

# Setting up the GE RCCMD for use with the AARTS System

## Rev A – January 14, 2013

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:

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# Table Of Contents

1	System Description and Overview1						
2	Syst	System Configuration					
	2.1	Configuring Windows TCP/IP settings	. 2				
	2.2	Configuring UPS for Ethernet Connection	. 3				
	2.3	Configuring the UPS Shutdown Parameters	. 4				
	2.4	Configuring the RCCMD on the PC	. 5				
	2.5	Configuring Windows to Run the Shutdown Script	. 9				
3	Test	Testing the Setup 11					
4	Support						

## 1 System Description and Overview

This documents a procedure to setup and configure the GE LP-Series 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 RCCMD monitoring and shutdown control interface is designed to 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.



## Figure 1: AARTS to UPS connections

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.

Local Area Connection 2 Properties	Internet Protocol Version 4 (TC	CP/IPv4) Properties
Networking Sharing	General	
Connect using: EasyTether Network Adapter	You can get IP settings assign this capability. Otherwise, you for the appropriate IP setting	ned automatically if your network supports u need to ask your network administrator is.
Configure This connection uses the following items:	<ul> <li><u>O</u>btain an IP address au</li> <li>Use the following IP add</li> </ul>	Itomatically
Trend Micro NDIS 6.0 Filter Driver  Virtual PC Network Filter Driver  Virtual PC Network Filter Driver	IP address: Subnet mask:	192 . 168 . 1 . 80 255 . 255 . 255 . 0
Guos Packet Scheduler      Guos Packet Sche	Default gateway:	192.168.1.254
Install         Properties           Description         Transmission Control Protocol/Internet Protocol. The default wide accomputing tion	<ul> <li>Obtain DNS server address</li> <li>Use the following DNS server:</li> <li><u>P</u>referred DNS server:</li> <li><u>A</u>lternate DNS server:</li> </ul>	ess automatically erver addresses:
across diverse interconnected networks.	🔲 Vaļidate settings upon e	exit Ad <u>v</u> anced
OK Cancel		OK Cancel

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 UPS for Ethernet Connection

The UPS must first be configured using a serial interface to setup the IP information. The remaining configuration may then be performed using a browser-based user interface. This section describes typical settings that could be used for configuration.

1) Connect the SNMP adapter to a computer using a standard 1:1 serial communication cable.

2) Run a terminal simulator (e.g. HyperTerminal on a PC running Windows)

3) Configure the terminal simulator as follows:

115,200bps, Terminal emulation VT-100 8 data bits, 1 stop bit, parity none, flow control none

4) Establish the connection and press <enter>

5) The default username (login) and password are "ge" and "ge"

6) A command-line configuration interface is entered. Type "menu" to enter the quick network configuration menu (see below). Enter the appropriate settings (similar to that shown) for the SNMP card.



#### NOTE: Save the settings !

Apart from some network parameters, most setting are immediately active. However, the adapter will revert to the last saved settings at reboot. Therefore, in order to permanently modify the SNMP/Web adapter setting, remember to save the configuration after every change. This can be done by:

- Pressing S on the quick configuration menu
- Entering nvsave at the command interface prompt

### 2.3 Configuring the UPS Shutdown Parameters

The GE browser-based user interface may be used to configure the shutdown parameters for the UPS.

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

Step 1: Open browser and select http://192.168.1.89. A login prompt will appear. Username is "ge", password is "ge".

Step 2: Select the System menu option and setup the "Network" settings as shown below:

