

# Getting Started with OneLiner & Power Flow v15



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# Section 1

# Getting Started

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## 1.1 A QUICK ROAD MAP

This document is designed to help new users of *ASPEN OneLiner™* and *Power Flow Program™* install the software and get started using it.

As a new user, you should have received from ASPEN a program CD and one or more hardware keys. There are two types of hardware keys: single-user key and network key. The single-user key is green; the network key is red. (More information on the key types is available in Section 1.2 KEY TYPES.)

### IF YOU HAVE GREEN SINGLE-USER KEYS

Read Section

1. To see the different ways of deploying the *OneLiner* and *Power Flow* software in your organization using single-user keys. Select one of two configurations: 2a or 2b.
2. See Section 3 or 4, for configurations 2a and 2b, respectively, for detailed installation instructions.

### IF YOU HAVE A RED NETWORK KEY

1. Read Section 1.4 NETWORK ACCESS to see the different ways of deploying the *OneLiner* and *Power Flow* software in your organization using a network key. Select one of the two configurations: 3a or 3b.
2. See Section 2 for instructions on how to setup the network key.
3. See Section 3 and 4, for configurations 3a and 3b, for detailed installation instructions.

**Note:** A network key can always be used as a single-user key. If you choose to not install the key for network access, please follow the instructions for single-user keys.

### IF YOU HAVE A SOFTWARE KEY

The installation procedure is in a separate document entitled “SL Key Administration Manual”.

Please call or write ASPEN’s tech support if you have questions or if you need any assistance:

Mailing address:	ASPEN 49 N. San Mateo Drive San Mateo, CA 94401 U.S.A.
Telephone:	(650)347-3997
Fax:	(650)347-0233
eMail in English:	support@aspeninc.com
eMail in Spanish or Portuguese:	suporte@aspeninc.com
Web Site:	www.aspeninc.com

ASPEN’s office hours are from 9:00 a.m. to 5:00 p.m. Pacific Time (GMT-8 in the winter, GMT-7 in the summer), Monday through Friday.

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## 1.2 KEY TYPES

Starting with version 11, *OneLiner* and *Power Flow Program* require a HASP key to run. The single-user HL-Max key is green. The network HL key is red. The HL keys are backward compatible: They can be used for previous versions of *OneLiner* and *Power Flow Program*.



**Figure 1:** HL-Max key (green) and HL-Net key (red) are required for version 12 and higher. The first and the third key from the left have the old form factor. The other two keys have the new form factor. These two groups of keys have identical functionality.

The key types in the picture below are no longer in use.



**Figure 2:** The long USB key and parallel-port keys are obsolete.

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## 1.3 SINGLE-USER ACCESS

The key is for “single-user access” if it is physically connected to a PC, and the key is accessible only by the program running on that PC. The following will give you an overview on the different ways of setting up the program for single-user access. Figure 2 shows three ways of deploying *OneLiner* and *Power Flow Program* with single-user keys.

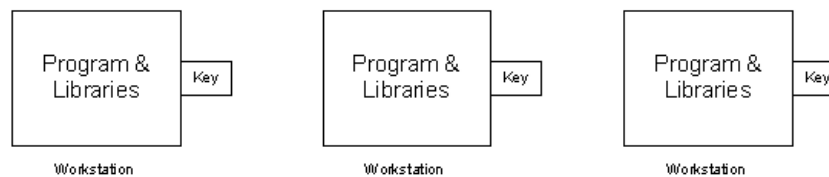
**Configuration 2a:** The program is installed on one or more workstations.

**Configuration 2b:** The program is installed on one or more workstations that are connected by a local area network (LAN). The libraries – i.e., relay libraries and the line table file referenced by *OneLiner* and *Power Flow Program* – are copied to a file server for common access.

In both configurations, a program key must be present on the workstation that is running the program.

We urge you to study these configurations and decide which to deploy. Please see Section 3, and 4 for detailed installation instructions for configuration 2a and 2b, respectively.

**Configuration 2a**



**Configuration 2b**

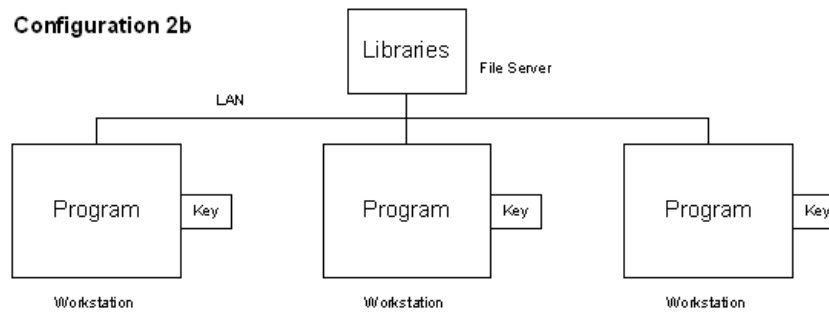


Figure 2: Different ways of deploying *OneLiner* and *Power Flow* with single-user keys.

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## 1.4 NETWORK ACCESS

ASPEN pre-programs each network key with a license limit, or the maximum number of instances of *OneLiner* and *Power Flow* that can be run at any one time. The program will start up normally if the license limit has not been reached. Otherwise, the program will inform the user that the license limit has been reached and will not commence execution. Figure 3 shows two ways of deploying *OneLiner* and *Power Flow* with a network key.

**Configuration 3a:** The program is installed on one or more workstations that are connected by a local area network (LAN). There is no sharing of library files or program files among the workstations. This configuration is *not* recommended.

**Configuration 3b:** Same as 3a, except the libraries – i.e., the relay library files and the line table file referenced by *OneLiner* and *Power Flow* – are copied to a file server for common access.

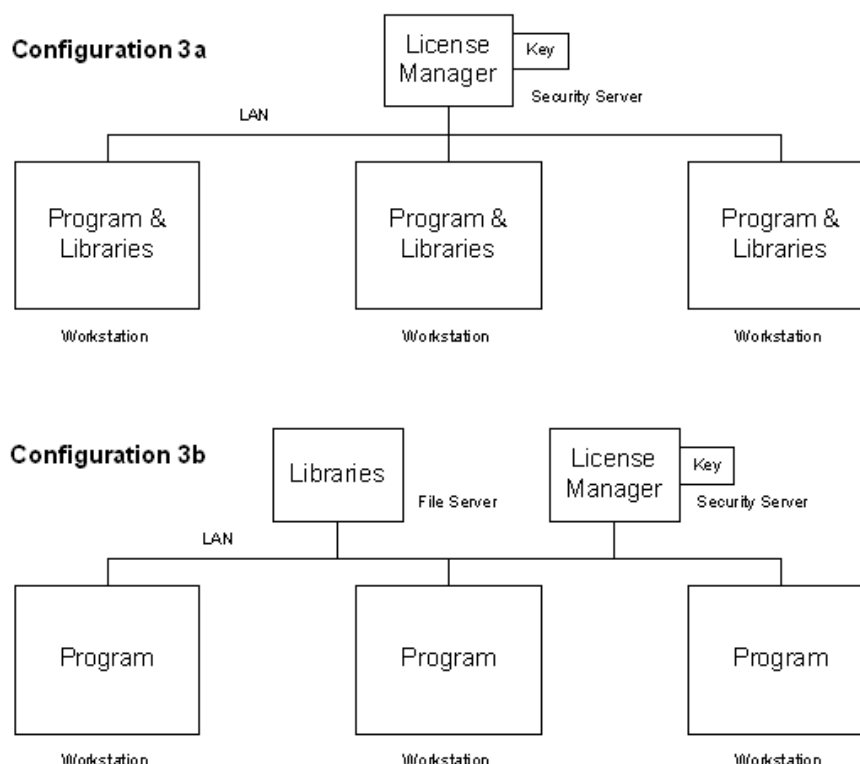


Figure 3: Different ways of deploying *OneLiner* and *Power Flow* with a network key.

