Setting up the Socomec Net Vision for use with the AARTS System

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Accel-RF Corporation specializes in the design, development, manufacture, and sales of accelerated life-test/burn-in test systems for RF and Microwave semiconductor devices. This white paper describes technical information related to the AARTS Hardware. For more information contact:

Accel RF Corporation
San Diego, CA 92124
**(858) 332-0707**

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1   System Description and Overview

This documents a procedure to setup and configure the Socomec UPS with the Accel-RF Corporation Automated Accelerated Reliability Test Station (AARTS). Note that the exact model of the UPS should be sized appropriately for the expected maximum load of the system. A maximum load map for each phase of the 400V 3-phase circuits should have been supplied with the model delivered by Accel-RF.

The connections required for this setup are shown in Figure 1. The Net Vision monitoring and shutdown control interface is designed to ONLY work through an Ethernet communication interface. Since the UPS for the AARTS system is dedicated, it is undesirable to presume a corporate LAN is active and available for routing communications between the two systems during a facility power failure event. Therefore, the AARTS/UPS interface must incorporate a dedicate direct Ethernet interface between the two instruments, as shown in Figure 1.

The UPS comes from the factory configured to operate at a fixed IP-assigned of 192.168.7.18, and its counterpart (PC) at 192.168.7.100.   Once communication is established, a browser based interface may be used to configure the operation of the UPS.

Figure 1: AARTS to UPS connections

Ethernet Cable

EPO shutdown cable
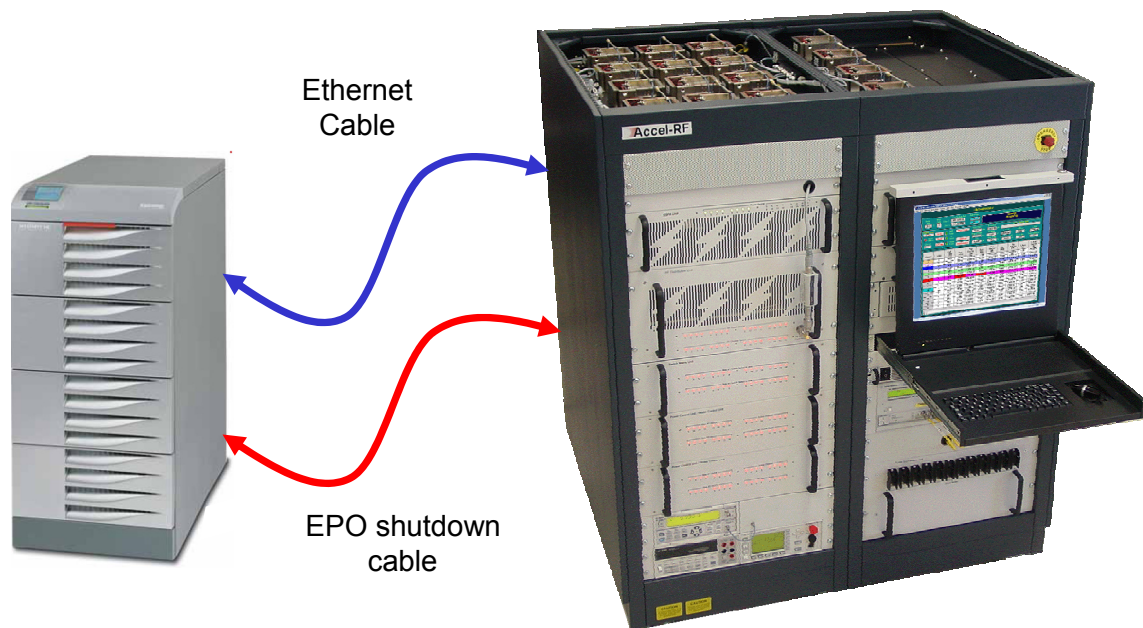
There are several steps required to properly configure the UPS to work with the AARTS system. The following sections describe step-by-step instructions for configuring both systems.

2 System Configuration

Several steps are required to configure the UPS for proper operation with the AARTS system. The following Sections describe these steps in detail.

2.1 Configuring Windows TCP/IP settings

The Ethernet LAN adaptor must be configured to complementary settings that will work with the dedicated settings in the UPS. This section describes a method for setting the appropriate values.

Step 1: Open the Properties selection for the dedicated Ethernet card (note: the LAN may be accessed through the device manager, or Network settings in the Control Panel). The window shown below in the upper left should be displayed.

