

PianoDisc Prodigy II

Operating Instructions

Version 1.02 (September 2025)

PianoDisc
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5,083,491; 5,237,125; 5,251,529; 5,521,795; 5,524,521; 5,542,328; 5,546,842; 5,756,910;
5,834,669; 5,841,050.
Other patents pending.

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Introduction

Welcome to your PianoDisc player piano system! We are thrilled that you have chosen to bring the joy of live piano music into your home. We hope that your PianoDisc system will provide you with years of enjoyment, and we are excited to be a part of your musical journey.

The PianoDisc system is a unique and innovative way to experience the beauty of a traditional acoustic piano, combined with the convenience and versatility of a digital player system. With PianoDisc, you can enjoy the sound of a live piano performance at any time, simply by pressing a button. Whether you are an experienced pianist or a novice, the PianoDisc system has something to offer for everyone.

This user's guide is designed to help you get started with your PianoDisc system and to familiarize you with its various features and functions. We encourage you to take some time to explore all that your system has to offer, and to experiment with the different ways in which you can use it to enhance your musical experiences.

Thank you again for choosing PianoDisc. We hope that you will find it to be a valuable and enjoyable addition to your home. Enjoy!

Important Safety and Installation Instructions

Information relating to possible personal injury, electric shock, and fire hazards has been included in this list.

WARNING - When using electrical products, basic precautions should always be followed, including the following:

1. Read all instructions before using the product.
2. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.
3. Do not open the cover under any circumstances. There are no user-serviceable parts inside.
4. If any liquid is spilled in the piano, immediately unplug it and have it serviced by a technician to prevent electrical shock or further damage to the unit.
5. Keep the power cord away from heavy traffic areas, and do not let it become twisted, kinked, pinched, or trapped under the piano or other heavy objects.
6. Locate your PianoDisc unit away from direct sunlight, water or moisture, and hot or cold air currents to prevent overheating or damage.
7. If the PianoDisc unit is to remain unused for an extended period, its power supply should be disconnected.
8. If repair is necessary, refer only to authorized service personnel. Unauthorized repairs could result in electric shock or other hazards.
9. This product, alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period at a high volume or at a level that is uncomfortable. If you experience any hearing discomfort, stop using the product immediately and consult a physician.
10. Follow all installation instructions and ensure that the equipment is securely mounted to prevent it from falling and causing injury or damage.
11. Ensure that ventilation openings are not blocked or covered, and that there is adequate space around the product for proper ventilation.
12. Do not place the unit on unstable surfaces where it could tip over and cause injury or damage.
13. Unplug the unit during lightning storms or when unused for long periods to protect it from power surges.

Failure to follow these safety instructions could result in personal injury or damage to the product. We appreciate your attention to these details and hope you enjoy your PianoDisc system safely.

Regulatory Information

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If it is not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

 **Model: Prodigy II**
FCC ID: 2AC7Z-ESP32WROVERE / 2ALPH-E73
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

    U.S. Patent No 7531736 7385131
CAN ICES-003 (B) / NMB-003 (B)

Designed by *PianoDisc* in California, Made in China
4111 North Freeway Blvd, Sacramento, CA, USA 95834
Please contact +1 (866) 566-3472 or info@pianodisc.com

Serial No.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Specifications

Physical Dimensions	228mm (9") W × 102mm (4") H × 28mm (1") D Antenna Length: 84mm (3.5")
Power Input	12-48 VDC 4A
SD Card Max Capacity	SD, SDHC, SDXC up to 32GB (FAT32) ¹
Bluetooth Audio	Bluetooth v4.2 A2DP BR/EDR
Wi-Fi	2.4 GHz, IEEE 802.11 b/g/n, WPA/WPA2-PSK authentication, CCMP (AES) encryption.
Wi-Fi Audio	AP Version 1 Compatible
MIDI 1.0	Flex Port (5-PIN DIN/ProRecord/Peripheral) × 2 USB MIDI (C style connector) Bluetooth v5.3 LE
Line Input	Stereo analog 3.5mm TRS (200mV – 2V)
Line Output	Stereo RCA
DAC	96 kHz 16-bit Burr Brown
Amplifier (Speaker Output)	12W total (6W per channel into 4Ω load).
Digital Output	Optical TOSLINK S/PDIF ²
Key Driver Compatibility	SilentDrive, SilentDrive HD, third-party (via MIDI redirect)
Regulatory Approval (Prodigy II, 40V Power Supply, SilentDrive HD)	FCC Part 15 Subpart B, ICES-003, CE, UKCA, VCCI

¹ While larger capacities may function, they are not recommended due to potential performance degradation and the typically small size of MIDI files.

² Compatible with ProMode only. Audio decoding not supported in digital mode.

Companion Apps

In this guide, we reference two essential companion apps: PianoDisc iQ and PianoDisc Calibrate. The iQ App is designed primarily for end-users, while the Calibrate App is tailored for PianoDisc technicians and installers for system configuration and troubleshooting. Both are available in the Apple App Store. Here's an overview of each app:



PianoDisc iQ

The PianoDisc iQ App provides specialized features that go beyond standard music playback, enhancing the PianoDisc system experience. While standard PianoDisc music can be played from any compatible music player (without requiring an app), the iQ App offers unique capabilities:

- **Play MIDI & DualSync files:** Enjoy dynamic playback of PianoDisc's MIDI and DualSync file formats.
- **Stream PianoDisc radio:** Access streaming radio directly through the app.
- **Record performances** (with optional ProRecord system): Capture your own performances to revisit and share.
- **Create playlists with mixed formats:** Build custom playlists that combine MIDI, MP3, M4A, and other supported music formats.
- **Apple Watch Control:** Play, pause, and select music—all from your Apple Watch.
- **Siri Integration:** Use Siri voice commands to play, pause, and select music hands-free. Just say, "Hey Siri, play my piano" to start your music instantly.
- **ProMode for wireless accompaniment:** Play accompaniment through wireless speakers directly, bypassing the Prodigy II control unit for streamlined audio output.



PianoDisc Calibrate

The PianoDisc Calibrate App is an advanced tool for configuring and diagnosing the PianoDisc system. Designed specifically for use by certified PianoDisc technicians, this app enables precise control over system parameters. Adjustments made in the Calibrate App can significantly impact performance; thus, we recommend only trained technicians or those familiar with PianoDisc settings utilize it. The Calibrate App includes three main sections:

- Info Page: This page displays advanced diagnostic information about your PianoDisc system, which is also accessible remotely by our tech support team for troubleshooting assistance.
- SilentDrive Setup Page: This section enables technicians to calibrate the SilentDrive system that physically actuates your piano's keys. Adjustments here can optimize the system's response and performance.
- iQ Setup Page: This section manages settings related to audio processing, balance, and other advanced functions. These settings are also available through the Prodigy II's LCD menu, but the Calibrate App offers a comprehensive view for technicians to make precise adjustments.



iQ App (For End Users)

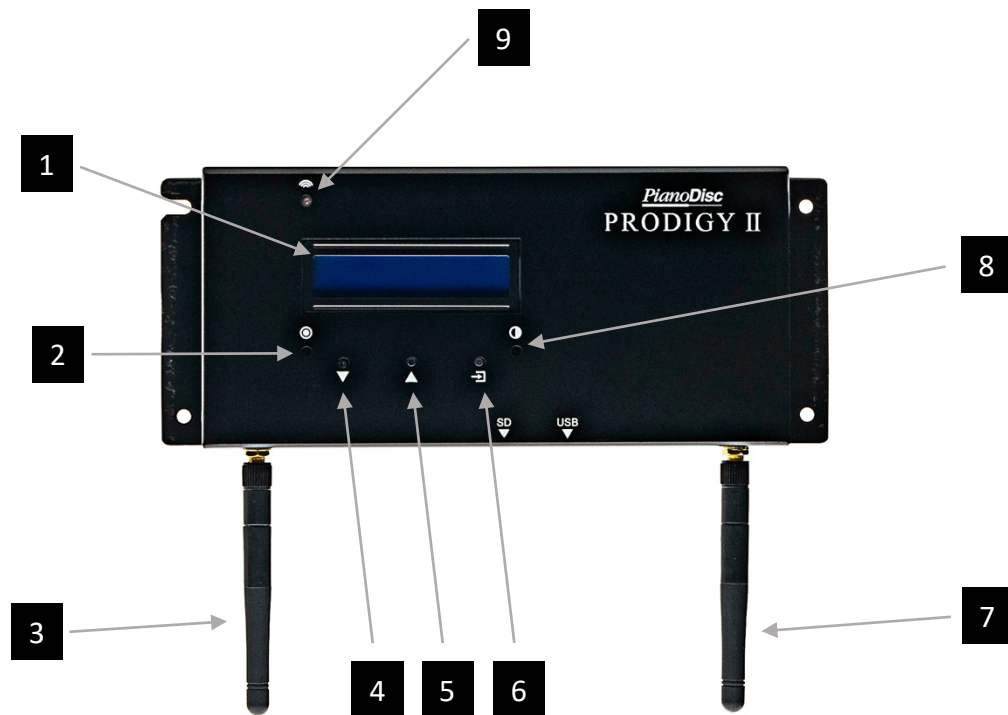


Calibrate App (for Technicians)

Meet Prodigy II: An Introduction to the Physical Interface

Before diving in, it's helpful to familiarize yourself with the Prodigy II control unit and learn about its buttons and ports, as these will be referenced throughout the guide.

Front Panel

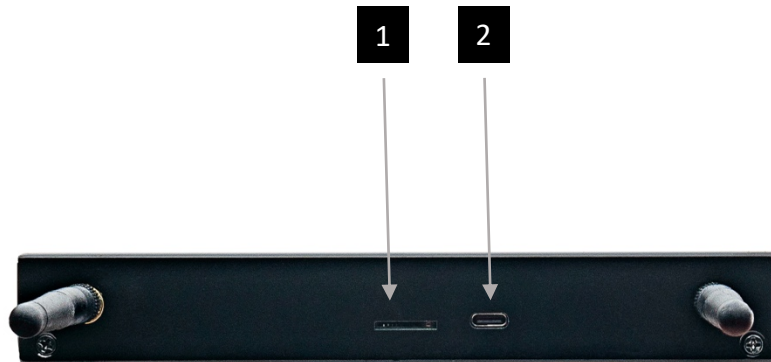


- 1 LCD Display
- 2 Reset Button
- 3 WiFi/Bluetooth Audio Antenna
- 4 Menu Down
- 5 Menu Up

- 6 Menu Enter
- 7 Bluetooth MIDI Antenna
- 8 LCD Contrast Adjustment
- 9 Wi-Fi Status

Slow Blink: Wi-Fi Connected
Fast Blink: Wi-Fi Discoverable
Red Blink: Wi-Fi Resetting
Solid: Playing wireless audio