We urge you to study these configurations and decide which to deploy. Please see Section 3 and 4 for detailed installation instructions for configurations 3a and 3b, respectively.

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## 1.5 COMBINED EXECUTABLE

The *OneLiner* software, with the “combined executable” flag turned on, will give you the functionalities of both *OneLiner* and *Power Flow*. This option is available to you only if you have a program key that has authorization for both programs.

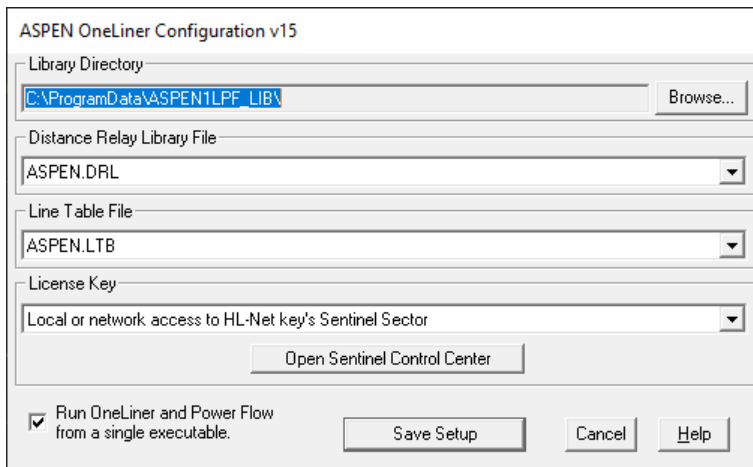


Combined executable is a big time saver for those who use the “prefault voltage from a solved power flow” option for short-circuit simulation. The efficiency of the combined executable comes from the ease of solving power flows and short circuits within the same program.

We also recommend combined executables to those who use both *OneLiner* and *Power Flow* software frequently.

You need to do the following to install a combined executable:

- Install *OneLiner* the usual way.
- At the end of the *OneLiner* installation, when the Configuration Program appears, mark the checkbox “Run *OneLiner* and *Power Flow* from a single executable”. See picture below. There is no need to install the *Power Flow Program*.



In practical terms, a combined executable is a *OneLiner* program with an additional “PFlow” menu. Within this menu are commands to simulate power flows, viewing the solution, and generating reports.

*Notes to Academic Suite Users: Running OneLiner and Power in a combined executable is the only option available to you.*

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## 1.6 HARDWARE AND SOFTWARE REQUIREMENTS

### Hardware Requirements

*OneLiner* and *Power Flow* runs on 32 and 64 bit Intel PCs and compatibles. Other hardware requirements include:

- A color monitor with 1024x768 resolution or better.
- Memory: 4 Gbytes is recommended.
- A full installation of the software requires approximately 100 Mbytes of disk space. You should allow some additional disk space for data files and for the temporary files used by the programs.
- A 2- or 3-button mouse.
- Any graphics-capable plotter, ink-jet or laser printer that works under Windows.

### Software Requirements

Microsoft Windows 7, 8 or 10.

## **Network license server Requirements (Network access configurations 3a and 3b)**

- 32 and 64 bit Intel PCs and compatibles with an available USB port
- 32 or 64 bit Microsoft Windows, desktop or server version.

# Section 2      Network Key Setup

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## 2.1 INTRODUCTION

You need to read this section if you have a red HL-Net key and have chosen configuration 3a or 3b for network access. Skip this section if you have a green HL key or you are planning to use your HL-Net key for local access only.

You must designate a PC on the network as the "network license server". The network license server can be any Windows PC machine on the LAN. The requirements for the network license server are the following:

- It has a USB port available for the HL-Net key.
- It is connected to the network.
- It is left on nearly all the time.
- It has a fixed IP address or a network name that can be resolved to the correct IP address

Prior to shipment, ASPEN has configured your network key in one of two ways:

1. **HL-Net key with a Sentinel Sector:** The key is configured to work directly with the built-in Sentinel license manager in the Sentinel Run Time Environment (RTE).
2. **Legacy HL-Net key:** The key is configured to work with a Hasp License Manager that runs in the background on the network license server.

The procedure to setup a HL-Net key with a Sentinel Sector key is in Section 2.2.

The procedures to setup a key configured with the legacy HL-Net key is described in Section 2.3.

*NOTE: ASPEN OneLiner, Power Flow, and DistriView software (ASPEN software) released after January 1, 2022, will no longer work with the configuration "Network access to HL-Net key". If you are using a legacy HL-Net key, contact ASPEN support <[support@aspeninc.com](mailto:support@aspeninc.com)> to exchange it for a new HL-Net key with a Sentinel Sector*

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## 2.2 THE HL-NET KEY WITH A SENTINEL SECTOR

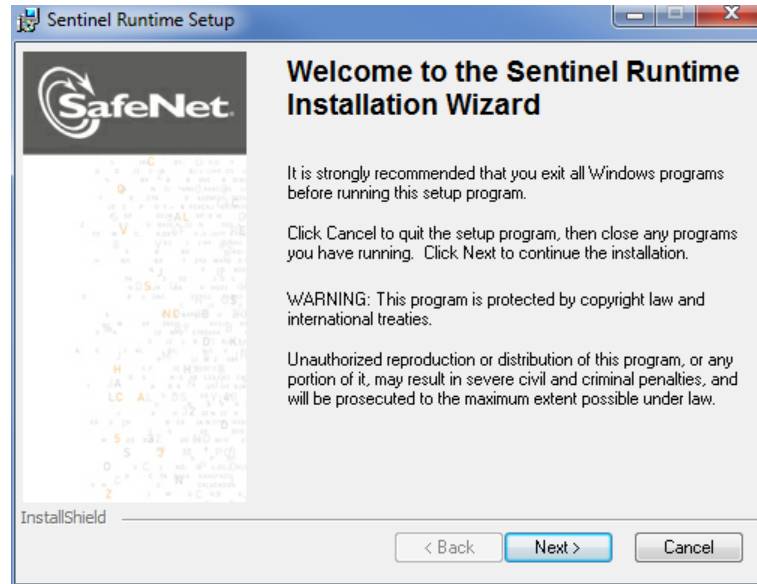
A hardware key configured for this method should have the letters "SS" printed on the key label, just above the serial number. Please contact ASPEN's tech support, [support@aspeninc.com](mailto:support@aspeninc.com), if you are installing a network key for the first time and your key does not have the letters "SS" printed on its label.

This method requires you to install the Sentinel Runtime Environment software on the network license server, as follows.

1. **Do NOT connect the red key to the network license server, yet.**
2. **Log-in to the network license server with administrator privilege.**
- 3a. **If you have a program CD: Insert the program CD in a drive d:. Copy the program d:\NETWORK\HASPUserSetup.exe, from the Program CD to a temporary directory on your hard disk.**
- 3b. **If you do not have a program CD: Point your internet browser to ASPEN's web site, [www.aspeninc.com](http://www.aspeninc.com) Click on the menu item Support | User**

Download **and look for the link under the heading** “Sentinel HASP/LDK Runtime with Hardware Key Driver”. **Click on the link to download the file** HASPUserSetup.exe.

