



System Release 7.14

ASTRO[®] 25

INTEGRATED VOICE AND DATA

KVL 4000 FLASHPORT UPGRADE USER GUIDE

November 2013

6871018P36-G

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Domestic Calls	800-221-7144
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North America Parts Organization

For assistance in ordering replacement parts or identifying a part number, contact the Motorola Parts organization. Your first response when troubleshooting your system is to call the Motorola SSC.

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Phone Orders	800-422-4210 (US and Canada Orders) For help identifying an item or part number: select choice 3 from the menu. <hr/> 302-444-9842 (International Orders) includes help for identifying an item or part number and for translation as needed
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Document History

Version	Description	Date
6871018P36-A	Original release of the <i>KVL 4000 FLASHPort Upgrade User Guide</i>	May 2010
6871018P36-B	Updated as follows: <ul style="list-style-type: none"> Added the following sections: <ul style="list-style-type: none"> “Upgrading an MGEG, MCC 7500 Dispatch Console, or MCC 7500 AIS Secure Card” “Upgrading a KMF Crypto Card” “Upgrading Algorithms on TMGs and/or VPMs” “Upgrading Algorithms on CDEMs and/or PDEGs” “Upgrading the Application Boot Software on CDEMs and/or PDEGs” “Upgrading the Application Main Software on CDEMs and/or PDEGs” “Performing the OS Hardening” “Installing the VPN Software” “Setting the PDA USB Mode” Updated to include the Radio Authentication operating mode. 	November 2010
6871018P36-C	Updates to the “VPN Software” chapter	July 2011
6871018P36-D	Updated/added the following sections: <ul style="list-style-type: none"> “MOTOROLA SOLUTIONS, INC. END USER LICENSE AGREEMENT” “PUBLICLY AVAILABLE SOFTWARE LIST – KVL SOFTWARE INSTALLATION WIZARD” “PUBLICLY AVAILABLE SOFTWARE LIST – PDA” “Obtaining Upgrades” “Running the KVL Software Installation Wizard” “Checking for Upgrades” “Upgrading the Security Adapter” “Upgrading Algorithms on CDEMs, PDEGs, and/or KMF CryptRs” “Upgrading CDEMs and/or PDEGs” “Applying Enhanced Security Settings Through the KVL Software Installation Wizard” “Applying Transparent Security Settings Through the KVL Software Installation Wizard” “Installing and Activating the VPN Software” “Motorola System Support Center and Radio Support Center” 	March 2012

Table continued...

Version	Description	Date
	<ul style="list-style-type: none"> • “North America Parts Organization” • “Interface Cables” 	
6871018P36-E	Updated the following sections: <ul style="list-style-type: none"> • “Running the KVL Software Installation Wizard” • “Upgrading Target Devices” • “Applying Security Settings” • “Setting the PDA USB Mode” • “Interface Cables” 	November 2012
6871018P36-F	Updated the following sections: <ul style="list-style-type: none"> • “Running the KVL Software Installation Wizard” • “Upgrading Radios and/or DIUs” • “Applying Security Settings” 	January 2013
6871018P36-G	Updated the following sections: <ul style="list-style-type: none"> • “Open Source Software Legal Notices” • “Upgrading an MGEG, MCC 7500 Dispatch Console, or MCC 7500 AIS Secure Card” • “Upgrading Algorithms on TMGs and/or VPMs” • “Upgrading Algorithms on CDEMs, PDEGs, and/or KMF CryptRs” 	November 2013

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About the KVL 4000 FLASHPort Upgrade User Guide

This manual provides instructions for upgrading the Key Variable Loader (KVL), radios, and other target devices. It also provides instructions for applying security settings on the KVL, installing and activating VPN software, as well as provides troubleshooting information.

This manual is intended for use by experienced technicians familiar with similar types of equipment. Technicians should understand encryption concepts and be familiar with other types of Motorola encryption equipment.

Depending on the options ordered, the KVL has the capability of being configured to operate in ASN (Advanced SECURENET®), ASTRO® 25, or Radio Authentication mode. This manual contains information relevant to all modes of operation.

What Is Covered in This Manual?

