



## 953115R5GM Reference Board

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## REVISION HISTORY

<i>Revision</i>	<i>Date</i>	<i>Change Description</i>
953115R5GM-QSG101-R	04/20/09	<b>Updated:</b> <ul style="list-style-type: none"><li>By changing instances of Ethernet AV to BroadSync™ HD in <a href="#">Figure 1: "953115R5GM Block Diagram," on page 1</a> and <a href="#">Figure 4: "953115R5GM Front View," on page 3.</a></li></ul>
953115R5GM-QSG100-R	07/28/08	Initial release.

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## OVERVIEW

This document describes how to bring up and configure the Broadcom 953115R5GM reference board.

The Broadcom software development kit (SDK) includes a command line interface (CLI) to manage the 953115R5GM reference board and monitor its performance. To access the SDK, connect a management console to the console port of the reference board. The management console can be a VT-100 terminal or a PC that is running terminal emulation software.

## BLOCK DIAGRAM

Figure 1 is a generalized block diagram for the 953115R5GM reference board.

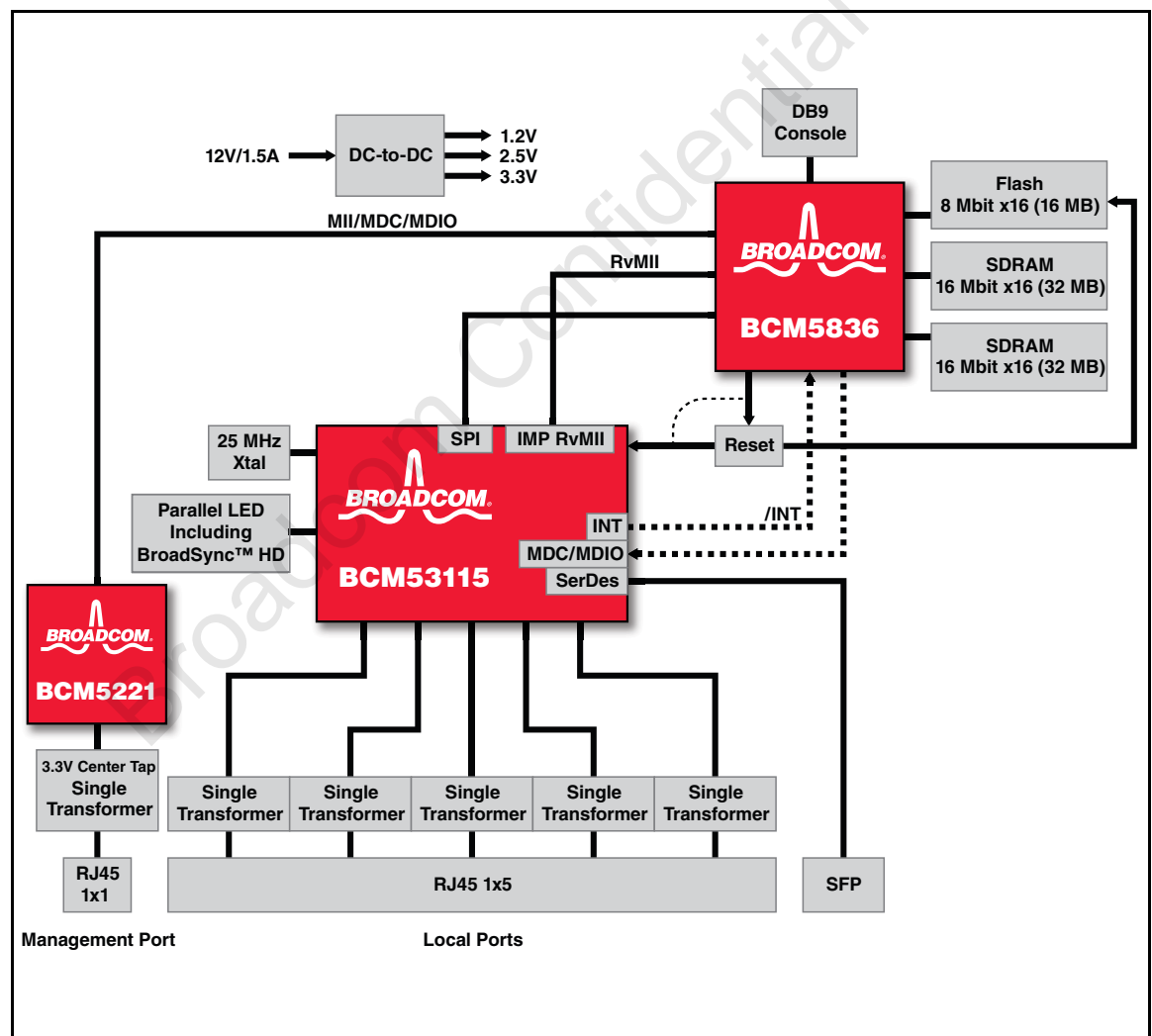


Figure 1: 953115R5GM Block Diagram



Figure 2 is the placement diagram for the 953115R5GM reference board.

