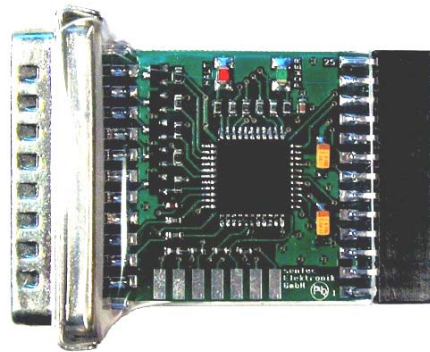


COBRA Connect BDM Interface

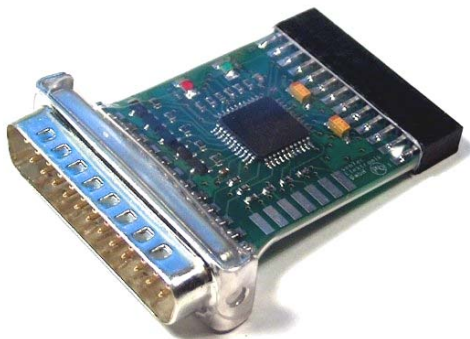
Product Information 1.2: 2007/01/22

COBRA Connect Features:

- Background Debug Mode (BDM) to PC Parallel Port Interface for Freescale ColdFire® Processors
- Suitable for Freescale ColdFire® Processors up to 266 MHz Clock and 3.3 V Pad Voltage
- Compatible with the Standard Parallel Port Wiggler
- Works with all COBRA Processor Modules (COBRA = ColdFire® Board for Rapid Applications)