Step 2: Select the "Internet Protocol TCP/IP" item and click on Properties. The right-hand window, shown below should appear.
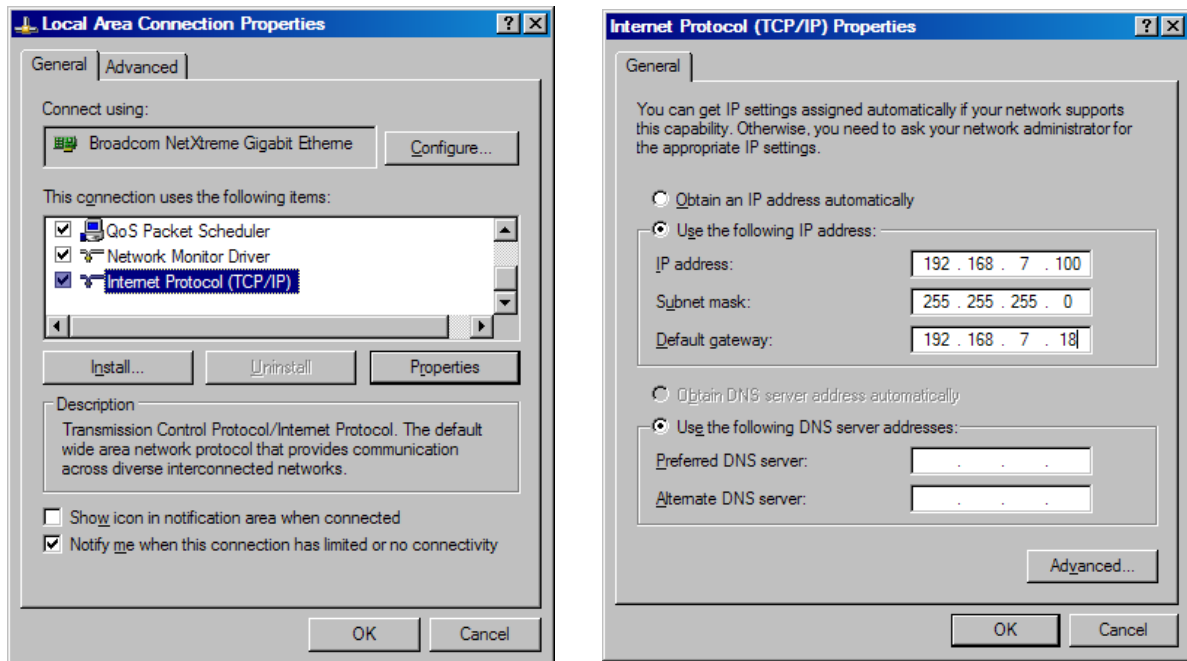

Step 3: Select the "Use the following IP address:" option and enter the values shown in the Figure above. Click "OK" to save the new settings.

2.2 Configuring the UPS and PC for Shutdown

The following screens show the steps required to configure the UPS for automatic shutdown.

