

OLED Communication ICD

These commands are sent over CMOS COM Port with 38400 Baud, 8 Data Bits, No Parity and 1 Stop bit (38400,8,N,1) to a UART, at 3.3v CMOS logic level.

COMMAND:	SEND:	RESPONSE:
<p>Command #1. OLED Register Read</p>	<p>6 Bytes</p> <p>Byte 1: "D" Byte 2: "M" Byte 3: "D" for OLED address 0x5E, "O" for OLED address 0x5C Byte 4: "H" Byte 5: OLED register number 0x00 - 0x1F Byte 6: "r" example: "D" "M" "D" "H" 0x03 "r"</p>	<p>Response: 3 Bytes</p> <p>Byte 1: 0x32 (data from OLED) Byte 2: 0x0A (carriage return) Byte 3: 0x0D (Line Feed)</p>
<p>Command #2 OLED Register Write</p>	<p>"D" "M" "D" "H" <Reg Value> "J" <Data Value> "W" "M" Byte 3: "D" for OLED address 0x5E, "O" for OLED address 0x5C Byte 5: OLED register number 0x00 - 0x1F Byte 7: Data to write to OLED register. Refer to OLED datasheet</p>	<p>Response: None</p>
<p>Command #3 Read Gamma Coeffs</p>	<p>"F" "M" Loop (0 to 8) "H" <index number> "N" wait for four data bytes Byte 1- MSB Byte 2- LSB Byte 2- 0x0A Byte 3- 0x0D end loop "M" data value = MSB * 256 + LSB</p>	
<p>Command #4 Write Gamma Coeffs</p>	<p>"F" "M" Loop (0 to 8) "H" <Loop Index> "K" <Value MSB> < Value x LSB> where MSB = value / 256 where LSB = value - (MSB * 256) end of Loop "L" "M"</p>	

Commands	Data To Send	Response	Comments
RESET BOARD	"!" "R"	"!" "*"	Board will Reset and restart 50ms after receiving Reset Command
SLEEP	"!" "S"	"!" "S" "L" "E" "E" "P" 0x0A 0x0D	HDMI IC's will be Powered down and OLED will be turned Off
WAKE UP	"!" "W"	"!" "W" "A" "K" "E" 0x0A 0x0D	Normal system operation will resume

NOTE 1: If the input HDMI video is lost during system operation a No Video message ("N" "O" 0x20 "V" "I" "D" 0x0A 0x0D) will be sent to the host controller and the OLED Driver will reset after a delay of 200ms. The OLED Driver board will automatically restart and wait until the input video is restored. Do **NOT** communicate to the OLED Driver while it is waiting for the input video to be restored. Once the input video is restored, the OLED and other system parameters will be reinitialized and normally operation will be resumed.

NOTE 2: During power up or system reset the following message "O" "L" "E" "D" "D" "O" "N" "E" 0x0A 0x0D "I" 0x0A 0x0D will be sent to the host controller. Once this message is received, the OLED Driver is now ready to receive commands from an external controller.