132x64 Graphic Display Development Kit

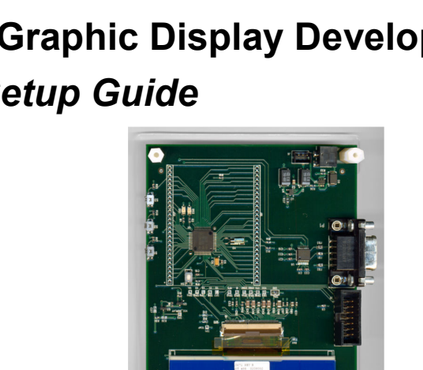
Quick Setup Guide

Introduction

This Quick Setup Guide contains information about the Kent Displays, Inc. 132x64 Graphic Display Development Kit.

Unpack the kit

Figure 1 – Development Kit Contents



- **A.** 132x64 Display Development Kit Display Assembly
- **B.** Battery assembly with four AAA batteries
- **C.** RS232 Serial cable
- **D.** AC/DC 7.5V Power Adapter*
- **E.** JTAG Tool*
- **F.** DB25 cable for JTAG*
- **G.** Software CD

*Retain all data cables and 7.5V AC/DC power adapter for future use and/or troubleshooting.

• Assemble the 132x64 Display Development Kit

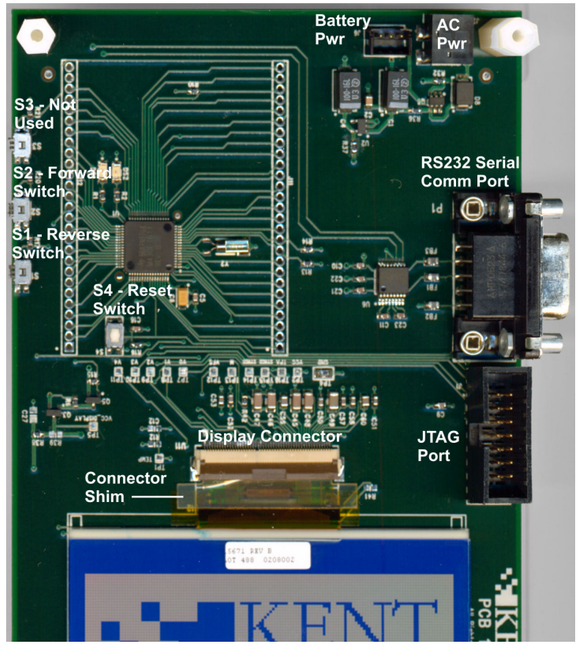
Connect the RS232 serial cable to your PC:

Figure 2 – PC Connection

Connect the RS232 cable to a PC serial port. A 9-pin serial port connection is required; install a serial port adapter card (not supplied), if the PC motherboard has no serial port available.

Connect the other end of the RS232 cable to the 9-pin serial port connector on the 132x64 graphic display development kit controller module (see Fig. 3).

Figure 3 – Development Kit Controller Module



Install Batteries:

Place the four (4) AAA batteries into the battery holder. Connect the battery cable to the battery power port on the Development Kit Controller module (see Fig. 3). Alternately, the 7.5V A/C power adapter can be used via the A/C adapter power port on the Development Kit Controller module.

• Stand-alone Demo Use

The 132x64 Development Kit Display Assembly can be used as a stand-alone demo by using two of the three switches at the left edge of the Development Kit Controller module. Refer to Fig. 3 for the switch locations. Pressing S1 displays the image preceding the current image. Pressing S2 advances to the next image in flash memory. S3 is not used.

The JTAG port and cables are used to program the Development Kit Controller for other applications. Refer to the Development Kit datasheet and User's Guide for additional information.

There is a reset switch (S4) located near switch S1. This switch resets the Development Kit Controller microprocessor and the Display controller.

• Install the Application Software

The software CD contains a SlideShow application that may be used to download custom images to the Development Kit Controller module. These images are then displayed when the system is used as a stand-alone demo as described above.

Figure 4 – 132x64 Soft – InstallShield Wizard

Load the software CD into the CD drive on your PC. If the CDROM auto-run application does not start, browse to the top-level directory on your CD drive and double-click the "go_kdi.exe" file.

Select the "132x64x3.0" display from among those listed and then choose "Software – install" from the available options. This will launch the "132x64 Soft - InstallShield Wizard" window (Fig. 4) to begin the software installation process.

Follow the on-screen instructions to install the software.

For technical users developing custom firmware, BDF to C font conversion software and BMP to C image conversion software are included, along with firmware source code for the SlideShow, a Text Font Generation demo, and a Command Set demo.

The provided firmware samples have been prepared for use with the TI Code Composer Essentials (CCE) integrated development environment. A free, limited code space version may be installed from the software CD. Installation of CCE is required only of users wishing to use this development environment to compile and download the firmware samples to the Development Kit Controller.

Refer to the 132x64x3.0 User's Guide for information on installing CCE and working with the software and firmware samples.

• Using the 132x64 SlideShow Application Software

Launch the "132x64 SlideShow" application (Fig. 5) via the desktop icon or the Start Menu. The application defaults to the first available COM Port for communication with the PC. The COM port number (1 – 8) can be modified via the "Settings" pull-down menu, "Com Port" option. Problems with the COM port setting are usually caused by other software applications controlling the COM port, (e.g. PDA device software). Disable any other software that uses the COM port and restart the "132x64 SlideShow" application to resolve errors.

132x64 SlideShow Display Data Entry:

A default "project" file (project.txt) containing all of the images pre-loaded into the Development Kit's flash memory can be found in the 132x64 SlideShow application "Sample Images" sub-directory. This project file can be opened in the 132x64 SlideShow application via the "Open Project" command on the "File" drop down menu.

Set the "Slide Number" counter (to the right of the "Current Slide" area) to the number (0 – 11) of the location that will hold the new slide image bitmap file. Use the "Browse" button to locate the bitmap image file on the PC to be downloaded to the Development Kit Display. Bitmap slides must be 132 pixels wide by 64 pixels high. Any PC imaging application can be used to create the bitmap slides, but a 132x64 slide template is required, and all slides must be monochrome (1-bit). Slides 132 pixels wide by less than 64 pixels high may also be used as partial screen images. If a partial screen slide is selected, the "Starting Row" selector box is activated, allowing you to specify the vertical location of the partial image slide in the display window.

The slide currently displayed in the PC application window can be displayed on the Development Kit Display via the "Preview" button (below the "Current Slide" area). Using the "Preview" button has no effect on the slides stored in the Development Kit Controller's flash memory, and the slide image sent to the display via the "Preview" button is lost once the display image is subsequently changed. Images in the "Current Slide" window can be selectively removed from the image slide show via the "Remove" button. Once a slide is removed, the next image in the slide show is moved into the vacant position, and all subsequent images are moved down in the order by one slide number. A single image can also be inserted into the slide show at any location via the "Insert" button. The images held in that Slide Number location and higher are moved up to the next higher locations. Any slide moved beyond location number 11 is deleted from the slide show.

The "Index" button opens a new window to display the contents of all 12 image locations at once. The "Download" button sends all 12 images to the Development Kit Controller's flash memory at one time. Slide shows can be saved by using the "Save as Project" command on the "File" drop-down menu. Project files contain all image bitmap data (no link to the original bitmap files is maintained). Projects can be recalled via the "Open Project" command on the "File" drop-down menu.

Figure 5 – 132x64 SlideShow Application Window