



Using StartUp Stick™ for CDU Mass Configuration Part Number: KIT-SUS-01

Purpose

This technical note provides product information about **StartUp Stick** – Server Technology’s tool for the mass configuration of Cabinet Distribution Units (CDUs).

Overview of StartUp Stick

The StartUp Stick allows you to define parameter values on your PC, laptop, or other device, and then save time by quickly distributing those values via a special flash drive (the “Stick”) to multiple CDUs throughout the data center.

Custom parameter values are entered in the StartUp Stick’s user interface, an Excel spreadsheet already loaded and available on the Stick. You have the option to apply a value to a specific CDU or to apply that value globally to all CDUs throughout your enterprise. Using the StartUp Stick results in fast and accurate mass configuration of multiple CDUs with the same hardware Stick, all with a single load of custom parameter values.

How to Order the Kit

The optional StartUp Stick tool is a separately purchased kit, Part Number KIT-SUS-01. For more information about obtaining the kit and the available options for custom pre-configuration, contact your Server Technology Sales representative.

Custom pre-configuration may include NIC SNs provided to you by Server Technology for your CDUs, or other services to assist in getting your StartUp Stick pre-populated to jump start the configuration process.

If you request pre-configuration when placing your StartUp Stick order, Server Technology will add a contact name to the order and a NIC Serial Number report will be emailed to the contact name. The report lists the NIC serial numbers for the CDUs you have. You can then copy the numbers from the report into the StartUp Stick user interface (the Unit Specific tab on the Stick’s Excel spreadsheet) to identify your CDUs for configuration.

More Product Resources

When you purchase StartUp Stick, the user interface on the Stick (Excel spreadsheet) includes step-by-step instructions in a separate Instructions tab for how to work with the spreadsheet to provide configuration values and export them to a CDU.

After you receive your kit, if a reload of the StartUp Stick is ever needed, you will be able to download the tool directly from the Server Technology website at www.servertech.com

Before You Begin

You will need the following items in place to use StartUp Stick:

- A PC, laptop, or other device with Microsoft® Windows Operating System or Apple Mac.
- Microsoft Office® 2007, or later version, with support for VBA macros. When installed locally, Excel 365 also supports VBA, but Excel Online does not support VBA.
- Server Technology Cabinet Distribution Units (CDUs): PRO2 (firmware v8.0c or later) and CDU1 (firmware v7.0s or later) are supported. For a list of products that are **not** supported by StartUp Stick, see Appendix A in this document.

About the Kit

The following hardware and software components are supplied in your kit, Part Number KIT-SUS-01:

- StartUp Stick (contains user interface)
- 7-inch cable (to connect the Stick to the CDU)
- Label (A factory-placed label as reference for the Stick's LED indicator state)

StartUp Stick

The StartUp Stick is the hardware component in your kit designed as the configuration (transfer) module, a removable media flash drive with a supplied cable.

The "Stick" is powered by your host PC, laptop, or other device and supports connection and communication between the on-board user interface (via USB port) shown below in Figure 1, and the master CDU in your data center (via link port) with a supplied cable, shown in Figure 3.

