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
2.01	DB	Added information on Test Pattern selection for different HQView models	15.06.2012
2.02	DB	Corrected HQView5xx Input Channel values Added API calls for HQView-520-325	13.08.2012
3.00	DB	Restructured the document Corrected byOSDAutoConfigSet: A (reserved) parameter of 0 has to be sent with the call. Added another background color option to activate a moving test pattern with different colored segments.	25.04.2013
3.01	DB	Added APIs: byOsdEdgeBlendWarp byOsdInputResolutionGet byOsdOutputSyncGet	23.05.2013
3.02	DB	Added APIs for PiP Width and Height control	05.06.2013
3.03	DB	Added APIs for PiP Show/Hide and PiP Fade control	02.07.2013
3.04	DB	byGetDHCPStatus, byGetStaticIPAddress, byGetSubnetMask are called with no parameter bySetGatewayAddr and byGetGatewayAddr added	07.01.2014
3.05	DB	o/p format parameters updated to match latest firmware	22.01.2014

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/ /$\sqrt{2}$)) = **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 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 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 (“SPD”= 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. Certain APIs have no separate Set and Save function but a combined SetSave function. SetSave sets and writes the value into the SPD immediately.

2.1. Input

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H100	byOsdInputFormatSet	318	Value	UWORD32	0: Composite 1 1: Composite 2 2: S-Video 3: Test Pattern	Main input channel selection.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
H2xx			Value	UWORD32	0: 3GSDI 1: Test Pattern	Main input channel selection.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
H300S H310 H320			Value	UWORD32	0: RGB/YPbPr 1: VGA 2: DVI 3: Test Pattern	Main input channel selection.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
H325			Value	UWORD32	0: VGA 1: DVI 2: HDMI 3: Test Pattern	Main input channel selection.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
H4xx L400 H5xx L5xx			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 selection.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
All	byOsdInputFormatGet	320	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	See individual Set Functions.	Main input channel selection.
	byOsdInputFormatSave	319				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdInputResolutionGet	4001					Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	CHAR[]	String /0 terminated	Input format as plain text, e.g. “720x576i 50Hz”. If no video was detected the string reads “No Signal”.

2.2. Output

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
Hxxx	byOsdDisplayTypeSet	3303	Value	UWORD32	0: LCD/Plasma 1: Projector	Set Display Type Mode.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Lxxx			Value	UWORD32	0: LCD/Plasma 1: Projector 2: LED	Set Display Type Mode.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
All	byOsdDisplayTypeGet	3304	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32		Get Display Type Mode.
	byOsdDisplayTypeSave	3305				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H2xx H300S H310 H320	byOsdOutputFormatSet	324	Value	UWORD32	0: 640x480 1: 800x600 2: 1024x768 3: 1280x768 4: 1280x800 5: 1280x1024 6: 1360x768 7: 1366x768 8: 1400x1050 9: 1440x900 10:1600x1200 11: 1680x1050 12: 1920x1200 13: 720p 14: 1080p 15: 480p 16: 576p	Set Output Mode Resolution. Set Output Fall Back Resolution for use with Aspect Ratio set to preserve.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
H325 H4xx L400			Value	UWORD32	0: 640x480 1: 800x600 2: 1024x768 3: 1280x768 4: 1280x800 5: 1280x1024	Set Output Mode Resolution.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

					6: 1360x768 7: 1366x768 8: 1400x1050 9: 1440x900 10:1600x1200 11: 1680x1050 12: 1920x1200 13: 720p 14: 1080p					
H5xx L5xx			Value	UWORD32	0: 640x480 1: 800x600 2: 1024x768 3: 1280x768 4: 1280x800 5: 1280x1024 6: 1360x768 7: 1366x768 8: 1400x1050 9: 1440x900 10:1600x1200 11: 1680x1050 12: 1920x1200 13: 480i 14: 576i 15: 480p 16: 576p 17: 720p 18: 1080i 19: 1080p	Set Output Mode Resolution.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
All	byOsdOutputFormatGet	326	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	See individual Set Functions.	Get Output Mode Resolution.
	byOsdOutputFormatSave	325				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdProjectionSet	136	Value	UWORD32	0: Front Table Top 1: Front Ceiling 2: Rear Table Top 3: Rear Ceiling	Set Projection Mode flip right/left and/or up/down.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdProjectionGet	138	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Front Table Top 1: Front Ceiling 2: Rear Table Top 3: Rear Ceiling	Get Projection Mode
	byOsdProjectionSave	137				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
H100	byOsdFrameRateSet	2821	Value	UWORD32	0: 60Hz 1: 50Hz 2: Auto	Set Output Mode Frame Rate.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
H2xx H3xx H4xx H5xx Lxxx			Value	UWORD32	0: 60Hz 1: 50Hz 2: 24Hz 3: 48Hz 4: Auto	Set Output Mode Frame Rate.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
All	byOsdFrameRateGet	2822	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	See individual Set Functions.	Get Output Mode Frame Rate.
	byOsdFrameRateSave	2823				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H100 H2xx H3xx H4xx L400	byOsdIoLockSet	2978	Value	UWORD32	0: Off 1: On	Set Lock Type. Off: Free running o/p. On: Locked to i/p VSync if possible.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
H520 H530 L510 L530			Value	UWORD32	0: Off 1: Source 2: Genlock 3: Auto	Auto: If Genlock signal is available lock to this signal, otherwise lock to i/p VSync. Source: Lock to i/p VSync.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
All	byOsdIoLockGet	2979	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	See individual Set Functions.	Get Output Mode Frame Rate.
	byOsdIoLockSave	2980				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Descr.	Name	Type	Range	Description
All	byOsdOutputSyncGet	4002					Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0 = OUT_SYNC_FREE_RUN 1 = OUT_SYNC_UNLOCKED 2 = OUT_SYNC_IO_LOCKED 3 = OUT_SYNC_FRC_LOCKED 4 = OUT_SYNC_GENLOCK_NOSIGNAL 5 = OUT_SYNC_GENLOCKED	Get I/O lock state

