



THE STANDARD FOR ENERGY & POWER MEASUREMENT

INSTRUCTIONS TO UPDATE FIRMWARE

FOR

DRANETZ
HDPOQ[®] SP



Dranetz

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Updating the HDPQ SP's Firmware

The latest firmware release for the Dranetz HDPQ SP is available for download on www.dranetz.com. Once downloaded, you can update the HDPQ SP's internal program by using one of two methods:

- 1) Via a web browser and an Ethernet (or Wi-Fi, if available) connection. This method allows for updating the firmware remotely using a network connection, or locally when near the instrument. When using this method, the instrument can remain installed and there is no need to physically handle the instrument.
- 2) Via a USB flash drive inserted in the instrument and a VNC connection (using any valid communication method for the model instrument owned). This method requires a USB flash drive to be inserted in the instrument. The instrument's VNC remote user interface is used to perform the firmware update.

For either method chosen, you must first establish communications with the instrument. Please refer to chapter 1, "Connecting to the HDPQ SP for the First Time" of the HDPQ SP Users Guide for instructions.

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Web Browser Firmware Update Procedure

You can update the HDPQ SP's internal program by downloading the latest firmware release from the web to install into internal memory. Refer to the instructions below on how to update the unit's firmware.

Firmware updates can be downloaded from the Dranetz website. Log on to <http://www.dranetz.com/technical-support-request/612-2/> for the latest information on firmware update releases.

Update Firmware via Ethernet

The procedure below specifies how to update the firmware for the HDPQ SP via an Ethernet connection.

Step	Action
1	<p>Copy or download the HDPQ SP firmware file to the desktop or other folder you specify on your computer. To download, use a web browser and access the Dranetz URL address http://www.dranetz.com/technical-support-request/612-2/</p> <p>Locate the latest version of the firmware update (data files "HDPQ-SP_Vx_x_x.hpk", note: x_x_x is the version number) from the Dranetz site.</p> <p>Dranetz regularly posts the latest information and instructions regarding HDPQ SP firmware update releases.</p> <p>After you have downloaded the firmware file on your computer, the succeeding steps will walk you through the process of uploading and installing the latest firmware to the HDPQ SP via Ethernet connection.</p>
2	<p>Establish Ethernet communications between your computer and the HDPQ SP.</p> <p>NOTE: For instructions on how to connect to HDPQ SP via Ethernet, see Chapter 1 Getting Started - Section on Connecting to the HDPQ SP via Wired Ethernet Connection.</p>
3	<p>Open a web browser and type in the HDPQ SP IP address followed by /boot on the address bar of the browser.</p> <p>For Example: 192.168.0.30/boot</p>

Continued on next page

**Update
Firmware via
Ethernet**

Step	Action
4	<p>Authenticate the username and password when prompted by the browser. Use the default username and password credentials provided below:</p> <p>Default username = admin (written in lowercase) Default password = Dranetz</p> <p><u>Result:</u> The following page should appear.</p> 
5	Click on the “ Browse ”... button on the HDPQ SP Firmware Update page.
6	Navigate to the folder location of the HDPQ-SP_Vx_x_x.hpk file that was copied to your computer in step #1.
7	<p>Click on the Upload button on the HDPQ SP’s Firmware Update page. <u>Result:</u> The message “Uploading firmware file...” is displayed on screen.</p> 

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Update Firmware, Via Ethernet, continued

**Update
Firmware via
Ethernet
(continued)**

Step	Action
8	After about 10 to 20 seconds, a message reporting "firmware.hpk uploaded successfully" is displayed on screen.
9	Click on the Install button on the HDPQ SP's Firmware Update page.
10	After 10 to 20 seconds the web page should change to indicate "Firmware installation prompted. Restarting ..."
11	After about 2 minutes, the instrument should reboot and come back online.
12	Refresh the HDPQ SP webpage by pressing the browser refresh button or retyping the 192.168.0.30/boot address into your browser.
13	<p>Connect to the HDPQ SP via VNC and verify that the instrument has been updated to the latest firmware version by pressing the Status icon found on top of the Meters home page.</p> <p>NOTE: All data and setups stored in the HDPQ SP's memory may be lost when you update to the latest firmware. Major updates that require update of the operating system will automatically initiate a reset to factory defaults. This will erase all data and settings. Copy any files that you want to save to a computer or USB flash drive first before downloading firmware.</p>

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Update Firmware file via USB Flash Drive

An alternate procedure to update the HDPQ SP's internal program is by uploading the firmware by using a USB flash drive.

