



beyond
payment

Readme

OPOS Integration Kit for the Ingenico Telium 2 IK-OPOS-06.60

November 5, 2012

Contents

1. Overview	4
2. IK-OPOS-06.60 Contents	5
2.1. Ingenico Documents	5
2.2. Telium OPOS Software	5
2.3. Telium UIA Terminal Application	6
2.4. Telium Utilities	6
2.5. UIA Data and Configuration Files	7
3. OPOS drivers Setup Notes	8
4. OPOS Test App Setup Notes	9
5. Telium Tools Setup Notes	10
6. Loading Terminal Software Package	11
6.1. Setup Requirements	11
6.2. LLT download	12
6.3. USB Load	18
6.3.1. Creating USB Load Package	19
6.3.2. Loading USB Load Package	21
6.4. OGZ Load	22
6.5. Updating Communication file via file download	23
6.6. Enabling P2PE (Point-to-Point Encryption)	24
6.7. Enabling Contactless on Supported Device	24

1. Overview

IK-OPOS-06.60 provides supports for developing OPOS compliant application interfacing with Ingenico's ISC250/ISC350 signature capable and the iPP320/iPP350 non-signature capable devices. Our OPOS solution supports the following OPOS Control Objects for the following device:

- SignatureCapture (ISC250 and ISC350)
- LineDisplay
- PINPad
- MSR

Please refer to **DIV350825 Rev K UPOS Developers Guide.pdf** for details.

2. IK-OPOS-06.60 Contents

Ingenico's OPOS Integration Kit IK-OPOS-06.60 contains the following software and documentation.

2.1. Ingenico Documents

- DIV350773 Rev A iSC350 Installation and Quick Reference Guide.pdf
- DIV350774 Rev B iSC350 Operation and Product Support Guide.pdf
- DIV350783 Rev C iPP300 Installation and Quick Reference Guide.pdf
- DIV350784 Rev A iPP300 Operation and Product Support Guide.pdf
- DIV350823 Rev A iSC250 Operation and Product Support Guide.pdf
- DIV350824 Rev A iSC250 Installation and Quick Reference Guide.pdf
- DIV350825 Rev K UPOS Developers Guide.pdf
- DIV350827 Rev C Telium Download.pdf
- DIV350840 Rev A Telium Tools Install Guide.pdf
- Version_Description_Document_TeliumOPOS_1.4.12.pdf
- Version_Description_Document_TeliumTools_2.7.0.pdf
- Version_Description_Document_TeliumUIA_2.7.1-2.7.2.pdf

2.2. Telium OPOS Software

Telium OPOS software contains the Ingenico OPOS driver setup file, **OPOS for the Ingenico Telium2 v1.4.12.2.exe**. Silent install supporting scripts are included for 32 and 64 bit Windows installation.

Please refer to **Version_Description_Document_TeliumOPOS_1.4.12.pdf** for release notes.

2.3. Telium UIA Terminal Application

Kit includes Telium UIA software package release 2.7.1 and 2.7.2 for IPP320, IPP350, ISC250, and ISC350 devices. These are production signed software packages which can only be used on production profiled unit. There are three downloadable formats; LLT, USB (ISC250, ISC350 only), and OGZ.

- Production Profile LLT Package
- Production Profile OGZ Package

This release contains two versions of the terminal package for both LLT and USB load:

- NON-KP4-
Contains Telium UIA App signed with schemes to support the legacy key file format.
- KP4
Contains Telium UIA App signed with schemes to support the newer KP4 key file format.

Please refer to **Version_Description_Document_TeliumUIA_2.7.1-2.7.2.pdf** for release notes.

2.4. Telium Utilities

Kit contains Windows and Telium terminal supporting tools.

- OPOS Test App V1.4.12.2
A sample Telium OPOS test application to drive the IPP3xx and ISCx50.

Please refer to **Version_Description_Document_TeliumUIA_2.7.1-2.7.2.pdf** for release notes.

- Telium LLT (LOCAL DOWNLOAD) release 4.4.6
A local loading utility allows the user to download software components in the terminal.
- Telium USB Driver 1.1
Package contains a separate Telium USB-CDC driver. Once the CDC driver is installed, Windows will create a virtual RS232 COM port when Telium device is connected. This driver is required if user intend to use the LLT download utility or running the device set as USB-CDC.
- Telium Jungo Driver v1.2

The Telium USB Jungo driver is intended to be used on cash register and it is not compatible with Ingenico development software (due to known limitation of driver). In order to use the development tools one has to use the Telium USB Driver 1.1.