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdNativeColorTempSet	2827	Value	UWORD32	0: 5500k 1: 6500k 2: 7500k 3: 9300k 4: 10000k	Set Color Temperature to match the display color temperature.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdNativeColorTempGet	2828	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: 5500k 1: 6500k 2: 7500k 3: 9300k 4: 10000k	Get Color Temperature value.
	byOsdNativeColorTempSave	2829				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdGammaOutSet	346	Value	UWORD32	0x0A-0x1E	Set Output Gamma value in steps of 1/10 from 1.0 to 3.0.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdGammaOutGet	348	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0x0A-0x1E	Get Output Gamma value.
	byOsdGammaOutSave	349				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
L400 L510 L530	byOsdBlackCrushSet	2996	Value	UWORD32	0x00-0xFF	Set Black Crush value.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdBlackCrushGet	2997	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0x00-0xFF	Get Black Crush value.
	byOsdBlackCrushSave	2998				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H5xx L5xx	byOsdOutputSyncModeSet	3246	Value	UWORD32	0: Separate Sync 1: Comp. Sync 2: Sync-on-Green	Sets sync mode on the VGA o/p.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdOutputSyncModeGet	3247	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Separate Sync 1: Comp. Sync 2: Sync-on-Green	Get sync mode of the VGA o/p.
	byOsdOutputSyncModeSave	3248				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdPV6OptimiseSet	2818	Value	UWORD32	0: DVI/HMDI 1: Optimized 2: DVI-forced	Sets the DVI o/p port mode. DVI-forced: 24bit, no audio. DVI/HDMI auto color depth up to 36bit, w/ audio. Optimized also sets o/p to native resolution of display.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdPV6OptimiseGet	2819	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: DVI/HMDI 1: Optimized 2: DVI-forced	Get DVI port o/p mode.
	byOsdPV6OptimizeSave	2820				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdDviOutCscSet	3250	Value	UWORD32	0: RGB 1: YPbPr	Sets DVI/HDMI o/p color space.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdDviOutCscGet	3251	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: RGB 1: YPbPr	Get DVI/HDMI o/p color space.
	byOsdDviOutCscSave	3252				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdDviOutRangeSet	3253	Value	UWORD32	0: Default 1: Limited 2: Full	Sets DVI/HDMI o/p range. Default provides an automatic decision to limit the range on certain o/p video modes. Limited and Full can override this set-up	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdDviOutRangeGet	3254	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Default 1: Limited 2: Full	Get DVI/HDMI o/p range.
	byOsdDviOutRangeSave	3255				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H2xx H3xx H4xx H5xx Lxxx	byOsdAllowedFrameRateSet	3276	Value	UWORD32	0: 50/60Hz 1: 24/50/60Hz 2: 48/50/60Hz 3: 24/48/50/60Hz	Set available frame rates for o/p modes.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdAllowedFrameRateGet	3277	Option	BYTE	0: From cache 1: From SPD	Retrieval method	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	Set available frame rates for o/p modes.
	byOsdAllowedFrameRateSave	3278				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H5xx L5xx	byOsdSdiDataMapSet	3265	Value	UWORD32	0: Level A 1: Level B 2: 4:2:2 YCbCr 3: 4:4:4 YCbCr 4: 4:4:4 RGB	Set SDI o/p mode: Color space and depth. Level A/B for 3G SDI 1080p o/p resolution.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdSdiDataMapGet	3266	Option	BYTE	0: From cache 1: From SPD	Retrieval method	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	Get SDI o/p mode.
	byOsdSdiDataMapSave	3267				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byBlankOutputSet	2990	Value	DWORD	0: O/p shows image 1: O/p blanked to black	Blank o/p.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byBlankOutputGet	2991	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	DWORD	0: O/p shows image 1: O/p blanked to black	Status of o/p – blanked or showing live image.

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
Lxxx	byOsdOutWinSizeEnableSetSave	3306	Value	UWORD32	0: Off 1: On	Enables/ disables window size controls.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdOutWinSizeEnableGet	3307	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Off 1: On	Status of window size controls availability.

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
Lxxx	byOsdOutWinLeftEdgeSet byOsdOutWinRightEdgeSet byOsdOutWinTopEdgeSet byOsdOutWinBottomEdgeSet	3308 3311 3314 3317	Value	UWORD32	0x000-0x700	Change boarder position. Range depends on o/p resolution. Upper left corner is 0, range is to lower right corner -128.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdOutWinLeftEdgeGet byOsdOutWinRightEdgeGet byOsdOutWinTopEdgeGet byOsdOutWinBottomEdgeGet	3309 3312 3315 3318	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0x000-0x700	Get border positions
	byOsdOutWinLeftEdgeSave byOsdOutWinRightEdgeSave byOsdOutWinTopEdgeSave byOsdOutWinBottomEdgeSave	3310 3313 3316 3319				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.3. Color

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdBlackLevel OffsetSet	148	Value	UWORD32	0: 0 IRE 1: 7.5 IRE	Set Black Level Offset value.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdBlackLevel OffsetGet	150	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: 0 IRE 1: 7.5 IRE	Get Black Level Offset value.
	byOsdBlackLevel OffsetSave	149				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdBlackLevelSet	104 (sic!)	Value	UWORD32	0x00000000:-25 IRE 0x7FFFFFFF: 0 IRE 0xFFFFFFFF:+25 IRE	Set Black Level value.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdBlackLevelGet	123	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0x00000000:-25 IRE 0x7FFFFFFF: 0 IRE 0xFFFFFFFF:+25 IRE	Get Black Level value.
	byOsdBlackLevelSave	122				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdContrastSet	124	Value	UWORD32	0x00000000: 1–1/√2 0x7FFFFFFF: 1 0xFFFFFFFF: 1+1/√2	Set Black Level value.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdContrastGet	126	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0x00000000: 1–1/√2 0x7FFFFFFF: 1 0xFFFFFFFF: 1+1/√2	Get Black Level value.
	byOsdContrastSave	125				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdColorSet	127	Value	UWORD32	0x00000000: min 0x7FFFFFFF: normal 0xFFFFFFFF: max	Set Color Saturation value.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdColorGet	129	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0x00000000: min 0x7FFFFFFF: normal 0xFFFFFFFF: max	Get Color Saturation value.
	byOsdColorSave	128				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdHueSet	151	Value	UWORD32	0x00000000: -180° 0x7FFFFFFF: 0° 0xFFFFFFFF: +180°	Set Hue value.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdHueGet	153	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0x00000000: -180° 0x7FFFFFFF: 0° 0xFFFFFFFF: +180°	Get Hue value.
	byOsdHueSave	152				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdROffsetSet byOsdGOffsetSet byOsdBOffsetSet	2809 2812 2815	Value	UWORD32	0x00000000: -25 IRE 0x7FFFFFFF: 0 IRE 0xFFFFFFFF: +25 IRE	Set R/G/B Offset values for individual color channels.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdROffsetGet byOsdGOffsetGet byOsdBOffsetGet	2810 2813 2816	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0x00000000: -25 IRE 0x7FFFFFFF: 0 IRE 0xFFFFFFFF: +25 IRE	Set R/G/B Offset values for individual color channels.
	byOsdROffsetSave byOsdGOffsetSave byOsdBOffsetSave	2811 2814 2817				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdRGainSet byOsdGGainSet byOsdBGainSet	2800 2803 2806	Value	UWORD32	0x00000000: 1–1/√2 0x7FFFFFFF: 1 0xFFFFFFFF: 1+1/√2	Set R/G/B Gain values for individual color channels.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdRGainGet byOsdGGainGet byOsdBGainGet	2801 2804 2807	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0x00000000: 1–1/√2 0x7FFFFFFF: 1 0xFFFFFFFF: 1+1/√2	Set R/G/B Gain values for individual color channels.
	byOsdRGainSave byOsdGGainSave byOsdBGainSave	2802 2805 2808				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdColorTempSet	349	Value	UWORD32	0: 5500k 1: 6500k 2: 7500k 3: 9300k	Set Color Temperature to match the source color temperature.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdColorTempGet	351	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: 5500k 1: 6500k 2: 7500k 3: 9300k	Get Color Temperature value.
	byOsdColorTempSave	350				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdGammaInSet	343	Value	UWORD32	0: Gamma=1.0 1: Gamma=1.5 2: Gamma=2.2 3: Gamma=2.8	Set Input Gamma value.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdGammaInGet	345	Option	BYTE	0: From cache 1: From SPD	Retrieval method	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	Get Input Gamma value.
	byOsdGammaSave	344				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.4. Geometry

