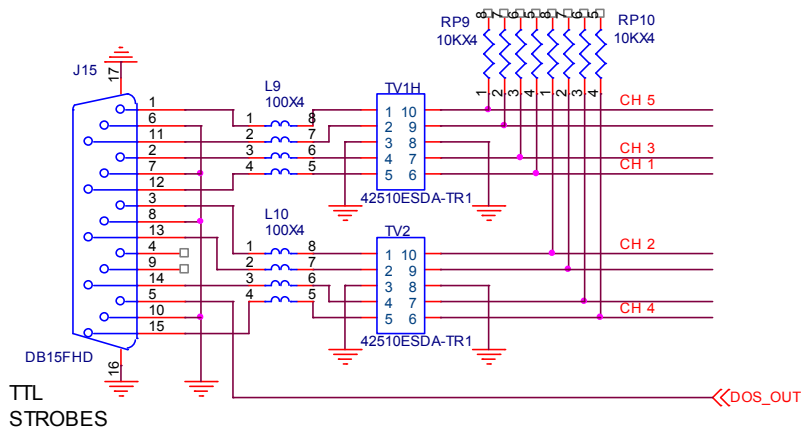


AURA II OEM Light Engine- TTL I/F and RS-232 Command String Definitions

REV 10/1/14

This document describes the TTL / Dosimeter pinout and command syntax via RS-232 for to the AURA II OEM Light Engine.

1.1 TTL / Dosimeter Pinout and Signals.



1.2 RS-232.

Default COM port parameters are 9600,8,N,1.

1.3 Command Strings and Bit Definitions.

The following section defines the command strings and bit assignments. Bytes #s and bit #s are LSB=0. Bytes are expressed as hexadecimal. Bits not specifically defined here should remain as shown in the examples.

Initialization Command Strings:

These two commands MUST be issued after every power cycle to properly configure controls for further commands.
57 02 AA 50- Setup GPIO0-3
57 03 AA 50- Setup GPIO5-7

Channel Enable/Disable Command Strings:

Byte 1, Bit 0, controls CH 5. 0 enables, 1 disables.
Byte 1, Bit 1, controls CH 3. 0 enables, 1 disables.
Byte 1, Bit 2, controls CH 2. 0 enables, 1 disables.
Byte 1, Bit 4, controls CH 4. 0 enables, 1 disables.
Byte 1, Bit 5, controls CH 1. 0 enables, 1 disables.

Examples:

4F FE 50- Enables CH 5, disables all others.
4F FD 50- Enables CH 3, disables all others.
4F DF 50- Enables CH 1, disables all others.
4F F8 50- Enables CH 3, CH 2, CH 5, disables all others.
4F FF 50- Disables All.

IIC DAC Intensity Control Command Strings:

Byte 5 is the DAC IIC Address. Addr = 18 for CH 2, CH 3, CH 5.
Addr = 1A for CH 1, CH 4.

If Addr = 18:

Byte 3, Bit 1, selects CH 2 DAC. 1 selects.

Byte 3, Bit 2, selects CH 3 DAC. 1 selects.

Byte 3, Bit 3, selects CH 5 DAC. 1 selects.

If Addr = 1A:

Byte 3, Bit 0, selects CH 1 DAC. 1 selects.

Byte 3, Bit 2, selects CH 4 DAC. 1 selects.

Byte 2, Bits 3..0, Contain the high nibble of 12-bit DAC data.

Byte 1, Bits 7..0, Contain the low byte of 12-bit DAC data.

Note- this 12-bit data is inverted. 0xFF is full off, 0X00 is full on.

Examples:

53 18 03 0E FF FF 50- Sets CH 5,CH 3,CH 2 DACS to 0xFFFF (Min)

53 18 03 0E F0 00 50- Sets CH 5,CH 3,CH 2 DACS to 0x000 (Max)

53 18 03 04 F5 55 50- Sets CH 3 DAC to 0x555

53 18 03 08 F8 00 50- Sets CH 5 DAC to 0x800

53 1A 03 01 F2 FF 50- Sets CH 1 DAC to 0x2FF

53 1A 03 0F F7 77 50- Sets all 0x1A DACS to 0x777

Get Firmware Model / Rev Control Command String:

53 47 02 50- Reads the Model / Rev register.

Examples:

[TX] 53 47 02 50- Read HW Config reg.

[RX] 70 F6- Two bytes are returned. For F/W revision, only the first byte returned is pertinent.

IIC Temp Sensor Command String:

53 91 02 50- Reads the IIC Temp Sensor

Returns two bytes. The most significant 11 bits of the two bytes are used with a resolution of 0.125 deg C.

Examples:

[TX] 53 91 02 50- Command String to the IIC Temp Sensor.

[RX] 26 A0- Two bytes returned from Temp Sensor.

26 A0 (hex) = 0010 0110 1010 0000 (binary).

1st 11 MSb = 001 0011 0101 (binary)

001 0011 0101 (b) = 135 (h) = 309 (decimal)

309 * 0.125 = 38.625 deg C.

1.4 TTL Port Command Strings.

For safety against unintended light on power up, the TTL port is disabled and must be enabled through RS-232 commands. For OEMs or for backwards compatibility, there is a unpublished command string to defeat this safety mechanism. The polarity of the TTL port is programmable and stored in non-volatile memory.

TTL Port Command Strings:

53 46 02 03 01 50- Enables TTL Port

53 46 02 02 00 50- Sets TTL Enables as Active Low

53 46 02 02 FF 50- Sets TTL Enables as Active Hi