# DALLAS
SEMICONDUCTOR

DS0621–SDK
iButton–TMEX^{TM} Professional
Software Developer's Kit: *Version 3.10*

NEW FEATURES

- Universal Serial Adapter (DS9097U and DS9097U–9) drivers for all supported platforms. This adapter has OverDrive and power–delivery capabilities and is based on the DS2480 Serial 1–Wire™ Line Driver.

- iButton–TMEX™ drivers for Windows CE 1.0.

- Microprocessor assembly examples in 8051, 6303, 808x (full API not supported)

- 15 new example iButton–TMEX applications.

- DS1963 Monetary–iButton support

FEATURES

- Easy Windows installation (3.1 or higher).

- Language–independent driver support for iButton–TMEX on Microsoft Windows 95, NT, 3.1, CE 1.0 and DOS.

- Includes source code example programs for Microsoft Windows (16 and 32 bit) written in C, Delphi(Pascal), and Visual Basic and examples for DOS written in C, Pascal, and Basic.

- TMEX™ provides API calls to locate and identify iButtons™, and to read and write TMEX Extended File Structure files.

- Includes iButton–TMEX driver installations for Windows 95/NT (32–bit), Windows 3.1 (16–bit), and DOS. Updates available over the Dallas Semiconductor World Wide Web site (www.ibutton.com).

- Hyper–linked Windows Help files on the TMEX API and the source code examples.

- Full TMEX documentation in Adobe Acrobat (PDF) format on disk.

- OverDrive (accelerated) communication mode supported with the DS1410E parallel port adapter and DS9097U–9 serial port adapter with OverDrive capable iButtons.

- Supports all SRAM and EEPROM iButtons and reads all EPROM iButton devices up to 64K–bits with the DS1410E / DS1410D (parallel) and the DS9097U–9 / DS9097E / DS9097 (serial) adapters. EPROM programming is available with the DS9097E and DS9097U (serial) adapters.
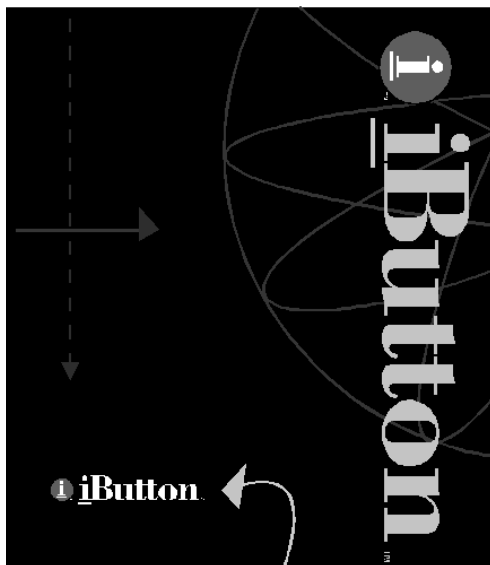
iButton VIEWER

DESCRIPTION

The iButton–TMEX Professional Software Developers Kit or simply the iButton–TMEX SDK, includes all of the information needed to create commercial grade iButton[TM] and 1–Wire[TM] protocol applications. This kit facilitates the development of iButton programs using the TMEX Application Programming Interface (API) by providing extensive example applications and documentation. The supported platforms for application development are Microsoft Windows 95, NT, 3.1, CE 1.0 and DOS.

The cornerstone of the TMEX API is the Extended File Structure. This file structure allows for multiple files and sub–directories in a memory iButton. The Extended File Structure provides an efficient and consistent method for accessing data in an iButton.

The TMEX drivers supplied with this kit are for the DS9097U–9 (DS1411, DS1416) / DS9097U / DS9097E / DS9097 (DS1413) serial port adapters and the DS1410E / DS1410D parallel port adapters. The adapters are not included in this kit. Other PC hardware platforms can be supported by writing hardware–specific low–level drivers. The low–level driver can then easily be interfaced with the high–level file functions provided in this kit to achieve full functionality.

SOURCE CODE EXAMPLES

To demonstrate the use of the TMEX API, the SDK provides source code example programs written in C, Pascal and Basic. Note: the TMEX drivers, however, were designed to be language independent. The programs are written for Windows (32–bit), Windows (16–bit), and DOS. Highlights from the examples are: searching the MicroLan for iButtons, reading/writing iButton files, directory manipulation on iButtons, reading a temperature from a DS1920 iButton, and reading the time register of a DS1994 iButton.

A Windows hyper–linked Examples Help file is provided to explain each example program, its target system, and the location of the source files.

TMEX API HELP

The complete TMEX API is documented in a standard manual provided in electronic form. The same information is also provided in a Windows hyper–linked TMEX API Help file. The help file has the advantage of providing easier on–screen reference during application development.

iButton TMEX

Provided with the SDK is a single copy of iButton–TMEX (part number DS0621–SUL). iButton–TMEX (minus the SDK tag) is the single user license of the TMEX drivers. The drivers, which can also be downloaded from the Dallas Semiconductor World Wide Web site (www.i-button.com), enable the PC or other platform to be ready for a TMEX–compatible application. The currently supported platforms for iButton–TMEX are Windows 95/NT, Windows 3.1, and DOS. Each of the driver installations disks has an install program SETUP.EXE which will perform an installation of the TMEX drivers that is appropriate for each platform. An installation and users guide is also provided.

iButton–TMEX installations give the user the TMEX drivers and one or more iButton utilities. The Windows installations (16 and 32 bit) come with the GUI utility iButton Viewer. This utility shows a continuously updated list of the iButton devices on the MicroLan. Selecting an iButton will provide a brief description of the iButton type. A picture of the main iButton Viewer screen can be seen at the beginning of this data sheet. Viewing an iButton will open a device specific viewer appropriate for the features of the device. The viewer is designed to be a general purpose utility. The DOS installation provides command–line iButton utilities similar to those provided by DOS such as DIR, COPY, etc. The source code for most of these iButton command–line utilities is provided in the SDK.

The DS0621–SDK and the platform–specific driver install disks are supplied on CD–ROM. Instructions are provided to copy all of the kits onto 1.44 MByte MS–DOS diskettes if needed. The SDK installation program SETUP.EXE can be run in Windows 3.1 or newer. The code provided with the DS0621–SDK is licensed for individual use. Licenses are available for multiple installations – contact Dallas Semiconductor for details.

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