GEDE UPS SNMP/Web Interfa	ce - Windows Internet Explorer	
e Edit View Eavorites Tool		
Fauentes A Sources for	and Resident Residence	
ravorites   🥦 💽 suggested s	tes • 🙋 Free Hotmail 🙋 web side Gallery •	-
GEDE UPS SNMP/Web Interface	🛅 🔨 🔝 👘 🖬 Bage + Safety + Tgols +	· 🚱 -
imagination a	t work	_
	WEBSERVER	2
HOME UPS	SYSTEM > SNMP > SMTP > LOG > UTILITY > SAVE > USER	
	Network	
	Host Name GEDE-SNMP-UPS-Interface	
Network	Outrain IP by DHCP	
Date & time	Obtain IP by BOOTP	
RM&D	Static IP address	
Password	IP Address 192 168 1 89	
Configuration	Subject Mask 255 255 0	
Upgrade	Default Gateway 192 168 1 254	
	Obtain DNS Automatically	
	Set DNS Manually	
	Primary DNS	
	Secondary DNS	
	Submit Dafault Rafrash	
	NOTE the difference is the extended on the effective set of the effectiv	
	NOTE: Modifications to the network settings will be effective only after reboot. Save any changes before rebooting	
	Changes to the DNS settings may become immediately effective	
	- • • • •	
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Copyright General Electric Compl	ny 2007-2012	
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Step 3: Select the System menu option and setup the "Date & time" settings appropriately:

🔊 🗢 🔕 http://192.168.1.8	)time.asp 🔽 🔂 🐓 🗙 📴 Bing 🖉
e Edit Yiew Favorites Tools	Help
Favorites	es • 10 Free Hotmail 10 Web Sine Galery •
GEDE UPS SNMP/Web Interface	🖾 . 💟 . 🖂 🚔 . Salet A. 1 Jos . 🚳
(98) imagination at	work
	WEBSERVER
<u> </u>	
HOME UPS *	SYSTEM > SNMP > SMTP > LOG > UTILITY > SAVE > USER
	Date & Time
Network	Fri Jan 11 09:04:27 2013 Refresh
Date & time	Enable NTP
RCCMD	NTP Server pool.ntp.org Submit Update now Default
RM&D	Sync UPS time with NTP
Password	
Configuration	Daylight saving adjust automatically with time zone
Upgrade	Time Zone America/New York
	Set time manually
	Year Month Day Hour Min Sec
	2012 w lon w 11 w 0 w 4 w 27 w
	Submit Use Browser Time
Copyright General Electric Compar	1y 2007-2012

## GE UPS Setup – Rev A

Step 4: Select the System menu option and setup the "RCCMD" settings as shown below. Note, this is the primary interface for configuring the shutdown events. The screen shot below shows the appropriate settings for test purposes and is for two separate computers on the same network. Click on Add and select the "After min on Battery" option. Enter the IP address of the computers that are configured with the RCCMD software.

C GEDE UPS SNMP/Web Interfac	e - Window	vs Internet Explo	rer				
COO - 8 http://192.168.1.8	9/rccmd.asp			💌 🗟 🍫 🗙 🔁 Bing		P -	
File Edit View Favorites Tools	Help						
- Favorites	es 🔹 🔊 Fre	e Hotmail 🖉 Web S	lice Gallery				
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HOME UPS *	SYSTEM	> SNMP	> SMTP	> LOG > UTILITY	> SAVE > USER		
	RCCN	ID					
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Network	✓Ena	able Network Shut	down				
Date & time	Subn	nit Default Refree	sh				
RCCMD							
RM&D	Row	Client	Port	Shutdown	Control		
Password	1	192.168.1.81	6003	After 1min on battery	Edit Test Del		
Configuration	2	192.168.1.80	6003	After 1min on battery	Edit Test Del		
Upgrade							
	Add						
Copyright General Electric Compa	1y 2007-2012						
					<u> </u>	×	
				🛛 👩 🤤 Internet		100% •	

Step 5: Assuming the RCCMD software is installed (see Section 2.4 below), the connection can be tested by clicking on the "Test" command option and send a test message.

### 2.4 Configuring the RCCMD on the PC

RCCMD is a PC-resident service that GE has created for communicating with the management agent. The SNMP card installed in the UPS acts as that agent. A separate license key exists for each client computer on the network. Follow the steps below to install and configure.

Step 1: Launch the installer and complete the setup process. Do not worry about configuration settings at this point.

Step 2: Launch the Configuration utility.



Step 3: Enter the License Key (accept the 30-day trial license if an official key is unavailable). Note, if two units are being configured change the last number "0" to "1", else the system may detect a fraud condition and disable the RCCMD service.





Step 4: Add the address of the UPS (default is 192.168.1.89) and click Next.

Client installation	IP address list of all RCCMD servers shutdown command to this client (n 192.168.1.89	that are allowed to send a o entry means: every server).  Add Address  Edit Address  Edit Address  Configure advanced network settings Configure advanced network settings Configure advanced Configure
RCCMD ver. 4.0.2.1	< Back Next >	Cancel



Step 5: Check the "Enable connection check" box and click Next. The test frame should



UPSMAN address	Alive result
192.168.1.89	Successfully connected to UPSMAN

Step 6: In the "Execute at shutdown signal from RCCMD server" section, click Configure to setup the shutdown process.

况 Client installation		_ 🗆 X
	Logfile-configuration: Max. logfile-size: 512	Kb View log
🦉 👂	Execute at mail signal from RCCMD server:	
	JC:\Program Files\RCCMD\mail.bat	
	Configure	Edit file
	Execute at message signal from RCCMD server:	
	C:\Program Files\RCCMD\message.bat	
		Edit file
UPSMAN	Execute at execute signal from RCCMD server:	
	C:\Program Files\RCCMD\execute.bat	
	·	Edit file
	Execute at shutdown signal from RCCMD server:	
S S	C:\Program Files\RCCMD\shutdown.bat	
	Browse Configure	Edit file
RCCMD ver. 4.0.2.1		
	< Back Install	Cancel

Step 7: Click on the "Add custom application" command and navigate to the C:\LIFE folder and select UPSShutdown.BAT file.

Configure Shutdown Sequence	×	
File: C:\Program Files\RCCMD\shutdown.bat		
Available Commands Current Sequence		Open  Cook jr: Cook j
Log off user Power off Windows Restart Windows Hibernate Windows Quit Lotus Notes Quit Simenes SIMATIC Quit Applications Wait some seconds RCCMD shutdown relay  Description of Add custom application	4	ARCHIVE CONFIG CONFIG Desktop My Documents Desktop My Documents My Documents My Documents My Documents My Documents My Computer My Comp
'Wait some seconds' Waits a duration in seconds until the next command is executed.		File pame:         UPSShutdown.BAT         Open           My Network         Files of type:         Executables         Cancel
Cancel OK		

Step 7: Select the "Wait some seconds..." option and click the right arrow to add it to the Current Sequence window. Enter 10 seconds for test purposes. Later this should be changed to 300 seconds to allow 5 minutes delay between the running of the BAT file and de-booting Windows. Click OK to return to the Configuration Window.

Configure Shutdown Sequence

		22210 2022 2022 2021		
		File: C:\Program Files\RCCMD'	\shutdown.bat	
		Available Commands	Current Sequence	
		Log off user Power off Windows	UPSShutdown.BAT Wait 10 second(s)	
Configure Pause	$\mathbf{X}$	Restart Windows Hibernate Windows	Shut down Windows	
Enter pause duration in seconds	10	Suspend Windows Quit Lotus Notes Quit Siemens SIMATIC Quit Applications Wait some seconds RCCMD shutdown relay	< <<	*
		Description of	Add <u>c</u> ustom application	n
		'Wait 10 second(s)'		
		Waits 10 second(s) until the ne	xt command is executed.	
			Cancel	ОК

Step 8: Click on the RCCMD "Edit File" option. This opens the SHUTDOWN.BAT file in the RCCMD installation folder in Notepad. Change the line that says <UPSShutdown.BAT> to <call "C:\LIFE\ UPSShutdown.BAT>. This is required to properly execute the Batch file within Windows. Click File-Save and Exit.





Step 9: Click on the "Install" command button. If completed successfully, the following screen will appear.



## 2.5 Configuring Windows to Run the Shutdown Script

Once the RCCMD utility is configured properly to initiate the shutdown sequence, and the shutdown conditions are met the UPSShutdown.BAT file is launched. That file should contain the following lines:

copy C:\LIFE\DEMO.TXT C:\LIFE\UPSSHUT

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 RCCMD shutdown utility automatically deboots Windows after the Shutdown Sequence completes. The 5 minute delay after the running of the UPSShutdown.BAT file allows adequate time for the LifeTest software to terminate gracefully before the system turns OFF.

One last step may be necessary to finalize the PC configuration. The RCCMD utility runs as a Windows service. Depending on what permissions are setup and/or which login user account is active, it may be necessary to create a user with Administrator priviledges, assign it to the service, in order to properly run the Windows de-booting shutdown scripts. Enable the Administrative Tools under the Control Panel and lanuch the "Services" interface.

Services									
Elle Action View Help									
	ð 🗟 😫 🖬 🕨 🔳 💷 🕨								
🍓 Services (Local)	Services (Local)								
	PCCMD	Name /	Description	Status	Startun Tyne	Log Op As	^		
	RCCMD	Be Mahurada Daga dalamina a Canadan	Manager	Jugras	Manual	Log Crimo			
	Stop the service	Sent Carting Manager	Manages A	Charlend	Manuai	Local System			
	Restart the service	Wini Configuration Manager	Manages N	Started	Automatic	Local System			
		WI Service Locator	The Nation	Started	Automatic	Local System			
	Description:	WI-488.2 Enumeration pervice	Nacionar In	Stanceu	Automatic	Local System			
	Remote shutdown client for receiving	Security Support Provider	Provides s		Manual	Local System			
	commands from RCCMD senders like	Source Source Engine	Saves inst		Manuai	Local System			
	I UPSMAN or CS121 or other RCCMD licensed senders like LIPS network cards	Sector and play	Collects pe	Charles	Manuai	Network 5			
	and software.	™© Plug and Play ∰a Destable Media Casial Membras Cassian	Enables a c	Started	Automatic	Local System			
		Portable Media Serial Number Service	Retrieves t		Manuai	Local System			
		Monte Spooler	Loads riles	Started	Automatic	Local System			
		We Protected Storage	Provides pr	Starteo	Automatic	Local System			
		QoS RSVP	Provides n		Manual	Local System			
		RCCMD	Remote sh	Started	Automatic	.\poweralt			
		SercendWebIf		Started	Automatic	Local System			
		Remote Access Auto Connection Manager	Creates a		Manual	Local System	_		
		Remote Access Connection Manager	Creates a	Started	Manual	Local System			
		Remote Desktop Help Session Manager	Manages a		Manual	Local System			
		Remote Procedure Call (RPC)	Provides th	Started	Automatic	Network S			
		Remote Procedure Call (RPC) Locator	Manages t		Manual	Network S			
		🎇 Remote Registry	Enables re	Started	Automatic	Local Service			
		🍓 Removable Storage			Manual	Local System			
		Routing and Remote Access	Offers rout		Disabled	Local System			
		Secondary Logon	Enables st	Started	Automatic	Local System	×		
	Extended Standard /								

Right Click on RCCMD and click on Properties. Then, click on the Log On tab and enter the Superusers account info similar to the following. Click OK to save. Then, Right Click on RCCMD and select "Restart" to restart the service with the new settings.

RCCMD Properties (Local Computer)					
General Log On Recov	very Dependencies				
Log on as:					
O Local System accoun	t				
Allo <u>w</u> service to in	teract with desktop				
⊙ This account:	.\poweralt Browse				
Password:	•••••				
<u>C</u> onfirm password:	•••••				
Hardware Profile	e this service for the hardware profiles listed below: Service				
Profile 1	Enabled				
	<u>Enable</u> <u>Disable</u>				
	OK Cancel Apply				

## 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 1<sup>st</sup> warning and 10 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.





Note that if the main power is restored before the 1<sup>st</sup> Warning occurs, the system should continue uninterrupted. However, after the 1<sup>st</sup> 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 GE Digital Energy at the following numbers:

GE

Retrieve local support number at http:// http://www.gedigitalenergy.com/digitalenergy/contact.htm

Accel-RF

858-278-0274 (8:00AM to 5:00PM Pacific Time Zone)