Please refer to **ICO-OPE-2012-0022-VG-Ingenico Driver_Installer_Release_Note.pdf** for installation and configuration details.

- Telium Tools release 2.7.0.1
Telium Utilities use for creating forms, scripts, and packages to be used on supported Telium devices. Please refer to Telium Tools user's guide for details. User may access the help file from help menu and the help icon. Telium tools installed components includes;
 - Form Builder 2.7.0
 - Data Packaging Tool 2.7.0
 - Script Builder 2.7.0
 - SAT 1.5

Please refer to **Version_Description_Document_TeliumTools_2.7.0.pdf** for release notes.

2.5. UIA Data and Configuration Files

Package contains UIA and terminal specifics parameters and data files.

- Communication Parameters
Downloadable TGZ file format containing communication files for Ethernet, RS232, USB-CDC, and USB-HID.
- Contactless Parameters
Downloadable MANAGER.PAR containing tags to enable contactless on supported terminals.
- Sample Forms and Prompts
Contains Default UIA forms, images, and prompts.
- P2PE Configuration
Contains signed security configuration file for specific data encryption implementation.

3. OPOS drivers Setup Notes

The set up file, **OPOS for the Ingenico Telium2 v1.4.12.2.exe** installs and registers the appropriate applications, OCXs, DLLs, and configuration files. Silent install script files are included to support silent install mode for 32-bit and 64-bit Windows platform. The installation directory contains these OCXs, Ingenico Telium service object, and supporting files.

- Standard OPOS controls 1.13
 - OPOSLineDisplay.ocx
 - OPOSMSR.ocx
 - OPOSPINPAD.ocx
 - OPOSSigCap.ocx
- Ingenico eNFormSigDisplay.ocx (For signature rendering)
- IngSC350SO.DLL (Ingenico's Telium Service Object)
- IngenicoConfiguration.xml
- DirectIO.h (Direct IO Header file)
- DirectIO.properties (UIA supported Direct IO command)
- Batch files for registering or unregistering package OCXs.

Please refer to **DIV350825 Rev K UPOS Developers Guide.pdf** for details.

4. OPOS Test App Setup Notes

The setup file, **SETUP_OPOSTestApp_1.4.12.2.exe** installs the OPOS Test Application. OPOS Test requires **DirectIO.properties** in the installation path of the OPOS drivers.

Run the OPOS Test Apps from the Start->All Programs->Ingenico->OPOS Test App

Make sure the device has been setup to communicate with the OPOS driver by configuring both the terminal and the Control Panel App. Please refer to **DIV350825 Rev K UPOS Developers Guide.pdf** for details.

5. Telium Tools Setup Notes

Setup_TeliumTools_2.7.0.1.exe installs Form Builder, Data Packaging Tool, Script Builder, and SAT (If not presence). .Net Frameworks 3.5 is required. Setup checks this pre-requisite and prompts for Web installation if not present in the host system. Please refer to **DIV350840 Rev C Telium Tools Install Guide.pdf** for detail installation guide. Form Builder, Data Packaging tool, and Script Builder help files are integrated in the installation and can be access via each application help menu and icons.

To run these installed utilities:

Start->Program Files->Ingenico->Telium Tools

6. Loading Terminal Software Package

6.1. Setup Requirements

Download host (PC) must meet the following requirements

- Running Windows XP, Windows7 (32 and 64 Bit)
- Have a minimum of LLT 4.3, 4.4, or 4.4.6 installed and Sagem device Port configured to connect to Telium devices via USB port. Refer to LLT User's guide for initial setup.

Device must meet the following requirements

- NAR Profile [0248-014]



Terminal software packages provided in this kit are intended only for production profiled unit [0248-014]. This value appears briefly at the start of boot up sequence if OS and Manager exist on terminal. Software packages are not intended for mock up profile unit. Loading this software into a mockup unit will render the device unusable which must be returned to Ingenico for factory reset. Mock up profile unit has an unmistakable flashing of the warning sign as shown below



UIA terminal software packages are located in Telium UIA Terminal Application directory in the kit. The location contains LLT packages for IPP320, IPP350, ISC2450, and ISC350.

