

PhyCORE-Vybrid Linux BSP-PD13.1.0 Release Notes

Operating System	Linux
BSP Release Status	RELEASED
Release Date	
Repository	
Binaries	LinuxLink PHYTEC FTP
Source Archive	
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Introduction

This BSP provides a basis for development, deployment and execution of Linux based applications on the phyCORE-Vybrid System on Module (SOM). For detailed information on the various software components included in the release and how to use them, please refer to the [46465547](#).

Versioning

Component	Version
MQX	PhyCORE-Vybrid MQX BSP-PD13.2.0
Linux Kernel	3.0
u-boot	2011.12

This Release is compatible with the following hardware:

BSP Release Version	BSP Release Date	SOM PCB Version	CB PCB Version
PD13.1.0	8/7/2013	1374.0	1375.2

BSP Download

Release PD13.1.0 can be downloaded from the link below:

[LinuxLink](#) | [PHYTEC FTP](#)

Quickstart

Release PD13.1.0 should be used in conjunction with Quickstart version QS1.0:

- [PhyCORE-Vybrid_Quickstart-QS1.0](#)

What's Supported

This BSP Release supports the following components:

- Linux Kernel: 3.0
- NAND Flash: U-Boot, Linux kernel [\[1\]](#)
- QSPI NOR Flash
- UART: RS-232 via SCI_1
- USB: USB_0 in Host Mode; USB_1 in Host Mode
- SD/MMC: MMC via MCU_PTA24-29 signals
- Ethernet: 10/100 Mbit/s - ETH1 on RMII0; ETH1 on RMII1

Note:

The Ethernet PHY supported on this BSP is KSZ8051RNLI. Due to EOL this part has been replaced with KSZ8081RNBIA. SOMs with part number PCM-052-1210321CI.A3 will be populated with KSZ8081RNBIA. Ethernet functionality is the same for SOMs populated with the KSZ8051RNLI or KSZ8081RNBIA. The KSZ8081RNBIA PHY has a different model number that will be added to the software in the next BSP release.

- RTC: Internal RTC
- SPI: QSPI_A; QSPI_B
- I2C driver: I2C_2 enabled
 - EEPROM: at24 on I2C_2
 - TSC: STMPE811 on I2C_2
- PMIC
- Audio: Freescale Codec SGT5000 connected to I2S (I2C_2)
- Display: Prime View PM070WL4 LVDS (LCD-017-070W)
- LCD Backlight: PWM
- Watchdog
- MCC: Cortex-A5 (Linux) and Cortex-M4 (MQX)

What's Not Supported

This BSP Release does not support the following components:

- CAN: CAN_0; CAN_1
- RTC: RV-4162-C7 on I2C_2
- Light Sensor
- High Speed Timer
- Power Management: Suspend to RAM

Fixed in this Release

- Cold boot system hang after DDR initialization in U-Boot

New in this Release

- NAND boot [\[1\]](#)
- QSPI NOR Flash
- ETH1 on RMII1
- SPI: QSPI_A; QSPI_B
- LCD Backlight PWM
- Watchdog

Known Issues

- **NAND Boot:** Requires additional hardware setup. This will be fixed in the next hardware revision. Workaround: A hardware pull-up must be added to the NFC_R/B signal, we recommend a 4.7k resistor but any value will work.
- **First boot requires display connection (Theatre Images):**
 - Due to ts_calibrate being part of the initial board startup, the LCD-017-070 display must be connected to the Carrier Board during the first boot.
 - *Workaround* (if there is no display available): Use the host machine to remove the following startup scripts from the filesystem:
 - /etc/init.d/S70-calibrate-touchscreen
 - /etc/init.d/S70-detect-mouse
 - /etc/init.d/S98-timesys-theatre
 - /etc/init.d/K02-timesys-theatre
 - /etc/init.d/K30-calibrate-touchscreen
 - /etc/init.d/K30-detect-mouse
- **Touch** on the display may be unresponsive after closing the timesys-theatre-demo.

- *Workaround:* Reboot the system.
- **Audio** may fail to work correctly after closing an audio file while it is playing.
 - *Workaround:* Reboot the system.
- **SDHC speed class 10** SD cards fail to mount the root filesystem when booting Linux. Below is an example of the boot failure:

```
mmc0: Timeout waiting for hardware interrupt.
mmcblk0: error -110 sending stop command, original cmd response 0x900, card status 0x400900
mmcblk0: error -110 transferring data, sector 196610, nr 2, cmd response 0x900, card status 0x0
mmcblk0: retrying using single block read
mmcblk0: error -84 transferring data, sector 196610, nr 2, cmd response 0x900, card status 0x0
end_request: I/O error, dev mmcblk0, sector 196610
mmcblk0: error -84 transferring data, sector 196611, nr 1, cmd response 0x900, card status 0x0
end_request: I/O error, dev mmcblk0, sector 196611
EXT2-fs (mmcblk0p3): error: unable to read superblock
List of all partitions:
1f00          1048576 mtdblock0  (driver?)
1f01          16384 mtdblock1  (driver?)
1f02          16384 mtdblock2  (driver?)
b300          7782400 mmcblk0  driver: mmcblk
  b301          49152 mmcblk0p1 00000000-0000-0000-0000-00000000mmcblk0p1
  b302          46080 mmcblk0p2 00000000-0000-0000-0000-00000000mmcblk0p2
  b303          7684096 mmcblk0p3 00000000-0000-0000-0000-00000000mmcblk0p3
No filesystem could mount root, tried: ext2
Kernel panic - not syncing: VFS: Unable to mount root fs on unknown-block(179,3)
[<80033be8>] (unwind_backtrace+0x0/0xf8) from [<80356470>] (panic+0x5c/0x170)
[<80356470>] (panic+0x5c/0x170) from [<80008cf0>] (mount_block_root+0x1e0/0x224)
[<80008cf0>] (mount_block_root+0x1e0/0x224) from [<80008edc>] (mount_root+0xbc/0xdc)
[<80008edc>] (mount_root+0xbc/0xdc) from [<80009054>] (prepare_namespace+0x158/0x1b0)
[<80009054>] (prepare_namespace+0x158/0x1b0) from [<80008950>] (kernel_init+0xe4/0x110)
[<80008950>] (kernel_init+0xe4/0x110) from [<8003029c>] (kernel_thread_exit+0x0/0x8)
```

Workaround: Use an SDHC speed class 4 SD card with this release

Upgrade and Compatibility Information

This software release is compatible with Vybrid processor silicon 1N02G.

To upgrade to a new BSP release, simply delete the old release and extract the new release in its place.

Dependencies

N/A

Validation Information

Drivers have been tested with in-house test cases.

Technical Support

For further support please visit [PHYTEC's Support Portal](#)