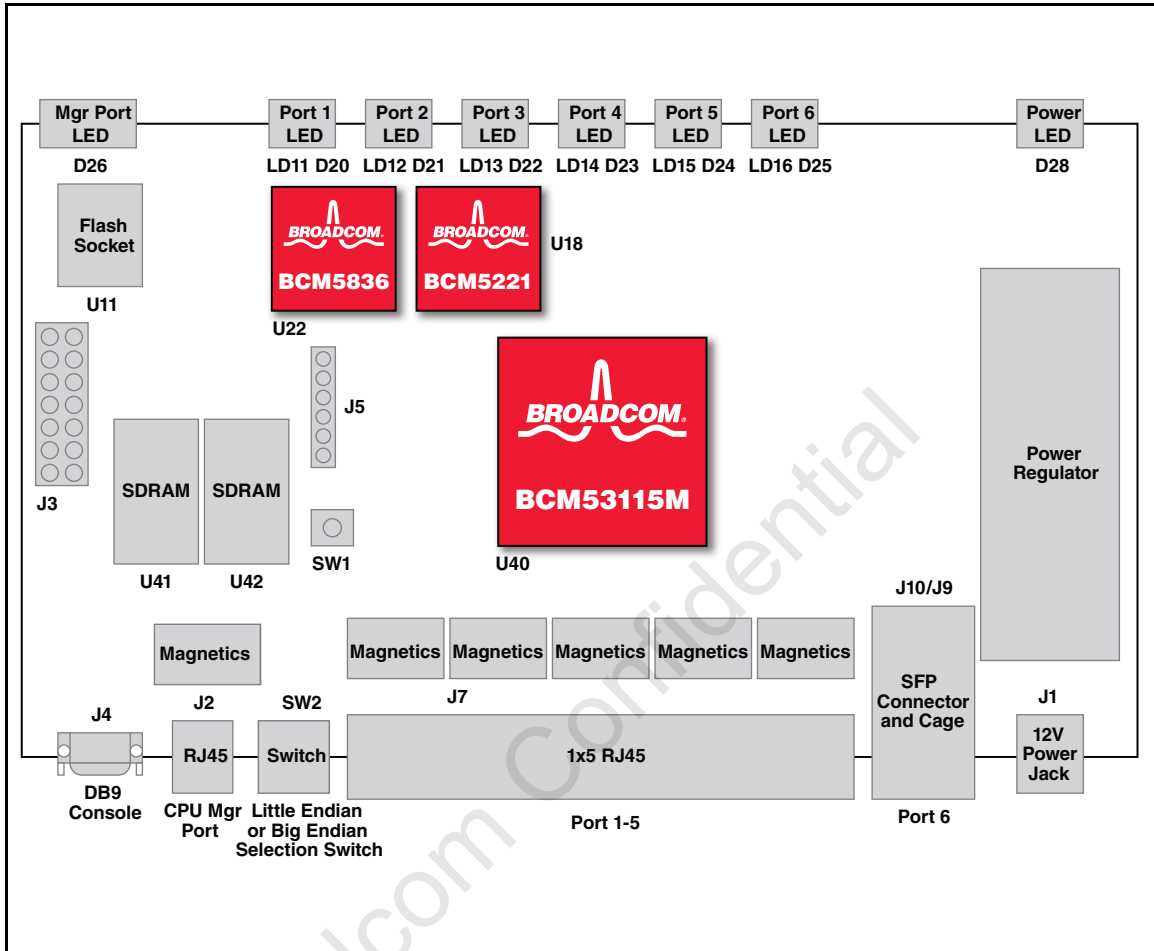


Figure 2: 953115R5GM Placement

Figure 3 shows the rear view of the 953115R5GM reference board.