IK-OPOS-06.60\Telium UIA Terminal Application\Production Profile LLT Package

6.2. LLT download

Download is triggered by LLT command line script. Make sure LLT has been installed and configured correctly.



LLT_LOAD.BAT detects LLT installation path in the registry and will set the path accordingly. The screen capture information of Part# and **Device** may change based on the current package used.

The following table contains shortcut guide to putting the device in the desired mode.

Functions	IPP320/IPP350 keypad	ISC250/ISC350 keypad	Sequence
Reboot	'#' '<'	'.' '<'	Press and hold down both keys simultaneously until device reboots.
LLT Mode	F3	'.'	Reboot and hold down appropriate key while device boots up. Device screen will display LLT
USB	Not Supported	'4'	Reboot and hold down '4' key while device boots up. Release when device screen displays USB MASS STORAGE
Delete all applications except system files. IMPORTANT: This sequence MUST be used to load all PK packages cleanly. Step 6 is required in order to create the HOST directory.	'F1' 'Down' 'Up' 'F3'	'1' '3' '4' '6'	<ol style="list-style-type: none">1. Reboot device.2. Hold down the first key 'F1' or '1' while device is booting up.3. Release as soon as the first '*' appears on the screen, and quickly press and release the rest of the appropriate keys sequentially.4. All four '****' must appears on device screen in order to complete this task.5. Terminal screen displays 'LLT'.6. Reboot the device one more time.7. Screen displays 'LLT'8. Device is ready for local download.

Table 1 Device Function Keys

1. Connect the appropriate device to host PC using the supplied USB cable.

2. Select an LLT package for your specific device. For instance ISC350 in **IK-OPOS-06.60\Telium UIA Terminal Application\Production Profile LLT Package\ISC350**
3. Prepare the device by doing a **'Delete all applications except system files'** steps as shown in Table 1 above.
4. Reboot the device.
5. Go to **LoadScripts** directory within the package and double click the **LLT_LOAD.BAT**.
6. Go to **LoadScripts** directory within the package and double click the **LLT_LOAD.BAT**.
7. Enter **COM Port** when prompted and press enter. The **PART NUMBER, DEVICE,** and **SECURITY PROFILE** may change as these values are based on the current package.

```

*****
*****
Part Number      : PK-UGEN05-0271A
Device          : ISC350
Security Profile : PRODUCTION 0248-014

Package must be used only on ISC350 containing either
factory profile 4112-255 or the PRODUCTION 0248-014 profile.

A reboot is required following a delete all sequence: "1-3-4-6". This action creates the
HOST directory for the subsequent host specific data files download.

PK-UGEN05-0271A may require additional software package.

*****
*****

LATEST LLT DETECTED IN [ C:\Program Files\TELIUM Tools\LLT 4.4.6\ ]

ENTER COM PORT# or [ENTER] for COM1 :

```

8. Make sure device in LLT mode.

```
*****
*****

Part Number      : PK-UGEN05-0271A
Device           : ISC350
Security Profile  : PRODUCTION 0248-014

Package must be used only on ISC350 containing either
factory profile 4112-255 or the PRODUCTION 0248-014 profile.

A reboot is required following a delete all sequence: "1-3-4-6". This action creates the
HOST directory for the subsequent host specific data files download.

PK-UGEN05-0271A may require additional software package.

*****
*****

LATEST LLT  DETECTED IN [ C:\Program Files\TELIUM Tools\LLT 4.4.6\ ]

ENTER COM PORT# or [ENTER] for COM1 :21

MAKE SURE DEVICE IS SET TO "LLT" MODE

PRESS ENTER WHEN "LLT" IS DISPLAYED ON DEVICE SCREEN...
```

