

How to use the PNP/5280 BDM Interface

The evaluation board DNP/EVA8 for the DIL/NetPC PNP/5280 offers a BDM (Motorola Background Debug Mode) connector for the use of external debugger interfaces which follows the Motorola BDM specifications for ColdFire MCUs. **Make sure that the power supply is off before following the next steps.**

- **1. Step:** Use a standard BDM interface product for Motorola ColdFire MCUs. Some vendors offers 3,3 V and 5 V BDM interface products for ColdFire platforms. **The PNP/5280 needs a 3,3 V version.**



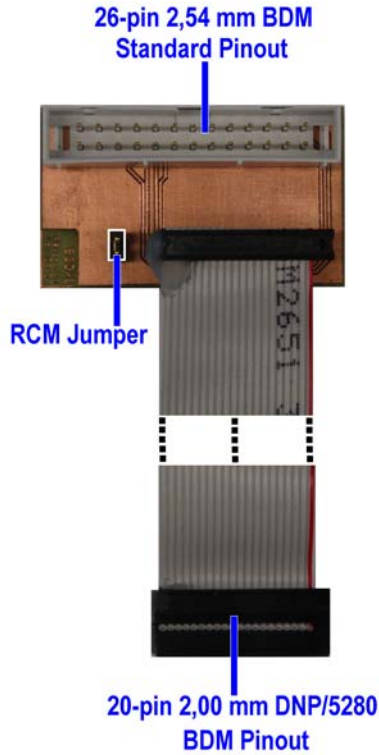
Picture 1: The P&E BDM Interface for 3,3 V ColdFire MCUs

Most BDM interface products for Motorola ColdFire MCU comes with a 26-pin connector with a 2,54 mm grid for the BDM interface on one side. Table 1 shows the common pinout.

Pin	Function	Pin	Function
1	NC	14	PST1
2	BKPT	15	PST0
3	GND	16	DDATA3
4	DSCLK	17	DDATA2
5	GND	18	DDATA1
6	NC	19	DDATA0
7	RESET	20	GND
8	DSI	21	NC
9	Vcc	22	NC
10	DSO	23	GND
11	GND	24	CLK
12	PST3	25	Vcc
13	PST2	26	TEA

Table 1: 26-pin P&E BDM Pinout

- 2. Step:** The evaluation board DNP/EVA8 offers a 20-pin BDM connector with a 2,00 mm grid. Use the original SSV DNP/5280 BDM interface adapter for converting the 26-pin BDM pin out with the 2,54 mm grind to the 20-pin DNP/EVA8 BDM pin out with 2,00 mm grid.



Picture 2: The SSV DNP/5280 BDM Interface Adapter Converter from 2,54 mm to 2,00 mm

Pin	Name
1	VIO (3.3 VDC I/O Voltage)
2	GND
3	TA#
4	BKPT#
5	Reset#
6	DSCLK#
7	DSI#
8	TCLK
9	PST3
10	DS0
11	PST2
12	DDATA3
13	PST1
14	DDATA2
15	PST0
16	DDATA1
17	PSTCLK
18	DDATA0
19	GND
20	RCM

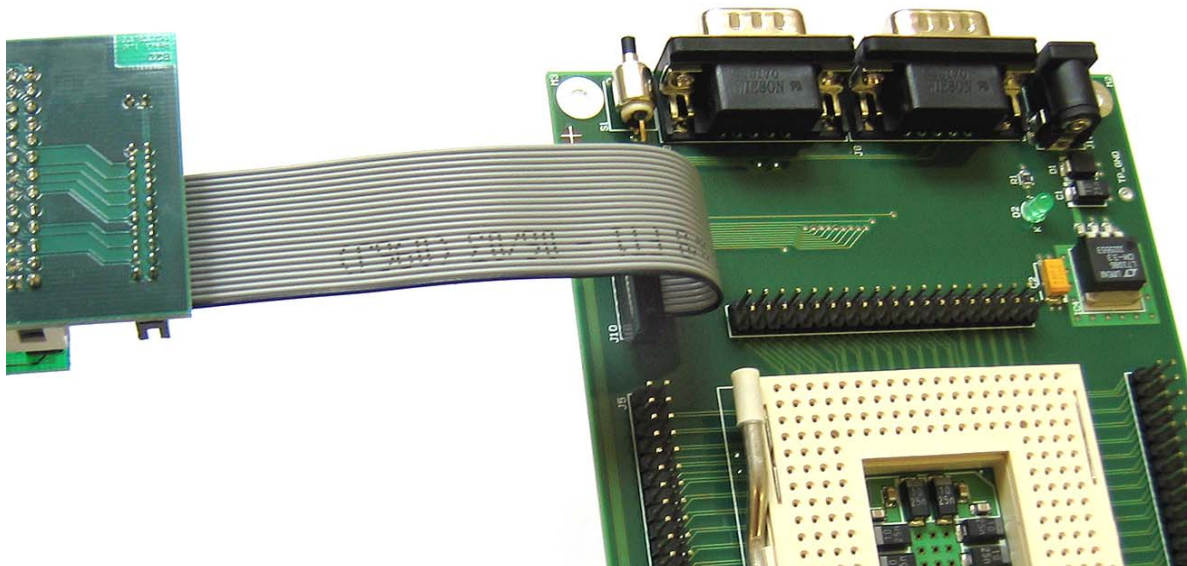
Table 2: DNP/EVA8 BDM Connector Pin Out (J10 pin out)

