Revision History

Revision	Date	Name	Description
Prel.	31.01.2009	DB	Initial Release
Rev. 1.0	09.02.2009	DB	API Indices of bySetStaticIPAddress, byGetStaticIPAddress, bySetSubnetMask, byGetSubnetMask corrected Added I/O Lock API description Added Native Color Temp API description Added IP Address Type (static/DHCP) description Added UART configuration paragraph Added TCP/IP communication protocol paragraph
Rev. 1.01	10.02.2009	DB	Changed RS232 Baudrate from 115k to 9600
Rev. 1.02	11.02.2009	DB	Added examples for several API calls
Rev. 1.03	19.02.2009	DB	Add UART connector description
Rev. 1.04	05.03.2009	DB	Corrected ordering of channels error in byOSDInputFormatSet/Get Range
Rev. 1.05	12.05.2009	DB	Added TCP/IP Port 30000 information
Rev. 1.06	20.05.2009	DB	Added Index for HI-LINE input
Rev. 1.07	14.09.2009	DB	Added API Indices for Announce Message System introduced with PV6 Scaler Modules
Rev. 1.08	23.09.2009	DB	Added parameters for Input Formats of Modules, added 480p and 576p Output Modes.
Rev. 1.09	12.10.2009	DB	Specified parameters for TV_Module Input Formats
Rev. 1.10	04.02.2010	DB	Added API Indices for DVI EQ Boost
Rev. 1.11	03.05.2010	DB	Added API Indices for PiP Hide/Show Feature Protocol Change: Acknowledge by PC on message from Scaler no longer required. Last firmware revision requiring said acknowledge is version 103B-6003.
Rev. 1.12	01.10.2010	DB	Availability of PiP Size Large/Medium/Small information added Corrected PiP Input Source List Indexing
Rev. 1.13	10.12.2010	DB	Picture Format 5:4 Stretch added Auto Search Feature added

Content

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

For Firmware with Revision Number 103B-6003 and earlier build numbers:

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

For Firmware released thereafter:

The message does not need to be acknowledged by the PC. The scaler is ready to receive the next command without this extra acknowledgement. An acknowledgement may be sent without affecting operation though to be backwards compatible with older control code. The acknowledgement is simply ignored.

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
  Unsigned 32-bit value, MSB first (4 bytes)
- SWORD32
  Signed 32-bit value, two's complement, MSB first (4 bytes)
- CHAR[]
  Array of UTF-8 characters preceded by its length sent as UWORD32

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

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

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

1.5. UART Connector and UART Configuration

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

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

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

1.6. TCP/IP Communication

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

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

Handshake (from Scaler Board): No explicit handshake

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

Handshake (from PC): No explicit handshake

1.7. Examples

The following examples are used to explain how the API calls and protocol work:

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

Change Contrast Setting:

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

Direction	**RS232 data**
PC sends command	53 41 50 01 FF FF FF FF 00 00 00 20 00 00 00 00 54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00 50 46 00 7C 00 00 00 00 00 00 00 04 92 1A 18 50
Board acknowledges to have received a command	73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
Board sends answer (return 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 which is located in non-volatile Flash. E.g. setting the brightness by a byOSDBrightnessSet API call will change the image brightness at runtime. After a Scaler Board reset the (default) value stored in the SPD is used to initialize the brightness setting. Thus, to restart the Scaler Board with the last brightness setting it had to be stored into flash with a byOSDBrightnessSave API call.

2.1. Input

2.1.1. byOsdInputFormatSet

API index: 318

Sets the main input channel given by the controlling application.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Composite 1 1: Composite 2 2: S-Video 3: RGB/YPbPr 4: VGA 5: HDSDI 6: DVI 1 7: DVI 2 8: HDMI 9: HI-LINE	Main input channel
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

Note: The Parameters shown above are for the PV6 Scaler. The modules use the following parameters: A.) 3GSDI module – 0: 3GSDI, B.) Component Module – 0: RGB/YPbPr, 1: VGA, 2: DVI, C.) TV module – 0: Composite, 1: S-Video

2.1.2. byOsdInputFormatGet

API index: 320

Retrieves the main input channel from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Composite 1 1: Composite 2 2: S-Video 3: RGB/YPbPr	Main input channel

		4: VGA 5: HDSDI 6: DVI 1 7: DVI 2 8: HDMI 9: HI-LINE	

2.1.3. byOsdInputFormatSave

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

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

2.2. Black-Level Offset Compensation

2.2.1. byOsdBlackLevelOffsetSet

API index: 148
Sets the black level offset.