9. Press **Enter** to continue

```
*****
*****

Part Number      : PK-UGEN05-0271A
Device           : ISC350
Security Profile  : PRODUCTION 0248-014

Package must be used only on ISC350 containing either
factory profile 4112-255 or the PRODUCTION 0248-014 profile.

A reboot is required following a delete all sequence: "1-3-4-6". This action creates the
HOST directory for the subsequent host specific data files download.

PK-UGEN05-0271A may require additional software package.

*****
*****

LATEST LLT  DETECTED IN [ C:\Program Files\TELIUM Tools\LLT 4.4.6\ ]

ENTER COM PORT# or [ENTER] for COM1 :21

MAKE SURE DEVICE IS SET TO "LLT" MODE

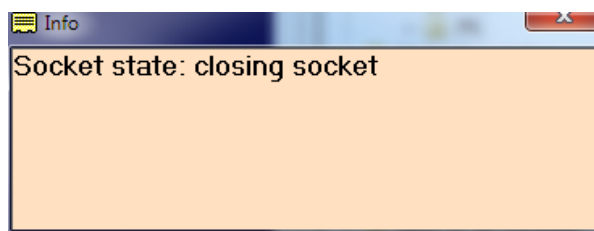
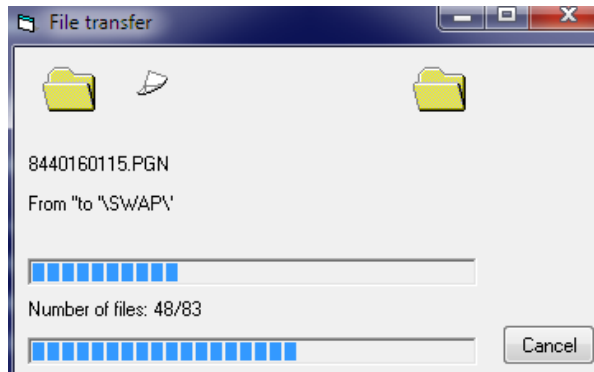
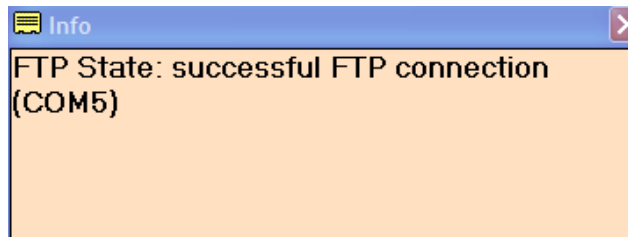
PRESS ENTER WHEN "LLT" IS DISPLAYED ON DEVICE SCREEN...

-----

PK-UGEN05-0271A LOADING IN PROGRESS. PLEASE WAIT...

-----
```

10. Info window pops up indicating progress and state of connection.



11. A successful LLT load screen.

```
*****
*****

Part Number      : PK-UGEN05-0271A
Device          : ISC350
Security Profile : PRODUCTION 0248-014

Package must be used only on ISC250 containing either
factory profile 4112-255 or the PRODUCTION 0248-014 profile.

A reboot is required following a delete all sequence: "1-3-4-6". This action creates the
HOST directory for the subsequent host specific data files download.

PK-UGEN05-0271A may require additional software package.

*****
*****

LATEST LLT DETECTED IN [ C:\Program Files\TELUM Tools\LLT 4.4.6\ ]

ENTER COM PORT# or [ENTER] for COM1 :21

MAKE SURE DEVICE IS SET TO "LLT" MODE

PRESS ENTER WHEN "LLT" IS DISPLAYED ON DEVICE SCREEN...

-----

PK-UGEN05-0271A LOADING IN PROGRESS. PLEASE WAIT...

-----

#####

PACKAGE PK-UGEN05-0271A SUCCESSFULLY LOADED

#####

Loading is completed
Press any key to continue . . .
```

12. Please note that the IPP3XX LLT load script consists of a 2-stage load. Please follow the prompts to complete the download.
13. This completes the LLT download. Press **ENTER**. Device boots to UIA splash screen.

