

Keywords: SSD1963, Microchip PIC32, PIC32 Starter Kits, VS1003B audio codec, Microchip PIC32 Plays MP3, WiFi, 4.3" TFT GUI, 5" TFT GUI, 7" TFT GUI

How to use this demo

1. Software required

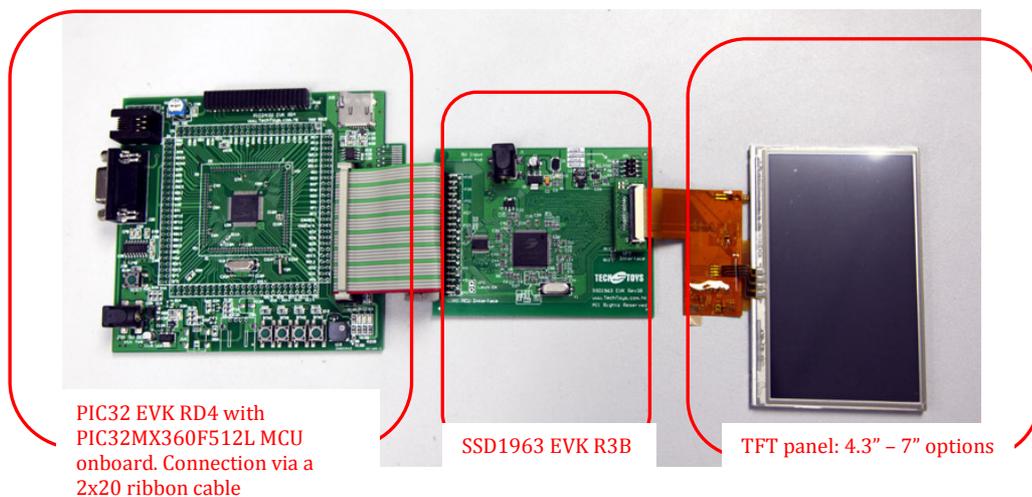
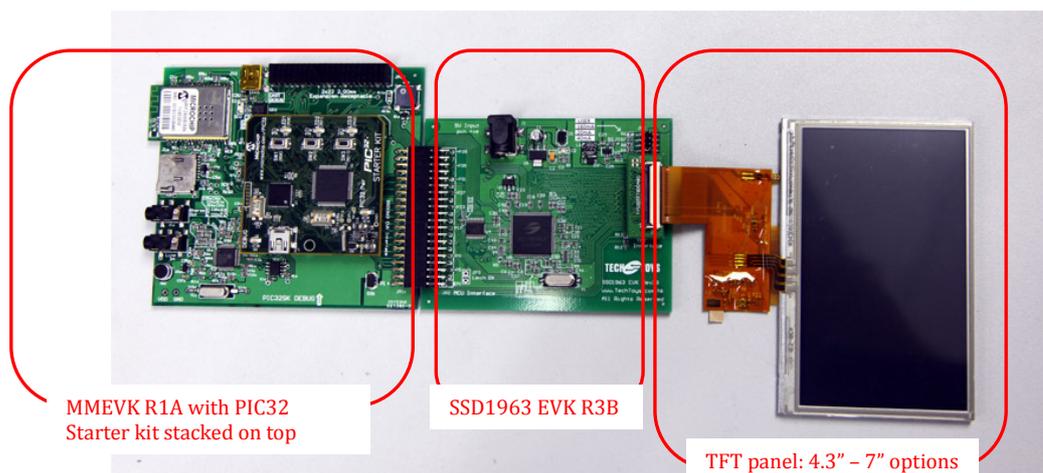
- MPLAB IDE v8.63
- C32 compiler version 2.00
- Firmware folder date version 2011_09_05

2. Hardware required

- PIC32-SSD1963 Multimedia Evaluation Kit (MMEVK) R1A
(PIC32 starter kit required, sold by Microchip Inc separately)
-or-
- PIC32 EVK RD4 with PIC32MX360F512L MCU onboard
- SSD1963 EVK R3B
- Display panel (TY430, TY500, TY600, or TY700 panels from us, with size ranges from 4.3" to 7")

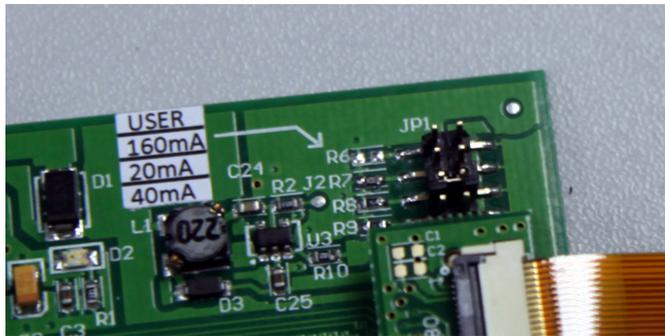
3. Procedure

- Prepare the hardware with options as follow. There are several combinations possible.