4. **Execute HASPUserSetup.exe to create the “Sentinel environment”.** You will see this screen. **Press Next.**



It may take up to half a minute to complete this step.

5. **Plug in the red key.** The red LED inside the key should light up. There is no need to reboot the computer.

## Workstations Not Able to Access Network Key

**You need to read this sub-section only if a *OneLiner* or *Power Flow* workstation complains about not being able to access the network key.**

The first thing you should do is to start the Configuration Program with **Start | All Programs | ASPEN OneLiner | OneLiner configuration** or **Start | All Programs | ASPEN Power Flow | Configuration Program** and check to see if the “License Key” option is set to “Local or network access to HL-Net key’s Sentinel Sector”. If not, change it and retry. Otherwise, read on.

By default, *OneLiner* or *Power Flow* broadcasts a message over the network and listens for the key’s response each time the program starts up. This method sometimes fails when the workstation and the network license server are in different sub-nets. You can solve the problem by modifying the settings at the workstation’s Sentinel environment to:

- Specify the IP address of the network license server , and
- Turn off the broadcast mechanism.

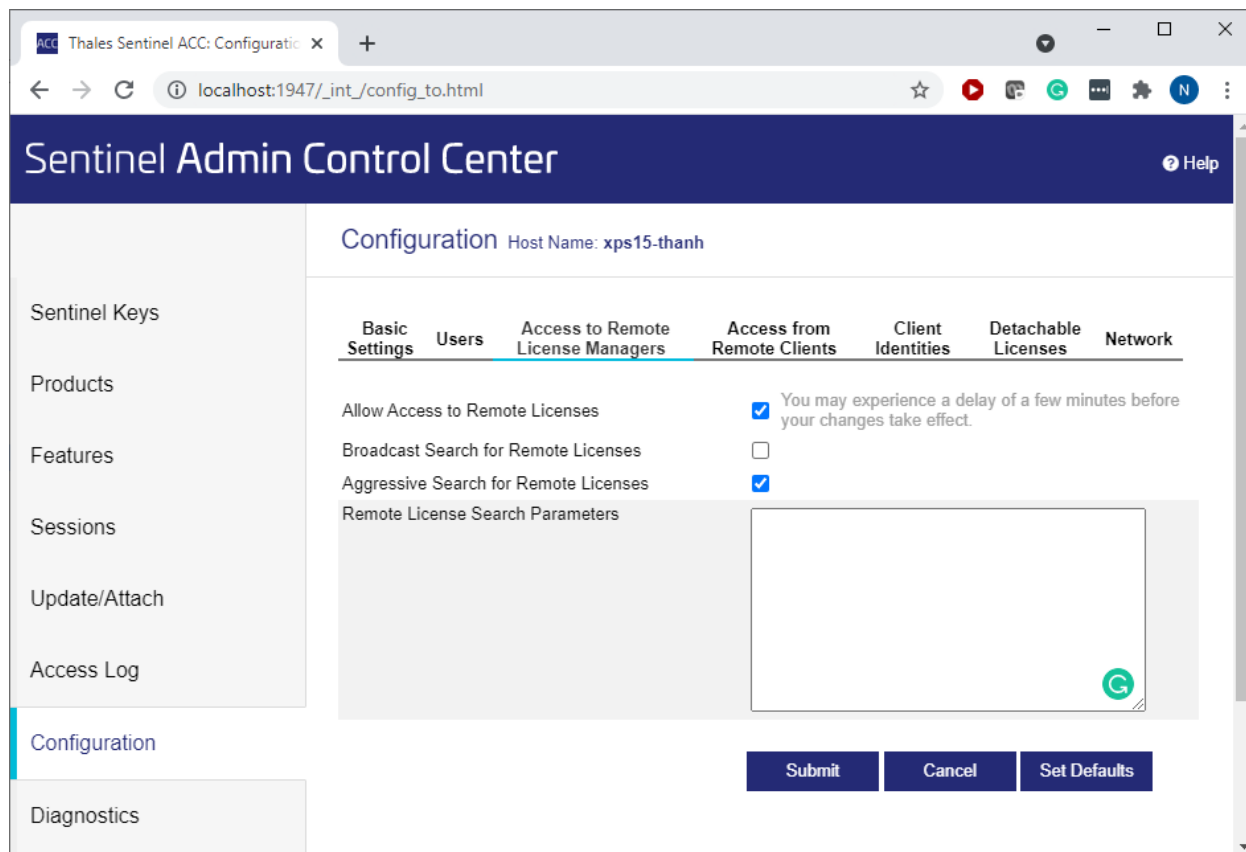
The Sentinel runtime environment is available at every workstation that has OneLiner or Power Flow installed. Bring up the RTE Sentinel Admin Control Center by entering the URL <http://localhost:1947> in your internet browser.

When the Sentinel Admin Control Center opens, click on Sentinel Keys in the side menu panel on the left. Look at the list and see you can find a key with vendor ID of 42254 and key type of “Sentinel HL Net xx” (xx can be 10, 50 or infinite). By pressing the Net Features button on the right, the interface will show you the name of the programs that are authorized by the key.

At this time, you are unlikely to locate the ASPEN HL-Net key in this list. (If the key were listed, then the *OneLiner/Power Flow* program should have run.)

You can make adjustment in the key-search parameters, as follows.

First, click on Configuration in the gray Options box on the left. The “Access to Remote License Manager” tab in the Configuration page will appear. It looks like this:

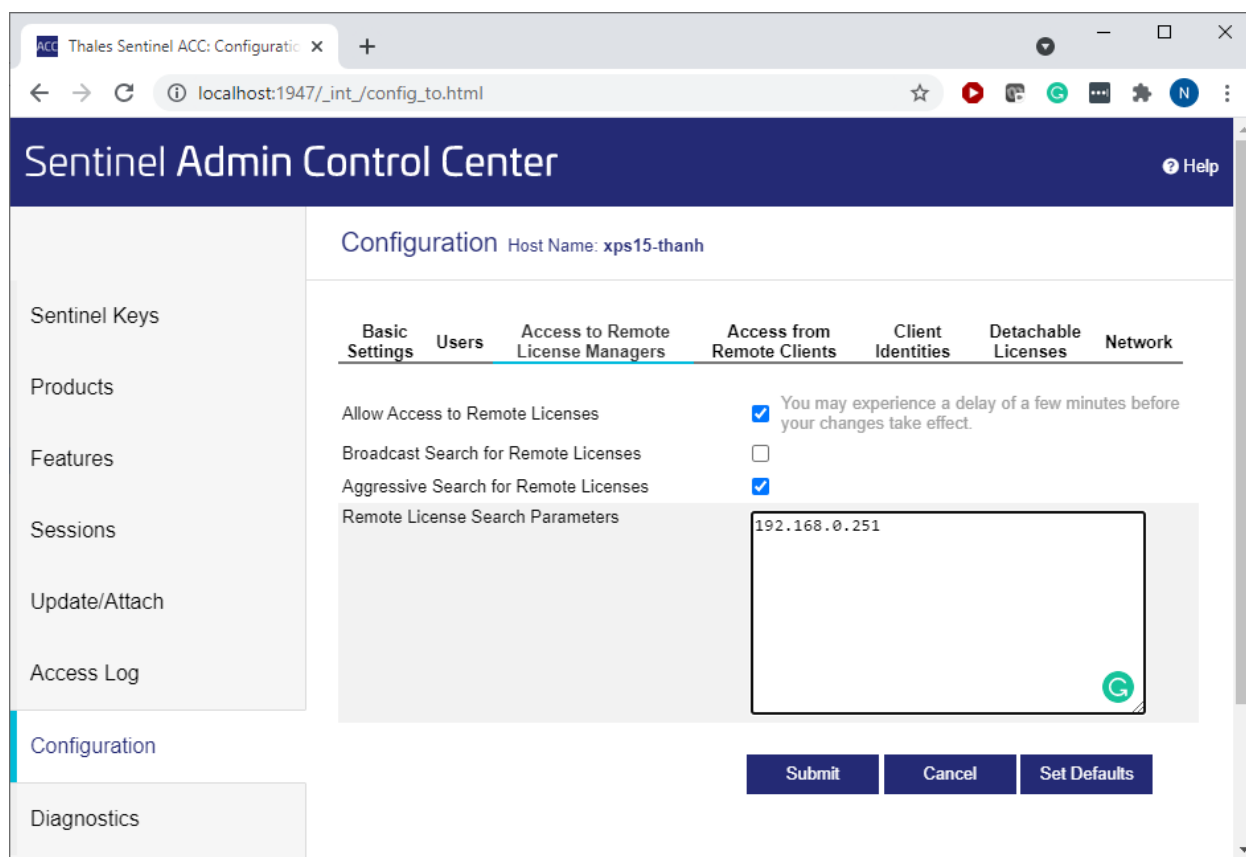


By default, the first two items, “Allow Access to Remote Licenses” and “Broadcast Search for Remote Licenses”, are checked.

Please do the following:

- Remove the check mark from “Broadcast Search for Remove Licenses”
- Select the check mark “Aggressive Search for Remote Licenses”, and
- In the “Specify Search Parameters” box, enter the IP address of network name of the licenser server computer that hosts the network key with Sentinel Sector. (See example screen below.)

After making these changes, the window should look like this.



Press the Submit button to put the new settings into effect.

After a few minutes, press the Sentinel Key button in the Options box on the left and check to see if the Sentinel-Sector key is listed. If so, the problem is solved.

## 2.3 THE LEGACY HL-NET KEY

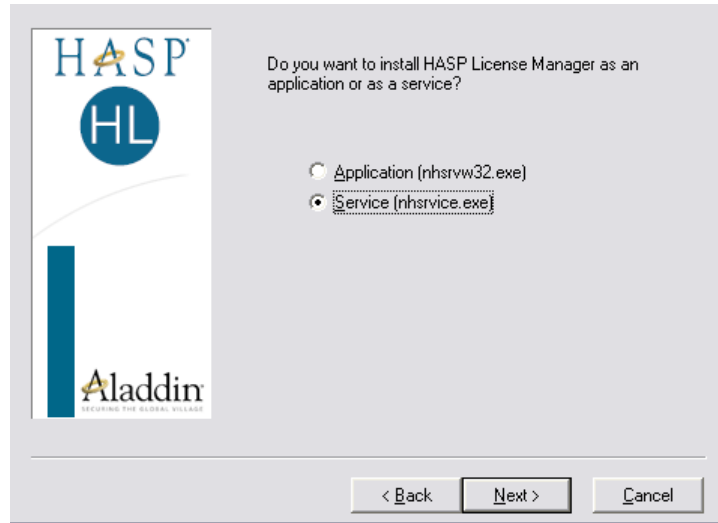
***DO NOT USE THIS METHOD UNLESS YOU ARE INSTRUCTED SPECIFICALLY BY ASPEN TO DO SO.***

The d:\NETWORK directory on the program CD contains the Hasp “License Manager” software setup program. Once installed, the Hasp License Manager software runs as a background task (or “service”) on the network license server and handles all communication between the workstations and the program key. The communication between the workstations and the License Manager is transparent to the users.

Here are the instructions on installing the License Manager software on the network license server.

1. **Do NOT connect the red key to the network license server, yet.**
2. **Log-in to the network license server with administrator privilege.**
3. **Take a look to see if there are already one or more HASP keys plugged into the network license server. If so, check and see if there is already a service called “Hasp Loader” running. If so, then jump to step 7.**

- 4a. If you have a program CD: Insert it in drive d:. Copy the Win32 Server Setup Program, d:\NETWORK\LMSETUP.EXE, from the Program CD to a temporary directory on your hard disk.
- 4b. If you do not have a program CD: Point your internet browser to ASPEN's web site, [www.aspeninc.com](http://www.aspeninc.com) Click on the menu item Support | User Download and look for the link under the heading "License Manager". Click on the link to download the file LMSETUP.EXE.
5. Execute the program LMSETUP.EXE. When the Setup Type dialog box appears, select the option "Service (nhsrvice.exe)". Follow other instructions in this setup program.



6. A message box will inform you that "The NetHASP LM requires the HASP Device Driver... Click YES to install Device Driver now." Press YES.
7. When the installation process is completed **plug the red network key onto a USB port of the network license server.**

*Note: If the LED inside the key does not turn on you must re-install the HASP by manually running the driver installation program HaspUserSetup.exe found in the CD's Network folder.*

The service installed by this program will continue running in the background even after you have log out of the local session.

**There is no need to reboot the computer.**

## Workstations Not Able to Access Network Key

**You need to read this sub-section only if a *OneLiner* or *Power Flow* workstation complains about not being able to access the network key.**

The first thing you should check is whether the "License Key" at the workstation is set to "Network access to HASP HL-Net key".

You can do this by starting the Configuration Program with **Start | All Programs | ASPEN OneLiner | OneLiner configuration** or **Start | All Programs | ASPEN Power Flow | Configuration Program** and check to see if the "License Key" option is set correctly. If not, change it and retry. Otherwise, read on.

By default, *OneLiner* or *Power Flow* broadcasts a message over the network and listens for the key's response each time the program starts up. This method sometimes fails when the workstation and the network license

server are in different sub-nets. You can solve the problem by modifying a text file called NETHASP.INI located in the same directory as the executable files oneline.exe (or aspenpf.exe) to:

- Specify the IP address of the network license server , and
- Turn off the broadcast mechanism.

The content of the default NETHASP.INI is shown below. (Semicolons in columns 1 and 2 make the line a comment line.)

```
[NH_COMMON]
;; This NethASP.INI file is configured to TCPIP.
NH_TCPIP = Enabled;                ; Use the TCP/IP protocol

[NH_TCPIP]

;; -----
;; The default port number and the UDP-packet option work in nearly all
;; cases. Remove the comment characters (2 semicolons in columns 1 and 2)
;; and modify these parameters only if necessary.

;;NH_PORT_NUMBER = <Num>          ; Set the TCP/IP port number. This is
                                   ; optional. The default number is 475.

;;NH_TCPIP_METHOD = TCP or UDP     ; Send a TCP packet or UDP packet
                                   ; Default:  UDP

;; -----
;; Use the follow if the PC with the NethASP key has a fixed IP address.
;; Make sure you comment out (with two semicolons in columns 1 and 2)
;; the line above that reads "NH_USE_BROADCAST = Enabled" and remove
;; the two semicolons in columns 1 and 2 in the lines below.

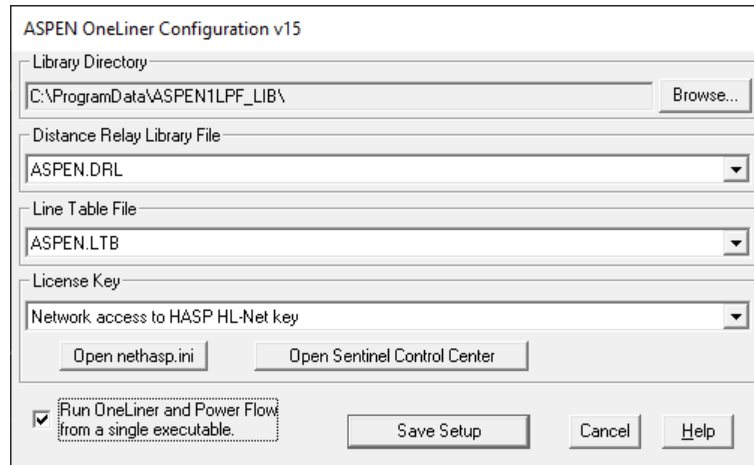
;;NH_SERVER_ADDR = xx.xx.xx.xx;    ; IP addresses of all the NethASP
                                   ; License Managers you want to search.
                                   ; Unlimited addresses and multiple
                                   ; lines are possible.
                                   ;
                                   ; Possible address format examples:
                                   ; IP address:      192.114.176.65
                                   ; Local Hostname:  ftp.aladdin.co.il
;;NH_USE_BROADCAST = Disabled;     ; Do not use TCPI/IP Broadcast mechanism.
```