This manual consists of the following chapters:

- *Performing Upgrades on page 33*
- *Applying Security Settings on page 41*
- *VPN Software on page 45*
- *Troubleshooting on page 47*

Helpful Background Information

Motorola offers various courses designed to assist in learning about the system. For information, go to <http://www.motorolasolutions.com/training> to view the current course offerings and technology paths.

Related Information

Refer to the following documents for associated information:

Related Information	Purpose
<i>Standards and Guidelines for Communication Sites</i>	Provides standards and guidelines that should be followed when setting up a Motorola communications site. Also known as R56 manual. This manual may be purchased on CD 9880384V83, by calling the North America Parts Organization at 800-422-4210 (or the international number: 302-444-9842).
<i>System Documentation Overview</i>	For an overview of the ASTRO® 25 system documentation, open the graphical user interface for the ASTRO® 25 system documentation set and select the System Documentation Overview link. This opens a file that includes:

Table continued...

Related Information	Purpose
	<ul style="list-style-type: none"> • ASTRO® 25 system release documentation descriptions • ASTRO® 25 system diagrams • ASTRO® 25 system glossary <p>For an additional overview of the system, review the architecture and descriptive information in the manuals that apply to your system configuration.</p>
<i>MC55 Enterprise Digital Assistant User Guide (72-108859)</i>	Describes how to use the MC55 EDA.
<i>MC55 Quick Start Guide (72-127603)</i>	Describes how to get the MC55 EDA up and running.
<i>KVL 4000 Quick Start Guide</i>	Provides basic information on the KVL 4000.
<i>KVL 4000 Key Variable Loader Advanced SECURENET User Guide</i>	Provides step-by-step instructions for using the Key Variable Loader (KVL) to create and store encryption keys, and then load them into other Motorola secure equipment, such as radios, fixed encryption units, digital interface units (DIUs), and others. This manual describes the Advanced SECURENET® operating mode.
<i>KVL 4000 Key Variable Loader ASTRO 25 User Guide</i>	Provides step-by-step instructions for using the Key Variable Loader (KVL) to create and store encryption keys, and then load them into other Motorola secure equipment, such as radios, fixed encryption units, digital interface units (DIUs), and others. This manual describes the ASTRO® 25 mode of operation.
<i>KVL 4000 Key Variable Loader Radio Authentication User Guide</i>	Provides step-by-step instructions for using the Key Variable Loader (KVL) to create and store authentication keys, and then load them into Motorola radios. This manual describes the Radio Authentication mode of operation.

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Credits:	See License
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Name:	NLOG
Version:	2.0
Description:	NLog is a logging platform for .NET with rich log routing and management capabilities. It makes it easy to produce and manage high-quality logs for application.
Software Site:	http://nlog.codeplex.com http://nlog-project.org
Source Code:	No Source Code Distribution Obligations. The Source Code may be obtained from the original Software Site.
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Name:	NLOG
Version:	2.0
Description:	NLog is a logging platform for .NET with rich log routing and management capabilities. It makes it easy to produce and manage high-quality logs for application.
Software Site:	http://nlog.codeplex.com http://nlog-project.org
Source Code:	No Source Code Distribution Obligations. The Source Code may be obtained from the original Software Site.
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Name:	Smart Device Framework - Community Edition
Version:	2.3.0.39
Description:	Extentions, to the NET Compact Framework core libraries, which enables calls to OS services.
Software Site:	http://www.opennetcf.com/Products/SmartDeviceFramework.aspx
Source Code:	No Source Code Distribution Obligations. The Community Edition of the Smart Device Framework is only provided in Binary form from the Software Authors. Source Code can be obtained via commercially licensing the Software.
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PUBLICLY AVAILABLE SOFTWARE LIST – SECURITY ADAPTER

Name:	Buffer Management Source Code from OpenBSD Operating System, as well as, OpenSSH Project.
Version:	N/A
Description:	This Package was included by Commercial Third Party Software Development Kit, from WindRiver-Interpeak, within the Motorola Product. Copyright 2000-2005 Interpeak AB (http://www.interpeak.se). All rights reserved.
Software Site:	http://www.openbsd.org
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Author: Tatu Ylonen <ylo@cs.hut.fi>

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Functions for manipulating fifo buffers (that can grow if needed).