Bottom Panel



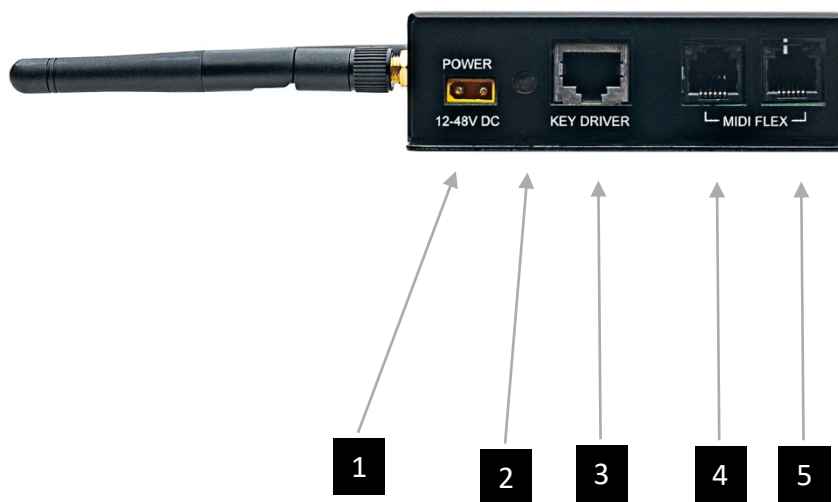
1 Micro SD Slot

We recommend 32GB SD cards formatted as FAT32

2 USB C

This port provides USB MIDI and does not support storage

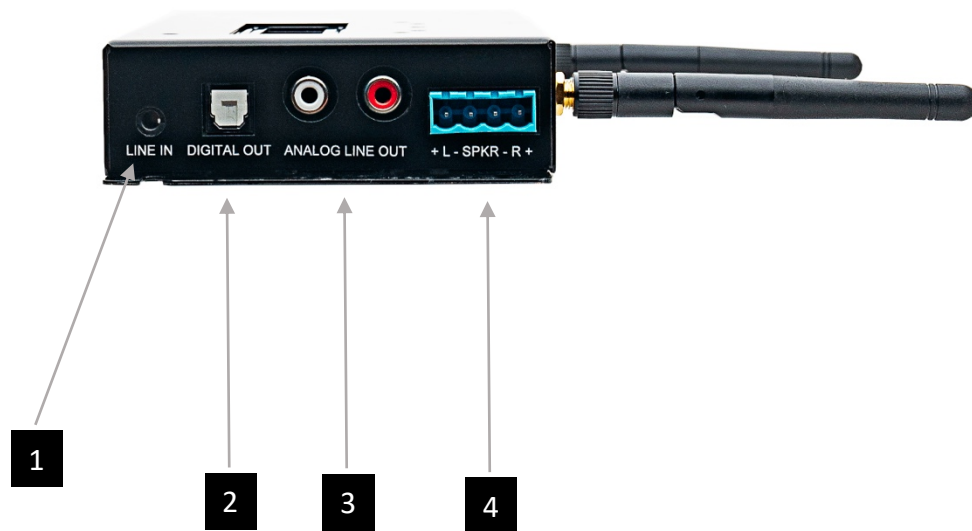
Side Panel (Right)



- 1 Power (12 – 48 VDC)
- 2 Power Indicator
- 3 To SilentDrive Key Driver

- 4 MIDI/Record Flex 2 Port
- 5 MIDI/Record Flex 1 Port

Side Panel (Left)

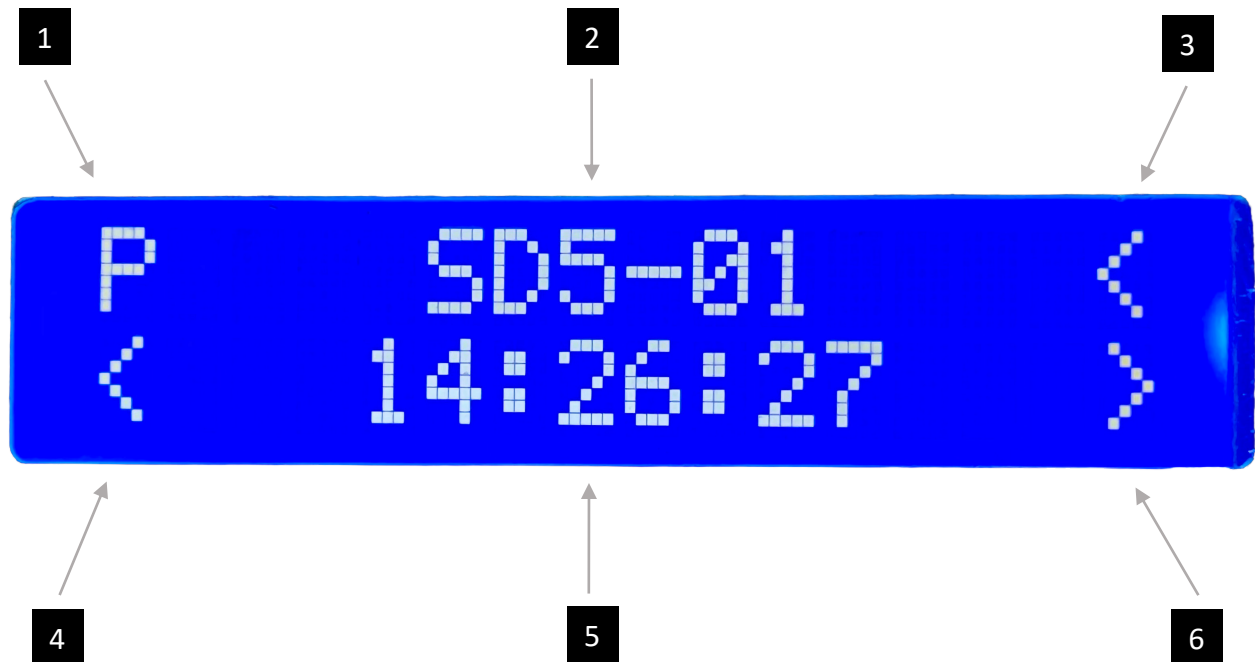


- 1 Stereo Line In
- 2 S/PDIF Digital Out

- 3 Line Out
- 4 Speaker Out

Display

The Prodigy II display aids in troubleshooting by showing the system name and current time under normal conditions. Each corner of the display has indicators for port activity and other key information. Below is a summary of each screen element and its meaning:



- 1 The **Source Indicator** tells you what is currently playing your piano:

P PianoCD Audio
! PianoCD Decoding Error
B Bluetooth MIDI
U USB MIDI
R ProRecord
F File (SD Card)

- 2 System Name / Playing song (when playing from SD card)

- 3 MIDI Flex Port 1:

< MIDI In
> MIDI Out

- 4 The **Output Indicator** shows you when playback data is sent to your piano.

< SilentDrive Data (Default)
R Re-direct (MIDI)

- 5 System Time / Play time

- 6 MIDI Flex Port 2:

< MIDI In
> MIDI Out

In addition to the standard display, you may see some of the following messages. Here is a summary of what you might see and what the messages mean:

Initializing: This message indicates that the MIDI engine has not yet established communication with the audio engine. While some delay is normal, if initializing never goes away, it could indicate a firmware mis-match or other malfunction. Note that menus can still be accessed and firmware updated while in this state.

Update Available: This message is shown when a MIDI engine update file is found on the SD card. Press the **Reset button** or cycle power to install the update.

Version Mismatch: Prodigy II features two engines that work together: Audio and MIDI. Each of these engines requires a separate firmware update. If one of the engines is updated and the other isn't, you may see the version mismatch error. If this happens, simply update the out-of-date engine using the Calibrate App (or the manual method). Note that menus can still be accessed and firmware updated while in this state.

Radios Disabled: In some special circumstances, it may be desirable to disable Bluetooth and Wi-Fi functionality. When the radios are disabled, it won't be possible to connect to Prodigy II wirelessly. Since a wireless connection is what most people use, this message is flashed on the screen to remind users that the Prodigy II won't be accessible wirelessly. Other than the wireless functionality, Prodigy II can still be accessed normally when this message is shown.

UNLICENSED: This message, while extremely rare, can happen when systems are purchased from un-authorized dealers. While menus and settings can be accessed, the system will not play normally. If you see this message, contact your dealer or technician for help.

Menu Navigation

While most interactions with Prodigy II happen through the iQ and Calibrate Apps, knowing how to navigate its on-board menu is especially helpful during initial setup. The menu is designed to be straightforward, but the limited display space can make it a bit confusing at first. Let's go through it step-by-step.

The Prodigy II's on-board menu lets you adjust settings, view diagnostic information, and perform system tests. Each menu item and submenu appears on its own line, and since the screen can only display two items at a time, it's important to remember that each line represents a unique selection and may not relate to the other item shown. Symbols are used to provide guidance, so let's review what they mean.

In the example below, **Info** is the name of the menu we're in, and **IP Address** is a selection available within that menu. In the next example, **Main Menu** is the name of the menu, and **Volume** is the parameter we're changing.



1 > indicates the currently selected parameter, command or sub-menu

2 [..] will return to the top-level menu when you select it and push enter

3 >> indicates that something will happen when you push enter. Either you will run the command or enter a sub-menu

4 = means you are editing a parameter. Use the up and down buttons to adjust and press enter when done.

Using the Menu

1. Press any of the three buttons to wake up the display and enter menu mode.
2. Use the **menu up** and **menu down** buttons to cycle through the menu options.
3. Press the **enter** button to enter a sub-menu or make a selection.
4. Use the **up** and **down** buttons to change a value or navigate the sub-menu.
5. Press **enter** to confirm the value or select something else.
6. To exit menu mode, choose “Exit” or simply wait 10 seconds for the menu to time out and return to operational mode. (NOTE: the menu will not time out if you are running a test, viewing information, or adjusting a parameter).

Examples

Adjust the Volume:

1. Press any button to enter menu mode.
2. Use the up and down buttons until you see **> Volume**.
3. Press enter. You should see **= Volume** which shows you are able to change the volume.
4. Use the up and down buttons to change volume to the desired value.
5. Press enter to save your change. You should see **> Volume** again which indicates you’ve exited edit mode.

Enable Auto Play:

1. Press any button to enter menu mode.
2. Press the down button until you see **> MIDI >>**.
3. Press enter to enter the MIDI menu.
4. Press the down button until you see **> Auto Play >>**.
5. Press the down button until you see **> Enable >>**.
6. Press **ENTER** to toggle between **ON** and **OFF**.
7. If desired, you can continue to adjust the other sub-menu items, like **Playlist**, **Sort** and **Loop Play**.

TIP: If you get confused or lost, use the **UP** and **DOWN** buttons to navigate to a familiar space, or simply wait for 10 seconds which will automatically return you to the main screen, where you can try again.

Connecting Your Prodigy II to Wi-Fi

Why Connecting to Wi-Fi Matters

Connecting your Prodigy II to your Wi-Fi network unlocks a range of features that enhance your experience, just like many other modern household devices. By joining your home Wi-Fi network, you gain access to:

- **Wi-Fi Audio:** Play from your iPad to your piano from anywhere within your Wi-Fi network³.
- **Home Automation Integration:** Use Alexa and other smart home features.
- **Remote Diagnostics:** Get troubleshooting and support remotely.
- **Configuration and Setup Access:** Manage settings through your network or the Calibrate App.
- **Automatic Software Updates (coming soon):** Get new features without needing manual updates.
- **Time Synchronization:** Keep the system's clock accurate.

