

Stretch VRC6000 Series API Quick Reference Guide

Version 3.3

| Description | Call | Parameters |
|---|---|--|
| System Set-up and Shutdown | | |
| Initialize SDK | sdvr_sdk_init() | |
| Close SDK | sdvr_sdk_close() | |
| Get SDK revision number | sdvr_get_sdk_version() | sx_uint32 * major, sx_uint32 * minor, sx_uint32 * build |
| Get driver revision number | sdvr_get_driver_version() | sx_uint32 * major, sx_uint32 * minor, sx_uint32 * build |
| Set SDK resource allocation parameters | sdvr_set_sdk_params() | sdvr_sdk_params_t * sdk_params |
| Get SDK resource allocation parameters | sdvr_get_sdk_params() | sdvr_sdk_params_t * sdk_params |
| Connect SDK to board and set attributes | sdvr_board_connect() | sx_uint32 board_index, sdvr_video_std_e video_std, sx_bool is_h264_SCE |
| Disconnect from board | sdvr_board_disconnect() | sx_uint32 board_index |
| Get board firmware revision number | sdvr_get_firmware_version() | sx_uint32 board_index, sx_uint32 * major, sx_uint32 * minor, sx_uint32 * build |
| Get board firmware revision number | sdvr_get_firmware_version_ex() | sx_uint32 board_index, sdvr_firmware_ver_t * version_info |
| Upgrade board firmware | sdvr_upgrade_firmware() | sx_uint32 board_index, char * firmware_file_name |
| Get number of boards present in system | sdvr_get_board_count() | |
| Get board's supported video standards | sdvr_get_board_attributes() | sx_uint32 board_index, sdvr_board_attr_t * board_attr |
| Get board's PCIe attributes | sdvr_get_pci_attr() | sx_uint32 board_index, sdvr_pci_attr_t * pci_attr |
| Get installed board's current configuration | sdvr_get_board_config() | sx_uint32 board_index, sdvr_board_config_t * board_config |
| Get a list of all supported video standards for a board | sdvr_get_supported_vstd() | sx_uint32 board_index, sx_uint32 * video_stds |
| Get a board's video standard | sdvr_get_video_standard() | sx_uint32 board_index sdvr_video_std_e * video_std_type |
| Get the board number of the given handle | sdvr_get_board_index() | sdvr_chan_handle_t handle |
| Reset the board | sdvr_board_reset() | sx_uint32 board_index |
| Run board diagnostics | sdvr_run_diagnostics() | sx_uint32 board_index, char * diag_file_name, sdvr_diag_code_e * diag_code |
| Set date and time on board's real-time clock | sdvr_set_date_time() | sx_uint32 board_index, time_t * num_seconds |
| Get board's real-time date and time | sdvr_get_date_time() | sx_uint32 board_index, time_t * time |
| Set or reset board's watchdog timer | sdvr_set_watchdog_state() | sx_uint32 board_index, sx_uint32 seconds |
| Get the state of the board's watchdog timer | sdvr_get_watchdog_state() | sx_uint32 board_index, sx_uint32 * num_seconds |
| Get the mnemonic associated with an error number | sdvr_get_error_text() | sdvr_err_e error_no |
| Register callback routine for physical trigger input | sdvr_set_sensor_callback() | sdvr_sensor_callback sensor_callback |
| Register callback function that displays debug message | sdvr_set_display_debug() | sdvr_display_debug_callback display_debug_callback |
| Register callback routine for signal triggers | sdvr_set_signals_callback() | sdvr_signals_callback signals_callback |
| Register callback routine for video analytic alarm | sdvr_set_video_alarm_callback() | sdvr_video_alarm_callback video_alarm_callback |
| Register callback routine for available video frames | sdvr_set_av_frame_callback() | sdvr_av_frame_callback av_frame_callback |
| Channel Set-up | | |
| Create an encoding or decoding channel | sdvr_create_chan() | sdvr_chan_def_t * chan_def, sdvr_chan_handle_t * handle_ptr |
