
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Note: The Parameters shown above are for HQView-100, -200, -3xx and -4xx. Other products have the following:
HQView-5xx: 0: 60Hz, 1: 50Hz, 2: 24Hz, 3: 48Hz, 4: Auto

2.61.2. byOsdFrameRateGet

API index: 2822
Retrieves the Output Mode Frame Rate from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: 60Hz 1: 50Hz 2: Auto	Menu position

2.61.3. byOsdFrameRateSave

API index: 2823
Saves the Output Mode Frame Rate setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.62. Frame Rate Settings Availability Control

Note: This feature is only available on HQView-5xx.

2.62.1. byOsdAllowedFrameRateSet

API index: 3276

Makes 24/48Hz frame rate settings available.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: 50/60Hz 1: 24/50/60Hz 2: 48/50/60Hz 3: 24/48/50/60Hz	Ouput Mode Frame Rate availability setting.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.62.2. byOsdAllowedFrameRateGet

API index: 3277

Retrieves the 24/48Hz Output Mode Frame Rate availability setting from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: 50/60Hz 1: 24/50/60Hz 2: 48/50/60Hz 3: 24/48/50/60Hz	Ouput Mode Frame Rate availability setting.

2.62.3. byOsdAllowedFrameRateSave

API index: 3278

Saves the Output Mode Frame Rate availability setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.63. I/O Lock

2.63.1. byOSDIoLockSet

API index: 2978
Sets the Lock Type between PLL modulation and free run mode.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: PLL On 1: PLL Off	I/O Lock Type.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Note: The Parameters shown above are for HQView-100, -200, -3xx and -4xx. Other products have the following:
HQView-5xx: 0: Off, 1: Source (locked to video input), 2:Genlock (locked to external source)

2.63.2. byOsdIoLockGet

API index: 2979
Retrieves the I/O Lock Type either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: PLL On 1: PLL Off	I/O Lock Type

2.63.3. byOsdIoLockSave

API index: 2980
Saves the I/O Lock Type setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.64. Native Color Temp

2.64.1. byOsdNativeColorTempSet

API index: 2827
Sets the Color Temperature of the output video signal.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: 5500k 1: 6500k 2: 7500k 3: 9300k 4: 10000	Output Color Temperature.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.64.2. byOsdNativeColorTempGet

API index: 2828
Retrieves the Color Temperature either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: 5500k 1: 6500k 2: 7500k 3: 9300k 4: 10000	Output Color Temperature.

2.64.3. byOsdNativeColorTempSave

API index: 2829
Saves the I/O Lock Type setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.65. Ouput Gamma

2.65.1. byOsdGammaOutSet

API index: 346
Sets the Ouput Gamma.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0 .. 30	Ouput Gamma Value * 10
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.65.2. byOsdGammaOutGet

API index: 348
Retrieves the Output Gamma Value from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0 .. 30	(fractional) Output Gamma Value * 10

2.65.3. byOsdGammaOutSave

API index: 347
Saves the Output Gamma Value setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.66. IP Address Type

2.66.1. bySetDHCPStatus

API index: 115
Choose between IP address type static or DHCP leased and saves the setting in the SPD immediately.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Static 1: DHCP	IP address type
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.66.2. byGetDHCPStatus

API index: 84
Retrieves the IP address type from the SPD.

Input Parameters			
Name	Type	Range	Description
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Static 1: DHCP	IP address type

2.67. IP Address

2.67.1. bySetStaticIPAddr

API index: 111
Sets the static IP address and saves the setting in the SPD immediately.

Input Parameters			
Name	Type	Range	Description
Value	STRING	nnn.nnn.nnn.nnn String with 15 ASCII characters /0 terminated	Static IP address
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.67.2. byGetStaticIPAddr

API index: 112
Retrieves the IP address from the SPD.

Input Parameters			
Name	Type	Range	Description
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	STRING	nnn.nnn.nnn.nnn String with 15 ASCII characters /0 terminated	Static IP address

2.68. Netmask

2.68.1. bySetSubnetMask

API index: 113
Sets the netmask and saves the setting in the SPD immediately.

Input Parameters			
Name	Type	Range	Description
Value	STRING	nnn.nnn.nnn.nnn String with 15 ASCII characters /0 terminated	Netmask
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.68.2. byGetSubnetMask

API index: 114
Retrieves the IP address from the SPD.