Connecting your Prodigy II to Wi-Fi not only unlocks powerful functionality today but also prepares your piano to receive new features and enhancements over time.

A Note About Wi-Fi Setup Assistance

Setting up Wi-Fi devices has become a standard part of life, and joining the Prodigy II to your network is similar to connecting other smart home devices. If you've set up other Internet of Things (IoT) devices in the past, this process may already feel familiar. While the setup is designed to be straightforward, not everyone feels comfortable with technical tasks. Here are a few things to keep in mind:

Support from Your Technician, Dealer, or Tech Support Representative

While your technician, dealer, or tech support representative is there to install and fine-tune your Prodigy II, they may not be familiar with the specifics of your home network—and that can be to your advantage. Just as you wouldn't hand over your house keys to someone unfamiliar, you probably prefer to keep control over who accesses your personal network.

³ Requires compatible network and router. Not all networks or environments support Wi-Fi Audio.

Your Wi-Fi network connects many devices in your home, so managing access yourself or with help from a trusted friend or professional is a smart choice. Although some technicians may be willing and able to assist with the Wi-Fi connection, this isn't guaranteed, as they typically don't specialize in network setup.

Options for Additional Assistance

If you're not comfortable setting it up yourself, you have a few options:

- **Ask a Friend or Family Member:** If someone you know is comfortable with setting up Wi-Fi connections, they can assist you.
- **Hire a Networking Professional:** For reliable setup and troubleshooting, consider hiring a local networking expert to ensure a good signal and smooth connection near the piano.

These additional options can help you fully enjoy the benefits of a connected Prodigy II piano system.

Before We Begin: Preparing Your Network for Prodigy II

To ensure smooth setup and reliable performance, here are some important things to check on your network before connecting your Prodigy II:

- **2.4 GHz Network Requirement:** Like most IoT devices, Prodigy II operates on a 2.4 GHz Wi-Fi network. Some routers broadcast separate network names (SSIDs) for 2.4 GHz and 5/6 GHz networks. Be sure you're connecting Prodigy II to the 2.4 GHz network, as it's incompatible with the higher frequencies.
- **Wi-Fi Signal Strength:** Reliable audio streaming requires a strong, steady Wi-Fi signal. Because Prodigy II is mounted under the piano, and beneath a metal plate, it can face signal interference. Ensure your piano is close enough to the router, or consider adding access points or a Wi-Fi extender if your network covers a large area. Weak signals may cause drop-outs or lead to the wrong notes playing.
- **Channel Congestion:** The 2.4 GHz band is shared by Wi-Fi, Bluetooth, Zigbee, and other devices. Most routers automatically select the least busy channels, but if your network or frequency is congested, it could cause drop-outs or playback issues. Adjusting the channel settings on your router may help improve stability.
- **Mesh Network Considerations:** While mesh networks are useful for extending Wi-Fi coverage, they can sometimes cause audio streaming interruptions with Prodigy II. Mesh networks may switch devices between access points dynamically, which can

disrupt streaming. If you have a mesh network and experience issues, consider setting a dedicated 2.4 GHz access point near the piano.

If these adjustments are unfamiliar or challenging, refer to the previous section on setup assistance to find someone who can help. Following these steps will help set up your Prodigy II for the best possible performance on your network.

Checking if Your Prodigy II is Already Connected to Wi-Fi

1. **Access the IP Address Menu:** On the Prodigy II's LCD screen, go to: Info > IP Address.
2. **Interpret the IP Address:** If you see **192.168.4.1** or **Unknown/Not Set**: This means the Prodigy II is not connected to your home Wi-Fi. Follow the steps below to join it.
3. **If you see a different IP address:** Your Prodigy II is already connected to your Wi-Fi, and no further steps are needed.

TIP: If you see a red Wi-Fi indicator in the Calibrate app and suspect your Prodigy II isn't connected, it could actually be connected but experiencing network congestion or signal disruption. Always check if you're already connected before resetting Wi-Fi, as a reset won't resolve these underlying network issues.

Connecting Your Prodigy II to Wi-Fi Using an iPhone or iPad

You can use an iPhone, iPad, Android device, or laptop to connect. Here, we'll walk through the steps for an iPhone or iPad.

Step 1: Prepare Your Prodigy II for Setup by Resetting Wi-Fi

- On the Prodigy II LCD screen, go to: **Setup > Reset Wi-Fi**.
- **Confirm the reset:** The Wi-Fi LED will blink red briefly, then blink green twice per second to indicate setup mode.

TIP: If you are already connected to Wi-Fi (see the section above), there's no need to reset Wi-Fi, as doing so can complicate things. A Wi-Fi reset won't improve signal strength or resolve network/router issues.

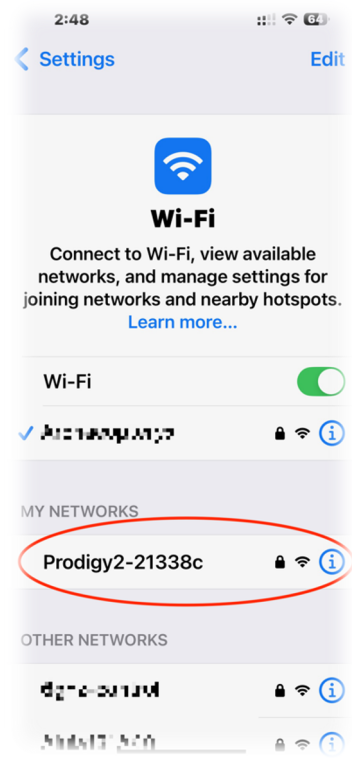


Figure 1

Step 2: Connect to the Prodigy II Network (Figure 1)

- Open Wi-Fi Settings on Your iPhone or iPad:
- Go to **Settings > Wi-Fi**.
- Look for a network called Prodigy2-XXXXXX (the Xs are unique to your system).

TIP: If you don't see the Prodigy II after one minute, you can try: pushing the **RESET** button on your Prodigy II, using another phone/iPad, or turning your phone's Wi-Fi off and on again.

- Once it appears, tap the Prodigy2 network to join it.
- When prompted, enter the default password: **pianodisc**. Note that there are no spaces or capitalization, just lower-case "pianodisc".
- Wait for the **Captive Wi-Fi** page to display. Your phone may warn you that the network has weak security or no internet connection—that is normal in setup mode.

TIP: If the Captive WiFi page doesn't open within a few minutes, open your web browser and type 192.168.4.1 in the address bar, while still connected to the Prodigy2 network.

Step 3: Select and Join Your Home Network (Figure 2)

- **Choose Your Wi-Fi Network:** Select your home Wi-Fi network from the list.
- Prodigy II uses 2.4 GHz Wi-Fi only. Some routers offer separate network names (SSIDs) for 2.4 GHz and 5 GHz, so be sure to select the 2.4 GHz network.
- **Enter Your Wi-Fi Password:** Type your Wi-Fi password carefully. Wi-Fi passwords are case-sensitive.
- Tap **Join**.
- **It may take up to 30 seconds for your Prodigy II to join the network.** Once connected, the network selection interface may close automatically, or you may see a notification confirming the connection and need to tap “OK.” Avoid navigating to any other tabs outside of Wi-Fi selection during this process.

TIP: If the Captive Wi-Fi page doesn't close automatically after tapping **Join**, wait a minute and then push **Reset** on the Prodigy II. Rejoin your normal Wi-Fi and use the method described above to verify that Prodigy II connected successfully.

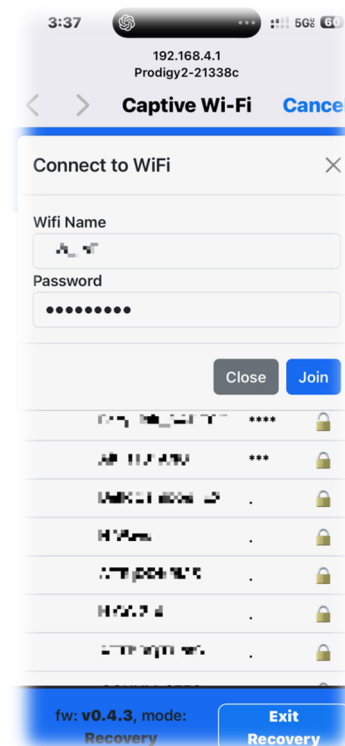


Figure 2

Step 4: Verify Connection Status (Optional)

- If your Prodigy II didn't reboot automatically, press the **Reset** button or cycle power.
- Check the Wi-Fi LED: The LED should slowly blink green once every two seconds, indicating a successful connection.
- Confirm the IP Address: Go to **Info > IP Address** on the Prodigy II's LCD screen.
- You should now see an IP address different from 192.168.4.1, indicating connection to your home network.

Troubleshooting

If you encounter issues during setup, refer to these troubleshooting tips to help resolve common problems.

Wi-Fi Configuration Page Doesn't Appear

If the **Captive Wi-Fi** configuration page doesn't load automatically after you connect to the Prodigy II network, try these steps:

- **Open a Browser:** While connected to the Prodigy2-XXXXXX network, open a web browser and type `192.168.4.1` in the address bar.
- **Reconnect if Necessary:** If the page still doesn't appear, turn your phone or tablet's Wi-Fi off and on, then reconnect to the Prodigy2 network and try again.

Can't Find the Prodigy II Network

If you don't see the Prodigy II network (Prodigy2-XXXXXX) in your Wi-Fi list:

- **Check the Wi-Fi LED:** Ensure the Wi-Fi LED on Prodigy II is blinking green quickly. If it's not, the device may not be in setup mode. Go to **Setup > Reset WiFi** on the LCD screen or press the Reset button on the Prodigy II to restart setup mode.
- **Try Another Device:** If you still don't see the network, try using a different phone, tablet, or computer to connect.

Weak or Unstable Wi-Fi Signal

A poor Wi-Fi signal can cause connection drops or playback issues with Prodigy II. Here are steps to improve your connection:

- **Router Proximity:** Move your router closer to the piano, or place an access point near the piano to strengthen the signal.
- **Check the Antennas:** Make sure the antennas on Prodigy II are securely screwed in, as they may loosen during shipping.
- **Avoid Network Congestion:** Other devices like Bluetooth, Zigbee, and other Wi-Fi networks can interfere with the 2.4 GHz band. If you experience ongoing issues, adjusting the router's 2.4 GHz channel to a less busy option may improve performance.

Network Congestion or Drop-Outs

If Prodigy II frequently drops connection or audio playback cuts out, this may be due to network congestion:

- **Channel Settings:** Check your router settings to ensure it automatically selects the best available channel. If problems persist, you may need to set a specific 2.4 GHz channel manually for a more stable connection.
- **Limit High Traffic Devices on 2.4 GHz:** If possible, move other high-bandwidth devices (like video streaming devices) to your 5 GHz network to free up bandwidth on 2.4 GHz for Prodigy II.

