TinyScreen+ (Processor, OLED & USB in one) - ASM2022

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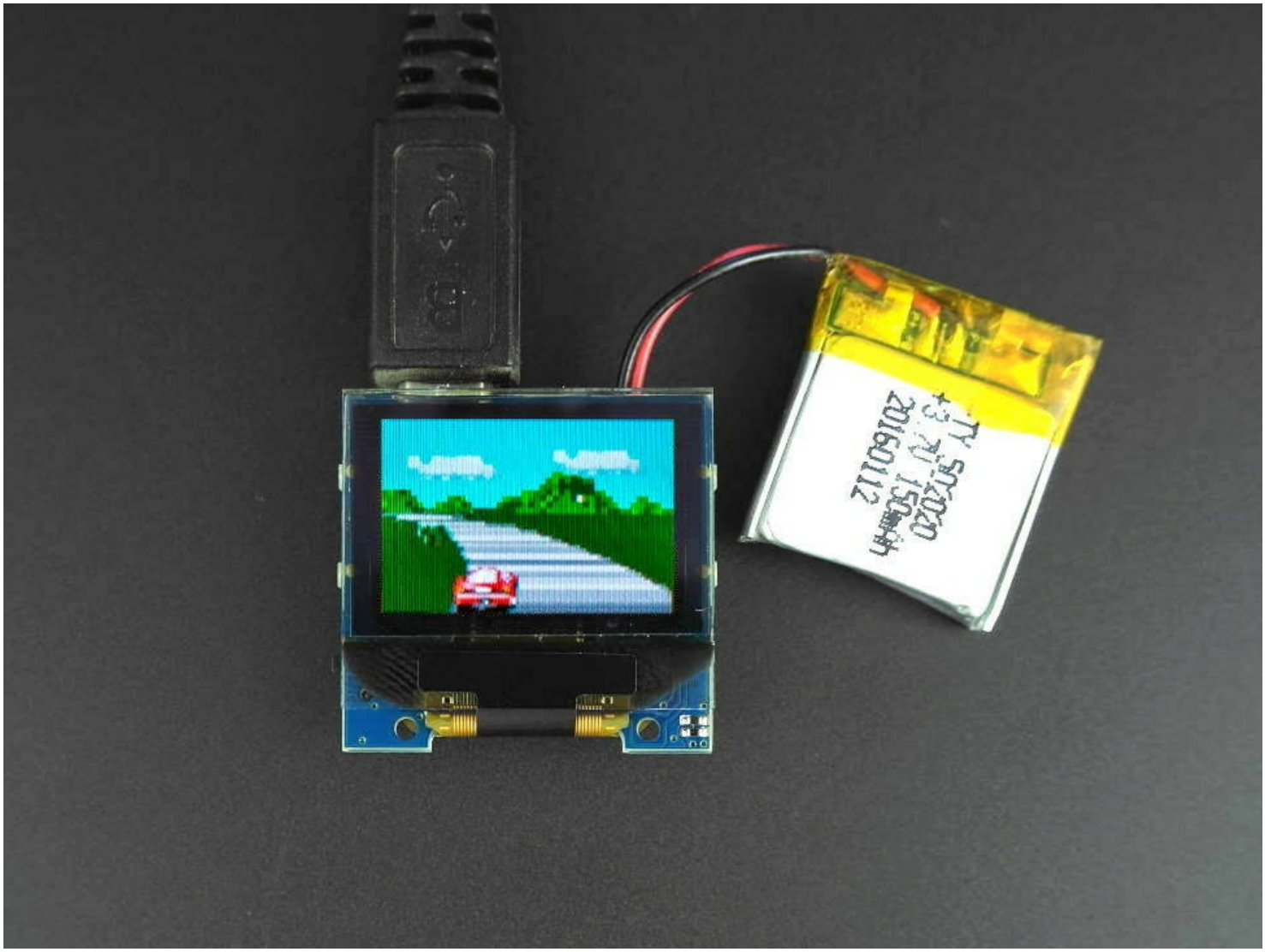

DESCRIPTION

TinyScreen+ is TinyCircuits' second generation processor board. We took our popular TinyScreen shield and added an Atmel SAMD21 **32-bit ARM** processor (the same one used in the Arduino Zero), USB port, power management and battery charger - what you get is a powerful OLED development system in one square inch. We've kept our standard TinyShield expansion port, allowing for use of all of our current shields, and all 20 IO pins are available for use- the onboard OLED and four buttons are directly connected to extra hardware on the processor. The OLED is the same brilliant 16 bit color 96x64 pixel display, now capable of up to **40 FPS 16 bit color** video playback from a microSD card, with single channel line-level audio output! TinyScreen+ uses the same TinyScreen library inside the Arduino programming environment, and most TinyScreen code and Arduino libraries will work as they are. ***Note: The battery is not included and is sold separately.***

Main Features:

- **Atmel SAMD21 ARM processor, 96x64 pixel OLED with four input buttons**
- **TinyShield expansion connector, built in micro USB connection**
- **Power switch, regulator, lithium battery management on board**
- **Precision clock crystal and Real Time Clock hardware built in, low power standby**
- **Up to 10 ADC inputs, up to 10 PWM outputs, up to 16 external interrupts**

*To learn more about the **TinyDuino Platform,** click **here***

TECHNICAL DETAILS

- Atmel ATSAMD21G18A 32 bit ARM processor at 48MHz, Arduino Zero compatible
- 0.96" (24.4mm) 96x64 pixel OLED display, 16-bit color depth
- Dedicated hardware SPI and control pins to OLED and four onboard buttons
- 32.728KHz clock crystal, RTC hardware built in with standby mode down to 0.2mA
- Expandable with our full lineup of stackable TinyShield boards
- Lithium battery connector and charger built in- set to a 200mA charge rate
- Ultra compact size and weight (one square inch!)
    - 1.02" x 0.98" (25.8mm x 25.0mm)
    - Maximum thickness: 6.0mm (0.24 inches)
    - Weight: 3.94 grams (0.139 ounces)
- Atmel 32-bit ATSAMD21G18A ARM Microcontroller
    - 256KB Flash, 32KB SRAM
    - 12-bit ADC, 10-bit DAC
    - Default Clock speed: 48MHz
- 2.7V – 5.5V operating voltage
- 20 IO pins available- up to 10 ADC inputs or up to 10 PWM outputs
- Arduino compatible bootloader with CDC Serial port, plug and play on OSX and Windows 10

Notes

- New users can get started with just the TinyScreen+, a micro USB cable, and a computer
- Current users with TinyScreen code can run most existing code with minor changes
- To send text to the Arduino IDE Serial Monitor, use the SerialUSB object instead of Serial
- All batteries are sold separately

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