Input Parameters			
Name	Type	Range	Description
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	STRING	nnn.nnn.nnn.nnn String with 15 ASCII characters /0 terminated	Netmask

2.69. AutoZoom

2.69.1. byOsdMultipleUnitAutozoomSet

API index: 3169
Enable/Disables AutoZoom

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Off 1: On	Enable/disable the automatic zoom.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.69.2. byOsdMultipleUnitAutozoomGet

API index: 3170
Retrieves status if AutoZoom is enabled or disabled.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Off 1: On	Announce Message System activated or deactivated.

2.69.3. byOsdMultipleUnitAutozoomSave

API index: 3171
Saves the AutoZoom status from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.70. Multiple Unit Width

2.70.1. byOsdMultipleUnitWidthSet

API index: 3100
Sets the number of units in horizontal direction.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x01-0x04	Number of units in horizontal direction.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.70.2. byOsdMultipleUnitWidthGet

API index: 3101
Retrieves the number of units in horizontal direction.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0x01-0x04	Number of units set in horizontal direction.

2.70.3. byOsdMultipleUnitWidthSave

API index: 3102
Saves the number from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.71. Multiple Unit Height

2.71.1. byOsdMultipleUnitHeightSet

API index: 3103
Sets the number of units in vertical direction.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x01-0x04	Number of units in vertical direction.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.71.2. byOsdMultipleUnitHeightGet

API index: 3104
Retrieves the number of units in horizontal direction.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0x01-0x04	Number of units set in vertical direction.

2.71.3. byOsdMultipleUnitHeightSave

API index: 3105
Saves the number from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.72. Multiple Unit Horizontal Set

2.72.1. byOsdMultipleUnitHorizontalSet

API index: 3106
Sets the horizontal address of the unit.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x00-0x03	Horizontal address of the unit. The actual range is 0x00 to Horizontal Width – 1.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.72.2. byOsdMultipleUnitHorizontalGet

API index: 3107
Retrieves the horizontal address of the unit.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0x00-0x03	Horizontal address of unit.

2.72.3. byOsdMultipleUnitHorizontalSave

API index: 3108
Saves the number from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.73. Multiple Unit Vertical Set

2.73.1. byOsdMultipleUnitVerticalSet

API index: 3109
Sets the vertical address of the unit.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x00-0x03	Vertical address of the unit. The actual range is 0x00 to Vertical Width – 1.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.73.2. byOsdMultipleUnitVerticalGet

API index: 3110
Retrieves the vertical address of the unit.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0x00-0x03	Vertical address of unit.

2.73.3. byOsdMultipleUnitVerticalSave

API index: 3111
Saves the number from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.74. Blend Curve Type

2.74.1. byOsdEdgeBlendCurveTypeSet

API index: 3112
Sets the blend curve type.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Off 1: S-Curve 2: Align Pattern	Sets the blend curve type.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.74.2. byOsdEdgeBlendCurveTypeGet

API index: 3113
Retrieves the blend curve type set.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Off 1: S-Curve 2: Align Pattern	Retrieves the blend curve type set.

2.74.3. byOsdEdgeBlendCurveTypeSave

API index: 3114
Saves the value from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.75. S-Curve Value

2.75.1. byOsdEdgeBlendScurveValueSet

API index: 3115
Sets the S-curve value.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x10-0x19	S-Curve power value. The power ranges from 1.0 to 2.5. The value set is the in multiples of 1/10.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.75.2. byOsdEdgeBlendScurveValueGet

API index: 3116
Retrieves the S-curve value.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0x10-0x19	S-Curve power value. The power ranges from 1.0 to 2.5. The value retrieved is in multiples of 1/10.

2.75.3. byOsdEdgeBlendScurveValueSave

API index: 3117
Saves the number from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.76. Alpha Map Activation

2.76.1. byOsdEdgeBlendCustAlphaSet

API index: 3350
Activate the Custom Alpha Map.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Off 1: On	Activate Custom Alpha Map.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.76.2. byOsdEdgeBlendCustAlphaGet

API index: 3351
Retrieves the status of Alpha Map activation from cache or SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Off 1: On	Retrieves the status of alpha map activation.

2.76.3. byOsdEdgeBlendCustAlphaSave

API index: 3352
Saves the activation status from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.77. Edge Blend Top Border

2.77.1. byOsdEdgeBlendTopBorderSet

API index: 3118
Sets the edge blend top border.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x00-{output res./4}	Sets the top border edge blend size. The actual range depends on Output resolution. It is limited to ¼ of the output resolution.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.77.2. byOsdEdgeBlendTopBorderGet

API index: 3119
Retrieves the edge blend top border.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0x00-{output res./4}	Retrieves the top border edge blend size. The actual range depends on Output resolution.