Mesh Network Issues

Mesh networks can occasionally disrupt Prodigy II's connection due to dynamic access point switching:

- **Set a Dedicated 2.4 GHz Access Point:** If you experience streaming interruptions on a mesh network, consider setting up a dedicated 2.4 GHz access point near the piano to avoid automatic switching.
- **Disable Fast Roaming (if possible):** Some mesh networks allow you to disable fast roaming settings, which may reduce connection drops.

Prodigy II Won't Connect to Your Home Wi-Fi Network

If Prodigy II doesn't connect to your home network after following the setup steps:

- **Confirm the 2.4 GHz Network:** Make sure you selected the 2.4 GHz SSID, as Prodigy II is not compatible with 5 GHz networks.
- **Double-Check Password:** Wi-Fi passwords are case-sensitive; ensure you entered it accurately.
- **Router Settings:** Some routers require IoT devices to be set up under specific settings. Check for any isolation settings (like AP Isolation) that could block Prodigy II from joining your network.

Audio Playback Issues

If you experience delayed or missing notes while streaming audio:

- **Optimize Signal Strength:** Ensure that Prodigy II has a strong signal. Consider adding a Wi-Fi extender or access point if the signal strength is low in your piano's location.
- **Limit Background Traffic:** Heavy network traffic from other devices on the same Wi-Fi network can affect playback quality. Reducing the load on your 2.4 GHz network can improve performance.

Checking Signal Strength with the PianoDisc Calibrate App (Figure 3)

If you're unsure about your Prodigy II's Wi-Fi signal strength, you can check it using the PianoDisc Calibrate App:

1. **Open the PianoDisc Calibrate App** on your device.
2. **Tap the Bluetooth icon** to connect to your piano.
3. Select the name of your Prodigy system to connect to Bluetooth MIDI.
4. Once connected, press the **i button** in the upper left corner of the screen.
5. A **Device Info** screen will appear.
6. Tap **Refresh** to update the information.
7. **Scroll to the bottom** of the info parameters and look for **Wi-Fi RSSI**.

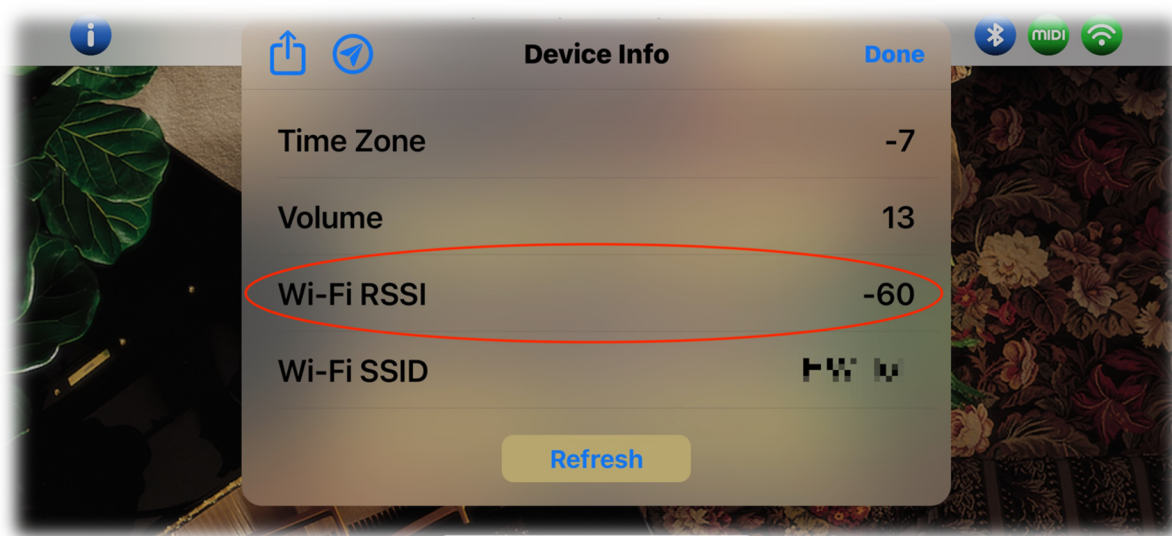


Figure 3

RSSI stands for Received Signal Strength Indicator, and it tells you how strong the Wi-Fi signal is at your Prodigy II. The numbers may look confusing because they're negative, but here's an easy way to understand them:

- **-50 or Higher** (closer to zero): The signal strength is **excellent**. No action is needed.
- **Between -50 and -70**: The signal strength is **fair**. This level should work for most features, but you might experience some issues with Wi-Fi Audio. If you have performance issues, consider reorienting the device or its antenna or adding an access point nearby.
- **Less Than -70** (more negative): The signal strength is **poor**, and you may notice delays or drops, especially with real-time tasks like Wi-Fi Audio. Check that the device's antennas are securely attached and positioned correctly. You may also need to add an access point or move closer to your Wi-Fi router.

Remember, with RSSI numbers, a **smaller negative number** (like -50) means **better** signal strength than a larger negative number (like -80).

Using this guide, you can diagnose your connection and determine if any adjustments are needed to improve performance. These steps should help you resolve most Wi-Fi connection issues and enjoy the full benefits of a connected Prodigy II. For further assistance, feel free to contact customer support or consult your PianoDisc technician.

Understanding The Web User Interface (Web UI)

Typically, your piano technician will use the PianoDisc Calibrate App to set up and fine-tune your Prodigy II. However, now that you’ve configured Wi-Fi, it’s helpful to know that Prodigy II also has a web-based configuration page, which we’ll refer to as the Web UI. If you’re an advanced user wanting to explore the system’s detailed functionality, this section will help you understand Prodigy II’s features more thoroughly. **However, most users (and even most technicians) can safely skip this section.**

WARNING: The Web UI contains advanced settings that, if adjusted incorrectly, may cause your piano to malfunction. Proceed cautiously, and avoid enabling or disabling settings without fully understanding their effects.

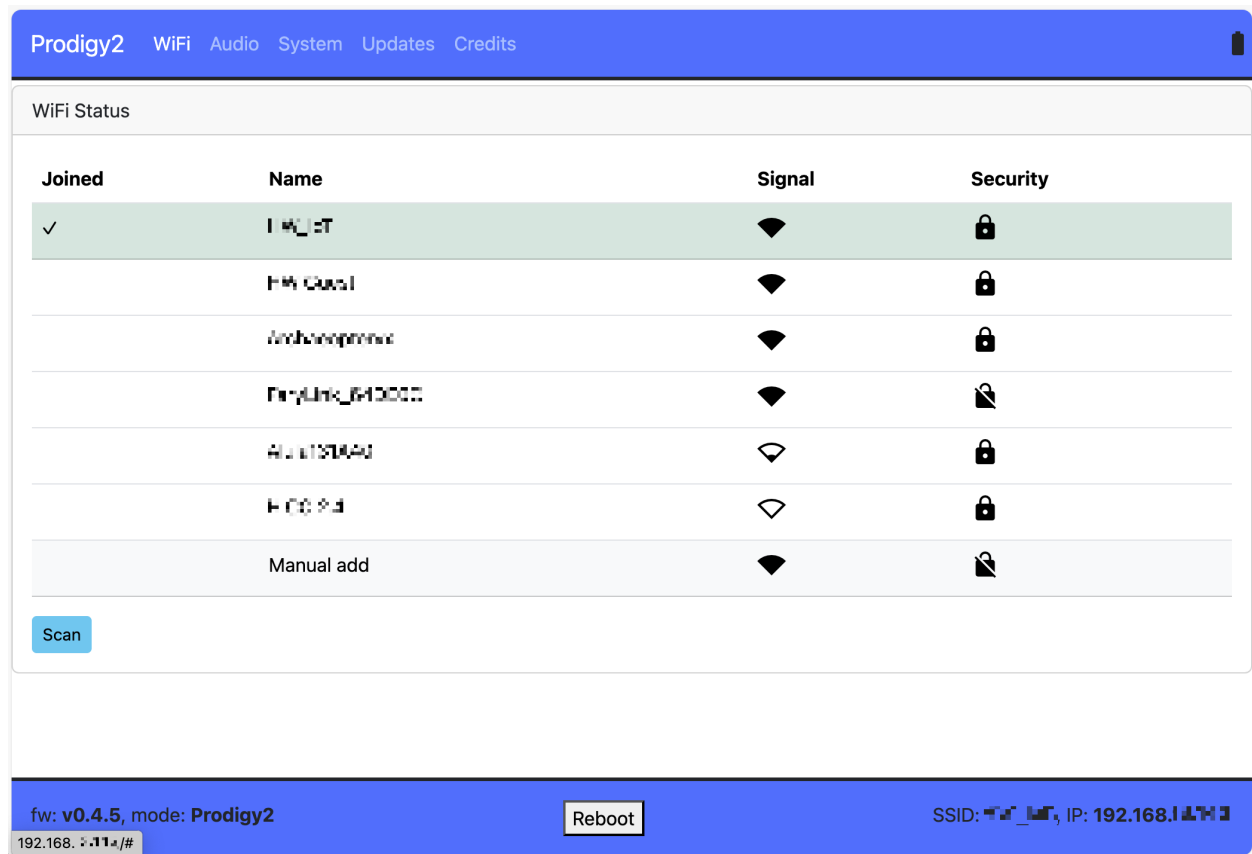


Figure 4

The Web UI contains all of the Audio Engine setup parameters, including some that aren’t available in the Calibrate App. Shared parameters can be found in the iQ section of the Calibrate App, which includes the most commonly used settings.

Follow these steps to open the Web UI:

1. **Find the IP Address of your Prodigy II:** Use the LCD menu or the Calibrate App. In the Calibrate App, tap the Wi-Fi icon to scan your network for Prodigy II units; the IP address will appear below the device name.
2. **Open a Web Browser:** We recommend using Google Chrome or Microsoft Edge. Enter the IP address in your browser's address bar.

If successful, you'll see the Prodigy II's Wi-Fi configuration page. You may recognize this from your initial Wi-Fi setup, but this time we'll explore the options in more depth.

TIP: If your browser performs a web search instead of opening the device's IP address, try adding "http://" before the IP address (e.g., <http://192.168.1.1>). This tells the browser to connect directly to the device's setup page. You may see a "Not Secure" warning due to the unencrypted connection; to proceed, click "Advanced" and then "Proceed to [IP address] (unsafe)." This is a standard step when configuring local devices.

The Web UI is organized into multiple tabs along the top of the screen. Let's go through each tab and explore its options.

Throughout the interface, you'll see two options: **Save** and **Apply**. **Save** stores your settings so they remain active after the next reboot, while **Apply** activates the setting immediately by rebooting the audio engine. If you're making multiple changes, it's best to use **Save** for each setting, then push the reset button on the Prodigy II once you're finished with all configuration changes.

WiFi

The WiFi configuration page should already be familiar to you—it's what we used from your phone to join the local network. You can use this interface to change WiFi networks.