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sccl.c, vsconf.c

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xscanf.c

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stdint.h

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 - any of the seals on the battery enclosure or cells are broken or show evidence of tampering.

- the damage or defect is caused by charging or using the battery in equipment or service other than the Product for which it is specified.
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Chapter 1

Performing Upgrades

This chapter provides detailed procedures on performing upgrades for the KVL unit and target devices.

Obtaining Upgrades

When and where to use: Follow this procedure to obtain upgrades for the KVL Application, Security Adapter, radios, or other target devices, such as:

- Key Management Facility (KMF)
- Digital Interface Unit (DIU)
- Motorola Gold Elite Gateway (MGEG)
- Radio Network Controller (RNC)
- Telephone Media Gateway (TMG)
- Voice Processor Module (VPM)
- Motorola MCC 7500 products
- PDEG Encryption Unit
- CAI Data Encryption Module (CDEM)
- KMF CryptR

Procedure:

- 1 Place an order with Motorola to receive an upgrade:
 - If you order a KVL 4000 upgrade, then you will receive a CD containing the KVL Software Installation Wizard, KVL Application software, and Security Adapter software.
 - If you order an upgrade for a radio or another target device, then you will receive a CD containing the KVL Software Installation Wizard and crypto module upgrade image software.
- 2 To upgrade/reinstall the KVL Application and copy the Security Adapter or crypto module upgrades onto the PDA, follow *Running the KVL Software Installation Wizard on page 33*.

Running the KVL Software Installation Wizard

By running the KVL Software Installation Wizard you can upgrade/reinstall the KVL application, copy Security Adapter and/or crypto module upgrades onto the PDA, apply Enhanced Security Settings, and install patches, VPN software, ActiveSync software, and Windows Mobile Device Center Software, depending on the content of the CD.

Prerequisites:

- Ensure that you have the USB Programming Cable.
- For Windows XP, ensure that Microsoft ActiveSync is installed on your PC.
- For Windows Vista and Windows 7, ensure that Microsoft Windows Mobile Device Center is installed on your PC.

Procedure:

- 1 If the KVL Application software is running, exit or log out of the KVL.
- 2 Disconnect the Security Adapter from the PDA.
- 3 Connect the PDA to a PC using the USB Programming Cable.

Figure 1: PDA and PC – Connected

Step result: For Windows XP, the ActiveSync application starts. For Windows Vista and Windows 7, the Windows Mobile Device Center starts.



Note: If ActiveSync or Windows Mobile Device Center do not start, perform [Setting the PDA USB Mode on page 47](#) to put the PDA into the **USB Client** or **USB OTG** mode.

- 4 Insert the CD provided by Motorola and run the Setup.exe file to start the KVL Software Installation Wizard.

Step result: The **End User License Agreement** screen appears.

- 5 Click **Accept** and follow instructions on the consecutive screens. If you want to apply Enhanced Security Settings on your KVL, select an appropriate check box. The Enhanced Security Settings will be applied after the installation. For details, see [Applying Enhanced Security Settings Through the KVL Software Installation Wizard on page 41](#).



Note: During the installation process, the PDA may restart several times.

- 6 When the installation is completed, exit the KVL Software Installation Wizard.
- 7 Disconnect the USB Programming Cable from the PDA.
- 8 Connect the Security Adapter to the PDA.



Note: If the Security Adapter is not detected automatically, perform [Setting the PDA USB Mode on page 47](#) to put the PDA into the **USB Host** or **USB OTG** mode.

- 9 If you wanted to upgrade/reinstall the KVL application, the procedure is complete. Otherwise, perform one of the following actions:
 - To upgrade the Security Adapter software, go to [Upgrading the Security Adapter Software on page 35](#).
 - To upgrade a radio or another target device, go to [Upgrading Target Devices on page 35](#).

Checking for Upgrades

When and where to use: Use these steps to check if there are upgrades available on the PDA.

Procedure:

- 1 Log on to the KVL application as an Administrator.

Step result: If at least one upgrade for the Security Adapter or a target's crypto module is available, the **Upgrades available** screen appears. Otherwise, the KVL main screen appears.