2.77.3. byOsdEdgeBlendTopBorderSave

API index: 3120
Saves the number from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.78. Edge Blend Bottom Border

2.78.1. byOsdEdgeBlendBotBorderSet

API index: 3121
Sets the edge blend bottom border.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x00-{output res./4}	Sets the bottom border edge blend size. The actual range depends on Output resolution. It is limited to ¼ of the output resolution.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.78.2. byOsdEdgeBlendBotBorderGet

API index: 3122
Retrieves the edge blend bottom border.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0x00-{output res./4}	Retrieves the top border edge blend size. The actual range depends on Output resolution.

2.78.3. byOsdEdgeBlendBotBorderSave

API index: 3123
Saves the number from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.79. Edge Blend Left Border

2.79.1. byOsdEdgeBlendLeftBorderSet

API index: 3124
Sets the edge blend left border.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x00-{output res./4}	Sets the left border edge blend size. The actual range depends on Output resolution. It is limited to ¼ of the output resolution. For a 2x1 configuration the range is wider.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.79.2. byOsdEdgeBlendLeftBorderGet

API index: 3125
Retrieves the edge blend left border.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0x00-{output res./4}	Retrieves the left border edge blend size. The actual range depends on Output resolution.

2.79.3. byOsdEdgeBlendLeftBorderSave

API index: 3126
Saves the number from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.80. Edge Blend Right Border

2.80.1. byOsdEdgeBlendRightBorderSet

API index: 3127
Sets the edge blend right border.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x00-{output res./4}	Sets the right border edge blend size. The actual range depends on Output resolution. It is limited to ¼ of the output resolution. For a 2x1 configuration the range is wider.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.80.2. byOsdEdgeBlendRightBorderGet

API index: 3128
Retrieves the edge blend right border.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0x00-{output res./4}	Retrieves the right border edge blend size. The actual range depends on Output resolution.

2.80.3. byOsdEdgeBlendRightBorderSave

API index: 3129
Saves the number from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.81. Edge Blend Top Border Offset

2.81.1. byOsdEdgeBlendTopOffsetSet

API index: 3175
Sets the edge blend top border offset.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x00- {output res./4 - overlap}	Sets the top border edge blend offset. The actual range depends on Output resolution. It is limited to ¼ of the output resolution minus the overlap/actual blend region.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.81.2. byOsdEdgeBlendTopOffsetGet

API index: 3176
Retrieves the edge blend top border offset.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0x00- {output res./4 - overlap}	Retrieves the top border edge blend offset. The actual range depends on Output resolution and overlap.

2.81.3. byOsdEdgeBlendTopOffsetSave

API index: 3177
Saves the number from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.82. Edge Blend Bottom Border Offset

2.82.1. byOsdEdgeBlendBotOffsetSet

API index: 3178
Sets the edge blend bottom border offset.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x00- {output res./4 - overlap}	Sets the bottom border edge blend offset. The actual range depends on Output resolution. It is limited to ¼ of the output resolution minus the overlap/actual blend region.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.82.2. byOsdEdgeBlendBotOffsetGet

API index: 3179
Retrieves the edge blend bottom border offset.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0x00- {output res./4 - overlap}	Retrieves the bottom border edge blend offset. The actual range depends on Output resolution and overlap.

2.82.3. byOsdEdgeBlendBotOffsetSave

API index: 3180
Saves the number from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.83. Edge Blend Left Border Offset

2.83.1. byOsdEdgeBlendLeftOffsetSet

API index: 3181
Sets the edge blend left border offset.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x00- {output res./4 - overlap}	Sets the left border edge blend offset. The actual range depends on Output resolution. It is limited to ¼ of the output resolution minus the overlap/actual blend region. For a 2x1 configuration the range is wider.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.83.2. byOsdEdgeBlendLeftOffsetGet

API index: 3182
Retrieves the edge blend left border offset.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0x00- {output res./4 - overlap}	Retrieves the left border edge blend offset. The actual range depends on Output resolution.

2.83.3. byOsdEdgeBlendLeftOffsetSave

API index: 3183
Saves the number from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.84. Edge Blend Right Border Offset

2.84.1. byOsdEdgeBlendRightOffsetSet

API index: 3184

Sets the edge blend right border offset.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x00- {output res./4 - overlap}	Sets the right border edge blend offset. The actual range depends on Output resolution. It is limited to ¼ of the output resolution minus the overlap/actual blend region. For a 2x1 configuration the range is wider.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.84.2. byOsdEdgeBlendRightOffsetGet

API index: 3185

Retrieves the edge blend right border offset.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0x00- {output res./4 - overlap}	Retrieves the right border edge blend offset. The actual range depends on Output resolution.