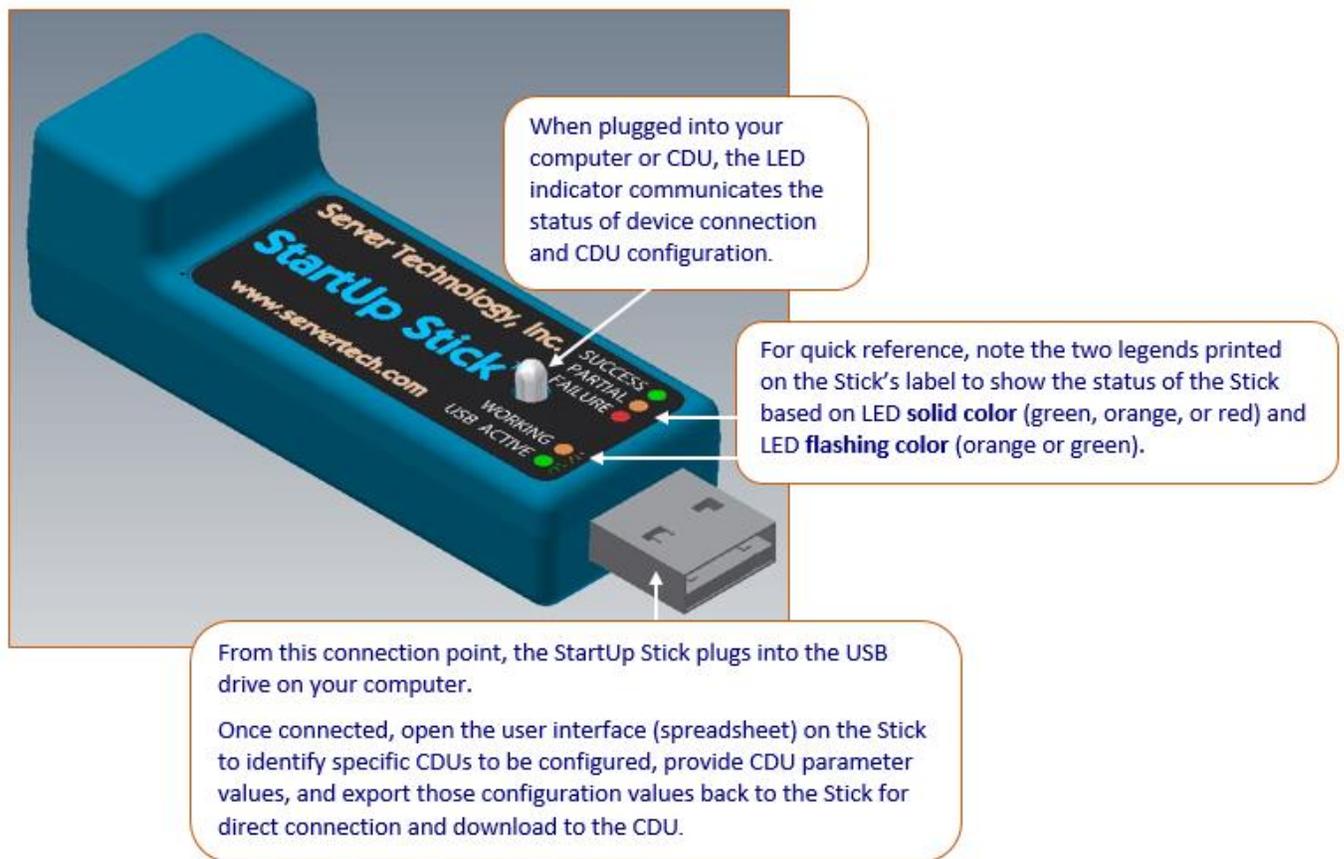


Figure 1. StartUp Stick, LED Indicator, and USB Connection

When plugged into the USB port, the Stick provides a user interface (Excel spreadsheet). The custom configuration values entered in the spreadsheet are transferred automatically from your computer to the Stick, which then has the capability (via its cable) to deliver your configuration values to the master CDU over the CDU's link port.

When you load the Stick via USB into your PC or other device, the software application (a Microsoft® Excel spreadsheet) opens with the following four tabs:

- **Instructions tab:** Provides instructions for the two user interface tabs (Configuration tab and Unit Specific tab) where you enter parameter values and identify CDUs to be configured.
- **Configuration tab:** Provides parameter fields and options necessary for setting CDU configuration values.
- **Unit Specific tab:** Allows the identification of PRO2/CDU1 products (by NIC SN) to be configured.
- **Imported Log tab:** Stores the Log file for reviewing configuration results with the option to clear the file.

Click the **Select Export Directory** button to determine the target location for exporting configuration data, and initiate the export process by clicking the **Export Settings** button.

Each parameter for configuration is listed in the first column under headings like System Settings, Network Settings, etc.

Depending on the parameter, you configure its value by accepting the displayed default ("Apply No Change" for text fields), typing a new text string, selecting an option from a drop-down menu, or by checking/clearing a checkbox.