14. The screen capture below shows the command screen when LLT error occurs. Please refer to downloadlog.txt for details.

```
*****
*****

Part Number      : PK-UGEN05-0271A
Device           : ISC350
Security Profile  : PRODUCTION 0248-014

Package must be used only on ISC350 containing either
factory profile 4112-255 or the PRODUCTION 0248-014 profile.

A reboot is required following a delete all sequence: "1-3-4-6". This action creates the
HOST directory for the subsequent host specific data files download.

PK-UGEN05-0271A may require additional software package.

*****
*****

LATEST LLT DETECTED IN [ C:\Program Files\TELIUM Tools\LLT 4.4.6\ ]

ENTER COM PORT# or [ENTER] for COM1 :21

MAKE SURE DEVICE IS SET TO "LLT" MODE

PRESS ENTER WHEN "LLT" IS DISPLAYED ON DEVICE SCREEN...

-----

PK-UGEN05-0271A LOADING IN PROGRESS. PLEASE WAIT...

-----

!!!!ErrorCode: -8!DOWNLOAD FAILED - PPP CONNECTION PROBLEM!!!!

-----
*****  **      *****  *      *****  *****
*      *  *      *      *      *      *      *
*      *  *      *      *      *      *      *
*****  *****  *      *      *****  *      *
*      *      *      *      *      *      *      *
*      *      *      *      *      *      *      *
*      *      *      *****  *****  *****  *****
-----

Press any key to continue . . .
```

6.3. USB Load

ISC250 and ISC350 are capable of handling software download via **FAT16** or **FAT32** formatted USB flash memory. The USB package format is created by running the **COPY_TO_USB.BAT** batch script located in each device location in the LLT directory for each device. For instance, ISC350:

\\IK-OPOS-06.60\\Telium UIA Terminal Application\\Production Profile LLT Package\\ISC350\\PK-UGEN05-0271A\\LoadScripts

The batch script generates downloadable software package into USB memory stick.



We highly recommend that the USB flash memory use in loading be kept for such purpose and contains no other artifacts.

Please refer to **Table1** keying guide to putting the device in the USB ready mode.

6.3.1. Creating USB Load Package

1. Double click **COPY_TO_USB.BAT**. Enter Windows assigned USB drive letter when prompted.

```
*****
*****
Part Number      : PK-UGEN05-0271A
Device           : ISC350
Security Profile : PRODUCTION 0248-014

Package must be used only on ISC350 containing either
factory profile 4112-255 or the PRODUCTION 0248-014 profile.

This script generates telium usb downloadable package on external usb
flash. Telium supports FAT16 or FAT32 formatted usb flash drive
drive. Please make sure USB memory has been properly formatted. we
recommend a separate USB memory flash for download purpose.

PK-UGEN05-0271A may require additional software package.

*****
*****

ENTER WINDOWS ASSIGNED USB FLASH DRIVE LETTER:
```

2. USB load package gets generated automatically if the same package does not exist in the flash drive. All relevant files will be copied over onto the USB flash and verified for integrity.

```
*****
*****

Part Number      : PK-UGEN05-0271A
Device           : ISC350
Security Profile : PRODUCTION 0248-014

Package must be used only on ISC350 containing either
factory profile 4112-255 or the PRODUCTION 0248-014 profile.

This script generates telium usb downloadable package on external usb
flash. Telium supports FAT16 or FAT32 formatted usb flash drive
drive. Please make sure USB memory has been properly formatted. we
recommend a separate USB memory flash for download purpose.

PK-UGEN05-0271A may require additional software package.

*****
*****

ENTER WINDOWS ASSIGNED USB FLASH DRIVE LETTER: F

GENERATING "PK-UGEN05-0271A" USB PACKAGE ...

SWAP FILES COPIED OK

HOST FILES COPIED OK

VERIFY USB SWAP FILES...

VERIFY USB HOST FILES...

USB CONTENT VALIDATED :-)

SAFELY EJECT FLASH DRIVE

Press any key to continue . . .
```

3. Eject USB flash drive.



User will be prompted to exit or overwrite if similar package part# already exists on the targeted USB flash drive.

PART number echoed on command screen reflects the current package. This may change.

```
*****
*****
Part Number      : PK-UGEN05-0271A
Device          : ISC350
Security Profile : PRODUCTION 0248-014

Package must be used only on ISC350 containing either
factory profile 4112-255 or the PRODUCTION 0248-014 profile.

This script generates telium usb downloadable package on external usb
flash. Telium supports FAT16 or FAT32 formatted usb flash drive
drive. Please make sure USB memory has been properly formatted. we
recommend a separate USB memory flash for download purpose.

PK-UGEN05-0271A may require additional software package.

*****
*****

ENTER WINDOWS ASSIGNED USB FLASH DRIVE LETTER: F

PK-UGEN05-0271A  ALREADY EXIST ON USB DRIVE F

Press ENTER TO OVERWRITE or "Q" to quit :
```