2.84.3. byOsdEdgeBlendRightOffsetSave

API index: 3186

Saves the number from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.85. PiP/Multiple Unit Operation Mode

Only available on HQView-410/420 models.

2.85.1. byOsdPIPEBOperationModeSet

API index: 3172

Switches between PiP mode and Multiple Unit Mode. Multiple Unit mode does not support PiP, whereas PiP mode does not support Edge Blend and PC tool generated warp maps.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: PiP Mode 1: Multiple Unit Mode	Sets the operation mode.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.85.2. byOsdPIPEBOperationModeGet

API index: 3173

Retrieves the operation mode.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Off 1: S-Curve 2: Align Pattern	Retrieves the operation mode set.

2.85.3. byOsdPIPEBOperationModeSave

API index: 3174

Saves the operation mode from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.86. Enable Announce Messages

Announce Messages are only available on the HQView-3xx, 200 and 100 modules.

2.86.1. byOsdSetEnableAnnounceMessages

API index: 4201
Enable/Disables the Announce Messages.

Input Parameters			
Name	Type	Range	Description
Value	BYTE	0: Off 1: On	Activate and Deactivate the Announce Message System, i.e. send out the message stream at constant time rate.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.86.2. byOsdGetEnableAnnounceMessages

API index: 4200
Retrieves status if Announce Message System the activated or deactivated.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	BYTE	0: Off 1: On	Announce Message System activated or deactivated.

2.86.3. byOsdSaveEnableAnnounceMessages

API index: 4202
Saves the Announce Message status from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.87. Announce Server IP Address

2.87.1. byOsdSetAnnounceServerIPAddress

API index: 4204
Set the IP address of the server where to send the messages.

Input Parameters			
Name	Type	Range	Description
Value	STRING	nnn.nnn.nnn.nnn String with 15 ASCII characters /0 terminated	IP address of server where to send the messages.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.87.2. byOSDGetAnnounceServerIPAddress

API index: 4203
Retrieves the IP server address where to send the messages.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	STRING	nnn.nnn.nnn.nnn String with 15 ASCII characters /0 terminated	IP address of server where to send the messages.

2.87.3. byOsdSaveAnnounceServerIPAddress

API index: 4205
Saves the IP server address from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.88. Announce Server Port

2.88.1. byOsdSetAnnounceServerPort

API index: 4207
Set the Announce Message server port.

Input Parameters			
Name	Type	Range	Description
Value	UWORD16	0x0000-0xFFFF (or decimal 0 ... 65535)	Port
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.88.2. byOSDGetAnnounceServerPort

API index: 4206
Retrieve the Announce Message server port.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD16	0x0000-0xFFFF (or decimal 0 ... 65535)	Port

2.88.3. byOsdSaveAnnounceServerPort

API index: 4208
Saves the Announce Message server port number from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.89. Announce Data

2.89.1. byOsdSetAnnounceAuxData

API index: 4210.
Defines a string to be sent.

Input Parameters			
Name	Type	Range	Description
Value	STRING	String with 16 ASCII characters /0 terminated	Port
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.89.2. byOsdGetAnnounceAuxData

API index: 4209
Retrieves the string being sent.

Input Parameters			
Name	Type	Range	Description
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	STRING	nnn.nnn.nnn.nnn String with 15 ASCII characters /0 terminated	Netmask

2.89.3. byOsdSaveAnnounceAuxData

API index: 4208
Saves the string from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.90. Announce Data Repeat Period

2.90.1. byOsdSetAnnounceRepeatPeriod

API index: 4213
Set the period after which the announce message is automatically repeated.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0x0000-0x270F (or decimal 0 ... 9999)	Repeat rate in seconds.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.90.2. byOsdGetAnnounceRepeatPeriod

API index: 4212
Retrieves the IP address from the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0x0000-0x270F (or decimal 0 ... 9999)	Repeat rate in seconds.

2.90.3. byOsdSaveAnnounceRepeatPeriod

API index: 4214
Saves the Announce Message status from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.91. Output Blanking

2.91.1. byBlankOutputSet

API index: 2990
The output is blanked with a black image.

Input Parameters			
Name	Type	Range	Description
Value	DWORD	0: Output showing Image 1: Output blanked to black	Output showing life image or blanked to black.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.91.2. byBlankOutputGet

API index: 2991
Retrieves the status of the output, whether it shows a life image or a black image. Since the value cannot be stored the Get function when called with option 1 (from SPD) will always give a value of 0. Always call with option 0 (temporary from cache).

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	DWORD	0: Output showing Image 1: Output blanked to black	Output showing life image or blanked to black.

