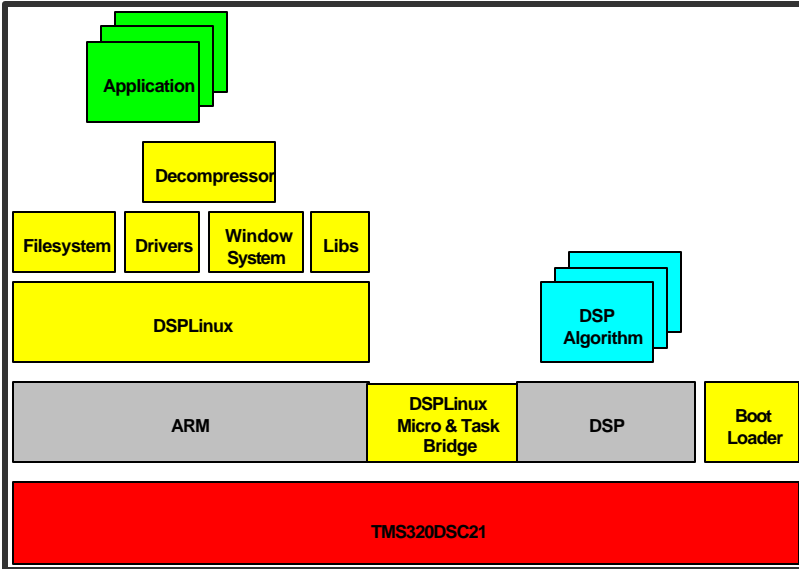




Board Support Package (BSP) v1.5 for Texas Instruments TMS320DSC21

DSPLinux™ from RidgeRun is the industry's first embedded Linux distribution targeted exclusively toward wireless networking, broadband and multimedia devices built on DSPs. The proven Linux® kernel runs on a general purpose processor (GPP), such as the ARM7 on the TMS320DSC21, while the DSPLinux MicroBridge and TaskBridge provide interfaces to code running on a DSP.



This Board Support Package (BSP) provides the software needed to run DSPLinux on the Texas Instruments TMS320DSC21 EVM board. This BSP delivers a complete software development suite, including target software, development tools and the DSPLinux Appliance Simulator. Cross-compile tools, which are part of the DSPLinux simulator, can create and debug code for the ARM7. The TI Code Composer Studio is available for DSP code development and debugging. Other benefits:

- Build your embedded product quickly.
- Start writing applications even before hardware is available.
- Jump-start your development with Royalty-free Open Source code.
- Use the power of DSPs even if DSP algorithm development isn't your primary expertise.

Appliance Simulator

This BSP includes the powerful Appliance Simulator. This simulator helps you develop and implement your product while access to hardware may be limited.

- Run DSPLinux on a desktop PC within a simulated embedded device.
- Create and debug applications before running on actual hardware.
- Use the same cross-compile tools as needed for the actual target.
- Simulate constrained memory conditions with configurable kernel.
- Develop for connected devices with built-in network support.

Open Development Tools

The industry standard GNU software development tool suite is part of this BSP. These tools are configured for cross-compilation, allowing you to develop code for targets supported by DSPLinux.



Digital Camera in the Appliance Simulator

• Compiler (gcc)	• Linker (ld)
• Assembler (as)	• Standard C library (uClibc)
• Debugger (gdb)	• Utility programs for software development

Open Source Software Components

Tapping into the large pool of Open Source code accelerates the development of your device using embedded Linux. Included in this BSP are several useful Open Source packages for building your Internet-connect devices.

Boot Loader	Load code to flash, set boot options
uClinux Kernel	The core of the Linux operating system, including networking. V2.0.38
TCP/IP Networking	Standard TCP/IP network protocol stack
NFS Root-Mount	Allows file system to reside on the network, useful during development
DSC21 EVM Specific Device Drivers	
UART Serial	Controls the serial port
NIC21 Network I/F	Ethernet driver for Crystal LAN CS8900A of NIC21 network daughter card
Compact Flash	Access Compact Flash hardware and file system
Watchdog Timer	Controls the watchdog timers and functionality
Utilities and Applications	
Static uClibc	Minimized C library (static uClibc) optimized for ARM7 architecture
TCP/IP Support	Standard support stack for TCP/IP networking
Busybox	Combines tiny versions of common utilities and a shell into a single small exec
Tinylogin	Small footprint user authentication
Gkermit	File transfer utility using Kermit protocol
Web Server	Allows embedded device to serve web pages, and supports user authentication
FTP Server	Allows file transfer protocol connections into the embedded device
Telnet Server	Allows telnet connections into the embedded device

RidgeRun Proprietary Components

In addition to the above Open Source packages, we've developed many valuable software components to access the hardware supported by the TMS320DSC21, thus bringing your embedded product to market quickly. To receive a separate quote for source code rights to these components should contact RidgeRun sales.

MicroBridge	Load and control code on the DSP
TaskBridge	Allows DSP tasks to access Linux file system, sockets, devices
SmartMedia Driver	Access SmartMedia hardware
USB Client Driver Framework	Framework foundation for creating USB device class
Timer Driver	HW specific functionality of the full range of on-chip timers
Clock Control Driver	HW specific functionality of the full range of on-chip clocks and functions
Power Management Driver	Optimization for power consumption and clock management modes
Burst Compression Driver	Access the burst compression interface
On-screen LCD Driver	Supports frame buffer output for LCD display
CCD Controller Interface	Access CCD interface
Preview Engine Interface	Access the preview engine interface

Pricing And Availability

RidgeRun's DSPLinux BSP includes full installation and configuration support, private access to DSPLinux.net, and 90 days of BSP updates. RidgeRun offers a flexible run-time licensing program for the value added components of DSPLinux. The RidgeRun team has years of experience and expertise in embedded system design and development and is available for professional services or consulting. Contact one of our offices listed below, or email sales@ridgerun.com for more details.

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