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdMainHorizontalSet	362	Value	UWORD32	0x00 - H_Total - H_Sync - H_BackPorch	Set horizontal input position.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdMainHorizontalGet	364	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0x00 - H_Total - H_Sync - H_BackPorch	Get horizontal input position.
	byOsdMainHorizontalSave	363				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdMainVerticalSet	365	Value	UWORD32	0x00 - V_Total - V_Sync - V_BackPorch	Set vertical input position.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdMainVerticalGet	366	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0x00 - V_Total - V_Sync - V_BackPorch	Set vertical input position.
	byOsdMainVerticalSave	367				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdLeftEdgeSet byOsdRightEdgeSet byOsdTopEdgeSet byOsdBottomEdgeSet	2925 2928 2931 2934	Value	SWORD32	-0x64-0x64	Set i/p capture edge relative to o/p format edge from 100 Pixel in to 100 Pixel out.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdLeftEdgeGet byOsdRightEdgeGet byOsdTopEdgeGet byOsdBottomEdgeGet	2926 2929 2932 2935	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	SWORD32	-0x64-0x64	Get i/p capture edge.
	byOsdLeftEdgeSave byOsdRightEdgeSave byOsdTopEdgeSave byOsdBottomEdgeSave	2927 2930 2933 2936				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdPreserveAspectSet	3270	Value	UWORD32	0: Scale 1: Preserve	In scale mode the o/p resolution is fixed. Preserve sets the o/p resolution automatically to match the i/p resolution.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdPreserveAspectGet	3271	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Scale 1: Preserve	Get the scale mode.
	byOsdPreserveAspectSave	3272				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdAspectRatioSet	186	Value	UWORD32	0: Standard 1: Full Screen 2: Crop 3: Anamorphic 4: Theaterscope	Set aspect ratio.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdAspectRatioGet	188	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Standard 1: Full Screen 2: Crop 3: Anamorphic 4: Theaterscope	Get aspect ratio.
	byOsdAspectRatioSave	187				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdOverscanSet	2944	Value	UWORD32	0x00 – 0x0A	Set overscan ratio in steps of 2.5%.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdOverscanGet	2945	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0x00 – 0x0A	Get overscan ratio.
	byOsdOverscanSave	2946				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdPtzEnableSetSave	3220	Value	UWORD32	0: Off 1: On	Switch on PTZ.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdPtzEnableGet	3221	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Off 1: On	Get PTZ mode.

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdPtzSettingSet	3222	Value	UWORD32	0: Use globally 1: Use per-mode	Sets the scope of the PTZ setting from global to per-mode.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdPtzSettingGet	3223	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Use globally 1: Use per-mode	Get PTZ setting mode.
	byOsdPtzSettingSave	3224				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdPtzPanSet	3225	Value	SWORD16	-50 ... +50	Set pan position	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdPtzPanGet	3226	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	SWORD16	-50 … +50	Get pan position
	byOsdPtzPanSave	3227				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdPtzTiltSet	3228	Value	SWORD16	-50 ... +50	Set tilt position	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdPtzTiltGet	3229	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	SWORD16	-50 … +50	Get tilt position
	byOsdPtzTiltSave	3230				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdPtzZoomHSet	3231	Value	UWORD32	50 ... 400	Set zoom factor/ horizontal zoom factor.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdPtzZoomHGet	3232	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	50 … 400	Get zoom factor/ horizontal zoom factor
	byOsdPtzZoomHSave	3233				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdPtzZoomVSet	3234	Value	UWORD32	50 ... 400	Set vertical zoom factor.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdPtzZoomVGet	3235	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	50 … 400	Get vertical zoom factor
	byOsdPtzZoomVSave	3236				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdPtzAspectSet	3237	Value	UWORD32	0: Off 1: On	Switch aspect ratio lock on/off. When off vertical zoom can be set.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdPtzAspectGet	3238	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Off 1: On	Get aspect ratio lock status
	byOsdPtzAspectSave	3239				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H210 H310 H320 H325 H410 H420 H510 H520 H530 Lxxx	byOsdProjectionAppsSet	1645	Value	UWORD32	0: Keystone 1: 4-Corner 2: Rotation	Select embedded warp API*	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdProjectionAppsGet	1647	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Keystone 1: 4-Corner 2: Rotation	Get selected embedded warp API
	byOsdProjectionAppsSave	1646				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

* 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 their respective values to 0). Portrait 90 can be called by selecting User Map 9 and Portrait 270 by selecting User Map 10.

