

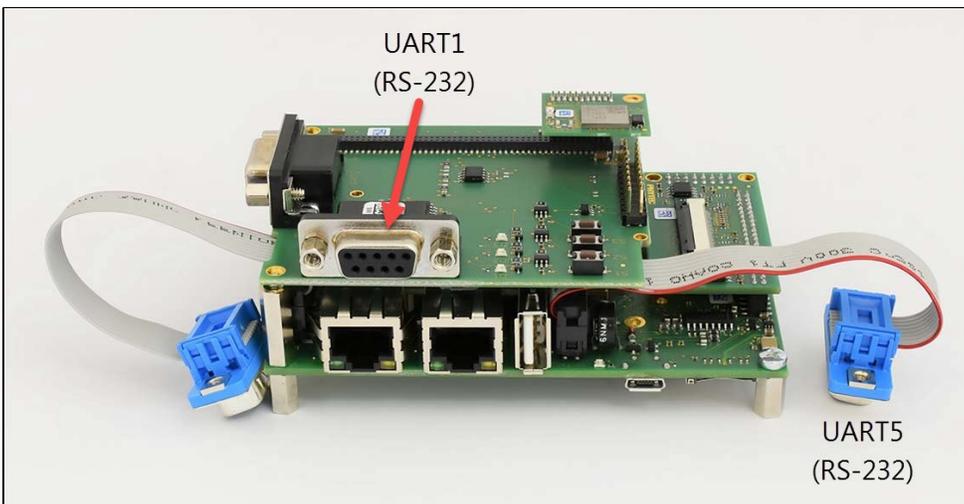
How to Change the serial console

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|-------------------|---|
| Targeted Hardware | phyBOARD-Zeta (i.MX7) |
| Targeted Software | BSP Yocto FSL iMX7 PD18.1.1 |
| Date | 31 May 2018 |

Summary

The serial console is essential for communication with and development of your design. This how-to guide will demonstrate the steps required to change the default serial debug console configuration.

Specifically, the phyBOARD-Zeta uses UART5 as the default serial console. This requires a breakout cable assembly to expose the RS-232 pins that are available on a pin header on the Zeta board, a null modem cable, and finally a serial cable to the host. The PEB-EVAL-02 board exposes UART1 via RS-232 on a DB9 connector. This will be the target configuration that the how-to guide will demonstrate.



Step-by-step guide

u-boot

To change the serial console for u-boot, you'll need to modify the `CONFIG_CONS_INDEX` and `CONFIG_MXC_UART_BASE` definitions in the [u-boot source](#).

Change `CONFIG_CONS_INDEX` to indicate the index of the UART that is desired. In this case, we will change it from 5 to 1:

Configured for UART5

```
/* allow to overwrite serial and ethaddr */
#define CONFIG_ENV_OVERWRITE
#undef CONFIG_CONS_INDEX
#define CONFIG_CONS_INDEX 5
#define CONFIG_BAUDRATE 115200
```

Configured for UART1

```
/* allow to overwrite serial and ethaddr */
#define CONFIG_ENV_OVERWRITE
#undef CONFIG_CONS_INDEX
#define CONFIG_CONS_INDEX 1
#define CONFIG_BAUDRATE 115200
```

Change CONFIG_MXC_UART_BASE to indicate the UART base address of the UART that is desired. In this case, we will change it from 5 to 1:

Configured for UART5

```
#define CONFIG_MXC_UART_BASE          UART5_IPS_BASE_ADDR
```

Configured for UART1

```
#define CONFIG_MXC_UART_BASE          UART1_IPS_BASE_ADDR
```

Verify the desired UART pins are muxed correctly in [u-boot](#):

```
&uart1 {
    pinctrl-names = "default";
    pinctrl-0 = <&pinctrl_uart1>;
    assigned-clocks = <&clks IMX7D_UART1_ROOT_SRC>;
    assigned-clock-parents = <&clks IMX7D_PLL_SYS_MAIN_240M_CLK>;
    status = "okay";
};
```

Linux

Change the SERIAL_CONSOLE to indicate the desired 'ttymxc' device in the [imx7d_phyboard_zeta_001 machine configuration](#). In this case, we will change it from a 4 to a 0:



In Linux the devices are zero indexed. For example, UART1 corresponds to ttymxc0 and UART5 corresponds to ttymxc4.

Configured for UART5

```
SERIAL_CONSOLE = "115200 ttymxc4"
```

Configured for UART1

```
SERIAL_CONSOLE = "115200 ttymxc0"
```

You'll also want to verify the desired UART pins are muxed in your [device tree](#):

```
&uart1 {  
    pinctrl-names = "default";  
    pinctrl-0 = <&pinctrl_uart1>;  
    assigned-clocks = <&clks IMX7D_UART1_ROOT_SRC>;  
    assigned-clock-parents = <&clks IMX7D_PLL_SYS_MAIN_240M_CLK>;  
    status = "okay";  
};
```

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