- 2 Select **Yes, allow access**.

Step result: A progress animation appears, indicating that the access to upgrades is being provided. When the process is completed, the **Upgrades** screen appears, presenting available upgrades.



Note: If you select **No, not now**, the KVL main screen appears.

- 3 Tap **Done** to go to the KVL main screen.

Upgrading the Security Adapter Software

Prerequisites: There are upgrades in the KVL database.

Procedure:

- 1 To verify the available upgrades, follow [Checking for Upgrades on page 35](#).
- 2 On the KVL main screen, select **Settings** → **Upgrade** → **Upgrade this KVL**>.

Step result: A progress animation appears, indicating that the Security Adapter software is being upgraded. When the process is completed, a **completed** sound is played and a screen appears, informing that the Security Adapter software has been successfully upgraded.

- 3 Tap **Done** to return to the KVL main screen.
- 4 Exit or log out of the KVL application.

Step result: The Security Adapter software has been upgraded.

Upgrading Target Devices

Upgrading Radios and/or DIUs

Prerequisites:

You need to have the KVL 4000 version R02.03.00 or later to be able to upgrade radios.

Ensure you have a Key load cable.

When and where to use: Use these steps to upgrade a radio or a Digital Interface Unit (DIU).

Procedure:

- 1 To verify the available upgrades, follow [Checking for Upgrades on page 35](#).
- 2 Connect the target device to the key load port using an appropriate key load cable. See [Interface Cables on page 49](#) for details.



Important: The target device must be powered on before you perform the upgrade.



Important: Do not switch off the target device before completing the upgrade procedure.

- 3 On the KVL main screen, select **Settings** → **Upgrade** → **Upgrade a crypto module**.

Step result: A progress animation appears, indicating that the connected target device is being upgraded. When the process is completed, a **completed** sound is played and a screen appears, informing that the upgrade was successful.

- 4 Disconnect the target device.



Note: If you want to upgrade another target device, disconnect the current target device now and connect the new one. You can continue the process until you have upgraded all the target devices.

- 5 Tap **Done** on the consecutive screens to return to the KVL main screen.

Upgrading an MGEG, MCC 7500 Dispatch Console, or MCC 7500 AIS Secure Card

Prerequisites:

Ensure that you have a Key load cable.

Obtain the previously recorded and maintained key and configuration data for the target device so that it can be re-loaded once the upgrade is complete.



Caution: During the upgrade, all key and configuration data stored in the target device will be erased. The target device will require this data after the upgrade is complete. Failure to recover this information after the upgrade could result in a temporary loss of functionality.

Procedure:

- 1 To verify the available upgrades, see [Checking for Upgrades on page 35](#).
- 2 Perform one of the following actions:
 - If you are upgrading an MGEG Secure Card, use Network Manager to disable the MGEG.
 - If you are upgrading an MCC 7500 Dispatch Console Secure Card, log out of the Dispatch Console Application (Elite) or use Network Manager to disable the MCC 7500 Dispatch Console.
 - If you are upgrading an MCC 7500 AIS Secure Card, use Network Manager to disable the AIS.
- 3 Verify the **KVL Ready** LED on the target device is lit.
- 4 Connect the target device to the key load port on the KVL using an appropriate key load cable. See [Interface Cables on page 49](#) for details.
- 5 Ensure the target device is powered on. Do not switch off the target device before completing the upgrade procedure.
- 6 On the KVL main screen, select **Settings** → **Upgrade** → **Upgrade a crypto module**.

Step result: A progress animation appears, indicating that the connected target device is being upgraded. When the process is completed, a **completed** sound is played and a screen appears, informing that the upgrade was successful.



Important: After a successful upgrade, the target device resets itself. (It may take up to 6 minutes for the target device to complete the reset.) Before proceeding, wait until the **KVL Ready** LED on the target device is lit again.

- 7 Disconnect the target device.
- 8 Tap **Done** on the consecutive screens to return to the KVL main screen.
- 9 Perform one of the following actions:

- If you are upgrading an MGEG Secure Card, use Network Manager to re-enable the MGEG.
- If you are upgrading an MCC 7500 Dispatch Console Secure Card, log on to the Dispatch Console Application (Elite) again or use the Network Manager to re-enable the MCC 7500 Dispatch Console.
- If you are upgrading an MCC 7500 AIS Secure Card, use the Network Manager to re-enable the AIS.