This requires a two step process that involves first downloading the firmware file from the Dranetz website into a USB flash drive, and then installing the firmware update to the HDPQ SP.

Download latest Firmware file from Dranetz website

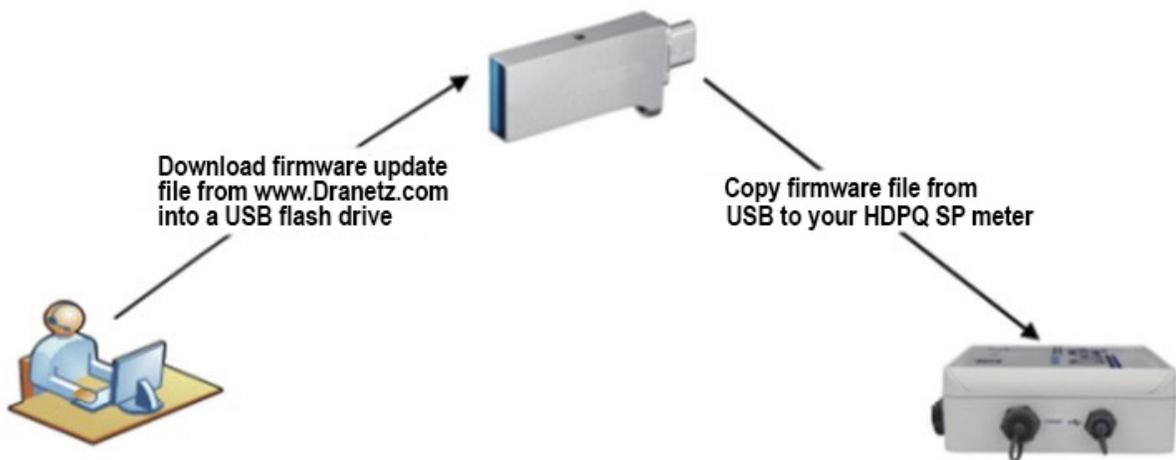
The procedure below specifies how to download the latest firmware file from the web into a USB flash drive.

Step	Action
1	Using a computer with a USB port, connect to the web and access the Dranetz URL address http://www.dranetz.com/technical-support-request/612-2/ www.Dranetz.com. Locate the latest version of the firmware update (data files "HDPQ-SP_Vx_x_x.hpk" note: x_x_x is the version number) from the Dranetz site. Dranetz regularly posts the latest information and instructions regarding HDPQ SP firmware upgrade releases.
2	Insert the USB flash drive into the USB port in your computer.
3	Download the latest version of the HDPQ SP's firmware update program (data files "HDPQ-SP_Vx_x_x.hpk) from the Dranetz website to the USB flash drive. NOTE: All data and setups stored in your memory may be lost when you update to the latest firmware. Major updates that require upgrade of the operating system will automatically initiate a reset to factory defaults. This will erase all data and settings. Copy any files that you want to save to a computer or USB flash drive first before downloading firmware.

USB Flash Drive Firmware Update Procedure

You can update the HDPQ SP's internal program by using a USB flash drive installed in the instrument. Since the HDPQ SP does not have a local interface, a VNC connection to a computer, tablet or smartphone is required to use this method. Please refer to chapter 1, "Connecting to the HDPQ SP for the First Time" of the HDPQ SP Users Guide on how to establish a VNC connection to the instrument.