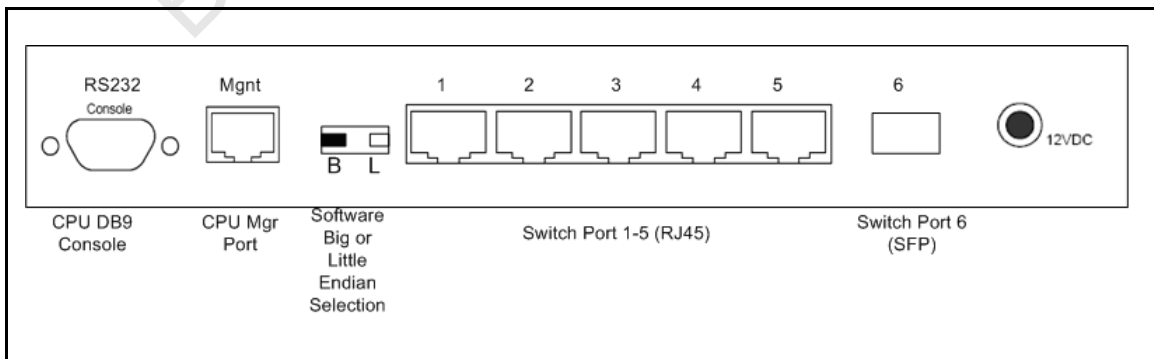


Figure 3: 953115R5GM Rear View



Figure 4 shows the front view of the 953115R5GM reference board.

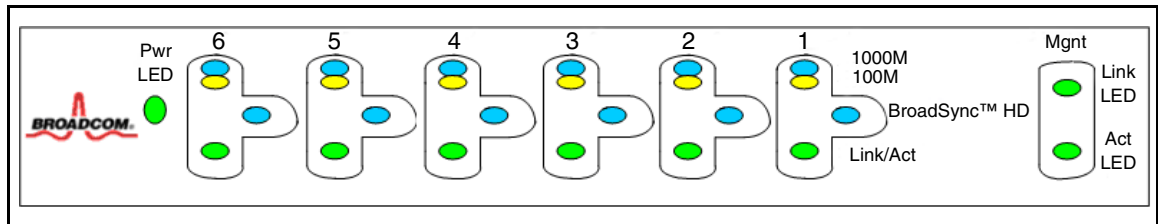


Figure 4: 953115R5GM Front View

## CONNECTORS

Table 1: 953115R5GM Connectors

Number	Settings
J3	EJTAG connector for BCM5836 CPU
J5	SPI 6-pin connector
J1	12V/1A DC power source
SW1	System reset button

## SWITCH

Table 2: 953115R5GM Switch

Number	Selection	Settings
SW2	B	Select big endian: VxWorks® (WSS) If VxWorks software (default) is programmed in the flash, choose big endian; otherwise, the CPU can not bring up the software.
	L	Select little endian: Linux® (SDK) If Linux software is programmed in the flash, choose little endian; otherwise, the CPU can not bring up the software.

# LEDs

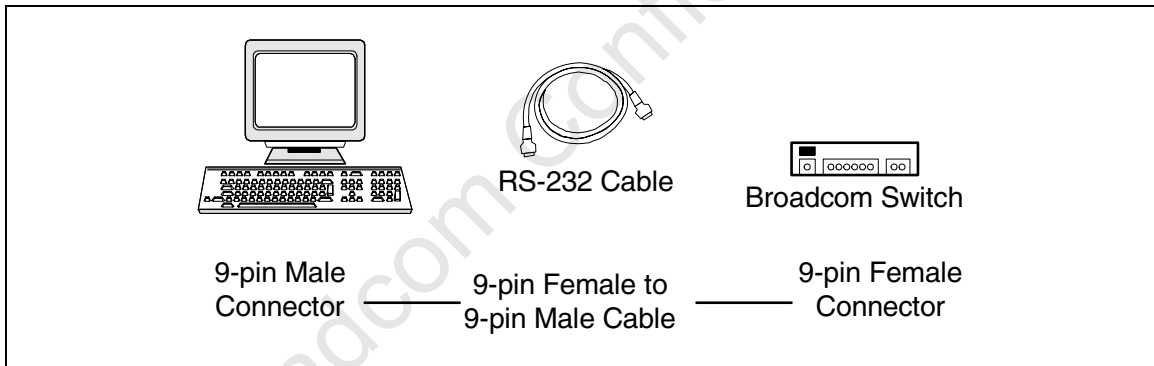
**Table 3: 953115R5GM LEDs**

<b>Number</b>	<b>Settings</b>
D20–D25	Port1, Port2, Port3, Port4, Port5, and Port6 LEDs: Speed LED, Link/Act LED
D26	Management port (CPU and BCM5221) LED: Link LED and Activity LED
D28	Power LED
LD11–LD16	Port1, Port2, Port3, Port4, Port5, and Port6 BroadSync™ HD LEDs

## SETTING UP A BROADCOM SDK CONSOLE CONNECTION

### TERMINAL-TO-SWITCH CONNECTION

Connect a terminal or a PC with terminal emulation software to the console port using an RS-232 straight cable.