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

2.2.2. byOsdBlackLevelOffsetGet

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

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

2.2.3. byOsdBlackLevelOffsetSave

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

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

2.3. Black-Level

2.3.1. byOsdBlackLevelSet

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

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

2.3.2. byOsdBlackLevelGet

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

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

2.3.3. byOsdBlackLevelSave

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

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

2.4. Contrast

2.4.1. byOsdContrastSet

API index: 124
Sets the contrast (gain).

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

2.4.2. byOsdContrastGet

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

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

2.4.3. byOsdContrastSave

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

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

2.5. Saturation

2.5.1. byOsdColorSet

API index: 127
Sets the color saturation.

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

2.5.2. byOsdColorGet

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

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

2.5.3. byOsdColorSave

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

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

2.6. Hue

2.6.1. byOsdHueSet

API index: 151
Sets the hue value.

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

2.6.2. byOsdHueGet

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

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

2.6.3. byOsdHueSave

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

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

2.7. R/G/B Bias

2.7.1. byOsdR/G/BOffsetSet

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

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

2.7.2. byOsdR/G/BOffsetGet

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

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

2.7.3. byOsdR/G/BOffsetSave

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

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

2.8. R/G/B Gain

2.8.1. byOsdR/G/BGainSet

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

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

2.8.2. byOsdR/G/BGainGet

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

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

2.8.3. byOsdR/G/BGainSave

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

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

2.9. Color Temperature

2.9.1. byOsdColorTempSet

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

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

2.9.2. byOsdColorTempGet

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

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

2.9.3. byOsdColorTempSave

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

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

2.10. Input Gamma

2.10.1. byOsdGammaInSet

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

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

2.10.2. byOsdGammaInGet

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

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

2.10.3. byOsdGammaInSave

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

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

2.11. Horizontal Position

2.11.1. byOsdMainHorizontalSet

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

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

2.11.2. byOsdMainHorizontalGet

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

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

2.11.3. byOsdMainHorizontalSave

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

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

2.12. Vertical Position

2.12.1. byOsdMainVerticalSet

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

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

2.12.2. byOsdMainVerticalGet

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

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

2.12.3. byOsdMainVerticalSave

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

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

2.13. Edge control

2.13.1. byOsdLeft/Right/Top/BottomEdgeSet

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

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

2.13.2. byOsdLeft/Right/Top/BottomEdgeGet

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

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

2.13.3. byOsdLeft/Right/Top/BottomEdgeSave

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

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

2.14. Auto Setup

2.14.1. byOsdAutoConfigSet

API index: 417
Initiates auto setup of VGA signal.

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

2.15. Clock

2.15.1. byOsdAbsoluteClockSet

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

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

2.15.2. byOsdAbsoluteClockGet

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

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

2.15.3. byOsdAbsoluteClockGetRange

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

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

2.15.4. byOsdAbsoluteClockSave

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

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

2.16. Phase

2.16.1. byOsdAbsolutePhaseSet

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

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

2.16.2. byOsdAbsolutePhaseGet

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

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

2.16.3. byOsdAbsolutePhaseSave

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

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

2.17. Picture Format

2.17.1. byOsdAspectRatioSet

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

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Standard 1: Full Screen 2: Crop 3: Anamorphic 4: 5:4 Stretch	Picture format index
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.17.2. byOsdAspectRatioGet

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

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Standard 1: Full Screen 2: Crop 3: Anamorphic 4: 5:4 Stretch	Picture format index

2.17.3. byOsdAspectRatioSave

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

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

2.18. Overscan

2.18.1. byOsdOverscanSet

API index: 2944
Sets the input overscan percentage.

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

2.18.2. byOsdOverscanGet

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

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

2.18.3. byOsdOverscanSave

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

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

2.19. PIP Input

2.19.1. byOsdPipInputFormatSet

API index: 321
Sets the PIP input channel.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Composite 1 1: Composite 2 2: S-Video 3: RGB/YPbPr 4: VGA 5: HDSDI 6: DVI 1 7: DVI 2 8: HDMI 9: HI-LINE	PIP input channel
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.19.2. byOsdPipInputFormatGet

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

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Composite 1 1: Composite 2 2: S-Video 3: RGB/YPbPr 4: VGA 5: HDSDI 6: DVI 1 7: DVI 2 8: HDMI 9: HI-LINE	PIP input channel

2.19.3. byOsdPipInputFormatSave

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

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

2.20. PIP Mode

2.20.1. byOsdPipOnOffSet

API index: 315
Sets the PIP mode.

