

## X-Wall<sup>®</sup> LX ASIC

*Protect your data; Safeguard your privacy™*



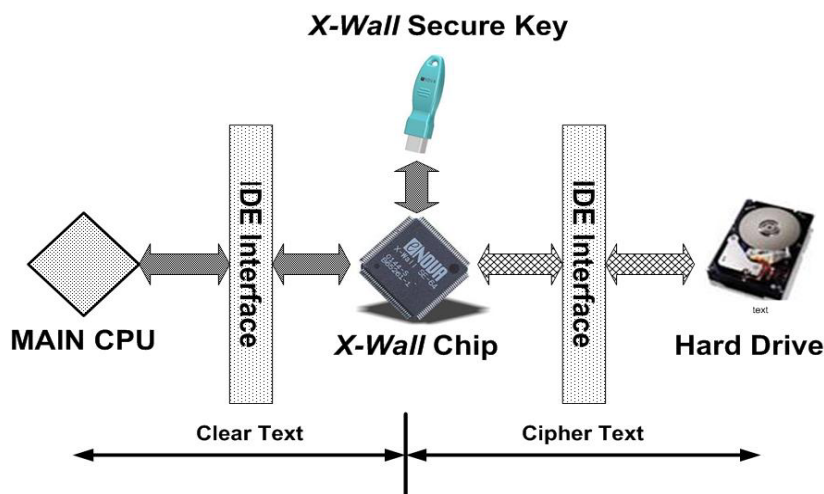
The X-Wall LX ASIC ensures privacy and confidentiality of data and credentials stored on hard drives without degrading system performance. A cryptographic system-controller ASIC operating at the physical layer, the X-Wall LX microchip performs “real-time” encryption of the entire hard disk (including the boot sector and operating system) at 1.6 Giga bit per second using Federal Government certified DES/TDES algorithms. In contrast to software solutions, no password is ever stored on the hard drive or held in machine memory. X-Wall’s unique design also completely eliminates any dependency on operating systems or device drivers while functioning automatically and transparently, thereby eliminating user intervention.

### Key Benefits

- Automatic transparent encryption guarantees user acceptance and enforces compliance with security policies
- Real-time encryption at 1.6Gbit/sec maintains full system performance
- Government-certified DES and TDES algorithms assure high level security
- Encryption key lengths from 40-bit to 192-bit
- Compatible with all IDE hard drives
- Compatible with all operating system and requiring no additional device drivers
- Small form factor with low power consumption (< 250mW)

### Description

The X-Wall LX chip resides between the IDE host controller and the IDE hard drive. Incorporating both a host and target interface for IDE Ultra DMA drives, X-Wall LX acts as a





host controller to the hard drive and as a hard drive to the controller. *X-Wall LX* intercepts and translates IDE commands and encrypts all data in real-time. All data written to the hard drive, including the boot sector, operating system, temp and swap files is automatically and transparently encrypted. Attempts to circumvent security by booting from a floppy disk or by removing the hard drive to be read on a different machine would prove futile since the entire content of the hard drive is encrypted.

### Operation

The *X-Wall Secure Key* stores and protects the “Secret Key” used by the *X-Wall* microchip to encrypt data. The correct *X-Wall Secure Key* must be inserted into the special key socket (present on *X-Wall* finished products) at system boot up to authenticate the user and authorize the operating system to load before granting access to data stored on the hard drive.



### Product List

<b>X-Wall</b>	<b>Encryption Strength</b>	<b>NIST<sup>1</sup> &amp; CSE<sup>2</sup> Certified 100% hardware Cipher Engine</b>	<b>Maximum Throughput</b>	<b>Ultra ATA hard disk support</b>	<b>Ultra ATA hard disk compliance</b>	<b>Protocol &amp; Transfer mode support up to</b>	<b>Package</b>
<b>LX-40</b>	40-bit	<b>DES</b>	1.6 Gbit/sec	> 137GB	66, 100, 133	ATA 6, Mode 6 transfer	128-pin LQFP
<b>LX-64</b>	64-bit	<b>DES</b>	1.6 Gbit/sec	> 137GB	66, 100, 133	ATA 6, Mode 6 transfer	128-pin LQFP
<b>LX-128</b>	128-bit	<b>TDES</b>	1.6 Gbit/sec	> 137GB	66, 100, 133	ATA 6, Mode 6 transfer	128-pin LQFP
<b>LX-192</b>	192-bit	<b>TDES</b>	1.6 Gbit/sec	> 137GB	66, 100, 133	ATA 6, Mode 6 transfer	128-pin LQFP

### Specifications

- Compatible with all operating systems including MS Windows, Mac OS, Linux, BSD, Unix, SCO Unix and Solaris
- 1.6 Giga bit per second throughput
- Encryption key lengths vary by chip model from 40-bit to 192-bit. All chips are pin to pin compatible.
- Compatible with all Ultra DMA 66/100/133 hard drives

<sup>1</sup> NIST – The National Institute of Standards and Technology of the United States of America

<sup>2</sup> CSE – The Communications Security Establishment of the Government of Canada



- Compatible with all motherboards with standard IDE interface
- 128-pin LQFP small form factor package
- All four (4) chips are pin to pin compatible
- Dimensions: 14x14mm, 1.4mm thickness
- Power requirement: +3.0V to +3.6V
- Operating temperature: 0 degrees C to +70 degrees C
- Storage temperature: -55 degrees C to +125 degrees C

Enova Technology, a privately held company with its HQ in Milpitas, California, specializes in the design of advanced real-time cryptographic solutions. Enova's innovative encryption technology satisfies the needs of Corporations, Government Agencies, Consumers and security-conscious users worldwide who demand absolute privacy and confidentiality of stored data and network credentials.



Enova Technology  
576 Valley Way  
Milpitas, CA 95035  
Tel: 408 956 8100 Fax: 408 956 8102  
[www.enovatech.com](http://www.enovatech.com)