Each parameter has a drop-down option (on the right) for how the configured value of that parameter will be applied to the CDU: **Global** (to all CDUs), **Per Unit** (to the CDUs you named on the Unit Specific tab), or **Formula** (substitutes text in a field tag).

The row of four spreadsheet tabs covers using the interface (**Instructions** tab), the CDU parameters to configure (**Configuration** tab, shown open in this example), the identification of individual CDUs by NIC SN (**Unit Specific** tab), and the optional storage of the Log file to show CDU configuration results (**Imported Log** tab).

Figure 2. StartUp Stick User Interface (Excel Spreadsheet)

The Cable for CDU Connection

Your CDU is configured by parameter values downloaded from the StartUp Stick using a cable connection, as illustrated below. A cable is provided in your StartUp Stick kit.

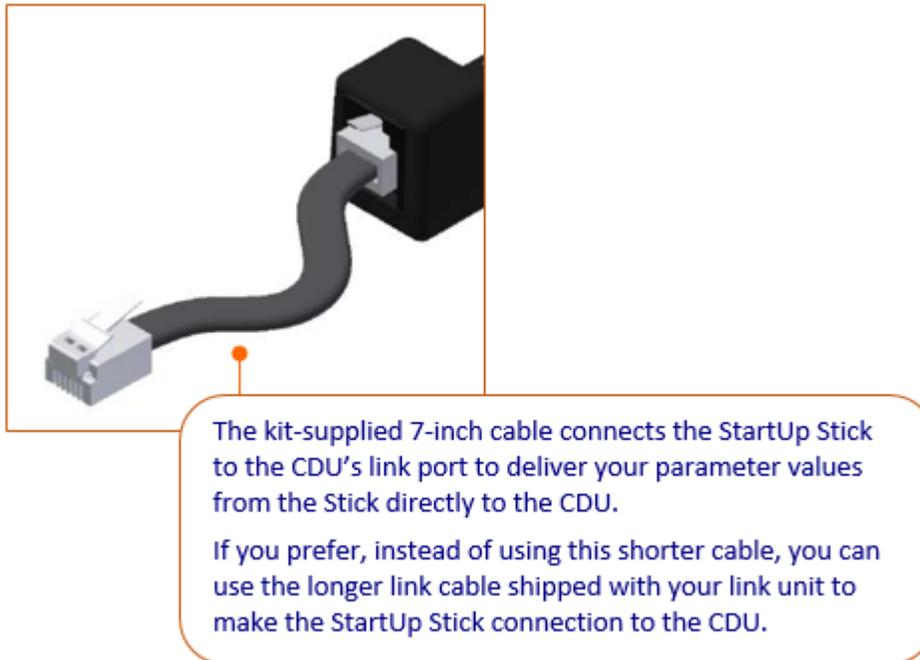


Figure 3. StartUp Stick Cable for CDU Connection

The LED Indicator

The factory-placed label on the StartUp Stick gives you a quick reference to the Stick’s LED indicator states. The color and state communicate the status of the configuration process and the final data upload to the CDU:



Table 1. LED Indicator Status

The following table describes the status of the LED indicator colors and states in more detail:

Status	LED Color	LED State
Firmware or hardware does not support StartUp Stick	n/a	off
Configuration file processed successfully	green	on solid
Configuration file processed successfully with one or more unrecognized configuration parameters	orange	on solid
Failed processing configuration file (communication error/no configuration file available/failed or missing authentication/bad configuration file)	red	on solid
Configuration file upload in progress	orange	blinking
USB drive active	green	blinking

How the Configuration Process Works

This section is a quick overview about how the StartUp Stick mass configuration process works. Each step listed below is explained in more detail in the Instructions tab of the user interface (Excel spreadsheet).