- **3. Step:** Connect the 26-pin BDM interface connector with the SSV DNP/5280 BDM Interface Adapter board.



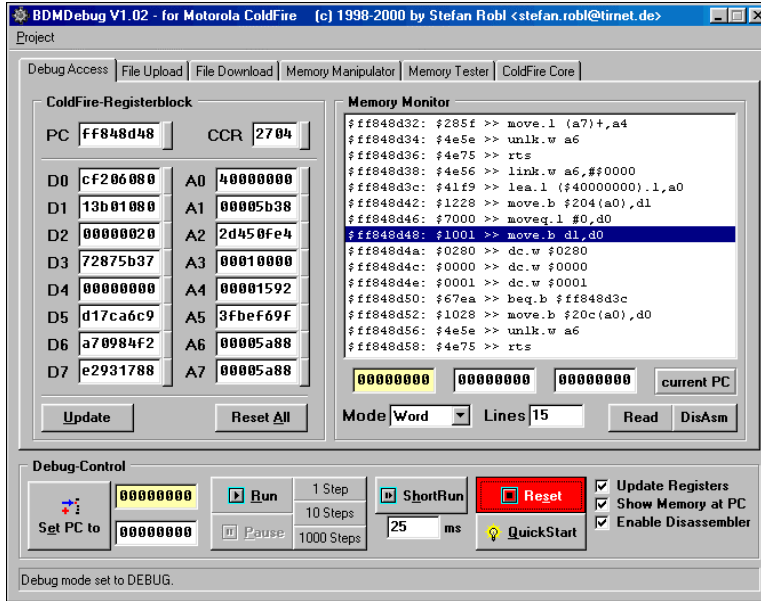
Picture 3: Connection between P&E BDM Interface and SSV BDM Interface Adapter

- **4. Step:** Remove the RCM jumper if available. Then connect one end of the SSV BDM Interface Adapter to the DNP/EVA8 connector J10.



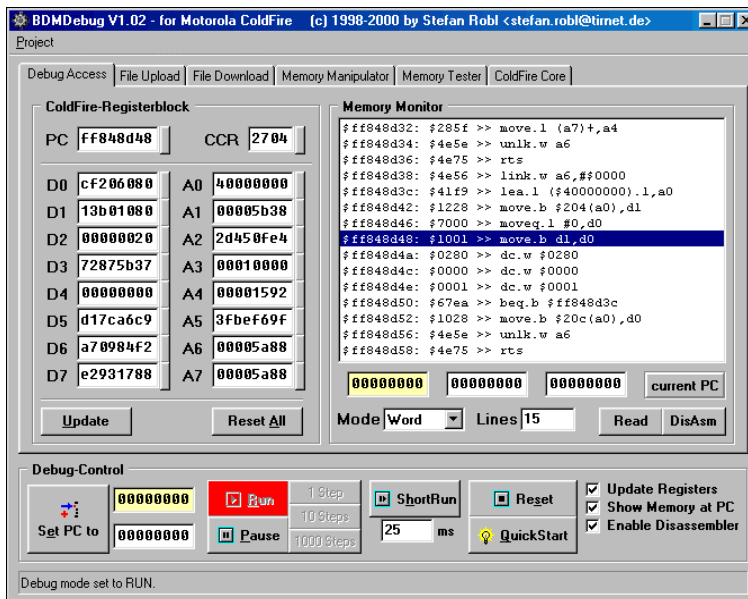
Picture 4: Connect the other end of the SSV BDM Interface Adapter to the DNP/EVA8

- **5. Step:** Now power-up the PNP/5280. Then run your BDM interface software. The following picture shows the Win32 BDM software *BDMDebug*.



Picture 5: Reset the PNP/5280 over the BDM connection

- **6. Step:** *BDMDebug* offers a Run button. If a user press this button the PNP/5280 runs in normal operation under control of the BDM debugger.



Picture 6: Run the PNP/5280 over the BDM connection

Please note: The DIL/NetPCs PNP/5280 and DNP/5280 are software compatible. Only the mechanical form factor and the pin out is different. The Motorola dBUG ROM monitor and the Linux operating system of these two systems is absolute identical. It is also possible to use the DNP/5280 BDM software for the PNP/5280.

That is all.