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H320 H325 H420 H520 H530 L510 L530	byOsdUserMapSet	139	Value	UWORD32	0: Off 1: Slot1 2: Slot2 ... 8: Slot8	Select warp map*	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdUSerMapGet	141	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Off 1: Slot1 2: Slot2 ... 8: Slot8	Get selected warp map
	byOsdUserMapSave	140				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

* Switches on the PC generated free from warp map processing by selecting on of the slots 1 to 8. Thereby, selects the warp map being downloaded into the given slot by the PC warp tool. With parameter 0 = off no warp map is applied and the PC warp map API is switched off. Slot 9 and Slot 10 are reserved for Portrait 90 and Portrait 270 warp maps.

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H210 H310 H320 H325 H410 H420 H510 H520 H530 Lxxx	byOsdHKeystoneSet	332	Value	SWORD16	-40 … +40	Set horizontal keystone angle	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdHKeystoneGet	334	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	SWORD16	-40 … +40	Get horizontal keystone angle
	byOsdHKeystoneSave	333				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H210 H310 H320 H325 H410 H420 H510 H520 H530 Lxxx	byOsdVKeystoneSet	336	Value	SWORD16	-30 … +30	Set horizontal keystone angle	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdVKeystoneGet	338	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	SWORD16	-30 … +30	Get horizontal keystone angle
	byOsdVKeystoneSave	337				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H210 H310 H320 H325 H410 H420 H510 H520	by4CornerX1SetValue by4CornerY1SetValue by4CornerX2SetValue by4CornerY2SetValue by4CornerX3SetValue by4CornerY3SetValue by4CornerX4SetValue by4CornerY4SetValue	780 781 782 783 784 785 786 787	Value	SWORD32	-1000 .. +1000	Moves the corner position in x and y direction relative to the corner position (1: upper left, 2: upper right, 3: lower left, 4: lower right).*	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
H530 Lxxx	byOsd4CornerX1Get byOsd4CornerY1Get byOsd4CornerX2Get byOsd4CornerY2Get byOsd4CornerX3Get byOsd4CornerY3Get byOsd4CornerX4Get byOsd4CornerY4Get	734 735 736 737 738 739 740 741	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	SWORD16	-1000 … +1000	Get corner position

* 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).

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H210 H310 H320 H325 H410 H420 H510 H520 H530 Lxxx	byOsdPinBarrelSet	476 [sic]	Value	SWORD16	-20 … +20	Set pin/barrel distortion level	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdPinBarrelGet	840	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	SWORD16	-20 … +20	Get pin/barrel distortion level
	byOsdPinBarrelSave	842				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H210 H310 H320 H325 H410 H420 H510 H520 H530 Lxxx	byOsdRotationAngleSet	843	Value	SWORD16	-180 … +180	Set rotation angle	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdRotationAngleGet	844	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	SWORD16	-180 … +180	Get rotation angle
	byOsdPinBarrelAngleSave	846 [sic]				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.5. PiP

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H4xx H5xx Lxxx	byOsdPipInputFormatSet	321	Value	UWORD32	0: Composite 1 1: Composite 2 2: S-Video 3: Component 4: VGA 5: HDSDI 6: DVI 7: HDMI	Select PiP channel	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdPipInputFormatGet	323	Option	BYTE	0: From cache 1: From SPD	Retrieval method	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	Get PiP channel
	byOsdPipInputFormatSave	322				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H4xx H5xx Lxxx	byOsdPipOnOffSet	315	Value	UWORD32	0: Off 1: PIP 2: PAP 3: POP	Select PiP mode: Picture in Picture, Picture and Picture, Picture outside of Picture (i.e. PaP with aspect ratio preserved)	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdPipOnOffGet	317	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Off 1: PIP 2: PAP 3: POP	Get PiP mode
	byOsdPipOnOffSave	316				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H4xx H5xx Lxxx	byOsdAbsolutePipSizeSetSave	2974	Value	UWORD32	0: Small 1: Medium 2: Large 3: Free W/H*	Select PiP size	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdPipSizeGet	361 [sic]	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Small 1: Medium 2: Large 3: Free W/H	Get PiP size

* Only LEDView530 and HQView530

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H4xx H5xx Lxxx	byOsdPipPosSet	368	Value	UWORD32	0: Top Left 1: Top Right 2: Bottom Left 3: Bottom Right 4: Free H/V	Select PiP position	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdPipPosGet	370	Option	BYTE	0: From cache 1: From SPD	Retrieval method	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	Get PiP position
	byOsdPipPosSave	369				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H4xx H5xx Lxxx	byOsdPipXSet byOsdPipYSet	3211 3214	Value	UWORD32	0 … 100	Set PiP position in x and y direction in % of main picture	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdPipXGet byOsdPipYGet	3212 3215	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0 … 100	Get PiP position
	byOsdPipXSave byOsdPipYSave	3213 3216				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H530 L530	byOsdPiPWidthSet	3360	Value	UWORD32	25 … 100	Set PiP Width in % of available range*	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdPiPWidthGet	3361	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	25 … 100	Get PiP Width
	byOsdPiPWidthSave	3362				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

* Range minimum is either 25%, 33%, and 50% depending on availability of PiP small, medium, and large. PiP width is 960 pixels maximum. For output modes with fewer than 960 pixels horizontally 100% is the maximum value. For output modes with more than 960 pixels the maximum percentage is reduced to 960/horizontal pixels.

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H530 L530	byOsdPiPHeightSet	3363	Value	UWORD32	25 … 100	Set PiP Height in % of available range	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdPiPHeightGet	3364	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	25 … 100	Get PiP Height
	byOsdPiPHeightSave	3365				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H5xx L5xx	byOsdPipHideSet	3400	Value	UWORD32	0: Show 1: Hide	Shows or hides the PiP window	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdPipHideGet	3401	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Show 1: Hide	Get PiP window property
	byOsdPipHideSave	3402				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model H5xx L5xx	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
	byOsdPipTransitionSet	3403	Value	UWORD32	0: Instantly 1: Fast Fade 2: Slow Fade	PiP fade in/out method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdPipTransitionGet	3404	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Instantly 1: Fast Fade 2: Slow Fade	Get PiP fade in/out method
	byOsdPipTransitionSave	3405				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.6. Multiple Unit