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

2.20.2. byOsdPipOnOffGet

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

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

2.21. PIP Show/Hide

2.21.1. byOsdPipHideShowSet

API index: 2981
Shows or Hides the PiP.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Hide 1: Show	When PiP is switched on, this setting determines the visibility of the PiP window.
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.21.2. byOsdPipHideShowGet

API index: 2982
Retrieves the PIP show/hide setting from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Hide 1: Show	Retrieves PiP hide/show mode.

2.21.3. byOsdPipHideShowSave

API index: 2983
Saves the pip show/hide setting from cache into the SPD.

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

2.22. PIP Size

2.22.1. byOsdAbsolutePipSizeSetSave

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

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

PIP_LARGE:
Always available.

PIP_MEDIUM:
1. Unavailable if vertical output resolution is less than 768, e.g. 640x480 or 800x600 (doesn't happen on a PV6 monitor since all panels have a higher resolution than that).
2. Unavailable if horizontal pip input resolution is 1920 or higher, e.g. 1920x1080 or 1920x1200.

PIP_SMALL:
1. Unavailable if vertical output resolution is less than 768, e.g. 640x480 or 800x600.
(doesn't happen on a PV6 monitor since all panels have a higher resolution than that)
2. Unavailable if horizontal pip input resolution is 1920 or higher, e.g. 1920x1080 or 1920x1200.

2.22.2. byOsdPipSizeGet

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

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

2.23. PIP Position

2.23.1. byOsdPipPosSet

API index: 368
Sets the PiP Position.

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

2.23.2. byOsdPipPosGet

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

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

2.23.3. byOsdPipPosSave

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

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

2.24. Sharpness

2.24.1. byOsdSharpnessSet

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

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

2.24.2. byOsdSharpnessGet

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

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

2.24.3. byOsdSharpnessSave

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

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

2.25. Detail Enhancement

2.25.1. byOsdDetailSet

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

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

2.25.2. byOsdDetailGet

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

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

2.25.3. byOsdDetailSave

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

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

2.26. LTI Level

2.26.1. byOsdSTILTISet

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

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

2.26.2. byOsdSTILTIGet

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

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

2.26.3. byOsdSTILTISave

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

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

2.27. CTI Level

2.27.1. byOsdSTICTISet

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

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

2.27.2. byOsdSTICTIGet

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

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

2.27.3. byOsdSTICTISave

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

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

2.28. TRNR

2.28.1. byOsdTRNRSet

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

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

2.28.2. byOsdTRNRGet

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

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

2.28.3. byOsdTRNRSave

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

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

2.29. MNR

2.29.1. byOsdCNRSet

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

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

2.29.2. byOsdCNRGet

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

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

2.29.3. byOsdCNRSave

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

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

2.30. CCS

2.30.1. byOsdCCSSet

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

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

2.30.2. byOsdCCSGet

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

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

2.30.3. byOsdCCSSave

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

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

2.31. User

2.31.1. byOsdCurrentUserSet

API index: 2947
Selectes the current user profile.

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

2.31.2. byOsdCurrentUserGet

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

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

2.31.3. byOsdCurrentUserSave

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

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

2.32. Input Name

2.32.1. byOsdInputRenameSet

API index: 2950
Renames one of the inputs.

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

2.32.2. byOsdInputRenameGet

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

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

2.32.3. byOsdInputRenameSave

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

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

2.33. User Name

2.33.1. byOsdUserRenameSet

API index: 2953
Renames one of the user profiles.

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

2.33.2. byOsdUserRenameGet

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

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

2.33.3. byOsdUserRenameSave

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

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

2.34. Reset Profile

2.34.1. byOsdProfileReset

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

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

2.35. Load profile from

2.35.1. byOsdProfileLoadFrom

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

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

2.36. Save profile as

2.36.1. byOsdProfileSaveAs

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

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

2.37. Component Mode

2.37.1. byOsdComponentModeSet

API index: 2959
Sets the component input mode.

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

2.37.2. byOsdComponentModeGet

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

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

2.37.3. byOsdComponentModeSave

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

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

2.38. Component Type

2.38.1. byOsdComponentTypeSet

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

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

2.38.2. byOsdComponentTypeGet

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

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

2.38.3. byOsdComponentTypeSave

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

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

2.39. DVI1 Equalization

2.39.1. byOsdDVI1EQSet

API index: 2832
Sets the DVI1 port equalization

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

2.39.2. byOsdDVI1EQGet

API index: 2833
Retrieves setting for DVI1 port equalization from either cache or the SPD.