On your PC, laptop, or other device running Microsoft® Excel, version 2007 or later:

1. Insert the StartUp Stick into the USB port of your computer. Navigate to the USB directory and open **startupstick.xlsm**. The StartUp Stick user interface opens with four tabs: Instructions, Configuration, Unit Specific, and Imported Log.
2. Select the Unit Specific tab and provide the NIC serial numbers (SNs) for the CDUs you want to configure in column A.
3. Select the Configuration tab and set the desired values for the CDU operational parameters displayed.
4. If any values are Per Unit, select the Unit Specific tab and configure Per Unit settings.
5. On the Configuration tab, click the **Select Export Directory** button to select the StartUp Stick USB directory that will contain files of your entered configuration values.
6. On the Configuration tab, click the **Export Settings** button to write your configuration values to the export directory files and populate the StartUp Stick with the same values.
7. Save your changes in the spreadsheet, close Excel, and remove the StartUp Stick from your computer.

On the CDU you want to configure in the data center (with power applied):

8. Using the cable supplied with the StartUp Stick, connect the stick to the link port of the master CDU. Within seconds, configuration values are automatically delivered from the stick to the CDU. Green and red LED indicator lights on the Stick show configuration progress: Green=Success, Red=Failure, Orange=Partial Success.
9. Repeat Step 8 for each CDU you want to configure.
10. After the configuration, return the StartUp Stick to your computer and select the Imported Log tab to view the results of the configuration (if the Log file was optionally imported and not cleared).

Your CDUs are now mass-configured with all your custom-set operating parameters.

Note: Configuration data exported from the spreadsheet to the StartUp Stick is not secure on the StartUp Stick.

The Log File

The Log file, **log.txt**, records the status of exported parameter values from the user interface to the Stick and then from the Stick to the CDU.

When parameter values are exported to the Stick, the successful export is written to the Log file as:

```
StartUp Stick Export Complete 7/24/2015 9:00:51 AM
```

For each CDU configuration attempted, one log entry will be generated that includes the NIC SN of the CDU, the success or failure status, and a brief description. This example shows a successful configuration:

```
NICSN# 8207670 SUCCESS: file processed
```

The CDU also communicates error conditions to the Stick and the errors are written to the Log file. If an error or an unknown item are detected during configuration on the CDU, the Stick's line number in the user interface and the current protocol version are included in the log entry to assist with diagnostics. For example:

```
NICSN# 8207670 FAILURE: invalid value (line 4, v1.00)
```

In addition, two options for the Log file are provided in the spreadsheet Configuration tab to:

- Clear the Log file on export of all CDU configuration entries.
- Save the Log file to the Imported Log tab for viewing CDU configuration results with a date/time stamp.

When the CDU Restarts

Any required restart of the CDU during the configuration process will be delayed until the entire process has completed, and the restart will then be initiated by the CDU's firmware. The restart will not affect power status at the outlets.

Depending on the configuration change, the CDU may or may not restart. Even if the CDU restarts and the LED indicator is a solid green (indicating successful configuration), you can remove the stick from the CDU.

User "adm" Accounts and Passwords

In addition to configuration files, the Export directory you created also has the **auth.ini** file, which contains the current user name and password (displayed in clear text) that the StartUp Stick uses for authentication with the CDU.

The password is managed by the following two fields on the Configuration tab:

- **Current admn User Password:** (Required.) This field is the password for the current local admn user. The local **adm** user must exist and be validated with this admn password in order to apply any other changes. This admn password must match the CDU's admn password for successful configuration of the CDU.
- **New admn User Password:** This field sets the local admn user password and becomes the Current admn User Password described directly above.

Appendix A: CDU Models Not Supported

The following tables list the Server Technology CDU product models that StartUp Stick does not support.

For more information about using StartUp Stick with your current CDU products (both PRO2 and CDU1), contact your Server Technology sales representative.