2.92. Reset Blend Width, Offset and Black Level Uplift

2.92.1. byOSDEdgeBlendReset

API index: 3249
The blend width, offset and black level uplift or combinations thereof can be reset to zero.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	1: Reset Blend Width 2: Reset Blend Offset 3: Reset Black Level Uplift	Resets blend width, offset and black level uplift or combinations thereof, e.g. 7: Reset all three.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.93. PTZ Enabling

2.93.1. byOsdPtzEnableSetSave

API index: 3220
Enables PTZ and saves the setting in the SPD immediately.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Off 1: On	PTZ enabling
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.93.2. byOsdPtzEnableGet

API index: 3221
Retrieves the PTZ enable setting from cache or from the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Off 1: On	PTZ enabling

2.94. PTZ Settings Scope

2.94.1. byOsdPtzSettingSet

API index: 3222
Sets the scope of the PTZ settings from global to Per-mode.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Use Globally 1: Use Per-Mode	Scope of PTZ settings.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.94.2. byOsdPtzSettingGet

API index: 3223
Retrieves the PTZ scope setting from cache or from the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Use Globally 1: Use Per-Mode	Scope of PTZ settings.

2.94.3. byOsdPtzSettingSave

API index: 3224
Saves the PTZ scope setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.95. PTZ Pan

2.95.1. byOsdPtzPanSet

API index: 3225
Sets the Pan position.

Input Parameters			
Name	Type	Range	Description
Value	SWORD16	-50 ... +50	Pan position.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.95.2. byOsdPtzPanGet

API index: 3226
Retrieves the Pan position from cache or from the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	SWORD16	-50 ... +50	Pan position.

2.95.3. byOsdPtzPanSave

API index: 3227
Saves the Pan position from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.96. PTZ Tilt

2.96.1. byOsdPtzTiltSet

API index: 3228
Sets the Tilt position.

Input Parameters			
Name	Type	Range	Description
Value	SWORD16	-50 ... +50	Tilt position.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.96.2. byOsdPtzTiltGet

API index: 3229
Retrieves the Tilt position from cache or from the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	SWORD16	-50 ... +50	Tilt position.

2.96.3. byOsdPtzTiltSave

API index: 3230
Saves the Pan position from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.97. PTZ Horizontal Zoom

2.97.1. byOsdPtzZoomHSet

API index: 3231
Zooms/Shrinks the image in horizontal direction. When Aspect Lock is On the Horizontal Zoom factor is also applied to vertical zoom/shrink.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	50 ... 400	Horizontal Zoom Factor in %.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.97.2. byOsdPtzZoomHGet

API index: 3232
Retrieves the horizontal zoom factor from cache or from the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	50 ... 400	Horizontal Zoom Factor in %.

2.97.3. byOsdPtzZoomHSave

API index: 3233
Saves the horizontal zoom factor from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.98. PTZ Vertical Zoom

2.98.1. byOsdPtzZoomVSet

API index: 3234
Zooms/Shrinks the image in vertical direction. When Aspect Lock is On Vertical Zoom is not available. The Horizontal Zoom factor determines the overall zoom/shrink.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	50 ... 400	Vertical Zoom Factor in %.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.98.2. byOsdPtzZoomVGet

API index: 3235
Retrieves the vertical zoom factor from cache or from the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	50 ... 400	Vertical Zoom Factor in %.

2.98.3. byOsdPtzZoomVSave

API index: 3236
Saves the vertical zoom factor from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.99. PTZ Aspect Ratio Lock

2.99.1. byOsdPtzAspectSet

API index: 3237
Gives access to the vertical zoom slider for asymmetric zoom/shrink when Aspect Lock is Off.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: On 1: Off	Switch Aspect Lock on or off.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.99.2. byOsdPtzAspectGet

API index: 3238
Retrieves the Aspect Lock setting from cache or from the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: On 1: Off	Aspect Lock setting on or off.

2.99.3. byOsdPtzAspectSave

API index: 3239
Saves the Aspect Lock setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.100. DVI Output Color Space

2.100.1. byOsdDviOutCscSet

API index: 3250
Sets DVI Output Color Space.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: RGB 1: YPbPr	Sets DVI Output Color Space.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.100.2. byOsdDviOutCscGet

API index: 3251
Retrieves the DVI Output Color Space setting from cache or from the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: RGB 1: YPbPr	DVI Output Color Space setting.

2.100.3. byOsdDviOutCscSave

API index: 3252
Saves the DVI Output Color Space setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.101. DVI Output Range

2.101.1. byOsdDviOutRangeSet

API index: 3253
Sets DVI Output Range.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Default 1: Limited 2: Full	Sets DVI Output Range.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.101.2. byOsdDviOutRangeGet

API index: 3254

Retrieves the DVI Output Range setting from cache or from the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Default 1: Limited 2: Full	DVI Output Range setting.

