

MICROCONTROLLER DEVELOPMENT TOOL

NEC ELECTRONICS AMERICA

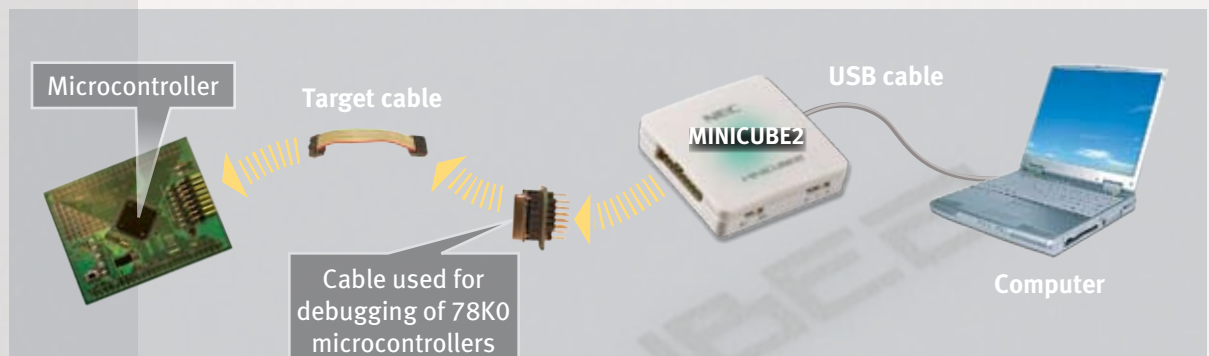
MINICUBE2 (QB-MINI2)

“All-in-One” Flash Programmer and On-Chip Debugger

The MINICUBE2 on-chip debugger and flash programmer can be used to debug and program NEC Electronics' existing and future 8-, 16- and 32-bit all-flash microcontrollers throughout development and production.

Features

- › On-chip debugging capability
- › Flash memory programming
- › USB-powered connection
- › Self-testing function
- › Pocket size



Debugging Functions

Target interface	› V850™ devices: CSI-H/S or UART › 78K0 devices: X1/X2 or OCD1A/OCD1B › 78K0S devices: X1/X2, INTP
Operating frequency	Same as target device
Security function	10-byte ID code authentication (not supported in 78K0S microcontrollers)
Program download	Available
Program execution	› Continuously › Re-execute from cursor point › Re-execute to cursor point › Execute with step
Forced break	Available (with some limitations in V850 devices)
Hardware breakpoints	› V850 devices: two breakpoints, program execution or access (some devices unavailable at present) › 78K0 devices: two breakpoints, program execution and access › 78K0S devices: none
Software breakpoints	2,000

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TERMINAL MASK	RESET TERMINAL ONLY
Foreground monitor area size	V850 devices: 2 KB ROM, 16-byte RAM (maximum)
	78K0 devices: 257-byte ROM (minimum), 7-byte RAM (minimum)
	78K0S devices: 304-byte ROM, 5-byte RAM (used for stack)

Flash Programming Functions

Target interface	› V850 devices: CSI-H/S or UART › 78K0 devices: UART › 78K0S devices: X1/X2
Clock supply	16, 8, 4 MHz clock that can be supplied to the target system
Power supply	3V or 5V (maximum 100 mA)
Parameter function	Parameter file that is the same as the PG-FP4's
Security setting	Available
Standalone operation	No (host computer needed for operation)

Supported Devices

78K0R devices	78K0R/Kx3
78K0 devices	78K0/Kx2, 78K0/Lx2
78K0S devices	78K0S/Kx1+
V850 devices	V850ES/Hx2™, V850ES/Jx2™, V850ES/Kx2™, V850ES/Lx2™

NEC Electronics America, Inc.
 Santa Clara, California USA
 1-800-366-9782 and
 1-408-588-6000
www.am.necel.com

NEC Electronics Corporation
 Kawasaki, Japan
 044-435-5111
www.necel.com

NEC Electronics (Europe) GmbH
 Duesseldorf, Germany
 +49 (0) 211 65 03 01
www.ee.nec.de

NEC Electronics Hong Kong Ltd.
 Hong Kong
 (+852) 28869318
www.necel.com.hk

NEC Electronics Singapore Pte. Ltd.
 Singapore
 (65) 6253 831
www.nec.com.sg

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