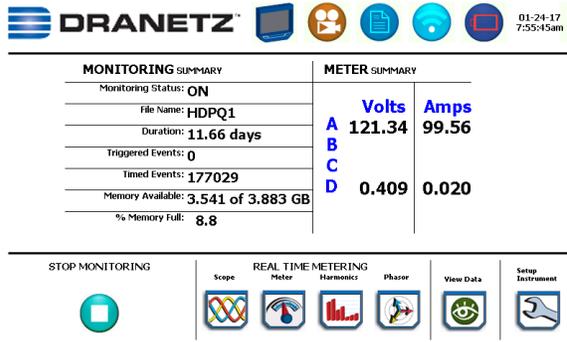
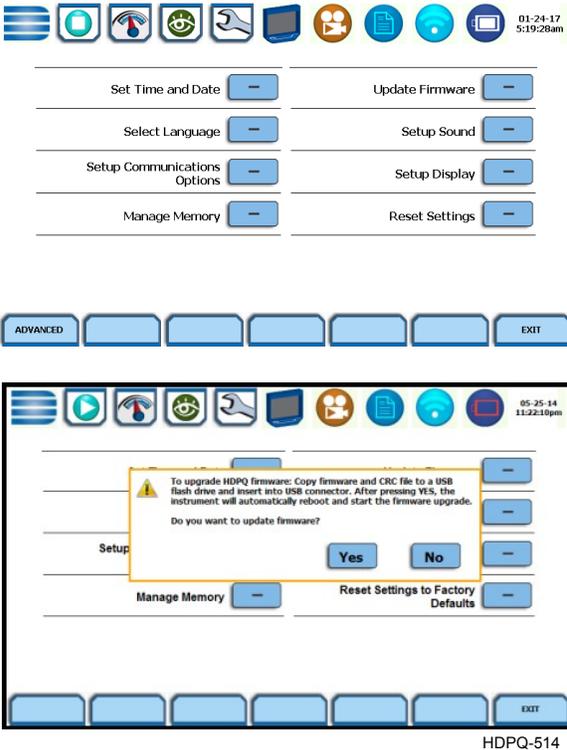
The illustration below shows the high level process for updating the HDPQ SP firmware by uploading the firmware file contained in a USB flash drive.



- Download the latest firmware update release from the Dranetz website into the root directory of a USB flash drive.
- Once the firmware file is copied, insert the USB flash drive into the Micro USB socket on the right side panel of the instrument. Use the USB Micro Adapter cable (P/N USBMA-OTG) as necessary to connect the USB to the HDPQ SP unit.
- Establish a VNC connection to the HDPQ SP instrument. Click on the Setup Instrument icon to bring up the Instrument Settings menu, and proceed to select Update Firmware.

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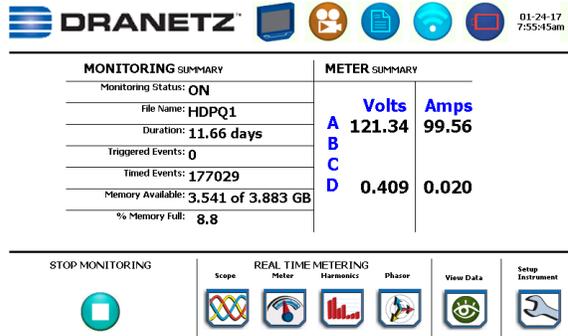
The procedure below details how to install the latest firmware update to the HDPQ SP using a remote VNC connection.

