

For more detailed installation, operation, and firmware setup instructions, refer to the 1200V-Series & VG-Series Modero Touch Panels instruction manuals available on-line at www.amx.com.

Overview

The 1200V-Series and VG-Series Modero touch panels can connect to a wireless network using an internal NXA-PCI80211G compatible mini-PCI Wireless Card (FG2255-04) connected to two antennas. All 1200-V and VG-Series panels come factory installed only with the two antennas used for later connection to the optional wireless card (FIG. 1) which is field-installable.



FIG. 1 NXA-PCI80211G mini-PCI Wireless Card

Specifications

NXA-PCI80211G Specifications	
Description:	• Direct Sequence Spread Spectrum (DSSS)/CCK 802.11g Wireless mini-PCI card with detachable antennas.
Frequency Range:	• Using 802.11b & g communication: - 2.412 ~ 2.462 GHz - North America - 2.412 ~ 2.484 GHz - Japan - 2.412 ~ 2.472 GHz - Europe ETSI - 2.457 ~ 2.462 GHz - Spain - 2.457 ~ 2.472 GHz - France
Media Access Technique:	• CSMA/CA with ACK
Operating Channels:	• Using 802.11b & g communication: - 11: (Ch 1 - 11) - North America - 14: (Ch 1 - 14) - Japan - 13: (Ch 1 - 13) - Europe ETSI - 2: (Ch 10 - 11) - Spain - 4: (Ch 10 - 13) - France
Operating Environment:	• Temperature: 0°C ~ 55°C (32°F to 131°F) (operating) and -20°C ~ 70°C (-4°F to 158°F) (storage) • Humidity: (non-condensing) 5% ~ 90% RH (operating) and (non-condensing) 5% ~ 95% RH (storage)
Operating Voltage:	• 3.3V + 5% I/O supply voltage
Power Consumption:	• @ 802.11b communication: - RX: 300 mA - TX: 64 mA - Sleep: 12mA • @ 802.11g communication: - RX: 330 mA - TX: 575 mA - Sleep: 12mA
Radio Data Rate:	• 802.11g compliant: 1, 2, 5.5, 11 (DSSS/CCK); 6, 9, 12, 18, 24, 36, 48, and 54 (OFDM) Mbps data rates
Receiver Sensitivity:	• Using 802.11b communication: 1 Mbps: -86 dBm (max) 2 Mbps: -84 dBm (max) 5.5 Mbps: -83 dBm (max) 11 Mbps: -80 dBm (max) • Using 802.11g communication: 1 Mbps: -86 dBm (max) 2 Mbps: -84 dBm (max) 5.5 Mbps: -83 dBm (max) 11 Mbps: -80 dBm (max)
Security:	• 64-bit and 128-bit WEP

NXA-PCI80211G Card and Antenna Installation

Since all 1200V-Series and VG-Series panels have been pre-installed with two antennas, these panel types can be optionally field-upgraded for wireless communication via the installation of this card.

NXA-PCI80211G Installation into Modero NXT Panels

Upgrading the wireless mini-PCI card in the NXT Table Top Touch Panels involves removing the outer housing (with speaker plate), installing the new 802.11g wireless card, and then placing the outer housing back onto the NXT panel, as described below.

Step 1: Remove the existing NXT Outer Housing

1. Carefully detach all connectors from the rear of the touch panel and then gently place the touch panel LCD facedown onto a soft cloth to expose the under-side of the base (FIG. 2). This step helps prevent scratching of the LCD.
2. Tilt the base forward so that both the bottom surface and Housing Screws are easily accessible and then remove the four plastic adhesive feet.

Note: Reference the location of the four plastic adhesive "feet". Once the outer housing is placed back onto the panel, these "feet" must be placed back in their original locations so they can fit into their provided openings on a Battery Base.

3. While holding the outer housing and base plate at an angle (to prevent it from sliding), use a grounded Phillips-head screwdriver to remove the eight Housing Screws (FIG. 2).