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H310 H320 H325 H410 H420 H510 H520 H530 L5xx	byOsdMultipleUnitAutozoomSet	3169	Value	UWORD32	0: Off 1: On	Switch on/off automatic image zoom	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdMultipleUnitAutozoomGet	3170	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Off 1: On	Get image zoom mode
	byOsdMultipleUnitAutozoomSave	3171				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H310 H320 H325 H410 H420 H510 H520 H530 L5xx	byOsdMultipleUnitWidthSet byOsdMultipleUnitHeightSet	3100 3103	Value	UWORD32	0x01-0x04	Number of units in horizontal (width) and vertical (height) direction	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdMultipleUnitWidthGet byOsdMultipleUnitHeightGet	3101 3104	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0x01-0x04	Get number of units
	byOsdMultipleUnitWidthSave byOsdMultipleUnitHeightSave	3102 3105				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H310 H320 H325 H410 H420 H510 H520 H530 L5xx	byOsdMultipleUnitHorizontalSet byOsdMultipleUnitVerticalSet	3106 3109	Value	UWORD32	0x00-0x03	Set horizontal and vertical address of the individual unit in the multiple unit matrix	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdMultipleUnitHorizontalGet byOsdMultipleUnitVerticalGet	3107 3110	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0x01-0x03	Get unit address
	byOsdMultipleUnitHorizontalSave byOsdMultipleUnitVerticalSave	3108 3111				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H310 H320 H325 H410 H420 H510 H520 H530 L5xx	byOsdEdgeBlendCurveTypeSet	3112	Value	UWORD32	0: Off 1: S-Curve 2: Align Pattern	Set blend curve type	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdEdgeBlendCurveTypeGet	3113	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Off 1: S-Curve 2: Align Pattern	Get blend curve type
	byOsdEdgeBlendCurveTypeSave	3114				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H510 H520 H530 L5xx	byOsdEdgeBlendWarpSet	3356	Value	UWORD32	0: warp blend map 1: do not warp blend map	Bypass the warp engine for the blend map. When warp bypass is off the map gets warped.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdEdgeBlendWarpGet	3357	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: warp blend map 1: do not warp blend map	Get status of warp engine bypass.
	byOsdEdgeBlendWarpSave	3358				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H310 H320 H325 H410 H420 H510 H520 H530 L5xx	byOsdEdgeBlendScurveValueSet	3115	Value	UWORD32	0x10-0x19	S-Curve power value ranging from 1.0 to 2.5. The value set is in multiples of 1/10.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdEdgeBlendScurveValueGet	3116	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0x10-0x19	Get S-Curve value power
	byOsdEdgeBlendScurveValueSave	3117				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H310 H320	byOsdEdgeBlendCustAlphaSet	3350	Value	UWORD32	0: Off 1: On	Activate custom alpha map	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
H325 H410 H420 H510 H520 H530 L5xx	byOsdEdgeBlendCustAlphaGet	3351	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Off 1: On	Get custom alpha map activation status
	byOsdEdgeBlendCustAlphaSave	3352				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H310 H320 H325 H410 H420 H510 H520 H530 L5xx	byOsdEdgeBlendTopBorderSet byOsdEdgeBlendBotBorderSet byOsdEdgeBlendLeftBorderSet byOsdEdgeBlendRightBorderSet	3118 3120 3123 3126	Value	UWORD32	0x00-{output res./4}	Set bottom, top, left and right border edge blend size. The actual range depends on output resolution. It is limited to ¼ of the output resolution.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdEdgeBlendTopBorderGet byOsdEdgeBlendBotBorderGet byOsdEdgeBlendLeftBorderGet byOsdEdgeBlendRightBorderGet	3119 3121 3124 3127	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0x00-{output res./4}	Get border edge blend size.
	byOsdEdgeBlendTopBorderSave byOsdEdgeBlendBotBorderSave byOsdEdgeBlendLeftBorderSave byOsdEdgeBlendRightBorderSave	3120 3122 3125 3128				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H310 H320 H325 H410 H420 H510 H520 H530 L5xx	byOsdEdgeBlendTopOffsetSet byOsdEdgeBlendBotOffsetSet byOsdEdgeBlendLeftOffsetSet byOsdEdgeBlendRightOffsetSet	3175 3178 3181 3184	Value	UWORD32	0x00-{output res./4 - overlap}	Set bottom, top, left and right border edge blend offset size. The actual range depends on output resolution. It is limited to ¼ of the output resolution.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdEdgeBlendTopOffsetGet byOsdEdgeBlendBotOffsetGet byOsdEdgeBlendLeftOffsetGet byOsdEdgeBlendRightOffsetGet	3176 3179 3182 3185	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0x00-{output res./4 - overlap}	Get border edge offset size.
	byOsdEdgeBlendTopOffsetSave byOsdEdgeBlendBotOffsetSave byOsdEdgeBlendLeftOffsetSave byOsdEdgeBlendRightOffsetSave	3177 3180 3183 3186				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H310 H320 H325 H410 H420 H510 H520 H530 L5xx	byOsdEdgeBlendBlackLevelToplSet byOsdEdgeBlendBlackLevelTopSet byOsdEdgeBlendBlackLevelToprSet byOsdEdgeBlendBlackLevelMidlSet byOsdEdgeBlendBlackLevelMidSet byOsdEdgeBlendBlackLevelMidrSet byOsdEdgeBlendBlackLevelBotlSet byOsdEdgeBlendBlackLevelBotSet byOsdEdgeBlendBlackLevelBotrSet	3130 3133 3136 3139 3142 3145 3148 3151 3154	Value	UWORD32	0 … 25	Set uplift value for one of the 9 regions: Top left, Top, Top right, Middle left, Middle, Middle right, Bottom left, Bottom, Bottom right	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdEdgeBlendBlackLevelToplGet byOsdEdgeBlendBlackLevelTopGet byOsdEdgeBlendBlackLevelToprGet byOsdEdgeBlendBlackLevelMidlGet byOsdEdgeBlendBlackLevelMidGet byOsdEdgeBlendBlackLevelMidrGet byOsdEdgeBlendBlackLevelBotlGet byOsdEdgeBlendBlackLevelBotGet byOsdEdgeBlendBlackLevelBotrGet	3131 3134 3137 3140 3143 3146 3149 3152 3155	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0 … 25	Get uplift value
	byOsdEdgeBlendBlackLevelToplSave byOsdEdgeBlendBlackLevelTopSave byOsdEdgeBlendBlackLevelToprSave byOsdEdgeBlendBlackLevelMidlSave byOsdEdgeBlendBlackLevelMidSave byOsdEdgeBlendBlackLevelMidrSave byOsdEdgeBlendBlackLevelBotlSave byOsdEdgeBlendBlackLevelBotSave byOsdEdgeBlendBlackLevelBotrSave	3132 3135 3138 3141 3144 3147 3150 3153 3156				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H310 H320 H325 H410 H420 H510 H520 H530 L5xx	byOsdEdgeBlendXtraBlUpliftX1Set byOsdEdgeBlendXtraBlUpliftY1Set byOsdEdgeBlendXtraBlUpliftX2Set byOsdEdgeBlendXtraBlUpliftY2Set byOsdEdgeBlendXtraBlUpliftX3Set byOsdEdgeBlendXtraBlUpliftY3Set byOsdEdgeBlendXtraBlUpliftX4Set byOsdEdgeBlendXtraBlUpliftY4Set	3187 3190 3193 3196 3199 3202 3205 3208	Value	UWORD32	0 … 200	Set an offset in x and y direction to the corner points of the non-blended region (which are shifted inwards into the non-blended region) and the uplift value of the non-blended region is only applied to this reduced area.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdEdgeBlendXtraBlUpliftX1Get byOsdEdgeBlendXtraBlUpliftY1Get byOsdEdgeBlendXtraBlUpliftX2Get byOsdEdgeBlendXtraBlUpliftY2Get byOsdEdgeBlendXtraBlUpliftX3Get byOsdEdgeBlendXtraBlUpliftY3Get byOsdEdgeBlendXtraBlUpliftX4Get byOsdEdgeBlendXtraBlUpliftY4Get	3188 3191 3194 3197 3200 3203 3206 3209	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0 … 200	Get offset values
	byOsdEdgeBlendXtraBlUpliftX1Save byOsdEdgeBlendXtraBlUpliftY1Save byOsdEdgeBlendXtraBlUpliftX2Save byOsdEdgeBlendXtraBlUpliftY2Save byOsdEdgeBlendXtraBlUpliftX3Save byOsdEdgeBlendXtraBlUpliftY3Save byOsdEdgeBlendXtraBlUpliftX4Save byOsdEdgeBlendXtraBlUpliftY4Save	3189 3192 3195 3198 3201 3204 3207 3210				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H310 H320 H325 H410 H420 H510 H520 H530 L5xx	byOsdEdgeBlendReset	3249	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.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.7. Enhancement

