Highlights

- **General Features**
  - High performance USB2.0 or eSATA to single SATA storage controller

- **Key Features**
  - High performance USB2.0 or eSATA to single SATA storage controller
  - Integrated hardware cipher engine supporting encryption / decryption over USB and eSATA
    - Supports AES-128 algorithm
    - Support for biometric (fingerprint) and software password authentication
    - Host software and drivers supplied for Password Application for PC and Mac
  - Supports SATA II Gen2m specification and 3.0Gbps and 1.5Gbps interfaces
  - Sustained transfer rates in excess of 150Mbytes/s (limited only by HDD or interface transfer rates)
  - 16 GPIO plus up to 24 secondary GPIO pins
  - Integrated PWMs
  - Integrated Fan-Tacho control
  - USB Mass Storage Compliant

The OXUS931SE is a single chip solution for bridging between USB2.0 or eSATA to SATA hard disks with an integrated cipher engine. Optimized for performance, the OXUS931SE is ideal for creating secure external storage devices or encryption dongles.

The integrated cipher engine provides advanced encryption and decryption capabilities in hardware and enables OEMs to rapidly deploy full disk encryption solutions, providing end users with peace-of-mind that their private content is safe and secure in the event of theft or loss.

Integrating a USB2.0 device, an eSATA device, and a SATA host controller, the OXUS931SE enables designers to create products with a minimal number of external components

Embedded ARM Processor

By managing the data flow, the on-chip ARM7 processor enables a whole new series of standalone consumer electronic product to be developed in a simple C/C++ programming environment.

USB2.0

The embedded USB2.0 PHY supports both full and high speed, using bulk-only transport Mass Storage Class device protocol. Its fast read and write transfers ensure that the maximum possible host performance is maintained.

No additional USB host drivers are required, for either Windows® or Mac® operating systems, for standard storage, button notification or GPIO control applications

SATA Interfaces

The embedded 3GHz SATA host interface supports the latest revision of the SATA II specifications. In addition the eSATA device port also supports the Gen2m interface. Interface speeds of 3GHz deliver maximum performance with minimum latency for external SATA storage.

Encryption

The integrated hardware cipher engine supports real-time, on-the-fly encryption / decryption of the data to the Advanced Encryption Standard (AES), providing a means whereby a users' data can be securely stored, and made unavailable to unauthorized users.

In addition to a high-performance cipher engine, the OXUS931SE is complemented by robust authentication solutions, including software password. A customizable host application, the Oxford Semiconductor Authenticator, is provided for both PCs and Mac hosts to:
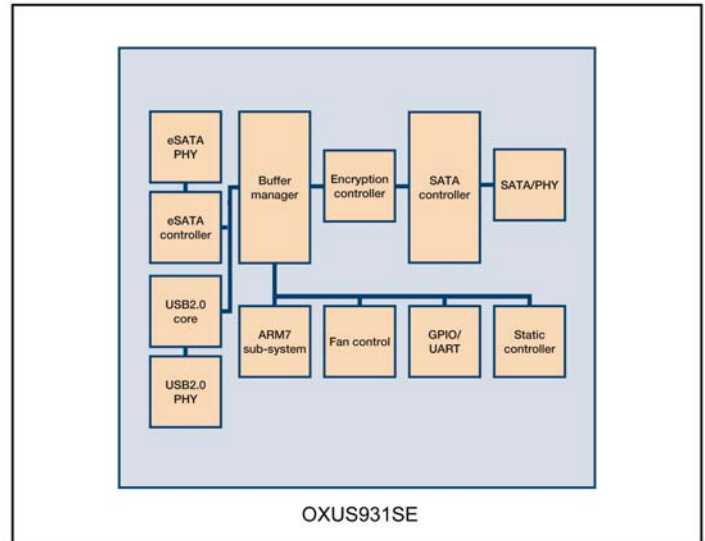
o   Define and manage up to 10 passwords

o   Authenticate and mount the drive

o   Safely de-authenticate and unmount the drive.

Development Support

For external Mac and PC storage solutions, Oxford Semiconductor offers a selection of reference designs, development code, drivers, and evaluation kits.

OXUS931SE Block Diagram

OXUS931SE

Product Ordering Information

Part Number	Description
OXUS931SE-FBAG	USB 2.0, eSATA to SATA Controller with Encryption

Visit www.plxtech.com for more information.