PCIe-8154 extended DIO
User Manual

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1.1 Function Library

Function name	Descriptions
_8154_set_gpio_output_ex	Set extended 16 channel digital output
_8154_get_gpio_output_ex	Get extended 16 channel digital output
_8154_get_gpio_input_ex	Get extended 16 channel digital input
_8154_set_gpio_output_ex_CH	Set extended 16 channel digital output by channel
_8154_get_gpio_output_ex_CH	Get extended 16 channel digital output by channel
_8154_get_gpio_input_ex_CH	Get extended 16 channel digital input by channel

1.2 Function Descriptions

1.2.1

_8154_set_gpio_output_ex	Set extended 16 channel digital output
_8154_get_gpio_output_ex	Get extended 16 channel digital output
_8154_get_gpio_input_ex	Get extended 16 channel digital input

Descriptions:

PCIe-8154 has extended 16 digital output & input channels. User could use these functions to set or get digital value.

Syntax:

C/C++:

I16 _8154_set_gpio_output_ex (I16 CardId, U16 Value);

I16 _8154_get_gpio_output_ex (I16 CardId, U16 *Value);

I16 _8154_get_gpio_input_ex (I16 CardId, U16 *Value);

Parameters:

I16 CardID: Specify the PCIe-8154 card index. It could be decided by DIP switch (SW1) or depend on slot sequence. Please refer to **_8154_initial()**

U16 Value: Digital output to set. The range is from Bit 0~15.

U16 *Value: Digital output or digital input to get. The range is from Bit 0~15.

Return Value:

It returns negative value if some unexpected error happens. Please refer to error code table.

Example:

```
I32 CheckBoxStatus = 0;
I32 i = 0;
U16 do_set, do_get, di_get;
I16 RetCode = 0;

// Check DO value setting of user.
for( i = 0; i < MAXCHANNEL; i++ )
{
    //Get each bit setting from UI
    CheckBoxStatus = pCheck[i]->GetState();

    if( CheckBoxStatus == 1 )
        do_set = do_set | ( 1 << i );
}

// Set DO value
RetCode   = _8154_set_gpio_output_ex( CardId, do_set);
//Get DO value
RetCode   = _8154_get_gpio_output_ex( CardId, &do_get);
//Get DI value
RetCode   = _8154_get_gpio_input_ex( CardId, &di_get);
```

1.2.2

_8154_set_gpio_output_ex_CH	Set extended 16 channel digital output by channel
_8154_get_gpio_output_ex_CH	Get extended 16 channel digital output by channel
_8154_get_gpio_input_ex_CH	Get extended 16 channel digital input by channel

Descriptions:

PCIe-8154 has extended 16 digital output & input channels. These functions control digital value by channel.

Syntax:

C/C++:

```
I16 _8154_set_gpio_output_ex_CH(I16 CardId, I16 Channel, U16 Value );
```

I16 _8154_get_gpio_output_ex_CH(I16 CardId, I16 Channel, U16 *Value);
I16 _8154_get_gpio_input_ex_CH(I16 CardId, I16 Channel, U16 *Value);

Parameters:

I16 CardID: Specify the PCIe-8154 card index. It could be decided by DIP switch (SW1) or depend on slot sequence. Please refer to **_8154_initial()**

I16 Channel: Digital channel which range is from 0~15.

U16 Value: Digital output by channel to set. The range is from 0 to 1.

U16 *Value: Digital output or digital input by channel to get. The range is from 0 to 1.

Return Value:

It returns negative value if some unexpected error happens. Please refer error code table.

Example:

```
I16 RetCode;
U16 do_set , do_get, di_get;
I16 channle;

channel = 0; //range from 0~15
do_set = 1 //range from 0 to 1

//Set DO value by channel
 RetCode    = _8154_set_gpio_output_ex_CH(CardId, Channel, do_set);
//Get DO value by channel
 RetCode    = _8154_get_gpio_output_ex_CH(CardId, Channel, &do_get);
//Get DI value by channel
 RetCode    = _8154_get_gpio_input_ex_CH(CardId, Channel, &di_get);
```