

axis_data_to_axis_string.v

AUTHORS

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DATES

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INFORMATION

Brief

Parse raw binary data into ASCII string output.

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axis_data_to_axis_string

```
module axis_data_to_axis_string #(
    parameter
    DELIMITER
    =
    " , "
    parameter
    TERMINATION
    =
    "\n"
    parameter
    SBUS_WIDTH
```

```

    =
    1,
    parameter
    USER_WIDTH
    =
    4,
    parameter
    DEST_WIDTH
    =
    4,
    parameter
    PREFIX_LEN
    =
    1,
    parameter
    DATA_PREFIX
    =
    "#",
    parameter
    DEST_PREFIX
    =
    "&",
    parameter
    USER_PREFIX
    =
    ""
) ( input aclk, input arstn, input [(SBUS_WIDTH*8)-1:0] s_axis_tdata, input

```

Parse raw binary data into ASCII string output.

Parameters

| | |
|---------------------------------|--|
| DELIMITER parameter | break value between multiple strings |
| TERMINATION parameter | termination value of full string from serial port, byte only. (\n = 0A \r = 0D). |
| SBUS_WIDTH parameter | bus width of master (data) output |
| USER_WIDTH parameter | user width of master bus, only in 4 bit nibbles, and at least 4 bits. |
| DEST_WIDTH parameter | dest width of master bus, only in 4 bit nibbles, and at least 4 bits. |
| PREFIX_LEN parameter | length of following prefix strings. |
| DATA_PREFIX parameter | prefix for data hex strings |
| DEST_PREFIX parameter | prefix for destination hex strings |
| USER_PREFIX parameter | prefix for user hex strings |

Ports

| | |
|----------------------|---|
| aclk | Clock for AXIS |
| arstn | Negative reset for AXIS |
| m_axis_tdata | Output data |
| m_axis_tvalid | When active high the output data is valid |

| | |
|----------------------|---|
| m_axis_tready | When set active high the output device is ready for data. |
| s_axis_tdata | Input data |
| s_axis_tvalid | When set active high the input data is valid |
| s_axis_tready | When active high the device is ready for input data. |
| s_axis_tlast | Is this the last word in the stream (active high). |

VARIABLES

s_axis_tready

```
assign s_axis_tready = (
    arstn                                     (counter == 0) ? 1 &
    :
    0
)
```

ready if count is zero, this is a FWFT so no worries in pumping out data.

m_axis_tdata

```
assign m_axis_tdata = char_buffer[STRING_LEN*8-1 -:8]
```

output whatever is in the character buffer.

m_axis_tvalid

```
assign m_axis_tvalid = (
    1                                     counter > 0 ?
    :
    0
)
```

Counter greater than 0? Valid output is available.