CDU Models Not Supported		
CW-2H1-C20	CS-12HDDD454A3	CS-24VD1454-006
CW-2H2-C20	CS-12HDDE454A3	CS-24VDV454-006
	CS-12HDYL454A3	CS-24VDX454-006
CS-2HD4J131Z1	CS-12HDYM454A3	CS-24VYY454-006
CS-2HD4K131Z1		
CS-2HD4U131Z1	CS-18VD1413A2	CS-54VDV413C6-017
CS-2HD5Z131Z1	CS-18VDV413A2	CS-54VDV413C6-017
	CS-18VDX813A2	CS-54VDV413C6-017
CS-2HDDV131Z1	CS-18VYY813A2	CS-54VDV413C6-017
CS-2HDDV131Z1-011		CS-54VDW413C6-017
CS-2HDDV121Z1-014	BDL-CXG36VDX-01	CS-54VDW413C6-017
CS-2HDDX131Z1	BDL-CXG36VDV-01	CS-54VDX413C6-017
	BDL-CXG36VYY-01	CS-54VYY413C6-017
		CSM-2HD3-01

Appendix B: CDU Configuration Parameters

StartUp Stick allows the mass configuration of several major categories of CDU parameters listed in the following tables for reference.

The values for these CDU parameters can be set in the Configuration tab of the StartUp Stick user interface (Excel spreadsheet) when downloaded from the Stick to your PC, laptop, or other device.

Each parameter you can edit in the Configuration tab has its own field-level popup to provide the parameter's description, data type, format, valid values, and other data entry details needed for accurate configuration.

System Settings
Parameters
Current admn User Password
New admn User Password
System Location

Network Settings
Parameters
Network Mode
DHCP Enabled
DHCP Boot Delay Enabled
DHCP Static Address Fallback Enabled
DHCP FQDN Enabled
FQDN Name
Static IPv6 Address
Static IPv6 Prefix
Static IPv6 Gateway
Static IPv4 Address
Static IPv4 Subnet Mask
Static IPv4 Gateway
Static Primary DNS Server
Static Secondary DNS Server

Telnet/SSH Settings
Parameters
Telnet Enabled
Telnet Port
SSH Enabled
SSH Port
SSH Authentication Method

CDU Configuration Parameters, continued...

HTTP/SSL Settings
Parameters
HTTP Enabled
HTTP Port
HTTP (SSL) Enabled
HTTPS (SSL) Port

FTP Settings
Parameters
FTP Server Enabled
FTP Client Auto Update Enabled
FTP Client Update Host
FTP Client Update User Name
FTP Client Update Password
FTP Client Update Directory
FTP Client Update File Name
FTP Client Update Day
FTP Client Update Hour

SMTP Settings
Parameters
SMTP Notifications Enabled
SMTP Host
SMTP Host Port
SMTP From Address
SMTP Primary To Address
SMTP Secondary To Address
SMTP Event Messages Enabled
SMTP Authorization Messages Enabled
SMTP Configuration Messages Enabled
SMTP Power Messages Enabled
SMTP Authentication Type
SMTP Authenticate With
SMTP Host Authentication User Name
SMTP Host Authentication Password
SMTP Subject Used

CDU Configuration Parameters, continued...

SNMP Settings
Parameters
SNMP V1/V2 Enabled
SNMP V2 Get Community
SNMP V2 Set Community
SNMP V2 Trap Community
SNMP V3 Enabled
SNMP V3 RW User Authentication Method
SNMP V3 RW User Name
SNMP V3 RW User Authentication Password
SNMP V3 RW User Privacy Password
SNMP V3 RO User Authentication Method
SNMP V3 RO User Name
SNMP V3 RO User Authentication Password
SNMP V3 RO User Privacy Password
SNMP V3 Trap User Name
SNMP Trap Format
SNMP Trap Destination Primary Host
SNMP Trap Destination Secondary Host
SNMP Trap IP Restrictions
SNMP Trap Error Repeat Time(seconds)
SNMP System Name
SNMP System Contact

SNTP/DST Settings
Parameters
SNTP Primary Host
SNTP Secondary Host
Local GMT Offset
DST Enabled
DST Start TZ
DST End TZ

Syslog Settings
Parameters
SysLog Primary Host
SysLog Secondary Host
SysLog Port

Contact Technical Support

For assistance with the StartUp Stick, Server Technology's Technical Support department is available as follows:



Experience Server Technology's FREE Technical Support

Server Technology understands that there are often questions when installing and/or using a new product. Free Technical Support is provided from 8 a.m. to 5 p.m. PST, Monday through Friday. After-hours service is provided to ensure your requests are handled quickly no matter what time zone or country you are located in.

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