Audio

The Audio section is especially important to understand, as its settings can affect playback and even prevent your piano from playing. The factory default values are set for users who primarily play the system over Bluetooth Audio, but these settings may be adjusted to suit different needs. Here's an overview of what each setting does:

Output

This section lets you choose between the following audio outputs:

- **Analog (Default):** Audio is routed through the onboard DAC (Digital-to-Analog Converter) and sent to the RCA ports and the onboard amplifier used by speakers. Analog mode supports Hardware Decoding (HW Decode), which is required to play piano music from the iQ App in standard mode.
- **Digital:** In Digital mode, the internal DAC is bypassed, and audio is sent to the TOSLINK port. Note that Digital mode does not support Hardware Decoding (HW Decode), so stereo audio will be converted to mono. The digital output is compatible only with ProMode, where the piano signal is sent by the iQ App over Bluetooth MIDI instead of audio. Digital output mode does not support standard Bluetooth or Wi-Fi playback from the iQ App.
- **Bluetooth:** Although this option is in the output section, it's important to note that enabling Bluetooth output is different from Bluetooth input. If you want to play audio via Bluetooth, you'll need to keep Bluetooth output disabled, as they are mutually exclusive. Enabling Bluetooth output allows your Prodigy II to send audio accompaniment to wireless Bluetooth speakers in ProMode but turns off the ability to receive Bluetooth audio and disables standard mode playback in the iQ App. Once this setting is enabled, you can only play from Wi-Fi Audio or Line In. Configuring external Bluetooth speakers is complex, and we recommend against using this setting unless necessary.
- **Player Name:** This setting allows you to specify the name of your Prodigy II, which will appear on the Prodigy II LCD screen and in the list of Bluetooth and Wi-Fi audio devices on your iPad. You can set this name in either the Audio or System tabs.
- **Disable LMS (Lyrion Media Server):** Lyrion Media Server (LMS) is an audio server that can stream music to multiple connected devices. If you do not have an LMS, keep this option checked, as it prevents the audio engine from attempting to connect to a non-existent server, which can cause frequent audio and Wi-Fi disconnections. Only uncheck this box if you have an LMS set up and plan to use it with Prodigy II; otherwise, leaving it checked will provide the best playback experience.

Bluetooth Audio Output Options

If you enable Bluetooth output (which we don't recommend), this section allows you to specify the wireless speaker you want Prodigy II to connect to, along with its PIN. Note that Bluetooth output can be complex to set up and will **disable normal Prodigy playback**. Enabling Bluetooth output requires the use of ProMode and will disable standard playback from the iQ App. We suggest only using this feature if you have a specific use case, as it may limit the system's overall functionality.

General Audio Options

This section allows you to adjust perceived loudness. The loudness setting modifies the dynamic range of audio playback to enhance sound quality at lower volumes. Known as "loudness compensation," it boosts bass and treble frequencies to counteract the human ear's decreased sensitivity to these frequencies at low listening levels. Since Prodigy II already employs a gain offset, it's recommended to leave this setting at 0.

System

The system page allows you to configure various system-level services of the audio engine. As with the other pages, it's recommended to leave these settings at their factory defaults unless you have specific requirements. Here's a breakdown of each setting:

Device Name

This setting lets you specify the name of your Prodigy II. The chosen name will appear on the Prodigy II LCD screen and in the list of Bluetooth and Wi-Fi audio devices on your iPad. You can modify this setting in either the Audio or System tabs.

Services

The following services can be enabled or disabled here:

- **Bluetooth Speaker:** This toggle controls the Bluetooth input. Disabling it will turn off the Prodigy II's internal Bluetooth functionality, preventing it from being recognized as a Bluetooth audio device by your iPad. We recommend leaving this setting enabled unless you are using Bluetooth for output purposes (refer to the **Audio** section for details).
- **Wi-Fi Audio:** Enabling this allows iOS devices on your local network to discover and play audio through the Prodigy II. This feature is particularly useful for playing from a different room or when you're out of standard Bluetooth range.
- **Telnet & System Statistics:** These options are primarily intended for internal testing and debugging. It's safe to leave them in their default state or disable them if you prefer.

MQTT Broker

If you have an MQTT server, you can use it to control and monitor your Prodigy II system. MQTT (Message Queuing Telemetry Transport) is a lightweight messaging protocol commonly used for connecting IoT devices, allowing them to communicate efficiently. For more details on integrating Prodigy II with home automation systems, see the document, "Prodigy II Advanced Home Automation Guide" which is available on the PianoDisc website.

Important: Do not enter any information in the MQTT settings if you plan to control Prodigy II via Alexa. The MQTT and Alexa services are mutually exclusive, so entering MQTT server information here will disable Alexa functionality.

To configure MQTT settings on Prodigy II, you'll need the following information:

- **MQTT Broker Server:** The hostname or LAN IP address of your MQTT server.
- **MQTT Broker Port:** The port number for the MQTT broker; the default is 1883.
- **MQTT Broker Username:** If your MQTT broker requires authentication, enter the username here.
- **MQTT Broker Password:** If a password is needed for authentication, enter it here.

After entering these details, remember to **Save** the configuration and restart your system. Once configured, Prodigy II can connect to your MQTT server and send and receive messages as part of your home automation setup.

Calibrating Prodigy II

Calibration is essential for every PianoDisc system and plays a significant role in your piano's performance.

When properly calibrated, your piano can play softly in the background or deliver stunning performances with amazing dynamics and jaw-dropping trills. A poorly calibrated piano, on the other hand, may always play too loudly, miss notes at low volumes, or struggle with technical passages.

PianoDisc systems should always be installed and calibrated by a certified PianoDisc technician. Since pianos are mechanical instruments, their performance can change over time. Occasional re-calibration can restore optimal performance and enhance your experience. We recommend that your technician check calibration during routine piano tuning.

That said, we understand there may be times when regular servicing by a technician isn't possible—whether due to distance, scheduling, or budget constraints. In these cases, you can use the auto-calibration feature to recalibrate your piano yourself, even as a novice. However, this process is not without risks. You'll need a modern iPad and about 45 minutes in a quiet environment.

The **PianoDisc Calibrate App** enables technicians to fine-tune a variety of parameters, many of which can significantly impact how your piano performs—or even prevent it from playing altogether if misconfigured. By following the directions in this guide, you can safely auto-calibrate your system. **We strongly advise against adjusting any other settings or experimenting with features you don't fully understand. A separate calibration guide is available for technicians.**

WARNING: Failing to follow these instructions exactly may degrade your piano's performance or render it unplayable. Re-calibration is not covered under warranty.

Connecting to Calibrate

Before starting the calibration process, you'll need to connect the **Calibrate App** to your piano. Follow these steps carefully:

NOTE: Bluetooth MIDI is different from Bluetooth audio. While the connection may appear in your iPad's system settings, you cannot connect or disconnect Bluetooth MIDI there. This must be done directly within the **Calibrate App**.

IMPORTANT: If you also have a ProRecord system, do not select it. Ensure you select your Prodigy II system.

1. **Download and Install the App:** Open the Apple App Store on your iPad, search for **PianoDisc Calibrate**, and download the latest version. Once installed, open the app.
2. **Open the Bluetooth MIDI Connection Menu:** Tap the **Bluetooth** icon in the upper-right corner of the app screen to access the Bluetooth MIDI connection menu.
3. **Connect to Your Piano:** From the list of Bluetooth MIDI devices, select your piano. Wait a few seconds for the app to display "Connected" next to the device name. Once connected, tap **Done** to exit the menu.

Saving SilentDrive Settings

Before proceeding, it's a good idea to save your current settings. This ensures that if something goes wrong, you can easily revert to your original configuration. Follow these steps:

1. Touch the **SilentDrive** button and agree to the warning that appears.
2. At the top-left of the screen, touch **Save**.
3. Enter a name for your settings, such as "My Piano," and press **Save**.
4. Saving will take a few seconds. Once the spinning wheel disappears, your settings are saved.

TIP: Occasionally, the Calibrate App may encounter issues when saving your settings. If the save fails, simply try again. If it continues to fail, press the **Reset button** or cycle power on Prodigy II and reconnect before attempting again.

Individual Key Calibration (“Learn”)

As your piano changes over time, the amount of “push” needed to play a key is the most significant change in most pianos—and every key is different. To ensure consistent volume and allow your piano to play as quietly as possible, we must calibrate the minimum volume for each key.

Typically, piano technicians calibrate each key manually. However, thanks to the latest Apple Silicon iPads, we can use machine learning (a type of AI) to handle this process in conjunction with the iPad's built-in microphone.

For optimal performance, we recommend using an **iPad Pro (2018 or later)**, **iPad Air (2020 or later)**, **iPad mini (2021 or later)**, or **iPad (2021 or later)**. These models feature Neural Engines or M-series processors, providing the computational power needed for machine learning tasks.

NOTE: Automatic learn does an excellent job of bringing each key close to the ideal range, but nothing replaces the precision of manual calibration by a trained technician. While the automatic learn feature may result in some keys feeling slightly low in volume, the overall playback performance is usually far better than that of a piano that hasn't been calibrated in a long time.

The automatic calibration process **will take about 45 minutes and requires a quiet room**. Since you've already connected to your piano and accessed the SilentDrive menu, here's how to start the calibration:

1. Make sure your iPad is fully charged and that you have 45 minutes to spare. The room must be quiet and free from sudden noises.
2. Within the SilentDrive interface, locate **Individual Key Calibration (Learn)** and touch **Auto**.
3. If prompted, allow access to the microphone.
4. Place your iPad on the music desk or rack and push **Start Calibrate**.
5. Each key of your piano will be played multiple times, followed by a second pass to fine-tune the results. When complete, you'll hear a chord play.
6. Your keys are now re-calibrated! You can exit the app and play your piano as usual.

NOTE: Some pianos, particularly those with low-profile solenoids, may have missing notes at the start of the bass section and the top of the treble section. This is normal. The auto-calibration feature will attempt to play these notes but will eventually move on. Simply allow the process to continue.