10 Verify the **KVL Ready** LED on the target device is **not** lit.

Post requisites: Re-configure the target device with all the key data and configuration information.

Upgrading Algorithms on TMGs and/or VPMs

Prerequisites:

Ensure you have a Key load cable.

Obtain the previously recorded and maintained key and configuration data for the target device so that it can be re-loaded once the upgrade is complete.



Caution: During the upgrade, all key and configuration data stored in the target device will be erased. The target device will require this data after the upgrade is complete. Failure to recover this information after the upgrade could result in a temporary loss of functionality.

Procedure:

- 1 To verify the available upgrades, see [Checking for Upgrades on page 35](#).
- 2 Verify the **KVL Ready** LED on the target device is lit.
- 3 Connect the target device to the key load port on the KVL using an appropriate key load cable. See [Interface Cables on page 49](#) for details.
- 4 Ensure the target device must be powered on. Do not switch off the target device before completing the upgrade procedure.
- 5 On the KVL main screen, select **Settings** → **Upgrade** → **Upgrade a crypto module**.

Step result: A progress animation appears, indicating that the connected target device is being upgraded. When the process is completed, a **completed** sound is played and a screen appears, informing that the upgrade was successful.



Important: After a successful upgrade, the target device resets itself. (It may take up to 6 minutes for the device to complete the reset.) Before proceeding, wait until the **KVL Ready** LED on the target device is lit again.

- 6 Disconnect the target device.
- 7 Tap **Done** on the consecutive screens to return to the KVL main screen.

Post requisites: Re-configure the target device with all the key data and configuration information.

Upgrading Algorithms on CDEMs, PDEGs, and/or KMF CryptRs

Prerequisites:

Ensure that you have a key load cable.

Obtain the previously recorded and maintained key and configuration data for the target device so that it can be re-loaded once the upgrade is complete.



Caution: During the upgrade, all key data and configuration information stored in the target device will be erased. Failure to recover this information after the upgrade could result in a temporary loss of functionality.

Procedure:

- 1 To verify the available upgrades, see [Checking for Upgrades on page 35](#).
- 2 **For the KMF CryptR:** Put the KMF CryptR into the KVL programming mode. See “Putting the KMF CryptR into the KVL Programming Mode” in the *Key Management Facility* manual.

- 3 Connect the **red** key load port on the target device to the key load port on the KVL using an appropriate key load cable. See [Interface Cables on page 49](#) for details.
- 4 Ensure the target device must be powered. Do not switch off the target device before completing the upgrade procedure.
- 5 On the KVL main screen, select **Settings** → **Upgrade** → **Upgrade a crypto module**.
If the upgrade process starts but does not progress after 30 seconds, press the **Reset** button on the target device.
Step result: A progress animation appears, indicating that the connected target device is being upgraded. When the process is completed, a **completed** sound is played and a screen appears, informing that the upgrade was successful.
- 6 Power cycle the target device.
- 7 Disconnect the target device.
- 8 Tap **Done** on the consecutive screens to return to the KVL main screen.
- 9 **For the KMF CryptR:** Reboot the KMF Server.
- 10 **For the KMF CryptR:** At the KMF Client, reload all the master keys for each algorithm. See “Reloading a Master Key” in the *Key Management Facility* manual.

Post requisites: Re-configure the target device with all the key data and configuration information.

Upgrading CDEMs and/or PDEGs

Upgrading the Application Boot Software on CDEMs and/or PDEGs

Prerequisites: Ensure you have a key load cable.

Procedure:

- 1 To verify the available upgrades, follow [Checking for Upgrades on page 35](#).
- 2 Connect the **red** key load port on the target device to the key load port on the KVL using an appropriate key load cable. See [Interface Cables on page 49](#) for details.



Important: The target device must be powered on before you perform the upgrade.



Important: Do not switch off the target device before completing the upgrade procedure.