**Figure 5: Terminal-to-Switch Connector**



**Note:** The console port on the demo system is a DB-9 connector.

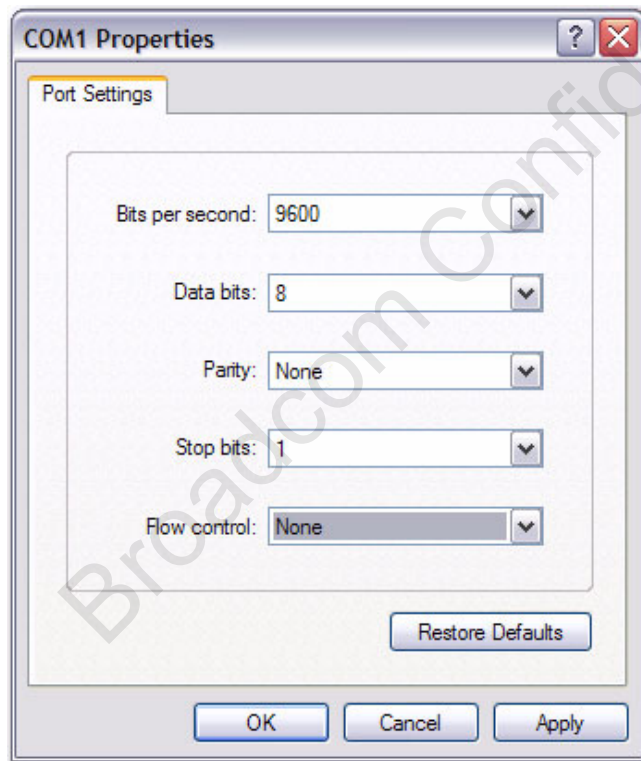
## CONFIGURING THE HYPERTERMINAL UTILITY

HyperTerminal is a Windows® utility program for serial communications.

To configure HyperTerminal, follow these steps:

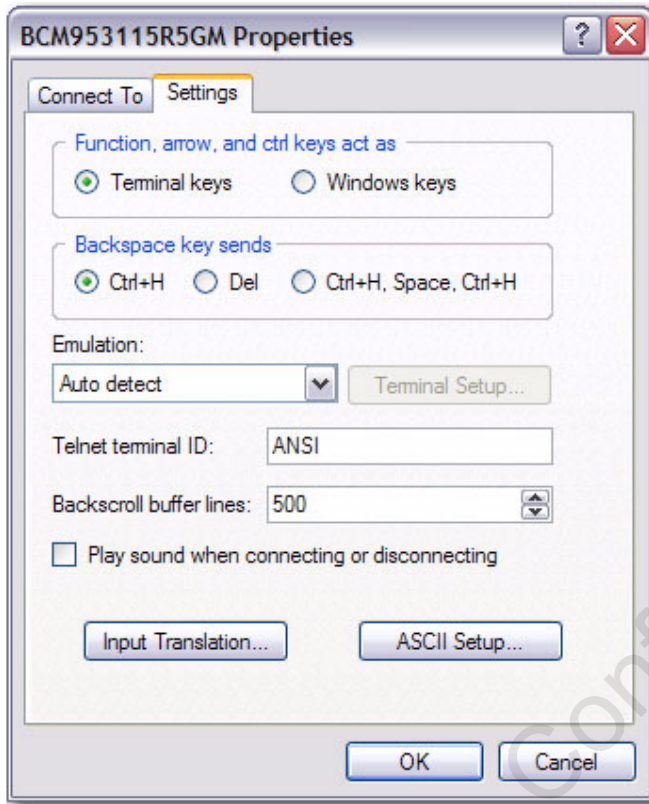
1. Start the HyperTerminal utility.
2. Select the COM port to communicate with the 953115R5GM reference board.
3. Set the serial port properties:
  - Bits per second: 9600 bps
  - Data bits: 8 bits
  - Parity: None
  - Stop bits: 1
  - Flow control: None

The Properties window should look like the window below.