Restoring SilentDrive Settings

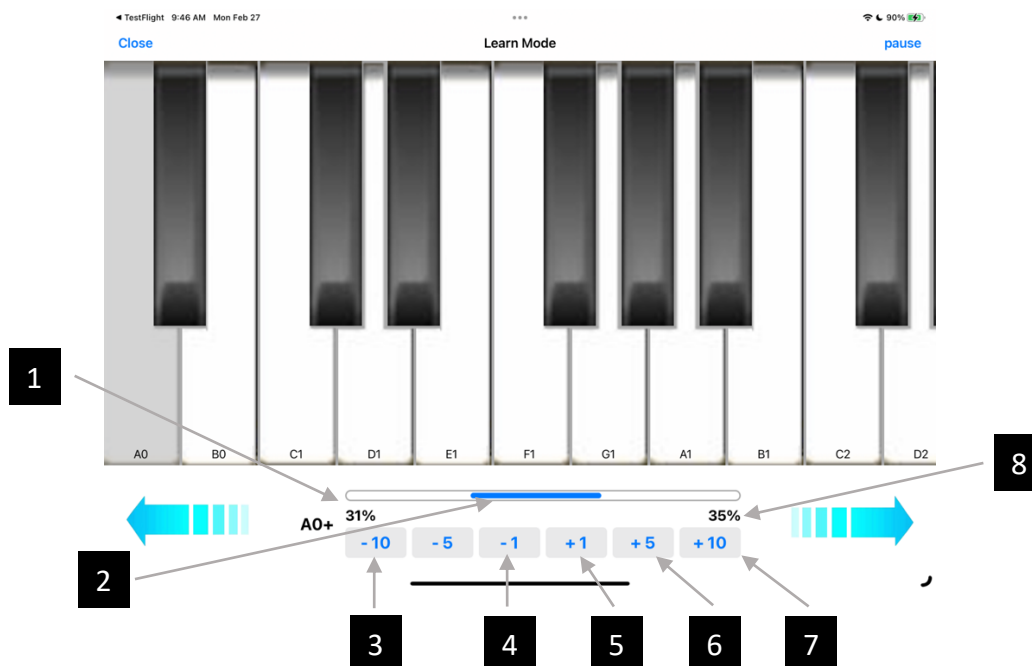
If you're unhappy with the results or something didn't go as planned, you can easily restore your previously saved settings. Here's how:

1. Make sure you are still connected via Bluetooth MIDI and in the SilentDrive interface.
2. Touch **Load** in the upper-left corner of the screen.
3. A pop-up menu will display a list of your previously saved settings. Select the one you saved earlier.
4. When prompted, confirm that you want to replace the current settings by selecting **Yes** in the confirmation box.
5. A spinning wheel will appear briefly. Once it disappears, your original settings will be restored.

NOTE: Saving and restoring settings only applies to the **SilentDrive** tab, not to other settings. Adjustments to other settings are beyond the scope of this guide.

The Manual Calibration Interface

While we don't recommend making manual changes, here's a brief overview of the buttons in the manual calibration menu. Advanced users may use this interface to further refine notes so they just barely sound.



- 1 The percentage on the left indicates the lower headroom. Ideally it should be greater than zero.
- 2 The length of the blue line indicates the available dynamic range of a note. If the blue line is all the way to the left or right, it may shrink in size, indicating reduced dynamic range.
- 3 The “-10” button reduces the key volume by a big step. You can press it repeatedly to lower the volume quickly.
- 4 The “-1” button reduces the key volume by a small step. You can press it to make a small adjustment.
- 5 The “+1” button increases the key volume by a small step. You can press it to make a small adjustment to the key volume.
- 6 The “+/-5” buttons provide a moderate adjustment that’s between 1 and 10.
- 7 The “+10” button increases the key volume by a big step. You can press it repeatedly to raise the volume quickly.
- 8 The percentage on the right indicates the upper headroom. Ideally it should be greater than zero.

Firmware Updates

Why Update?

Firmware updates are an essential part of ensuring your Prodigy II system continues to deliver the best possible experience. These updates provide new features, performance improvements, and bug fixes to keep your system running smoothly and reliably. At PianoDisc, we're committed to providing regular firmware updates to enhance your Prodigy II and bring you the latest innovations.

While updating the firmware may seem daunting at first, the process is straightforward once you're familiar with it. Taking the time to update your system ensures that your Prodigy II remains up-to-date and fully optimized, providing the best value for years to come. By keeping your firmware current, you'll enjoy the most advanced features and the highest level of performance PianoDisc has to offer.

Two Engines

The Prodigy II system includes two independent processors, the **Audio Engine** and the **MIDI Engine**, which work together to deliver its advanced features. Each processor must be updated independently. While the process is straightforward, it's important to understand how it works.

TIP: After updating one engine but before the other, the Prodigy II LCD screen may display a "Version Mismatch" error or seem stuck on "Initializing." Don't worry—you can continue the update process without waiting.

Both the Audio and MIDI engines can be updated using the Calibrate App or manually. While the Calibrate App is the recommended method for most users, the manual method is faster and sometimes more reliable. This section covers both methods. Decide which method to use beforehand, as the update order can affect the process.

Which Comes First?

During updates, the Audio and MIDI engines may temporarily lose communication—this is normal. However, the Calibrate App uses the Audio Engine to update the MIDI Engine. Therefore, the recommended order depends on the update method:

- **Using the Calibrate App:** Update the MIDI Engine first. This method takes longer but is easier if you don't have a computer with an SD card.
- **Manual Update:** Update the Audio Engine first. This method is generally faster and more reliable if you're comfortable using a computer.

TIP: Don't worry if something goes wrong—you can always switch methods or revert to a previous firmware version. Knowing your Prodigy II's IP address beforehand will save time if troubleshooting is needed.

Before We Start: Write Down the IP Address

While the update process doesn't always require the Prodigy II's IP address, knowing it can save time if issues arise. To find the IP address:

- **Use the Calibrate App:**
 1. Download the latest version of PianoDisc Calibrate and open it.
 2. Tap the **Wi-Fi icon** in the upper-right corner.
 3. The app will scan your local network and display the names and IP addresses of all detected Prodigy II units.
 4. If your Prodigy II doesn't appear, ensure it's turned on and press the **refresh icon** in the Wi-Fi dialog.
- **Or Use the LCD Menu:** Navigate to **Info > IP Address** on the Prodigy II LCD screen.
- **Write Down the IP Address:** Keep it handy for the update process.

TIP: If the IP address is 192.168.4.1, it means Wi-Fi is not configured. Refer to the Wi-Fi configuration section for instructions on resetting Wi-Fi.

Updating the MIDI Engine with the Calibrate App

It's best to update the MIDI Engine first when using the Calibrate App. If the Audio Engine is updated first, you may need to use the manual method to complete the update:

1. Install a FAT32-formatted SD card in the Prodigy II.
2. Download and open the latest PianoDisc Calibrate App from the Apple App Store.

3. Tap the **Bluetooth icon** in the upper-right corner and connect to your Prodigy II's Bluetooth MIDI. Tap **Done** to close the pop-up.
4. Ensure the MIDI and Wi-Fi indicators are green in the upper-right corner. If they are, tap the **SilentDrive** button.
5. Scroll to the bottom of the SilentDrive settings page and locate the **Firmware Update** section.
6. Touch **Upgrade** to view the available firmware versions. You should always select the newest version. As a backup, PianoDisc also provides the last two firmware versions in case you want to revert to an older version. Beta versions (if present) are experimental and should generally be avoided.
7. Select the desired version and tap **Agree** to start the update. Remember to ensure the SD card is installed in your Prodigy II.
8. Almost instantaneously, you should see a message saying, "Upload Successful...". This confirms the firmware file was sent to Prodigy II.
9. Before the MIDI engine can be updated, the firmware must be saved to the SD card—which takes some time. On the Prodigy II's LCD screen you will see a message that says "Upgrading" and displays a percentage. This process will take a few minutes.
10. When the update file has been written to the SD card, Prodigy II will reboot and begin the actual update process.
11. The update process will display a percentage complete. Once the update completes, the Prodigy II will again reboot automatically.

TIP: The Calibrate update process has several steps which all need to work without interruption. If it fails, try again. If you have a computer with an SD card reader, the manual method is often quicker, easier, and generally more reliable.

Manually Upgrading the MIDI Engine

If you didn't use the Calibrate App, follow these steps to update the MIDI Engine manually:

1. Download the update file from the PianoDisc Technician's Portal. In order to indicate the date and version of the update, MIDI engine updates are distributed as a zip file and will have a name like, "sd5-midi-mmddyy-v_vv.zip". They can be downloaded from the portal at: <https://pianodisc.com/technician-resources/> We always recommend you choose the newest version to guarantee compatibility with the Audio engine.
2. On your computer, extract the firmware; it will be called **sd5-midi-update.bin**. Some computers may complain that this is an unsupported format—that's ok.

3. Insert a FAT32-formatted micro SD card into your computer and copy the .bin file to the root directory of the SD card. Do not rename the file or place it in a folder.
4. Safely eject the SD card and insert it into the Prodigy II's SD card slot.
5. On the Prodigy II LCD screen, you'll see "Reading SD Card Please Wait," followed by "Update Available Press Reset." Press the **Reset button** or cycle power.
6. The screen will display "Upgrading...Flashed" with a progress percentage. **Do not interrupt this process.**
7. When the update completes, Prodigy II will reboot and return to normal operation.

Updating the Audio Engine with the Calibrate App

Follow these steps to update the Audio Engine using the Calibrate App:

1. Download and open the latest PianoDisc Calibrate App.
2. In the upper right corner, touch the blue Bluetooth icon and connect to your Prodigy II's Bluetooth MIDI, then touch **Done** to close the pop-up window.
3. Ensure the MIDI and Wi-Fi indicators are green. **If Wi-Fi is not green**, scan for Prodigy II systems by tapping the **Wi-Fi icon**. If you see yours, select it, press OK to confirm, and then press the **iQ** button to continue. If you don't see yours, try pressing the refresh icon, and if it still doesn't appear, you may want to try the manual update method instead.
4. Tap the **iQ button** and scroll to the bottom of the page to find the **Load Firmware** section.
5. Touch **Upgrade** to view the available firmware versions. You should always select the newest version. As a backup, PianoDisc also provides the last two firmware versions in case you want to revert to an older version. Beta versions (if present) are experimental and should generally be avoided.
6. Touch the version you want to load. In the pop-up, press **Agree** to start the update process.
7. The update process may take up to five minutes. During the process you will usually see a series of pop-up messages indicating various steps in the process. If you don't see any messages, but didn't get an error, wait five minutes before retrying or rebooting. Typically, the final message you will see is "Success!".
8. After the "Success!" message, press the **Reset button** or cycle power.