| Destroy encoding or decoding channel; recover sources | sdvr_destroy_chan() | sdvr_chan_handle_t handle |
| Get the channel number for a given handle | sdvr_get_chan_num() | sdvr_chan_handle_t handle |
| Get the channel type for a given handle | sdvr_get_chan_type() | sdvr_chan_handle_t handle |
| Set user-defined data for a channel | sdvr_set_chan_user_data() | sdvr_chan_handle_t handle, sx_uint64 user_data) |
| Get user-defined data for a channel | sdvr_get_chan_user_data() | sdvr_chan_handle_t handle, sx_uint64 * user_data |
| Set encoding channel parameter | sdvr_set_video_encoder_channel_params() | sdvr_chan_handle_t handle, sdvr_sub_encoders_e sub_chan_enc, sdvr_video_enc_chan_params_t * video_enc_params |
| Get encoding channel's parameter | sdvr_get_video_encoder_channel_params() | sdvr_chan_handle_t handle, sdvr_sub_encoders_e sub_chan_enc, sdvr_video_enc_chan_params_t * video_enc_params |
| Set alarm-triggered encoding channel's parameters | sdvr_set_alarm_video_encoder_params() | sdvr_chan_handle_t handle, sdvr_sub_encoders_e sub_chan_enc, sdvr_alarm_video_enc_param_t * alarm_video_enc_params |
| Get alarm-triggered encoding channel's parameters | sdvr_get_alarm_video_encoder_params() | sdvr_chan_handle_t handle, sdvr_sub_encoders_e sub_chan_enc, sdvr_alarm_video_enc_param_t * alarm_video_enc_params |
| Reset encoding channel to default values | sdvr_set_channel_default() | sdvr_chan_handle_t handle |
| Set channel's audio encoding parameters | sdvr_set_audio_encoder_channel_params() | sdvr_chan_handle_t handle, sdvr_audio_enc_chan_params_t * audio_enc_params |
| Get channel's audio encoding parameters | sdvr_get_audio_encoder_channel_params() | sdvr_chan_handle_t handle, sdvr_audio_enc_chan_params_t * audio_enc_params |

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| Channel Set-up (cont.) | | |
| Define a region for analytics or privacy | sdvr_add_region() | sdvr_chan_handle_t handle, sdvr_regions_type_e region_type, sdvr_region_t * region |
| Remove an existing region | sdvr_remove_region() | sdvr_chan_handle_t handle, sdvr_regions_type_e region_type, sx_uint8 region_id |
| Change location of region | sdvr_change_region() | sdvr_chan_handle_t handle, sdvr_regions_type_e region_type, sdvr_region_t * region |
| Enable or disable motion detection for a region | sdvr_enable_motion_detection() | sdvr_chan_handle_t handle, sx_bool enable, sx_uint8 threshold |
| Get motion detection threshold | sdvr_get_motion_detection() | sdvr_chan_handle_t handle, sdvr_motion_detection_t * motion_detection |
| Enable or disable blind detection for a region | sdvr_enable_blind_detection() | sdvr_chan_handle_t handle, sx_bool enable, sx_uint8 threshold |
| Get blind detection threshold | sdvr_get_blind_detection() | sdvr_chan_handle_t handle, sdvr_blind_detection_t * blind_detection |
| Enable or disable night detection for a region | sdvr_enable_night_detection() | sdvr_chan_handle_t handle, sx_bool enable, sx_uint8 threshold |
| Return night detection threshold | sdvr_get_night_detection() | sdvr_chan_handle_t handle, sdvr_night_detection_t * night_detection |
| Enable or disable privacy for a region | sdvr_enable_privacy_regions() | sdvr_chan_handle_t handle, sx_bool enable |
| Get the privacy regions for a channel | sdvr_get_privacy_regions() | sdvr_chan_handle_t handle, sdvr_privacy_detection_t * privacy_detections |
| Encode and Decode | | |
| Enable or disable any of the pre-defined encoders for a channel | sdvr_enable_encoder() | sdvr_chan_handle_t handle, sdvr_sub_encoders_e sub_chan_enc, sx_bool enable |