Action...	Result...
<p>STEP 1: From the Home Screen, press Setup Instrument located at the lower right corner of the screen.</p> <p>Pressing the setup instrument icon will bring you to the next screen, to begin the update firmware process.</p>	 <p>The screenshot shows the DRANETZ home screen with a top navigation bar containing icons for Home, Setup Instrument, Real Time Metering, Phasor, View Data, and Stop Monitoring. The date and time are 01-24-17 7:55:45am. Below the navigation bar are two summary sections: 'MONITORING SUMMARY' and 'METER SUMMARY'. The monitoring summary shows: Monitoring Status: ON, File Name: HDPQ1, Duration: 11.66 days, Triggered Events: 0, Timed Events: 177029, Memory Available: 3,541 of 3,883 GB, and % Memory Full: 8.8. The metering summary shows: Volts (A: 121.34, B: 121.34, C: 121.34, D: 121.34) and Amps (A: 99.56, B: 99.56, C: 99.56, D: 99.56). At the bottom, there are icons for STOP MONITORING, REAL TIME METERING (Scope, Meter, Harmonics, Phasor), View Data, and Setup Instrument.</p>
<p>STEP 2: From the Instrument Settings menu, press Update Firmware.</p> <p>The update firmware configuration screen prompts whether or not you want to proceed with a firmware update.</p> <ul style="list-style-type: none"> • If YES, make sure to insert the USB containing the firmware update file into the USB connector on the right side of the instrument, prior to pressing YES. The instrument will automatically reboot and the firmware update procedure will commence. Proceed to Step 3. • If NO, the screen returns to the Instrument Settings menu without making changes. 	 <p>The screenshot shows the Instrument Settings menu with options: Set Time and Date, Update Firmware, Select Language, Setup Sound, Setup Communications Options, Setup Display, Manage Memory, and Reset Settings. Below the menu are buttons for ADVANCED and EXIT. The second screenshot shows the firmware update confirmation dialog with the text: 'To upgrade HDPQ firmware: Copy firmware and CRC file to a USB flash drive and insert into USB connector. After pressing YES, the instrument will automatically reboot and start the firmware upgrade. Do you want to update firmware?' with Yes and No buttons. Below the dialog are buttons for Manage Memory and Reset Settings to Factory Defaults. The bottom right corner of the second screenshot is labeled HDPQ-514.</p>

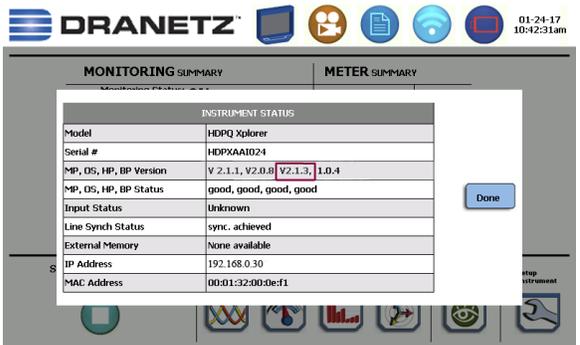
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Action...	Result...
<p>STEP 3: Once the instrument restarts, a message indicating that a firmware package file has been detected is displayed.</p> <ul style="list-style-type: none"> • Press Yes to use the file to upgrade the instrument firmware. Proceed to Step 4. • Press No to return to the Instrument Settings menu without making any firmware changes. 	 <p>Checking for new firmware.</p> <p style="text-align: right;">HDPQ-515</p>
<p>STEP 4: Do not turn the power off or remove the USB device while the firmware update is in progress.</p>	 <p>Updating firmware.</p> <p style="text-align: right;">HDPQ-516</p>
<p>STEP 5: If required, a second prompt may come up to ask if the low-level Kernel will be updated.</p> <ul style="list-style-type: none"> • Always Press Yes to update the Kernel. Once the Kernel update is done, the Home screen is displayed. Proceed to Step 6. 	 <p>Updating Kernel.</p> <p style="text-align: right;">HDPQ-517</p>