Manually Updating the Audio Engine

If you didn't use the Calibrate App to update the Audio engine, you can follow these steps to update it manually. You'll need a computer that's on the same network as your Prodigy II. The process is quick and easy:

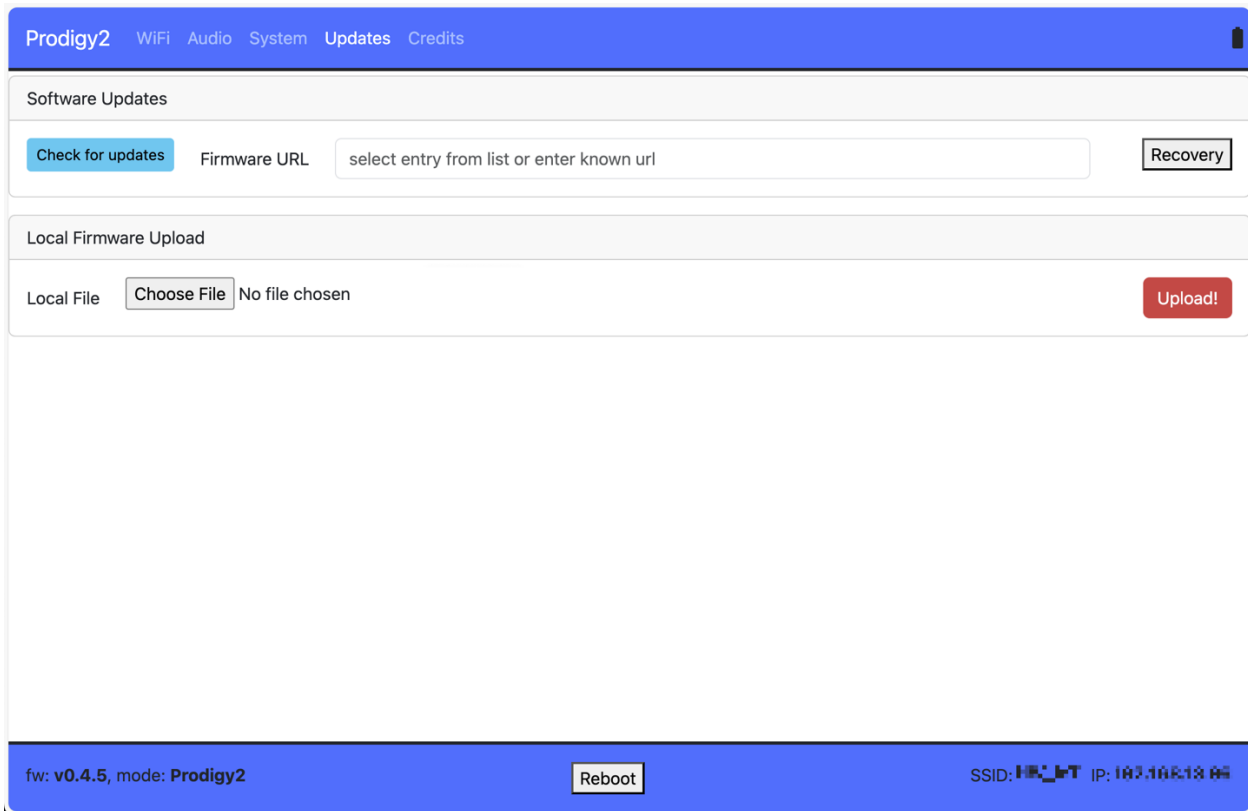
The screenshot shows the Prodigy2 web interface with a blue header bar containing navigation links: Prodigy2, WiFi, Audio, System, Updates (selected), and Credits. Below the header, there are two main sections. The first section, 'Software Updates', includes a 'Check for updates' button, a 'Firmware URL' input field with placeholder text 'select entry from list or enter known url', and a 'Recovery' button. The second section, 'Local Firmware Upload', includes a 'Local File' label, a 'Choose File' button, the text 'No file chosen', and a red 'Upload!' button. At the bottom of the interface, a blue status bar displays 'fw: v0.4.5, mode: Prodigy2', a 'Reboot' button, and network information: 'SSID: PRODIGY2 IP: 192.168.1.100'.

Figure 5

1. Download the update file from the PianoDisc Technician's Portal. Audio engine updates are distributed as a bin file and will have a name like, "sd5-audio-mmddyy-vvv.bin". They can be downloaded from the portal at: <https://pianodisc.com/technician-resources/>. We always recommend you choose the newest version to guarantee compatibility with the MIDI engine

TIP: If your browser performs a web search instead of opening the device's IP address, try adding "http://" before the IP address (e.g., http://192.168.1.1). This tells the browser to connect directly to the device's setup page. You may see a "Not Secure" warning due to the unencrypted connection; to proceed, click "Advanced" and then "Proceed to [IP address] (unsafe)." This is a standard step when configuring local devices.

2. Using the IP address we wrote down at the beginning, open a web browser (we recommend Chrome or Edge) and navigate to your Prodigy II's IP address by entering it in

your web browser's address field. Remember, your computer and Prodigy II must be on the same network.

3. From the blue tool bar at the top of the page, select **Updates** to enter the update menu.

TIP: While you may be tempted to click "Check for updates" instead, that feature is not yet linked with PianoDisc servers. The firmware file must be downloaded from the PianoDisc Technician's Resource page.

4. Under **Local Firmware Upload** click **Choose File** and select the update file you download from PianoDisc. The file will begin with "sd5-audio" and will have a ".bin" extension. Press **Open** in the dialog box to load the file. **Do not confuse the audio and MIDI bin files, they are different!**
5. Next to **Choose File** you should now see the name of the update file. Press the red **Upload!** button. Do not refresh the browser or disconnect power during the update process.
6. An "Upgrade Progress" dialog box will appear and will display its status as the upgrade progresses. (The status should never remain the same for more than 30 seconds. If it appears stuck for a long time, wait three minutes, reset power, and try again.)
7. When the update is complete, you will see a "Success!" message. Press "Close" to close the dialog box.
8. Push the **Reset** button or cycle power on your Prodigy II for a clean start.
9. Refresh the web page in your browser and double check that the button at the bottom of the Prodigy II Web UI page shows "Reboot" and not "Exit Recovery". If it shows "Exit Recovery" and the update was successful, press **Exit Recovery** to boot in normal mode. This is not usually necessary.

TIP: To perform the audio update, Prodigy II's Audio engine must be in recovery mode. Typically, it enters and exits that automatically. However, if your update consistently fails, try pressing the **Recovery** button first, and wait for "Exit Recovery Mode" to show at the bottom of the screen. Then, proceed with the update. If the page is unresponsive one minute after you push the **Recovery** button, use the Calibrate App to scan your network for Prodigy II's and see if the IP address changed. Sometimes routers assign a different IP address in recovery mode.

Check the Versions

After updating, it's a good idea to double check that both the Audio and MIDI engines successfully loaded the versions you intended. The quickest and easiest method is to use the LCD menu:

1. Press a key to wake up the LCD display if it's dark.
2. Verify that there is no "Version Mismatch" warning displayed.
3. Navigate to **Info->Version** to see both the MIDI and Audio engine versions.
4. If you haven't already, press **Reset** or power cycle your Prodigy II to give it a fresh start after the firmware updates.

You're all done!

Playing the Piano

Every PianoDisc performance consists of two parts: the **piano** and the **accompaniment**.

- The **piano part** plays live on your piano by moving the keys, creating the actual performance on the instrument.
- The **accompaniment** plays through speakers and may include additional instruments, vocals, or even be silent for piano-only performances.

The piano performance uses **MIDI data** to control the keys. In most cases, this MIDI data is encoded into a special “**PianoCD**” track and combined with the accompaniment into a single **MP3 file**. This special MP3 file can be played using the **iQ App** or any standard music player.

If you play these files on a standard music player without routing the audio through the PianoDisc system, you’ll hear a high-pitched squealing sound on the right channel. This is the piano data, which is intended only for the PianoDisc system to interpret. **If you can hear this sound, it means the audio is not being routed correctly.** When properly routed through the PianoDisc system, you’ll hear only the piano performance and accompaniment, as intended.

In this section, we’ll explore the different ways you can connect your piano to a music player and get the most out of your PianoDisc system. The two most common playback modes are **Standard Mode** and **ProMode**. Here’s a quick comparison chart:

	Standard Mode (Recommended)	ProMode (Advanced)
Play Piano & Accompaniment	✓	✓
Connections to iPad	1	2
Ability to Auto-Connect	✓	✓
Easy to Use & Configure	✓	
Play Accompaniment on Wireless Speakers		✓
Audio Can Bypass PianoDisc CPU		✓
DualSync Plays in True Stereo		✓
Full-Bandwidth MIDI to Piano		✓
Supports Analog In	✓	
Supports TOSLINK Digital Out		✓

Standard Mode (Recommended Method)

The most common and convenient way to play music through the Prodigy II is by using Bluetooth Audio with the PianoDisc iQ App. This is referred to as Standard Mode.

In Standard Mode, both the piano's MIDI data and accompaniment are sent wirelessly to the Prodigy II via a single Bluetooth Audio stream. It's as simple as connecting to a Bluetooth speaker. Let's get started!

1. Connect Audio

Most people prefer using Bluetooth Audio to connect their piano. It's simple and convenient—just like pairing your phone to your car. Another option is Wi-Fi Audio. What's the difference?

- **Bluetooth Audio:** Connects automatically but has a limited range. The iPad must be in the same room as the piano.
- **Wi-Fi Audio⁴:** Requires manual connection but allows you to play from anywhere within your Wi-Fi range—even the next room or out on the patio.

Here's how to connect via Bluetooth. If you're using Wi-Fi Audio, you can skip to the next step. While nearly any Bluetooth-capable device can be used, the instructions below explain how to connect an iPad, as it's the most commonly used device:

- a. Open the **Settings** app on your iPad.
- b. Select **Bluetooth**.
- c. Look for the name of your piano (this name will also appear on the Prodigy II LCD screen).
- d. Tap the device name to connect. You should now see **Connected** next to the name.

⁴ Wi-Fi Audio is not supported by all wireless networks. Your results may vary.

2. Change Your Playback Device

Now that your iPad is connected to the Prodigy II, we need to make sure it's set to play music through the piano system. iPads can play audio to any connected device, including Bluetooth speakers or the internal speaker. If the iPad's playback device isn't set correctly, you might hear the data squeal mentioned earlier. Even if your piano is connected, the iPad could still be set to another output. Let's check:

- a. Swipe down from the upper-right corner of the screen to open the **Control Center**.
- b. In the **Audio Card** at the upper right, tap the icon that shows where music is playing. This will reveal a list of available output devices. (See Figure 6.)
- c. Select the device name corresponding to your Prodigy II. (If you just connected Bluetooth, it's probably already selected.)
- d. Tap outside the Control Center to close it.

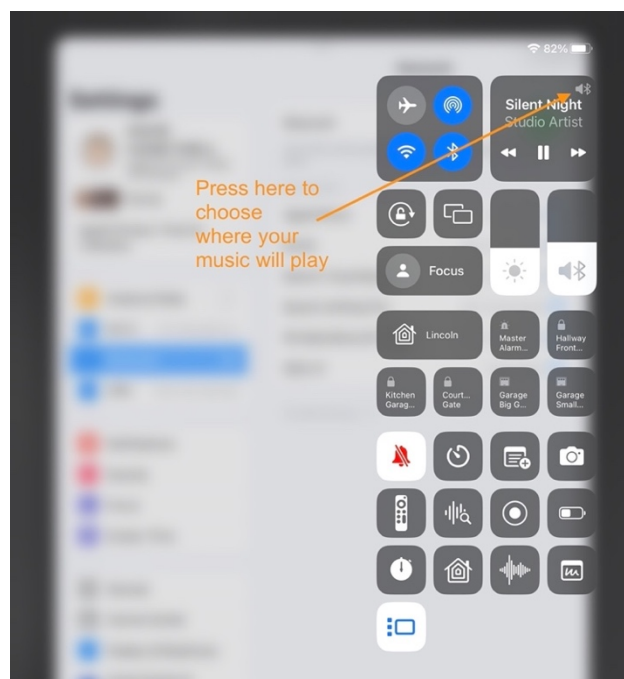


Figure 6

NOTE: The Control Center may display two devices with the name of your Prodigy II. Check the icon carefully to determine whether you are using Bluetooth or Wi-Fi Audio.

3. Mute Other Sounds

We're almost there, but there's one more important step: muting notifications, key taps, and any other non-music sounds your iPad might produce.

Why is this necessary?

Your piano performance is sent as an audio signal, so any external sounds—such as key clicks or notifications—can interfere with the signal. This interference may cause incorrect notes to play or pauses in playback.