Please edit the ini file as follows.

1. **On the Windows desktop, click on Start | All Programs | ASPEN OneLiner v15 | OneLiner configuration or Start | All Programs | ASPEN Power Flow | Configuration Program .**

The Configuration Program will appear. When “Network access to HASP HL-Net key” is selected in the drop-down list box, an “Edit NetHasp.ini” button will appear below the combo box.





2. **Press the Edit NetHasp.ini button.** The text editor Notepad will start up, and it will open the nethasp.ini file automatically.

*Note: Because the file nethasp.ini resides in the Program Files directory. You must have Windows Administrative Privileges in order to edit this file.*

3. **Make the following changes to nethasp.ini.**

- a. Remove the two semicolons in columns 1 and 2 on the line that reads "NH\_SERVER\_ADDR = xx.xx.xx.xx".
- b. Replace the string xx.xx.xx.xx with the actual IP address of the network license server, e.g., 192.114.176.65.
- c. Remove the two semicolons in columns 1 and 2 on the line that reads "NH\_USE\_BROADCAST = Disabled".

Save the file on exit. The edited file should look like this (the edited lines are colored yellow):

```
[NH_COMMON]
;; This NetHASP.INI file is configured to TCPIP.
NH_TCPIP = Enabled;                ; Use the TCP/IP protocol

[NH_TCPIP]

;; -----
;; The default port number and the UDP-packet option work in nearly all
;; cases. Remove the comment characters (2 semicolons in columns 1 and 2)
;; and modify these parameters only if necessary.

;;NH_PORT_NUMBER = <Num>          ; Set the TCP/IP port number. This is
                                   ; optional. The default number is 475.

;;NH_TCPIP_METHOD = TCP or UDP     ; Send a TCP packet or UDP packet
                                   ; Default:  UDP

;; -----
;; Use the follow if the PC with the NetHASP key has a fixed IP address.
;; Make sure you comment out (with two semicolons in columns 1 and 2)
;; the line above that reads "NH_USE_BROADCAST = Enabled" and remove
;; the two semicolons in columns 1 and 2 in the lines below.
NH_SERVER_ADDR = 192.144.176.65;    ; IP addresses of all the NetHASP
                                   ; License Managers you want to search.
                                   ; Unlimited addresses and multiple
                                   ; lines are possible.
                                   ;
                                   ; Possible address format examples:
                                   ; IP address:      192.114.176.65
```

```
                                ; Local Hostname: ftp.aladdin.co.il  
NH_USE_BROADCAST = Disabled;    ; Do not use TCPI/IP Broadcast mechanism.
```

With this ini file, the network license server will communicate directly with the clients using the IP address you provide.

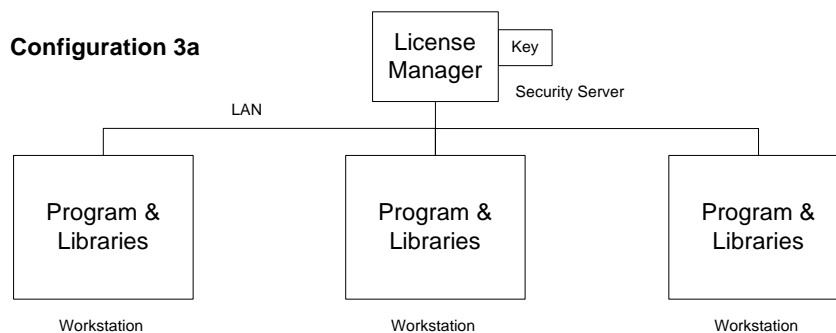
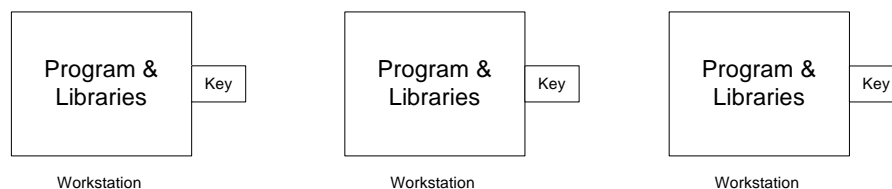
# Section 3                      Config. 2a and 3a

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## 3.1 INTRODUCTION

This section will show you how to deploy the program in the two configurations shown below. Configuration 2a and 3a are similar. **In both configurations there is no sharing of the program files or the library files.** The only difference between the two configurations is that 2a utilizes single-user keys, and 3a utilizes a network key. The “Security Server” label for Configuration 3a refers to the “network license server” of Section 2.

**Configuration 2a**



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## 3.2 SETUP CONFIGURATIONS 2a AND 3a

Here is how to install the program at each workstation:

1. **IMPORTANT:** For configuration 2a, do NOT plug in the key until you have completed the steps below.
2. Insert the program CD into a CD drive. We assume d: is your CD drive.

3. **Execute the program d:\1L\setup or d:\PF\setup for OneLiner and Power Flow Program, respectively. Follow directions in the setup program to install the software on your local hard drive.**

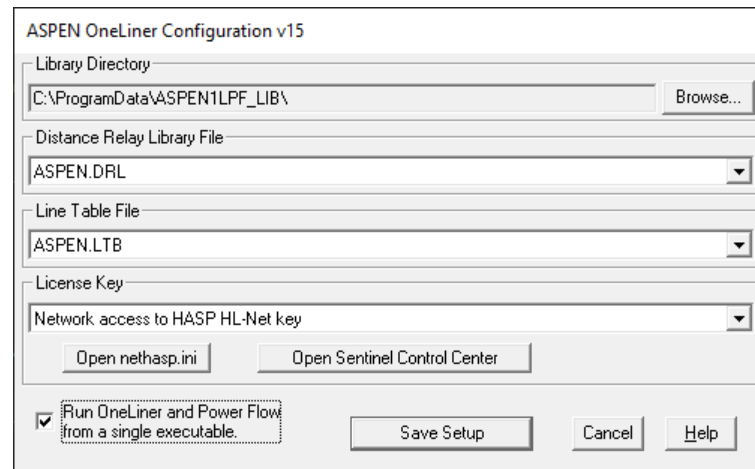
*Note: The setup may launch installation dialog box for Microsoft Visual C++ redistributable run time if correct version of this component is not already found on the PC. Always select to install or repair to complete this step.*

4. **Program Configuration.**

The setup program will launch the *Configuration Program* near the end of the installation process.

