TECHNICAL INFORMATION COMPILATION

GHI OSD3358 BeagleBone TH Module

SIPTH-SC-566 | English technical summary and source guide

This document combines the SIPTH-SC-566 product listing, the GHI TH Module overview and a related Linux source file.

01 Product identification

The technical details below come from Octavo's GHI OSD3358 TH Module overview [1].

02 Main specifications

Product class	System-on-module (SOM); TH design for through-hole headers
Processor / SiP	1 GHz TI Sitara AM3358 ARM Cortex-A8 / OSD3358-512M-BAS
RAM	512 MB DDR3
Nonvolatile storage	4 GB eMMC
Expandable storage	microSD card slot
USB	USB connection on the module
Signals at the headers	GPIO, analog, LCD and Ethernet
Header pitch	100 mil / 2.54 mm
Software	Use with BeagleBone Debian Linux distributions [2]

Source: [1]; Linux example: [2]. The overview describes hardware from the initial release period.

03 Integration scope

Octavo demonstrates header-based prototyping with the TH Module and a Python application on Debian. Exposing LCD and Ethernet signals does not by itself establish that a display or a complete Ethernet port is supplied with the product.

Software reference

GHI-TH-NH7C-00A0.dts | External panel example

The values below come from a published TH Module device tree file for an **external display** [3]. They are not specifications for an included display or default settings for every panel.

04 NH7C display configuration

Parameter	Value in the source file
Active area / pixel clock	800 × 480 pixels / 30 MHz
Color data	16 bits per pixel
Horizontal timing	Front porch: 40; back porch: 40; sync: 48 pixel clocks
Vertical timing	Front porch: 13; back porch: 30; sync: 3 lines
Sync / touchscreen	HSYNC and VSYNC active low; I2C1, 7-bit address 0x38

05 Clickable documentation links

[1] Octavo Systems - TH Module overview
Processor, memory, storage and header signals.

[2] BeagleBoard GitHub - GHI-TH-NH7C
Linux source file for an external LCD and touchscreen.

[3] Octavo Systems - TH Module application example
Prototyping example using Debian and Python.

[4] Octavo Systems - OSD335x datasheet
SiP component document; not the module's physical pinout.

GXP HEADER / STANDARD AND TH EXCEPTIONS

40-pin GXP reference

Not a complete module pinout

This table follows GHI's preliminary GXP standard, with the four analog-only exceptions documented for the TH module.

Pin	GXP standard function	GXP function / TH exception	Pin
1	LCD VSYNC	LCD HSYNC	2
3	GND	LCD CLK	4
5	GND	3.3V	6
7	LCD R0	LCD R1	8
9	LCD R2	LCD R3	10
11	LCD R4	LCD ENABLE	12
13	LCD G0	LCD G1	14
15	LCD G2	LCD G3	16
17	LCD G4	LCD G5	18
19	LCD B0	LCD B1	20
21	LCD B2	LCD B3	22
23	LCD B4	TH: ANALOG ONLY *	24
25	I2C SDA	TH: ANALOG ONLY *	26
27	I2C SCL	TH: ANALOG ONLY *	28
29	SPI SCK	TH: ANALOG ONLY *	30
31	SPI MISO	PWM (OPT) (G)	32
33	SPI MOSI	PWM (OPT) (G)	34
35	COM TX	INT (OPT) (G)	36
37	COM RX	INT (OPT) (G)	38
39	5V	GND	40

*** GXP 24, 26, 28, 30:** analog only on TH; no GPIO. Do not assume the standard CAN RD/TD functions on 24/26. Their AIN channel numbers were not verified. Analog inputs are not 3.3 V tolerant [6].

Power: GXP needs external power. The guide specifies external 5 V at "5V GXP"; the header's 3.3 V rail is derived from it. "5V OUT" is a separate SiP output whose value depends on the power source [6].

Reading: OPT = optional function; G = GPIO capability in the standard. The table shows numbering, not a board top view or pin 1 orientation. Verify connector orientation, including ground and power, on the board. A complete physical pinout for the main TH rows, Ethernet and JTAG was not found.