2.101.3. byOsdDviOutRangeSave

API index: 3255

Saves the DVI Output Range setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.102. DVI Input Port configuration analog/digital

2.102.1. byOsdDVIIPortSet

API index: 3300

Switches between processing of digital (TMDS) and analogue (VGA) input type (DVI-D or DVI-A).

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: digital (DVI-D) 1: analogue (DVI-A)	Switches between digital and analogue input processing.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.102.2. byOsdDVIIPortGet

API index: 3301

Retrieves the processing type for the DVI-I input port.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: digital (DVI-D) 1: analogue (DVI-A)	Retrieves the DVI-I port setting, digital or analogue input processing.

2.102.3. byOsdDVIIPortSave

API index: 3302
Saves the DVI-I input port processing setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.103. HDMI/DVI Input Color Space

2.103.1. byOsdDviInCSpaceSet

API index: 3256
Sets HDMI/DVI Input Color Space.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: RGB 1: YPbPr 2: Auto	Sets DVI Input Color Space manually or automatically from AV InfoFrames.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.103.2. byOsdDviInCSpaceGet

API index: 3257
Retrieves the HDMI/DVI Input Color Space setting from cache or from the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: RGB 1: YPbPr 2: Auto	HDMI/DVI Input Color Space setting.

2.103.3. byOsdDviInCSpaceSave

API index: 3258
Saves the HDMI/DVI Input Color Space setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.104. HDMI/DVI Input Range

2.104.1. byOsdDviInRangeSet

API index: 3259
Sets HDMI/DVI Input Range.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Full 1: Limited 2: Auto	Sets HDMI/DVI Input Range manually or automatically from AV InfoFrames.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.104.2. byOsdDviInRangeGet

API index: 3260
Retrieves the HDMI/DVI Input Range setting from cache or from the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Full 1: Limited 2: Auto	HDMI/DVI Input Range setting.

2.104.3. byOsdDviInRangeSave

API index: 3261
Saves the HDMI/DVI Input Range setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.105. 3G-SDI Level B Stream Selection

2.105.1. byOsdSdiLevBStreamSet

API index: 3262
Selects Stream 1 or 2 of a 3G-SDI level B signal.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Stream 1 1: Stream 2	Stream select.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.105.2. byOsdSdiLevBStreamGet

API index: 3263
Retrieves the Stream setting from cache or from the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Stream 1 1: Stream 2	Stream select setting.

2.105.3. byOsdSdiLevBStreamSave

API index: 3264
Saves the Stream setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.106. SDI Output Data Map

2.106.1. byOsdSdiDataMapSet

API index: 3265
Sets the SDI output mode.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Level A 1: Level B 2: 4:2:2 YCbCr 3: 4:4:4 YCbCr 4: 4:4:4 RGB	Sets the SDI output mode.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.106.2. byOsdSdiDataMapGet

API index: 3266
Retrieves the SDI output mode setting from cache or from the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Level A 1: Level B 2: 4:2:2 YCbCr 3: 4:4:4 YCbCr 4: 4:4:4 RGB	SDI output mode setting.

2.106.3. byOsdSdiDataMapSave

API index: 3267
Saves the SDI output mode setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.107. Black Level Uplift

2.107.1. byOsdEdgeBlendBlackLevelTopl/Top/Topr/Midl/Mid/Midr/Botl/Bot/BotrSet

API indices: 3130/3133/3136/3139/3142/3145/3148/3151/3154
The black level is increased for the various blend regions (9 possible regions).

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0 ... 25	Uplift Value
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.107.2. byOsdEdgeBlendBlackLevelTopl/Top/Topr/Midl/Mid/Midr/Botl/Bot/BotrGet

API indices: 3131/3134/3137/3140/3143/3146/3149/3152/3155
Retrieves the black level uplift values from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0 ... 25	Uplift Value

2.107.3. byOsdEdgeBlendBlackLevelTopl/Top/Topr/Midl/Mid/Midr/Botl/Bot/BotrSave

API indices: 3132/3135/3138/3141/3144/3147/3150/3153/3156
Saves the black level uplift values from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.108. 4 Corner Black Level Uplift Reduction

2.108.1. byOsdEdgeBlendXtraBlUpliftX1/Y1/X2/Y2/X3/Y3/X4/Y4Set

API indices: 3187/3190/3193/3196/3199/3202/3205/3208
The corner points of the non-blended region are shifted inwards (into the non-blended region) and the uplift value of the non-blended region is only applied to this reduced area.