*Note: The Cancel button is absent if you are installing version 15 for the first time.*

#### OneLiner Configuration



The Library Directory suggested by the *OneLiner* configuration program varies depending on the operating system. In all cases, it is a directory on the local hard drive that is accessible to all the people who use that workstation.

The distance relay library file and the line table file must also reside in the Library Directory.

**If needed, change the Library Directory path using the Browse button.**

*Note: The library directory cannot be the same as the program directory.*

**Mark the check box “Run OneLiner and Power Flow from a single executable” if you want to turn on the combined executable option.**

*Note: You will need to have ASPENkey with license for both programs to run OneLiner and Power Flow from a single executable.*

#### **FOR CONFIGURATIONS 2a:**

**Select Local access to HASP HL-Max or HL-Net key under the “License Key” dropdown list box.**

#### **FOR CONFIGURATIONS 3a:**

**Select Local or network access to HASP HL-Net key’s Sentinel Section under the “License Key” dropdown list box for a Sentinel-Sector network key.**

**Select Network access to HASP HL-Net key under the “License Key” dropdown list box for an Legacy HL-net key.**

**Press Save Setup.**

The configuration program will copy all the overcurrent curve library files (\*.rly) from the program directory to the Library Directory.

If the Library Directory existed prior to this installation, the configuration program will *not* overwrite any custom .rly files that are already in the Library Directory.

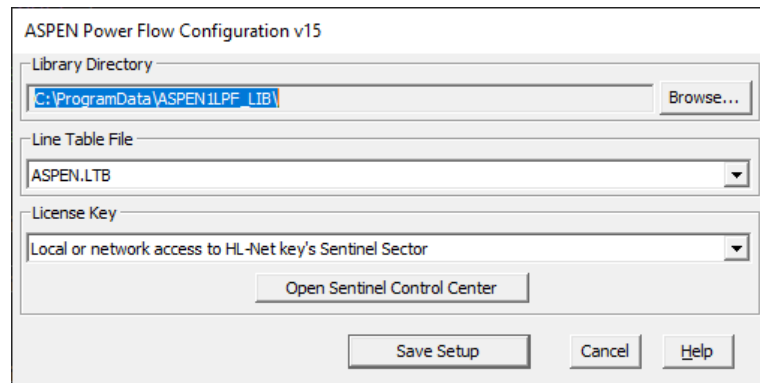
The configuration program stores the configuration settings in multiple locations on the machine to ensure that the data can always be saved successfully:

- In the Windows registry at:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\ASPEN\OneLiner\Settings.
- In the Windows registry at:  
HKEY\_CURRENT\_USER \SOFTWARE\ASPEN\OneLiner\Settings.
- In a INI file at:  
%PROGRAMDATA%\ASPEN\ASPEN\_1LPF.INI

*NOTE: The OneLiner program applies the following search order when reading the configuration settings:*

- *The license key setting: 1) HKEY\_CURRENT\_USER registry key or the INI file, whichever has a newer timestamp ; 2)HKEY\_LOCAL\_MACHINE registry key.*
- *All the other configuration settings: 1)HKEY\_LOCAL\_MACHINE registry key or the INI file, whichever has a newer timestamp; 2) HKEY\_CURRENT\_USER registry key.*

#### Power Flow Configuration



The Library Directory suggested by the *OneLiner* configuration program varies depending on the operating system. In all cases, it is a directory on the local hard drive that is accessible to all the people who use that workstation.

The line table file must reside in the Library Directory.

**If needed, change the Library Directory path using the Browse button.**

#### **FOR CONFIGURATIONS 2a:**

**Select Local access using HASP HL-Max or HL-Net key under the “License Key” dropdown list box.**

#### **FOR CONFIGURATIONS 3a:**

**Select Local or network access to HASP HL-Net key’s Sentinel Sector under the “License Key” dropdown list box for a Sentinel-Sector network key.**

Select Network access using HASP HL-Net key **under the “License Key” dropdown list box.**

**Press Save Setup.**

The configuration program stores the configuration settings in multiple locations on the machine to ensure that the data can always be saved successfully:

- In the Windows registry at:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\ASPEN\OneLiner\Settings.
- In the Windows registry at:  
HKEY\_CURRENT\_USER\SOFTWARE\ASPEN\OneLiner\Settings.
- In a INI file at:  
%PROGRAMDATA%\ASPEN\ASPEN\_1LPF.INI

*NOTE: The Power Flow program applies the following search order when reading the configuration settings:*

- *The license key setting: 1) HKEY\_CURRENT\_USER registry key or the INI file, whichever has a newer timestamp ; 2) HKEY\_LOCAL\_MACHINE registry key.*
- *All the other configuration settings: 1) HKEY\_LOCAL\_MACHINE registry key or the INI file, whichever has a newer timestamp; 2) HKEY\_CURRENT\_USER registry key.*

**5. Sentinel RTE installation.**

The Sentinel RTE setup program will start automatically. A status information message box will appear after the installation is completed.

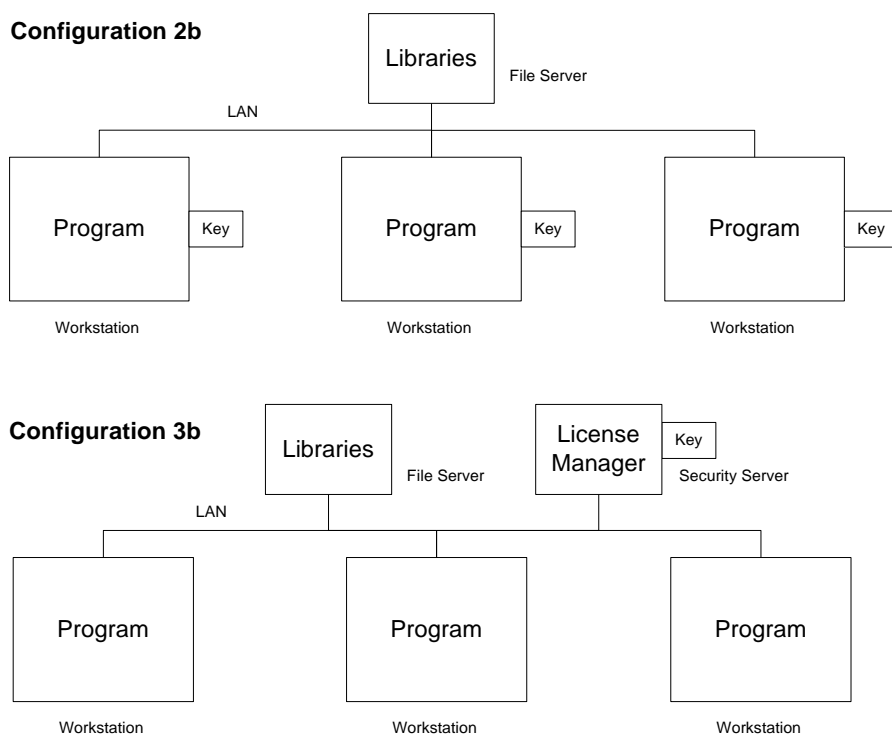
**6. For configuration 2a only: Connect a key to the USB port of the workstation.**

# Section 4                      Config. 2b and 3b

---

## 4.1 INTRODUCTION

This section will show you how to deploy *OneLiner* or *Power Flow Program* in the two configurations shown below. Configuration **2b** and **3b** are similar in that the workstations share the library files on the file server. The major difference between the two configurations is that 2b utilizes single-user keys, and 3b utilizes a network key. The “Security Server” label for Configuration 3b refers to the “network license server” of Section 2.