- 3 On the KVL main screen, select **Settings** → **Upgrade** → **Upgrade a crypto module**.

Step result: A progress animation appears, indicating that the connected target device is being upgraded. When the process is completed, a **completed** sound is played and a screen appears, informing that the upgrade was successful.



Note: If the upgrade process starts but does not progress after 30 seconds, press the **Reset** button on the target device.

- 4 Power cycle the target device.
- 5 Disconnect the target device.
- 6 Tap **Done** on the consecutive screens to return to the KVL main screen.
- 7 Connect the **black** key load port on the target device to the key load port on the KVL using an appropriate key load cable. See [Interface Cables on page 49](#) for details.



Important: The target device must be powered on before you perform the upgrade.



Important: Do not switch off the target device before completing the upgrade procedure.

- 8 On the KVL main screen, select **Settings** → **Upgrade** → **Upgrade a crypto module**.

Step result: A progress animation appears, indicating that the connected target device is being upgraded. When the process is completed, a **completed** sound is played and a screen appears, informing that the upgrade was successful.



Note: If the upgrade process starts but does not progress after 30 seconds, press the **Reset** button on the target device.

- 9 Power cycle the target device.
- 10 Disconnect the target device.
- 11 Tap **Done** on the consecutive screens to return to the KVL main screen.

Upgrading the Application Main Software on CDEMs and/or PDEGs

Prerequisites: Ensure you have a key load cable.

Procedure:

- 1 To verify the available upgrades, follow [Checking for Upgrades on page 35](#).
- 2 Connect the **red** key load port on the target device to the key load port on the KVL using a key load cable. See [Interface Cables on page 49](#) for details.



Important: The target device must be powered on before you perform the upgrade.



Important: Do not switch off the target device before completing the upgrade procedure.

- 3 On the KVL main screen, select **Settings** → **Upgrade** → **Upgrade a crypto module**.

Step result: A progress animation appears, indicating that the connected target device is being upgraded. When the process is completed, a **completed** sound is played and a screen appears, informing that the upgrade was successful.



Note: If the upgrade process starts but does not progress after 30 seconds, press the **Reset** button on the target device.

- 4 Power cycle the target device.
- 5 Disconnect the target device.
- 6 Tap **Done** on the consecutive screens to return to the KVL main screen.
- 7 Connect the **black** key load port on the target device to the key load port on the KVL using an appropriate key load cable. See [Interface Cables on page 49](#) for details.



Important: The target device must be powered on before you perform the upgrade.



Important: Do not switch off the target device before completing the upgrade procedure.

- 8 On the KVL main screen, select **Settings** → **Upgrade** → **Upgrade a crypto module**.

Step result: A progress animation appears, indicating that the connected target device is being upgraded. When the process is completed, a **completed** sound is played and a screen appears, informing that the upgrade was successful.



Note: If the upgrade process starts but does not progress after 30 seconds, press the **Reset** button on the target device.

- 9 Power cycle the target device.
- 10 Disconnect the target device.

11 Tap **Done** on the consecutive screens to return to the KVL main screen.

Chapter 2

Applying Security Settings

By default, the KVL uses Transparent Security Settings. If required by your organization's policies, apply Enhanced Security Settings on your KVL.

Applying Enhanced Security Settings Through the KVL Software Installation Wizard

Prerequisites:

- Ensure that you have the USB Programming Cable.
- For Windows XP, ensure that Microsoft ActiveSync is installed on your PC.
- For Windows Vista and Windows 7, ensure that Microsoft Windows Mobile Device Center is installed on your PC.

When and where to use: By default, the KVL uses Transparent Security Settings. If required by your organization's policies, follow this procedure to apply Enhanced Security Settings.



Note: Applying Enhanced Security Settings causes the KVL to:

- prevent installation and launching of any unsigned applications
- disable the use of wireless modem (Bluetooth and WiFi are disabled)
- require you to set a password on the Operating System

Procedure:

- 1 If the KVL Application software is running, exit or log out of the KVL.
- 2 Disconnect the Security Adapter from the PDA.
- 3 Connect the PDA to a PC using the USB Programming Cable.

