

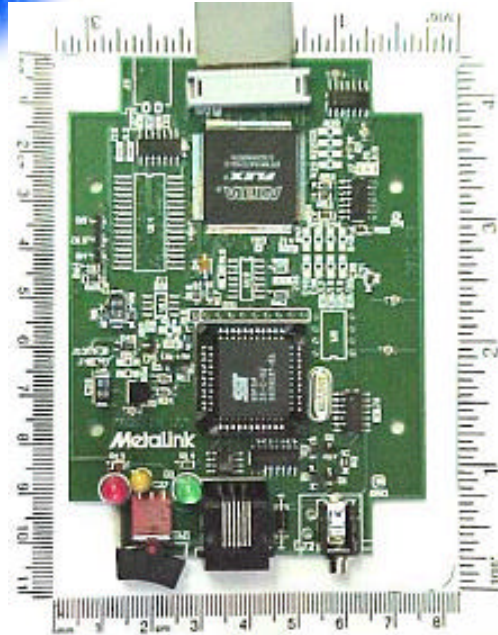


COP8FLASH TOOLS

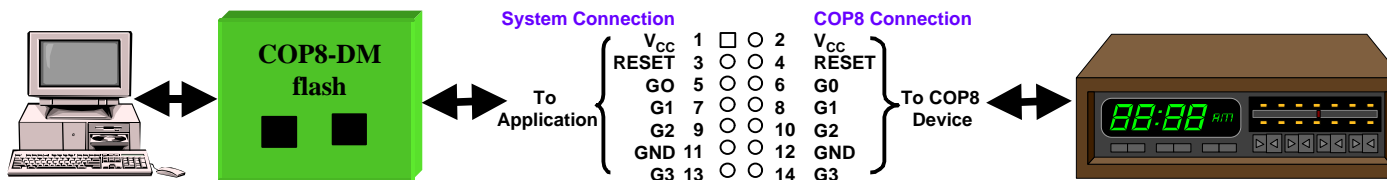
- **KKD WCOP8 Integrated Development Environment (IDE) (KKD 3.05)**
- **NSC Assembler (NSASM 5.3)**
- **IAR Embedded Workbench Tool Suite (EWCOP8 1.31B)**
- **Byte Craft C-Compiler (BC-C 3.1)**
- **MetaLink In-Circuit Emulators**
- **Unis Processor Expert Development Platform (COP8-SW-PE2)**
- **ABNW (ICU) Reference Design Boards FL1 and AM**
- **COP8FLASH Starter Kit (COP8-SKFLASH)**
- **Kanda COP8FLASH In-System Programming SW (COP8-SW-ISP1)**
- **COP8-NSDEV ver 3.4 CDs**

<http://www.national.com/cop8/>

In-System Emulation Tools



- Precise Analog Emulation
- Easy in-field debugging
- Eliminates expensive bond-out chip
- Low-Cost Emulation
- Target Connection via (2x7) Header





In-System Emulators

Features Included in All

COP8 Flash Emulation Tools

- Real-time Emulation
- Max. Frequency 20 MHz
- Low Voltage Support
- Programming Capability
- All Pinouts Supported
- RS-232 Connection to PC
- 115.2Kb Max Baud Rate
- Symbolic Debug
- Source-Level Debug
- Changed-Value Highlighting
- Watch Window(s)
- Code Memory Window(s)
- Internal Data Memory Window(s)
- Power Supply Included
- Serial Cable Included



MetaLink In-System Emulators

Real-time Emulation with maximum frequency of 20MHz

- Low voltage support, programming capability and all pinouts supported

Connection to PC with a Max Baud Rate of 115.2Kb

Downloadable Control RAM

NSC Product Names	COP8-EMflash	COP8-DMflash	COP8-IMflash
Breakpoints			
Number of SW Breakpoints	16	32K	None
Number of HW Breakpoints	None	None	32K
Pass Counter	No	No	Yes
Trace			
Real-time Trace	No	Yes	Yes
Trace Memory Size (Frames)	N/A	32K	32K
Adjustable Trace Trigger Points	N/A	No	Yes
Transparent Trace	N/A	No	Yes
Read Data Trace	N/A	No	Yes
Trace Filtering (On/Off) in Real Time	N/A	No	Yes
Trace Search	N/A	Yes	Yes
Accessories			
Enclosed in Case	No	Yes	Yes
Power Supply Included	Yes, 110 or 220	Yes	Yes
Serial Cable Included	Yes	Yes	Yes



COP8FLASH Reference Design

Reference Design Is Versatile (COP8-REF-FL1)

- Multimeter - On-board/Off-board Voltage/Current/Frequency Measurements
- Communication/Interfaces RS232/485, IrDA, uWire, I/O
- Matrix LC Display
- Expansion Connectors (keypad, etc.)
- Sensors - Temperature, Light
- In-System Emulation
- In-System Programming
- COP8 Firmware Source code provided
- Host PC SW provided





In-System Programming Software

Kanda ISP PC Host SW



PC Parallel Printer Port	
Signal Name	Pin Number
Strobe	1
D0	2
NEG/ACK	10
GND	18

VCC



5.6K

Alternate Function	COP8CBR Pin Number	
	44 PLCC	68 PLCC
SK/G5	7	6
SI/G6	8	7
SO/G4	6	5
GND	27,28	15,17,52