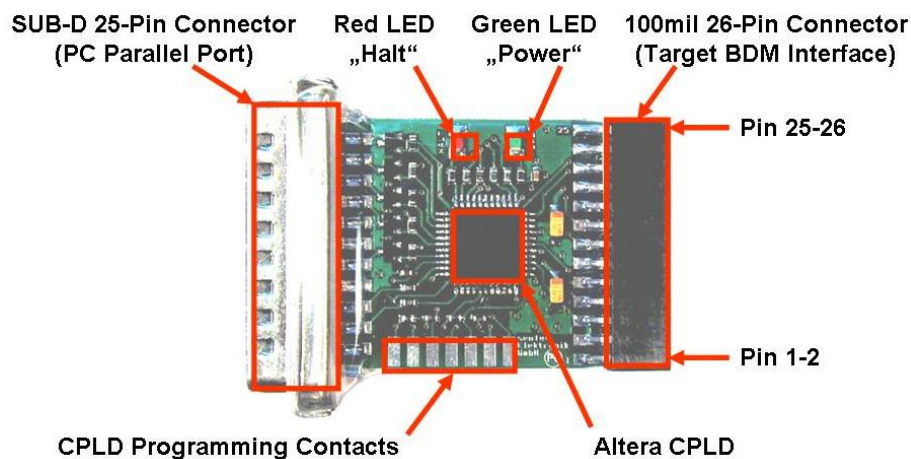


Original Size 34 mm x 56 mm

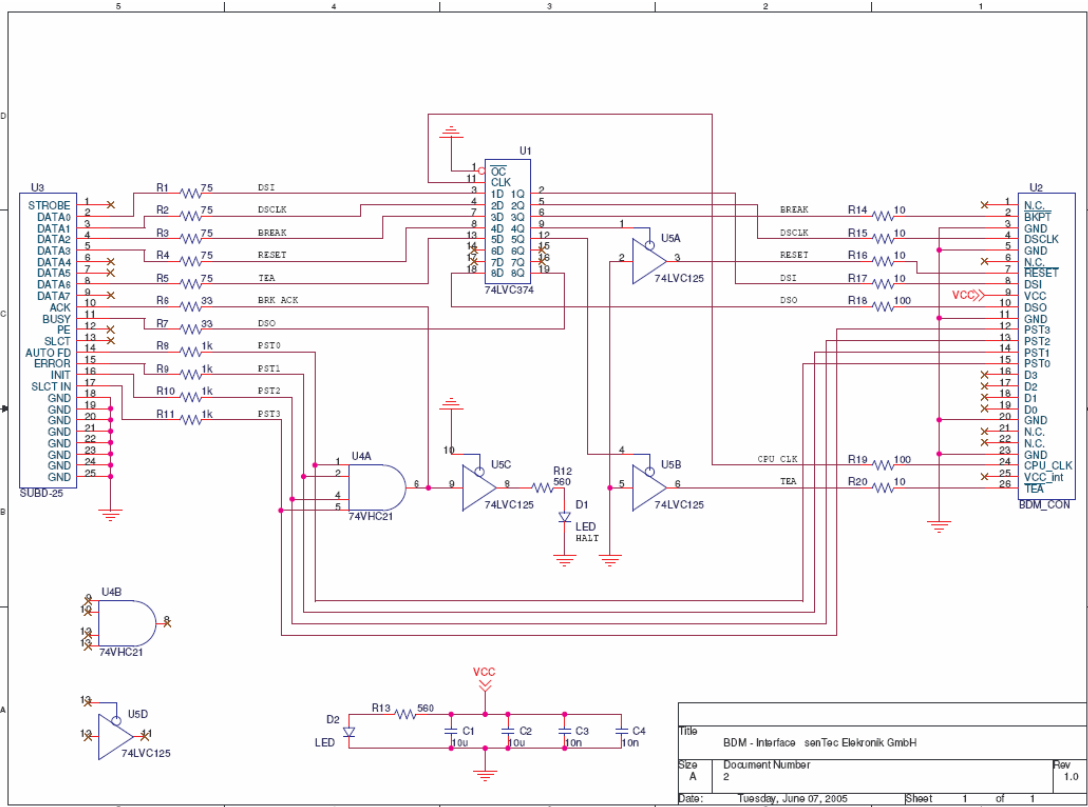


Tested with:

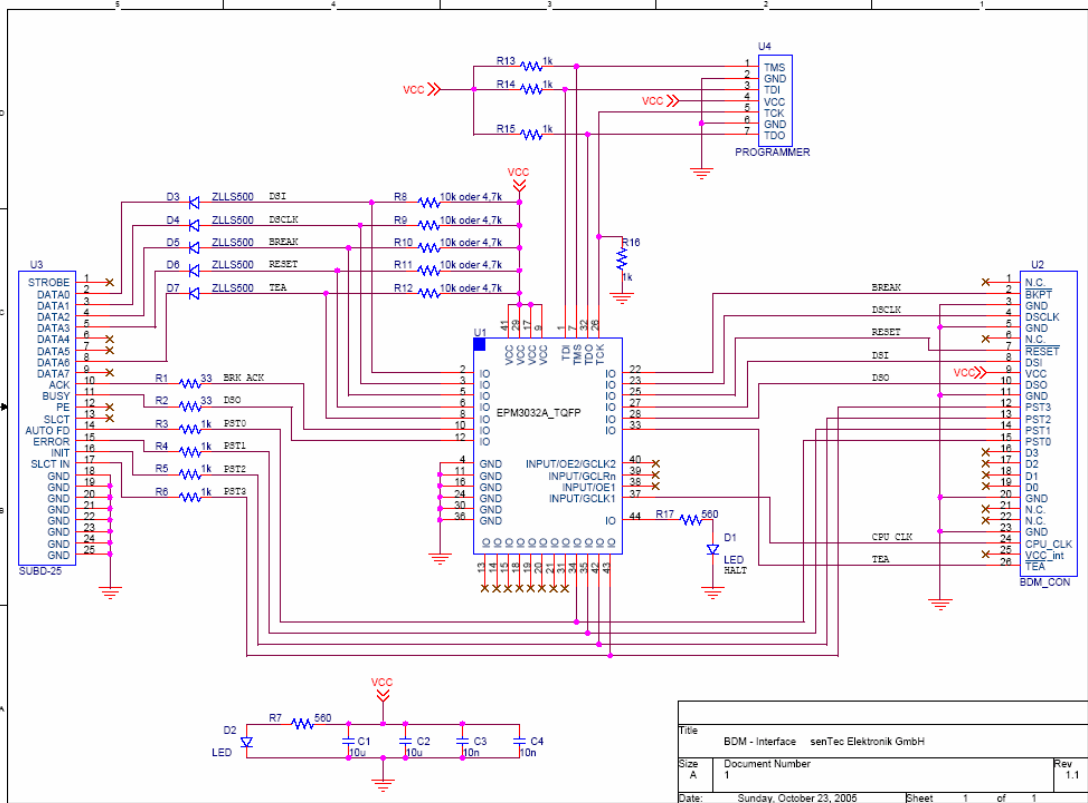
- GNU Compiler (gcc)
- GNU Debugger (gdb)
- Freescale CodeWarrior
- CF flasher, BDM Flasher
- Processors: MCF5206E, MCF5213, MCF5272, MCF5282, MCF5235, MCF5485, MCF5329; MCF52235



COBRA Connect Principal Functional Schematic (discrete Logic)



COBRA Connect Actual Schematic (Implementation with CPLD)



