

LINUX SOURCE CODE MODIFICATIONS

Starting point is TI's Linux kernel source code version 3.2.0 (internal PSP version is 04.06.00.09) which comes with TI's Linux SDK: ti-sdk-am335x-evm-05.06.00.00 . Source code is located in \$TISDK_HOME/board-support/linux-3.2.0-psp05.06.00.00/ where \$TISDK_HOME is the home directory of TI's Linux SDK. The just given Linux source code location will be referred to as \$LINUX_SOURCE in the rest of this document.

Changes to above mentioned source code are documented below on a per source or header file basis.

board-am335xevm.c

location: \$LINUX_SOURCE/arch/arm/mach-omap2/boardam335xevm.c

1. Change on line 88

```
static const struct display_panel disp_panel = {
    WVGA,
    16,                                     // "NU" - Changed from 32 to 16
    16,                                     // "NU" - Changed from 32 to 16
    COLOR_ACTIVE,
};
```

2. Changes on lines 123 and 128

```
static struct lcd_ctrl_config lcd_cfg = {
    &disp_panel,
    .ac_bias          = 255,
    .ac_bias_intrpt    = 0,
    .dma_burst_sz      = 16,
    .bpp               = 16,                                     // "NU" - Changed from 32 to 16
    .fdd               = 0x80,
    .tft_alt_mode      = 0,
    .stn_565_mode      = 0,
    .mono_8bit_mode    = 0,
    .invert_line_clock = 0,                                     // "NU" - Changed from 1 to 0
    .invert_frm_clock   = 1,
    .sync_edge         = 0,
    .sync_ctrl         = 1,
    .raster_order      = 0,
};
```

3. Change on line 141

INSERTED:

```
// "NU" Start- Added another display (INNOLUX_TN92)
struct da8xx_ldc_platform_data INNOLUX_TN92_pdata = {
    .manu_name        = "ThreeFive",
    .controller_data   = &lcd_cfg,
    .type             = "INNOLUX_TN92",
};
// "NU" End
```

4. Change on line 1047

FROM:

```
static void lcdc_init(int evm_id, int profile)
{
    struct da8xx_lcdc_platform_data *lcdc_pdata;
    setup_pin_mux(lcdc_pin_mux);

    if (conf_disp_pll(300000000)) {
        pr_info("Failed configure display PLL, not attempting to"
                "register LCDC\n");
        return;
    }
    switch (evm_id) {
    case GEN_PURP_EVM:
    case GEN_PURP_DDR3_EVM:
        lcdc_pdata = &TFC_S9700RTWV35TR_01B_pdata;
        break;
    case EVM_SK:
        lcdc_pdata = &NHD_480272MF_ATXI_pdata;
        break;
    default:
        pr_err("LCDC not supported on this evm (%d)\n", evm_id);
        return;
    }

    if (am33xx_register_lcdc(lcdc_pdata))
        pr_info("Failed to register LCDC device\n");
    return;
}
```

TO:

```
static void lcdc_init(int evm_id, int profile)
{
    struct da8xx_lcdc_platform_data *lcdc_pdata;
    setup_pin_mux(lcdc_pin_mux);

    if (conf_disp_pll(300000000)) {
        pr_info("Failed configure display PLL, not attempting to"
                "register LCDC\n");
        return;
    }
    /*"NU" - start (forcing LCD registering)
    pr_info("##### Forcing LCD registering #####");
    lcdc_pdata = &INNOLUX_TN92_pdata;
    if (am33xx_register_lcdc(lcdc_pdata))
        pr_info("Failed to register LCDC device\n");
    return;
    /*"NU" - end
}
```

5. Change on line 2144

```
static struct evm_dev_cfg beaglebone_dev_cfg[] = {
    {tps65217_init,      DEV_ON_BASEBOARD, PROFILE_NONE},      /*"NU" - moved here from below
    {lcdc_init,         DEV_ON_BASEBOARD, PROFILE_NONE},      /*"NU" - initialize LCD
    {am335x_rtc_init,   DEV_ON_BASEBOARD, PROFILE_NONE},
    {clkout2_enable,   DEV_ON_BASEBOARD, PROFILE_NONE},
    /*"NU" - below tps65217_init was moved to the top (first apply
    //power, then immediately initialize LCD to get the boot logo)
    /*{tps65217_init,      DEV_ON_BASEBOARD, PROFILE_NONE},
    {mfd_tscadc_init,   DEV_ON_BASEBOARD, PROFILE_ALL},      /*"NU" - Touch Screen Init
    {miil_init,         DEV_ON_BASEBOARD, PROFILE_NONE},
    {usb0_init,         DEV_ON_BASEBOARD, PROFILE_NONE},
    {usb1_init,         DEV_ON_BASEBOARD, PROFILE_NONE},
```

```

        {mmc0_init,      DEV_ON_BASEBOARD, PROFILE_NONE},
        {i2c2_init,      DEV_ON_BASEBOARD, PROFILE_NONE},
        {NULL, 0, 0},
};

```

6. Change on line 2358

```

if (!strcmp("A335BONE", config.name, 8)) {
    daughter_brd_detected = false;
    if(!strcmp("00A1", config.version, 4) ||
        !strcmp("00A2", config.version, 4))
        setup_beaglebone_old();
    else
        setup_beaglebone();
} else if (!strcmp("A335X_SK", config.name, 8)) {
    daughter_brd_detected = false;
    setup_starterkit();
} else if (!strcmp("A335BNLT", config.name, 8)) {           //"NU" - Added and 'else if' for BBB
    daughter_brd_detected = false;
    setup_beaglebone();
    pr_info("This board is in fact BeagleBone Black.");
} else {
    /* only 6 characters of options string used for now */
    snprintf(tmp, 7, "%s", config.opt);
    pr_info("SKU: %s\n", tmp);

    if (!strcmp("SKU#01", config.opt, 6))
        setup_general_purpose_evm();
    else if (!strcmp("SKU#02", config.opt, 6))
        setup_ind_auto_motor_ctrl_evm();
    else
        goto out;
}

```

7.

da8xx-fb.c

location: \$LINUX_SOURCE/drivers/video/da8xx-fb.c

1. Change on line 290

INSERTED:

```

/* INNOLUX AT070TN92 */                               //"NU" - added display
[4] = {
    .name = "INNOLUX_TN92",
    .width = 800,
    .height = 480,
    .hfp = 1,
    .hbp = 45,
    .hsw = 48,
    .vfp = 12,
    .vbp = 20,
    .vsw = 2,
    .pxl_clk = 25000000,
    .invert_pxl_clk = 0,
},

/* DVI Panel */                                       //"NU" - added DVI configuration
[5] = {
    .name = "1024x768@60",
    .width = 1024,
    .height = 768,
    .hfp = 48,

```

```
.hbp = 80,  
.hsw = 32,  
.vfp = 3,  
.vbp = 15,  
.vsw = 4,  
.pxl_clk = 56000000,  
.invert_pxl_clk = 0,  
},  
2.
```