Step 1: Open browser and select http://192.168.7.18. A login prompt will appear. Username is "Net Vision", password is "public".
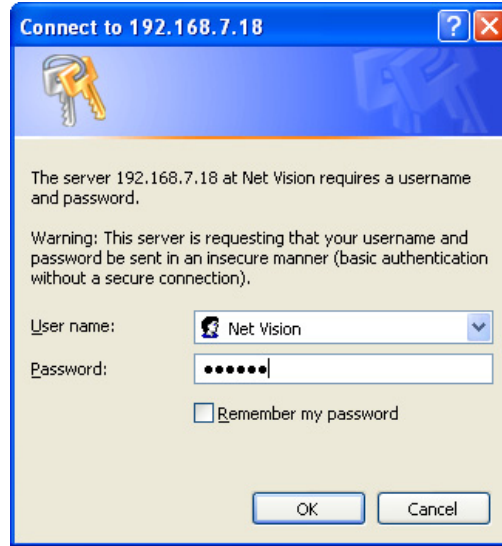
Step 2: Select the "UPS Management" "Shutdown Parameters". Set the UPS Shutdown Delay to 1800 seconds, and "Enabled". This will cause the UPS to turn itself completely off 30 minutes after the "1st Warning" occurs. Set "AC Failed" to 15 minutes, and "Enabled". This will initiate a 1st warning event 15 minutes after AC fails (and remains off).
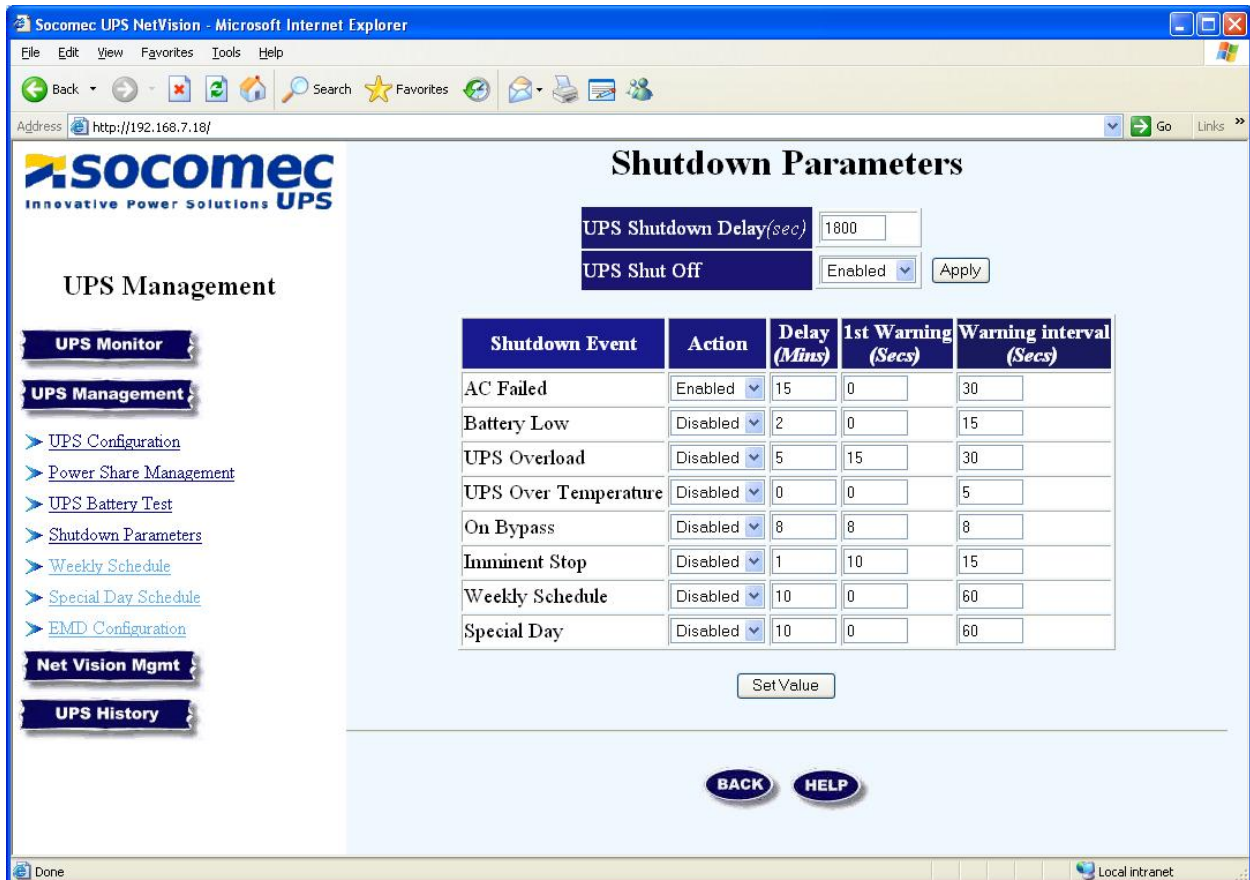
Step 3: Install the Shutdown client on the PC. The client is on the installation CD under the Shutdown->Windows->3.31 folder.   The file is called "NetVision Install-v3.31.exe".   During installation, a configuration similar to the following should pop up. Enter the fields as shown.

Once installed, a resident application service runs continuously in Windows, and should be started automatically when a reboot occurs. An icon will appear in the lower right task bar. If it is not Green, then communication has not occurred. Be sure it is green for normal operation.

Note that the "Script File" is launched at the 1st warning message and the "Shutdown Delay" of 10 seconds occurs. Set "Force Shutdown Delay" to 1200 seconds to prevent Windows from debooting before the ARF shutdown process is complete. Point the script file to the UPS_SHUTDOWN.BAT file that is discussed in the following section.

2.3   Configuring Windows to Run the Shutdown Script

Once the Net Vision utilities are configured properly to initiate the shutdown sequence, and the shutdown conditions are met, the script defined in Section 2.2, Step 3 (UPS_SHUTDOWN.BAT), is launched. That file should contain the following lines:

copy C:\LIFE\DEMO.TXT C:\LIFE\UPSSHUT
ping 1.1.1.1 -n 1 -w 60000 >nul
ping 1.1.1.1 -n 1 -w 60000 >nul
ping 1.1.1.1 -n 1 -w 60000 >nul
ping 1.1.1.1 -n 1 -w 60000 >nul
ping 1.1.1.1 -n 1 -w 60000 >nul

Note that the full pathname is required. The LifeTest program periodically checks for the existence of a file named "UPSSHUT" in the application installation folder. If it exists, it immediately shuts down all channels and terminates itself. After power is restored, and upon initialization, the LifeTest program will check for the existence of this file and delete it if found; hence, the operator need not remember to do so manually.