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

2.39.3. byOsdDVI1EQSave

API index: 2834
Saves the setting for the DVI1 port equalization type from cache into the SPD.

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

2.40. DVI2 Equalization

2.40.1. byOsdDVI2EQSet

API index: 2835
Sets the DVI2 port equalization

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

2.40.2. byOsdDVI2EQGet

API index: 2836
Retrieves setting for DVI2 port equalization from either cache or the SPD.

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

2.40.3. byOsdDVI2EQSave

API index: 2837
Saves the setting for the DVI1 port equalization type from cache into the SPD.

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

2.41. Display Mode

2.41.1. byOsdProcessingModeSet

API index: 2965
Sets the processing mode.

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

2.41.2. byOsdProcessingModeGet

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

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

2.41.3. byOsdProcessingModeSave

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

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

2.42. Menu Display Time

2.42.1. byOsdMenuTimeSet

API index: 2968
Sets menu display timeout.

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

2.42.2. byOsdMenuTimeGet

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

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

2.42.3. byOsdMenuTimeSave

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

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

2.43. Menu Position

2.43.1. byOsdMenuPositionSet

API index: 2971
Sets menu position on screen.

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

2.43.2. byOsdMenuPositionGet

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

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

2.43.3. byOsdMenuPositionSave

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

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

2.44. OSD Language

2.44.1. byOsdLanguageSet

API index: 445
Sets the OSD language.

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

2.44.2. byOsdLanguageGet

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

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

2.44.3. byOsdLanguageSave

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

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

2.45. Keypad Lock/Unlock

2.45.1. byOsdKeypadLockSet

API index: 2824
Activates/Deactivates the keypad locking.

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

2.45.2. byOsdKeypadLockGet

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

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

2.45.3. byOsdKeypadLockSave

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

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

2.46. Optimise for Display

2.46.1. byOsdPV6OptimiseSet

API index: 2818
Activates communication with PV6 driven display and sets optimum output display timing.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: On 1: Off	Activate/Deactivate optimization mechanism
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.46.2. byOsdPV6OptimiseGet

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

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

2.46.3. byOsdPV6OptimiseSave

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

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

2.47. Ouput Mode

2.47.1. byOsdOuputFormatSet

API index: 324
Sets the Ouput Mode Resolution.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: 640x480 1: 800x600 2: 1024x768 3: 1280x768 4: 1280x1024 5: 1400x1050 6: 1600x1200 7: 1920x1200 8: 720p 9: 1080p 10: 480p (Modules only) 11: 576p (Modules only)	Ouput Resolution
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.47.2. byOsdOutputFormatGet

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

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: 640x480 1: 800x600 2: 1024x768 3: 1280x768 4: 1280x1024 5: 1400x1050 6: 1600x1200 7: 1920x1200 8: 720p 9: 1080p 10: 480p (Modules only)	Menu position

		11: 576p (Modules only)	

2.47.3. byOsdOutputFormatSave

API index: 325

Saves the Output Mode Resolution setting from cache into the SPD.

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

2.48. Ouput Frame Rate

2.48.1. byOsdFrameRateSet

API index: 2821
Sets the Ouput Mode Frame Rate.

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

2.48.2. byOsdFrameRateGet

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

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

2.48.3. byOsdFrameRateSave

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

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

2.49. I/O Lock

2.49.1. byOSDIoLockSet

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

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

2.49.2. byOsdIoLockGet

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

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

2.49.3. byOsdIoLockSave

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

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

2.50. Native Color Temp

2.50.1. byOsdNativeColorTempSet

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

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

2.50.2. byOsdNativeColorTempGet

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

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

2.50.3. byOsdNativeColorTempSave

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

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

2.51. Ouput Gamma

2.51.1. byOsdGammaOutSet

API index: 346
Sets the Ouput Gamma.

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

2.51.2. byOsdGammaOutGet

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

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

2.51.3. byOsdGammaOutSave

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

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

2.52. IP Address Type

2.52.1. bySetDHCPStatus

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

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

2.52.2. byGetDHCPStatus

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

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

2.53. IP Address

2.53.1. bySetStaticIPAddr

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

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

2.53.2. byGetStaticIPAddr

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

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

2.54. Netmask

2.54.1. bySetSubnetMask

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

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

2.54.2. byGetSubnetMask

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

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

2.55. Enable Announce Messages

2.55.1. byOsdSetEnableAnnounceMessages

API index: 4201
Enable/Disables the Announce Messages.