Figure 2: PDA and PC – Connected

Step result: For Windows XP, the ActiveSync application starts. For Windows Vista and Windows 7, the Windows Mobile Device Center starts.



Note: If ActiveSync or Windows Mobile Device Center do not start automatically, perform [Setting the PDA USB Mode on page 47](#) to put the PDA into the **USB Client** or **USB OTG** mode.

- 4 Insert the CD provided by Motorola and run the `Setup.exe` file to start the KVL Software Installation Wizard.

Step result: The **End User License Agreement** screen appears.

- 5 Click **Accept**.
- 6 In the window that appears, select the check box next to **Your device is using Transparent Security Settings (default)**, and click **Next**. The Enhanced Security Settings will be applied after the KVL application reinstallation/upgrade.



Note: During the process, the PDA may restart several times.

Step result: When the process is completed, a message appears, asking you to configure your device according to the security policy.

- 7 Check your PDA screen and follow the instructions to renew your password settings.
- 8 When you have entered and confirmed the password on your PDA, click **OK** on the message on your PC.

Step result: The Enhanced Security Settings are applied successfully.

- 9 Click **Next** → **Exit** to close the KVL Software Installation Wizard.
- 10 Disconnect the USB Programming Cable from the PDA.
- 11 Connect the Security Adapter to the PDA.



Note: If the Security Adapter is not detected automatically, perform [Setting the PDA USB Mode on page 47](#) to put the PDA into the **USB Host** or **USB OTG** mode.

Applying Transparent Security Settings Through the KVL Software Installation Wizard

Prerequisites:

- Ensure that you have the USB Programming Cable.
- For Windows XP, ensure that Microsoft ActiveSync is installed on your PC.
- For Windows Vista and Windows 7, ensure that Microsoft Windows Mobile Device Center is installed on your PC.

Procedure:

- 1 If the KVL Application software is running, exit or log out of the KVL.
- 2 Disconnect the Security Adapter from the PDA.
- 3 Connect the PDA to a PC using the USB Programming Cable.

Step result: For Windows XP, the ActiveSync application starts. For Windows Vista and Windows 7, the Windows Mobile Device Center starts.



Note: If ActiveSync or Windows Mobile Device Center do not start automatically, perform [Setting the PDA USB Mode on page 47](#) to put the PDA into the **USB Client** or **USB OTG** mode.

- 4 Insert the CD provided by Motorola and run the `Setup.exe` file to start the KVL Software Installation Wizard.

Step result: The **End User License Agreement** screen appears.

- 5 Click **Accept**.
- 6 In the window that appears, clear the check box next to **Your device is using Enhanced Security Settings**, and click **Next**. The Transparent Security Settings will be applied after the KVL application reinstallation/upgrade.



Note: During the installation process, the PDA may restart several times.

- 7 When the process is completed, click **Next** → **Exit** to close the KVL Software Installation Wizard.

Step result: The Transparent Security Settings are applied successfully.

- 8 Disconnect the USB Programming Cable from the PDA.
- 9 Connect the Security Adapter to the PDA.



Note: If the Security Adapter is not detected automatically, perform [Setting the PDA USB Mode on page 47](#) to put the PDA into the **USB Host** or **USB OTG** mode.

Chapter 3

VPN Software

Installing and Activating the VPN Software

Procedure:

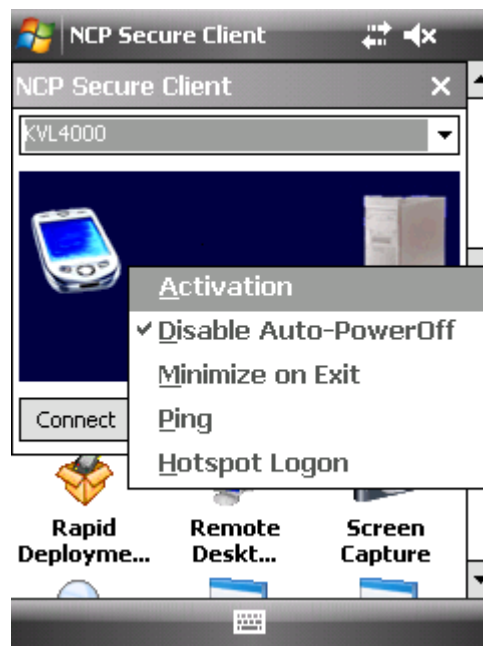
- 1 If you need to install/reinstall the VPN software, follow [Running the KVL Software Installation Wizard on page 33](#). The VPN software will be installed as part of the KVL application reinstallation process.
- 2 To activate the VPN software, select **Start** → **Programs** → **NCP Secure Client**.