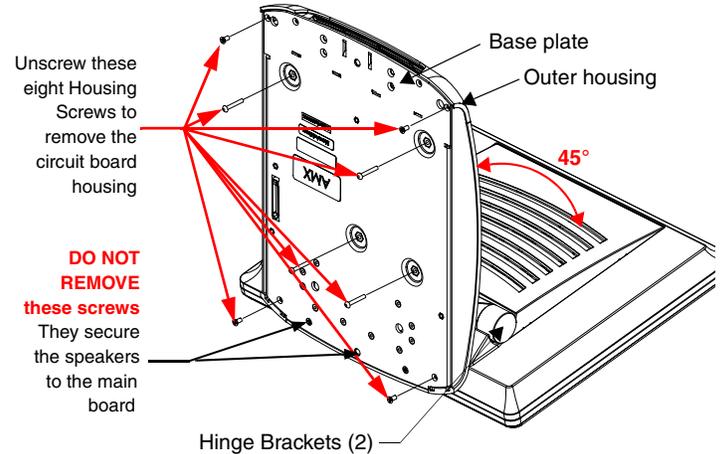


FIG. 2 Location of the attachment screws underneath an NXT panel base

4. Rotate the panel back over (while gripping the entire unit and outer housing) and rest the base back onto a flat surface.
5. Gently tilt the LCD panel backwards and in a single motion, carefully pull the outer housing up and then out (away from the LCD panel) to expose the internal circuit board.

Step 2: Install the new 802.11g mini-PCI Card and Antenna (NXD)

1. Complete the procedures outline within *Step 2: Installing the mini-PCI Wireless Card* section on page 2 and then complete the following step.

Step 3: Close and Resecure the NXT Panel Enclosure

1. Tilt the LCD back to a 45° and then gently slide-on the outer housing (towards the LCD) until its both aligned over the installation holes and the tilt bracket prevents any further forward movement.
2. Gently press down on the housing (toward the base) until it is securely positioned over the circuit board and cover base.

Note: Use caution when re-installing the outer housing. Improper re-installation can cause damage to the internal speakers.

3. While holding the circuit board cover in place, turn the panel back over until the LCD lies facedown on a soft cloth and the under-side of the base is exposed.
4. Insert and secure the eight Housing Screws (using a grounded Phillips-head screwdriver) into their respective locations (FIG. 2).
5. Replace any adhesive plastic "feet" that might have been removed during the removal process of the outer housing. These "feet" must be placed back onto their original locations so they can fit into their provided openings on the Battery Base.
6. Grasp both the LCD and housing and then rotate the entire unit back onto a flat surface.
7. Insert all connectors and apply power.

NXA-PCI80211G Installation into Modero NXD Panels

Upgrading the 802.11g card within a WallMount panel involves removing the rear plastic outer housing (back box), installing the new 802.11g wireless card, and then placing the back box back onto the NXD panel, as described below.

Step 1: Removing the existing NXD Outer Housing

1. Carefully detach all connectors from the side of the touch panel and remove the front magnetic faceplate from the NXD unit by firmly gripping the faceplate and pulling outwards, while applying a small amount of pressure to remove it from the main unit.
2. Place the LCD facedown onto a soft cloth to expose the under-side of the unit and prevent scratching of the LCD.

Note: DO NOT REMOVE THE PANEL SECURING SCREWS. These screws secure the LCD to the metallic casing.

3. Unscrew the Stereo Output nut from the Stereo Output jack.
4. Remove the I/O connector plate by using a grounded Phillips-head screwdriver to remove the two screws and slide the I/O connector plate away from the back box housing (FIG. 3).

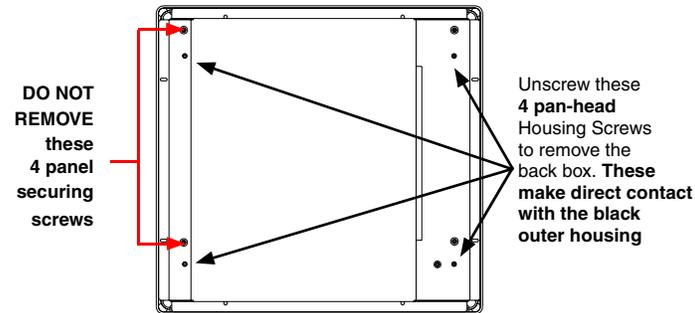


FIG. 3 Location of the securing screws on an NXD panel

5. Unscrew the four pan-head Housing Screws from the rear of the NXD unit (FIG. 3) and gently remove the outer housing. These screws secure the back box to the internal panel casing.

Step 2: Installing the mini-PCI Wireless Card

1. Discharge static electricity from your body by touching a grounded metal object and locate the mini-PCI card connector on the main board (FIG. 4).

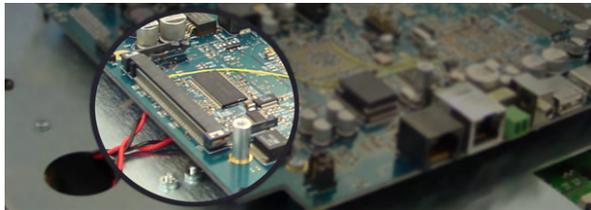


FIG. 4 Location of the mini-PCI card connector on main board

Note: If you have previously installed an NXA-RGB card, it must be removed to gain access to the mini-PCI connector on the board.

