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 break value between multple strings
parameter

TERMINATION termination value of full string from serial port, byte only. (\n = 0A \r = 0D).
parameter

SBUS_WIDTH bus width of slave (data) input
parameter

USER_WIDTH user width of slave bus, only in 4 bit nibbles, and at least 4 bits.
parameter

DEST_WIDTH dest width of slave bus, only in 4 bit nibbles, and at least 4 bits.
parameter

PREFIX_LEN length of following prefix strings.
parameter

DATA_PREFIX prefix for data hex strings
parameter

DEST_PREFIX prefix for destination hex strings
parameter

USER_PREFIX prefix for user hex strings
parameter

Ports

aclk Clock for AXIS

arstn Negative reset for AXIS

s_axis_tdata Input data

s_axis_tvalid When set active high the input data is valid

s_axis_tuser	User data to convert.
s_axis_tdest	Destination data to convert
s_axis_tready	When active high the device is ready for input data.
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.

VARIABLES

s_axis_tready

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

arstn
:
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 = (
                                                        counter > 0 ?

1
:
0
)
```

Counter greater than 0? Valid output is available.