

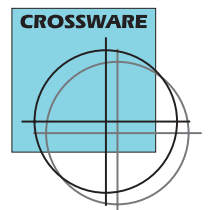
# CROSSWARE® FireFly™

FireFly is a BDM Interface for Motorola ColdFire microprocessors and microcontrollers. It operates with Crossware debugging software running on a Windows 2000 or Windows XP platform and allows fast download and source level debugging of ColdFire programs via a USB port.



## HIGHLIGHTS

- ❑ Fast downloads via USB Interface
- ❑ Smart synchronisation to maximise data transfer rate across BDM interface.
- ❑ Electronically compatible with Version 2, 3 and 4 ColdFire chips running at up to 200MHz and Version 4e ColdFire chips (MCF547X and MCF548X) running at up to 400MHz.
- ❑ Automatically updatable firmware allows for rolling enhancements.
- ❑ Includes Windows flash programming software that can program multiple FireFly interfaces.
- ❑ Plug and play compatible.
- ❑ Integrates for full source level debugging with Crossware's ColdFire Development Suite and Crossware's stand-alone Simulator/Debugger.



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## Target System Requirements

- Minimum ColdFire clock frequency (CLKOUT): 4MHz
- Maximum ColdFire clock frequency (CLKOUT): 200MHz (note that CLKOUT for the MCF547X and MCF548X is half of the core frequency and so the maximum core frequency for these chips is 400MHz)
- Works with 3.3V ColdFire variants. Should not be used with older 5V parts such as the MCF5206.
- Standard Motorola recommended BDM connector layout:

NC	1	2	/BKPT
GND	3	4	DSCLK
GND	5	6	NC
RESET	7	8	DSI
NC	9	10	DSO
GND	11	12	PST3
PST2	13	14	PST1
PST0	15	16	NC
NC	17	18	NC
NC	19	20	GND
NC	21	22	NC
GND	23	24	CLKOUT
Core Voltage (3.3V)	25	26	/TA

Note that the 3.3V core voltage connection is optional. It can be 3.3V, 1.8V or not connected.

## Download Speed

Tests on an M5282EVB (MCF5282 running at 64MHz) gave the following results:

	FireFly	parallel port interface
1MByte download into DRAM	10 seconds	43 seconds
1MByte download into external flash memory	60 seconds	8.5 minutes

## Plug and Play

- Plug in FireFly and the Crossware source level debugging software will automatically use it.
- Unplug it and the Crossware source level debugging software will revert to the use of a parallel port interface.

## Power Supply

- Powered by the USB interface. Requires no power from the target board or external power supply.

## Smart Synchronisation

- Synchronises to the ColdFire clock to optimise timing and data transfer between FireFly and the ColdFire background debug module.

## USB Interface

- Full speed operation compatible with both USB 1.1 and USB 2.0 interfaces.
- A USB cable to connect the PC to FireFly is supplied.

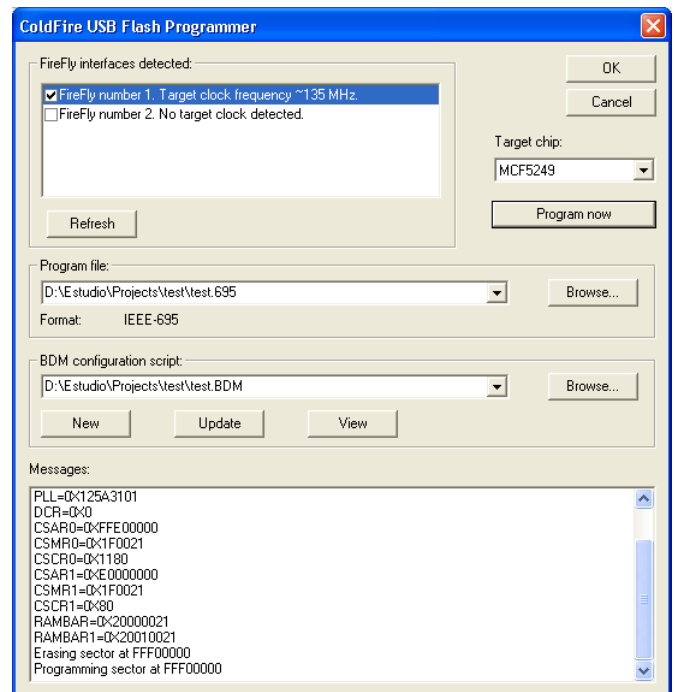
## Connections

- Plugs directly into the BDM connector on the target board to minimise signal delays.
- Bump polarised socket to ensure correct orientation.

## Updatable Firmware

- The FireFly firmware can be updated in seconds. If the Crossware debugging software detects that the firmware needs updating it will automatically download a new version.

## Flash Programming Software



Windows flash programming software is included. This can simultaneously control up to 127 FireFly devices, programming any or all of the target boards connected to them.

The software is capable of automatically generating the BDM configuration script by examining the program that is to be downloaded.

Program file formats supported include Motorola 'S' records, HP/Microtek IEEE-695 and ELF.

## Host System Requirements

Intel Pentium or above running Windows 2000 or Windows XP together with the included flash programming software or Crossware source level debugging software (ColdFire Development Suite or stand-alone Simulator/Debugger with Embedded Development Studio version 4 or above, not included).