2. Carefully remove the terminal ends of the antenna from their factory default connectors on the main board.
3. Firmly grasp the NXA-PCI80211G mini-PCI card (from the edges) and insert the pins (at a 25° angle) into the opening on the connector (FIG. 4).
4. While maintaining the 25° angle alignment on the new module, push it in firmly until the contact pins are completely inside the connector and the card "snaps" into place (FIG. 5).
5. Push the card downward (towards the main board) until the side braces snap atop the NXA-PCI80211G and hold it in place.
6. Locate the terminal ends of the antennas and apply downward pressure to "snap" them onto their gold-tipped counterparts on the card. Carefully push down on each connector to verify it is securely joined to the card.

Note: It is recommended that any upgrade of internal equipment be done simultaneously in order to reduce the risk of damage to internal components.

Step 3: Replacing the NXD Outer Housing

1. Once the card has been securely installed, gently place the outer housing back onto the metallic panel casing (with the connector opening on the right-side of the panel) and align the four pan-head Housing Screw holes along the edges of the outer housing.

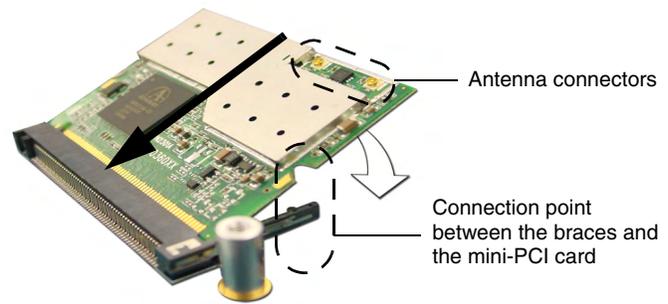


FIG. 5 Installation of the mini-PCI card connector on main board

Note: Use care not to bend or damage any antenna connections while replacing the outer housing.

2. Insert and secure the four pan-head Housing Screws into the pre-drilled holes along the edges of the NXD unit by using a grounded Phillips-head screwdriver.
3. Reinstall the existing connector plate by aligning all connectors to their respective locations.
4. Secure the I/O connector plate using a grounded Phillips-head screwdriver and then twist the Stereo Output nut back onto the Stereo output jack.

Unsecured Panel Access using a DHCP Address

Communication from the panel can be direct (using an Ethernet cable) or indirect (through the wireless card communicating to the Wireless Access Point (WAP)). In determining the method of communication, the panel always defaults first to the direct Ethernet communication. If no direct connection is detected, the panel then checks to see if there is an installed wireless card and then communicates to the WAP using the Wireless Settings assigned within the Wireless Connection page. *The wireless interface card (installed within the panel) must match the WAP communication parameters.*

1. Complete the previous installation procedures.
2. Power-up the panel and navigate to **Protected Setup > Wireless Connection** to open the Secondary Connection page.
3. Toggle the *DHCP/Static* field (from the IP Settings section) until the choice cycles to **DHCP**. *Except for the Host Name, all other fields are then greyed-out.*
4. Press the optional *Host Name* field to open a Keyboard and enter the Host Name information.
5. Press **Done** after you're finished assigning the alpha-numeric string.
6. Do not alter any of the remaining greyed-out fields in the IP Settings section. Once the panel is rebooted, these values are obtained by the unit and displayed in the DNS fields after power-up.

Note: This information can be found in either the Workspace - System name > Define Device section of your code (that defines the properties for your panel), or in the Device Addressing/Network Addresses section of the Tools > NetLinX Diagnostics dialog.

7. Touch the *Network Name (SSID)* field and from the Service Set Identifier keyboard you must enter the SSID name assigned to the target WAP (**case sensitive**). **Do not leave this field blank.**
 - One of the most common problems associated with connection to the WAP arises because the SSID was not entered properly. You must maintain the same case when entering the SSID information. As an example: **ABC is not the same as entering Abc or abc.**
8. Toggle the *Authentication* field between **Open System** or **Shared Key**.
 - **Open System Authentication** allows any device to join the network if the panel's SSID matches the WAP's SSID. *This is default setting.*
 - **Shared Key Authentication** requires that the panel and the Wireless Access Point have the same WEP Key to authenticate.
9. Toggle the *Encryption* field until it reads **Clear Text** (default).
10. Verify the IP Settings section fields have been properly set.
11. Press the **Back** button to navigate to the Protected Setup page.
12. Press the on-screen **Reboot** button to both save any changes and restart the panel.
13. After the panel restarts, return to the Wireless Connection page to verify the Link Quality and Signal Strength.