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdSharpnessSet	130	Value	UWORD32	0x00000000: soften 0x7FFFFFFF: off 0xFFFFFFFF: sharpen	Set sharpness filter level	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdSharpnessGet	132	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0x00000000: soften 0x7FFFFFFF: off 0xFFFFFFFF: sharpen	Get sharpness filter level
	byOsdSharpnessSave	131				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdDetailSet	133	Value	UWORD32	0x00000000: off 0xFFFFFFFF: max.	Set detail enhancement level	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdDetailGet	135	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0x00000000: off 0xFFFFFFFF: max.	Get detail enhancement level
	byOsdDetailSave	134				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdSTILTISet	608	Value	UWORD32	0: Off 1: Low 2: High	Set LTI (luma transient improvement) filter value	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdSTILTIGet	610	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Off 1: Low 2: High	Get LTI filter value
	byOsdSTILTISave	609				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdSTICTISet	611	Value	UWORD32	0: Off 1: Low 2: High	Set CTI (chroma transient improvement) filter value	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdSTICTIGet	613	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Off 1: Low 2: High	Get CTI filter value
	byOsdSTICTISave	612				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdTRNRSet	239	Value	UWORD32	0: Off 1: Low 2: Medium 3: High	Set TRNR (temporal recursive noise reduction) filter value	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdTRNRGet	241	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Off 1: Low 2: Medium 3: High	Get TRNR filter value
	byOsdTRNRSave	240				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdCNRSet	251	Value	UWORD32	0: Off 1: Low 2: Medium 3: High	Set MNR (mosquito noise reduction) filter value	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdCNRGet	253	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Off 1: Low 2: Medium 3: High	Get MNR filter value
	byOsdCNRSave	252				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H100 H4xx H5xx Lxxx	byOsdCCSSet	2975	Value	UWORD32	0: Off 1: On	Switches CCS (cross colour suppression) filter on/off for the CVBS input.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdCCSGet	2976	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Off 1: On	Get CCS filter setting
	byOsdCCSSave	2977				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H5xx L5xx	byOsdVTStrengthSet	3240	Value	UWORD32	0 … 4	Set strength of the VT (vertical temporal) filter. 0 means no filtering and 4 being the highest strength.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdVTStrengthGet	3241	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0 … 4	Get VT filter setting
	byOsdVTStrengthSave	3242				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H5xx L5xx	byOsdVTRecursionSet	3243	Value	UWORD32	0: Off 1: On	Switches the recursion on/off.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdVTRecursionGet	3244	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Off 1: On	Get recursion filter setting
	byOsdVTRecursionSave	3245				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.8. System

