SB70 Platform Reference

Revision 1.2
January 21, 2009

Introduction

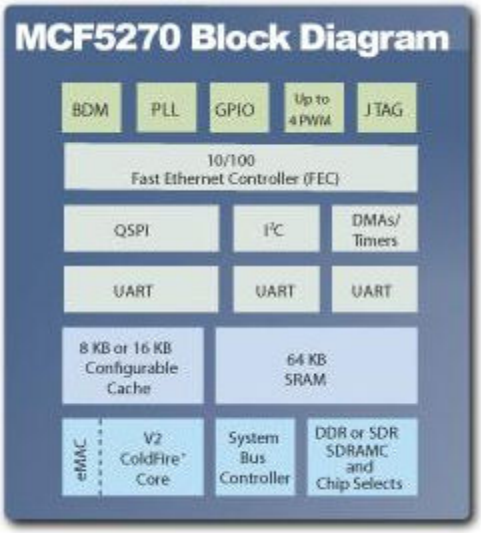
This document provides the memory map and locations of reference materials for those who wish to add additional hardware to their NetBurner device. Hardware dimensions, connectors and pinouts are described in the datasheet for your NetBurner device at www.netburner.com.

SB70 vs. SB70B

The original SB70-100CR uses a 2Mbyte SDRAM IC. When this IC was discontinued, it was replaced with a 8MB IC. Existing SB70 applications will run as before with no changes, using only 2MB of SDRAM. Applications may take advantage of the additional 6MB of SDRAM by building the application with the SB70B platform selected.

MCF5270 Processor Block Diagram

The block diagram of the 5270 processor is shown below. The Freescale reference manual provides in-depth information on the processor and is located in the \nburn\docs\Freescale directory of your NetBurner installation.



Development Board Schematic

The development board schematic is located in the \nburn\docs\platform directory. This schematic can be used for design ideas in your own hardware implementation for power or RS-232 conversion.

Memory Map

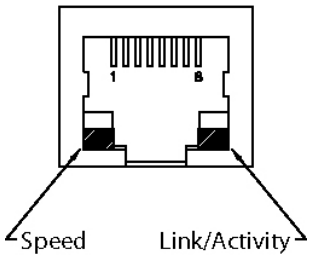
If you are adding peripherals to your NetBurner device address/data bus, you can choose unused memory locates from the table below. Once an area has been selected, you will need to configure the appropriate chip select address and option registers in the MCF5270 processor. Please refer to the chip select sections of the Freescale MCF5270 processor manual for details on the register configuration.

Memory Region	Address Range	Region Description
Undefined	0x00000000 to 0x01FFFFFF	Undefined area to catch null pointers
SDRAM	0x02000000 to 0x021FFFFF 0x02000000 to 0x027FFFFF	SB70: 2 Mbytest of SDRAM SB70B: 8 Mbytes of SDRAM
Unused	0x02200000 to 0x1FFFFFFF	Available to programmer
VBR	0x20000000 to 0x200003FF	The 5270 Vector Base Register
RAMBAR	0x20000000 to 0x2000FFFF	The 5270 internal SRAM
Unused	0x20010000 to 0x3FFFFFFF	Available to programmer
IPSBAR	0x40000000 to 0x7FFFFFFF	The 5270 Internal device registers. These are accessible using the sim structure defined in sim5270.h.
Unused	0x80000000 to 0xFFBFFFFF	Available to programmer
Start of FLASH	0xFFC00000	Start of 512 K of FLASH Memory
Flash Monitor	0xFFC00000 to 0xFFC03FFF	The Boot Monitor
Monitor Params	0xFFC04000 to 0xFFC05FFF	Monitor Parameter Storage
User Params	0xFFC06000 to 0xFFC07FFF	User Parameter Storage
Application Code	0xFFC08000 to ...	Compressed application code
End of FLASH	0xFFC7FFFF	End of 512 K of FLASH memory

RJ-45 Connector

LEDs

LED 1: Ethernet speed: 10 MB (off) or 100 MB (on)
LED 2: Link/Activity



Pinout Information

Pin	Signal	Pin	Signal
1	TX+	5	----
2	TX-	6	RX-
3	RX+	7	----
4	----	8	----

J5 – Serial TTL

This connector (a dual row 10-pin header) allows access to TTL level serial ports 0 and 1. **Note:** Pin 9 is a VCC 5V input, which allows for a single connector interface with TTL serial and power to the SB70.

Pin	Signal	Pin	Signal
1	GND	2	CTS1
3	TX1	4	RX1
5	RTS1	6	RTS0
7	CTS0	8	TX0
9	5V	10	RX0

J8 – 5V Power Connector

This connector is a single row straight 3-pin header. The SB70 has a 3.3V onboard regulator to convert 5V to 3.3V.

Pin	Signal
1	+5V
2	GND
3	+5V