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## 4.2 SETUP CONFIGURATIONS 2b AND 3b

Here are the steps that you need to carry out just once:

- a. **Create a library directory on the file server that will be shared by all the users. Make sure (1) users of *OneLiner* or *Power Flow Program* will have at the minimum ‘read’ privilege for files in this directory, and (2) you – the installer – have identical mapping of the file server as the users.**

For demonstration purposes, we assume the directory is  
j:\Program Data\ASPEN\ASPEN1LPF\_LIB.

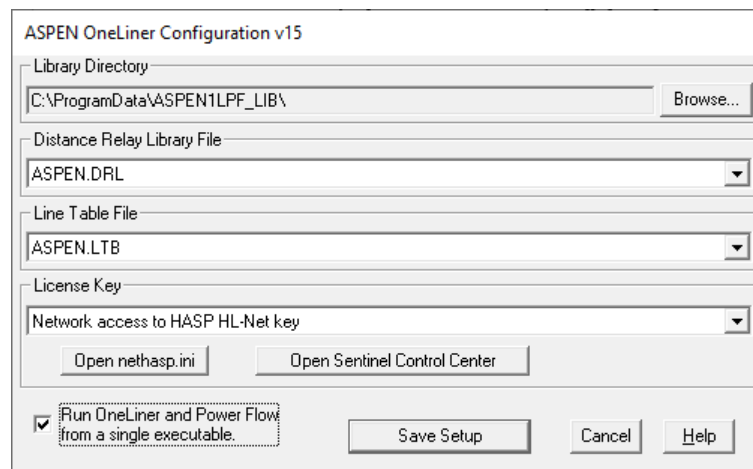
Here are the installation instructions at each workstation:

1. **Insert the program CD into a CD drive.** We assume d: is your CD drive.
2. **Execute the program d:\1L\setup or d:\PF\setup for OneLiner and Power Flow Program, respectively. Follow directions in the setup program to install the software on your local hard drive.**
3. **Program Configuration.**

The setup program will launch the Configuration Program near the end of the installation process.

*Note: The Cancel button is absent if you are installing the program for the first time.*

### OneLiner Configuration



**Press the Browse button and locate the Library Directory of step a.**

ASPEN.DRL and ASPEN.LTB are the distance relay library and line table file shipped with *OneLiner*. You should not have to change the file names.

### **FOR CONFIGURATIONS 2b:**

**Select Local access using HASP HL-Max or HL-Net key under the “License Key” dropdown list box.**



### FOR CONFIGURATIONS 3b:

**For a Sentinel-Sector network key:** Select Local or network access to HASP HL-Net key's Sentinel Sector **under the "License Key" dropdown list box.**

**For an old network key:** Select Network access to HASP HL-Net key **under the "License Key" dropdown list box.**

Press Save Setup.

The configuration program will copy all the overcurrent curve library files (\*.rly), the distance relay library file ASPEN.DRL, and the Line Table File ASPEN.DRL from the program directory to the Library Directory.

If the Library Directory existed prior to this installation, the configuration program will *not* overwrite any custom .rly that are already in the Library Directory.

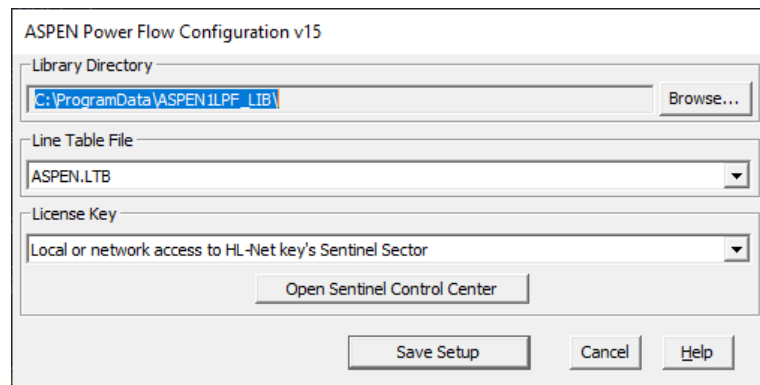
The configuration program stores the configuration settings in multiple locations on the machine to ensure that the data can always be saved successfully:

- In the Windows registry at:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\ASPEN\OneLiner\Settings.
- In the Windows registry at:  
HKEY\_CURRENT\_USER\SOFTWARE\ASPEN\OneLiner\Settings.
- In a INI file at:  
%PROGRAMDATA%\ASPEN\ASPEN\_1LPF.INI

*NOTE: The OneLiner program applies the following search order when reading the configuration settings:*

- The license key setting: 1) HKEY\_CURRENT\_USER registry key or the INI file, whichever has a newer timestamp ; 2) HKEY\_LOCAL\_MACHINE registry key.
- All the other configuration settings: 1) HKEY\_LOCAL\_MACHINE registry key or the INI file, whichever has a newer timestamp; 2) HKEY\_CURRENT\_USER registry key.

### Power Flow Configuration



**Press the Browse button and locate the directory you created in Step a.**

ASPEN.LTB is the line-table file shipped with the *Power Flow Program*. You should not have to change the file name.

### FOR CONFIGURATIONS 2b:

**Select Local access using HASP HL-Max or HL-Net Key under the “License Key” dropdown list box.**

**FOR CONFIGURATIONS 3b:**

**For a Sentinel-Sector network key: Select Local or network access to HASP HL-Net key’s Sentinel Sector under the “License Key” dropdown list box.**

**For an old network key: Select Network access using HASP HL-NetKey under the “License Key” dropdown list box.**

**Press Save Setup.**

The configuration program stores the configuration settings in multiple locations on the machine to ensure that the data can always be saved successfully:

- In the Windows registry at:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\ASPEN\OneLiner\Settings.
- In the Windows registry at:  
HKEY\_CURRENT\_USER \SOFTWARE\ASPEN\OneLiner\Settings.
- In a INI file at:  
%PROGRAMDATA%\ASPEN\ASPEN\_1LPF.INI

*NOTE: The Power Flow program applies the following search order when reading the configuration settings:*

- *The license key setting: 1) HKEY\_CURRENT\_USER registry key or the INI file, whichever has a newer timestamp ; 2)HKEY\_LOCAL\_MACHINE registry key.*
- *All the other configuration settings: 1)HKEY\_LOCAL\_MACHINE registry key or the INI file, whichever has a newer timestamp; 2) HKEY\_CURRENT\_USER registry key.*

**4. Sentinel RTE installation.**

The Sentinel RTE setup program will ask you if you want to install the device driver for the key.

**5. For configuration 3b only: Connect a key to the USB port of the workstation.**

# Section 5

# Software Update

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## 5.1 INTRODUCTION

This section will show you how to deploy the latest version of OneLiner/Power Flow program on a PC that already has an existing installation.

The following steps are common in all cases:

1. Identify the program major and minor version number: You can use one of the following methods:
  - a. Launch OneLiner/Power Flow. The version string is printed on the title bar of the main program window.
  - b. View the Version info property of the the program executable file oneline.exe. The default location of this file is: c:\program files (x86)\ASPEN\1LPFvNN, where *NN* is the program major version number.
2. Identify the configuration type of the existing program installation (see section 1.3 or 1.4)
3. Make a backup of all files that are found in the program library folder
4. Remove any ASPEN hardware key currently connected to the PC

Proceed further with the steps in the corresponding section below.

