

15.6" Smart Display Module for Raspberry Pi Compute Module 3



Make it beautiful. Your product deserves a stunning look. Your customers deserve the best user experience. They deserve PIQUE™.

It starts with a beautiful touchscreen. Bright whites and deep blacks. A full color gamut at every angle. Responsive to light and heavy touches, yet hard and rugged.

A high-performance CPU is important, but PIQUE adds a best-in-category GPU for snappy, responsive scrolling, navigation, and loading.

Software and product development should be a thing of beauty, too. That's why PIQUE leverages the Raspberry Pi so you can leverage a huge ecosystem of drivers, open-source software, and technical support.

Integration with your existing product is smooth and easy: a wide variety of I/O options with industrial connectors, support for industry-standard protocols like RS-232/485, I²C, SPI, USB, and Ethernet, a wide input voltage range, a slim, compact profile, and a protective metal shell with mounting screws for protection during assembly.

The PIQUE starter kit includes everything you need to get up and running immediately, including a preconfigured system image and the PIQUE Preinstalled Environment virtual machine. Royalty-free development using Electron is also supported.

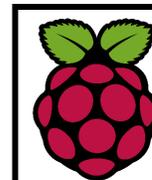
PIQUE is available now and additional options are coming soon. Contact The Circuit Foundry to order.

Applications:

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

Benefits:

- convert prototypes to production instantly
- extensive driver/OS support
- industrial ratings and operating range
- flexible power supply options
- guaranteed availability until at least 2026



For use with
Raspberry Pi™
Compute Module
3/3+ and CM3 Lite

15.6" Smart Display Module for Raspberry Pi Compute Module 3

TFT LCD Display

display resolution	1920×1080 pixels
brightness	500 cd/m ²
contrast	1000:1 typical
viewing angle	90 degrees typical (AHVA/IPS technology)
viewable area	15.6" diagonal. 334.16mm×193.59mm active area
color depth	16.7 million colors (24-bit color)
brightness	adjustable via software from <1% to 100%
backlight endurance	50,000 hours (to 50% brightness)

Touchscreen

technology	projected capacitance
touch inputs	10 simultaneous touches
surface	optically-bonded , 5H hardness
interface	USB mouse/digitizer with Windows, Linux, Android support

Real-Time Clock

timekeeping accuracy	±5ppm (temperature compensated)
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Ethernet

protocol	10/100BaseT, full duplex ±8kV/15kV contact/air discharge ESD protection optional 802.3at (PoE+) power over Ethernet
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Digital Interfaces

USB	4 ESD-protected USB 2.0 host ports 2 USB-A receptacles, 2 5-pin 0.1" headers
I/O signals	20 available Pi GPIO pins 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 ² C0 and I ² C1, PWM0 and PWM1 (uses GPIOx I/O signals)
backlight brightness	driven by CM3 PWM0 or external circuit

Compute Module Support

supported modules	CM3, CM3L with microSD, CM3+ (8 GB, 16 GB, 32 GB, Lite)
boot devices	CM3/3+ EMMC*, microSD, USB memory stick * requires CM3 I/O board for EMMC programming



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Electrical Specifications

input voltage	9-36 VDC	connector: TE 2-1445057-3
current consumption	12.5 W	
I/O voltage	3.3 VDC	
operating temperature	-10°C to +60°C	

Physical Characteristics

weight	700g
dimensions	364.3 × 216.4 × 15.0mm (13.5mm w/o USB connector)
mounting	up to 12 M3 screw holes

Included Software

Linux System Image	Raspberry Pi OS Buster with additional shared objects, display and touchscreen drivers
Qt Open Source	precompiled Qt Open Source 5.15 and cross-compilation suite
Electron	preconfigured in PIQUE System Image
LVGL	included in Preinstalled Environment
Other	startup screen installer for customized splash screens on power up



PIQUE Touchscreen Module shown flush-mounted on a wall.



PIQUE Touchscreen Module Rear View



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PIQUE Starter Kit

Everything you need to be productive, immediately:

- PIQUE 15.6" display module
- Raspberry Pi Compute Module 3+
- MicroSD card
- WiFi adapter
- Desktop stands
- 120VAC Power supply

Get up and running in minutes!

PIQUE Virtual Machine

Get coding immediately with our Preinstalled Environment Virtual Machine. Includes Qt cross-compile tools, Electron, and LVGL.

Development Support:

- customized Raspberry Pi OS Buster
- precompiled Qt cross-compile system
- preconfigured Electron development environment
- LVGL graphics library
- startup/boot splash screen system
- available CAD models



Additional Support:

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