Step result: The NCP Secure Client launches, followed by a prompt to activate the software.



Note: If the activation prompt does not appear, long-press the **NCP Secure Client** screen, and select **Activation** from the menu that appears.

Figure 3: NCP Secure Client Screen – Activation



- 3 Select **Yes**.

Step result: The **License-Information** screen appears.

- 4 Tap the blue **Next** arrow in the upper right corner of the screen.

Step result: The **Type of Activation** screen appears.

- 5 Ensure the **Online Activation** radio button is selected, and then tap the blue **Next** arrow in the upper right corner of the screen.

Step result: The **License-Data** screen appears.

- 6 Enter the license key and serial number, and then tap the blue **Next** arrow in the upper right corner of the screen.

Step result: The **Proxy Server** screen appears.

- 7 If your PC connection uses a Proxy server, select the **Use Proxy Server** check box, enter the server address and port, and then tap the blue **Next** arrow in the upper right corner of the screen.

Step result: The activation process begins, followed by the confirmation message.

- 8 To close the screen, select the blue **X** in the upper right corner.

Chapter 4

Troubleshooting

Operational Errors

This section lists upgrade operational errors along with their probable causes and remedies.

Table 1: Operational Errors

Error/Status Message	Probable Cause	Remedy
Unable to upgrade No upgrades are available at this time.	You have already used the number of unit upgrades that were purchased or you have not purchased any upgrades.	Purchase more upgrades.
Out of memory	The KVL internal database is full and cannot store any more data.	Delete any items stored in the KVL to make room for new data. This includes items such as unused keys and log records.
Error Access to upgrades failed. Upgrades could not be verified.	The upgrade image supplied to the KVL is corrupted or damaged.	Place another copy of the upgrade image onto the KVL and try again. If the problem persists, contact Motorola.
Upgrade failed KVL Security Adapter was not responding.	The attempt to upgrade the Security Adapter has timed-out.	Detach and reattach the Security Adapter to the PDA and restart the KVL application. Retry the upgrade. If the problem persists, contact Motorola.

Setting the PDA USB Mode

When and where to use: Sometimes, the PDA may not automatically detect whether it should work in a Host mode (when connected to the Security Adapter), or in a Client mode (when connected to a PC). In such a case, use these steps to set the PDA USB mode manually.

Procedure:

1



On the **Today** screen, select

2 Select **Settings** → **System** → **USBConfig**.

3 Perform one of the following actions:

- If there are two options available (**USB Host** and **USB Client**), then select **USB Host** if you need to connect the PDA to the Security Adapter, or select **USB Client** if you need to connect the PDA to a PC.
- If there are three options available (**USB Host**, **USB Client**, and **USB OTG**), then select **USB OTG** to allow the KVL to auto detect whether it is connected to the Security Adapter or a PC.

Appendix

A

Interface Cables

Interface Cables

Table 2: Interface Cables

Item	Part Number	Used with	Adaptor Required
Key Load Cable (used for upgrading the crypto modules)	TKN8531	XTL 5000/2500	TRN7414 (W Control Head) HKN6182 (M/O Control Head)
		XTS 5000/3000/2500	NTN8613
		ASTRO Spectra	TRN7414
		APX 7500/6500	HKN6182
		APX 7000/6000/4000/3000	NNTN7869
		RNC, DIU, TMG, MGEG, KMF, MCC 7500, VPM, PDEG, CDEM, KMF CryptR	n/a
	CKN6886	XTS 4000	n/a
	TDN9390	XTS 5000/3000/2500	n/a
	WPLN6905	APX 7000/6000/4000/3000	n/a
	TKN1039	CRYPTR micro	n/a
USB Programming Cable	25-108022-02 R	MC55	n/a