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Action...	Result...																																																				
<p>STEP 6: Once the instrument returns to the Home screen, a message at the bottom of the screen reports that the measurement firmware is being copied.</p> <p>NOTE: It is very important to not interrupt this process.</p> <p>Once the firmware update is complete, the instrument automatically restarts and begins operating with the new firmware version.</p>	 <p style="text-align: right;">HDPQ-518</p>																																																				
<p>STEP 7: From the Home Screen, press the instrument icon</p>  <p>located at the top center of the screen.</p> <p>By pressing the instrument icon will bring you to the next screen, this screen displays the latest firmware installed in the instrument .</p>	 <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">MONITORING SUMMARY</th> <th colspan="2">METER SUMMARY</th> </tr> </thead> <tbody> <tr> <td>Monitoring Status:</td> <td>ON</td> <td></td> <td></td> </tr> <tr> <td>File Name:</td> <td>HDPQ1</td> <td></td> <td></td> </tr> <tr> <td>Duration:</td> <td>11.66 days</td> <td></td> <td></td> </tr> <tr> <td>Triggered Events:</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td>Timed Events:</td> <td>177029</td> <td></td> <td></td> </tr> <tr> <td>Memory Available:</td> <td>3.541 of 3.883 GB</td> <td></td> <td></td> </tr> <tr> <td>% Memory Full:</td> <td>8.8</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>Volts</td> <td>Amps</td> </tr> <tr> <td></td> <td></td> <td>A 121.34</td> <td>99.56</td> </tr> <tr> <td></td> <td></td> <td>B</td> <td></td> </tr> <tr> <td></td> <td></td> <td>C 0.409</td> <td>0.020</td> </tr> <tr> <td></td> <td></td> <td>D</td> <td></td> </tr> </tbody> </table>	MONITORING SUMMARY		METER SUMMARY		Monitoring Status:	ON			File Name:	HDPQ1			Duration:	11.66 days			Triggered Events:	0			Timed Events:	177029			Memory Available:	3.541 of 3.883 GB			% Memory Full:	8.8					Volts	Amps			A 121.34	99.56			B				C 0.409	0.020			D	
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Action...	Result...																				
<p>STEP 8: After the downloaded file HDPQ-SP_Vx_x_x.hpk is installed properly in the instrument, the HP version should indicate the version installed (note: x_x_x is the version number).</p> <p>The Instrument Status screen displays the latest installed version of firmware in the instrument.</p> <p>In this example the order is displayed that the HP V2.1.3 is the latest firmware installed:</p> <pre>MP V2.1.1 OS V2.0.8 HP V2.1.3 BP 1.0.4</pre> <p>Note: If the latest firmware version you have installed does not appear correctly in this screen, try to reload the update firmware. First, power the instrument "OFF" and back "ON" and repeat steps 1 through 8 of this procedure.</p>	 <p>The screenshot shows the DRANETZ interface with a top navigation bar and a central 'INSTRUMENT STATUS' window. The status window contains the following data:</p> <table border="1"> <thead> <tr> <th colspan="2">INSTRUMENT STATUS</th> </tr> </thead> <tbody> <tr> <td>Model</td> <td>HDPQ Xplorer</td> </tr> <tr> <td>Serial #</td> <td>HDPXA1024</td> </tr> <tr> <td>MP, OS, HP, BP Version</td> <td>V 2.1.1, V2.0.8, V2.1.3, 1.0.4</td> </tr> <tr> <td>MP, OS, HP, BP Status</td> <td>good, good, good, good</td> </tr> <tr> <td>Input Status</td> <td>Unknown</td> </tr> <tr> <td>Line Synch Status</td> <td>sync. achieved</td> </tr> <tr> <td>External Memory</td> <td>None available</td> </tr> <tr> <td>IP Address</td> <td>192.168.0.30</td> </tr> <tr> <td>MAC Address</td> <td>00:01:32:00:0e:11</td> </tr> </tbody> </table> <p>A 'Done' button is visible to the right of the status window.</p>	INSTRUMENT STATUS		Model	HDPQ Xplorer	Serial #	HDPXA1024	MP, OS, HP, BP Version	V 2.1.1, V2.0.8, V2.1.3, 1.0.4	MP, OS, HP, BP Status	good, good, good, good	Input Status	Unknown	Line Synch Status	sync. achieved	External Memory	None available	IP Address	192.168.0.30	MAC Address	00:01:32:00:0e:11
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