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdCurrentUserSet	2947	Value	UWORD32	0 … 3	Selects a user profile	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdCurrentUserGet	2948	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0 … 3	Get user profile number
	byOsdCurrentUserSave	2949				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdInputRenameSet	2950	InpNumber	UWORD32	0 .. 8	Input channel number	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
			Name	CHAR[]	[A..Z ; 0..9]	Input channel name (null terminated)				
	byOsdInputRenameGet	2951	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	CHAR[]	[A..Z ; 0..9]	Get input channel name (null terminated)
			InpNumber	UWORD32	0 .. 8	Input channel number				
	byOsdInputRenameSave	2952				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdUserRenameSet	2953	UsrNumber	UWORD32	0 .. 8	Select user number	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
			Name	CHAR[]	[A..Z ; 0..9]	User name (null terminated)				
	byOsdUserRenameGet	2954	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	CHAR[]	[A..Z ; 0..9]	Get userl name (null terminated)
			UsrNumber	UWORD32	0 .. 8	Select user number				
	byOsdUserRenameSave	2955				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdProfileReset	2956				Resets all settings in the currently active profile to their defaults.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdProfileLoadFrom	2957	Value	UWORD32	0 … 3	Profile number to load from	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdProfileSaveAs	2958	Value	UWORD32	0 … 3	Profile number to save to	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H3xx H4xx H5xx Lxxx	byOsdAutoConfigSet	417	Value	UWORD32	0	Activate automatic set up for a VGA input signal. Call with reserved parameter 0.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H3xx H4xx H5xx Lxxx	byOsdAbsoluteClockSet	2938	Value	UWORD32	Depending on VGA signal	Set absolute clock value for sampling a VGA signal	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdAbsoluteClockGet	2939	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	Depending on VGA signal	Get absolute clock value
	byOsdAbsoluteClockSave	2940				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H3xx H4xx H5xx Lxxx	byOsdAbsolutePhaseSet	2941	Value	UWORD32	-15 … +15	Set absolute phase value for sampling a VGA signal	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdAbsolutePhaseGet	2942	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	-15 … +15	Get absolute phase value
	byOsdAbsolutePhaseSave	2943				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H3xx H4xx H5xx Lxxx	byOsdDVIIPortSet	3300	Value	UWORD32	0: digital (DVI-D) 1: analogue (DVI-A)	Configures the DVI input port to either work as a digital input or VGA input	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdDVIIPortGet	3301	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: digital (DVI-D) 1: analogue (DVI-A)	Get DVI input port configuration
	byOsdDVIIPortSave	3302				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H3xx H4xx H5xx Lxxx	byOsdDVI1EQSet	2832	Value	UWORD32	0: off 1: on	Switch on/off DVI port equalization boost	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdDVI1EQGet	2833	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: off 1: on	Get DVI input port equalization set up
	byOsdDVI1EQSave	2834				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H3xx H4xx H5xx Lxxx	byOsdDviInCSpaceSet	3256	Value	UWORD32	0: RGB 1: YPbPr 2: Auto	Sets DVI Input Color Space manually or automatically from AV InfoFrames.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdDviInCSpaceGet	3257	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: RGB 1: YPbPr 2: Auto	Get DVI input color space configuration
	byOsdDviInCSpaceSave	3258				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H3xx H4xx H5xx Lxxx	byOsdDviInRangeSet	3259	Value	UWORD32	0: Full 1: Limited 2: Auto	Sets DVI Input range manually or automatically from AV InfoFrames.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdDviInRangeGet	3260	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Full 1: Limited 2: Auto	Get DVI input range configuration
	byOsdDviInRangeSave	3261				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H3xx H4xx H5xx Lxxx	byOsdHdmiInCSpaceSet	3390	Value	UWORD32	0: RGB 1: YPbPr 2: Auto	Sets HDMI Input Color Space manually or automatically from AV InfoFrames.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdHdmiInCSpaceGet	3391	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: RGB 1: YPbPr 2: Auto	Get HDMI input color space configuration
	byOsdHdmiInCSpaceSave	3392				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H3xx H4xx H5xx Lxxx	byOsdHdmiRangeSet	3393	Value	UWORD32	0: Full 1: Limited 2: Auto	Sets HDMI Input range manually or automatically from AV InfoFrames.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdHdmiInRangeGet	3394	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Full 1: Limited 2: Auto	Get HDMI input range configuration
	byOsdHdmiInRangeSave	3395				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H5xx L5xx	byOsdSdiLevBStreamSet	3262	Value	UWORD32	0: Stream 1 1: Stream 2	Selects Stream 1 or 2 of a 3GSDI level B signal.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdSdiLevBStreamGet	3263	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Stream 1 1: Stream 2	Get Stream selection.
	byOsdSdiLevBStreamSave	3264				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H5xx L5xx	byOsdSdiAudioChannelSet	3280	Value	UWORD32	0: Channel 1,2 1: Channel 3,4 2: Channel 5,6 3: Channel 7,8 4: All Ch.	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.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdSdiAudioChannelGet	3281	Option	BYTE	0: From cache 1: From SPD	Retrieval method	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 Ch.	Get SDI audio input to HDMI/SDI audio output channel mapping
	byOsdSdiAudioChannelSave	3282				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H5xx L5xx	byOsdSdiOnSpidfSet	3283	Value	UWORD32	0: HDMI/SDI 1: SPDIF	Set SDI input audio routing to the SPDIF connector or embed to the HDMI/SDI output stream.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdSdiOnSpdifGet	3284	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: HDMI/SDI 1: SPDIF	Get SDI input audio routing set up.
	byOsdSdiOnSpdifSave	3285				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H5xx L5xx	byOsdComponentModeSet	2959	Value	UWORD32	0: 3-wire 1: 4-wire 2: Automatic	Set component video input mode.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdComponentModeGet	2960	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: 3-wire 1: 4-wire 2: Automatic	Get component video input mode configuration.
	byOsdComponentModeSave	2961				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H300 H310 H320 H4xx H5xx Lxxx	byOsdComponentTypeSet	2962	Value	UWORD32	0: RGB 1: YUV	Set component video input color space.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdComponentTypeGet	2963	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: RGB 1: YUV	Get component video input color space.
	byOsdComponentTypeSave	2964				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H100 H2xx H300 H310 H320 H4xx L400	byOsdTestPatternSet	3320	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 – 14: Custom 1 - 4	Set the test pattern to be displayed.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
H325 H5xx L5xx			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.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
All	byOsdTestPatternGet	3321	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	See individual set functions.	Get test pattern
	byOsdTestPatternSave	3322				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H325 H5xx L5xx	byOsdTpgSpeedSet	3286	Value	UWORD32	1 … 16	Set motion speed of moving cross.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdTpgSpeedGet	3287	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	1 … 16	Get motion speed of moving cross.
	byOsdTpgSpeedSave	3288				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H325 H5xx L5xx	byOsdTpgFgColSet	3290	Value	UWORD32	0: Black 1: White 2: Yellow 3: Cyan 4: Green 5: Magenta 6: Red 7: Blue	Set foreground color of the moving test pattern.*	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdTpgFgColGet	3291	Option	BYTE	0: From cache 1: From SPD	Retrieval method	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	Get foreground color of the moving test pattern.
	byOsdTpgFgColSave	3292				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

* 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.

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H325 H5xx L5xx	byOsdTpgBgColSet	3293	Value	UWORD32	0: Black 1: White 2: Yellow 3: Cyan 4: Green 5: Magenta 6: Red 7: Blue 8: Colored	Set background color of the moving test pattern. Colored makes the 3 of the 4 segments of the background Red, Green and Blue.*	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdTpgBgColGet	3294	Option	BYTE	0: From cache 1: From SPD	Retrieval method	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 8: Colored	Get background color of the moving test pattern.
	byOsdTpgBgColSave	3295				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

* 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 8.

