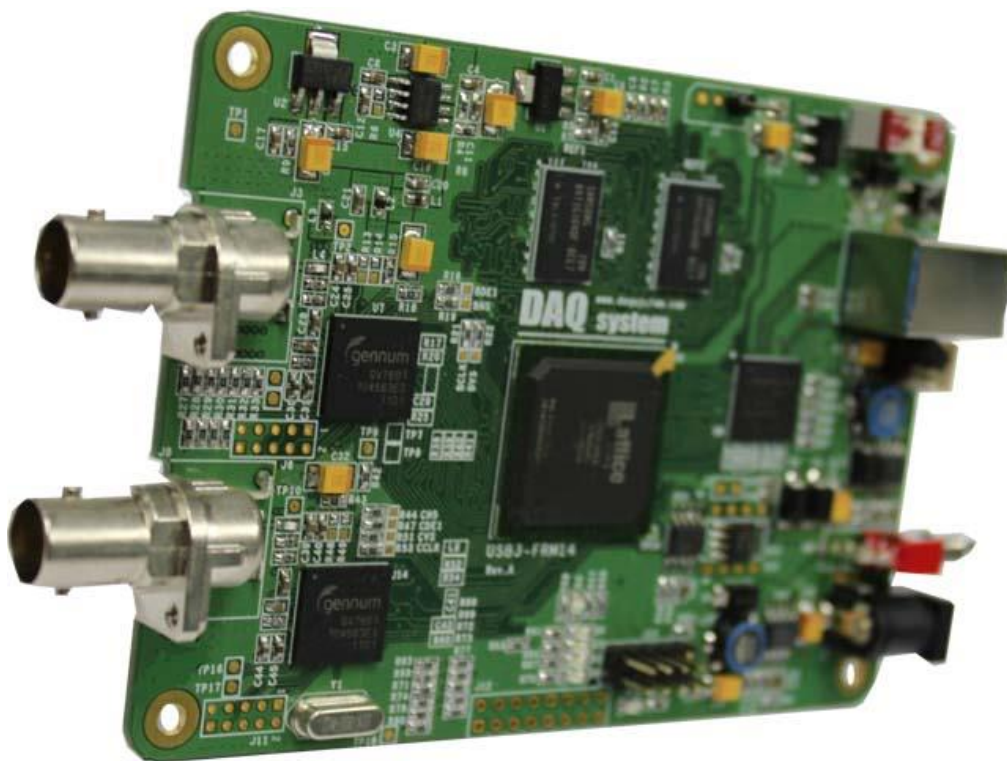


USB3-FRM14

API Manual

Version 1.0



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Board Level API Functions

Overview

int	OpenDAQDevice (void)
BOOL	ResetBoard (int nBoard)
BOOL	CloseDAQDevice (void)
int	GetBoardNum (void)

OpenDAQDevice

It opens a device. You may call this function at the very first time you run the program and some suspicious operation.

int OpenDAQDevice (void)

Parameters: None .

Return Value:

If the function succeeds, it returns the number of boards which were detected.

(Up to 4 for multi-board)

If the function fails, the return value is -1, it means there is no device in the system.

ResetBoard

It initializes a device at currently equipped system (PC).

BOOL ResetBoard (int nBoard)

Parameters:

nBoard : It informs a board number at currently equipped system.

The board number set up by DIP switch.

Return Value:

It returns TRUE in case of the success of reset and initialization.

If you get FALSE you should not call any API functions with the board and call the

CloseDAQDevice() instead.

CloseDAQDevice

The CloseDAQDevice function closes all opened devices (boards). If use of device is finished, it can certainly close a device for making it other programs so as usable.

BOOL CloseDAQDevice (void)

Parameters: None.

Return Value:

If the function fail to close, it returns "FALSE".

If the function succeed to close, it returns "TRUE".

GetBoardNum

This function returns currently detected board number in the system.

int GetBoardNum (void)

Parameters: None

Return Value:

The number of detected boards, The Board number is set by dip switch.

LVDS(HD-SDI) API Functions

Overview

BOOL	SDI_Init (int nBoard)
BOOL	SDI_Start (int nBoard)
BOOL	SDI_GetFrame (int nBoard, DWORD* nCnt, unsigned char* buf)
BOOL	SDI_Close (int nBoard)
BOOL	SDI_GetResolution (int nBoard, DWORD *xRes, DWORD *yRes)
BOOL	SDI_Stop (int nBoard)
BOOL	SDI_SetDataMode (int nBoard, int nMode)
BOOL	SDI_GetVersion (int nBoard, int *nFpgaVer, int *nFirmVer)
BOOL	SDI_Get Error (int nBoard, DWORD *dwStatus)
BOOL	SDI_SelectChannel (int nBoard, int nChannel)
BOOL	SDI_SetVanMode (int nBoard, int nVanc)

SDI_Init

This function initializes resources used for the LVDS sub-system, for example interrupt and LVDS control register.

