

# PES800 NR Installation Checklist

Rev. 1 — Jan 2005

---

*Only qualified personnel trained in the installation of Network Repeaters™ should install the PES800 NR.*

*Use this checklist in conjunction with the installation instructions in **Chapter 0**.*

*For detailed instructions on RepeaterNet installation and operation, see **RepeaterNet Craft for the PES800 NR**.*

---

1. Mount antennas and associated equipment as required—for example, antenna feeders, BUPS (Back-up Power Supply) equipment, and so on.
2. Mount the repeater, leaving room for cable access.
3. Connect the repeater, antennas, and any other equipment to an external ground.
4. Terminate antenna ports with Type N, 50-ohm termination loads.
5. Connect the repeater to its power source, but do not activate power.
6. Check the RSL (Receive Signal Level) from the donor Cell Site antenna feeder with a spectrum analyzer and adjust the donor antenna position for maximum RSL. When finished, record the control channel power level and frequency:  
Power Level \_\_\_\_ dBm      Frequency \_\_\_\_ MHz.
7. Aim (by sight) mobile service antenna in accordance with the site plan or network engineering documentation.
8. Measure antenna isolation. Adjust antenna position or add a shield, as necessary.
9. Put on a wrist grounding strap, attach the strap to the system ground lug, and touch the side of the cabinet.
10. Open the repeater cabinet; open the cover door of the bottom of the repeater; then activate system power.
11. Connect the red lead with blue connector (quick disconnect type) to the internal battery backup—located centrally in the cabinet.
12. Close and secure the repeater upper door, and remove the wrist grounding strap.
13. Connect the PC to the repeater and login with RepeaterNet—see “Configuring Ports” in *RepeaterNet Craft for the PES800 NR*.
  - ⇒ Connect the computer to the repeater using the serial cable included with the accessory kit.
  - ⇒ Turn ON the computer.
  - ⇒ Install RepeaterNet, if necessary. To do so, insert the first program disk in the computer’s floppy drive and run the **setup.exe** program.
  - ⇒ Start RepeaterNet™ from the Windows™ desktop by clicking **Start -> Programs -> RepeaterNet -> RepeaterNet**.
  - ⇒ Select the repeater and click on **OK** to open the Main Control screen
14. Check the Power System alarms—see “Power System Properties” in *RepeaterNet Craft for the PES800 NR*.
  - ⇒ From the Main Control screen, click the 2-Prong Plug icon.
  - ⇒ Click the **Status** tab and view the Power System alarms. All alarms should be *inactive*.
  - ⇒ Click **OK** or **Apply**.
15. Confirm that the Forward and Reverse PAs are OFF—see “PA Properties” in *RepeaterNet Craft for the PES800 NR*.
  - ⇒ From the Main Control screen, click the **Forward PA** Triangle icon.
  - ⇒ Click the **Control** tab and view the PA Power switch. The switch reads ON or OFF.
  - ⇒ If the switch reads ON, click it once to turn the PA OFF.
  - ⇒ Repeat for the Reverse PA subsystem.
  - ⇒ Click **OK** or **Apply**.
16. Select the operating channel or band with RepeaterNet, if applicable.
  - ⇒ From the Main Control screen, click the **Channel 1** button.
  - ⇒ Click the **Channel #** tab and enter the appropriate channel or band in the **Channel** field.
  - ⇒ Click **OK** or **Apply**.
  - ⇒ Repeat for Channel 2, if applicable.
17. Set repeater gain according to the site plan or network engineering documentation— see “PA Properties” in *RepeaterNet Craft for the PES800 NR*.

- ⇒ From the Main Control screen, click the **Forward PA** button.
  - ⇒ Click the **Gain** tab.
  - ⇒ Click-drag the horizontal slider to set antenna gain.
  - ⇒ Click **OK** or **Apply**.
  - ⇒ Repeat for the Reverse PA subsystem.
18. Exit the active session, but do not exit RepeaterNet— see “RepeaterNet Commands,” “Exit” in *RepeaterNet Craft for the PES800 NR*.
  19. Deactivate repeater power and remove antenna port terminations.
  20. Connect antenna feeders (coaxial cables) and activate power.
  21. Login with RepeaterNet—see Step 13.
  22. Activate Forward and Reverse PAs with RepeaterNet— see “PA Properties” in *RepeaterNet Craft for the PES800 NR*.
    - ⇒ From the Main Control screen, select **Forward PA** from the Configuration menu.
    - ⇒ Click the **Control** tab and click the PA power switch (set to OFF) to turn it ON.
    - ⇒ Click **OK** or **Apply**.
    - ⇒ Repeat for the Reverse PA subsystem.
  23. Monitor Forward RF output power with RepeaterNet and carefully adjust the position of the donor antenna to maximize the **Relative Power Out**.
    - ⇒ From the Main Control screen, select **Forward PA** from the Configuration menu.
    - ⇒ Click the Measurements tab and view the Relative Power Out.
  24. Compare Forward and Reverse RF output power levels to the listed power guidelines and project engineering documentation and correct any problems—see the table on page 36.
  25. Verify coverage area and optimize Forward and Reverse gain for the planned application.
  26. Exit the active RepeaterNet session but do not exit RepeaterNet.
  27. Turn OFF the repeater and connect any digital outputs, relay outputs, external inputs, the modem land line, and the external modem, if applicable.
  28. Turn ON the repeater and monitor external equipment. Correct any problems.
  29. Configure alarm severity and other software settings with RepeaterNet (see **Configuring for Alarm Reporting and Systems Operation** on page 49 in *RepeaterNet Craft for the PES800 NR*).
    - ⇒ Open a connection and login with RepeaterNet.
    - ⇒ Configure system properties.
    - ⇒ Configure subsystem properties.
    - ⇒ Configure alarm severity settings
  30. Test operation of all inputs and outputs connected to external equipment—see **Testing Inputs and Outputs** on page 51.
  31. Back-up system configuration with RepeaterNet user the File>Upload Properties command—see **Backing Up Your Configuration** on page 51.
  32. If multiple repeaters are to be installed, create a standard Repeater Configuration (.rcf) file—see **Creating a Standard Software Configuration** on page 52.

See the following table for a quick reference into the *Craft for the PES800 NR* for the task you need to complete.

<b>Installation Task</b>	<b>Section in Craft for the PES800 NR</b>
Connect the repeater through a COM port	Configuring Ports
Check Power System alarms	Power System Status
Confirm Forward and Reverse PAs are OFF	PA Properties PA Control Tab
Select an operating channel or band	Channel Properties Channel # Tab
Set repeater gain	PA Properties Gain Tab
Activate Forward and Reverse PAs (ON)	PA Properties PA Control Tab
Monitor Forward RF output power and adjust position of donor antenna to maximize Relative Power Out	PA Status Measurements Tab
Configure Alarm Severity	Configuring PES800 NR Properties
Configure System Properties	System Menu—PES800 NR Craft System Tab
Configure Subsystem Properties	Configuring PES800 NR Properties Channel PA ACU Modem Cell phone Power System
Backup your configuration	File Menu—PES800 NR Download Properties Upload Properties