100mil 26-Pin Target BDM Interface Connector

Nr.	Name	Direction	Description
1	N.C.	-	-
2	/BKPT	Processor in	/Breakpoint
3	GND	Ground	Ground
4	DSCLK	Processor in	Debug Data Clock In
5	GND	Ground	Ground
6	N.C.	-	-
7	/RESET	Processor in	/Reset
8	DSI	Processor in	Debug Data Serial In
9	VCC	-	VCC Processor Pads (3.3V)
10	DSO	Processor out	Debug Data Serial Out
11	GND	Ground	Ground
12	PST3	Processor out	Processor Status Pin 3
13	PST2	Processor out	Processor Status Pin 2
14	PST1	Processor out	Processor Status Pin 1
15	PST0	Processor out	Processor Status Pin 0
16	D3	not used	Processor Data 3
17	D2	not used	Processor Data 2
18	D1	not used	Processor Data 1
19	D0	not used	Processor Data 0
20	GND	Ground	Ground
21	N.C.	-	-
22	N.C.	-	-
23	GND	Ground	Ground
24	CPU_CLK	Processor out	Processor Clock
25	VCC	N.C.	VCC Processor Core (1.5 – 3.3V)
26	/TEA	Processor in	/Transfer Error Acknowledge

SUB-D 25-Pin PC Parallel Port Connector

Nr.	Name on PC	Name	Direction	Description
1	- STROBE	N.C.	-	-
2	DATA 0	PC_DSI	PC out	Debug Data Serial In
3	DATA 1	PC_DSCLK	PC out	Debug Data Clock In
4	DATA 2	/PC_BREAK	PC out	/Breakpoint
5	DATA 3	/PC_RESET	PC out	/Reset
6	DATA 4	N.C.	-	-
7	DATA 5	N.C.	-	-
8	DATA 6	/PC_TEA	PC out	/Transfer Error Acknowledge
9	DATA 7	N.C.	-	-
10	- ACK	S_DSO	PC in	Debug Data Serial Out
11	+ BUSY	/BRK_ACK	PC in	Breakpoint Acknowledge
12	+ PE	N.C.	-	-
13	+ SLCT	PWR_ON	PC in	Power On
14	- AUTO FD	PST0	PC in	Processor Status Pin 0
15	- ERROR	PST1	PC in	Processor Status Pin 1
16	- INIT	PST2	PC in	Processor Status Pin 2
17	- SLCT IN	PST3	PC in	Processor Status Pin 3
18	GND		Ground	
19	GND		Ground	
20	GND		Ground	
21	GND		Ground	
22	GND		Ground	
23	GND		Ground	
24	GND		Ground	
25	GND		Ground	

COBRA Connect Description

The **COBRA Connect** is a Background Debug Mode (BDM) to PC Parallel Port Interface for Freescale ColdFire® Processors. It is suitable for ColdFire® Processors up to 266 MHz Clock and 3.3 V Pad Voltage. It is 100% compatible with the Standard Parallel Port Wiggler and works with all COBRA Processor Modules (COBRA = ColdFire® Board for Rapid Applications): COBRA5272, COBRA5282, COBRA5475, COBRA5485, COBRA5329, COBRA52235.

The **COBRA Connect** BDM Interface has been tested and works fine with the following tools: GNU Compiler (gcc), GNU Debugger (gdb), Freescale CodeWarrior, CF flasher, BDM Flasher. However, it should work also with all other tools compatible to the Standard PC Parallel Port Wiggler.

The **COBRA Connect** BDM Interface has been tested and works fine with the following Processors: MCF5206E, MCF5213, MCF52235, MCF5272, MCF5282, MCF5235, MCF5475, MCF5485, MCF5329. However, it should work also with other Freescale ColdFire® Processors. The 100mil 26-Pin Target BDM Interface Connector is compatible to the Freescale-Recommended BDM Pinout (26-pin Berg connector arranged 2 x 13) as described in the User's Manuals of the ColdFire® Processors.

When you connect the BDM interface to the target, please make sure that you connect pin 1 of the BDM interface connector to pin 1 of the target connector. There is no mechanical lock to prevent the BDM interface from reverse connection. If you connect the BDM interface to the target reversely, it will not be destroyed, but just will not work as expected.

The **COBRA Connect** BDM Interface is been powered from the debugged target. The power supply voltage should be within the range of 2.3 to 4.6 V. When a supply voltage is applied to the BDM interface, the green LED "Power" indicates that the BDM Interface is powered. The red LED "Halt" indicates that the processor is in halted state. If you connect the BDM interface to a target, power up the target and the green LED "Power" does not light up, check if you have connected the BDM interface the right way (or if it is reversed).

The **COBRA Connect** BDM Interface has been tested and works fine with the native Parallel Port of standard IBM-compatible Personal Computers and Notebooks. **However, it has not been tested with USB based Parallel Port Emulators! If you use a Parallel Port Emulator or a Port Replicator, the COBRA Connect BDM Interface may not work as expected.**

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Freescale Design Alliance Program.



Product status: development finished, product in qualification