BOOL SDI_Init (int nBoard)

Parameters:

nBoard : It informs a board number at currently equipped system.

The board number set up by DIP switch.

Return Value:

If the function call fails, it returns "FALSE".

If the function call succeeds, it returns "TRUE".

SDI_Start

This function starts receiving frame data. After calling this function, you can check whether the data is complete by calling the LVDS_GetFrame function.

BOOL SDI_Start (int nBoard)

Parameters:

nBoard : It informs a board number at currently equipped system.
The board number set up by DIP switch.

Return Value:

If the function call fails, it returns "FALSE".
If the function call succeeds, it returns "TRUE".

SDI_GetFrame

This function checks whether the frame data is complete, and if it is, retrieves the frame data. At this time, the size of the buffer to receive data must be informed.

BOOL SDI_GetFrame (int nBoard, DWORD* nCnt, unsigned char* buf)

Parameters:

nBoard : It informs a board number at currently equipped system.
The board number set up by DIP switch.
*nCnt : It is the address which contains the number of data to be received in byte size. Specifies the size buffer when the function is called, and read the values of the variables after a call to find out how many actually read.
The data size is in bytes.
*buf : The buffer address.

Return Value:

If the function call fails, it returns "FALSE".
If the function call succeeds, check the values of the size that you want to read nCnt.
(Note) If the frame data is not completed, FALSE is returned immediately and the return occurs with the nCnt value set to 0.

SDI_Close

This function releases all resource were used for LVDS function. The application program calls this function when the program ends.

BOOL SDI_Close (int nBoard)

Parameters:

nBoard : It informs a board number at currently equipped system.
The board number set up by DIP switch.

Return Value:

If the function call fails, it returns "FALSE".
If the function call succeeds, it returns "TRUE".

SDI_GetResolution

This function gets currently configured camera's frame resolution

BOOL SDI_GetResolution (int nBoard, DWORD *xRes, DWORD *yRes)

Parameters:

nBoard : It informs a board number at currently equipped system.
The board number set up by DIP switch.
*xRes : Address pointer to receive horizontal Camera resolution
*yRes : Address pointer to receive vertical Camera resolution

Return Value:

If the function call fails, it returns "FALSE".
If the function call succeeds, it returns "TRUE".

SDI_Stop

This function stops the frame data capture.

BOOL SDI_Stop (int nBoard)

Parameters:

nBoard : It informs a board number at currently equipped system.
The board number set up by DIP switch.

Return Value:

If the function call fails, it returns "FALSE".
If the function call succeeds, it returns "TRUE".

SDI_SetDataMode

This function sets image pixel data mode.

BOOL SDI_SetDataMode (int nBoard, int nMode)

Parameters:

nBoard : It informs a board number at currently equipped system.

The board number set up by DIP switch.

nMode : If "0" is 8-bit mode, "1" is 16-bit mode,
"2" is 24-bit mode, "3" is 32-bit mode.

Return Value:

If the function call fails, it returns "FALSE".

If the function call succeeds, it returns "TRUE".

SDI_GetVersion

This function gets FPGA and Firmware version.

BOOL SDI_GetVersion (int nBoard, int *nFpgaVer, int *nFirmVer)

Parameters:

nBoard : It informs a board number at currently equipped system.

The board number set up by DIP switch.

*nFpgaVer : Currently FPGA version value.

*nFirmVer : Currently Firmware version value.

Return Value:

If the function call fails, it returns "FALSE".

If the function call succeeds, it returns "TRUE".

SDI_GetError

This function gets the error state.

BOOL **SDI_GetError (int nBoard, DWORD *dwStatus)**

Parameters:

nBoard : It informs a board number at currently equipped system.

The board number set up by DIP switch.

*dwStatus : Returned error value

Return Value:

If the function call fails, it returns "FALSE".

If the function call succeeds, it returns "TRUE".

SDI_SelectChannel

This function selects the SDI channel.

BOOL **SDI_SelectChannel (int nBoard, int nChannel)**

Parameters:

nBoard : It informs a board number at currently equipped system.

The board number set up by DIP switch.

nChannel : "0" : Channel 0,

"1" : Channel 1

"Others" : Channel 0, 1 alternate

Return Value:

If the function call fails, it returns "FALSE".

If the function call succeeds, it returns "TRUE".

SDI_SetVancMode

This function selects the VANC mode.

BOOL **SDI_SetMode (int nBoard, int nVanc)**

Parameters:

nBoard : It informs a board number at currently equipped system.

 The board number set up by DIP switch.

nVanc : "0" : VANC Disable

 "1" : Y VANC Enable

 "2" : C VANC Enable

Return Value:

If the function call fails, it returns "FALSE".

If the function call succeeds, it returns "TRUE".

Memo

Contact Point

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