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Key Variable Loaders (KVL) are required to load encryption keys for all secure equipped products containing DES-CFB, DES-XL, DES-OFB, DVP-XL, DVI-XL and AES cryptographic applications in ASTRO® mode and DVI-XL in Dimetra mode. The KVL 3000 Plus provides key material management through a battery powered portable device with a bit map display and an easy-to-use menu.

ASTRO MODES OF OPERATION

The KVL 3000 Plus supports two types of key management, defined by two different modes of operations:

- **Advanced Securenet (ASN) Mode –** ASN mode is the standard mode of operation on the KVL 3000 Plus. ASN mode provides Physical Identifier (PID) key management. PID key management identifies a physical memory slot where a key variable is stored in a unit. All products that support PID key management access the same encryption keys dependent on the physical storage capability of the product. PID key management provides support for all SECURENET, Secure ASTRO, and Secure ASTRO®25 systems.
- **ASTRO 25 Mode –** ASTRO 25 mode is an optional mode of operation in the KVL 3000 Plus. ASTRO 25 mode provides Common Key Reference (CKR) key management. CKR key management eliminates the need to place a key in a specific memory location. All secure products that support CKR's will access the same encryption keys independent of physical storage capabilities of the product. CKR key management is used with ASTRO digital subscribers equipped with the Universal Crypto Module (UCM). This mode is required for ASTRO 25 Conventional OTAR, which is performed with the Key Management Facility.

DIMETRA MODE OF OPERATION

The Dimetra (Air Interface Encryption-AIE) KVL 3000 Plus Key Variable Loader is used to store and transfer encryption keys from the Authentication Centre to Dimetra System infrastructure devices (i.e. Zone Controller, Tetra Site Controller, and the Base Radio Controller) and Mobile Stations.

ALGORITHM SUPPORT

The KVL 3000 Plus supports the following encryption algorithms:

ALGORITHM	ASTRO	Dimetra	ANALOG	DIGITAL
DES-CFB	X		X	
DES-XL	X		X	X
DES-OFB	X			X
DVP-XL	X		X	X
DVI-XL	X	X	X	X
AES	X			X

The KVL 3000 Plus DOES NOT support DVP encryption algorithm.

SUPPORTED SYSTEMS

The KVL 3000 Plus is compatible with all SECURENET, Secure ASTRO, Secure ASTRO 25, P25, and Dimetra secure equipped subscriber and infrastructure equipment.

12 Kbps SECURENET (Analog Secure)

9.6 Kbps ASTRO (VSELP Vocoder)

9.6 Kbps ASTRO 25 (IMBE Vocoder)

ASTRO 25 Conventional

ASTRO 25 (9600) Trunking

Dimetra (AIE)

ASTRO AND DIMETRA KEY FEATURES

- The KVL 3000 Plus is capable of storing a total of 1,024 Encryption Keys.

- The KVL 3000 Plus manages critical information, freeing operators from tedious time consuming tasks.

- The KVL 3000 Plus offers two levels of password protection: Supervisor and Operator. Password protection improves system security by limiting access to sensitive key management functionality.

- The KVL 3000 Plus has the capability to upgrade the firmware using an external PCMCIA FLASHport™ upgrade card.

ASTRO ONLY KEY FEATURES

- The KVL 3000 Plus supports all key management functions previously supported by the original KVL (Key Variable Loader) and KVL 3000 with the exception of DVP encryption algorithm.

DIMETRA ONLY KEY FEATURES

- Supports transfer of keys to/from Dimetra 5.0 System infrastructure devices using Store and Forward feature.

For more informationvisit www.motorola.com

ENCRYPTION SPECIFICATIONS

Supported Encryption Applications	DES-CFB, DES-XL and DES-OFB
	DVP-XL
	DVI-XL
	AES
Supported Systems	12 Kbps SECURENET™
	9.6 Kbps Secure ASTRO™ (VSELP Vocoder)
	9.6 Kbps Secure ASTRO 25 (IMBE Vocoder)
	Dimetra (AIE)
Encryption Keys	1,024 Encryption Keys
Standards	FIPS 46-2
	FIPS 197*
	FIPS 81
	FIPS 140-1 Level 1*

Currently undergoing certification by an approved ITSEC Laboratory

PHYSICAL CHARACTERICS

Dimensions	26.4 mm Long (Includes Connector Boot) 89.2 mm Wide 48.2 mm Thick (High Capacity Battery Included)
Weight	725.74 g (High Capacity Battery Included)

USER INTERFACE

Four Line, 12 Character (4x12) Bitmapped Display
LCD Annunciator Line
4x4 Numeric Key Pad (0-9 and A-F Keys)
Two General Purpose Softkeys
Scroll Left /Increment Key
Scroll Right / Decrement Key
Power On/Off, Delete/Shift, Enter Keys
DB-9 Connector (RS232, 9,600 Baud)
Type II PCMCIA slot
Keyload Port

REGULATORY COMPLAINCE & APPROVALS

Electromagnetic Compatibility	CISPR 22 Class A
	European EMC Directive 89/336 EEC
	FCC Part 15 Subpart B Class A
	EN55024
	IEC 61000-4-2, IEC 61000-4-3
Safety	EN 60950

ENVIRONMENTAL TESTING

Standard	Method	Procedure	Test	Performance
MIL-STD 810E	510.3	I	Blowing Dust	Meets or exceeds published spec following blowing dust testing
	516.4	I	Shock	Meets or exceeds published spec following shock testing
	505.3	I	Solar Radiation	Meets or exceeds published spec following solar radiation testing
	514.4	I	Vibration	Meets or exceeds published spec following vibration testing
ANSI/UL-94			Flammability	
Operating Temperature	−30° to +60° Celsius except PCMCIA Card, which is 0° to +60° Celsius			
Storage Temperature	−55° to +85° Celsius			

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