Input Parameters			
Name	Type	Range	Description
Value	SWORD32	0 ... 200	X- or Y-Position of the corner point
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.108.2. byOsdEdgeBlendXtraBlUpliftX1/Y1/X2/Y2/X3/Y3/X4/Y4Get

API indices: 3188/3191/3194/3197/3200/3203/3206/3209
Retrieves the corner points from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	SWORD32	0 ... 200	X- or Y-Position of the corner point

2.108.3. byOsdEdgeBlendXtraBlUpliftX1/Y1/X2/Y2/X3/Y3/X4/Y4Save

API indices: 3189/3192/3195/3198/3201/3204/3207/3210
Saves the corner point values from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.109. SDI Audio Channel Mapping

2.109.1. byOsdSdiAudioChannelSet

API index: 3280

Sets the SDI audio channel mapping from SDI input to HDMI and SDI output.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Channel 1,2 1: Channel 3,4 2: Channel 5,6 3: Channel 7,8 4: All Channels	Sets the SDI audio input to HDMI/SDI audio output channel mapping. Channel 1,2 means SDI i/p channel 1,2 are on HDMI and SDI o/p channel 1,2 (no other SDI channels present). Channel 3,4 means SDI i/p channel 3,4 is on HDMI and SDI o/p channel 1,2 ... and so forth. All Channels means all SDI i/p channels from 1 to 8 are on HDMI and SDI o/p channel 1 to 8.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.109.2. byOsdSdiAudioChannelGet

API index: 3281

Retrieves the SDI audio channel mapping from cache or from the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Channel 1,2 1: Channel 3,4 2: Channel 5,6 3: Channel 7,8 4: All Channels	SDI audio channel map setting.

2.109.3. byOsdSdiAudioChannelSave

API index: 3282

Saves the SDI audio channel mapping from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.110. SDI Audio SPDIF Routing

2.110.1. byOsdSdiOnSpdifSet

API index: 3283

Sets whether SDI audio is output with the SDI/HDMI output data stream or routed to the SPDIF connector. They are mutually exclusive.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: HDMI/SDI 1: SPDIF	Set audio routing to SPDIF connector or embed to the HDMI/SDI output stream.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.110.2. byOsdSdiOnSpdifGet

API index: 3284

Retrieves the SDI audio to SPDIF routing from cache or from the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: HDMI/SDI 1: SPDIF	Audio routing setting.

2.110.3. byOsdSdiOnSpdifSave

API index: 3285

Saves the SDI audio to SPDIF routing from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.111. Test Pattern Selection

2.111.1. byOsdTestPatternSet

API index: 3320

Selects the test pattern to be displayed.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	1: Red Curtain 2: Green Curtain 3: Blue Curtain 4: Grey V Bars 5: Grey H Bars 6: Aspect Test 7: Multi Test 8: Warp Adjust 9: SMPTE 10: Pluge 11: Moving Cross 12 – 15: Custom 1 - 4	Set the test pattern to be displayed.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.111.2. byOsdTestPatternGet

API index: 3321

Retrieves the selected test pattern from cache or from the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	1: Red Curtain 2: Green Curtain … 12 – 15: Custom 1 - 4	Test pattern on display.

2.111.3. byOsdTestPatternSave

API index: 3322

Saves the test pattern selection from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.112. Moving Test Pattern Speed

2.112.1. byOsdTpgSpeedSet

API index: 3286
Sets the motion speed of the diagonally moving test pattern.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	1 .. 16	Motion Speed Set in Pixels (vertical and horizontal) per VSync
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.112.2. byOsdTpgSpeedGet

API index: 3287
Retrieves the motion speed of the diagonally moving test pattern.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	1 .. 16	Motion Speed setting

2.112.3. byOsdTpgSpeedSave

API index: 3288
Saves the motion speed setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.113. Moving Test Pattern Foreground Color

2.113.1. byOsdTpgFgColSet

API index: 3290
Sets the foreground color of the moving test pattern.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Black 1: White 2: Yellow 3: Cyan 4: Green 5: Magenta 6: Red 7: Blue	Foreground color of the moving test pattern.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.113.2. byOsdTpgFgColGet

API index: 3291
Retrieves the foreground color of the moving test pattern.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Black 1: White 2: Yellow 3: Cyan 4: Green 5: Magenta 6: Red 7: Blue	Foreground color setting of the moving test pattern.

2.113.3. byOsdTpgFgColSave

API index: 3292
Saves the foreground color of the moving test pattern.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Note: If attempted to set foreground and background color to the same tone an error message is reported E_OUT_OF_RANGE (0x5). The same error code is generated for values greater than 7.