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

2.55.2. byOsdGetEnableAnnounceMessages

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

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

2.55.3. byOsdSaveEnableAnnounceMessages

API index: 2980
Saves the Announce Message status from cache into the SPD.

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

2.56. Announce Server IP Address

2.56.1. byOsdSetAnnounceServerIPAddress

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

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

2.56.2. byOSDGetAnnounceServerIPAddress

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

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

2.56.3. byOsdSaveEnableAnnounceMessages

API index: 4205
Saves the Announce Message status from cache into the SPD.

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

2.57. Announce Server Port

2.57.1. byOsdSetAnnounceServerPort

API index: 4207
Set the Announce Message server port.

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

2.57.2. byOSDGetAnnounceServerPort

API index: 4206
Retrieve the Announce Message server port.

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

2.57.3. byOsdSaveEnableAnnounceMessages

API index: 4208
Saves the Announce Message status from cache into the SPD.

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

2.58. Announce Data

2.58.1. byOsdSetAnnounceAuxData

API index: 4210
Sets the netmask and saves the setting in the SPD immediately.

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

2.58.2. byOsdGetAnnounceAuxData

API index: 4209
Retrieves the IP address from the SPD.

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

2.58.3. byOsdSaveAnnounceAuxData

API index: 4208
Saves the Announce Message status from cache into the SPD.

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

2.59. Announce Data Repeat Period

2.59.1. byOsdSetAnnounceRepeatPeriod

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

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

2.59.2. byOsdGetAnnounceRepeatPeriod

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

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

2.59.3. byOsdSaveAnnounceRepeatPeriod

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

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

2.60. Auto Source Skip

2.60.1. byOsdAutoSourceSkipSet

API index: 3333
Sets the input channels to be skipped/scanned.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	0: Skip None 1: Skip Composite1 2: Skip Composite2 4: Skip S-Video 8: Skip RGB/YPbPr 16: Skip VGA 32: Skip HD-SDI 64: Skip DVI1 128: Skip DVI2 256: Skip HDMI 512: Skip HI-LINE 1 + 2 = 3: Skip Composite1 AND Composite2 Etc.	Set Bitmap of to be skipped Input Channels.
Return Values			
Name	Type	Range	4. Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.60.2. byOsdAutoSourceSkipGet

API index: 3334
Retrieves the settings of input channels to be skipped/scanned from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	0: Skip None 1: Skip Composite1 2: Skip Composite2 4: Skip S-Video 8: Skip RGB/YPbPr 16: Skip VGA 32: Skip HD-SDI 64: Skip DVI1 128: Skip DVI2 256: Skip HDMI	Get Bitmap of to be skipped Input Channels.

		512: Skip HI-LINE 1 + 2 = 3: Skip Composite1 AND Composite2 Etc.	

2.60.3. byOsdAutoSourceSkipSave

API index: 3335

Saves the scan/skip setting from cache into the SPD.

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

2.61. Auto Source Set-Up Time

2.61.1. byOsdAutoSourceSetupSet

API index: 3336
Sets the auto source scan set-up time.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	10 … 100	Set Auto Source scan set-up time in tenth of seconds. 10 = 1s, 100 = 10s
Return Values			
Name	Type	Range	5. Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.61.2. byOsdAutoSourceSetupGet

API index: 3337
Retrieves the auto source scan set-up time from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	10 … 100	Get Auto Source scan set-up time in tenth of seconds. 10 = 1s, 100 = 10s

2.61.3. byOsdAutoSourceSetupSave

API index: 3338
Saves the auto source scan set-up time from cache into the SPD.

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

2.62. Auto Source Hold Time

2.62.1. byOsdAutoSourceHoldSet

API index: 3339
Sets the auto source scan hold time.

Input Parameters			
Name	Type	Range	Description
Value	UWORD32	10 … 100	Set Auto Source scan hold time in tenth of seconds. 10 = 1s, 100 = 10s
Return Values			
Name	Type	Range	6. Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise

2.62.2. byOsdAutoSourceHoldGet

API index: 3340
Retrieves the auto source scan hold time from either cache or the SPD.

Input Parameters			
Name	Type	Range	Description
Option	BYTE	0: From cache 1: From SPD	Retrieval method
Return Values			
Name	Type	Range	Description
Status	BYTE	0x00-0xFF	0 if successful, error code otherwise
Value	UWORD32	10 … 100	Get Auto Source scan hold time in tenth of seconds. 10 = 1s, 100 = 10s

2.62.3. byOsdAutoSourceHoldSave

API index: 3341
Saves the auto source scan hold time from cache into the SPD.

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