6.3.2. Loading USB Load Package

4. Insert the USB flash drive into device USB host port.
5. On the device, do a **'Delete all applications except system files'** steps as shown in Table 1 above.
6. Reboot the device
7. Reboot and hold down **'4'** key while device boots up. Release when device screen displays



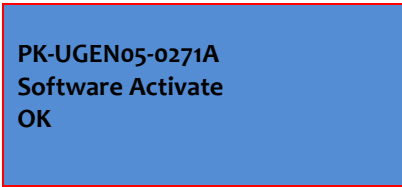
USB MASS STORAGE

8. Device detects for valid USB formatted package and displays package name. Download starts immediately if no other package is detected.



PK-UGEN05-0271A
...

9. Software activation occurs at the end of the download. **OK** indicates successful validation and completes the USB download.



PK-UGEN05-0271A
Software Activate
OK

10. Device boots to UIA splash screen.

6.4. OGZ Load

OGZ file is an Ingenico compress software package downloadable via direct IO at runtime. Please note that this mode will take longer depending on the connection type being used. The package purpose is to update the existing unit with the newer UIA package. Follow the steps below to load OGZ package via the OPOS Test Application. Please refer to **DIV350825 Rev K UPOS Developers Guide.pdf** for details on OPOS Test Application.

1. Make sure terminal is at UIA splash screen.
2. Run the OPOS test app
3. Go to the LineDisplay or any other control.
4. Do open, claim, and enable
5. Click on the DIRECT IO button
6. Select SAVE_FILE from command drop down box.

7. Browsed TGZ, PGZ, or OGZ filename and its path in the box. The OGZ can be found in **“IK-OPOS-06.60\Telium UIA Terminal Applications\Production Profile OGZ Package”**
8. Enter **1** in the Data box to auto activate at the end of the download.
9. Click on the DirectIO button to execute the command.

6.5. Updating Communication file via file download

Terminal communication configuration file is located in the following directory in the kit:

IK-OPOS-06.60\UIA Data Samples and Configuration Files\COMM Files

By default, the terminal is configured to **RS-232, 115200, N, 8, 1** following package loading. The **TDA.XML** contains this value by default. Modify the **TDA.XML** included in **COMM_XML** directory to suit your specific settings. This file can be downloaded in its current format or packaged as a TGZ format which can be used to update the communication settings via DirectIO. Please refer to the Telium Tools Data Packaging Tool application help file on how to package into TGZ format. Pre-packaged communication files are provided in TGZ format for RS232, Ethernet, USB-CDC and USB. Below are the steps to load TGZ communication parameter via the OPOS Test App;

Steps to load TGZ package via the OPOS Test App;

1. Make sure terminal is at UIA splash screen.
 1. Run OPOS Test App.
 2. Open, Claim, Enable, Direct I/O from any option from any control.
 3. Click on Direct I/O button.
 4. Select ‘Save File’ from the DirectIO drop box. Click on Browse object and locate the COM .TGZ file to load. For instance, **iSC350 USB_CDC** in **IK-OPOS-06.60\UIA Data and Parameters\Communication Parameters\USB-CDC**
 5. Enter ‘**1**’ in Data field to activate automatically after download or enter ‘**0**’ / blank for manual activation.
 6. Click **Direct I/O** to initiate the download.

6.6. Enabling P2PE (Point-to-Point Encryption)

Please refer to **DIV350825 Rev K UPOS Developers Guide.pdf** for P2PE configuration.

1. To enable this functionality please load the specific signed **SECURITY.PGZ** located in the P2PE Configuration directory;
 - IK-OPOS-06.60\UIA Data and Configuration Files\P2PE Configuration

6.7. Enabling Contactless on Supported Device

If your device hardware supports contactless but not enabled by default, do the following to enable them:

1. Go to **IK-OPOS-06.60\UIA Data Samples and Configuration Files\CLESS**. Load the **MANAGER.PAR** file via LLT using the **LOAD_CLESS.BAT**.
2. After a reboot, the top left LED on IPP3XX, and ISC250 (LED icon on ISC350) should blink at interval. This gives the indication that the contactless module has been successfully enabled.



Device requires a reboot after Telium Manager successfully initializes contactless settings in MANAGER.PAR. This is a one-time process.