PIQUE

A Tablet-Like 7” Touchscreen for the Raspberry Pi Compute Module 3

Experienced developers know that the Raspberry Pi’s support base is unrivaled and its GPU performance leads the industry. It makes sense to leverage this technology in industrial applications, and the PIQUE™ 7” Tablet HMI is the perfect tool to accomplish that.

Everyone knows the Raspberry Pi is a great tool for creating prototypes. Pique quickly converts Raspberry Pi prototypes into real products with a rich, snappy, colorful user experience. Thin and compact, PIQUE is easy to integrate with existing or new enclosure cabinets. A wide variety of power input options further eases system integration.

The PIQUE starter kit includes everything you need to get up and running immediately, including a preloaded Compute Module 3 with a customized Raspbian™ Linux build, prebuilt Qt open source cross-platform development environment.

PIQUE is available now and additional options are coming soon. Contact The Circuit Foundry to order.

Applications:

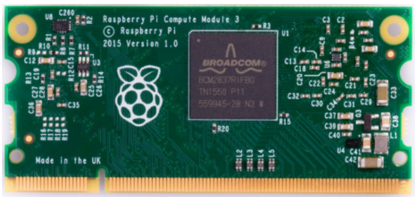
- **point of sale**
- **human-machine interface (HMI)**
- **test and measurement equipment**
- **security controls**
- **media players**

Benefits:

- **convert prototypes to production instantly**
- **extensive driver/OS support**
- **industrial operating range**
- **flexible power supply options**
- **CM3 available until at least 2023**

Built with Qt

For use with
Raspberry Pi™
Compute Module 3
and CM3L



Digital Interfaces

USB	USB A 2.0 host receptacle
I/O signals	20 available Pi GPIO pins with 0.1” header
	RPi pins: GPIO4-5, GPIO12-13, GPIO20-21
	CM3 pins: GPIO30-33, GPIO36-39, GPIO41-45
available peripherals	UART0 and UART1 w/handshaking, SPI0, I^2C0 and I^2C1, PWM0 and PWM1 (uses GPIOx I/O signals)
backlight brightness	driven by CM3 PWM0 or external circuit

Compute Module Support

supported modules	CM3 or CM3L with micro SD
boot devices	CM3 EMMC*, micro SD, USB memory stick
	* requires CM3 I/O board for EMMC programming

TFT LCD Display

display resolution	800×480 pixels
brightness	425 cd/m^2
contrast	400:1
viewing angle	70 degrees
viewable area	7” diagonal. 152.4mm×91.44mm active area
color depth	262144 colors (RGB666 format)
brightness	adjustable via software from <1% to 100%
backlight endurance	40,000 hours

Touchscreen

technology	projected capacitance
touch inputs	5 simultaneous touches
surface hardness	3H
interface	I^2C with kernel driver (included)

Electrical Specifications

input voltage	regulated 5 VDC +/- 5%	connector: TE 2-1445057-2
	optional unregulated 9-36 VDC	connector: TE 2-1445057-3
current consumption	under 1A	
I/O voltage	3.3 VDC (5.0 VDC I/O tolerant)	
operating temperature	-20°C to +70°C	

Physical Characteristics

Weight	180g
Dimensions	165.0 × 104.44 × 15.0mm (13.5mm w/o USB connector)

Included Software

Linux	Raspbian Jessie with display and touchscreen drivers
Qt	precompiled Qt Open Source 5.7 and Windows cross-compilation suite
Other	startup screen installer for customized splash screens on power up

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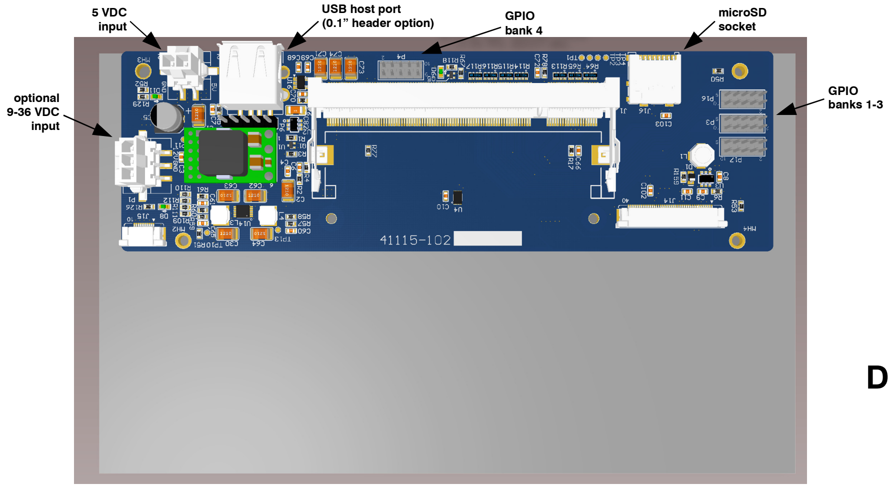

Development Support:

- **customized Raspbian Jesse Linux build with LCD and touchscreen drivers**
- **precompiled Qt cross-compile system**
- **startup/boot splash screen system**
- **available CAD models**

Part Number Explanation

PQ-070-V-G-0-SK

V: input voltage

5	5V regulated input
9	9-36VDC unregulated input

G: GPIO headers

0	2mm GPIO headers absent
1	2mm GPIO headers populated

SK: starter kit

example: PQ-070-9-1-0 9-36V input with GPIO headers

Additional Support:

- **custom software development**
- **kernel/driver customization**
- **PCB additions, depopulation**
- **custom LCD/touch selection**
- **custom glass overlay**

Ordering Information

Contact The Circuit Foundry for details:

info@thecircuitfoundry.com
phone 630-454-4407