Section 4: Non-standard maintenance

This section provides instructions for performing non-standard maintenance on the NV40/NV30 transmitter. This section includes the following topics:

- Upgrading software

- Improving transmitter performance for IBOC presets - see page 4-4

- Changing the RF output connector - see page 4-6

- Bypassing the UPS interface option - see page 4-10

Upgrading software

Periodically, enhancements or improvements to the operating system are identified and made available. Perform a software upgrade, as required, as follows:

Parts and tools

- Laptop (i.e., local computer for direct connection) or network computer with Windows and Internet Explorer Web browser

- CAT5 Ethernet cable

- Upgrade software (***.tgz** or *.img file), provided via email, web download or flash card

Preliminary checks

1. Determine the current software revision installed. Via the advanced user interface (AUI) screen, go to **Menu**/**System Settings**/**Upgrade Software**. Select the *.tgz file from the Select a Boot Image list (should highlight in blue) and press **About**. Note the current software revision for AUI, Server, Controller, Exciter and RF Modules.

2. Contact Nautel for the most recent software revision and receive a new compact flash card (which contains upgrade *.tgz file) or download *.tgz file to a laptop or network location.

3. If you received a new compact flash card, continue to "Compact flash card swap" on page 4-2. If not, proceed to "Transferring upgrade file" on page 4-2.

Compact flash card swap

If you received a new compact flash card with the upgrade *.tgz file, swap the current card with the new card as follows:

1. From the transmitter AUI, go to **Menu**/**User Settings**/**Network Setup**, and record your current network settings (IP Address, Subnet Mask, Default Gateway). Contact Nautel for the most recent software revision and receive a new compact flash card (which contains upgrade *.tgz file) or download *.tgz file to a laptop or network location.

2. Unplug the single board computer's (SBC) power connector P8 - located behind a cover on the rear of the door (use 7 mm nut-driver - M4 hardware).

3. Remove the current compact flash card - bottom edge of SBC. Note the orientation of the card.

4. Install the new card, noting orientation, and plug in SBC power connector P8.

5. The AUI should boot up and the transmitter login screen should appear (or the main screen - depending if Auto Login was enabled for the active user).

Transferring upgrade file

The following steps assume either the laptop will be used to connect directly to the transmitter **OR** the transmitter and network computer are currently connected to the same network.

Transmitter IP configuration

1. From the transmitter AUI, go to **Menu**/**User Settings**/**Network Setup**.

2. Record your current network settings (IP Address, Subnet Mask, Default Gateway).

3. If connecting to the transmitter directly with a laptop, select **Static IP** and set as follows:

   – IP Address: 10.10.10.2
   – Subnet Mask: 255.255.255.0
   – Default Gateway: 192.168.1.2

   Press **Apply**.

4. Set the transmitter for **Remote** control.

Laptop IP setup

The following steps assume the operating system is Windows XP. Adapt as required for computers with different operating systems.

1. On the laptop go to **Start Menu**/**Control Panel**/**Network Connections**/**Local Area Network**.

2. In the Local Area Network Status, open the **General** tab and choose **Properties**. Scroll down and highlight **Internet Protocol (TCP/IP)**. Choose **Properties**.

3. In the *Internet Protocol (TCP/IP) Properties* window, select **Use the following IP address**.

4. Enter the following settings:

    – IP Address: 10.10.10.1
    – Subnet Mask: 255.255.255.0
    – Default Gateway: 192.168.1.2

5. In the *Internet Protocol (TCP/IP) Properties* window, select **OK**.

6. In the *Local Area Connection Properties* window, select **OK**.

7. In the *Local Area Connection Status* window, select **Close**.

8. Close the *Network Connections* window.

Transfer software upgrade file to transmitter

1. If using a laptop, connect the laptop network interface card to the transmitter LAN port (A1J21 on the control/interface PWB) using a CAT5 Ethernet cable. Open Internet Explorer and search for 10.10.10.2. The transmitter login screen should appear.

2. If using a network computer, open Internet Explorer and search for the IP address recorded in Step 2 of "Transmitter IP configuration" on page 4-2. The transmitter login screen should appear.

3. In the *Internet Protocol (TCP/IP) Properties* window, select **Use the following IP address**.

4. At the transmitter login screen enter:

    – User: "Nautel" or "****", where **** is the user assigned user name
    – Password: none (default) or "****", where **** is the user assigned password

5. Navigate through the AUI to **Menu**/**System Settings**/**Upgrade Software** and press **Browse**. Locate the software update ***.tgz** file and press **Upload** to load the file into the transmitter boot image list.