Cheetah™

SPI Host Adapter



Key Features

USB to SPI Interface

- 40+ MHz SPI master
- Flash/EEPROM programming
- 3 slave selects
- Pipelined architecture for gapless shifting
- Precise timing and user-insertable delays
- In-system or stand-alone programming

Flash Center™ Software

- Extensible XML-based parts library with built-in support for many SPI Flash memories and EEPROMs
- Gang-programming with multiple Cheetah adapters

Control Center Serial Software

- Simplified transmission of SPI messages
- Automate tasks with XML-batch scripts
- Cheetah GUI functionality

Cheetah API

- Create custom software applications
- Example files included
- Cross-platform support for Windows, Linux, macOS

USB Bus-Powered

- Portable
- Field-deployable
- No extra power adapters needed

Quality

- CE, REACH, RoHS
- Manufacturing: ISO 9001, ISO 13485, AS9100C, ITAR
- One year warranty

With the ever-increasing speed of SPI devices and the pressure to minimize programming time, you need to get the most performance out of your embedded systems interface tools - and the Cheetah™ SPI Host Adapter is expressly designed to enable your competitive edge.

The Cheetah SPI Host Adapter is a fast and powerful USB-to-SPI host adapter, capable of communicating at up to 40+ MHz. It is an ideal tool to develop, debug, and program SPI applications, helping you to focus on core competencies by minimizing debugging and programming time.

Memory

- Program SPI flash chips and EEPROMs at up to 40+ MHz
- Program almost any SPI-based memory with the XML-based parts library in Flash Center

Prototyping

- Emulate a master to quickly create a high-speed SPI embedded system prototype
- Evaluate peripherals such as memory chips and sensors, quickly and easily

Bundling

- Provide end-customers with easy access to your SPI device

Programming Use Case

Program SPI Flash memory quickly and easily using the Cheetah adapter and Flash Center software. Many applications store their BIOS in fast-booting Flash memory. The Cheetah adapter allows engineers to quickly program BIOS updates such as updated versions and fixes to virtually almost any make of memory, due to the Flash Center's extensible, XML-based parts library.

Prototyping Use Case

Create SPI prototypes quickly and easily with the Cheetah adapter. As a master, it can emulate an MCU to actively poll high-speed SPI sensors, write and read from on-board flash BIOS, and actively control the bus.

Applications

Memory Programming	Communications	Audio/Visual	Sensors	Scan for Video
Flash	Ethernet controllers	Audio codecs	Touch	
EEPROMs	Navigation	Display/touch controllers	Pressure	
	GPS modules	Signal Processing	Temperature	
	Motor control			

Specifications

Software

The Flash Center™ Software and Control Center Serial Software provides quick and easy access to all features of the Cheetah SPI Host Adapter.

Flash Center Software Features

- Quickly and easily program, erase, and verify SPI-based Flash and EEPROMs
- Interface with almost any memory chip with the XML-based parts library

Control Center Serial Software

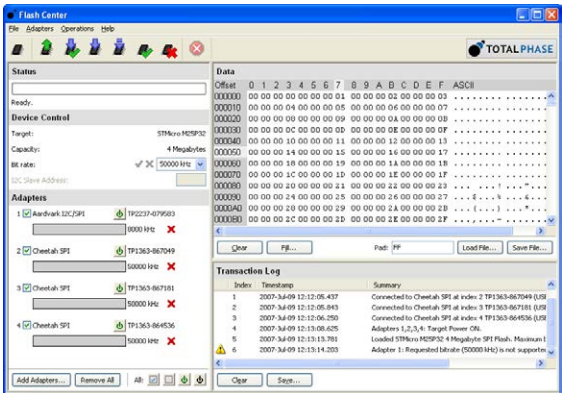
- Streamlined user interface for configuration of SPI at the click of a button
- SPI messages can be saved and loaded from binary files
- XML-based batch scripting for automating repetitive read and write commands with built-in help system
- Cheetah GUI functionality within SPI Master Mode
- User-insertable delays

Cheetah API and LabVIEW Support

- Create your own custom applications using the flexible, powerful, and well-documented Cheetah API
- 32- and 64-bit support for C/C++/C#, Python, .NET, VB.Net, VB 6
- LabVIEW Instrument drivers

Operating Systems Supported (32-bit and 64-bit)

- Windows: 7, 10, 11, and later
- Linux: Red Hat, SuSE, Ubuntu, Fedora
- macOS: 13 and later



Flash Center

Hardware

Bit Rate
SPI Master: 0.1 MHz - 40+ MHz

Target Bus Interface
SPI Master

Host Bus Interface
USB 2.0
Type B receptacle

Target Bus Cable
10-pin ribbon cable
1.27 mm (0.05") pitch
25.4 mm (1") length

Target Bus Connector
Type: 2x5 IDC female, 2.54 mm (0.10") pitch
Pinout: Power Pins: GND (Pins 2, 10), NC/+5V (Pins 4, 6)
SPI Pins: SS2 (Pin 1), SS3 (Pin 3), MISO (Pin 5), SCLK (Pin 7), MOSI (Pin 8), SS1 (Pin 9)

DC Characteristics
Target Power: +5V, 25mA max
I2C/SPI Signal: 3.3V, 10mA

Dimensions (W x D x L)
55.6 x 22.2 x 89 mm (2.19" x 0.87" x 3.5")

Weight
64 g (0.14 lbs)

Operating Temperature
10 to 35 °C (50 to 95 °F)

Ordering information

Cheetah SPI Host Adapter	
Part Number	TP280121
Country of Origin	USA
HTS	8543200000
ECCN	EAR99

TOTAL PHASE
+1 (408) 850-6501 | sales@totalphase.com | www.totalphase.com
©2025 Total Phase, Inc. All rights reserved.