

Armmite F4 Hardware

Introductory thread for F4: [Coming soon: cheap, fast, no_soldering](#)

Primary thread for F4: [Armmite F4: programming the firmware](#)

[Armmite F4 Manual and Firmware on Fruit of the Shed](#) - for links to manual, firmware and source code on GitHub.

F4 User Manual thread: [F4 Manual Thread Latest Manual in this thread](#)

For other threads, search for "Armmite F4" in Subject (or "ArmmiteF4").

F4 CSUBs: [ArmmiteF4 CSUBs and LCD drivers](#)

STM32F407VET6/STM32F407VGT6 Hardware to purchase:

The board primarily supported: [STM32F407VET6](#) (with or without 320×240 LCD) Alternative board (not thoroughly tested, smaller, less capable): [STM32F407VGT6 Development Board](#)

[Schematic in English](#)

[Image with some pins numbered](#)

Add-on Hardware:

[Armmite F4 Hat PCB: expansion port, keyboard, ESP_01, Audio, SPI TFT](#)

[Armmite F4 Prototyping Boards](#)

[BigMik's Armmite F4 Hat PCB](#)

2x20 40-pin pi-type connector pinout:

Armmite F4	F4 Pin#	Function	Pin	CON	CON	Pin	Function	F4 Pin#	
3V3		3.3V	1	40	39	2	5V		5V
MCP23017+6 LEDs	PB7	93 DI, DO, i2c SDA	3	38	37	4	5V		5V
MCP23017+4 buttons	PB6	92 DI, DO, i2c SCK	5	36	35	6	GND		
MCP23017+Int PortA	PE1	98 DI, DO, Count1	7	34	33	8	DI, DO, COM1: Tx	68	PA9
		GND	9	32	31	10	DI, DO, COM1: Rx	69	PA10
Two-color LED	PC7	64 DI, DO, COM2: Rx	11	30	29	12	AI, DI, DO, PWM 1A	31	PA6
Two-color LED	PE6	5 DI, DO	13	28	27	14	GND		
Potentiometer	PE3	2 DI, DO, Count3	15	26	25	16	DI, DO, COM2: Tx	63	PC6
3V3		3.3V	17	24	23	18	AI, DI, DO, ADC_10	15	PC0
3-color led	PB5	91 DI, DO, SPI MOSI	19	22	21	20	GND		
3-color led	PB4	90 DI, DO, SPI MISO	21	20	19	22	AI, DI, DO, PWM 1B	32	PA7
3-color led	PB3	89 DI, DO, SPI CLK	23	18	17	24	DI, DO, Count4	3	PE4
		GND	25	16	15	26	AI, DI, DO	16	PC1
Accelerometer	PB11	48 DI, DO, i2c2 SDA	27	14	13	28	DI, DO, i2c2 SCK	47	PB10
Sound sensor	PB0	35 AI, DI, DO, PWM 1C	29	12	11	30	GND		
IRL540 PCB + LED	PB8	95 DI, DO, PWM 2B	31	10	9	32	AI, DI, DO	17	PC2
Buzzer	PC3	18 DI, DO	33	8	7	34	GND		
BM280	PB14	53 SPI2 MISO	35	6	5	36	DI, DO, PWM 2A	59	PD12
Chip Select for BM280	PE5	4 DI, DO	37	4	3	38	SPI2 MOSI	54	PB15
		GND	39	2	1	40	SPI2 CLK	52	PB13
NOTE: SPI2 pins 52,53,54 only available when touch is disabled: OPTION TOUCH DISABLE									

Boards for 2x20 40-pin pi-type connector:

[F4 Experimenter's PCB: F4/CMM2 40_pin connector breakout](#)

[Quazee's CMM2 Port Explorer](#)

[bigmik's CMM2 breadboard breakout PCB \(with gerbers\)](#)
[bigmik's CMM2 sea_of_holes breakout PCB \(with gerbers\)](#)
[Grogster's Pi_cromite Breakout](#)
[T GPIO Breakout Expansion Board DIY Kit + 40Pin Cable](#)

LCD Adaptors

32-pin to 34-pin (IPS/OTM8009A) [IPS Adaptor](#)
32-pin to 40-pin (SSD1963): [Peter Mather's SSD1963 Adaptor Gerbers for adaptor](#)
SSD1963 to Eastrising 7", 8", 9": [Grogster's Eastrising Adaptor](#)

Some LCDs (Note that 7" and 9" require separate 5V power)
[3.97" TFT LCD touch display 800x480 IPS/OTM8009A driver](#)
[4.3" TFT LCD Display 480x272 Touch Panel Screen Module With SSD1963 Controller](#)
[5" 800x480 TFT LCD Display Module SSD1963 Controller](#)
[7" 800x480 TFT LCD Display Module SSD1963 Controller](#)
[9" 800x480 Eastrising TFT LCD Display Module SSD1963 Controller](#)

F4 Stand-alone Console with Keyboard and LCD

[File Utilities Library](#)

Some Games/Puzzles/Utilities

[TileSlide](#)
[Mazist](#)
[ChemiChaos for 32_pin 320x240 LCD](#)
[ChemiChaos for 34_pin 800x480 IPS LCD](#)
[CrateAway for 34_pin 800x480 IPS LCD](#)
[Serial Terminal_type Viewer \(Debugging aid\)](#)
[Renewed Defense of the Green Hills \(but slow\) 16_Tile Puzzle Game](#)

Some Functional Modules

[45_in_1 Sensor kit Info here](#)
[ESP_01 & Programmer](#)
[ESP_01 4_pin Module](#)
[Micro Servo](#)
[2_channel Audio Amplifier](#)
[BMP280 Digital Barometric Pressure Sensor Module](#)
[GY_521 MPU_6050 MPU6050 Module 3 Axis analog gyro sensors+ 3 Axis Accelerometer Module](#)
[MCP23017 I2C Interface 16bit I/O Extension Module](#)
[Another MCP23017 I2C Interface 16bit I/O Extension Module](#)
[IRF520N Mosfet Driver Module Power PWM Dimming LED \(Best to replace IRF520N with](#)

IRL520N/IRL540N or better, e.g., IRLB8743PBF)

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