

RRS SOFTWARE NOTE 10

Operations Division
W/OPS12: KC

SUBJECT: **Installation of RRS Workstation (RWS) Software:**
(1) Operational Application Software, RWS Version 2.1
(2) Offline Maintenance Suite (OMS), Version 2.0, and
(3) RWS Operating System, Configuration 1.09

PURPOSE: To install improved RWS Operational Application Software, OMS, and Operating System.

SITES AFFECTED: Commissioned Radiosonde Replacement System (RRS) sites. See Attachment F.

AUTHORIZATION: The authority for this note is RRS Request for Change (RC) 12013, dated October 8, 2009.

VERIFICATION STATEMENT: System test performed at the Sterling Field Support Center (SFSC) and NWS Headquarters in Silver Spring by W/OPS24. OT&E performed at nine operational RRS sites by region and site personnel.

ESTIMATED COMPLETION DATE: 31 May 2011

TIME REQUIRED: Approximately 5.0 hours excluding the special flight

ACCOMPLISHED BY: RWS Site Administrator

EQUIPMENT AFFECTED: RWS

SPARES AFFECTED: N/A

PARTS/MATERIALS REQUIRED: RWS Operational Application Software Version (Build) 2.1.0.0 (one CD)
RWS Operating System Configuration 1.09 (*Windows XP Pro Gateway E6300*, seven CDs)
OMS Software, Version 2.0 (included on the RWS Application 2.1 CD)
RRS Software Note 10

SOURCE OF PARTS/MATERIALS: OPS12

DISPOSITION OF REMOVED PARTS/MATERIALS: See RRS V2.1 Software Implementation Plan

TOOLS AND TEST EQUIPMENT REQUIRED: None

DOCUMENTS AFFECTED:	RRS Software Note 10 supersedes previously released RRS Software Note 8 for RRS Commissioned Sites only. RRS System Administration Manual, EHB 9-730, September 2010 (Draft) RRS Workstation User Guide for RWS Version 2.1, March 2011
PROCEDURE:	Refer to Attachments A, B, C, and D.
TECHNICAL ASSISTANCE:	For questions or problems pertaining to this note, contact the SFSC Direct Field Support staff at (301) 713-9800.
REPORTING INSTRUCTIONS:	Report the completed modification using the Engineering Management Reporting System (EMRS) according to the instructions in EHB-4, Maintenance Documentation, Part 4, and Appendix H. Include the following information on the EMRS report: Maintenance Description (block 5): RRS Software Note 10 Equipment Code (block 7): RWS Serial Number (block 8): Unit serial number Maintenance Comments (block 15): Installation of RWS Software V2.1, OMS V2.0, and RWS OS Configuration 1.09 Mod No. (block 17a): S10 A sample EMRS report is provided as Attachment G.

Deirdre Jones
Director, Operations Division

Attachment A – Non-Active Directory Site Installation Procedures
Attachment B – Active Directory Site Installation Procedures
Attachment C – Offline Maintenance Suite Installation Procedures
Attachment D – Optimizing the Windows Desktop for RWS
Attachment E – RWS 2.1.0.0 Release Notes
Attachment F – Commissioned RRS Sites
Attachment G – Sample EMRS Report

ATTACHMENT A - Non-Active Directory Site Installation Procedures

NOTE: Attachment A applies only to RRS Commissioned Sites not supported by NOAA Active Directory Services (NADS).

Active Directory Sites should use Attachment B to install the RWS Operating System Configuration 1.09 and RWS Operational Application Software Version 2.1.

A.1 Overview

This attachment is tailored specifically for installation of RWS Operating System Configuration 1.09 and RWS Operational Application Software Version (Build) 2.1 at Non-Active Directory sites. These sites are considered "stand-alone" sites.

This attachment provides procedures to update the RRS Workstation (RWS) software by ghosting the RWS Operating System with Configuration 1.09 and installing RWS Operational Application Software Version 2.1. This procedure must be followed for proper RWS configuration and to ensure the RWS software is correctly installed with all flight data restored.

The RWS Operating System Configuration 1.09 and RWS Operational Application Software Version 2.1 are only available on CDs from the Maintenance Branch (OPS12, 301-713-1833 x190).

A.1.1 RWS Operating System Configuration 1.09

The RWS Operating System has been upgraded to configuration 1.09 to meet NWS IT security requirements, as well as new browser and printer requirements.

A.1.2 RWS Operational Application Software Version 2.1

RWS Operational Application Software has been upgraded to Version 2.1 with the following improvements (See Attachment E, *RWS 2.1.0.0 Release Notes* for additional details):

- Improved software compatibility and sustainability by migrating to C# language
- Added *Microsoft* Structured Query Language (SQL) *Server Express 2008*
- Improved plot functionality with user configurable plots
- Improved account management with use of Active Directory and connectivity to NOAAnet
- Supports new radiosondes and Single Processing System (SPS) types
- Added HELP function
- Added information for hardware status reporting
- Added parameters to the flight summary

The RWS Operational Application Software Version 2.1 user interface is based on the *Windows* model. It provides flight management and data cataloging and storage capabilities via a SQL-based relational database. The software is built on the concept of pre-processor software, i.e., SPS-based, and main processor software, i.e., Workstation-based. The pre-processor software consists of all operational modules up to, and including, the data collection and conversion into meteorological values. The main processor software consists of all operational modules necessary to perform the following functions:

- Interface with the Precision Digital Barometer (PDB) to acquire surface pressure data

- Interface with the Radiosonde Surface Observing Instrumentation System (RSOIS) to acquire surface meteorological data
- Interface with the SPS to acquire flight meteorological data from the radiosonde
- Interface with the Telemetry Receiver System (TRS) to control its pointing direction
- Interface with NWS Headquarters to receive master station data
- Archive data on media for mailing to the National Climatic Data Center (NCDC)
- Perform quality analysis of acquired SPS raw data and on processed data
- Process raw data into archival products and coded messages for the Advanced Weather Interactive Processing System (AWIPS) local area network (LAN)
- Store raw and processed data in a local database
- Provide user interface functions to support pre-flight, baseline, release, flight, and post-flight activities
- Provide limited analysis support tools
- Support live flight, rework, and simulated flight operating modes

A.1.3 Notes to the Software Installer

This RRS Software Note 10 applies to two scenarios: 1) initial installation of RWS Operational Application Software Version 2.1, and 2) installing future maintenance releases of RWS Operational Application Software Version 2.1.

A.1.3.1 Initial Installation

The RWS Operational Application Software Version 2.1 is approved for installation only at commissioned RRS sites. Sites installing new RRS should follow for install RWS Operational Application Software Build 1.2 using RRS Software Note 8.

Due to the time required to complete the installation, Sections A.2 and A.3 should be completed prior to installing RRS Operating System and RWS Operational Application Software.

A.1.3.2 Installing Maintenance Releases

Only portions of Sections A.2 and A.6 need be completed when installing future maintenance releases of the Version 2.1 software. The software installer must ensure all required data are available before installing RWS Operational Application Software Version 2.1.

A.1.3.3 Term-of-Reference

The following term-of-reference applies for this software note:

- **(Default) Administrator:** A site staff member with temporary *Windows* Administrative privileges only for the initial installation of the RWS Software.
- **RWS Site Administrator:** A site staff member with complete access to the RWS software, including *Windows* Administrative privileges for the RRS Workstation.
- **RWS Trainee:** A site member being trained as an Observer who can run simulated flights but not yet permitted to run RRS live flights.
- **RWS Observer:** A site member who is a certified RRS flight observer or operator who can conduct live flights, transmit coded messages, and run some offline utilities.

A.1.4 Direct Field Support Staff

Contact the Direct Field Support staff (Helpline) at the Sterling Field Support Center (SFSC) for RWS software installation and maintenance support.

Direct Field Support (Helpline) Phone:

(301) 713-9800 (Primary).

(703) 661-1293 (if Primary line is busy)

Hours of Operation:

UTC 1000 to 0200 (6 AM to 10 PM EDT)

(5 AM to 9 PM EST)

Monday through Friday, excluding Federal holidays.

A.1.5 RRS Software Build 2.1 Implementation Documentation

Software Version 2.1 documentation including, the RWS User Guide and training videos, is available at: <http://www.ua.nws.noaa.gov/RRS.htm>.

- Software Version 2.1 Implementation Plan - Implementation activities and schedule for installing RRS software 2.1
- RRS Software Note 10 - Detailed instructions on how to install and use RRS software 2.1
- User Guide for Software 2.1 - RRS Workstation User Guide for Software Version 2.1 (.pdf version) March, 2011
- Training Videos - Observer training videos on how to use the new RRS 2.1 software

A.2 Backup RRS

RRS flight, station, and user account data must be backed up prior to ghosting the RWS Operating System and prior to installing RWS Operational Application Software to avoid the loss of site data.

The RRS Workstation hard drive is completely erased when the operating system is ghosted. All software programs must be reloaded, including the RWS Operational Application and OMS. All site data must also be restored, including flight, user, station, and LDAD data.

The RWS application Master Database, RWS users, and local station data are erased when the RWS Operational Application Software is installed. All RWS data must also be restored, including flight, user, and station data.

Backup requirements in Sections A.2.1 through A.2.9 apply to both RWS software V1.2 and V2.1. The screens displayed in RWS Application Software Build 1.2 and in Version 2.1 differ in format, but the purpose and content are the same—to backup Data. Use whichever screen your system displays to perform the function.

A.2.1 Record the Next Ascension Number

The next flight ascension number must be entered during installation of the RWS Operational Application Software. Determine the next ascension number from the last ascension number recorded on the B-29 form.

Next ascension: _____.

A.2.2 Backup RWS Flight Database to External Hard Drive

Perform the following steps to backup the RWS Flight Database to the external hard drive.

1. Double-click the **RWS** shortcut to start the RWS Application. The *NOAA Warning* appears.

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A.2.1 Record the Next Ascension Number

The next flight ascension number must be entered during installation of the RWS Operational Application Software. Determine the next ascension number from the last ascension number recorded on the B-29 form.

Next ascension: _____.

A.2.2 Backup RWS Flight Database to External Hard Drive

Perform the following steps to backup the RWS Flight Database to the external hard drive.

1. Double-click the **RWS** shortcut to start the RWS Application. The *NOAA Warning* appears.

2. Click **OK**. The main RWS menu will display.
3. Select the **Enter offline mode** icon.
4. Select **Tools** and **Utilities** from the banner menu to open the *RWS Software Utilities* window.
5. For RWS Build 1.2, select **Database Backup and Restore Utilities**.
 - a. Click **Select Files** from the *RWS Build 1 Database Backup Utility* screen (Figure A-1).
 - b. While pressing **Shift**, select the first and last flight files listed (all files should be selected). Click **OK**.
 - c. Click **Select Folder** and browse to `E:\RWSBackup`. Click **Backup**.
 - d. A confirmation window is displayed. Press **Enter** to continue.

NOTE: If the external hard drive is not accessible for backup, go to Section A.2.3 for CD backup

6. For RWS Version 2.1, select **Database Backup and Restore Utilities** and **Backup Utility** from the *RWS Software Utilities* menu displayed on the left of the screen (Figure A-2). The *RWS Software Utilities* window is updated to display the backup destination folder and the database files for backup. By default, all database files are backed up.
 - a. The default backup destination folder is `E:\RWSBackup`. Select a different **Backup destination folder** if required.
 - b. Click **Backup** to start the process. The *RWS Offline Backup Utility Results* window will display when backup is complete.
 - c. If any flights fail to backup, contact the Direct Field Support staff at 301-713-9800. The issue should be resolved before proceeding with the installation.
 - d. Click **OK** to close the *RWS Offline Backup Utility Results* window.

NOTE: If the external hard drive is not accessible for backup, go to Section A.2.3 for CD backup

7. Select **Flight** and **Close** to close the *RWS Software Utilities* window.
8. Select **Flight** and **Exit** to exit the RWS application.

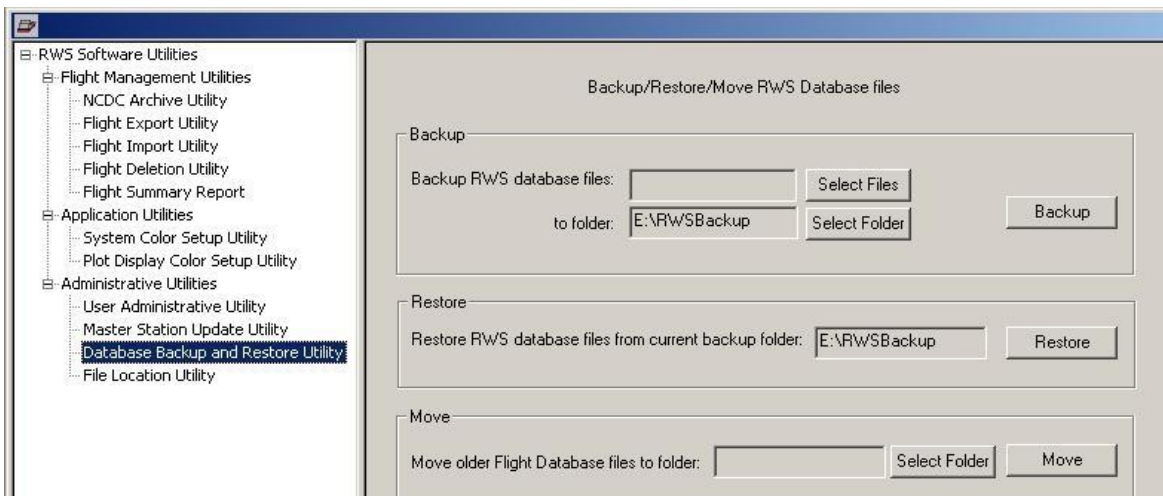


Figure A-1: RRS Backup, Build 1.2

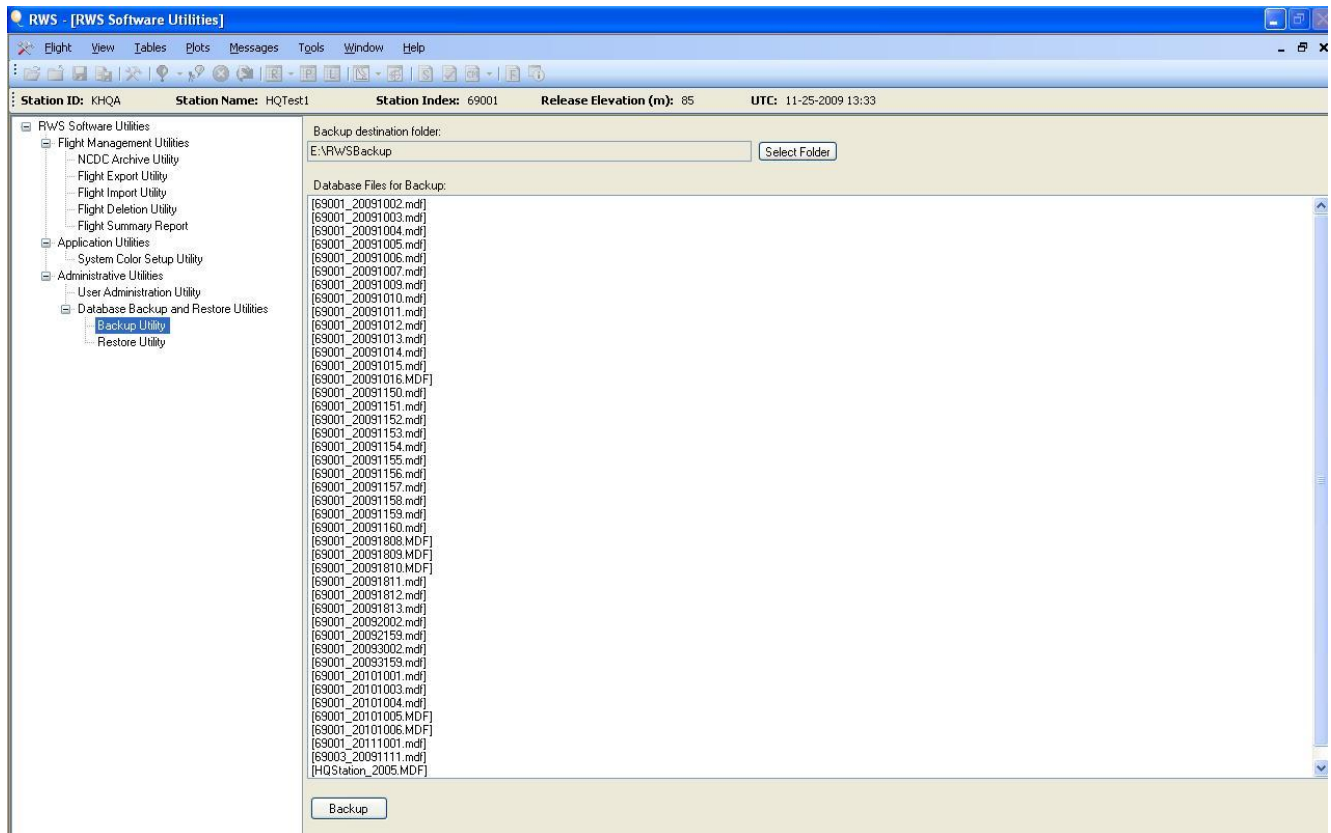


Figure A-2: RRS Backup, Version 2.1

A.2.3 Backup Flight Data to CD (Option)

If the external hard drive is not accessible, create a Flight Backup using one or more CDs.

1. Create a new folder named **C:\RWS CD Backup**.
2. Double-click the **RWS** shortcut to start the RWS application. The *NOAA Warning* will appear.
3. Click **OK** to dismiss the warning window. The main RWS menu appears.
4. Select the **Enter offline mode** icon.
5. Select **Tools** and **Utilities** from the banner menu to open the *RWS Software Utilities* window.
6. Select **Flight Management Utilities** and **Flight Export Utility** from the RWS Software Utilities menu displayed on the left of the screen. The *RWS Software Utilities* window is updated to display a list of flight files.
7. Select all flights not backed up to CD. (To select a range of flights, press the **Shift** key and select the first and last flights of the range, or press the **Control** key and scroll the list.)
8. Click **Export** to display the *Browse for Folder* window.
9. Select the **C:\RWS CD Backup** folder.
10. Click **OK** to export flights.
11. Continue to click **OK** until all flights have been exported. The *RWS Offline Export Utility Results* window is displayed when export is complete.

12. If any flights fail to export, contact the Direct Field Support staff at 301-713-9800. The issue should be resolved before proceeding with the installation.
13. Click **OK** to close the *RWS Offline Export Utility Results* window.
14. Select **Flight** and **Close** to close the *RWS Software Utilities* window.
15. Select **Flight** and **Exit** to exit the RWS application.
16. Copy the *C:\RWS CD Backup* folder to one or more CDs and label them **RWS CD Backup #__**.

A.2.4 RWS User Accounts

All user accounts will be erased during the ghosting process. RWS user accounts must be restored during installation of the RWS Operational Application Software. Complete the following steps to print RWS user account data.

1. Double-click the **RWS** shortcut to start the RWS Application. The *NOAA Warning* will appear.
2. Click **OK**. The main RWS menu is displayed.
3. Select the **Enter offline mode** icon.
4. Click the **Tools** menu and select **Utilities**. The utilities screen will open.
5. On the left side of the screen, click **User Administrative Utility** (under *Administrative Utilities*).
6. Press **Alt + Print Screen** to print the user name, full name, comment, and access level for RWS user accounts.
7. Select the **Flight** menu and **Close**.
8. Select the **Flight** menu and **Exit**.

NOTE: If **Alt + Print Screen** does not print the active window, download and install the hp print screen utility, or use **Alt + Print Screen** to copy the screen image to the clip board, and then use another application, e.g., Paint, to print screen images.

A.2.5 Site-specific Data

The LDAD Info and the Station Data will be used to install the Build 2 software. Complete the following sections to print site-specific data.

NOTE: Ensure the passwords for the LAN and the dial-up LDAD connections are recorded prior to ghosting the RWS Operating System.

A.2.5.1 OMS Station Data

Complete the following steps to print OMS Station Data.

1. Log on to the RRS Workstation as an RWS Administrator.
2. For OMS Version 1.6, double-click on the **RRS Offline Menu** icon to open the *Offline Maintenance Menu*.
3. For OMS Version 2.0, double-click on the **RRS Offline Menu 2.0** icon to open the *RRS Offline Maintenance Menu*.
4. Click on the **TRS Maintenance** option to open the *OBIT-Offline BITS* window with the *TRS Offline BITS* window displayed.
5. Dismiss the *TRS Offline BITS* window.

6. Select **Setup** and **Station Data** from the top banner menu to open the *Station Data* window.
7. Press **Alt + Print Screen** to print the OMS Station Data.
8. Click **Cancel** to close the *Station Data* window.
9. Select **File** and **Exit** from the top banner menu to close the *OBIT-Offline BITS* window.
10. Close the *RRS Offline Maintenance Menu*.

A.2.5.2 RWS Station Data

Complete the following steps to print the RWS Station Data.

1. Start the **RWS** application and **Enter Offline Mode**.
2. Select **View**, then **Station Info** from the banner menu to open the *Station Data Display*.
3. Press **Alt + Print Screen** or select the **Print** button to print the Station Data.
4. Right-click on the **Station Data Display** window and select the **Save Data in a File** option. The data is automatically saved to `C:\RWS\RWS\DATA FILES\STATION_DATA.TXT`.
5. Click the **LDAD Info** button to open the *LDAD Data Display*. If necessary adjust the column size so the IP addresses are visible.
6. Press **Alt + PrintScreen** to print the LDAD Data.
7. Click **Cancel** in the *LDAD Data Display* to close the window.
8. Click **Cancel** on the *Station Data Display* to close the window.
9. Select **Flight**, then **Exit** from the banner menu to close the RWS application.

A.2.6 Save Station Data to External Hard Drive

Use *Windows Explorer* to copy the `C:\RWS\RWS\Data Files\STATION_DATA.TXT` file to the USB `E:\ drive` (external hard drive). If the USB drive is not available, copy the file to a CD.

A.2.7 Save LDAD Data to External Hard Drive

Use *Windows Explorer* to copy the folder `C:\LDAD` to the USB `E:\ drive` (external hard drive). If the USB external drive is not available, copy the folder to a CD. (The `C:\LDAD` folder contains the PuTTY keys.)

NOTE: Do not recreate PuTTY files. If these files are missing, contact the Direct Field Support staff at (301) 713-9800 for replacement. Recreating PuTTY files would require adding the new PuTTY files to all LDADs listed as primary, secondary, and tertiary transmission routes.

A.2.8 Backup RRS Workstation IP Addresses

All network information will be erased during the RWS ghosting process. The network information must be recorded for later use.

1. Click **Start**.
2. Select **Control Panel**.
3. Look at the left side of the *Control Panel* screen to ensure the system is in Classic View (Figure A-3) and not in Category View.

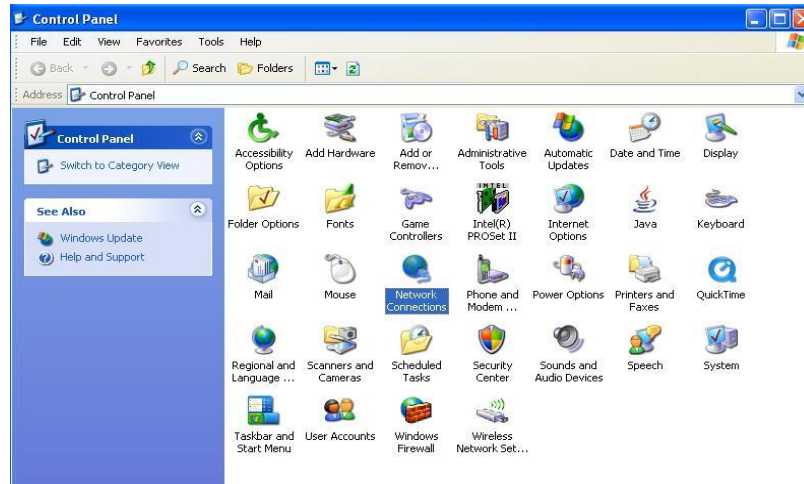


Figure A-3: Classic View for IP Address

4. Double click the **Network Connections** icon.
5. Right-click **Local Area Connection**.
6. Select **Properties**. The *Local Area Connection Properties* window will appear.
7. Select **Internet Protocol (TCP/IP)** from the list, and then click **Properties**. The *Internet Protocol (TCP/IP) Properties* window will appear.
8. Press **Alt + Print Screen** to print the IP Address, Subnet Mask, Default Gateway, Preferred and Alternate DNS Server information.
 - IP Address: _____
 - Subnet Mask: _____
 - Default Gateway: _____
 - Preferred DNS Server: _____
 - Alternate DNS Server: _____
9. Close all open windows.

A.2.9 Record the Computer Name

1. Click **Start**.
2. Right-click the **My Computer** icon, and then select **Properties**.
3. Select the **Computer Name** tab and press **Alt + Print Screen** to print the full computer name.
4. Close all open windows.

A.3 Ghosting the RRS Operating System

CAUTION

All information stored on the hard drive will be permanently erased during this procedure.

Complete the following steps to ghost the RWS Operating System by installing RWS Operating System Configuration 1.09:

1. Log on to the RRS Workstation.
2. Insert the CD labeled **Configuration 1.09 Windows XP Pro Gateway E6300 CD 1 of 7** into the CD-RW drive.
3. Click **Start**, and then click **Shut Down** to shut down the RRS Workstation.
4. Disconnect all USB devices from the RRS Workstation, e.g., printer and external hard drive. Serial devices, e.g., PDB, SPS, TRS, etc., can be left connected.
5. Power-up the RRS Workstation. The RRS Workstation will boot from the CD and begin ghosting RRS Operating System Configuration 1.09. Loading will pause with the following onscreen message:

NWS Configured Operating System for RWS Restoration Procedure

WARNING: Any existing data or operating system on your hard drive will be DESTROYED if you choose to continue!!!

*----- !!!!! IMPORTANT !!!!! -----
PLEASE MAKE SURE THERE ARE NO USB DEVICES ATTACHED TO THE PC!!! If any USB hard drive, printer, etc. is connected to your PC disconnect them NOW and then restart the PC.
-----*

***** Press Any Key to Continue *****

6. Press any key to continue.
7. On the next three screens, messages display to check and/or correct the time and date stored in your PC BIOS (CMOS memory). Setting the time and date using these screens sets the BIOS clock. The BIOS clock must be correctly set to the Universal Coordinated Time (UTC), prior to starting the RRS Operating System. The process may be repeated until the time and date are correctly set. If unsure of the UTC time and date, refer to <http://www.time.gov> and select **UTC** at the bottom of the screen. The time and date screens will appear as follows:

First screen:

*----- !!!!! UTC TIME & DATE !!!!! -----
It is essential to set the current UTC time and date into your PC BIOS (CMOS memory) prior to starting the operating system for the first time.*

On the next two screens, check/enter the current UTC time and date, which will automatically be set into your PC BIOS.

***** Press any Key to Continue *****

Second screen:

*Set the current UTC time:
If the time below is correct just press [Enter], otherwise correct it. If okay, press [Enter] again, or else press [Esc] to go back...*

Third screen:

Set the current UTC date:

If the date below is correct just press [Enter], otherwise correct it. If okay, press [Enter] again, or else press [Esc] to go back...

NOTE: The mouse does not work at this point; use the Tab and Enter keys for "OK."

After the time and date have been set, CD #1 is copied to the hard drive. A progress indicator is displayed at the top of the screen. When CD #1 is finished, an onscreen message will display:

Insert next media and press enter to continue...

8. Replace CD #1 with CD #2 and press **Enter** to continue the copying process, and repeat until all CDs have been copied. When the process is finished, the following screen will appear:

```

++++ Remove the CD from the CD-ROM drive NOW ++++
----- Please Note and Remember -----
To log on to the default account:
USER NAME is: Administrator, PASSWORD is: n0aa:NW$
The 0 in n0aa is a ZERO.
-----
-----!!!! IMPORTANT !!!!!-----
Read and remember the entire box before doing as directed:
With all USB devices still disconnected, restart the system.
On the Windows desktop screen you will receive a System
Settings Change message box asking, Do you want to restart
now? Yes/No. Wait about 30 seconds until the system calms
down, and then you MUST respond: Yes to the question. After
the system has finished restarting, you may connect all
devices, and then install the RWS application software.
-----
- - - END - - -

```

9. Remove the last CD from the RRS Workstation.

A.4 RRS Workstation Setup

A.4.1 Reconnect USB Devices

Perform the following steps to reconnect the USB devices:

1. With all USB devices disconnected, shut down the RRS Workstation.
2. Power on the RRS Workstation, i.e., perform a hard disk boot.

NOTE: It is important to perform a hard disk boot, i.e., shut down the RRS Workstation and then power on the RRS Workstation, at this point in the installation. Do not simply restart the RRS Workstation.

3. Log on to the RRS Workstation as the default Administrator:

USER NAME: **Administrator**

PASSWORD: **n0aa:NW\$** (The 0 in n0aa is a ZERO.)

4. On the Desktop, a System Settings Change message box will ask:

Do you want to restart now? Yes/No

Wait about 30 seconds, and then respond **Yes**.

5. Wait for the RRS Workstation to restart, and then log on to the RRS Workstation as the default Administrator.
6. Reconnect all USB devices. The *USB Drive (E:)* screen will appear (Figure A-4).

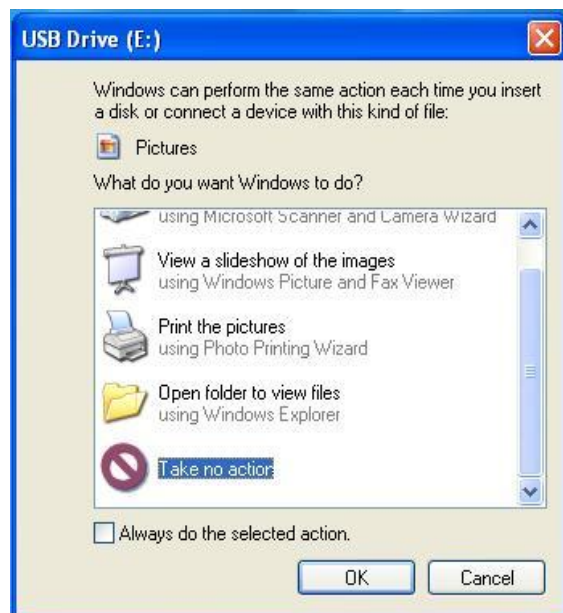


Figure A-4: USB Drive (E:) Screen

7. Select **Take no action**, and click **OK**.

A.4.2 Enter the Computer Name

Complete the following steps to enter the computer name:

1. Click **Start** to open the main *Desktop* menu.
2. Right-click the **My Computer** icon to display a list of menu options.
3. Select **Properties** to open the *System Properties* window.
4. Click the **Computer Name** tab.
5. Click the **Change** button to open the *Computer Name Changes* window.
6. Enter the Computer Name using the RRS naming convention: The Computer Name must use the format, RRS-W-NNNNN, where NNNNN is the Station WMO Number. The Station WMO Number can be found in the Station Data Display.

NOTE: The RRS naming convention applies to all RRS Workstations. Other office or regional naming conventions should not be used.

7. Click **OK**. A window will open with the message *You must restart this computer for changes to take effect*.
8. Click **OK** and then close all open windows.
9. Respond **NO** to *Do you want to restart your Computer now?*

A.4.3 Set RRS Workstation IP Addresses

Complete the following steps to set the IP addresses to their original values:

1. Click **Start**.
2. Select **Control Panel** to open the *Control Panel* window.
3. Use the options on the left side of the *Control Panel* screen to set the display Classic View, which is shown in Figure A-5.

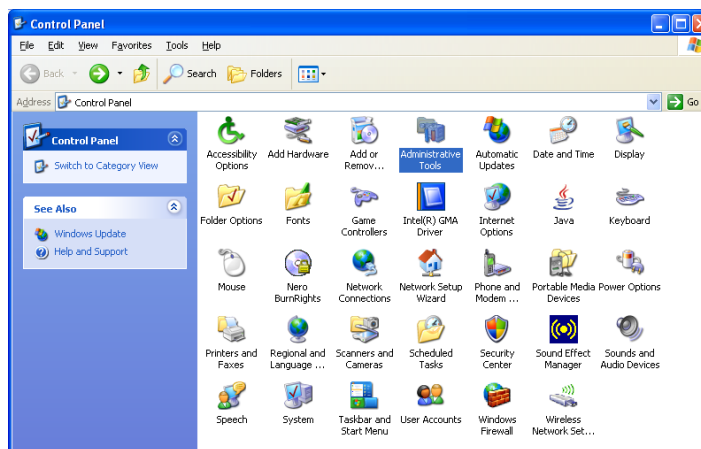


Figure A-5: Control Panel in Classic View

4. Double-click the **Network Connections** icon.
5. Right-click **Local Area Connection**.
6. Select **Properties**. The *Local Area Connection Properties* window will appear.
7. Select **Internet Protocol (TCP/IP)** from the list, and then click **Properties**. The *Internet Protocol (TCP/IP) Properties* window will appear (Figure A-6).

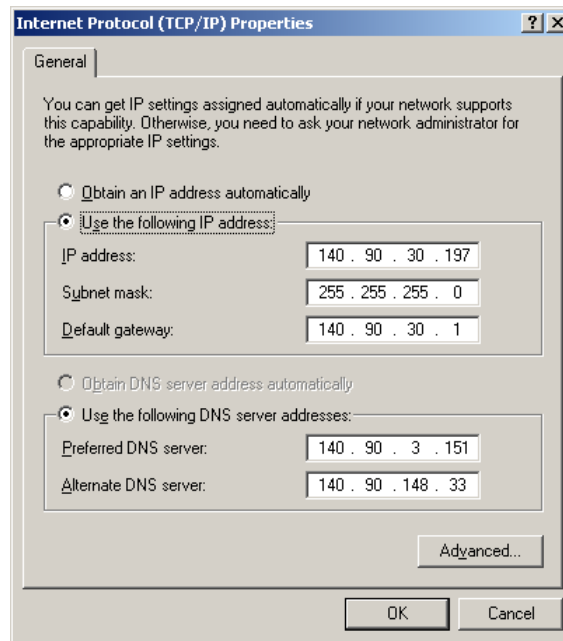


Figure A-6: Internet Protocol (TCP/IP) Properties Window (Example Only)

8. Select the **Use the following IP address** radio button. The *IP address*, *Subnet mask*, and *Default gateway* address fields will be enabled.
9. Enter the IP addresses recorded in Section A.2.8 for the RRS Workstation. Do not use leading zeros.
10. Select the **Use the following DNS server addresses** radio button. The *Preferred DNS server* and *Alternate DNS server* address fields will be enabled.
11. Enter the DNS addresses recorded in Section A.2.8 for your RRS Workstation.
12. Once all five addresses have been entered, click **OK** in the *Internet Protocol (TCP/IP) Properties* window.
13. Click **Close** in the *Local Area Connection Properties* window.
14. Close the *Network Connections Window*.
15. Restart the RRS Workstation to allow the changes to take effect.

A.4.4 Operating System Security

A.4.4.1 Set Operating System Security Policies

Use the following steps to set the Federal Desktop Core Configuration (FDCC) policies:

1. Log on to the RRS Workstation as the default Administrator:

USER NAME: **Administrator**

PASSWORD: **n0aa:NW\$** (The 0 in n0aa is a ZERO.)

2. Insert the RWS Application Software CD into the RRS Workstation.
3. Cancel the RWS installation program.
4. Browse to the CD to locate the FDCC folder.

5. Copy the FDCC folder to the C: drive.
6. Navigate to the C : \FDCC folder.
7. Double-click the **install_Security.bat** file and wait for the program to finish.
8. If an error is raised in Step 7, double-click the **reset_xp.bat** file and wait for the program to finish.
9. Remove the RWS Application Software CD, and restart the RRS Workstation.

A.4.4.2 Install Microsoft Windows Security

Complete the following steps to install *Microsoft Windows* security to support RRS Operating System Configuration 1.09.

1. Log on to the RRS Workstation as the default Administrator:

USER NAME: **Administrator**

PASSWORD: **n0aa:NW\$** (The 0 in n0aa is a ZERO.)

2. For Automatic Updates, perform the following steps:
 - a. Wait for the *Windows Update Notification Shield* icon to appear in the System Tray.
 - b. Click on the yellow **Window Security Update Shield**. The *Automatic Updates* screen will appear (Figure A-7).

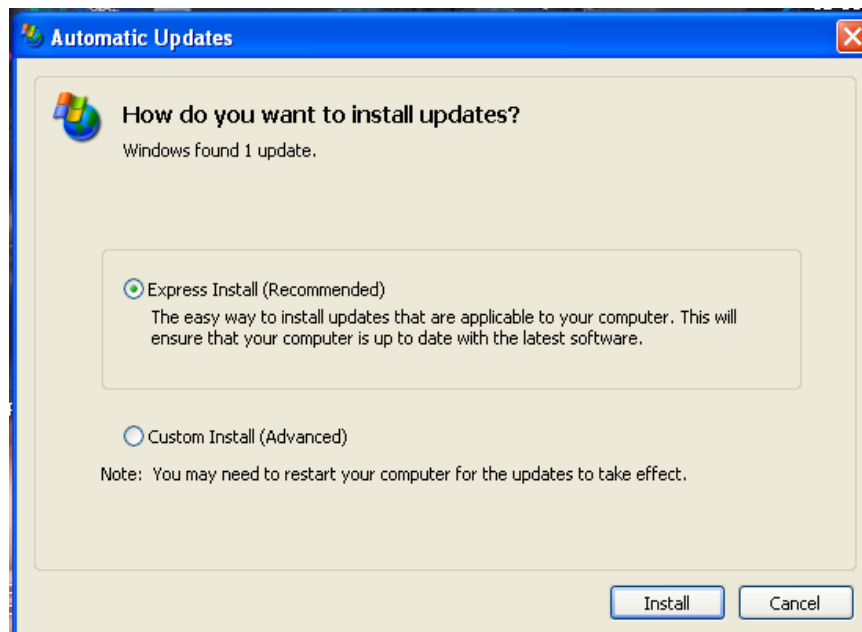


Figure A-7: Automatic Updates Screen

- c. Select the **Express Install** radio button for high-priority updates. The application will check for security updates that have not been applied to the RRS Workstation.
- d. Click **Install**.
- e. An update screen will display indicating if updates are needed. If updates are available, the *Install Updates (x)* button will be live with the number of updates (x) available for the RRS Workstation. Select **Install Updates (x)** to install all updates.

3. If Automatic Updates does not work, perform the following steps:
 - a. Click the *Windows Start* button. Select **All Programs**, and then **Windows Update**.
 - b. The *Microsoft Security Warning Update Screen* will appear. Select **Install**.

A.4.5 Other Security Updates

Complete the following steps to install other security updates to support RRS Operating System Configuration 1.09, including McAfee, Java, and Adobe programs.

1. Log on to the RRS Workstation as the default Administrator:

USER NAME: **Administrator**

PASSWORD: **n0aa:NW\$** (The 0 in n0aa is a ZERO.)

2. Perform the following steps for McAfee, Java, and Adobe programs
 - a. Click the *Windows Start* button. Select **All Programs**, and then _____ program.
 - b. Select **Updates**.
 - c. Select **Install**.

A.4.6 Set Date and Time Properties

1. Log on to the RRS Workstation as the default Administrator.
2. Double-click on the **time** icon located in the System Tray to open the *Date and Time Properties* window (Figure A-8).
3. Click the **Time Zone** tab.

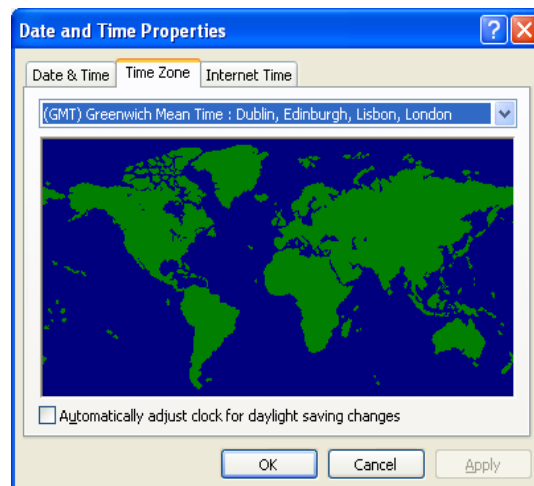


Figure A-8: Date and Time Properties Window

4. Set the time zone to **(GMT) Coordinated Universal Time**.
5. Deselect **Automatically adjust clock for daylight saving changes**.
6. Select the **Internet Time** tab, select **time.nist.gov**, and then click **Update Now**.
7. Click **OK** to close the *Date and Time Properties* window.

A.5 Manage Local Windows User Accounts

The following procedures create local user accounts through the *Windows Administrative Utility*. The use of generic or shared user accounts is not authorized: each RWS user must have a unique user account.

A.5.1 Create User Accounts

Complete the following steps to create user accounts on the RRS Workstation:

A.5.1.1 Open a New User Session

Complete the following steps to open the *New User* window.

1. Log on to the RRS Workstation as the default Administrator.
2. Select **Start**, then **Control Panel** to open the *Control Panel* window.
3. Double-click the **Administrative Tools** icon.
4. Double-click the **Computer Management** icon.
5. Open the **Local Users and Groups** folder. Right-click on **Users**, and then select **New User** to open the *New User* window.

A.5.1.2 Create an RWS Site Administrator Account

Complete the following steps to create RWS Site Administrator accounts on the RRS Workstation:

1. Enter the **User name**, e.g., John.Doe.
2. Enter the user's **Full name**, e.g., John Doe.
3. Enter **RWS Site Administrator** in the *Description* field.
4. Enter a password.
5. Confirm the password.
6. If creating an account for Site Administrator use, deselect **User Must Change Password at the next logon**, otherwise select **User Must Change Password at the next logon**.
7. Click **Create**.

A.5.1.3 Close the New User Session

Close the *New User* window to end the session.

A.5.1.4 Add RWS Site Administrator User to Windows Administrator Group

RWS Site Administrators must be members of the Windows Administrators Security Group. Complete the following steps to join an RWS Site Administrator to the Windows Administrators security group.

1. Click the **Users** folder.
2. Right-click on the **RWS Site Administrator's User Name**, e.g., John.Doe.
3. Select **Properties**.
4. Click **Member Of** tab.
5. Click the **Add** button.
6. Type **Administrators** in the text box for object names, and then click **OK**.

7. Click **OK**.
8. Close all windows and log off of the RRS Workstation.

A.5.1.5 Disable the Default Administrator Account

DoC IT Security policies require default user accounts be removed after software is installed. Complete the following steps to remove the default Administrator account.

1. Log on to the RRS Workstation as an RWS Site Administrator.
2. Select **Start**, then **Control Panel** to open the *Control Panel* window.
3. Click **Switch to Classic View** if required.
4. Double-click the **User Accounts** icon to open a *User Accounts* window.
5. Select **Administrator** from the list of *Users for this computer*.
6. Click the **Remove** button. A confirmation window will display.
7. Click **Yes** to confirm the change.
8. Verify the Administrator account is no longer listed under *Users for this computer*.
9. Click **OK** to close the *User Accounts* window.
10. Close the *Control Panel* window.

A.5.2 Restore C:\LDAD

Copy the E:\LDAD folder to its proper location on the RRS Workstation:

1. Copy the contents of the E:\LDAD folder to C:\LDAD. The C:\LDAD folder contains the PuTTY keys required for message transmission.
2. Restart the RRS Workstation.

NOTE: Do not recreate PuTTY files. If these files are missing, contact Direct Field Support staff at 301-713-9800 for replacement. Recreating PuTTY files would require adding the new PuTTY files to all LDADs listed as primary, secondary, and tertiary transmission routes.

A.6 RWS Operational Application Software Version 2.1

CAUTION

**Always load RWS Application software as a RWS Site Administrator.
Never load RWS Application software as the default Windows
Administrator.**

NOTE: This software installation procedure (Attachment A) is applicable only to Commissioned RRS Non-Active Directory sites

RRS flight, station, and user account data must be backed up prior to installing the RWS Operational Application Software Version 2.1 to avoid a loss of site data.

A.6.1 Install RWS Operational Application Software Version 2.1.0.0

1. Log on to the RRS Workstation as an RWS Site Administrator.
2. Insert the RWS Application Software CD (RWS.NET) into the RRS Workstation. The *RWS.NET - InstallShield Wizard* should automatically open (Figure A-9). If, after a few minutes, the program has not launched, browse the CD and double-click on **setup.exe**.



Figure A-9: RWS.NET - InstallShield Wizard

3. Click **Next** to display the *Station Information* window (Figure A-10).

Figure A-10: Station Information Window

4. Enter the **Station WMO Number** and **First Ascension Number** recorded in Section A.2.
5. Click **Next** to display the *Ready to Install the Program* window (Figure A-11).

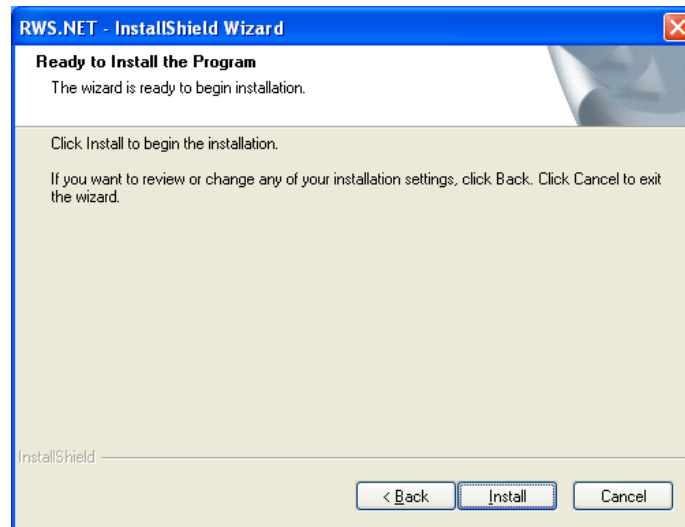


Figure A-11: Ready to Install the Program Window

6. Click **Install** and wait until the *InstallShield Wizard Complete* window indicates the process is complete (Figure A-12).

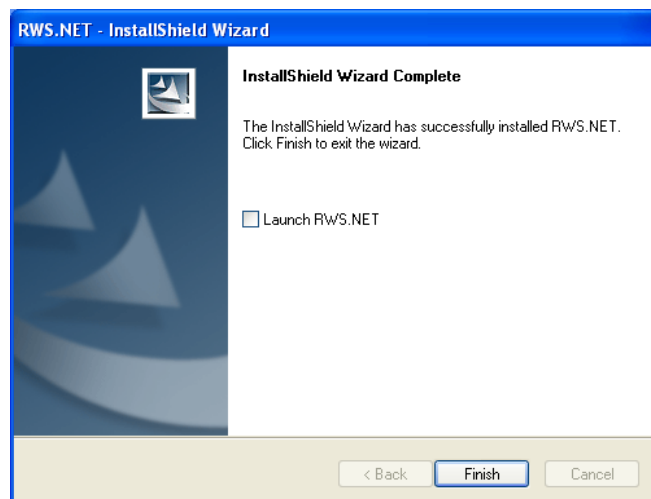


Figure A-12: InstallShield Wizard Complete

7. Uncheck **Launch RWS.NET** (Figure A-12), and then click **Finish** to exit the installation.
8. Remove the RWS Application Software CD and restart the RRS Workstation.

A.6.2 Enter Station Data

A.6.2.1 Enter Master Station Data

The Master Station Data is automatically entered when RWS.NET is first launched. Complete the following steps to enter Master Station Data.

1. Log on to the RRS Workstation as an RWS Site Administrator.
2. Double-click on the **RWS.NET** shortcut to start the RWS application. The *NOAA Warning* window will appear (Figure A-13).

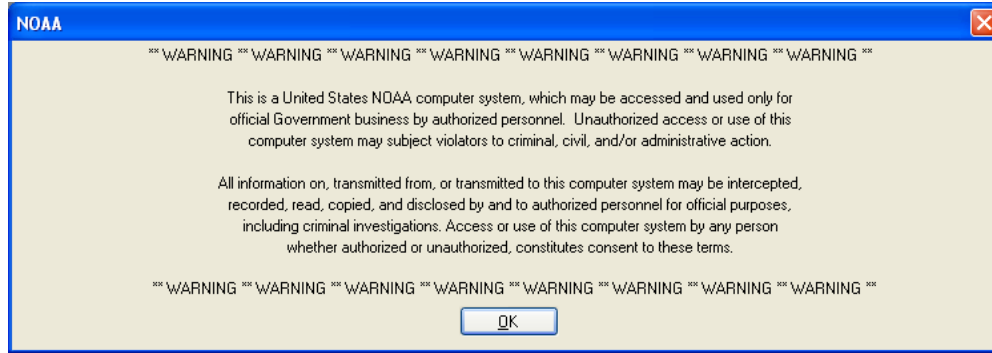


Figure A-13: NOAA Warning Window

- Click **OK** to dismiss the *Warning* window. RWS will open with the *Master Station Data Initializing 2* window to indicate the Station WMO Number was used to initialize Master Station Data (Figure A-14).

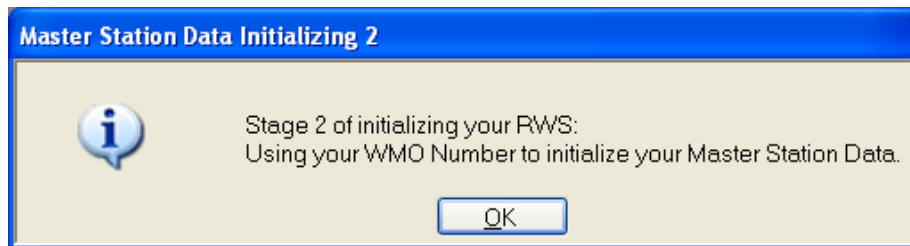


Figure A-14: Master Station Data Initializing 2 Window

- Click **OK** to proceed. If initialization is successful, the *Master Station Data Initialized* window will display indicating *Master Station data updated* (Figure A-15).

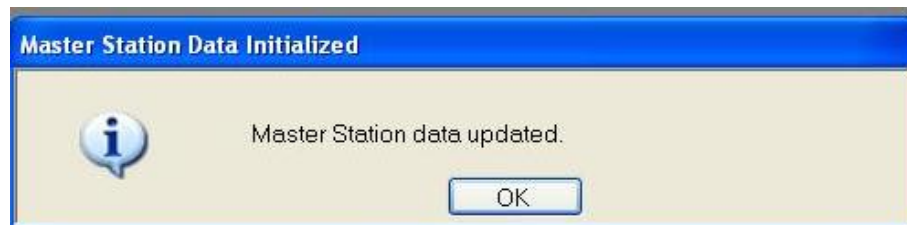


Figure A-15: Master Station Data Initialized Window

- Click **OK** to proceed.

A.6.2.2 Enter Local Station Data

If the RWS Application indicates the Local Station Data has not been fully initialized, complete the following steps to enter Local Station Data:

- If the *Local Station Data Not Initialized 1* window is displayed (Figure A-16), click **Yes** to open the *Station Data Display* (Figure A-17).

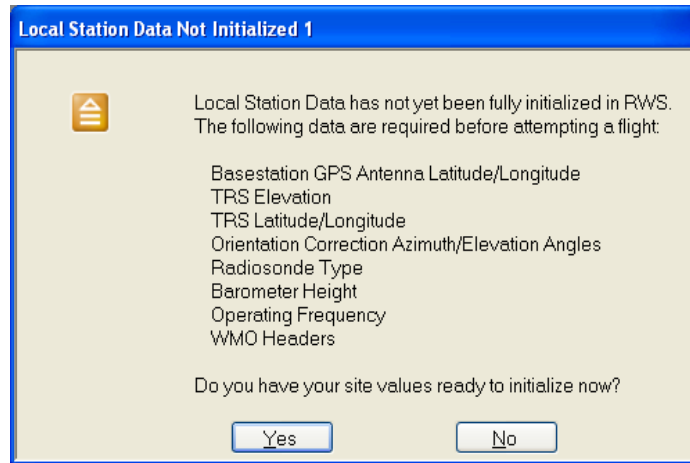


Figure A-16: Local Station Data Not Initialized 1 Window

2. Enter the values recorded in Section A.2.5.2 for the field values missing from the *Station Data Display* (Figure A-17).

NOTE: In addition to station data saved in Section A.2.5.2, station data was collected during RRS deployment and cataloged in an RRS Site Specific Database on the NWSH Website <https://ops13web.nws.noaa.gov/>. Compare the locally saved station (backup) data to data from the OPS13 web site. If there are discrepancies, call the Direct Field Support staff at (301) 713-9800. Once discrepancies are resolved, confirmed Station Data shall be entered as a part of the RWS software installation.

NOTE: All Site Electronic Systems Analysts (ESA) have automatic access to the RRS Site Specific Database operated by OPS13. Access to others will be granted by the Direct Field Support staff at (301) 713-9800.

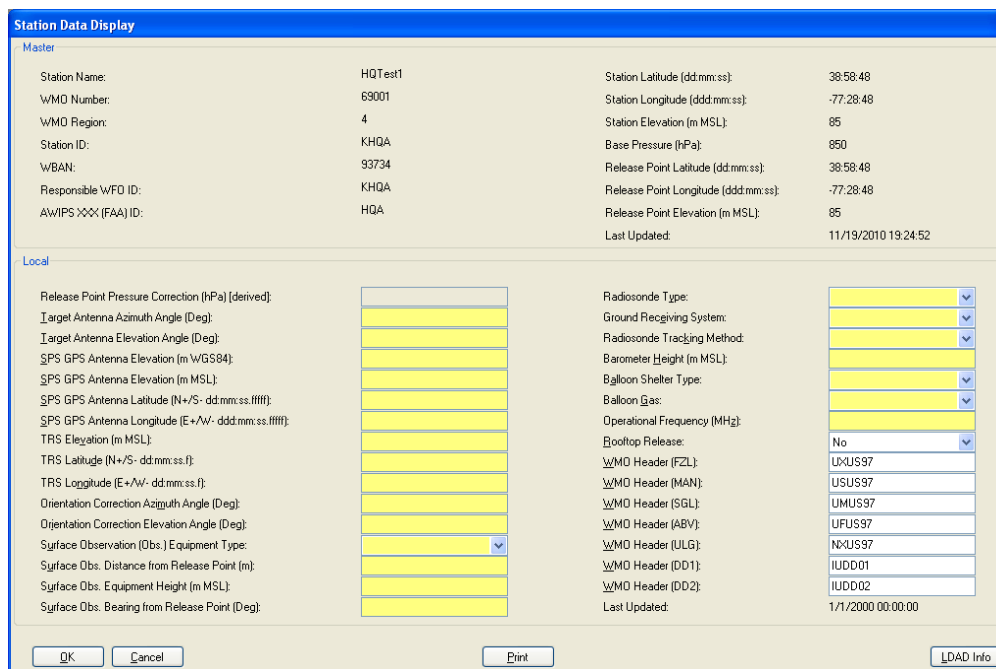


Figure A-17: Station Data Display (Example Only)

- a. Release Point Pressure Correction (hPa): The Release Point Pressure Correction is derived and is not entered. The Release Point Pressure Correction is the pressure difference between the baseline point and the release point (i.e., balloon shelter). The value is calculated and cannot be entered. The value is negative if the release point is higher than the baseline point.
- b. Target Antenna Azimuth Angle (Deg): Enter the azimuth angle of the target antenna in degrees.
- c. Target Antenna Elevation Angle (Deg): Enter the elevation angle of the target antenna in degrees.

NOTE: Build 1.2 uses the term Base station for the data entered in Steps d through g.

- d. SPS GPS Elevation (m WGS84): Enter GPS antenna elevation in Earth Ellipsoid Sphere in meters.
- e. SPS GPS Elevation (m MSL): Enter GPS antenna elevation above mean sea level in meters.
- f. SPS GPS Antenna Latitude (N+/S- dd:mm:ss.ffff): Enter GPS antenna latitude in the prescribed format.

NOTE: South latitudes and west longitudes are preceded by a negative sign.

- g. SPS GPS Antenna Longitude (E+/W- ddd:mm:ss.ffff): Enter GPS antenna longitude in the prescribed format.
- h. TRS Elevation (m MSL): Enter TRS elevation above mean sea level in meters.
- i. TRS Latitude (N+/S- dd:mm:ss.f): Enter TRS latitude in the prescribed format.
- j. TRS Longitude (E+/W- dd:mm:ss.f): Enter TRS longitude in the prescribed format.
- k. Orientation Correction Azimuth Angle (Deg): Not implemented enter 0.00.
- l. Orientation Correction Elevation Angle (Deg): Not implemented enter 0.00.
- m. Surface Observation (Obs.) Equipment Type: Select appropriate option.
- n. Surface Obs. Distance from Release Point (m): Enter appropriate value in meters.
- o. Surface Observation Equipment Height (m MSL): Enter appropriate value in meters.
- p. Surface Obs. Bearing from Release Point (Deg): Enter appropriate value in degrees.
- q. Radiosonde Type: Select appropriate option.
- r. Ground Receiving System: Select appropriate option. (This is the SPS type.)
- s. Radiosonde Tracking Method: Select GPS.
- t. Barometer Height (m MSL): Enter station specific value in meters.
- u. Balloon Shelter Type: Select appropriate option.
- v. Balloon Gas: Select appropriate option.
- w. Operational Frequencies (MHz): Enter 1680 or the site specific frequency in MHz used for first releases.
- x. Rooftop Release: Select appropriate option.

- y. WMO Header (FZL): Enter station specific value.
 - z. WMO Header (MAN): Enter station specific value.
 - aa. WMO Header (SGL): Enter station specific value.
 - bb. WMO Header (ABV): Enter station specific value.
 - cc. WMO Header (ULG): Enter station specific value.
 - dd. WMO Header (DD1): Not implemented enter IUDD01.
 - ee. WMO Header (DD2): Not implemented enter IUDD02.
3. Print the screen and have a second person verify all data entries.

A.6.2.3 Enter LDAD Data

Complete the following steps to enter LDAD data.

1. Click **LDAD Info** on the *Station Data Display* to open the LDAD Data Display (Figure A-18).

Type	Phone Number	Server IP	User Name
LAN			
Phone 1	NA		
Phone 2	NA		
Phone 3	NA		

Figure A-18: LDAD Data Display

2. Click on the **Edit** button for the LAN Type to open the *LDAD Data for LAN* window (Figure A-19).

Type: LAN

Phone Number:

Server IP:

User Name:

Password:

Verify Password:

Test OK Cancel

Figure A-19: LDAD Data for LAN Window

- Complete the LDAD Data fields using the data recorded in Section A.2.5.2.

NOTE: The Phone Number field for the LAN Type should be blank.

- Click **OK** to accept the changes and close the *LDAD Data for LAN* window.
- Edit the Phone 1, Phone 2, and Phone 3 Types.
- Once all LDAD Data has been entered, click **OK** to close the *LDAD Data Display*.
- Click **OK** to close the *Station Data Display*. The message *Local Station Data Sufficient* window will display (Figure A-20).

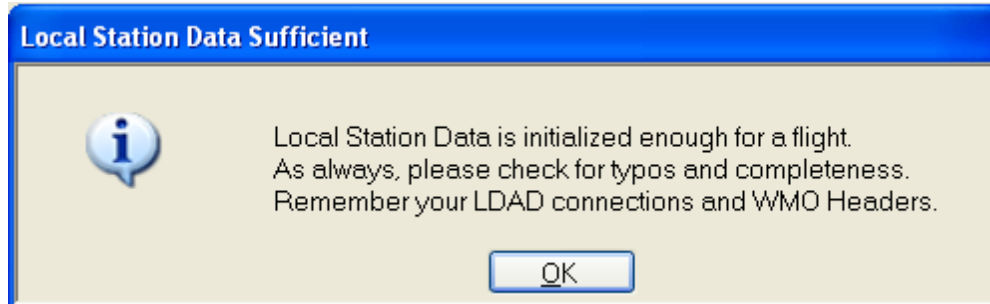


Figure A-20: LDAD Station Data Sufficient

- Click **OK** to dismiss the *Local Station Data Sufficient* window.

A.6.3 Restore Flight Data

The *Installation Restore* window (Figure A-21) will display if the Master Database is empty and flight data files are present in the E:\RWSBackup folder or the C:\RWSBackup folder. Complete Section A.6.3.1 to import flight data files, or complete Section A.6.3.2 to skip flight data import.

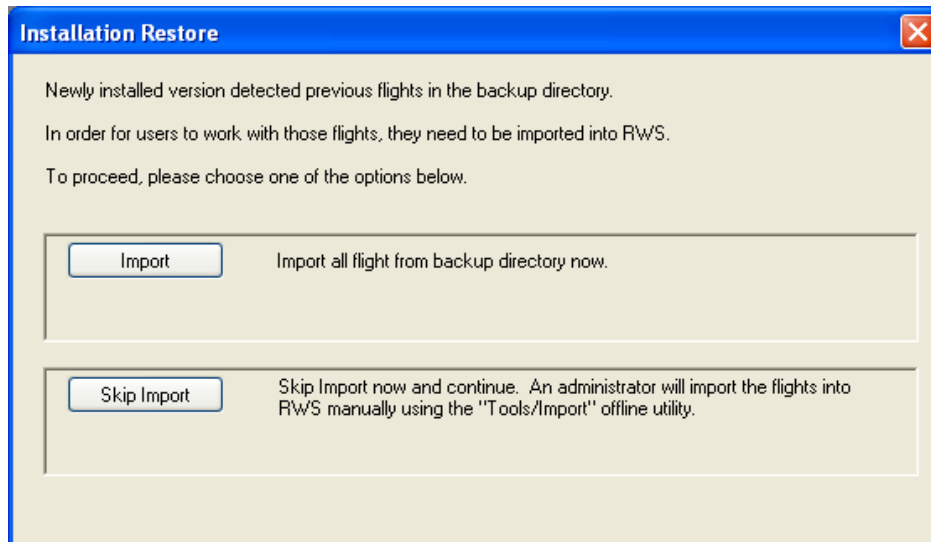


Figure A-21: Installation Restore Window

A.6.3.1 Import Flight Data

Complete the following steps to import flight data files:

NOTE: Flight data files are imported at a rate of approximately six flights per minute. Deselect flight data files older than 60 days to avoid a lengthy import session.

1. Click **Import** on the *Installation Restore* window to open the *RWS Flight Import Utility*. By default, all flights in the E:\RWSBackup folder are selected for import.
2. If the flight data file was backed up to another location, click the **Flight Backup Location** button to select a different file folder, such as a CD (See Section A.2.3 for the Flight Database backup folder).
3. Click **Import** when the required flight data files have been selected.
4. The *RWS Offline Import Utility Results* window will display when import is complete.
5. Record any flights that failed to import, and contact the Direct Field Support staff at 301-713-9800, after the installation to resolve the matter
6. Click **OK** to dismiss the *RWS Offline Import Utility Results* window.
7. Select **Flight**, then **Close** to close the *Flight Import Utility* window.

A.6.3.2 Skip Flight Import

Complete the following steps to skip flight import:

1. Click **Skip Import** on the *Installation Restore* window.
2. If the message *It's been a while without a flight...* appears, click **OK**.
3. If the message *Synoptic flight was missed...* appears, click **No**. The main RWS menu will display (Figure A-22).

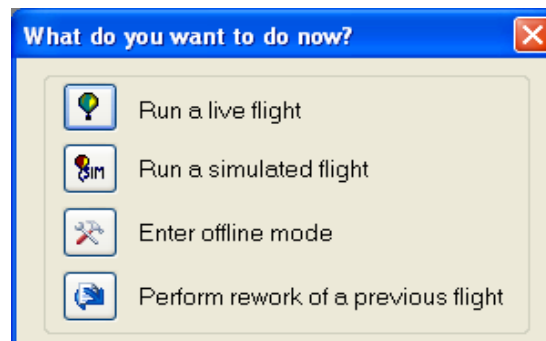


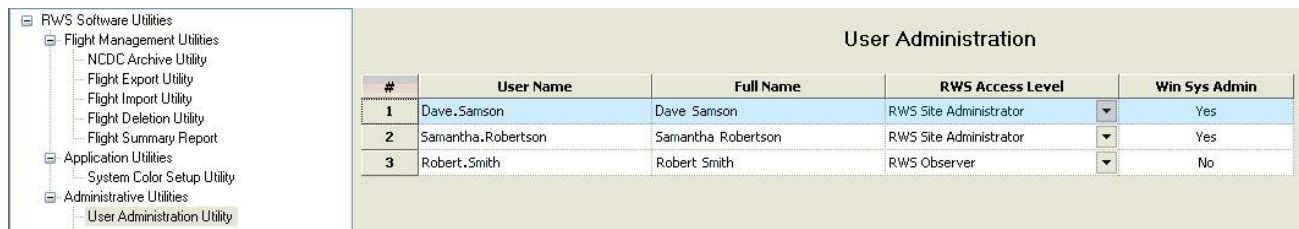
Figure A-22: Main RWS Menu

4. Click the Enter offline mode icon.

A.6.4 Add New RWS Users to RWS and Windows

Users must be added to RWS to provide access to the RWS Application. The RWS Site Administrator will use the User Administration Utility to create new users in Windows and RWS simultaneously. Complete the following steps to add user's accounts.

1. Click **Tools**, then **Utilities** to open the *RWS Software Utilities* window.
2. Click **Administrative Utilities**, then **User Administration Utility** (Figure A-23).



#	User Name	Full Name	RWS Access Level	Win Sys Admin
1	Dave.Samson	Dave Samson	RWS Site Administrator	Yes
2	Samantha.Robertson	Samantha Robertson	RWS Site Administrator	Yes
3	Robert.Smith	Robert Smith	RWS Observer	No

Figure A-23: User Administration Utility Window (Example Only)

- To add a user account, click the **Add** button in the User Administration Utility. The Add User window will appear (Figure A-24).

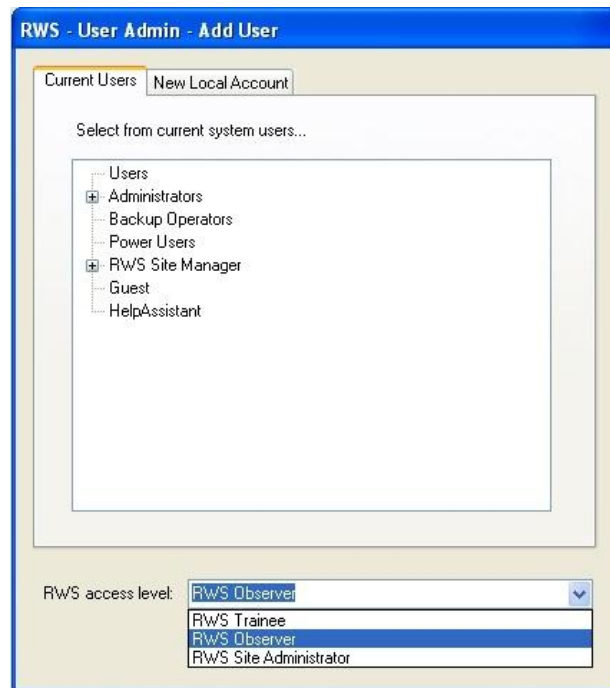


Figure A-24: Non-Active Directory. Add User window (Example Only)

- If the user account already exists in Windows select the desired user from the **Current User** tab.
- Since only one user already exists in Windows, select the **New Local Account** tab.
- Add a unique User Name for the user added to the list.

NOTE: The **User Name** is the unique identifier used to log on to the RRS Workstation.

- From the pull-down list, select the desired RWS Access Level. Users will be assigned to one of the three different levels of RWS access privileges, as follows:
 - RWS Site Administrator. A user who has complete access to the RWS software, Offline Maintenance Suite (OMS) and associated utilities. The User Admin Utility can only be used if the RWS Site Administrator has Windows Administrator privileges.

- RWS Observer. A user who can conduct live flights, transmit coded messages and run a few offline utilities.
 - RWS Trainee. A user who can only run a simulated flight.
8. In the Add User window, click **OK**. The upper right progress bar will indicate the process of adding the user to the RWS User Administration Utility.
 9. Once the user has been added, the user will be listed in the User Administration Utility.
 10. Repeat these steps for each RWS User.
 11. When finished, select **Close**.

A.7 Conduct an Upper Air Sounding and Verify Message Transfer

Conduct a live flight following the initial installation of the RWS Operational Application Software Version 2.1. See RRS Workstation User Guide for RWS, Version 2.1, dated March 2011, for conducting an upper air sounding (for a copy, go to: <http://www.ua.nws.noaa.gov/RRS.htm>, or use the RWS Help file function).

NOTE: Conducting a live flight is not recommended following reinstallation of Version 2.1 maintenance releases.

A.8 Capture the Flight

1. Double-click the **Capture Utility** shortcut to open the *RWS Capture Utility* window.
2. Select the flight from the **RWS Capture Utility** pull-down menu (Figure A-25).

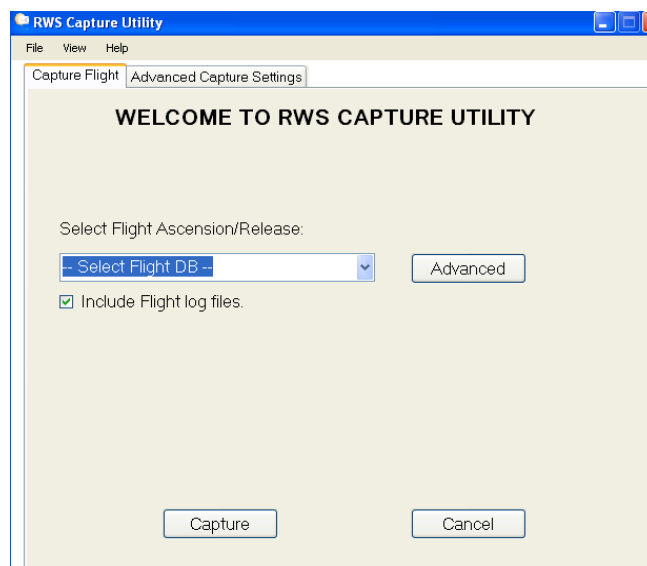


Figure A-25: RWS Capture Utility

3. Click the **Capture** button.
4. Click **OK** when the *Capture Successful* message appears.

A.9 Verify Message Transfer

A.9.1 Verify Message Accuracy in AWIPS

1. Verify the receipt of the coded messages by logging on to an AWIPS terminal or by viewing the coded messages at <http://www.weather.gov/data/>.

NOTE: To verify receipt of Pacific Region coded messages, Log on to:
<http://www.prh.noaa.gov/data/>.

2. Verify the accuracy of the coded messages.

A.9.2 Verify Messages to NCDC

Verify the successful reception of archived data to the NCDC ftp site. Visit <http://www1.ncdc.noaa.gov/pub/data/ua/RRS/YYYY> (where YYYY is the current year). Once at the website find the log file representing the site by identifying the station ID and the year and month the data was transmitted. For example `klwx_0801_log.txt` would contain the upload history for LWX for January of 2008.

A.10 Install OMS

When time permits, install the OMS software. Refer to Attachment C for instructions.

A.11 Optimize Windows Desktop

When time permits, optimize the *Windows* Desktop to adjust for best performance. Refer to Attachment D to perform this function.

ATTACHMENT B - Active Directory Installation Procedures

NOTE: Attachment B applies only to sites supported by NOAA Active Directory Services (NADS).

Non-Active Directory sites should use Attachment A to install RWS Operating System Configuration 1.09 and RWS Operational Application Software Version 2.1.

B.1 Overview

Attachment B is tailored specifically for installation of RWS Operating System Configuration 1.09 and RWS Operational Application Software Version 2.1 at RRS Active Directory Commissioned Sites.

NOTE: Region Domain. These Active Directory Site Installation Procedures reflect the NWS Domain naming convention. Regions may require special domain naming conventions. If required, see regional instructions for implementing the Active Directory Domain.

This attachment provides procedures to update the RRS Workstation software by ghosting the RWS Operating System with configuration 1.09 and installing RWS Operational Application Software Version 2.1. This procedure must be followed for proper RRS Workstation configuration and to ensure the RWS software is correctly installed with all flight data restored.

The RWS Operating System Configuration 1.09 and RWS Operational Application Software Version 2.1 are only available on CDs from the Maintenance Branch (OPS12, 301-713-1833 x190).

B.1.1 RWS Operating System Configuration 1.09

The RWS Operating System has been upgraded to configuration 1.09 to meet NWS IT security requirements, as well as new browser and printer requirements.

B.1.2 RWS Operational Application Software Version 2.1 and OMS Software 2.0

RWS Operational Application Software has been upgraded to Version 2.1 with the following improvements (See Attachment E Release Notes for additional details):

- Improved software compatibility and sustainability by migrating to C# language
- Added *Microsoft SQL Server Express 2008*
- Improved plot functionality with user configurable plots
- Improved account management with use of Active Directory and connectivity to NOAA net
- Support for new radiosondes and Signal Processing System (SPS) types
- Added HELP function
- Added information for hardware status reporting
- Added parameters to the Flight Summary

The RWS Operational Application Software Version 2.1 user interface is based on the *Windows* model. It provides flight management and data cataloging and storage capabilities via a Structured Query Language (SQL)-based relational database. The software is built on the concept of pre-processor software (i.e., workstation-based). The pre-processor software consists of all operational modules up to, and including, the data collection and conversion into meteorological values. The

main processor software consists of all operational modules necessary to perform the following functions:

- Interface with the Precision Digital Barometer (PDB) to acquire surface pressure data
- Interface with the Radiosonde Surface Observing Instrumentation System (RSOIS) to acquire surface meteorological data
- Interface with the SPS to acquire flight meteorological data from the radiosonde
- Interface with the Telemetry Receiver System (TRS) to control its pointing direction
- Interface with NWS Headquarters to receive master station data
- Archive data on media for mailing to the National Climatic Data Center (NCDC)
- Perform quality analysis of acquired SPS raw data and on processed data
- Process raw data into archival products and coded messages for the Advanced Weather Interactive Processing System (AWIPS) local area network (LAN)
- Store raw and processed data in a local database
- Provide user interface functions to support pre-flight, baseline, release, flight, and post-flight activities
- Provide limited analysis support tools
- Support live flight, rework, and simulated flight operating modes

B.1.3 Notes to the Software Installer

RRS Software Note 10 applies to two scenarios:

- Initial installation of RWS Operational Application Software Version 2.1
- Installing maintenance releases of RWS Operational Application Software Version 2.1

B.1.3.1 Initial Installation

The RWS Operational Application Software Version 2.1 is approved for installation only at commissioned RRS sites. Sites installing new RRS should install RWS Operational Application Software Build 1.2 using RRS Software Note 8.

Due to the time required to complete the installation, Section B.2, Section B.3, and Section B.4 should be completed prior to installing the RRS Operating System and RWS Operational Application Software.

B.1.3.2 Installing Maintenance Releases

Only portions of Section B.2, and Section B.6, need be completed when installing maintenance releases of the RWS Operational Application Software Version 2.1. The software installer must ensure all required data are available before installing maintenance releases of RWS Operational Application Software Version 2.1.

B.1.3.3 Terms-of-Reference

The following terms-of-reference apply for this Software Note:

- **NWS Domain Administrator:** An NWS staff member with NOAA Active Directory administrative privileges for the nws.noaa domain.
- **RRS Organizational Unit (OU) Administrator:** A site staff member with NOAA Active Directory administrative privileges for the RRS OU.
- **RWS Site Administrator:** A site staff member with complete access to the RWS software, including *Windows* Administrative privileges for the RRS Workstation.
- **(Default) Administrator:** A site staff member with temporary *Windows* Administrative privileges only for the initial installation of the RWS Software.
- **RWS Trainee:** A site member being trained as an Observer who can run simulated flights, but not yet permitted to run RRS live flights.
- **RWS Observer:** A site member who is a certified RRS flight observer or operator who can conduct live flights, transmit coded messages, and run some offline utilities.

B.1.4 Direct Field Support Staff

Contact the Direct Field Support staff (Helpline) at the Sterling Field Support Center (SFSC) for RWS software installation and maintenance support.

Direct Field Support (Helpline) Phone:

(301) 713-9800 (Primary)

(703) 661-1293 (if Primary line is busy)

Hours of Operation:

UTC 1000 to 0200 (6 AM to 10 PM EDT)

(5 AM to 9 PM EST)

Monday through Friday, excluding Federal holidays.

B.1.5 RRS Software Build 2.1 Implementation Documentation

Software Version 2.1 documentation, including the RWS User Guide and training videos, is available at: <http://www.ua.nws.noaa.gov/RRS.htm>.

1. Software Version 2.1 Implementation Plan - Implementation activities and schedule for installing RRS Software 2.1.
2. RRS Software Note 10 - Detailed instructions on how to install and use RRS software 2.1.
3. User Guide for Software 2.1 - RRS Workstation User (Operator) Guide for software version 2.1 (PDF version) March, 2011.
4. Training Videos - Observer training videos on how to use the new RRS 2.1 software.

B.2 Backup RRS

RRS flight, station, and user account data must be backed up prior to ghosting the RWS Operating System and prior to installing RWS Operational Application Software to avoid the loss of site data.

The RRS Workstation hard drive is completely erased when the operating system is ghosted. All software programs must be reloaded, including the RWS Operational Application and OMS. All site data must also be restored, including flight, user, station, and LDAD data.

The RWS application Master Database, RWS users, and local station data are erased when the RWS Operational Application Software is installed. All RWS data must also be restored, including flight, user, and station data.

Backup requirements in Sections B.2.1 through B.2.9, apply to both RWS software V1.2 and V2.1. The screens displayed in RWS Application Software Build 1.2 and in Version 2.1 differ in format, but the purpose and content are the same—to backup Data. Use whichever screen your system displays to perform the function.

B.2.1 Record the Next Ascension Number

The next ascension number must be entered during installation of the RWS Operational Application Software. Determine the next ascension number from the last ascension number recorded on the B-29 form.

Next ascension number: _____.

B.2.2 Backup RWS Flight Database to External Hard Drive

Perform the following steps to backup the RWS Flight Database to the external hard drive.

1. Double-click the **RWS** shortcut to start the RWS application. The *NOAA Warning* will appear.
2. Click **OK**. The main *RWS* menu will display.
3. Click on the **Enter offline mode** icon to open the *RWS* window.
4. Select **Tools** and **Utilities** from the banner menu to open the *RWS Software Utilities* window.
5. For RWS Build 1.2, select **Database Backup and Restore Utilities**.
 - a. Click **Select Files** from the *RWS Build 1 Database Backup* utility screen (Figure B-1).
 - b. While pressing **Shift**, select the first and last flight files listed (all files should be selected).
 - c. Click **OK**.
 - d. Click **Select Folder** and browse to E:\RWSBackup. Click **Backup**.
 - e. A confirmation window will display. Press **Enter** to continue.

NOTE: If the external hard drive is not accessible for backup, go to Section B.2.3 for CD backup

6. For RWS Version 2.1, select **Database Backup and Restore Utilities**, and **Backup Utility** from the *RWS Software Utilities* menu displayed on the left of the screen (Figure B-2). The *RWS Software Utilities* window is updated to display the Backup destination folder and the **Database Files for Backup**. By default, all database files are selected for backed up.
 - a. The default backup destination folder is **E:\RWSBackup**. Select a different backup destination folder if required.
 - b. Click **Backup** to start the process. The *RWS Offline Backup Utility Results* window will display when backup is complete.
 - c. If any flights fail to backup, contact the Direct Field Support staff at 301-713-9800. The issue should be resolved before proceeding with the installation.
 - d. Click **OK** to close the *RWS Offline Backup Utility Results* window.

NOTE: If the external hard drive is not accessible for backup, go to Section B.2.3 for CD backup

7. Select **Flight** and **Close** to close the *RWS Software Utilities* window.
8. Select **Flight** and **Exit** to exit the RWS application.

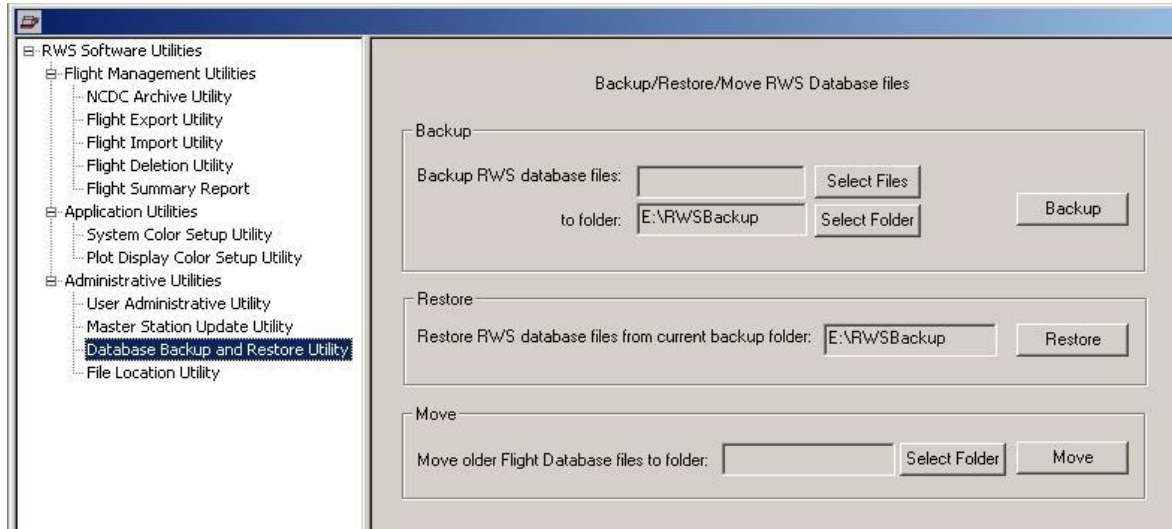


Figure B-1: RRS Backup, Build 1.2

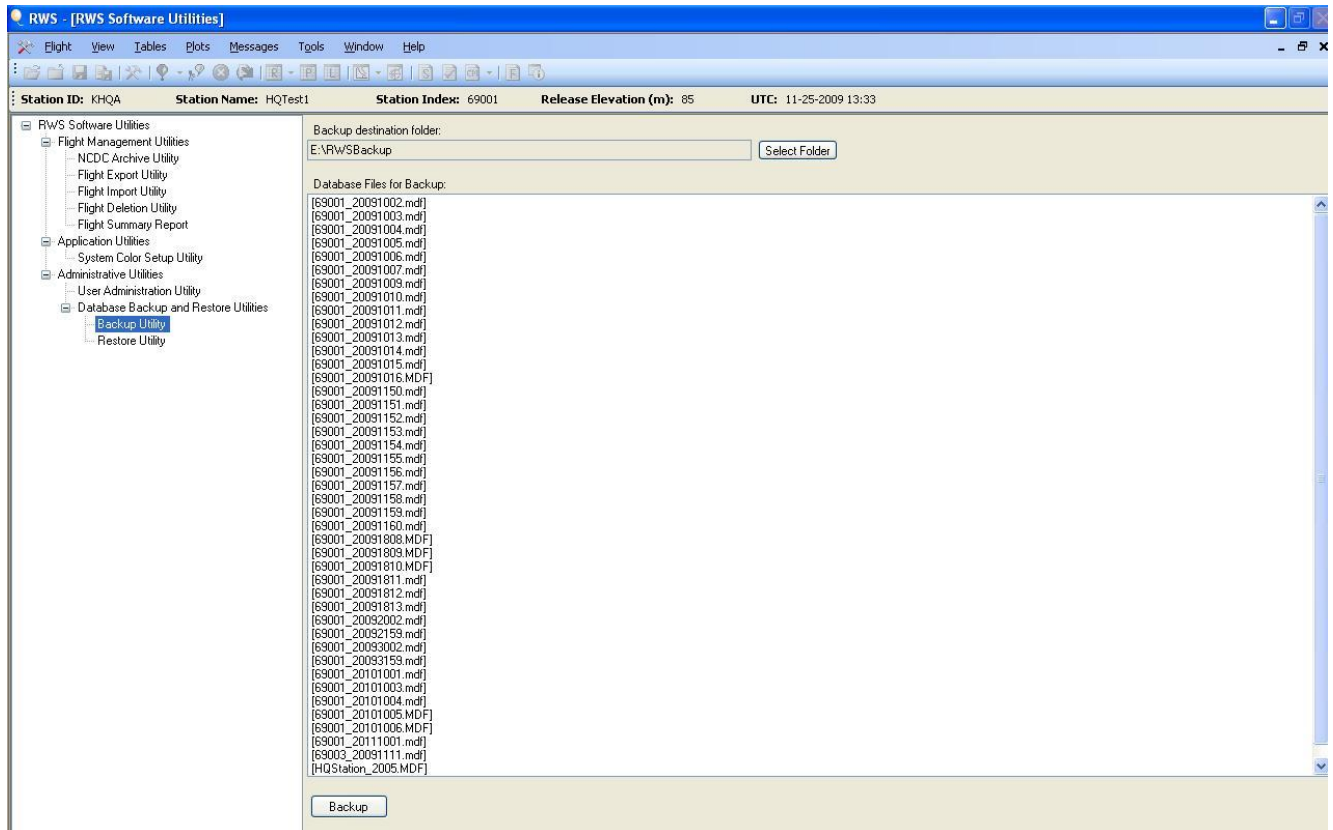


Figure B-2: RRS Backup, Version 2.1

B.2.3 Backup Flight Data to CD (Option)

If the external hard drive is not accessible, create Flight Backup using one or more CDs.

1. Create a new folder named **C:\RWS CD Backup**.
2. Double-click the **RWS** shortcut to start the RWS application. The *NOAA Warning* will appear.
3. Click **OK** to dismiss the *NOAA Warning* window. The main *RWS* menu will appear.
4. Click on the **Enter offline mode** icon.
5. Select **Tools** and **Utilities** from the banner menu to open the *RWS Software Utilities* window.
6. Select **Flight Management Utilities** and **Flight Export Utility** from the *RWS Software Utilities* menu displayed on the left of the screen. The *RWS Software Utilities* window will update to display a list of flight files.
7. Select all flights not backed up to the CD. (To select a range of flights, press the **Shift** key and select the first and last flights of the range, or press the **Control** key and scroll the list.)
8. Click **Export** to display the *Browse for Folder* window.
9. Select the **C:\RWS CD Backup** folder.
10. Click **OK** to export flights.
11. Continue to click **OK** until all flights have been exported. The *RWS Offline Export Utility Results* window will display when the export is complete.
12. If any flights fail to export, contact the Direct Field Support staff at (301) 713-9800. The issue should be resolved before proceeding with the installation.
13. Click **OK** to close the *RWS Offline Export Utility Results* window.
14. Select **Flight** and **Close** to close the *RWS Software Utilities* window.
15. Select **Flight** and **Exit** to exit the RWS application.
16. Copy the **C:\RWS CD Backup** folder to one or more CDs. Label them **RWS CD Backup #__**.

B.2.4 RWS User Accounts

All user accounts will be erased from the RRS Workstation during the ghosting process. RWS user accounts must be restored during installation of the RWS Operational Application Software. Complete the following steps to print RWS user account data:

1. Double-click the **RWS** shortcut to start the RWS application. The *NOAA Warning* will appear.
2. Click **OK**. The main menu will display.
3. Select the **Enter offline mode** icon.
4. Click the **Tools** menu and select **Utilities**. The *Utilities* screen will open.
5. On the left side of the screen, click **User Administrative Utility** (under *Administrative Utilities*). The *User Administrative Utility* may take up to 30 seconds to appear.
6. Press **Alt + Print Screen** to print the user name, full name, comment, and access level of RWS user accounts.
7. Select the **Flight** menu and **Close**.
8. Select the **Flight** menu and **Exit**.

NOTE: If **Alt + Print Screen** does not print the active window, download and install the **hp print screen utility**, or use the **Alt + Print Screen** to copy the screen image to the clipboard, and then use another application (e.g., *Paint*) to print screen images.

B.2.5 Site-specific Data

The LDAD information and the Station Data will be used to install the Build 2 software. Complete the following sections to print site-specific data.

NOTE: Ensure the passwords for the LAN and the dial-up LDAD connections are recorded prior to ghosting the RWS Operating System.

B.2.5.1 OMS Station Data

Complete the following steps to print OMS Station Data:

1. Log on to the RRS Workstation as an **RWS Site Administrator**.
2. For OMS Version 1.6, double-click on the **RRS Offline Menu** icon to open the Offline Maintenance Menu.
3. For OMS Version 2.0, double-click on the **RRS Offline Menu 2.0** icon to open the *RRS Offline Maintenance Menu*.
4. Click on the **TRS Maintenance** option to open the *OBIT-Offline BITS* window with the *TRS Offline BITs* window displayed.
5. Dismiss the *TRS Offline BITs* window.
6. Select **Setup** and **Station Data** from the top banner menu to open the *Station Data* window.
7. Press **Alt + Print Screen** to print the OMS Station Data.
8. Click **Cancel** to close the *Station Data* window.
9. Select **File** and **Exit** from the top banner menu to close the *OBIT-Offline BITS* window.
10. Close the *RRS Offline Maintenance Menu*.

B.2.5.2 RWS Station Data

Complete the following steps to print the RWS Station Data.

1. Start the RWS application and enter **Offline Mode**.
2. Select **View** and **Station Info** from the banner menu to open the Station Data Display.
3. Press **Alt + Print Screen** or select the **Print** button to print the Station Data.
4. Right-click on the *Station Data Display* window and select the **Save Data in a File** option. The data is automatically saved to `C:\RWS\RWS\DATA FILES\STATION_DATA.TXT`.
5. Click the **LDAD Info** button to open the LDAD Data Display. If necessary, adjust the column size so the IP addresses are visible.
6. Press **Alt + PrintScreen** to print the LDAD data.
7. Click **Cancel** in the LDAD Data Display to close the window.
8. Click **Cancel** on the Station Data Display to close the window.
9. Select **Flight** and **Exit** from the banner menu to close the RWS application.

B.2.6 Save Station Data to External Hard Drive

Use *Windows Explorer* to copy the `C:\RWS\RWS\DATA FILES\STATION_DATA.TXT` file to the USB `E:\ drive` (external hard drive). If the USB drive is not available, copy the file to a CD.

B.2.7 Save LDAD Data to External Hard Drive

Use *Windows Explorer* to copy the folder `C:\LDAD` to the USB `E:\ drive` (external hard drive). If the USB drive is not available, copy the folder to a CD. (The `C:\LDAD` folder contains the *PuTTY* keys.)

NOTE: Do not recreate PuTTY files. If these files are missing, contact the Direct Field Support staff at 301-713-9800 for replacement. Recreating PuTTY files would require adding the new PuTTY files to all LDADs listed as primary, secondary, and tertiary transmission routes.

B.2.8 RRS Workstation IP Addresses

Complete the following steps to print network information:

1. Click **Start**.
2. Select **Control Panel**.
3. Look at the left side of the *Control Panel* screen to ensure the system is in Classic View (Figure B-3) and not in Category View.

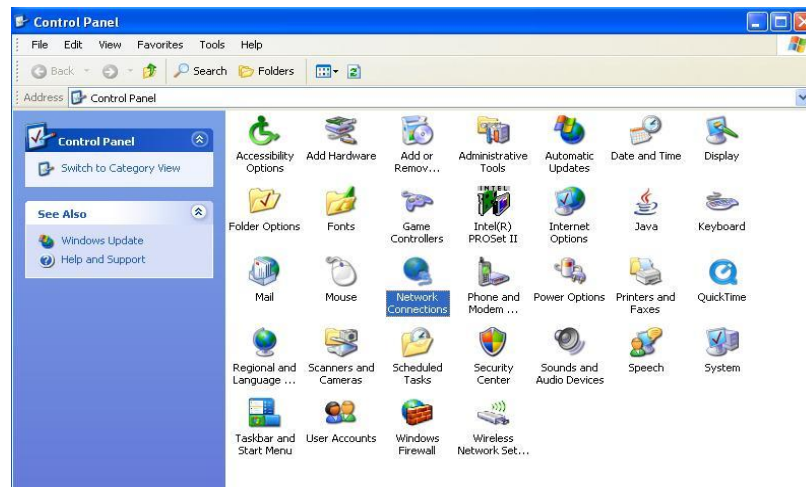


Figure B-3: Control Panel Classic View

4. Double-click the **Network Connections** icon.
5. Right-click **Local Area Connection**.
6. Select **Properties**. The *Local Area Connection Properties* window will appear.
7. Select **Internet Protocol (TCP/IP)** from the list, and then click **Properties**. The *Internet Protocol (TCP/IP) Properties* window will appear.

8. Press **Alt + Print Screen** to print the IP Address, Subnet Mask, Default Gateway, Preferred and Alternate DNS Server information.
 - IP Address: _____
 - Subnet Mask: _____
 - Default Gateway: _____
 - Preferred DNS Server: _____
 - Alternate DNS Server: _____
9. Close all open windows.

B.2.9 Record Computer Name

Complete the following steps to record the computer name.

1. Click **Start**.
2. Right-click the **My Computer** icon, and then select **Properties**.
3. Select the **Computer Name** tab and press **Alt + Print Screen** to print the full computer name.
4. Close all open windows.

B.3 Active Directory Administration

Before adding a computer object to Active Directory, pre-stage the computer object within Active Directory in the proper OU. The computer object (i.e., the RRS Workstation) must be placed in the nws.noaa/RRS/Computers security group. This action can be completed using the Active Directory Users and Computers administrative tool. Refer to *NWS Active Directory Standard Operating Procedure NADS-0007* for detailed instructions. Do not add the RRS Workstation computer object to the site computers security group.

NOTE: This section must be completed by an RRS OU Administrator (i.e., a site staff member with NOAA Active Directory administrative privileges for the RRS OU).

B.3.1 Pre-stage the RWS in the NWS.NOAA/RRS/Computers Security Group

Use the following procedure to pre-stage the RRS Workstation in the nws.noaa/RRS/Computers security group domain:

1. Log on to a computer that is on the nws.noaa domain as an RRS OU Administrator.
2. Click **Start** and **Control Panel** to open the *Control Panel* window.
3. Click on the **Administrative Tools** icon to open the *Administrative Tools* window.
4. Click **Active Directory Users and Computers** to open the *Active Directory Users and Computers* window (Figure B-4).

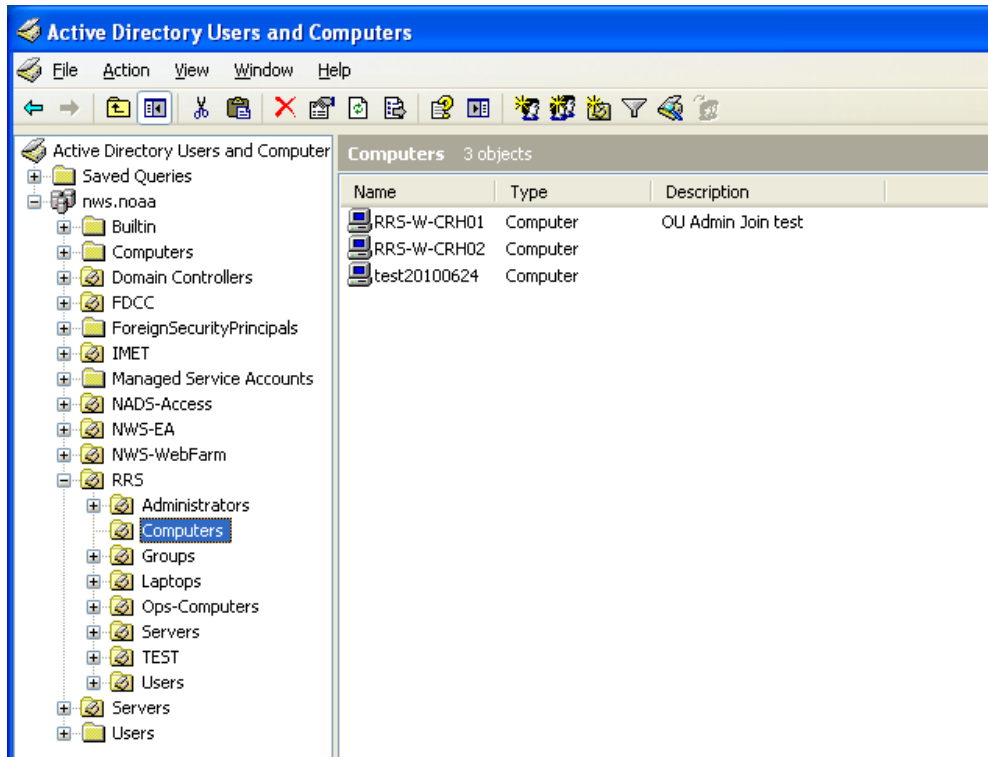


Figure B-4: Active Directory Users and Computers Window

- Navigate to the nws.noaa/RRS/Computers security group (Figure B-5). If the nws.noaa/RRS folder is not accessible, right-click the region domain name, select change domain, type **nws.noaa**, and then click **OK**.
- Select **Action, New** and **Computer** from the banner menu to open the *New Object – Computer* window (Figure B-5).

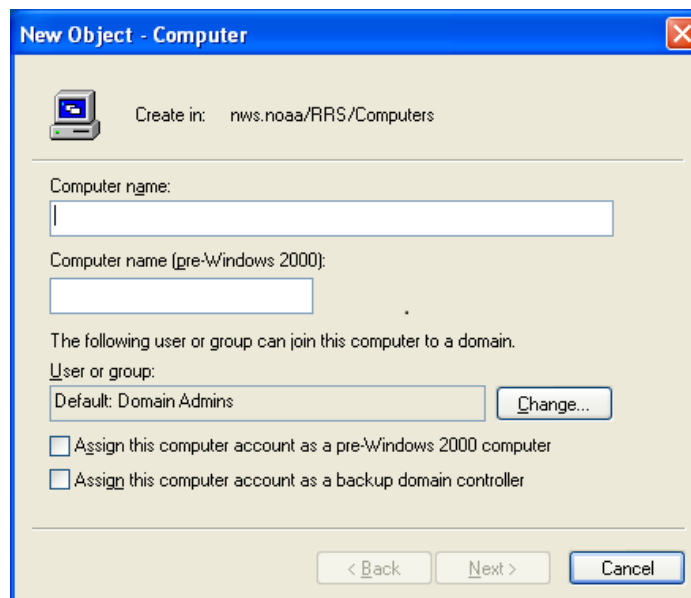


Figure B-5: New Object - Computer Window

7. Enter the computer name using the RWS naming convention described in Section B.5.2.
8. Click **Next** to open the *Managed* window (Figure B-6).

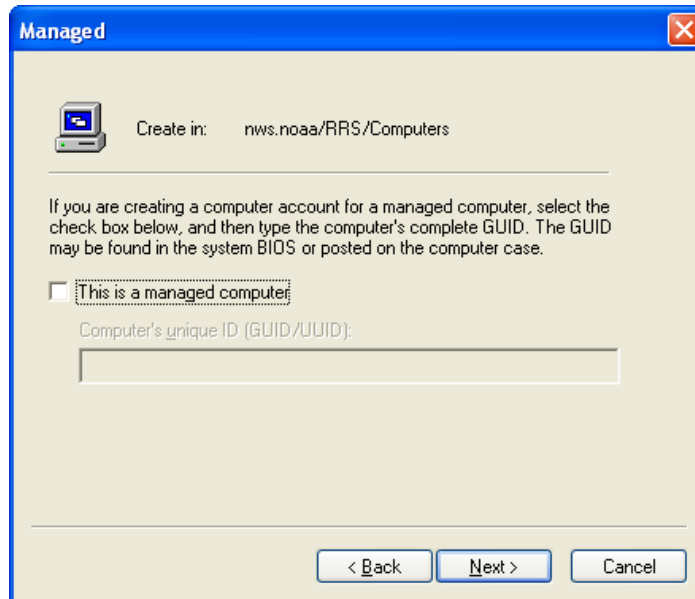


Figure B-6: Managed Window

9. Click **Next** to open the *New Object – Computer* window (Figure B-7).

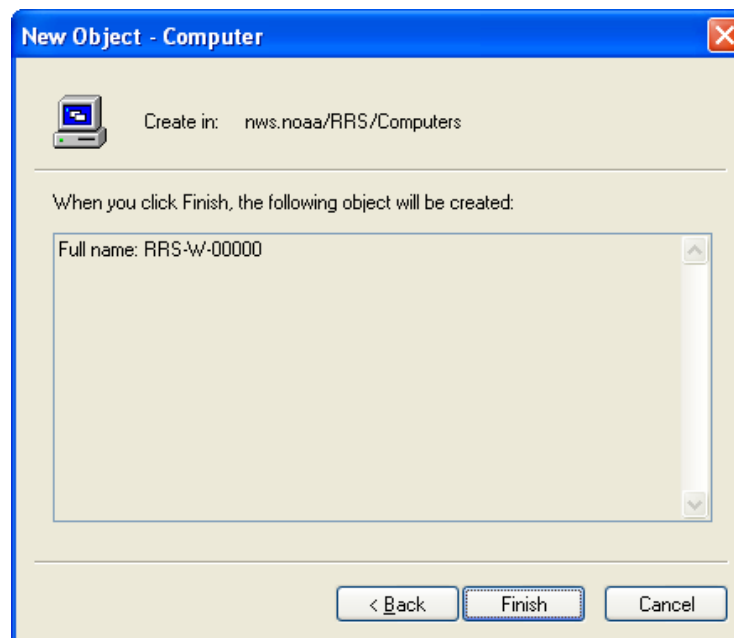


Figure B-7: New Object - Computer Window (Example Only)

10. Click **Finish**. The *Active Directory Users and Computers* window is displayed.
11. Confirm the RRS Workstation is listed in the *Active Directory Users and Computers* window. An NWS Domain Administrator will later move the RRS Workstation to the nws.noaa/RRS/OPS-Computers security group. Additional security policies, such as disabling the screen saver, are

applied when the RRS Workstation is joined to the OPS-Computers security group. The RWS application functions properly in either security group.

B.4 Ghosting the RRS Operating System

CAUTION

All information stored on the hard drive will be permanently erased during this procedure.

Complete the following steps to ghost the RWS Operating System by installing RWS Operating System Configuration 1.09:

1. Log on to the RRS Workstation.
2. Insert the CD labeled *Configuration 1.09 Windows XP Pro Gateway E6300 CD 1 of 7*, into the CD-RW drive.
3. Click **Start**, and then click **Shut Down**.
4. Disconnect all USB devices from the RRS Workstation, e.g., printer and external hard drive. Serial devices, e.g., PDB, SPS, TRS, etc., can be left connected.
5. Power-up the RRS Workstation. The RRS Workstation will boot from the CD and begin ghosting *RRS Operating System Configuration 1.09*. Loading will pause with the following onscreen message:

NWS Configured Operating System for RWS Restoration Procedure

WARNING: Any existing data or operating system on your hard drive will be DESTROYED if you choose to continue!!!

----- **!!!! IMPORTANT !!!!** -----
*PLEASE MAKE SURE THERE ARE NO USB DEVICES ATTACHED TO THE PC!!!
 If any USB hard drive, printer, etc. is connected to your PC
 disconnect them NOW and then restart the PC.*

***** Press Any Key to Continue *****

6. Press any key to continue.
7. On the next three screens, messages will display to check and correct the time and date stored in the PC BIOS. Setting the time and date using these screens sets the BIOS clock. The BIOS clock must be correctly set to the Universal Coordinated Time (UTC), prior to starting the RRS Operating System. Go back to the time and date settings until satisfied they are correctly set. If unsure of the UTC time and date, refer to <http://www.time.gov> and select **UTC** at the bottom of the screen. The time and date screens will appear as follows:

First screen:

----- **!!!! UTC TIME & DATE !!!!** -----
It is essential to set the current UTC time and date into your PC BIOS (CMOS memory) prior to starting the operating system for the first time.

On the next two screens, check/enter the current UTC time and date, which will automatically be set into your PC BIOS.

***** Press any Key to Continue *****

Second screen:

Set the current UTC time:

If the time below is correct just press [Enter], otherwise correct it. If okay, press [Enter] again, or else press [Esc] to go back...

Third screen:

Set the current UTC date:

If the date below is correct just press [Enter], otherwise correct it. If okay, press [Enter] again, or else press [Esc] to go back...

NOTE: The mouse will not work at this point. Use the Tab and Enter keys for **OK**.

8. After the time and date have been set, CD #1 will copy to the hard drive. When CD #1 is finished, an onscreen message will display:

Insert next media and press enter to continue...

9. Replace CD #1 with CD #2, and press **Enter** to continue the copying process. Repeat until all CDs have been copied. When the process is finished, the following screen will appear:

```

++++ Remove the CD from the CD-ROM drive NOW ++++
----- Please Note and Remember -----
To log on to the default account:
USER NAME is: Administrator, PASSWORD is: n0aa:NW$
The 0 in n0aa is a ZERO.
-----
-----!!!! IMPORTANT !!!!!-----
Read and remember the entire box before doing as directed:
With all USB devices still disconnected, restart the system.
On the Windows desktop screen you will receive a System
Settings Change message box asking, Do you want to restart
now? Yes/No. Wait about 30 seconds until the system calms
down, and then you MUST respond: Yes to the question. After
the system has finished restarting, you may connect all
devices, and then install the RWS application software.
-----
- - - END - - -

```

10. Remove the last CD from the RRS Workstation.

B.5 RRS Workstation Setup

B.5.1 Reconnect USB Devices

Perform the following steps to reconnect USB devices:

1. With all USB devices disconnected, shut down the RRS Workstation.
2. Power on the RRS Workstation.

NOTE: It is important to perform a hard disk boot (shut down the RRS Workstation and then power the RRS Workstation on) at this point in the installation. Do not simply restart the RRS Workstation.

3. Log on to the RRS Workstation as the default Administrator:

USER NAME: **Administrator**

PASSWORD: **n0aa:NW\$** (The 0 in n0aa is a ZERO.)

4. On the Desktop, a *System Settings Change* message box will ask:

Do you want to restart now? Yes/No

Wait approximately 30 seconds, and respond **Yes**.

5. Wait for the RRS Workstation to restart, and then log on to the RRS Workstation as the default Administrator.
6. Reconnect all USB devices. The *USB Drive (E:)* screen will appear (Figure B-8).

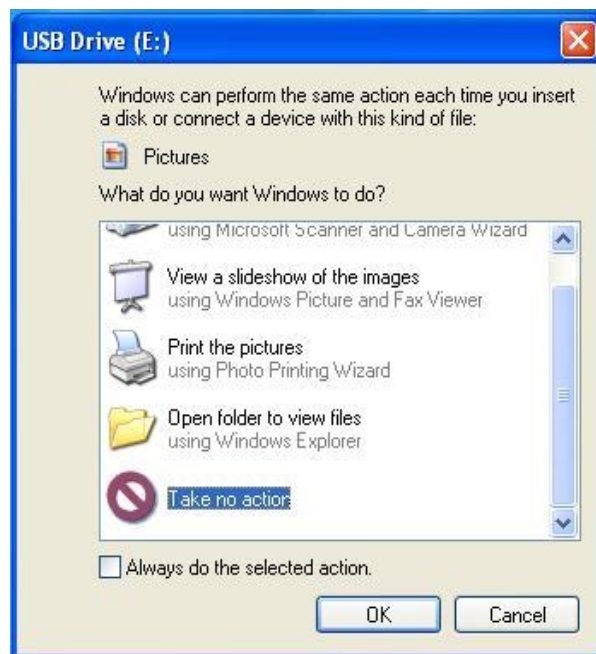


Figure B-8: USB Drive (E:) Screen

7. Select **Take no action**, and click **OK**.

B.5.2 Enter the Computer Name

Complete the following steps to enter the computer name:

1. Click **Start** to open the main *Desktop* menu.
2. Right-click on **My Computer** to open a drop down menu, and then click **Properties** to open the *System Properties* window.
3. Click on the **Computer Name** tab.
4. Click the **Change** button. The *Computer Name Changes* window appears.
5. Enter the computer name using the RRS naming convention: The computer name must use the format, RRS-W-NNNNN, where NNNNN is Station WMO Number. The Station WMO Number can be found in the Station Data Display.

NOTE: The RRS naming convention applies to all RRS Workstations. Other office or regional naming conventions should not be used.

6. Click **OK**. A window will open with the message *You must restart this computer for changes to take effect*.
7. Click **OK** and close all open windows.
8. Respond **NO** to *Do you want to restart your Computer now?*

B.5.3 Set the IP Addresses

Complete the following steps to set the IP addresses to their original values:

1. Click **Start**.
2. Select **Control Panel**.
3. Look at the left side of the *Control Panel* screen to ensure the system is in Classic View (Figure B-9) and not Category View.

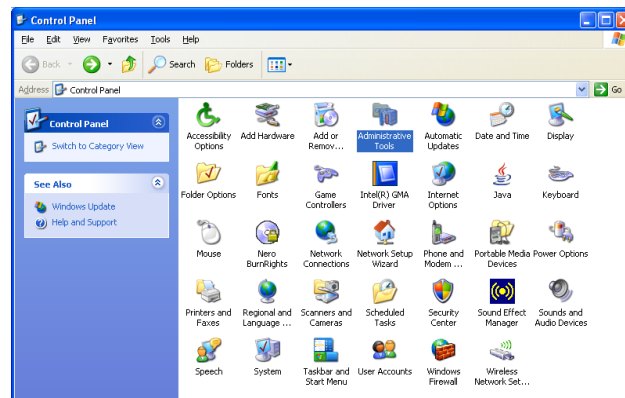


Figure B-9: Control Panel Displayed in Classic View

4. Double-click the **Network Connections** icon.
5. Right-click **Local Area Connection**.
6. Select **Properties**. The *Local Area Connection Properties* window appears.

7. Select **Internet Protocol (TCP/IP)** from the list, and then click **Properties**. The *Internet Protocol (TCP/IP) Properties* window will display (Figure B-10).

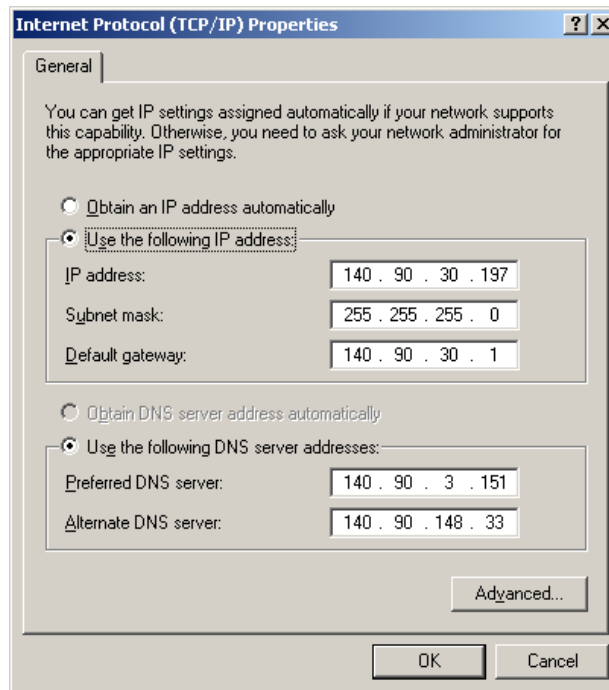


Figure B-10: Internet Protocol (TCP/IP) Properties Window (Example Only)

8. Select **Use the following IP address** button to enable the IP address, Subnet mask, and Default gateway address fields.
9. Enter the IP addresses recorded in Section B.2.8 for the RRS Workstation. Do not use leading zeros.
10. Select **the Use the following DNS server addresses** button to enable the Preferred DNS server and Alternate DNS server address fields.
11. Enter the DNS addresses recorded in Section B.2.8 for the RWS.
12. Once all five IP addresses are entered, click **OK** in the *Internet Protocol (TCP/IP) Properties* window.
13. Click **Close** in the *Local Area Connection Properties* window.
14. Close the *Network Connections* window.
15. Restart the RRS Workstation to allow the changes to take effect.

B.5.4 Operating System Security Policies

Complete the following steps to add the RRS Workstation to the nws.noaa domain. Refer to NWS Active Directory Standard Operating Procedure NADS-0007 for detailed instructions.

NOTE: This section must be completed by an RRS OU Administrator, i.e., a site staff member with NOAA Active Directory administrative privileges.

1. Log on to the RRS Workstation as the default Administrator:

USER NAME: **Administrator**
PASSWORD: **n0aa:NW\$** (The 0 in n0aa is a ZERO.)
2. Click **Start**.
3. Right-click on **My Computer** to open a drop down menu, and then click **Properties** to open the *System Properties* window.
4. Click on the **Computer Name** tab.
5. Click the **Change** button. The *Computer Name Changes* window appears.
6. Select **Domain**, and then enter **nws.noaa** in the domain field.
7. Click **OK**, and enter the **RRS OU Administrator user name** when prompted. The complete user name with the @noaa.gov extension is required (e.g., firstname.lastname@noaa.gov).
8. Click **OK**. A window will open with the message *You must restart this computer for changes to take effect.*
9. Click **OK** and close all open windows.
10. Respond **Yes** to *Do you want to restart your Computer now?*
11. Log on to the RRS Workstation using the RRS OU Administrator account.
12. Open a command prompt.
13. At the prompt, enter the command **gpupdate /force** and wait for the command to finish.
14. Enter the command **gpresult** and examine the result. If the RRS Workstation has been added to the RRS OU, the COMPUTER SETTINGS section should list CN=RRS-W-XXXXX, where XXXXX is the Station WMO Number, OU=RRS, DC=nws, and DC=noaa.
15. Close the command prompt.
16. Restart the RRS Workstation.

B.5.5 Create an RWS Site Administrator Account

The RWS Operational Application Software is installed by an RWS Site Administrator. RWS Site Administrators must be members of the RRS Workstation Windows Administrators Security Group. Complete the following steps to create an RWS Site Administrator account.

NOTE: This section must be completed by an RRS OU Administrator (i.e., a site staff member with NOAA Active Directory administrative privileges).

1. Log on to the RRS Workstation using the RRS OU Administrator account.
2. Select Start and Control Panel to open the Control Panel window.
3. Click **Switch to Classic View** if required.
4. Double-click the **User Accounts** icon to open a *User Accounts* window.
5. Click the **Add** button to open an *Add New User* window.
6. Enter a valid User name and Domain.
7. Click **Next** to update the open window.

8. Click the **Other** radio button for access level, and then select Administrators from the list of options.
9. Click **Finish** to accept the changes.
10. Verify the new account is listed under Users for this computer.
11. Click **OK** to close the User Accounts window.
12. Close the *Control Panel* window and log off of the RRS Workstation.

B.5.6 Disable the Default Administrator Account

DoC IT Security policies require default user accounts be removed after software is installed. Complete the following steps to remove the default Administrator account:

1. Log on to the RRS Workstation as an RWS Site Administrator.
2. Select **Start** and **Control Panel** to open the *Control Panel* window.
3. Click **Switch to Classic View**, if required.
4. Double-click the **User Accounts** icon to open a *User Accounts* window.
5. Select **Administrator** from the list of *Users for this computer*.
6. Click the **Remove** button. A confirmation window will be displayed.
7. Click **Yes** to confirm the change.
8. Verify the Administrator account is no longer listed under *Users for this computer*.
9. Click **OK** to close the *User Accounts* window.
10. Close the *Control Panel* window.

B.5.7 Restore C:\LDAD

Copy the E:\LDAD folder to its proper location on the RRS Workstation:

1. Copy the contents of the E:\LDAD folder to C:\LDAD. The C:\LDAD folder contains the *PuTTY* keys required for message transmission.
2. Restart the RRS Workstation.

NOTE: Do not recreate PuTTY files. If these files are missing, contact the Direct Field Support staff at 301-713-9800 for replacement. Recreating PuTTY files would require adding the new PuTTY files to all LDADs listed as primary, secondary, and tertiary transmission routes.

B.6 RWS Operational Application Software Version 2.1

CAUTION

**Always load RWS application software as a RWS Site Administrator.
Never load RWS application software as the default Windows
Administrator.**

NOTE: Software installation procedure (Attachment B) is applicable only to Commissioned RRS Active Directory sites.

NOTE: RRS flight, station, and user account data must be backed up prior to installing the RWS Operational Application Software Version 2.1, to avoid the loss of site data.

B.6.1 Install RWS Operational Application Software Version 2.1.0.0

1. Log on to the RRS Workstation as an RWS Site Administrator.
2. Insert the RWS Application Software CD (RWS.NET) into the RRS Workstation. The RWS.NET - InstallShield Wizard should automatically open (Figure B-11). If, after a few minutes, the program has not launched, browse the CD and double-click on **setup.exe**.



Figure B-11: RWS.NET - InstallShield Wizard

3. Click **Next** to display the *Station Information* window (Figure B-12).

Figure B-12: Station Information Window

4. Enter the **Station WMO Number** and **First Ascension Number** recorded in Section B.1.4.
5. Click **Next** to display the *Ready to Install the Program* window (Figure B-13).

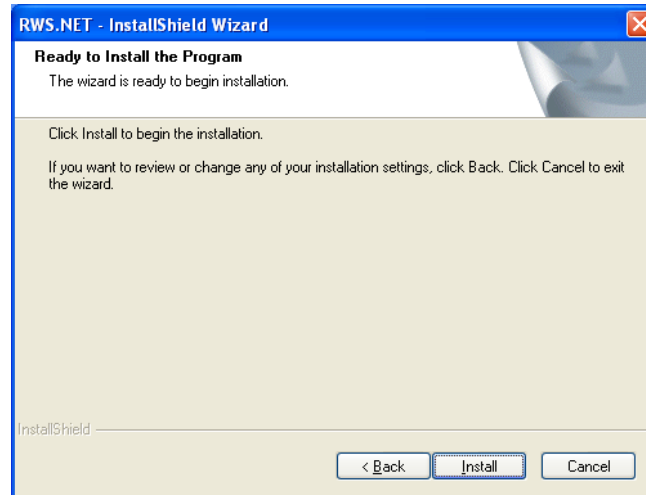


Figure B-13: Ready to Install the Program Window

6. Click **Install** and wait until the *InstallShield Wizard Complete* window indicates the process is complete (Figure B-14).

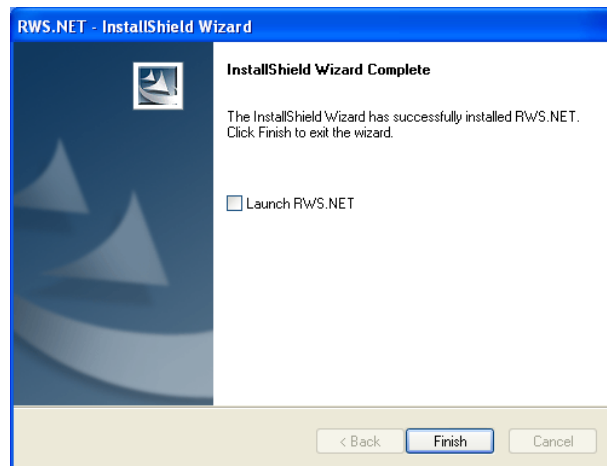


Figure B-14: InstallShield Wizard Complete

7. Uncheck Launch RWS.NET (Figure B-14), and then click **Finish** to exit the installation.
8. Remove the RWS Application Software CD and restart the RRS Workstation.

B.6.2 Enter Station Data

B.6.2.1 Enter Master Station Data

The Master Station Data is automatically entered when RWS.NET is first launched. Complete the following steps to enter Master Station Data:

1. Log on to the RRS Workstation as an RWS Site Administrator.
2. Double-click on the **RWS.NET** shortcut to start the RWS application. The *NOAA Warning* window will appear (Figure B-15).

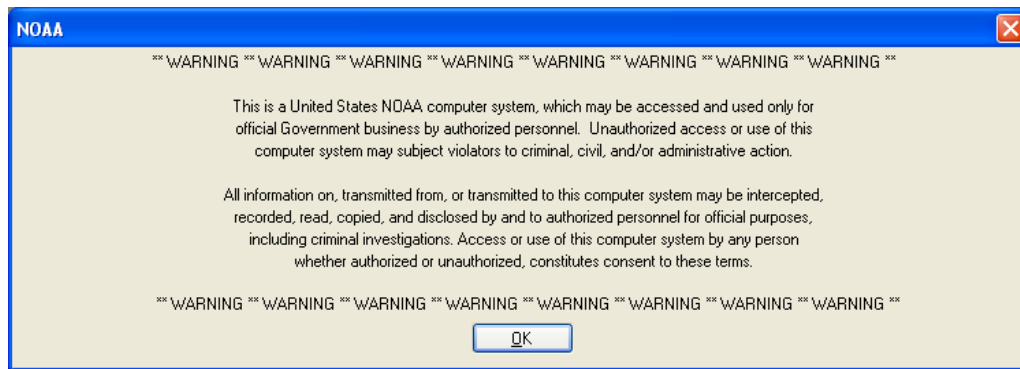


Figure B-15: NOAA Warning Window

3. Click **OK** to dismiss the warning window. RWS will open with the *Master Station Data Initializing 2* window to indicate the Station WMO Number was used to initialize Master Station Data (Figure B-16).

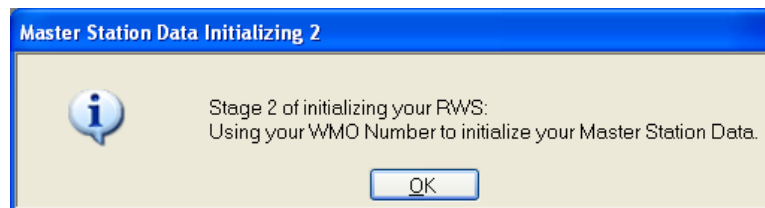


Figure B-16: Master Station Data Initializing 2 Window

4. Click **OK** to proceed. If initialization is successful, the *Master Station Data Initialized* window is displayed indicating "Master Station Data updated" (Figure B-17).

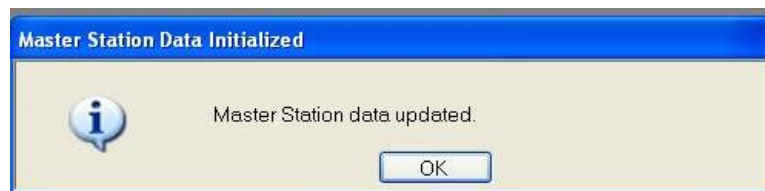


Figure B-17: Master Station Data Initialized Window

5. Click **OK** to proceed.

B.6.2.2 Enter Local Station Data

If the RWS Application indicates the Local Station Data has NOT been fully initialized, complete the following steps to enter Local Station Data:

1. If the *Local Station Data Not Initialized 1* window displays (Figure B-18), click **Yes** to open the Station Data Display (Figure B-19).

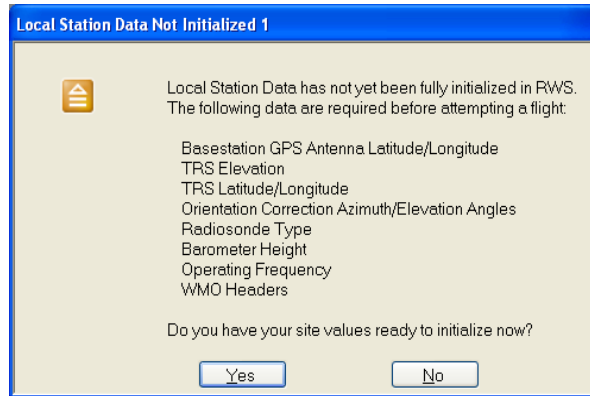


Figure B-18: Local Station Data Not Initialized 1 Window

2. Enter the values recorded in Section B.2.5 for the field values missing from the Station Data Display (Figure B-19).

NOTE: In addition to station data saved in Section A.2.5.2, station data was collected during RRS deployment and cataloged in an RRS Site Specific Database on the NWSH website <https://ops13web.nws.noaa.gov/>. Compare the locally saved station (backup) data to data from the OPS13 web site. If there are discrepancies, call the Direct Field Support staff at 301-713-9800. Once discrepancies are resolved, confirmed Station Data shall be entered as a part of the RWS software installation.

NOTE: All Site Electronic Systems Analysts (ESAs) have automatic access to the RRS Site Specific Database operated by OPS13. Access to others will be granted by the Direct Field Support staff at (301) 713-9800.

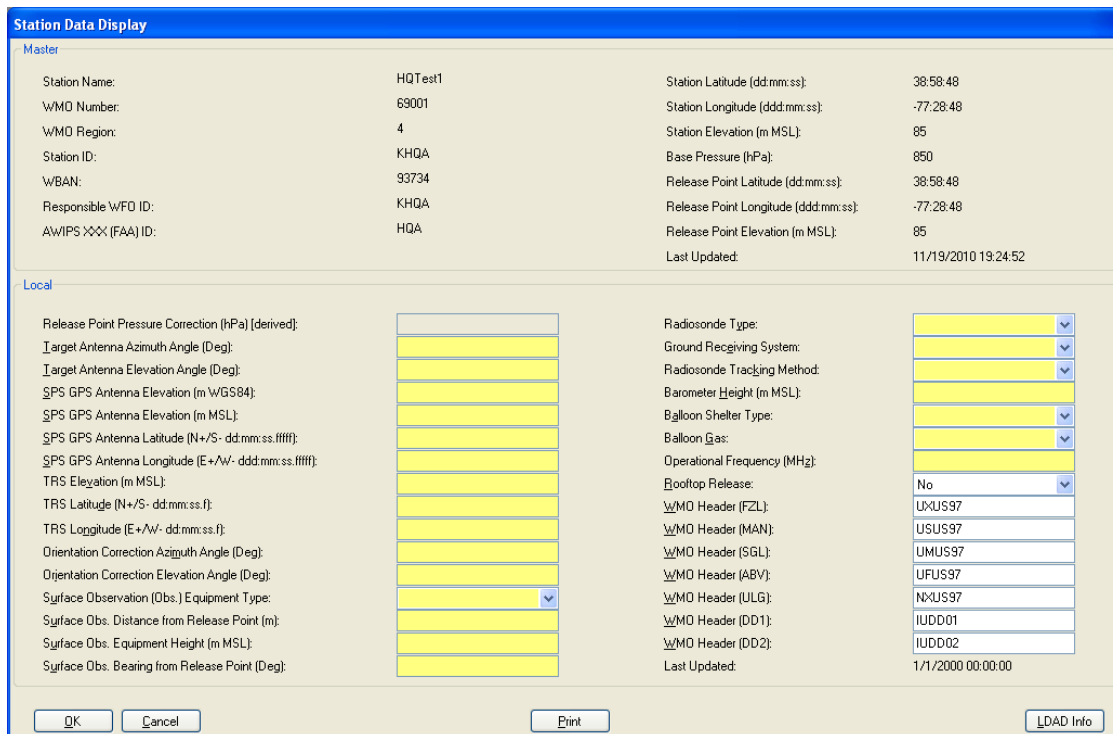


Figure B-19: Station Data Display (Example Only)

- a. Release Point Pressure Correction (hPa): The Release Point Pressure Correction is derived and is not entered. The Release Point Pressure Correction is the pressure difference between the baseline point and the release point (i.e., balloon shelter). The value is calculated and cannot be entered. The value is negative if the release point is higher than the baseline point.
- b. Target Antenna Azimuth Angle (Deg): Enter the azimuth angle of the target antenna in degrees.
- c. Target Antenna Elevation Angle (Deg): Enter the elevation angle of the target antenna in degrees.

NOTE: Build 1.2 uses the term Base station for the data entered in Steps d through g.

- d. SPS GPS Elevation (m WGS84): Enter GPS antenna elevation in Earth Ellipsoid Sphere in meters.
- e. SPS GPS Elevation (m MSL): Enter GPS antenna elevation above mean sea level in meters.
- f. SPS GPS Antenna Latitude (N+/S- dd:mm:ss.ffff): Enter GPS antenna latitude in the prescribed format.

NOTE: South latitudes and west longitudes are preceded by a negative sign.

- g. SPS GPS Antenna Longitude (E+/W- ddd:mm:ss.ffff): Enter GPS antenna longitude in the prescribed format.
- h. TRS Elevation (m MSL): Enter TRS elevation above mean sea level in meters.
- i. TRS Latitude (N+/S- dd:mm:ss.f): Enter TRS latitude in the prescribed format.
- j. TRS Longitude (E+/W- dd:mm:ss.f): Enter TRS longitude in the prescribed format.
- k. Orientation Correction Azimuth Angle (Deg): Not implemented enter 0.00.
- l. Orientation Correction Elevation Angle (Deg): Not implemented enter 0.00.
- m. Surface Observation (Obs.) Equipment Type: Select appropriate option.
- n. Surface Obs. Distance from Release Point (m): Enter appropriate value in meters.
- o. Surface Observation Equipment Height (m MSL): Enter appropriate value in meters.
- p. Surface Obs. Bearing from Release Point (Deg): Enter appropriate value in degrees.
- q. Radiosonde Type: Select appropriate option.
- r. Ground Receiving System: Select appropriate option. (This is the SPS type.)
- s. Radiosonde Tracking Method: Select GPS.
- t. Barometer Height (m MSL): Enter station specific value in meters.
- u. Balloon Shelter Type: Select appropriate option.
- v. Balloon Gas: Select appropriate option.
- w. Operational Frequencies (MHz): Enter 1680 or the site specific frequency in MHz used for first releases.
- x. Rooftop Release: Select appropriate option.

- y. WMO Header (FZL): Enter station specific value.
 - z. WMO Header (MAN): Enter station specific value.
 - aa. WMO Header (SGL): Enter station specific value.
 - bb. WMO Header (ABV): Enter station specific value.
 - cc. WMO Header (ULG): Enter station specific value.
 - dd. WMO Header (DD1): Not implemented enter IUDD01.
 - ee. WMO Header (DD2): Not implemented enter IUDD02.
3. Print the screen and have a second person verify all data entries.

B.6.2.3 Enter LDAD Data

Complete the following steps to enter LDAD data:

1. Click **LDAD Info** on the Station Data Display to open the LDAD Data Display (Figure B-20).

Type	Phone Number	Server IP	User Name
LAN			
Phone 1	NA		
Phone 2	NA		
Phone 3	NA		

Figure B-20: LDAD Data Display

2. Click **Edit** for the LAN Type to open the *LDAD Data for LAN* window (Figure B-21).

Type: LAN

Phone Number:

Server IP:

User Name:

Password:

Verify Password:

Test OK Cancel

Figure B-21: LDAD Data for LAN Window

- Complete the LDAD Data fields using the data recorded in Section B.2.7.

NOTE: The Phone Number field for the LAN Type should be blank.

- Click **OK** to accept the changes and close the *LDAD Data for LAN* window.
- Edit the **Phone 1**, **Phone 2**, and **Phone 3** Types.
- Once all LDAD Data has been entered, click **OK** to close the LDAD Data Display.
- Click **OK** to close the Station Data Display. The *Local Station Data Sufficient* window is displayed (Figure B-22).

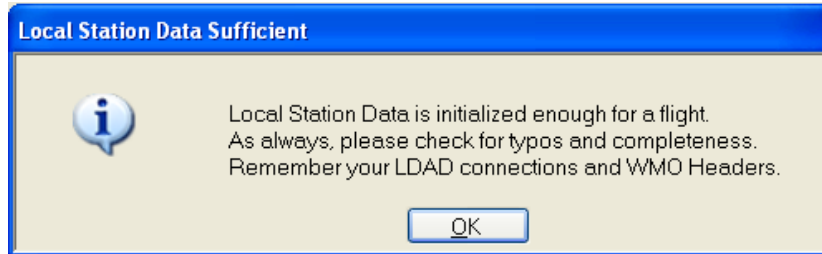


Figure B-22: LDAD Station Data Sufficient

- Click **OK** to dismiss the *Local Station Data Sufficient* window.

B.6.3 Restore Flight Data

The *Installation Restore* window (Figure B-23) is displayed if the Master Database is empty and flight data files are present in the E:\RWSBackup folder or the C:\RWSBackup folder. Complete Section B.6.3.1 to import flight data files, or complete Section B.6.3.2 to skip flight data import.

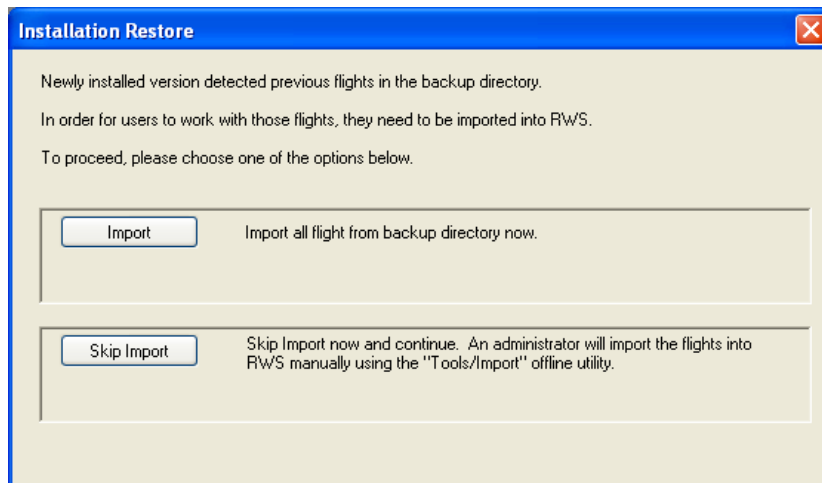


Figure B-23: Installation Restore Window

B.6.3.1 Import Flight Data

Complete the following steps to import flight data files.

NOTE: Flight data files are imported at a rate of approximately six flights per minute. Deselect flight data files older than 60 days to avoid a lengthy import session.

1. Click **Import** on the *Installation Restore* window to open the RWS Flight Import Utility. By default, all flights in the E:\RWSBackup folder are selected for import.
2. If the flight data file were backed up to another location, click the **Flight Backup Location** button to select a different file folder, such as a CD (See Section B.2.3 for the Flight Database backup folder).
3. Click **Import** when the required flight data files have been selected.
4. The *RWS Offline Import Utility Results* window is displayed when import is complete.
5. Record any flights that failed to import, and contact the Direct Field Support staff at (301) 713-9800, after the installation to resolve the matter.
6. Click **OK** to dismiss the *RWS Offline Import Utility Results* window.
7. Select **Flight** and **Close** to close the *Flight Import Utility* window.

B.6.3.2 Skip Flight Import

Complete the following steps to skip flight import.

1. Click **Skip Import** on the *Installation Restore* window.
2. If the message *It's been a while without a flight...* appears, click **OK**.
3. If the message *Synoptic flight was missed...* appears, click **No**. The main RWS menu will display (Figure B-24).

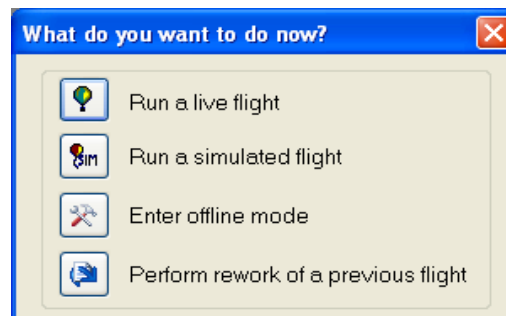


Figure B-24: Main RWS Menu

4. Click the Enter offline mode icon.

B.6.4 Enter RWS Users

Users must be added to RWS to provide access to the RWS Application. Complete the following steps to add RWS users.

NOTE: The User Name is the identifier used to log on to the RRS Workstation. The RWS Access Levels are: RWS Trainee, for people being trained and not yet permitted to run flights; RWS Observer, for regular observers; and RWS Site Administrator.

1. Select **Tools**, then **Utilities** from the top banner menu to open the *RRS Software Utilities* window.
2. Select **Administrative Utilities** and **User Administrative Utility** to open the *User Administration* window (Figure B-25).

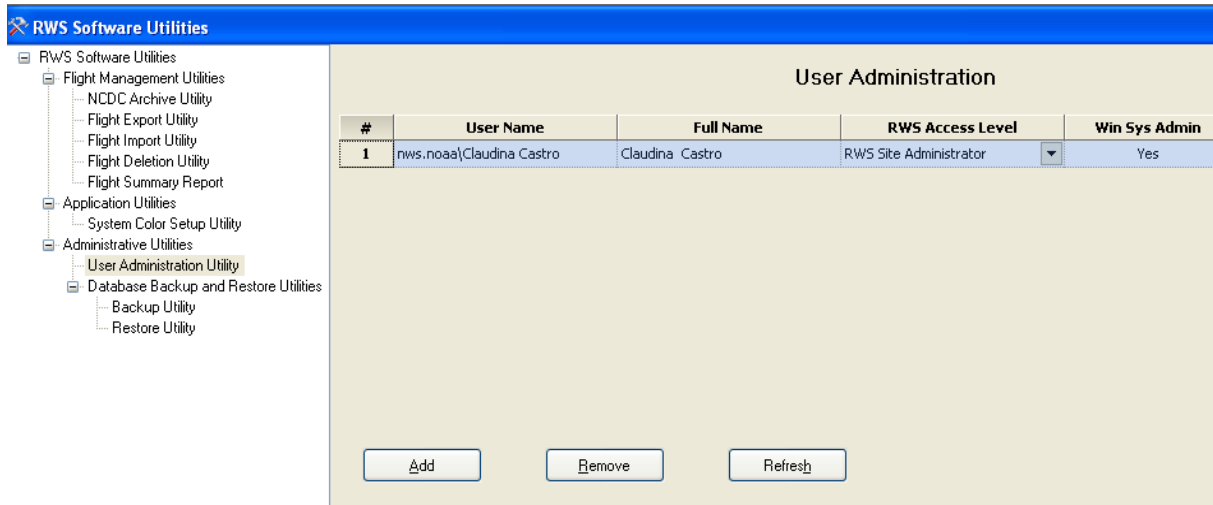


Figure B-25: User Administration Window (Example Only)

3. Select **Add** to open the *RWS-User Admin-Add User* window (Figure B-26).

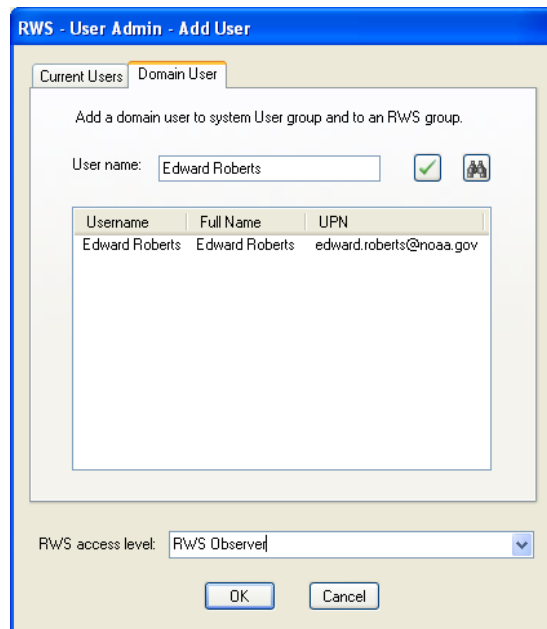


Figure B-26: RWS - User Admin - Add User Window (Example Only)

4. Select the **Domain User** tab to add members of the nws.noaa domain. Enter first and last name of the new user, and then click the search icon. Or select the **Current Users** tab to add local users.
5. Assign the appropriate **RWS access level** from the dropdown list.
6. Click **OK** to create a new RWS user.
7. Repeat for each RWS user.
8. Select **Flight** and **Close** to close the *RWS Software Utilities* window.
9. Select **Flight** and **Exit** to exit RWS.

NOTE: Each RWS user must select a default printer.

B.7 Conduct an Upper Air Sounding

Conduct a live flight following the initial installation of the RWS Operational Application Software Version 2.1. See RRS Workstation User Guide for RWS, Version 2.1, dated March 2011, for conducting an upper air sounding (for a copy, go to: <http://www.ua.nws.noaa.gov/RRS.htm>, or use the RWS Help File function).

NOTE: Conducting a live flight is not recommended following reinstallation of Version 2.1 maintenance releases.

B.8 Capture the Flight

1. Double-click the **Capture Utility** shortcut to open the RWS Capture Utility.
2. Select the flight from the RWS Capture Utility pull-down menu (Figure B-27).

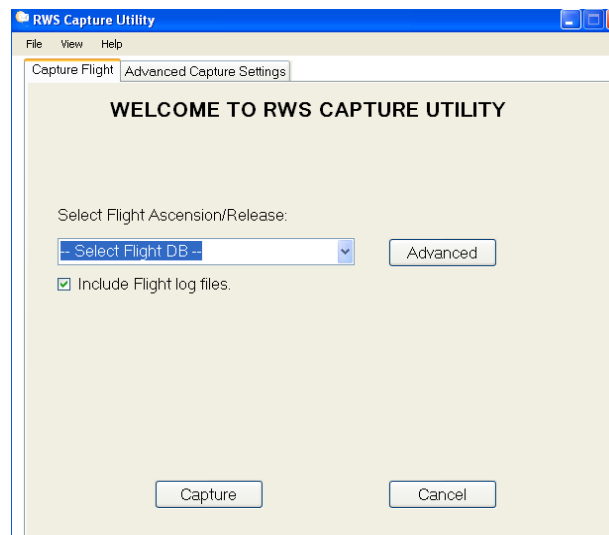


Figure B-27: RWS Capture Utility

3. Click the **Capture** button.
4. Click **OK** when the *Capture Successful* message appears.

B.9 Verify Message Transfer

B.9.1 Verify Message Accuracy in AWIPS

1. Verify the receipt of the coded messages by logging on to an AWIPS terminal or by viewing the coded messages at <http://www.weather.gov/data/>.

NOTE: To verify receipt of Pacific Region coded messages, Log on to: <http://www.prh.noaa.gov/data/>.

2. Verify the accuracy of the coded messages.

B.9.2 Verify Messages to NCDC

Verify the successful reception of archived data to the NCDC ftp site. Visit <http://www1.ncdc.noaa.gov/pub/data/ua/RRS/YYYY> (where YYYY is the current year). Once at the website find the log file representing the site by identifying the station ID and the year and month the data was transmitted. For example `klwx_0801_log.txt` would contain the upload history for LWX for January of 2008.

B.10 Install OMS

When time permits, install the OMS software. Refer to Attachment C for instructions.

B.11 Optimize Windows Desktop

When time permits, optimize the *Windows* Desktop for best performance. Refer to Attachment D to perform this function.

ATTACHMENT C - Offline Maintenance Installation Procedures

C.1 Overview

This Attachment describes the installation of Offline Maintenance Suite (OMS) Version 2.0.

Refer to EHB 9-730 for more general instructions on installing RRS software.

The RWS OMS Version 2.0 software is contained on the same CD as the RWS Operational Application Software Version 2.1. The software is only available on CD directly from the Maintenance Branch (OPS12, (301) 713-1833 x182).

The RRS Workstation (RWS) is connected to a number of devices (SPS, TRS, RSOIS, PDB), that provide live data feeds. These devices can be tested offline using various programs collectively called the OMS.

The OMS is accessed through a desktop RRS Offline Menu icon that permits the user to select the port and device to test. One of the programs is Offline BIT (OBIT), which is used to test the TRS and UPS. Other non-OBIT programs test the SPS, RSOIS, PDB, and AWIPS/LDAD.

OBIT is both a test program and an RWS Application Software Simulator. OBIT is a simple Graphical User Interface (GUI) built on top of the Radiosonde Protocol eXecutive (RPX) library program. OBIT is essentially a Windows user interface display and logger connected to the various RRS Workstation device data streams (i.e., their serial ports or the equivalent ports of an external data pump). OBIT displays device status and enables running device Built-in-Tests (BIT) for hardware status and diagnostics.

C.2 OMS Related Documents

- RRS Offline Maintenance Suite and OBIT Overview
- RRS Workstation User Guide for RWS Version 2.1, March 2011
- RRS Workstation (RWS) Manual NWS EHB 9-720

C.3 Install the RWS Offline Maintenance Suite Version 2.0 Software

1. Log on to the RRS Workstation as an RWS Site Administrator.
2. Insert the RWS Application software CD (RWS.Net) into the RRS Workstation.
3. If the RRS Workstation auto-boots, the *RWS Upgrade* screen will appear. Click **Exit** to clear the Desktop.
4. From the Desktop, click **Start**, and then left-click **My Computer**.
5. Select **CD drive (D)** with a left-click.
6. Right-click **CD drive**.
7. Left -click **Explore**.
8. Double-click **OMS**.
9. Double-click **Setup**. The *InstallShield Wizard* display will appear.
10. Click **Next**.
11. Click **Install** on the *Ready to Install* display.
12. Click **Finish** when the installation is complete.

13. Close all screens.
14. Remove the RWS application CD from the CD-RW drive.

C.4 Confirm TRS Station Data

After OMS software installation, perform the following steps to confirm the TRS station data matches the specific data stored in TRS location files:

NOTE: The TRS must be initialized.

1. Double-click **RRS Offline Menu 2.0** icon to start the OMS.
2. Setup the OMS Com ports by entering the Serial Com port numbers shown in OMS Com Ports Table C-1 into the **RRS Offline Menu**.

Table C-1: Default Port Settings

OMS COM PORTS	
OMS	Serial COM Ports
SPS	9
RSOIS	6
PDB	7
TRS	1
UPS	8

3. Select **UPS Maintenance** from the *OMS* menu.
4. Power on the TRS by selecting the **Power On** option. Then close the *UPS Maintenance* window.
5. Select the **TRS Maintenance** option.
6. Click the **Mode** menu and select the **Terminate** option.
7. Click the **Setup** menu and select the **Station Data** option.
8. Load the TRS Station Data (if station data menu fields are not correct) by entering the site's station latitude and longitude (to one decimal or second) as well as the applicable TRS Azimuth and Elevation values. See Figure C-1 for an example of TRS Station Data. Use OMS Station data recorded in Sections A.2.5.1 or B.2.5.1.

NOTE: A complete set of TRS Station Data is available for reinstallation from Configuration Management database at: <https://ops13web.nws.noaa.gov/>.

NOTE: All Site Electronic Systems Analysts (ESAs) have automatic access to the RRS Site Specific Database operated by OPS13. Access to others will be granted by the Direct Field Support staff at (301) 713-9800.

Station Data		
RRS Station ID (Kxxx)	KSTB	
TRS Position		
Latitude (D/M/S.x)	38/58/43.0	
Longitude (W-, E+)	-77/28/39.0	
Altitude (m) (MSL)	89.9	
TRS Bearing-To		
	Az	El
Target	0	0
Baseline area	0	0
Release area	0	0
OK Cancel		

Figure C-1: Station Data Window (Example Only)

9. Click **OK**.
10. Close the OBIT. The *Offline Maintenance* screen will return.
11. Click **Exit**.

ATTACHMENT D - Optimizing the Windows Desktop for RWS

D.1 Windows Desktop Setup for RWS

RRS Workstations (RWS) usually default to the Windows Classic theme when added to a domain. The Windows Classic theme can cause unexpected behavior when running the RWS application. Execute the following steps for best RWS application performance.

D.2 Set the Visual Effects Option

This section must be completed by an RWS Site Administrator. Complete the following steps to set Visual Effects to Adjust for best appearance.

1. Log on to the RRS Workstation as an RWS Site Administrator.
2. Click **Start**.
3. Right-click on **My Computer** to display a drop down menu, and then click on **Properties** to open the *System Properties* window.
4. Click the **Advanced** tab, and then click **Performance|Settings** to open the *Performance Options* window.
5. Click the **Visual Effects** tab, and then select the **Adjust for best appearance** option.
6. Click **OK** to accept the change and close the *Performance Options* window.
7. Click **OK** to close the *System Properties* window.
8. Log off of the RRS Workstation.

D.3 Set the Display Options

This section should be completed by all RWS users. Complete the following steps to set Visual Effects to Adjust for best appearance.

1. Log on to the RRS Workstation as an RWS user.
2. Right-click on the **Windows Desktop** to display a drop down menu, and then click on **Properties** to open the *Display Properties* window.
3. Click the **Themes** tab, and then set the **Theme** value to **Windows XP**.
4. Click the **Appearance** tab, and then set the **Windows and buttons** value to **Windows XP style**.
5. Click the **Effects** button to open the *Effects* window (Figure D-1).
6. Select all options except **Use large icons**, and then select the **Fade effect** and **Standard** option.

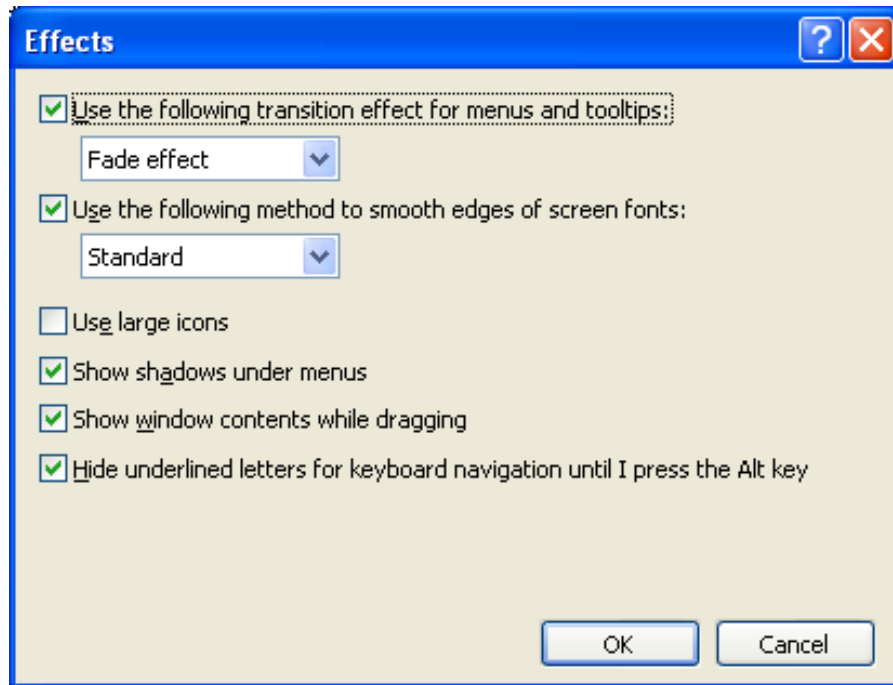


Figure D-1: Effects Window

7. Click **OK** to close the *Effects* window.
8. Click **OK** to close the *Display Properties* window.
9. Log off of the RRS Workstation.



ATTACHMENT E - RWS 2.1.0.0

Release Notes

3/17/2011

E.1 Overview

RWS 2.1.0.0 is a maintenance revision provided for field evaluation at Sterling, VA and other stations located nationwide. RWS Build 2.1.0.0 is a maintenance revision to the software correcting issues with RWS Build 1.2.0.0 as well as other improvements. For details on RWS software description and platforms supported, please refer to RWS User Manuals.

E.2 What's New in RWS 2.1.0.0

1. Sustainability improvement. Migrated most of the program to the C# language, and it now uses the Microsoft .NET 3.5 Framework. This improves software compatibility with future versions of the Windows operating system, and also gives a Windows XP look and feel to the user interface. A new, more efficient third-party grid library (SynCFusion) is now being used.
2. The Microsoft Jet database engine (Access format) was replaced by Microsoft SQL Server Express 2008, providing more robust database functionality. This should result in successful data recovery following catastrophic events such as power failures. Older database formats are automatically upgraded when imported into RWS.
3. New plot functionalities.
4. Implements domain accounts and use of Active Directory to control user authentication and enforce a nationally standardized security configuration. This will be used for monitoring and updating the systems via National Oceanic and Atmospheric Administration Wide Area Network (NOAAnet) at each upper air facility associated with a Weather Forecast Office (WFO).
5. Supports new radiosonde and SPS types.
6. Archive Utility automates NCDC data transfer.
7. User Interface Changes.
8. Data Processing Changes.
9. Status message changes.
10. Check message changes.

11. RWS Section 508 compliance changes:

- Supports keyboard-only operation, provides special Section 508 mode on a per user basis to display additional symbols in tables to supplement color coding.

12. Hardware status reporting improvements:

- Provides additional status information (English explanation versus only the code or bit values)
- LAN status changes reported as they occur, not just when starting.

E.3 The following System Issue Reports (SIRs) have been resolved during the operation testing leading to this release:**Version 2.0.9.0**

- SIR 625 - Exception when flight manually terminated; AAS during TF
- SIR 781 - Exception when user closes, after release detected, for do 2nd release
- SIR 785 - During Post Release SFC Observation. Flight -> Close causes Unhandled Exceptions
- SIR 793 - Clicking twice on the New Insert icon in the Open Workspace or Save Workspace Window causes an Exception
- SIR 804 - Max wind not plotted correctly
- SIR 817 - Fatal Exception when closing flight
- SIR 819 - Flight Summary not viewable
- SIR 820 - PDS processing delayed by pop-up message
- SIR 867 - Opening Preflight Info in Rework of Flight causes Fatal Exception
- SIR 872 - "New UPS Status" pop-up reappears continually every few seconds.
- SIR 873 - RWS has a fatal exception when attempting to edit the LDAD info in the Station Data.

Version 2.0.10.0

- SIR 1366 - Mean Wind Calculations. Corrected an error in the calculation of missing wind data.
- SIR 1367 - NDCDC files with incorrect time. Corrected a typo that displayed time in a 12-hour clock format instead of the 24-hour clock.
- SIR 1368 - Audio alert tone without ability to dismiss. Corrected an error that prevented users to access modeless message boxes that were generated while the application was minimized.
- SIR 1370 - GPS Track Mode switches to Manual during Missing GPS.
- SIR 1371 - Five Status Messages "TRS Reset Done (see HW)".

- SIR 1372 - Applying User Edits slide out did not close and the Flight Summary was not accessible in Post Flight.
- SIR 1373 - TRS Display Result Box indicates EL Move of 999.
- SIR 1375 - Termination for excessive missing data.
- SIR 1376 - Access to write to E:\RWSBackup is denied to observer.

Version 2.0.11.0

- SIR 1374 - Unable to plot overlay levels data for dewpoint in Skew-t Plot. Fixed problem caused by trying to read an overlay flight null dataset.
- SIR 1378 - Fatal Exception with grids, no columns available, during TP 402B (plot functionality). Exception most likely caused by a timing issue when a form is disposed before some of its controls. The Fatal Exception could not be reproduced but changes were made to avoid the timing issue.
- SIR 1379 - Exception when View->Preflight and Message->Code. Fixed a problem caused by the combination of View|Preflight and Message|Code events.
- SIR 1381 - SPS Status green check not being changed when communications lost. This SIR was implemented as an enhancement that fixes several issues related to the HW Status display not just the problem reported by the user.
- SIR 1382 - Flight Summary Report Utility, summaries have mainly N/As. RWS will now generate and save flight summary data when available, not only when requested by user.
- SIR 1383 - Date for 00Z NCDC Archives incorrect. Changed value use to create file name; use Observation date instead of release date.
- SIR 1384 - RWS Security Warning message window has a generic "window" name attribute. The security warning splash screen name was changed to "NOAA".
- SIR Printer test hangs application for virtual printer. Changed method used to test printer from the Hardware Manager so that a virtual printer will not cause an exception.

Version 2.0.15.0

- SIR 1380 - Add option to remove overlay plots. Allow the option to remove overlay plots from all plots available once they are shown. A new item has been added to the Previous Flights display (displayed when Overlay Flight command is issued), showing station Name as "Show None".
- SIR 1508 - Flight Object not initialized properly for rework. Initialize flight when is opened for rework immediately after starting RWS.
- SIR 1510 - Error with LDAD IP not allowed if any octet other than last has a 0 as its value The original implementation used 1-255 for the first three bytes, 0-255 for the last byte. Implementation was change so that 0-255 is allowed in all bytes.

- SIR 1513 - RWS Application Fatal Exception Reno WFO. Application crashes when plots are minimized at the time message code is being processed. As a workaround, users were instructed to not minimize plots (at least when message coding can occur, 400 hPa, 70 hPa, termination)". Software was modified to prevent this exception.
- SIR 1515 - Central Illinois WFO User Workspace Fatal Exception. Station Data Display field Rooftop Release does not update. The field value always reverts to Yes. A message is given stating the field has been updated, but the value stored in the database is never changed. Fixed testing and conversion method of Station Data Display and the Formatting Yes No Box which is used to display the Rooftop Release field.
- SIR 1516 - Station Data Display Release Point Pressure Correction. The derived Release Point Pressure Correction on the Station Data Display did not update correctly as the Barometer Height and Release Point Elevation are changed. The value displayed was incorrect. If the Station Data Display was closed and then reopened, the correct Release Point Pressure Correction was displayed. Modified Station Data Display to use Release Point Elevation instead of Station Elevation to calculate Pressure Correction.
- SIR 1517 - Error Message displayed when cells missing from WMO Header in Local Station Data are incorrect. Problem occurred when WMO headers for DD1 & DD2 were empty. Database was modified with dummy data to initialize headers for each site.
- SIR 1518 - Central Illinois WFO User Workspace Fatal Exception. When creating a new user workspace, if the move up, move down, or delete buttons are pushed while in edit mode, a fatal error is generated. All buttons and associated keystrokes that generate a fatal exception while in edit mode have been disabled.
- SIR 1519 - RWS application fatal exception when no flights are selected in Overlay Flight window. This problem occurs when radio buttons are used to filter the list and the resultant list is empty, i.e., when Simulated is selected on a workstation that has no simulated flights, or Live is selected on a workstation that has no Live flights. The OK button has been disabled when the list is empty.
- SIR 1525 - Fairbanks unable to confirm NCDC data. RWS is now selecting the StationMaster record based on WMONo and LastUpdated field to retrieve the latest record entered.
- SIR 1526 - Shreveport is misspelled in the station data. It is spelled as Shreveport and can not be changed by the site. Database was updated with correct spelling.
- SIR 1534 - Add another Default Work Space. A new workspace was created to display: Pressure plot, PDS, Raw PTU, and TRS display.
- SIR 1542 - TRS takes longer to switch from WAGS to NAGS in Build 2.0. After RWS Build 2.0 update...the TRS takes longer to switch from WAGS to NAGS. Added a command to TRS at release that was omitted in Build 2.0.
- SIR 1546 - Flight number in Plot Format Designer not visible. In the "Plot Format Designer" window, under the "Data Content" tab, the "Flight #" is blank (not visible). The problem occurred with Windows Classic Theme. Software has been modified to prevent this from happening. It is strongly recommended that users set their Windows Theme to Windows XP.

- SIR 1549 - When resizing/moving window over dark gray background...outline of the window is not visible. When observer resizes or moves a window...the dark gray outline showing where the window will move is the same color (or nearly the same color) as the dark gray background...making it difficult to determine where the final location of the window will be. It occurred when Windows display effect was not set to display windows contents while dragging. Background color was shifted very slightly to be able to view the frame when dragging windows.
- SIR 1550 - WMO Coded Message display size requires word wrap for MAN/SGL/ABV Messages. When the WMO Coded Message Display appears at 400mb...the window is too narrow and the MAN/SGL/ABV messages are word wrapped. Spacing and fonts were tweaked to keep text from wrapping.
- SIR 1555 - Simulated or live flight functions following archiving causes loss of archived flight. A new flight was started immediately after transmitting an archived flight. Doing so causes an exception because the FlightController does not dispose the Flight object used by the archive utility and creates a new one for the new flight. As a result, the meta data dataset that was open for the archive utility is accessed during StartFlight, with unexpected results. All flight-specific resources are now freed when closing the off-line utilities.
- SIR 1558 - TRS default frequency was changed and saved. After that changed, a warning appears every time RWS application starts indicating the frequency is (or was) the original default frequency. The warning message has been reworded.
- SIR 1559 - Newport/Morehead City WFO Asc 563 SPS or TRS lockup Midflight. SPS hardware problem and RWS software exceptions were reported during first minutes of flight. The hardware problem is being analyzed by OPS11 and Sippican. Database files and utilities have been changed to better handle second and third releases.
- SIR 1566 - Enh: give the operator a clean way to exit if there are "VerifyPKT" database consistency check errors when RWS is started. When RWS is started, it verifies data files and database consistency. It is strongly recommended to click Yes to let RWS fix inconsistencies. If an operator elects to not allow RWS to make some consistency fixes, the application will exit.
- SIR 1567 - Enable additional releases after an Abort. Every start of a new flight RWS checks if previous flight was successful. If not, offer a new release (up to 3) but only if within 60 minutes of the previous balloon release.
- SIR 1568 - "Excessive jump in radiosonde position of 0 kilometers" --- possibly caused by acquisition of another radiosonde signal RWS will need a minimum jump of 45km to report "Excessive jump in radiosonde position of 0 kilometers at 8.41 minutes. Check for possible acquisition of signal from another site's radiosonde."

Version 2.0.16.2

- SIR 1602 - Locking mechanism implemented in SIR 1596 was not completely thread safe. An additional internal lock has been added to remove thread contention.

Version 2.0.16.3

- SIR 1603. Temperature Spikes. The temperature correction algorithm was changed to find and use the most recent good RVO latitude/longitude, rather than defaulting immediately to the Release Point values if the latest RVO was bad --- which created temperature spikes under certain sunrise or sunset conditions.
- SIR 1607 - Backup and export of flights to unmapped network shares are not supported. The Backup and Export Utilities no longer allow destination folders to be selected from My Network Places.

ATTACHMENT F - Commissioned RRS Sites

REGION	COMMISSIONED SITES	REMARKS
<i>Eastern Region</i>	Albany	
	Blacksburg	
	Brookhaven	
	Buffalo	
	Charleston	
	Chatham	
	Gray	
	Greensboro	
	Morehead City	
	Pittsburgh	
	Sterling	
	Wilmington	
	<i>Central Region</i>	Aberdeen
Bismarck		
Chanhassen		
Davenport		
Denver		
Dodge City		
Gaylord		
Grand Junction		
Green Bay		
International Falls		
Lincoln		
North Platte		
Rapid City		
Riverton		
Springfield		
Topeka		
Valley		
White Lake		
<i>Southern Region</i>	Albuquerque	San Juan and Key West are TBD
	Amarillo	
	Birmingham	
	Brownsville	
	Corpus Christi	
	Del Rio	
	Forth Worth	
	Jackson	
	Jacksonville	
	Lake Charles	

REGION	COMMISSIONED SITES	REMARKS
<i>Southern Region Continued</i>	Little Rock	
	Miami	
	Midland	
	Nashville	
	Norman	
	Peach Tree City	
	Santa Teresa	
	Shreveport	
	Slidell	
	Tallahassee	
	Tampa Bay	
<i>Western Region</i>	Boise	Las Vegas and Great Falls are TBD
	Elko	
	Flagstaff	
	Glasgow	
	Medford	
	Oakland	
	Quillayute	
	Reno	
	Salem	
	Salt Lake City	
	San Diego	
	Spokane	
	Tucson	
	<i>Alaska Region</i>	
Annette		
Bethel		
Fairbanks		
King Salmon		
Nome		
Saint Paul Island		
Yakutat		
<i>Pacific Region</i>		Lihue and Hilo are TBD

ATTACHMENT G - Sample EMRS Report

GENERAL INFORMATION

NEW RECORD WFO* APX Document No.* APX110406004

1. Open Date: 04/06/2011 Open Time: 08:00 (Local) 2. Op Initials: WSH 3. Response Priority: Immediate Low Routine Not Applicable 4. Close Date: 04/06/2011 Close Time: 13:00

5. Maintenance Description: 315 characters left UPPER AIR

Installation of RRS Workstation (RWS) Software. Operational Application Software, RWS Version 2.1; Offline Maintenance Suite (OMS), Version 2.0; RWS Operating System, Configuration 1.09

EQUIPMENT INFORMATION

6. Station ID*: APX 7. Equipment Code*: RWS 8. Serial Number: 00354S1946 9. TM: M 10. AT: M 11. How Mal: 999

Alert: Time Remaining: 0:00 (For Block 12 use only)

12. EQUIPMENT OPERATIONAL STATUS TIMES

a. Fully Operational		Partially Operational				Not Operational			
Hours	Minutes	b. Logistic Delay		c. All Other		d. Logistic Delay		e. All Other	
Hours	Minutes	Hours	Minutes	Hours	Minutes	Hours	Minutes	Hours	Minutes
5	0								

13. PARTS USAGE and CONFIGURATION MANAGEMENT REPORTING

ASN	Vendor Part No. (New Part)	Serial Number (Old Part)	Serial Number (New Part)	
				<input type="button" value="New Row"/> <input type="button" value="Delete Row"/>

14. WORKLOAD INFORMATION

a. Routine		b. Non-Routine		c. Travel		d. Misc		e. Overtime	
Hours	Minutes	Hours	Minutes	Hours	Minutes	Hours	Minutes	Hours	Minutes
						5	0		

MISCELLANEOUS INFORMATION

15. Maintenance Comments: 579 characters left [View Status History](#) [Attachments](#)

Installed RWS Operational Application Software version 2.1, Offline Maintenance Suite version 2.0, and RWS Operating System Configuration 1.09, I.A.W. RRS Software Note 10

16. Tech Initials: RJW

Contract Maintenance Disclaimer Number of Technicians: 1

17. SPECIAL PURPOSE REPORTING INFORMATION

a. Mod No.: S10 b. Mod Act/Deact Date: 04/06/2011 c. Block C: d. Trouble Ticket No.: e. USOS Outage Doc No.:

18. Work Order Information:

Work Accomplished by:

Region Headquarters Electronics WFO/Office Facilities
 Maintenance Contractor

Est. Cost or Bid: \$ Req. Completion Date: Contractor Maintenance Time:

Trusted sites 100%