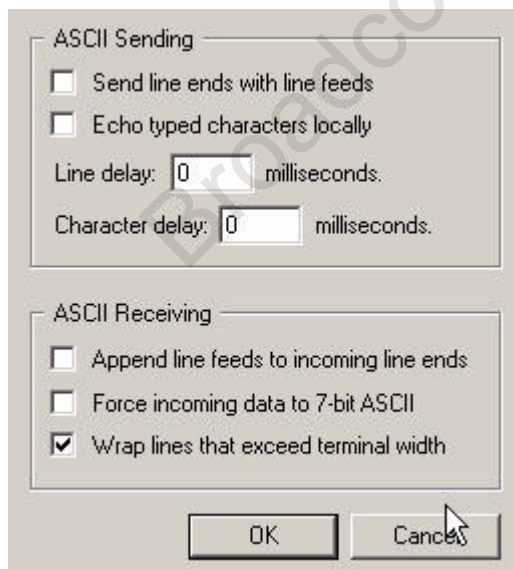


4. Click OK

- From the menu, click **File > Properties**, and then click the **Settings** tab.



- Click **ASCII Setup** to display the ASCII Setup window.



- Click **OK**.
- Power up the 953115R5GM reference board.

If communication is successful, the log information for the boot process and the SDK CLI prompt (BCM.0>) appear on the screen as shown in the following figure.

```

CFE-NTSW-5.0.0 for BCM95836ROBO (32bit,SP,BE,MIPS)
Build Date: Thu Nov 15 21:25:27 PST 2007 (sdkrel@lc-sjl-1325)
Copyright (C) 2000,2001,2002,2003,2004,2005 Broadcom Corporation.

Initializing Arena.
Initializing Devices.
CPU type 0x29006: 200MHz
Total memory: 0x4000000 bytes (64MB)

Total memory used by CFE: 0x83BBE000 - 0x83FFF7E0 (4462560)
Initialized Data: 0x83BFB2A4 - 0x83BFD060 (7612)
BSS Area: 0x83BFD060 - 0x83BFD7E0 (1920)
Local Heap: 0x83BFD7E0 - 0x83FFD7E0 (4194304)
Stack Area: 0x83FFD7E0 - 0x83FFF7E0 (8192)
Text (code) segment: 0x83BBE000 - 0x83BFBAB8
Boot area (physical): 0x03B7D000 - 0x03BBD000
Relocation Factor: I:E3FB000 - D:E3FB000

Loading: 0x80100000/4493920 0x80549260/384064 Entry at 0x80100000
Starting program at 0x80100000

1000fc01
dev 0, sbval 42438003, core 800
dev 1, sbval 42438066, core 806
dev 2, sbval 42438066, core 806
dev 3, sbval 42438083, core 808
dev 4, sbval 42438048, core 804
dev 5, sbval 42438163, core 816
SB_MIPS33
dev 6, sbval 42438072, core 807
dev 7, sbval 424380b0, core 80b
dev 8, sbval 424380f2, core 80f

Host Name: bootHost
Target Name: vxTarget
User: target
Attaching network interface lo0... done.

Adding 11357 symbols for standalone.
CPU: 200000000 MHz, MEM: 200000000 MHz, SB: 100 MHz, PCI: 33 MHz
sal_config_refresh: cannot read file: flash:config.bcm, variables not loaded
SOC BIOS (VxWorks) BCM4704 (MIPS32)
Board: JAG
vVxWorks5.5.1.
Kernel: WIND version 2.6.
Made on Jan 31 2008, 18:45:03.
Broadcom Command Monitor: Copyright (c) 1998-2007 Broadcom Corporation
Release: sdk-5.5.2-EA20080131 built 20080131 (Thu Jan 31 18:44:35 2008)
From benyeh@cs-sjl-658:/home/benyeh/benwork/sdk5/sdk-robo-5.5.2-EA20080131
Platform: BCM4704
OS: VxWorks 5.5.1
TELNET service started on TCP port 23.
SPI unit 0: Dev 0xbf80, Rev 0x02, Chip BCM53115_B0, Driver BCM53115_A0
PCI unit 1: Dev 0x4713, Rev 0x06, Chip BCM4713_A0, Driver BCM4713_A0
SPI device BCM53115_B0 attached as unit 0.
Broadcom BCM47xx 10/100 Mbps Ethernet Controller 2002.9.27.0
BCM.0> _

```

- To display a list of 953115R5GM SDK CLI commands, type **help** to display the help menu.



**Note:** For additional configurations, refer to the VxWorks Platform section of the Broadcom programmer's guide *ROBOSwitch™ Family Software Development Kit for Linux® and VxWorks® Platforms* (53XX-PG201-R).

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