The Net Vision shutdown utility automatically deboots Windows as soon as the Script File completes. Hence, the redundant ping statements are used to create a 1 minute delay per line. Hence, the five lines cause the system to delay 5 minutes after the time at which the UPSSHUT file is created before deboot. This allows the LifeTest program enough time to terminate gracefully before the system turns OFF.

3   Testing the Setup

Once everything has been configured, the shutdown paradigm should be tested.   By following the configuration settings described in the preceding Sections, the shutdown parameters should have been set to very small times (1 minute after AC Fails to the 1st warning and 15 seconds for the shutdown process to be initiated) (note: after verification, the values should be reset to 15 minutes on battery and 5 minutes for the script to complete). Figure 2 illustrates the pertinent events timing.

Figure 2: AARTS/UPS Shutdown Events Timing
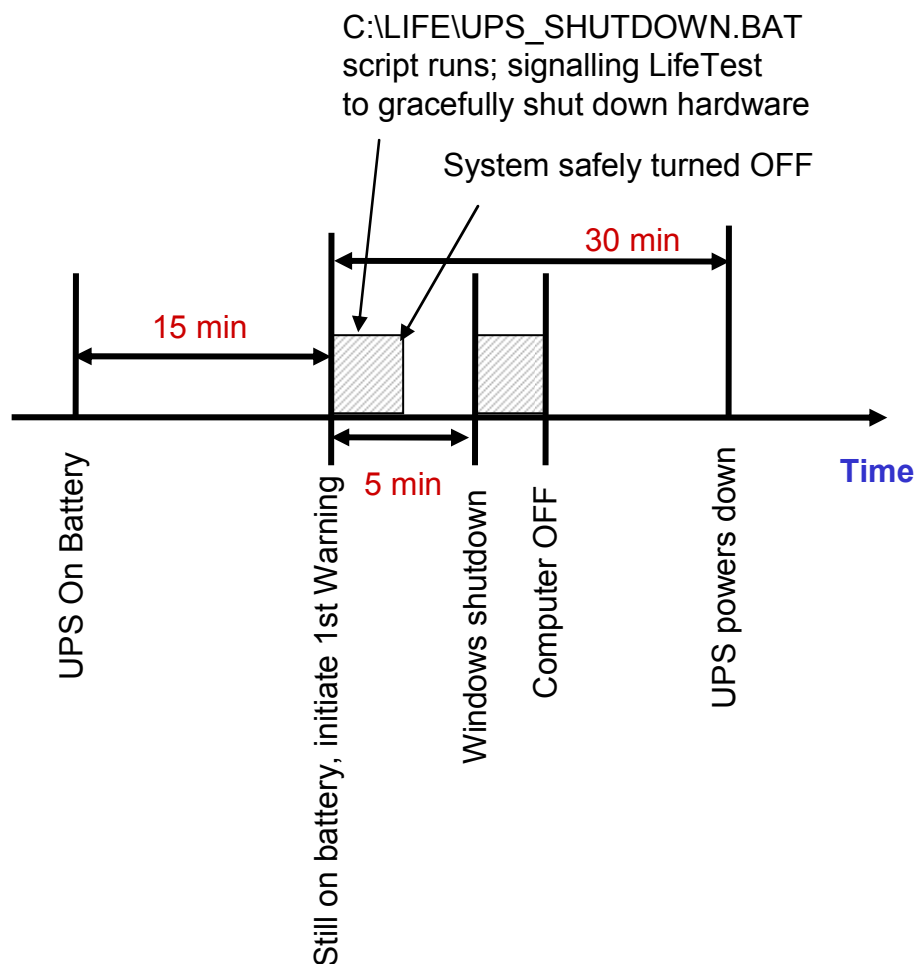
Note that if the main power is restored before the 1st Warning occurs, the system should continue uninterrupted. However, after the 1st Warning, the system will shutdown following the prescribed sequence. Once power is restored to the UPS, the output might be restored; however, the computer will remain OFF until it is restarted. When the LifeTest software is started again, the UPSSHUT file will automatically be deleted be deleted so that another event may be properly monitored without further user action.

4   Support

The following contacts may be used to obtain additional information:

For additional support configuring the UPS, please contact Accel-RF or Socomec at the following numbers:

Socomec
> Retrieve local support number at http://www.socomec.com/contact-socomec-group.html

Accel-RF
> 858-332-0708 (8:00AM to 5:00PM Pacific Time Zone)