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## 5.1 UPDATE AN EXISTING INSTALLATION WITH A LOWER MAJOR VERSION NUMBER

The following steps are recommended:

1. Use the Windows Control Panel to uninstall the exiting installation from the PC
2. Restart Windows
3. Carry out the steps in section 3 or 4 that corresponds to the program configuration type you had identified to install the latest program version.
4. Verify that all your custom library files are still found in the library folder. If not, copy them back from the backup you made earlier.
5. Reconnect any existing ASPEN hardware key that you had removed ealier.

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## 5.2 UPDATE AN EXISTING INSTALLATION WITH A LOWER MINOR VERSION NUMBER

The following steps are recommended:

1. Restart Windows

2. Carry out the steps in section 3 or 4 that corresponds to the program configuration type you had identified to install the latest program version.
3. Verify that all your custom library files are still found in the library folder. If not, copy them back from the backup you made earlier.
4. Reconnect any existing ASPEN hardware key that you had removed earlier.

# Section 6

# Data Conversion

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## 6.1 USING EXISTING NETWORK DATA

The *OneLiner* and *Power Flow* software comes with a number of frequently used data conversion programs to help you convert your existing network data into a text file of the ASPEN format. These data conversion programs include:

- ANAFAS Format – included as ANAFAS.EXE
- ANAREDE Format – included as ANAREDE.EXE
- PTI PSS/E format (Siemens PTI) - included as PTI.EXE
- GE format - included as EPC.EXE (for the GE Short Circuit Format) and EPCPF.EXE (for the GE PSLF format)
- Transmission 2000 format (Commonwealth Associates) - included as T2000.EXE.

Please consult the Data Conversion on-line help under the Help | Data Conversion Help Contents command in *OneLiner* or *Power Flow* for information on their usage and limitations. This on-line help also has advice on how to compare these programs' short-circuit results to those from *OneLiner*.

If you have other data conversion needs, please call ASPEN.

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## 6.2 CHECK THE CONVERTED SHORT CIRCUIT DATA

This step is optional, but we strongly recommend that you use the Bus Fault Summary feature of *OneLiner* to check the accuracy of the data conversion prior to laying out the one-line diagram, as follows:

1. Start up *ASPEN OneLiner*
2. Execute the File | Open Text Data File command to open the DXT file
3. Run the Faults | Bus Fault Summary command. Accept all the default options and click on OK. The program will generate a table showing the fault current and Thevenin impedance for all the buses.

We suggest you compare the fault currents with those of your existing short circuit program. They should match to within a small tolerance – usually on the order of one percent. If they do not match, call ASPEN and proceed no further.

*Notes to PSS/E Users:* The on-line help under the Help | Data Conversion Help Contents command in *OneLiner* has specific instructions on comparison short circuit results of PSS/E and *OneLiner*.

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## 6.3 CHECK THE CONVERTED POWER FLOW DATA

It is always a good idea to compare the solution of the *Power Flow* to that of your existing program before you start laying out the one-line.

After starting the *Power Flow*, open the text data file created in Section 6.1 and then use the PFlow | Power Flow command to solve the program. After the solution converges, we suggest you use the PFlow | Solution Browser to view the solution in a tabular form.

The power flow solution should be close to that from your existing program. It is important to note that the solutions may not be exactly the same because (1) power flow problem is nonlinear and therefore the solution may not be unique, and (2) the order in which the automatic controls are adjusted often have a significant effect on the solution. If there is a drastic difference in the solutions, please call ASPEN and proceed no further.

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## 6.4 CREATE THE ONE-LINE DIAGRAM

Open the text data file with the File | Open Text Data File command if you have not done so already. The screen is blank at this stage because the text data file contains no graphical information.

The Diagram | Place Bus command in the program lets you place the buses on the one-line diagram. You need not place all the buses before simulating short circuits or power flow. However, for short circuit simulations, you must place, at the minimum, the buses that you wish to fault plus any neighboring buses of interest.

Refer to the Quick Tutorial (in Section 2 of the *ASPEN OneLiner User's Manual* or Section 2 of the *ASPEN Power Flow User's Manual*) for an example on how to use the import procedure. The following are some handy tips.

**State your bus-sorting preference.** Before you place any buses, execute the Diagram | Options command and specify whether you want the buses sorted by their number or by their name and nominal kV. This will affect how the buses are listed in the Diagram | Place Bus dialog box that you will need to use.

**Start from the middle of your system.** When you execute the File | Open Text Data File command, the window is at the center of the world coordinate. (The square knobs on the scroll bars show you the relative position of the window within the world coordinate.) You should place buses that are roughly in the middle of your system at this location and gradually work outwards. Have a one-line diagram of the system handy for reference, if at all possible.

**Be aware of spacing.** You want to place buses close enough together so that you will be able to see the simulation results for a number of buses. Yet you want to allow enough space between the buses so that the names and numerical values are clearly separated. See the file SAMPLE30.OLR for an example of spacing.

**Locate a bus within the Diagram | Place Bus dialog box.** This dialog box will appear when you click the right mouse button at an empty spot and execute the Place Bus command in the floating menu. You can quickly locate a bus in the list box by typing the bus name or the bus number – depending on your bus-sorting preference. After you type the character on the keyboard, the list will show as selected the first bus that starts with that character. You may need to use the scroll bar to browse the list until the bus you want is visible.

**Place neighbors of a bus that is already visible.** A bus is displayed with a hollow bus symbol if one or more of its immediate neighbors have not been placed. You can place these neighbors by (1) clicking the right mouse button on the hollow bus symbol, and (2) execute the Place Bus command in the floating menu. The program will automatically show you a dialog box listing all the neighbors that have not been placed. Press OK.

**Save the file every 10 or 20 minutes.** A session starts when you open a file, and it ends when you close the file or exit the program. Within a session, you should use the File | Save command frequently to save the latest result to disk. This helps to safeguard your work in case of a program or system crash. For even greater security, save successive files under different names. This way you will have an archive of your work at different stages.

**Move a group of buses.** You can use the mouse to lasso a number of buses and connected equipment and move them with the mouse. You may have to do this every now and then to tidy up the one-line diagram.

# Section 7

# Program Uninstall

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## 7.1 UNINSTALL CONFIGS 2a, 2b, 3a AND 3b

The *OneLiner* and *Power Flow* software at each workstation can be uninstalled using the Add/Remove Program utility in the Windows Control Panel. The program to remove is “ASPEN OneLiner v15”, or “ASPEN Power Flow v15”.

The uninstall logic will not remove the Library Directory or the files that are within it. You must remove them manually.

Also, at each workstation, the registry entries under  
HKEY\_LOCAL\_MACHINE\SOFTWARE\ASPEN\OneLiner,  
HKEY\_LOCAL\_MACHINE\SOFTWARE\ASPEN\Power Flow, and  
HKEY\_CURRENT\_USER\SOFTWARE\ASPEN\OneLiner, and  
HKEY\_CURRENT\_USER\SOFTWARE\ASPEN\Power Flow will remain after the uninstall. You  
will have to run regedit.exe and remove them manually.

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## 7.2 UNINSTALL THE HASP LICENSE MANAGER

This step is necessary only for uninstalling configurations 3a and 3b, **under the Legacy network-key setup**.

The License Manager is a service running on the network license server. Please be aware that the License Manager may be shared by other programs that utilize the HL-Net keys. If so, you should leave the License Manager alone.

To disable the License Manager, stop the Windows service “Hasp Loader”, remove the HL-Net key for *OneLiner* and *Power Flow Program* after the service has stopped, and uninstall the Hasp License manager program.