| Get a frame of encoded video for a channel | sdvr_get_av_buffer() | sdvr_chan_handle_t handle, sdvr_frame_type_e frame_type, sdvr_av_buffer_t ** frame_buffer |
| Return a channel handle for a given frame buffer | sdvr_get_buffer_channel() | void *frame_buffer |
| Release buffer resources for reuse | sdvr_release_av_buffer() | sdvr_av_buffer_t *frame_buffer |
| Enable or disable the decoder for a channel | sdvr_enable_decoder() | sdvr_chan_handle_t handle, sx_bool enable |
| Request a free frame buffer for encoded video for board | sdvr_alloc_av_buffer() | sdvr_chan_handle_t handle, sdvr_av_buffer_t ** frame_buffer |
| Send frame of encoded video to decoder on board | sdvr_send_av_frame() | sdvr_av_buffer_t *frame_buffer |
| Video and Sound Display | | |
| Enable or disable streaming raw video from board to host | sdvr_stream_raw_video() | sdvr_chan_handle_t handle, sdvr_video_res_decimation_e res_decimation, sx_uint8 frame_rate, sx_bool enable |
| Enable or disable streaming raw audio from board to host | sdvr_stream_raw_audio() | sdvr_chan_handle_t handle, sx_bool enable |
| Get a frame of raw video from board | sdvr_get_yuv_buffer() | sdvr_chan_handle_t handle, sdvr_yuv_buffer_t ** frame_buffer |
| Release raw video buffer for reuse | sdvr_release_yuv_buffer() | sdvr_yuv_buffer_t *frame_buffer |
| On Screen Display | | |
| Set OSD text and configuration for one 10-character line | sdvr_set_osd_text() | sdvr_chan_handle_t handle, sdvr_osd_text_config_t * osd_text_config |
| Set multiple Unicode OSD texts of up to 100-characters each | sdvr_osd_text_config_ex() | sdvr_chan_handle_t handle, sx_uint8 osd_id, sdvr_osd_config_ex_t * osd_text_config |
| Show or hide OSD text | sdvr_osd_text_show() | sdvr_chan_handle_t handle, sx_uint8 osd_id sx_bool show |
| Get current OSD configuration | sdvr_get_osd_text() | sdvr_chan_handle_t handle, sdvr_osd_text_config_t * osd_text_config |
| Enable or disable OSD text | sdvr_enable_osd_text() | sdvr_chan_handle_t handle, sx_bool enable |
| Specify a different OSD font table | sdvr_osd_set_font_table() | sdvr_font_table_t *font_desc |
| Select a different font for OSD text | sdvr_osd_use_font_table() | sx_uint8 font_id |
| Spot Monitor | | |
| Set and enable SMO pattern | sdvr_set_smo_grid() | sdvr_chan_handle_t handle, sdvr_smo_grid_t * smo_grid |
| Get current SMO configuration | sdvr_get_smo_grid() | sdvr_chan_handle_t handle, sdvr_smo_grid_t * smo_grid |
| RS485 Communication | | |
| Initialize UART for RS232 - RS485 interface | sdvr_init_uart() | sx_uint32 board_index, sx_uint32 baud_rate, sx_uint8 data_bits, sx_uint8 stop_bits, sx_uint8 parity_enable, sx_uint8 parity_even |
| Read one character from UART | sdvr_read_uart() | sx_uint32 board_index, sx_uint8 *data_count_read, sx_uint8 max_data_size, sx_uint8 *data |
| Write one character to the UART | sdvr_write_uart() | sx_uint32 board_index, sx_uint8 count, sx_uint8 *data |
| Triggers and Alarms | | |
| Define sensor criteria and initial state | sdvr_config_sensors() | sx_uint32 board_index, sx_uint32 sensor_enable_map, sx_uint32 edge_triggered_map |
| Enable or disable sensors | sdvr_enable_sensors() | sx_uint32 board_index, sx_uint32 sensor_num, sx_bool enable |
| Trigger an output relay | sdvr_trigger_relay() | sx_uint32 board_index, sx_uint32 relay_num, sx_bool is_triggered |
| Recording to File | | |
| Start recording to a file | sdvr_start_recording() | sdvr_chan_handle_t handle, sdvr_sub_encoders_e sub_chan_enc, char * file_name |
| Stop recording to a file | sdvr_stop_recording() | sdvr_chan_handle_t handle, sdvr_sub_encoders_e sub_chan_enc |