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H325 H5xx L5xx	byOsdTpgWidthSet	3296	Value	UWORD32	1 … 40	Set line thickness.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdTpgWidthGet	3297	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	1 … 40	Get line thickness.
	byOsdTpgWidthSave	3298				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdSwitchingTransitionSet	3370	Value	UWORD32	0: Freeze 1: Blank 2: Fast fade 3: Slow fade	Set switching transition method.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdSwitchingTransitionGet	3371	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Freeze 1: Blank 2: Fast fade 3: Slow fade	Get switching transition method.
	byOsdSwitchingTransitionSave	3372				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdProcessingModeSet	2965	Value	UWORD32	0: CRT (low latency) 1: LCD (best picture)	Set processing mode	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdProcessingModeGet	2966	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: CRT (low latency) 1: LCD (best picture)	Get processing mode

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdMenuTimeSet	2968	Value	UWORD32	0: 5s 1: 10s .. 5: 30s 6: infinite	Get menu display time	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdMenuTimeGet	2969	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: 5s 1: 10s .. 5: 30s 6: infinite	Set menu display time
	byOsdMenuTimeSave	2970				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdMenuPositionSet	2971	Value	UWORD32	0: Center 1: Top Left 2: Top Right 3: Bottom Left 4: Bottom Right	Get menu position	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdMenuPositionGet	2972	Option	BYTE	0: From cache 1: From SPD	Retrieval method	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	Set menu position
	byOsdMenuPositionSave	2973				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdOsdMessagesSet	3273	Value	UWORD32	0: Off 1: On	Switch on/off OSD messages.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdOsdMessagesGet	3274	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Off 1: On	Get OSD message configuration.
	byOsdOsdMessagesSave	3275				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdLanguageSet	445	Value	UWORD32	0: English AE 1: English BE 2: German	Set OSD language	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdLanguageGet	447	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: English AE 1: English BE 2: German	Get OSD language
	byOsdLanguageSave	446				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	byOsdKeypadLockSet	2824	Value	UWORD32	0: Off 1: On	Lock/Unlock keypad.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdKeypadLockGet	2825	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Off 1: On	Get keypad lock status.
	byOsdKeypadLockSave	2826				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H530 L530	byOsdEnableSet	3373	Value	UWORD32	0: Off 1: On	Switch OSD on/off.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdEnableGet	3374	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Off 1: On	Get OSD visibility status.
	byOsdEnableSave	3375				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H530 L530	byLcdBackLightSet	3376	Value	UWORD32	0x00-0x0A	Set brightness level of LCD backlight.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byLcdBackLightGet	3377	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0x00-0x0A	Get brightness level of LCD backlight.
	byLcdBackLightSave	3378				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	bySetDHCPStatus	115	Value	UWORD32	0: Static 1: DHCP	Set and save immediately the IP address type	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byGetDHCPStatus	84					Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: Static 1: DHCP	Get IP address type

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	bySetStaticIPAddr	111	Value	CHAR[]	nnn.nnn.nnn.nnn String with 15 ASCII characters /0 terminated	Set and save immediately the IP address	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byGetStaticIPAddr	112					Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	CHAR[]	nnn.nnn.nnn.nnn String with 15 ASCII characters /0 terminated	Get IP address

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	bySetSubnetMask	113	Value	CHAR[]	nnn.nnn.nnn.nnn String with 15 ASCII characters /0 terminated	Set and save immediately the netmask	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byGetSubnetMask	114					Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	CHAR[]	nnn.nnn.nnn.nnn String with 15 ASCII characters /0 terminated	Get netmask

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
All	bySetGatewayAddr	117	Value	CHAR[]	nnn.nnn.nnn.nnn String with 15 ASCII characters /0 terminated	Set and save immediately the gateway address	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byGetGatewayAddr	118					Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	CHAR[]	nnn.nnn.nnn.nnn String with 15 ASCII characters /0 terminated	Get gateway address

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H100 H2xx H3xx	byOsdSetEnableAnnounceMessages	4201 (sic!)	Value	BYTE	0: Off 1: On	Activate and Deactivate the Announce Message System, i.e. send out the message stream at constant time rate.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdGetEnableAnnounceMessages	4200 (sic!)	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	BYTE	0: Off 1: On	Get announce message system set up.
	byOsdSaveEnableAnnounceMessages	4202				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H100 H2xx H3xx	byOsdSetAnnounceServerIPAddress	4204	Value	CHAR[]	nnn.nnn.nnn.nnn String with 15 ASCII characters /0 terminated	Set IP address of server where to send the messages.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdGetAnnounceServerIPAddress	4203	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	CHAR[]	nnn.nnn.nnn.nnn String with 15 ASCII characters /0 terminated	Get IP address of server where to send the messages.
	byOsdSaveAnnounceServerIPAddress	4205				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H100 H2xx H3xx	byOsdSetAnnounceServerPort	4207	Value	UWORD16	0x0000-0xFFFF (or decimal 0 ... 65535)	Set Port number	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdGetAnnounceServerPort	4206	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD16	0x0000-0xFFFF (or decimal 0 ... 65535)	Get Port number
	byOsdSaveAnnounceServerPort	4208				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H100 H2xx H3xx	byOsdSetAnnounceAuxData	4210	Value	CHAR[]	String with 16 ASCII characters /0 terminated	Define string to be sent by the announce server.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdGetAnnounceAuxData	4209	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	CHAR[]	String with 16 ASCII characters /0 terminated	Get announce server string
	byOsdSaveAnnounceAuxData	4208 (sic!)				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H100 H2xx H3xx	byOsdSetAnnounceRepeatPeriod	4213	Value	UWORD32	0x0000-0x270F (or decimal 0 ... 9999)	Set repeat rate of announce message in seconds.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdGetAnnounceRepeatPeriod	4212	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0x0000-0x270F (or decimal 0 ... 9999)	Get repeat rate of announce message in seconds.
	byOsdSaveAnnounceRepeatPeriod	4214				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Model	API Name	Index	I/P Parameters				Return Values			
			Name	Type	Range	Description	Name	Type	Range	Description
H410 H420 H510 H520 H530 L5xx	byOsdPIPEBOperationModeSet	3172	Value	UWORD32	0: PiP Mode 1: Multiple Unit Mode	Set operation mode to be either PiP or Edge Blend capable.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
	byOsdPIPEBOperationModeGet	3173	Option	BYTE	0: From cache 1: From SPD	Retrieval method	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
							Value	UWORD32	0: PiP Mode 1: Multiple Unit Mode	Get operation mode.
	byOsdPIPEBOperationModeSave	3174				Save from cache into SPD.	Status	BYTE	0x00-0xFF	0 if successful, error code otherwise