2.114. Moving Test Pattern Background Color

2.114.1. byOsdTpgBgColSet

API index: 3293
Sets the background color of the moving test pattern.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Black 1: White 2: Yellow 3: Cyan 4: Green 5: Magenta 6: Red 7: Blue	Foreground color of the moving test pattern.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.114.2. byOsdTpgBgColGet

API index: 3294
Retrieves the background color of the moving test pattern.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Black 1: White 2: Yellow 3: Cyan 4: Green 5: Magenta 6: Red 7: Blue	Background color setting of the moving test pattern.

2.114.3. byOsdTpgBgColSave

API index: 3295
Saves the background color of the moving test pattern from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Note: If attempted to set foreground and background color to the same tone an error message is reported E_OUT_OF_RANGE (0x5). The same error code is generated for values greater than 7.

2.115. Moving Test Pattern Line Thickness

2.115.1. byOsdTpgWidthSet

API index: 3296
Sets the line thickness of the moving test pattern.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	1 .. 40	Sets the line thickness.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.115.2. byOsdTpgWidthGet

API index: 3297
Retrieves the line thickness of the moving test pattern.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0 .. 40	Retrieves the line thickness.

2.115.3. byOsdTpgWidthSave

API index: 3298
Saves the line thickness of the moving test pattern from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.116. VT Filter Strength

2.116.1. byOsdVTStrengthSet

API index: 3240
Sets the strength of the vertical temporal filter.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0 .. 4	Strength of the VT filter. 0 means no filtering and 4 being the highest strength.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.116.2. byOsdVTStrengthGet

API index: 3241
Retrieves the strength setting of the vertical temporal filter.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0 .. 4	VT filter strength setting

2.116.3. byOsdVTStrengthSave

API index: 3242
Saves the strength setting of the vertical temporal filter from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.117. VT Filter Recursion Setting

2.117.1. byOsdVTRecursionSet

API index: 3243
Switches the recursion filter on and off.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Off 1: On	Switches the recursion on/off.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.117.2. byOsdVTRecursionGet

API index: 3244
Retrieves the recursion filter setting.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Off 1: On	Recursion filter setting on/off setting

2.117.3. byOsdVTRecursionSave

API index: 3245
Saves the recursion filter setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.118. Sync Mode VGA Output

2.118.1. byOsdOutputSyncModeSet

API index: 3246
Switches between separate, composite and sync on green schemes on the VGA output.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Separate Sync 1: Composite Sync 2: Sync-on_Green	Switches the synchronisation scheme on the VGA output.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.118.2. byOsdOutputSyncModeGet

API index: 3247
Retrieves the synchronisation setting on the VGA output.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Separate Sync 1: Composite Sync 2: Sync-on_Green	Synchronisation settings of the VGA output.

2.118.3. byOsdOutputSyncModeSave

API index: 3248
Saves the synchronisation setting on the VGA output from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.119. LED Screen Window Size Enabling

2.119.1. byOsdOutWinSizeEnableSetSave

API index: 3306

Enable Window Size Controls and save on/off setting to the SPD.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: off 1: on	Enables or disables the Window Size Controls.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.119.2. byOsdOutWinSizeEnableGet

API index: 3307

Retrieves the Window Size Controls enable/disable setting.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: off 1: on	Retrieves the Window Size Control enable/disable setting.

2.120. LED Screen Window Size

2.120.1. byOsdOutWinLeft/Right/Top/BottomEdgeSet

API indices: 3308/3311/3314/3317
Changes the borders.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0 ... 1792	Change the border positions. Actual Range depends on o/p resolution. Upper left corner is 0, range is to lower right corner -128.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.120.2. byOsdOutWinLeft/Right/Top/BottomEdgeGet

API indices: 3309/3312/3315/3318
Retrieves the border positions values from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0 ... 1792	Border positions.

2.120.3. byOsdOutWinLeft/Right/Top/BottomEdgeSave

API indices: 3310/3313/3316/3319
Saves the border position values from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.121. OSD Enabling/Disabling

2.121.1. byOsdEnableSet

API index: 3373
Switches off the OSD.
Note; This command only applies to HQView/LEDView with front panel LCD.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: off 1: on	Switches the OSD on/off.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.121.2. byOsdEnableGet

API index: 3374
Retrieves the OSD enabling setting.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: off 1: on	Determines if OSD is on or off.

2.121.3. byOsdEnableSave

API index: 3375
Saves the OSD enabling setting from cache into the SPD.

Input Parameters			
None			
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise