

MEMORANDUM FOR: Distribution

FROM: W/OPS1 - John McNulty

SUBJECT: Console Replacement System (CRS) Voice Improvement
Processor (VIP) Installation Procedures

1. Material Transmitted:

Engineering Handbook No. 7, Communications Equipment, Section 3.4,
Modification Note 65, CRS Voice Improvement Installation
Procedures.

2. Summary:

Request for Change AA525 authorizes CRS VIP installation for 121
Weather Forecast Offices (WFO), two National Weather Service
Headquarters (WSH) systems, two National Reconditioning Center
(NRC) systems, and two NWS Training Center (NWSTC) systems.

3. Effect on Other Instructions:

None.

Distribution:

All holders of EHB-7.

COMMUNICATIONS EQUIPMENT MODIFICATION NOTE 65 (for Electronics Technicians)

Maintenance Branch

W/OPS12:GSS

SUBJECT : CRS Voice Improvement Processor Installation Procedures

PURPOSE : This document contains the procedures for performing the Console Replacement System (CRS) Voice Improvement Processor (VIP) installation and installation of the version 8.0 CRS software build. The tasks required for the installation of the CRS VIP are detailed in attachment A.

SITES AFFECTED : All CRS Sites

EQUIPMENT AFFECTED : CRS (B440)

PARTS REQUIRED : The parts required will be issued to each site by W/OPS12 from the National Logistics Support Center under the applicable approved Request for Change.

- (1) CRS VIP (ASN: B440-1A10)
- (1) BNC T connector (ASN: B440-4J1)
- (1) 3 foot LAN Cable Segment (ASN: B440-2W1)
- (1) 10BaseT to 10Base2 Converter (ASN: B440-1A9A1)
- (1) KVM Switch with cables (ASN: B440-1A10S1)

PARTS SUPPLIED BY THE SITE : None.

TOOLS AND TEST EQUIPMENT REQUIRED : None.

TIME REQUIRED : 4 Hours

EFFECT ON OTHER INSTRUCTIONS : None.

AUTHORIZATION : The authority for this modification is Request for Change AA525.

VERIFICATION STATEMENT : This procedure was tested and verified at the National Weather Service Headquarters (WSH), Silver Spring, MD (SLVM2).

GENERAL : This procedure contains the instructions for adding the CRS VIP.

- TECHNICAL ASSISTANCE : For questions or problems pertaining to this Modification Note, please contact Joel Nathan at (301) 713-0191, x119.
- PROCEDURE : Attachment **A** provides procedures for implementing this modification. Attachment **B** provides a completed sample of the WS Form A-26, Maintenance Record.
- REPORTING INSTRUCTIONS : Report the completed modification on a WS Form A-26 according to the instructions in Engineering Handbook No. 4 (EHB-4), Engineering Management Reporting System (EMRS), Part 2, and Appendix I. Include the following information on the WS Form A-26:
- a. An equipment code of **CRSSA** in block 7.
 - b. A serial number of **001** in block 8.
 - c. The **ASN** and **NSN** of the VIP in block 13.
 - d. A Mod No. of **65** in block 17a.
 - e. The **serial number** of the VIP B440 processor in block 18.

A sample WS Form A-26 is provided as attachment **B**.

John McNulty
Chief, Maintenance, Logistics, and Acquisition Division

Attachment **A** - Installation Procedures
Attachment **B** - WS Form A-26 Sample

Attachment A
Installation Procedures

Attachment A Installation Procedures

NOTE: Because the format of several database tables will be modified, you will not be able to use your old database with the new Build 8.0 CRS software. After installing the new software, it will be necessary to reload your database from an *ASCII database* file generated from a special version of the *GUI-2ASCII* software. **All old weather messages will be lost.** Sites must remember to replenish their CRS database from their CRS formatters when CRS becomes operational again.

Overview

This modification note provides instructions to perform the CRS VIP installation. The installation procedure contains seven parts:

1. Pre-installation Procedures
2. CRS Power-Down Procedures
3. CRS VIP Equipment Installation Procedures
4. CRS Power-Up Procedures
5. CRS Login, Applications Software Loading and Error Verification
6. Database Modifications and Loading, CRS Application Startup and Verification Procedures, Configuration for VIP Operations, and Database Backup
7. VIP Power On and Configuration Procedures

PART 1 – PRE-INSTALLATION PROCEDURES

1.1 Schedule CRS Down Time Procedure

1. As a conservative estimate, schedule six hours (one hour for saving the Activity Logs and adding IP addresses, one hour for VIP installation, and two hours for loading the CRS software, loading the database, and system startup) to perform the CRS VIP installation. This is a conservative estimate. Your actual time may be less; however, it may require more time, if you have problems.
2. Notify the public that CRS (NOAA Weather Radio) is to be down during this scheduled time for maintenance.
3. Unpack the new VIP in a static-safe work area.

When you receive your system, inspect the shipping container prior to unpacking. If the shipping box is damaged, note the damage, and, if possible, photograph it for reference.

After removing the contents of the container, keep the carton and the packing materials. If the contents appear damaged when you unpack the box, contact Lawrence Lehmann at 301-713-3391, ext. 166.

4. Before proceeding with the actual modification, read the entire procedure and perform the following steps:
 - a. Verify the component serial numbers on the computer match the information provided by DELL on the packing slip. Using the *CRS Voice Improvement Processor Inventory* sheet enclosed in the package received from NWSHQ, cross out the existing numbers and record the new information on the sheet.
 - b. Sign, date, and fax the *CRS Voice Improvement Processor Inventory* sheet to Lawrence Lehmann at the number indicated on the sheet.
 - c. VIP hardware requires a minimum of 4 receptacles. Obtain an additional 6 receptacle power strip to accommodate the VIP hardware.

CAUTION

Before performing VIP installation, ensure the CRS LAN configuration is as specified in the MP Replacement Modification Note (Note 59 or 59, Revision A). Specifically, when the 10baseT to 10base2 converter has an internal termination switch, set the switch to zero ohms, and ensure the CRS LAN is externally terminated with the external 50 ohm termination. Additionally, the following steps should be performed to ensure that no data packets are being lost on the network:

5. If you are currently logged into the *CRS Main GUI*, skip to step 8. Otherwise, the *CRS Security Warning* message window displays.
6. Click **Acknowledge** and the *CRS Login* screen displays.
7. Log into the *CRS Main GUI* as **admin**. The *Security Warning* window redisplay after 30 seconds, if a user ID and password are not entered.
8. From the *CRS Main GUI*, click **Maintenance** and click **UNIX Shell**.
9. Entering the following command at the *UNIX* prompt:

ping -s 5MP

Every second a message displays that 64 bytes have been received from 5MP. After one minute, terminate the test by pressing the **Del** key. A message displays with how many data packets were received and transmitted and the percentage of packet loss. If the number of packets received does not match the number transmitted

and/or the percentage of packet loss is not zero (0), stop this procedure, and identify and correct the source of the data loss.

10. Repeat step 9 for all remaining FEPs and 4BKUP.
11. Enter the following command at the **UNIX** prompt to close the *UNIX Shell*:

exit

PART 2 – CRS POWER-DOWN PROCEDURES

2.1 Save Activity Logs if Desired

NOTE: 1. Before beginning the procedure, verify the operational database is not contaminated by stopping and restarting the CRS application.

1. On a blank part of the desktop, click and hold the left mouse button to pop-up the CRS *Utilities* menu. Select **XCRS_SITE Utility**, and release the mouse button. The *XCRS_Site Configuration Developer* window displays.
2. Click the *Stop CRS System* button. The system displays:
The CRS System will be STOPPED. Continue?
3. Click **OK**. Wait for the CRS application to stop. All status icons in the system status window indicate *Red Down*. Close the *XCRS_Site Configuration Developer* window by clicking the **Exit** button.
4. To start the *CRS Build 7.1 Application* from the *XCRS_Site Configuration Developer* window, click the **Start CRS System** button. The system displays:
The CRS System will be STARTED. Continue?
5. Click **OK**. While waiting for the application to start, close the *XCRS_Site Configuration Developer* window by clicking on the **Exit** button.
6. If the system does not properly start, the database needs to be restored either from a previous backup (*Database Backup/Recovery Window*) or by reloading the *daily.ASC ASCII database* file from the *XCRS_Site Configuration Developer*. Once the system starts properly, proceed with the next step.

NOTE: 2. The *Activity Logs* window previously displayed erroneous logs for SAME-related transmit log events with large numbers of listening area codes. The fix for this problem results in an increase in the size of the *System Log Table*. Therefore, your old log tables could cause errors if you try to display them with the new Build 8.0 software. These log tables are labeled either **LGYYMMDD** (for transmit logs) or **ERYMMDD** (for error logs).

Previous **LG** and **ER** tables must be all purged. (If a site wishes to save their previous **LG** or **ER** table file data, the following steps should be followed.)

7. From the *CRS Main GUI*, click **Maintenance** and click **Activity Logs**.
8. Select **Error Log Type** and select the **All** or **Date/Time** list range. If the *Date/Time* list range is selected, enter the from date/time and the to date/time.
9. Click **Save** to initiate the log retrieval and display. (The log report displays as **MASTER.log** or **MASTER-n.log**, if it is segmented into multiple reports.)
10. If there are more pending *Error Log* reports, click **More**. Repeat, as necessary.
11. From the *CRS Main GUI*, click **Maintenance** and click **UNIX Shell**.
12. From the *UNIX* prompt, enter the following command:
cp /crs/data/SL/logs/MASTER(-n).log /crs/ERROR_OLD(-n).log
Enter where (-n) represents each segment as described in step 9, if there are multiple reports. Repeat, if necessary, for each segment.
13. If you wish to save the *Transmit Logs*, repeat steps 5 through 9 for the *Transmit Logs* and save them to **/crs/TRANSMIT_OLD(-n).log**
14. From the *UNIX* prompt, enter the following command:
exit
This closes the *UNIX Shell*.

2.2 Stop the CRS Application

1. On a blank part of the desktop, click and hold the left mouse button to pop-up the *CRS Utilities* menu. Select **XCRS_SITE Utility**, and release the mouse button. The *XCRS_SITE Configuration Developer* window displays.
2. Click the **Stop CRS System** button. The system displays:
The CRS system will be STOPPED. Continue ?
3. Click **OK**. Wait for the CRS application to stop. All status icons in the *System Status* window indicate RED Down. Close the *XCRS_SITE Site Configuration Developer* window by clicking the **Exit** button.

2.3 Delete All Activity Logs

1. From the *CRS Main GUI*, click **Maintenance** and click **UNIX Shell**.

- From the *UNIX* prompt, **CAREFULLY** enter the following commands **EXACTLY** as shown below. The `rm` command is irreversible!

```
su crs (and enter password at prompt)
cd /crs/data/DB/tables
rm -i ER*. LG*.*
```

NOTE: The `-i` option instructs UnixWare to ask for confirmation for each file deletion.

- Type **exit** and press **Enter**. This deletes all the old *error* and *transmit* logs.

2.4 Add New IP Addresses

NOTE:

- The Voice Improvement Processor (VIP) will be added to the CRS network. It has a unique IP address that must be added to the `/etc/hosts` file on all the CRS processors. Additionally, another IP address for the LAN Bridge is being added to the `/etc/hosts` file.
- The following is an **EXAMPLE** of a CRS `/etc/hosts` file that must be edited to add the two new entries for the VIP and the LAN Bridge. The new entries that must be added are in **bold** type.

```
#ident "@(#)etc/inet/hosts.s1 1.1 UW7.1.1 02/07/00 45621 SCO"
#ident "Header: /sms/sinixV5.4es/rcs/s19-full/usr/src/cmd/cmd-inet/etc/hosts,v1.1 00/02/28
16:30:32 ccs Exp $"
#
# Internet host table
#
# Site Name
127.0.0.1      localhost
165.92.##.### 0MP
165.92.##.### 5MP
165.92.##.### 1FEP
165.92.##.### 2FEP
165.92.##.### 3FEP
165.92.##.### 4BKUP
165.92.##.### ps8

165.92.##.121  vip      VIP      (The following sites will use 251 and 252 instead of
165.92.##.122  lb2       LB2      121 and 122: BOU BYZ EYW FSD GGW ILM LBF
                                      SJU TFX TOP UNR)
165.92.##.#   as1
165.92.##.#   as2
```

EHB-7
 Issuance 02-05
 2-11-02

1. From the *UNIX* prompt, enter the following commands:
su (and enter password at prompt)
/usr/local/kde/bin/kedit /etc/inet/hosts
2. A *full page edit screen* is displayed. Add the two new IP addresses as in the example above. Please note, in the example, all sites that must use **251** and **252** instead of **121** and **122**.
3. Click **File**.
4. Click **Exit** to save the file and exit the editor.
5. From the *UNIX* prompt, enter the following commands:
rcp /etc/inet/hosts 5MP:/etc/inet/hosts
rcp /etc/inet/hosts 1FEP:/etc/inet/hosts
rcp /etc/inet/hosts 4BKUP:/etc/inet/hosts
 Sites that have additional FEPs (2FEP/3FEP) should repeat the command as necessary for the additional FEP(s).
6. From the *UNIX* prompt, enter the following commands:
exit
exit
7. On a blank part of the desktop, click and hold down the left mouse button to pop-up the *CRS Utilities* menu. Select **Print Monitor**, and release the mouse button. The *Print Monitor* window is displayed.
8. Click the **Submit Job** button. The *Submit File to Printer* window displays.
9. In the *Selection* box at the bottom of the window, type **/etc/hosts**.
10. Click the **Original** button. The contents of your hosts file prints. Retrieve the printout from your printer in the equipment room. Retain this printout, as you will need it when you must modify IP addresses in the VIP hosts file.
11. Click the **Dismiss** button to no longer display the *Print Monitor* window.

2.5 *UNIX* Shutdown Procedure

NOTE: 1. The shutdown of the CRS application is just one task before the graceful power-down. After stopping the CRS application software, implement a “controlled/orderly *UNIX* shutdown with NO automatic reboot” on the (MP) and implement a “controlled/orderly *UNIX* shutdown” on all FEPs. Upon completion of the controlled/orderly *UNIX* shutdown, power-down the processors in the following order: the MPs first, followed by the FEPs.

1. Click the **Maintenance** menu in the *Main CRS* menu to access the *Maintenance* pull-down menu.
2. Click **UNIX Shell** in the *Maintenance* pull-down menu. A *UNIX xterm* window pops up for the entry of *UNIX* commands.
3. Type the following *UNIX* command in the *xterm* window:
su
4. Press the **Enter** key. The shell responds with a prompt to enter root passwords.
5. Type the password for the root.
6. Press the **Enter** key. The shell prompt changes to a pound sign, indicating all subsequent *UNIX* command entries have root authority.
7. Type the following *UNIX* command in the *xterm* window:
rsh 5MP /sbin/shutdown -i0 -g0 -y
8. Press the **Enter** key. The shell command prompt returns, after displaying a confirmation of shutdown initiation on 5MP. *UNIX* on processor 5MP shuts down.
9. Type the following *UNIX* command in the *xterm* window:
rsh 1FEP /sbin/shutdown -i0 -g0 -y
Press the Enter key. An ERROR displays:
ERROR i386 Not Found.

NOTE: 2. This error does not affect the shutdowns. Proceed with following steps.

The shell command prompt returns, after displaying a confirmation of shutdown initiation on 1FEP. *UNIX* on processor 1FEP shuts down.

NOTE: 3. If 2FEP and 3FEP are installed, perform steps 10 through 13. Otherwise, skip to step 14.

10. Type the following *UNIX* command in the *xterm* window:
rsh 2FEP /sbin/shutdown -i0 -g0 -y
11. Press the **Enter** key. The shell command prompt returns, after displaying a confirmation of shutdown initiation on 2FEP. *UNIX* on processor 2FEP shuts down.
12. Type the following *UNIX* command in the *xterm* window:
rsh 3FEP /sbin/shutdown -i0 -g0 -y

13. Press the **Enter** key. The shell command prompt returns, after displaying a confirmation of shutdown initiation on 3FEP. *UNIX* on processor 3FEP shuts down.
14. Type the following *UNIX* command in the *xterm* window:
rsh 4BKUP /sbin/shutdown -i0 -g0 -y
15. Press the **Enter** key. The shell command prompt returns, after displaying a confirmation of shutdown initiation on 4BKUP. The *UNIX* on processor 4BKUP shuts down.
16. Type and enter the following *UNIX* commands in the *xterm* window:
 - a. Type **cd /**.
 - b. Press the **Enter** key.
 - c. Type **/sbin/shutdown -i0 -g0 -y**.
 - d. Press the **Enter** key. Each CRS processor for the system may be safely powered-down when *UNIX* indicates shutdown is complete with the following message:

Press any key to reboot...

NOTE: 4. Do not reboot any machine. Go to section 2.6.

2.6 MP and FEP Power-Down Procedure

In order, power-down the 0MP, 5MP, and all installed FEP computers by pressing the front panel power buttons.

2.7 LAN Bridge Power-Down Procedure

Go to the equipment room and power-down the LAN Bridge in the CRS equipment rack.

PART 3 – CRS VIP EQUIPMENT INSTALLATION PROCEDURES

3.1 VIP Hardware Installation Procedures

CAUTION

Use the mouse originally supplied with the new MPs during MP replacement. The mouse model number, located on the label on the bottom of the mouse, is M-SAS51. Different mice (Microsoft etc.) may not work with the supplied KVM switch.

1. Place the speakers in the 5MP equipment rack shelf next to the existing monitor.
2. Connect the speakers together and route the audio and power cables through the rear of the rack.
3. Plug the speaker power adapter into the rack power strip.
4. Remove the keyboard, monitor video, and mouse cables from the 5MP computer.
5. Remove the 10Base2 50 Ohm terminator from the 5MP LAN T-connector.
6. Attach the supplied 10Base2 coax cable to the 5MP LAN T-connector.
7. Attach the supplied 10Base2 T-connector to the opposite end of the new 10Base2 cable.
8. Attach the 10Base2 50 Ohm terminator to the 10Base2 T-connector.
9. If the supplied 10BaseT -to- 10Base2 converter has an internal termination switch, set the switch to **0 Ohms**. Do **NOT** set this switch to **50 Ohms**. Converters without switches have an internal impedance of **0 Ohms**.
10. Attach the 10BaseT -to- 10Base2 converter to the 10Base2 T-connector.
11. Route the VIP computer power cable through the lower rack access hole to the rack power strip.
12. Place the supplied Keyboard/Video/Mouse (KVM) switch near the 5MP computer.
13. Connect the existing keyboard, video, and mouse cables to the rear connectors on the KVM switch.
14. Connect one end of the supplied KVM cable to the 5MP and the other end to the side of the KVM switch near the PC2 LED.
15. Connect one end of the second KVM cable to the side of the KVM switch near the PC1 LED.
16. Place the VIP computer next to the 5MP computer, while maintaining access to the rear connectors. Connect the other end of the PC1 KVM cable to the VIP computer. Connect the green speaker plug to the *sound card* jack located in the *second slot* from the top, NOT the *green speaker jack* located just below the mouse and keyboard jacks.

<p>NOTE: Do not connect the speakers to the green jack located just below the mouse and keyboard jacks.</p>
--

17. Use the supplied Ethernet 10BaseT cable to connect the supplied 10BaseT -to- 10Base2 adapter to the VIP computer.

PART 4 – CRS POWER-UP PROCEDURES

4.1 LAN Bridge Power-Up Procedure

Go to the equipment room and power-up the LAN Bridge in the CRS equipment rack.

4.2 Power-Up FEP Procedure

1. Press the **ON/OFF** switch (front center right of the enclosure) to power-up the FEPs. A green power LED on each FEP lights indicating power is on. The FEPs can be powered-up in any sequence. The FEPs go through a memory check, display the system configuration [as recognized by the basic input/output system (BIOS)], then boot the embedded operating system. At the completion of the boot process, the console screen displays the prompt:

Console Login:

The embedded operating system automatically initializes to a preset level and waits for final start-up commands from the master MP.

NOTE: The FEPs share a common console through the *Shared Monitor Switch*. The console displays messages while completing the boot process of the FEP currently switched in.

2. Use the *Shared Monitor Switch* to select the next FEP. The console monitor displays:

Press F1 to resume, F2 to Setup.

3. Press **F1** to complete the boot process. The prompt displays:

Console Login:

4. Repeat for each remaining FEP.

4.3 Power-Up MPs Procedure

NOTE: 1. Power-up 0MP as the master MP and 5MP as the shadowing processor.

1. Press the **ON/OFF** switch (front center right of the enclosures) to power-up the MPs. A green power LED on each MP lights indicating power is on. The MPs can be powered-up in any sequence. The MPs go through a memory check, file system check, system configuration verification (as recognized by the BIOS), and then boot the embedded *UNIX* operating system. At the completion of the boot process, the workstation screen displays the CRS Login screen. The MPs are now ready for the initialization of the CRS application software.

NOTE:

2. Following power-up, CRS displays the *Security Screen*. Click the **Acknowledge** button to continue the login process.
3. Whenever the MPs are powered-up, they automatically step through the boot process to the multiuser mode without operator intervention.

2. Adjust monitor display size as necessary.
3. Press the KVM front panel switch until the PC2 indicator light comes on. This means the 5MP computer is connected to the existing keyboard, monitor, and mouse through the KVM switch.

PART 5 – CRS LOGIN, APPLICATION SOFTWARE LOADING AND ERROR VERIFICATION

5.1 CRS Software Version 8.0 Installation from CD-ROM Procedure

1. If the OMP was rebooted, at the *Login GUI* window, login as the root user. Click the **KDE Desktop Application Starter** icon (the **big K Wheel** icon) in the lower left part of the *KDE Desktop* panel.
2. Click the **SCO Control Center** pop-up menu selection.

NOTE:

1. You also may start the *SCO Control Center* by clicking on the **SCO Admin** icon on the *KDE Desktop* panel (the **Swiss Army Knife** icon).

3. Select and double-click the **Software_Management** menu selection.
4. Double-click the **Applications Installer** menu selection.
5. Insert the CD-ROM into the CD drive of the selected installation MP, then select **CD-ROM_1** from the *Install from:* prompt in the upper half of the *Application Installer* window. If files are not automatically read, click **Update View**.
6. After the CRS application package icons (**crsopsais**, **crsopsfpm** and **crsopsmpm**) are displayed immediately below the *Install from* prompt, select **crsopsais**, and click **Install** (Note: **crsopsfpm** and **crsopsmpm** can only be installed *indirectly* through **crsopsais**).
7. Respond to the prompts displayed in the *Add Application: crsopsais* and *auto-install* terminal windows.

NOTE:

2. The *Add Application: crsopsais* window and the *auto-install* window are used to display the installation activity log as well as the prompts to the installation operator. The log information and the prompt sequences vary depending on the

responses to the prompts.

3. In some small percentage of installations, the procedure erroneously halts following the completion of the installation on OMP. No further messages are received and the software is not installed on 5MP or any of the FEPs. If this occurs, terminate the installation, shutdown OMP, and repeat section 5.1.

5.2 Installation Prompts

- NOTE:**
1. The installation prompts that follow assume a typical configuration (OMP, 5MP, 1FEP, and 4BKUP).
 2. The prompt sequence begins with *prompt p1*. Unless otherwise indicated, prompts occur in sequence (*p1 ... p12*).

p1 *Build [version] installation options*

- a) all processors (OMP 5MP 1FEP 4BKUP | 5MP OMP 1FEP 4BKUP)
- f) front-end processors (1FEP 4BKUP)
- m) MPs (OMP 5MP | 5MP OMP)
- s) specific processor
- x) exit

Make sure that installation default option a is selected to load the software on all processors.

Additional comment regarding prompt p2:

Enter the CRS system password in response to the p2 prompt. This changes the default password in the /crs/bin/ftp.ksh file (set by CommPower) to match your CRS system password. This password must be the same as the CRS password contained in /data/fxa/workFiles/nwr/nwr.cfg located on the AWIPS ds1 server.

p2 *Change embedded crs user password in /crs/bin/ftp.ksh? (default: y)*

p3 *Clean out (reset) log files? (default: y)*

An affirmative (y) response to this prompt will result in the resetting of all the CRS application software log files on all the processors in the configuration. A negative response (n) will result in no changes to the CRS log files on any of the processors. It is normally good practice to clean the log files when a new software release is installed.

p4 *Change CRS system date and time? (default: n)*

An affirmative (y) response to this prompt will result in a sequence of additional prompts beginning with *p5*. The entered date will be used to change the date and time on all the processors. A negative response (n)

will result in no changes to the current system date and time (displayed prior to the prompt), and the next prompt will be *p10*.

- p5** *Enter year (e.g., 1997):*
- p6** *Enter month (e.g., 01<=mm<=12):*
- p7** *Enter day (e.g., 01<=dd<=31):*
- p8** *Enter hour (e.g., 00<=HH<23):*

NOTE: (continued)

- p9** *Enter minute (e.g., 00=MM<=59):*
- p10** *Build [version] will be installed on the following processors:
[0MP | 5MP | 1FEP | 4BKUP ...]
with the following options:
Detected configuration is typical
[CRS master (and X-window client) [will be | remains] 0MP | 5MP]
[0MP | 5MP will be shutdown at the end of installation]
[CRS shadow (and X-window server) [will be | remains]0MP | 5MP]
[0MP | 5MP will be shutdown at the end of installation]
[CRS log files will be cleaned (reset) on: [5MP 0MP 1FEP 4BKUP]]
Proceed with Build [version] installation? (default: y)
An affirmative (y) response to this prompt results in the installation of the CRS application software with the appropriate constraints indicated. A negative (n) response results in the display of a Message dialog window with the text *User does not have permission to install packages pkgadd*. OK terminates the installation.
If it is determined that the IP addresses in /etc/inet/hosts (preinstalled by the CRS software contractor at the factory) are not correct, then prompt *p11* displays.*
- p11** *Enter your CRS site ID (e.g., DLH or NRC1):*
Enter the correct local site ID. Entry of a valid site ID results in a comparison of a set of expected IP addresses and the actual IP addresses in /etc/inet/hosts on all accessible (online) CRS processors. Differences between expected and actual IP addresses are displayed and logged. Entry of no response or an invalid site ID results in prompt *p12*.
- p12** *Display a list of all valid CRS site IDs? (default: y)*
An affirmative (y) response to this prompt will result in the display of a list

of all valid CRS site IDs and associated site locations (city, state, region). The list is presented in “pages” via the *UNIX* utility “pg”. The RETURN key or ‘+’ displays the next page, the ‘-’ key displays the previous page, and ‘q’ results in the display of prompt *p11*. A negative (n) response results in the display of prompt *p11*.

3. The master and shadow states that exist on the MPs at the time of installation are preserved, if possible. Otherwise, the installation scripts determine new MP states, based on the old MP states, whether software is being installed on them and/or they are online.

NOTE: 4. The installation process will take approximately 15 to 20 minutes.

5.3 Post-Installation Caveats and Conventions Procedure

- NOTE:** 1. Software is installed to CRS processors in a predefined sequence (MPs, then FEPs). When the software has successfully been installed on a processor other than the installation MP, that processor is automatically shut down (and restarted). Because the FEPs share a single console (monitor and keyboard), **only one of the FEPS**, the one to which the console is physically connected through the switch box, **starts itself automatically**, following the shutdown. The startup sequence on an FEP that is not connected to a keyboard pauses while waiting for an **F1** key to be struck at the keyboard. To complete the startup sequence for an FEP that is “stuck” waiting for the **F1** key to be struck, **connect (via the switch box) the keyboard to the FEP, verify it is waiting (prompt message on the monitor), and strike the F1 key.**

While the installation is in progress, many messages are displayed in the *auto-install log* window on the console.

Messages are of three types: ERROR, INFO and WARNING. Most of these messages are also written to the installation log file (*/crs/install.log*).

All ERROR and WARNING messages from the installation log file are displayed in the *auto-install log* window at the completion of installation, in accordance with the following template:

```
Installation ERRORS
[ERROR messages from the installation log file | None ]
[Refer to the installation procedures for further assistance]
Installation WARNING
[WARNING messages from the installation log file | None]
[Refer to section 5.4 for further assistance.]
```

2. Inspection of the `/crs/install.log` file, after installation of the CRS Build 8.0 software, may result in the following message:
UX:lpadmin: WARNING: `"/dev/term/a02s"` is accessible by others.
This warning can be ignored.

1. Press **Enter** to continue. The system displays the following:
Continue [0MP | 5MP] shutdown? (Default: y)

NOTE: 3. Shutting down the installation MP [0MP | 5MP] is an option. It is not necessary to shut down after the software has been installed on an FEP. A shut down is **RECOMMENDED** after CRS software has been installed on an MP to ensure that the installation MP [0MP | 5MP] and the other MP [0MP | 5MP] are functionally synchronized as CRS master and CRS shadow.

2. Press **Enter**.

NOTE: 4. If there are no **ERROR** or **WARNING** messages (i.e., None), the reference to the installation procedures is not displayed. The *auto-install log* window displays until the operator responds to the prompt. An affirmative response results in the automatic shut down and restart of the installation MP.

A negative response results in the disappearance of the prompt and the *auto-install log* window unless the state (master or shadow) of the installation MP has been changed, in which case the prompt *shutting down to synchronize MP functionality* informs the operator that the installation MP will be shutdown regardless (shutdown occurs when the operator strikes any key).

ERROR and **WARNING** messages must be resolved before attempting to start the system!

5.4 Logging and the Installation Log File

NOTE: Results of the installation are logged into the *auto-install* window and into a log file (`/crs/install.log`). Logged messages are of three types: **ERROR**, **INFO**, and **WARNING**. **INFO** messages can be ignored. **ERROR** and **WARNING** messages are summarized in the *auto-install* window at the completion of the installation. They must be resolved before the system is started.

All logged messages have the following format:

date: script: type: [...] on PROC

where

date	=	DDD MMM dd hh:mm:ss LLL YYYY
DDD		day of week abbreviation (e.g., Thu = Thursday)
MMM		month of year abbreviation (e.g., Sep=September)
dd		numeric day of month (e.g., 1<dd<31)
hh		hour of the day in military format (e.g., 00<hh<23)
mm		minute of the hour (e.g., 00<mm<59)
ss		second of the minute (e.g., 00<ss<59)
LLL		local standard time (e.g., PDT = Pacific Daylight Time)
YYYY		calendar year

NOTE: (continued)

script	=	name of shell script in which message is generated
type	=	ERROR INFO WARNING
[...]	=	text describing a condition of the type indicated
PROC=		processor (e.g., 0MP, 5MP, 3FEP, 4BKUP) on which condition described by the text occurred

PART 6 – DATABASE MODIFICATION AND LOADING, CRS APPLICATION STARTUP AND VERIFICATION PROCEDURES, CONFIGURATION FOR VIP OPERATIONS, AND DATABASE BACKUP

6.1 Create Temporary ASCII Database File Used to Load the Database

1. Sign on as the administrator.
2. Click the **Maintenance** menu in the *Main CRS* menu to access the *Maintenance* pull-down menu.
3. Click **UNIX Shell** in the *Maintenance* pull-down menu. A *UNIX xterm* window pops up for the entry of *UNIX* commands.
4. Type the following *UNIX* commands in the *xterm* window:
/crs/bin/sp_gui_2ascii /crs/data/SS/temp_ascii.ASC -f
5. Press **Enter**.
6. Type **Exit**. This creates the *ASCII database* file used in section 6.2 to load the database.

6.2 Load the Database from the ASCII Database File Created in Section 6.1

1. On a blank part of the desktop, click and hold down the left mouse button to pop-up the *CRS Utilities* menu. Select **XCRS_SITE Utility**, and release the mouse button. The *XCRS_SITE Configuration Developer* window displays.
2. Click the **Select ASCII Site Setup** button. The *Site Configuration Files* window is displayed.
3. Select **temp_ascii.ASC** in the Files column on the right-hand side of the window and click the **OK** button.
4. Click **Initialize System Configuration and Database** and then click the **Start Site Configure** button. Click **OK** to perform full site configuration. This step will load the CRS database from the *ASCII database* file created in section 6.1.

6.3 Start the CRS Application and Verify its Operation

1. To start the CRS Build 8.0 Application from the *XCRS_SITE Site Configuration Developer* window, click the **Start CRS System** button. The system displays:
The CRS system will be STARTED. Continue?
2. Click **OK**. While waiting for the application to start, view the logging window and take note of any error messages. Do not close the *XCRS_SITE Configuration Developer* window; it will be used again in section 6.7.
3. If the *Status* window is not displayed, open it using the *System* pull-down menu. Click the **System Status** menu selection.
4. If the *Alert Monitor* window is not displayed, open it using the *System* pull-down menu. Click the **Alert Monitor** menu selection.
5. In the *Status* window, verify the proper start of the CRS application. Notify the CRS Program Office if the system does not start.
6. Verify the proper and normal operation of the system. All weather messages were previously purged from the database. Therefore, only the STATIONID messages and the TIME messages (if a site normally generates one) will be broadcast.

- | |
|---|
| <p>NOTE:</p> <ol style="list-style-type: none"> 1. A new icon, labeled VIP, has replaced the VCC icon in the <i>System Status - States</i> window. For all sites, the icon will be down RED. 2. The VIP icon will remain down and red until the VIP software is started on the VIP in Part 7. |
|---|

6.4 Modify Message Types to use the Female Voice

- | |
|--|
| <p>NOTE: When the Build 8.0 software was installed, the existing database was converted to add a VIP Voice Type for each Message Type. The default VIP Voice Type is Male</p> |
|--|

Voice. Sites that wish to change some or all Message Types to the Female Voice should perform the following steps.

1. Click **Messages** and click **Message Types**. The *Message Type* window is displayed.
2. Click the list button to the right of the Message Type field and select the desired Message Type from the pick-list by double-clicking it. The Message Type will be transferred to Message Type field, and the Message Type parameter fields will be displayed.
3. In the lower right of the window, under **VIP Voice Type**, click **Female Voice**.
4. Click the **Save** hot key.
5. Repeat steps 2 through 4 for each **Message Type**, as needed.
6. Click **Exit** hot key to close the window.

6.5 Modify the Transmitter Configuration for Those Transmitter Broadcast Areas That Do Not Change Their Local Time to Daylight Savings Time

NOTE: Sites may choose to generate a special *Time Announcement Message* in each Broadcast Cycle. Prior to Build 8.0, a software bug existed that caused the *Time Announcement Message* to convert to using the local daylight savings time, starting the first Sunday in April. This would occur even for transmitter broadcast areas that do not convert to daylight savings time.

Build 8.0 contains a new parameter in the *Transmitter Configuration* that specifies whether or not each transmitter should convert to daylight savings time. The **temp_ascii.ASC** file created in section 6.1 selected the daylight savings time option for each transmitter defined in Block 5.

Sites that wish to change some or all of their transmitters, so they will not change to daylight savings time, should perform the following steps.

1. Click **Transmitters** and click **Transmitter Configure**. The *Transmitter Configure* window is displayed.
2. Click the desired transmitter, and the *transmitter configure parameters* for that transmitter are displayed.
3. Click **Time Zone** button and change it to any different time zone.
4. Click the **Save** hot key.

5. When the system has completed the re-configuration process, click the **Time Zone** button again and reselect the original time zone. Sites that wish to observe daylight savings time for this transmitter should skip to step 7. Otherwise perform step 6.
6. Click **No Daylight savings Time Observed**.
7. Click the **Save** hot key.
8. Repeat steps 2 through 7 for each transmitter, as needed.
9. Click **Exit** hot key to close the window.

6.6 Activate VIP Mode of Operation

NOTE: CRS Build 6.4 introduced a VCC mode of operation. Only test sites GGW and FWD activated this mode of operation. All other sites have had VCC inactive, and the **VCC** icon in the *System Status - States* window is depicted as a down arrow with the color red. The **VCC** icon has been replaced with the **VIP** icon. The following steps will activate the VIP mode of operation. At this time the **VIP** icon will remain in the down position with the color red. It will not change to the up position with the color green until the VIP software is started in the VIP in Part 7. (Without performing the following steps, after Part 7 is performed the **VIP** icon would be in the up position, but with the color yellow.)

1. Click *Maintenance* and click *Site Configuration*. The *Site Configuration* window is displayed.
2. Click the **Peripherals** tab and the *Peripherals* parameters are displayed.
3. Under **Voice Conversion (VC)**, click the bottom selection (**VC Enabled - when down, synthesize msgs**).
4. Under **Voice Conversion (VC)**, adjust the **VC timeout slider bar** to 30 (seconds).
5. Click the **Save** hot key.
6. Click the **Exit** hot key to close the window.

6.7 Create an ASCII Database File

1. In the *XCRS_SITE Site Configuration Developer* window, click the **CREATE ASCII File** button.
2. Enter a descriptive filename using the convention *Filename.ASC* in the *Filename* field, and click the **Create ASCII File** button. The system creates a copy of the current site digital database as an *ASCII text file*.
3. Close the *XCRS_SITE Site Configuration Developer* window by clicking on **Exit**.

6.8 Perform a Database Backup

NOTE: The database structure in Build 8.0 has been modified. Old database backups can not be used to restore the database. Sites must perform the database backup to establish a baseline recovery directory.

1. Open a *Database Backup/Restore* window from the *Maintenance* pull-down menu.
2. Select the **Backup to Disk** option. Enter a "Directory Name " of your choice in the window.
3. Click the **Start Backup** button, then click the **OK** button in the *warning pop-up* window. When the backup is complete, press the **Enter** key in response to the on screen prompt. The *db_bkup* window closes. Click the **Exit this window** hotkey.

6.9 Remove Operator Notification Designation from "Message for Conversion" Error Message

NOTE: 1. Messages flagged for VIP processing © in the *Active/Inactive flag* in the CRS message header will generate a *Message for conversion* error. This message will appear in the *Activity Error Log* window. Currently, this message is defined in the *Error Message Table for operator notification*. This means each time a message goes through VIP processing, it will cause the *Message for conversion* message to display in the *Alert Monitor*.

If all messages are processed through VIP, the *Alert Monitor* will fill up quickly. Therefore, we recommend performing the following steps to prevent the message from appearing in the *Alert Monitor*. Please note: this is a permanent change that will remain until you install the CRS software again from the installation CD. If this occurs, you must perform these steps again.

1. Click **Maintenance** and click **Error Message Format**. The *Error Message Format* window is displayed.
2. Click the box next to the *Find* button. The box outlines in red.
3. Enter **255** in the box and click the **Find** button. *Error message 255* is displayed at the bottom of the list of error messages and is highlighted in black.
4. Deselect the *Operator Notification* box.
5. Click the **Save** hot key.
6. Click the **Exit** hot key to close the window.

- NOTE:** 2. All weather messages were purged from the database at the beginning of the installation. Therefore, sites must replenish their database from their CRS formatters.

PART 7 – VIP Power On and Configuration Procedures

- NOTE:** The Newer VIP platforms from Dell have a new video card that was not included in the original units. A different driver is already available in our OS load and can be configured to run X-windows with this new card.

7.1 Power-Up VIP Computer Procedure

1. Press the KVM front panel switch until the PC1 indicator light comes on. This means the VIP computer is connected to the existing keyboard, monitor, and mouse through the KVM switch.
2. Press the ON/OFF switch (front upper right corner of the enclosure) to power-up the VIP computer. A green power LED lights indicating power is on. The VIP goes through a memory check, displays the system configuration (as recognized by the basic input/output system (BIOS), then boots the LINUX operating system.

- NOTE:** 1. If LINUX detects a hardware configuration problem following boot up, the VIP PC displays a timed blue screen with text for the Kudzu hardware configurator. A key must be pressed within 30 seconds to use the configurator. Follow steps 3 through 18 to configure the video driver. Otherwise, skip to section 7.2.

3. The *Hardware Removed* box will display. Highlight the choice displaying *Remove Configuration* with the **Tab** key and press **Enter**.
4. Highlight the choice displaying *Configure* for device nVidia NV11GL with the **Tab** key and press **Enter**.
5. The system completes the boot sequence, but will NOT enter the X-Windows GUI screen. Log on as **root** at the text prompt, and give *nws2002* password.
6. Enter **setup** and press **Enter**.
7. Key down on the screen text menu to *X Configuration* and press **Enter**. Select **OK** and press **Enter**.
8. The *PCI Probe* message appears. When the *Found NV11GL* message appears, click **OK**.
9. Click **YES** when the system displays the *Monitor Probe use these settings* message.

10. When the *Screen Configuration* message appears, press **Tab** to select *Probe* and press **Enter**.
11. The *Probing to begin* message appears. Click **OK**. The screen will start blinking.
12. Click on *Let me choose* for monitor resolutions and Tab to 1024x768 in 24 bit color, using the spacebar to select the resolution. Unselect by pressing **Tab** and the spacebar to choose other resolutions. When the selection is complete, highlight **OK** and press **Enter**.

NOTE: 2. Have the mouse ready as the next step has a short time limit.

13. The system displays a message that tells you it will start X to test the configurator. Click **OK**, and press **Enter**.
14. At the test X-Windows startup, when the *Can you see this message* prompt appears, click **Yes**.
15. When asked to setup X to automatically start, click **Yes**.
16. The *Configuration file* message appears. Click **OK**. The X-GUI will disappear and return to the text menu.
17. Press **Tab** to quit and press **Enter** to exit setup.
18. Type **shutdown -r now** and press **Enter** to restart.
19. Following LINUX boot up, if the Kudzu hardware configuration screen appears, let it time out.
20. The *Black Text LINUX Boot-up* screen appears.

NOTE: 3. The *X Login* screen appears. Ethernet failure indication will display. Ignore the warning.

7.2 Change The VIP Network Address Procedure

1. Type **root** and press **Enter**.
2. Type root password **nws2002** and press **Enter**. The *Tip of the Day* screen is displayed.
3. Click **Close**.
4. The *KDE Desktop* appears.
5. Click the **KDE Gear** icon in the lower left corner of the screen.
6. Click **System**.
7. Click **Network Configuration**.

8. In the *Network Configurator Window*, click **Interfaces**. Highlight **eth0**.
9. Click **Edit**. Change the IP address according to the printout obtained in section 2.4, step 10. Ensure the Netmask is **255.255.0.0**.
10. Click **Done**.
11. The system prompts:
Save Current Configuration?
12. Click **Save**.
13. Click **Deactivate**.
14. Click **Activate**.
15. Click **Save** and click **Quit**.

7.3 Change the Site Specific IP Addresses in the VIP Hosts File Procedure

1. Click the **KDE Gear** icon in the lower left of the screen.
2. Click **Editors**.
3. Click **Text Editor**.
4. Click **File**.
5. Click **Open**.
6. In the Location box, type: **/etc/hosts**
7. Click **OK**. If there is a duplicate set of IP addresses, delete the second set.
8. Change the third and fourth octets of the IP addresses in the hosts file, according to the printout obtained from section 2.4, step 10, while paying special attention to the spacing and format.

NOTE: The first line with an actual IP address contains **vip.home** for the localhost.localdomain. This is not an error. Change the third and fourth octets of the IP address in the vip.home line to match those for your CRS site. **The vip.home entry must remain or you will be unable to start the VIP application.**

9. Click **File** and select **Save**.
10. Click **File** and select **Quit**.
11. Restart the system by clicking on the **KDE Gear** icon in the lower left corner of the screen.
12. Click **Logout**. The *End KDE Session* window appears.

13. Click on **System** from the *System Menu* box.
14. Select **Reboot**, and click **Yes**. The systems reboot and the *Login* window displays.

PART 8 – INSTALLING / UPGRADING VIP TO NWSVIPv1.3

NOTE: 1. If the VIP application is running, perform a reboot before performing the following steps to upgrade the VIP software. If this is the initial install, the VIP application will not be running.

1. At the *LINUX login* prompt, login as user **root**. Enter the password **nws2002**. If the *Tip screen* appears, click through it.
2. Click on the **Shell** icon (located in the lower left of the screen) to open a *Shell* window.
3. At the prompt, type **passwd crs** and follow the prompted instructions to enter the **same** crs password as was entered for the **p2** prompt during the CRS software install in section 5.2.
4. At the prompt, type **passwd root** and follow the prompted instructions to enter the **same** root password used for all other CRS processors.
5. Insert the provided **NWSVIPv1.3 upgrade CD #1** into the CD-ROM. (The other CDs will be specified where needed.) The following steps mount and install the CD files.
6. At the prompt, type the following command to mount the CD-ROM drive:
mount /mnt/cdrom <Enter>
7. Execute the install procedure by typing:
/mnt/cdrom/VIPUpgrade
8. Fill out the *VIP upgrade application* box with name, date, and site ID. To complete the install process, click **Begin Upgrade**.

NOTE: 2. The installation takes approximately 20 to 30 minutes to complete.

3. Some stages will take longer than others (i.e., install Status may hold on 5% for 15 minutes).

4. The last VIP CD (#4) will not be used during a normal installation. The CD (#4) is only used to recover from error conditions.

9. Select **Next**.

10. Select **Next**.
11. Select **Next**.
12. Select **Next**.
13. Select **Finish**.
14. At the *Installation is Complete* box, click **Close** to complete the installation.
15. Remove the *VIP upgrade* CD.
16. Type **Exit**.
17. Right click the mouse on the desktop.
18. Select the **Logout** option.
19. Click **Logout** on the verification box.
20. At the *LINUX login* prompt, login as user **crs**. Remember to use the password set in step 3.

NOTE: 5. ALWAYS run the VIP application as user **crs**!

PART 9 – CONFIGURING VIP AFTER THE NWSVIPv1.3 SOFTWARE UPGRADE

The next step, after a successful upgrade to NWSVIPv1.3, is to define local site configurations, managed through the *System Settings* interface. The following steps define the minimum requirements for an operational VIP application.

1. Double click on the **VIP Interface** icon.
2. Select the button marked **System Settings** found on the main VIP interface.
3. Under *Options*, found on the menu bar of the *VIP Systems Settings interface*, select the function **Set Recommended Values**. Click **Yes** on the *Be sure* window. Click **OK** on the *VIP message* window.
4. Fill in the site specific information for the fields marked as **local** by the *Set Recommended values* function:

Male English	Enter the numeric IP address for local VIP machine.
Female English	Enter the numeric IP address for local VIP machine.
OMP address	Enter the numeric IP address for local OMP system.
5MP address	Enter the numeric IP address for local 5MP system.
Password	Enter the user crs password.
5. Select **OK** to save your entries.

6. At this point, VIP is ready for operational use. To run the *VIP application* click the **start** button found near the bottom of the *main VIP user interface*.

- NOTE:**
1. The settings described here define the minimum requirements to execute the VIP software properly. For more information about VIP features, reference the provided users guide by selecting **Help**, followed by **Help Menu** on any VIP user interface.
 2. Before messages are processed by the VIP, the formatters must be modified to generate messages with the **C** set in the *Active/Inactive* flag in the *CRS weather message header*.

- NOTE:**
3. The VIP contains its own dictionary distinct from the existing CRS dictionary. Care must be taken to ensure words that are not pronounced appropriately by the VIP are included in the VIP dictionary with the preferred pronunciation.

Please note that some words in the CRS dictionary may not need to be included in the VIP dictionary, because VIP naturally pronounces them correctly. However, the converse is also true that some words CRS pronounces correctly will not be by the VIP and will have to be added to the VIP dictionary. The CRS dictionary must continue to be maintained independently of the VIP dictionary, since the old CRS synthetic voice (DECtalk) will remain the backup system if VIP should fail.