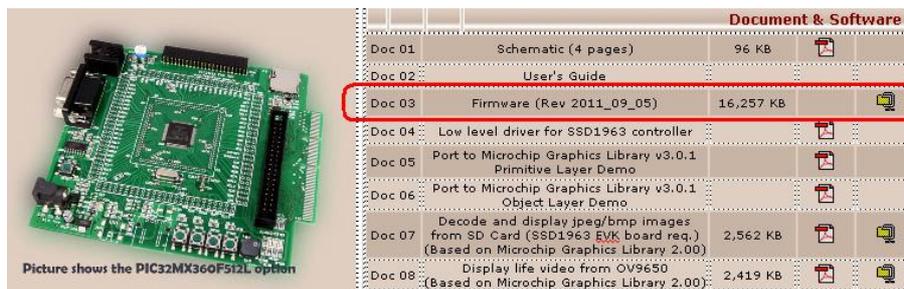


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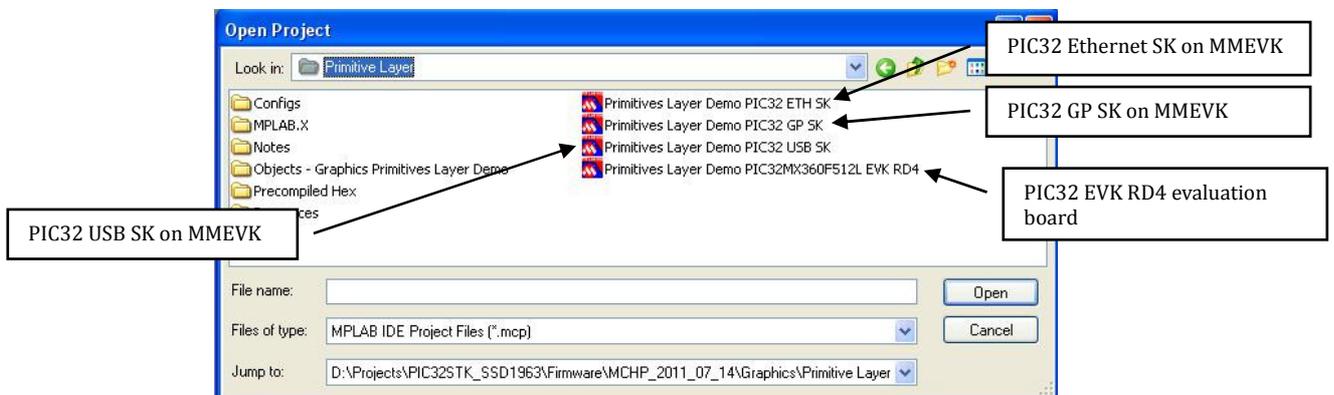
- Select a suitable jumper position for TFT panel's backlight. Please refer to datasheet of individual TFT panel for the current required.



- Finally, apply 5V (1A) to J1 of SSD1963 EVK R3B as power supply. This last step finishes the hardware setup.
- Download from our web page the latest firmware version. At time of writing, the latest version is on 5th Sept 2011 (Rev 2011_09_05). There are two MCU boards from us but the same firmware folder applies to both development boards. They share the same firmware folder. Unzip the rar file to any location. This rar file contains also the source code for MCHP graphics libraries that are essential for us.



- Launch MPLAB, browse to the root directory of the Primitive Layer under ..\Firmware\MCHP_2011_07_14\Graphics\Primitive Layer. The filename that contains "MCHP_2011_07_14" indicates the date version of Microchip Application Libraries. According to your hardware combination select the appropriate project.



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- There are only two files to change for a particular hardware setup. They are HardwareProfile.h and selection of the appropriate TFT panels from the corresponding hardware profile. Double click on HardwareProfile.h. Select the right hardware profile as below. *Only one #include "... is needed.*

```

41  * (INCLUDING NEGLIGENCE), BREACH OF WARRANTY, OR OTHERWISE.
42  *
43  *
44  * Date           Comment
45  *-----
46  * 10/03/06       Original, copied from Compiler.h
47  * 06/25/09       dsPIC & PIC24H support
48  * 09/15/09       Added PIC24FJ256DA210 Development Board Support
49  * 06/02/11       Added MPLAB X Support
50  *-----
51  #if defined (__PIC32MX__)
52
53  /*****
54  * Hardware Configuration for
55  * PIC32 GP SK stack on TechToy's MMEVK R1A
56  * Graphics SSD1963 EVK R3B
57  * Display 4.3" - 7" TFT
58  *-----
59  *
60  *//#include "Configs/HWP_PIC32_GP_SK_ON_MMEVK_16PMP.h"
61  *-----
62  * Hardware Configuration for
63  * PIC32MX360F512L on PIC32_EVK_RD4 evaluation board
64  * Graphics SSD1963 EVK R3B
65  * Display 4.3" - 7" TFT
66  *-----
67  *#include "Configs/HWP_PIC32MX360F512L_EVK_RD4.h"
68  *
69  #endif
70
71
    
```

- Next, select the panel you are using. Open the corresponding hardware profile for your hardware. If it is a MMEVK, select HWP_PIC32_GP_SK_ON_MMEVK_16PMP.h, else, select HWP_PIC32MX360F512L_EVK_RD4.h
 Browse the file to the section #define USE_TYXXXTFTXXXXX as below. Uncomment all other options except the panel you are using.

```

115 /* ##### */
116 /*#####*/
117 * START OF GRAPHICS RELATED MACROS
118 *-----
119 /*#####*/
120
121 #define PIC32_EVK_RD4           //Hardware platform
122
123 #define USE_16BIT_PMP          //USE 16 PMP
124 #define PIC32MX360F512L       //PIC32MX360F512L MCU onboard
125 #define USE_DISPLAY_CONTROLLER_SSD1963_R3B //Display controller is Solomon SSD1963
126 #define GFX_DISPLAY_BUFFER_START_ADDRESS 0 //To support USE_DOUBLE_BUFFERING in
127
128 #define USE_TY430TFT480272     //TFT panel is 4.3" 480x272 display panel
129 //#define USE_TY500TFT800480
130 // #define USE_TY600TFT800480
131 //#define USE_TY700TFT800480
132
133 #ifdef USE_TY430TFT480272
134 #define GFX_DRV_PAGE_COUNT 4 //480*272*2*4 = 1,044,480 bytes
135 #define GFX_DISPLAY_BUFFER_LENGTH GFX_REQUIRED_DISPLAY_BUFFER_SIZE_IN_BYTES
136 #endif
    
```

- Finally, *Build All* from *Project* and program the board.