Follow these steps to mute sounds on your iPad:

- a. Navigate to **Focus** in your iPad's **Settings**. Focus is Apple's feature for muting sounds and notifications.

- b. Turn off **Share Across Devices** to ensure important notifications still appear on other linked devices, such as your phone.
- c. Tap **Do Not Disturb** to prevent interruptions from app sounds and notifications during playback.
- d. Alternatively, navigate to **Sounds** in **Settings** and disable all sounds and keyboard clicks.

4. Play!

You're now ready to play your piano using the PianoDisc iQ App! Before you start, let's double-check that your app is set to the correct playback mode:

- a. Open the **PianoDisc iQ App** and navigate to the **Settings** tab.
- b. Select **ProMode Preferences** and make sure **Disable** is selected to avoid accidentally activating ProMode.
- c. Return to your music library by tapping **My Music**.

You're all set! You can now play music using the iQ App, and it will stream wirelessly to your Prodigy II. Adjust your iPad's volume to control the levels of both the piano and the accompaniment.

Playing From Line In

In addition to playing in Standard Mode via Bluetooth Audio or Wi-Fi, you can use the **Line Input** port on Prodigy II to play PianoDisc music from nearly any compatible music player. Using iQ technology, this option provides a versatile way to enjoy PianoDisc music. Here are some examples where **Line In** is a great fit:

- **Third-Party Wireless Audio Receiver:** If your environment has too much 2.4 GHz interference or you prefer to use another adapter, you can use a wireless audio receiver that supports advanced technologies like AirPlay 2 or the latest version of Bluetooth (5.3 as of this writing). These devices often have an audio-out port that connects directly to Prodigy II's **Line In**.
- **HDMI Audio Extractor:** If you're playing music from a video source, such as an Apple TV, you'll need to extract the audio to feed it to Prodigy II. An HDMI audio extractor converts the video's audio output into an analog signal, which can then be connected to Prodigy II's **Line In**. Be sure to mute your TV speakers for the best experience.
- **Blu-ray/DVD Player:** For legacy PianoDisc videos on disc, you can connect the audio output of your player to Prodigy II. This allows you to enjoy your older media seamlessly.

Important Consideration: Sufficient Signal

PianoDisc music encoded in PianoCD format uses MIDI data stored as audio on the right channel. To prevent the high-pitched MIDI data from bleeding into the left channel (heard through speakers), this signal is kept intentionally low. As a result, your music player's output must provide sufficient volume to ensure reliable playback. If the signal is too weak, the piano may cut out, play incorrect notes, or pause unexpectedly, often accompanied by the "!" signal error icon on Prodigy II's screen. To resolve this, increase your music player's volume or adjust its gain until the piano plays consistently.

TIP: The balance setting in the iQ App can also affect the piano's signal level. Moving the balance slider toward the speakers reduces the piano's volume. If you encounter signal issues, ensure the balance is properly adjusted to maintain sufficient signal strength.

Important Consideration: Adjustable Volume

Unlike Bluetooth or Wi-Fi audio, Prodigy II cannot detect the exact volume level of your music player when using Line In. It estimates volume based on the signal strength, assuming low volume at the minimum playable signal and high volume at much stronger signals. This estimation means that the Prodigy II volume display may not align perfectly with your music player's volume setting. For example, the piano may play at its lowest volume when the iPad's

volume is set at 30%. This behavior is normal and does not affect playback quality, but it may reduce your usable volume range.

Hardware Revisions

Prodigy II has two different line input circuits, depending on the date of manufacture. You can determine which version you have by checking the “Line Input Version” in the Calibrate Info screen. Each version has its own advantages and limitations:

1. **Version 1** – This design is optimized for use with iPad or Mac audio outputs, but it will also work with other devices as long as the signal is clean and free of “DC Offset.” It allows the piano’s volume to track the external music player from 1% to 100%. However, it is not compatible with most external Bluetooth adapters, and some devices may not work unless their output is fully compatible. Routing the signal through a pre-amplifier or mixer can help, and in some cases a ground loop isolator may also be required.

Bottom line: Greater amplitude detection range, but much more sensitive to the input signal, leading to potential incompatibility with certain devices and adapters.

2. **Version 2** – This design is more tolerant of different devices’ audio outputs and is generally compatible with third-party Bluetooth adapters and other equipment. Its limitation is a narrower detectable volume range: it can only adjust the piano’s volume from 1% to 50% based on the external player’s level. In practice, this is usually sufficient, as external players are rarely set above 50%. For guidance on balancing levels, see the section on accompaniment.

Bottom line: Much more tolerant of imperfect signals, but with limited volume control range.

Tips for Success

To get the best results when using Line In, keep the following points in mind:

- The piano will only play reliably with sufficient signal strength. Increase the volume or gain on your device until the piano plays smoothly, and the “!” signal error icon disappears.
- Adjusting your music player’s volume directly affects the piano’s volume.
- It’s normal for your playback device’s volume to differ from the Prodigy II’s displayed volume. This does not indicate an issue. For example, your device may be playing at 30% before the piano starts playing at 1%.

- When a device is connected to Line In, HW Decode is enabled automatically. Line In must be used with Standard Playback Mode, as ProMode does not support analog input.

Balancing Accompaniment Volume

When playing from an external device, balancing the piano with the accompaniment track can present a unique challenge. Under normal conditions, the piano signal may begin decoding while the accompaniment is still at a very low, and often inaudible, level.

Because the piano is a mechanical instrument, its starting volume is naturally much higher than the faint audio output from most music players at their lowest settings. There are several ways to address this, and you can choose the one that works best for your setup.

If your piano does not have speakers, or if you are only using PianoDisc “Acoustic” series music, you can ignore accompaniment volume entirely. Otherwise, here are some methods for balancing accompaniment with the piano when using Line In:

Balance Control: If your audio adapter or music player includes a balance adjustment, panning toward the left channel (accompaniment side) is often the simplest way to correct volume imbalance.

Line In +n Setting: In Prodigy II’s LCD setup menu, the LINE IN setting defaults to “Auto”. Changing this to a numerical value (+1 through +5) gradually raises the point at which the piano starts playing at its lowest volume. For example, with LINE IN set to “+5,” the system requires more volume before the piano engages, giving the accompaniment time to catch up. You may still need to adjust speaker volume for fine-tuning.

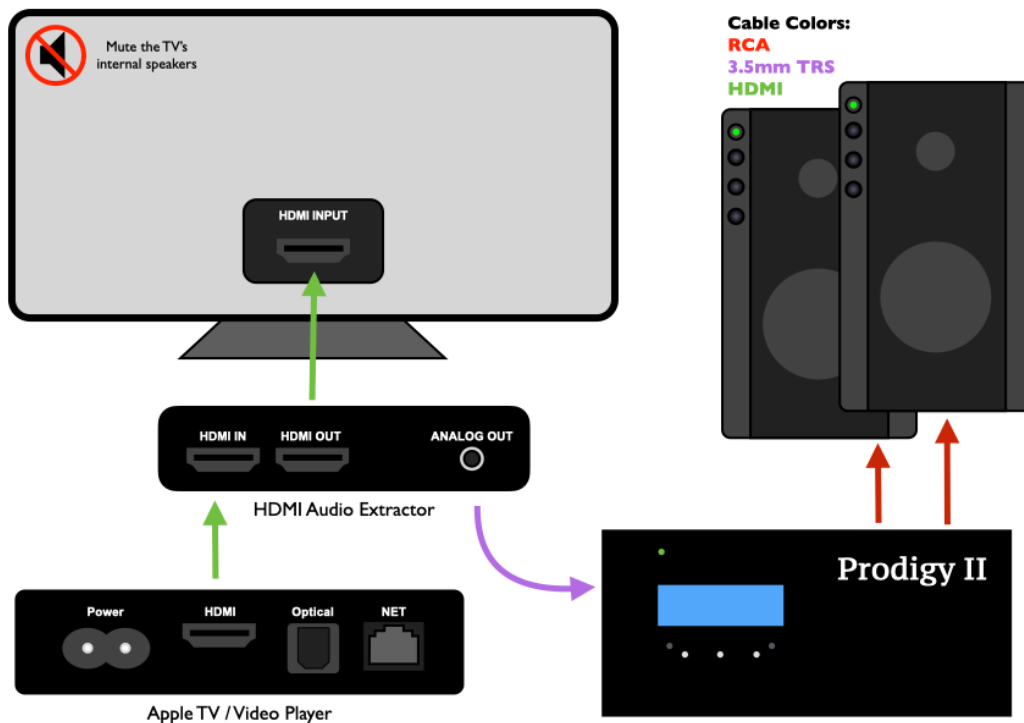
Fixed Volume: The LINE IN setting also offers a “Fixed” option (listed just before “Auto”). In this mode, the piano’s volume is no longer tied to the external music player’s level. Instead, you manually set the piano’s volume on the LCD screen, while adjusting the player’s output separately. Although it removes automatic tracking, most users find this practical, as the piano is usually played at a comfortable, consistent volume that rarely needs adjustment.

Push Through 50%: This method applies only to the second-generation line input circuit when playing at the 50% reference volume. Start with LINE IN set to “Auto” and gradually raise the music player’s volume. The piano will increase until it reaches 50% and then stop getting louder, while the accompaniment continues to rise. This makes it easy to balance accompaniment and piano for performances or public venues, where 50% playback is often ideal.

By applying these methods and ensuring a strong, clean signal, you can achieve a smooth and consistent playback experience. This makes the Line In option a practical and versatile way to integrate your Prodigy II system with external audio sources.

Example: Connecting a TV via Line Input

Here is an example of using an HDMI audio extractor to play video on your TV while simultaneously hearing the performance on your piano. External speakers are connected directly to Prodigy II, and the TV's speakers are muted to prevent the data signal from being heard.



ProMode (Advanced Method)

For a more advanced setup, you can enable **ProMode**. This mode allows the iQ App to separate the two streams, sending MIDI data directly to your Prodigy II and audio accompaniment directly to your speakers. ProMode offers several advantages:

- Play high-quality audio accompaniment directly through your own gear, bypassing the Prodigy II hardware.
- Enjoy select DualSync songs in true stereo, without sacrificing one stereo channel for piano data.
- Send MIDI directly to your piano, avoiding the extra conversion to and from audio.

While most people choose Standard Mode playback for its simplicity, ProMode is easy to set up and provides enhanced performance for users who want to maximize their system's potential. You can even configure it to connect automatically!

1. Connect MIDI

The first step in using ProMode is to connect MIDI, which the iQ App uses to play the piano. While ProMode supports any MIDI connection, most users prefer Bluetooth MIDI. Follow these steps to connect:

- a. Open the **PianoDisc iQ App** and navigate to the **Settings** tab.
- b. In the **MIDI Devices** pane, connect MIDI:
 - Select **Auto Connect Bluetooth MIDI** to have the app automatically connect to Bluetooth MIDI.
 - Select **Connect Bluetooth MIDI** if you prefer to manually connect and disconnect Bluetooth MIDI as needed. (Don't forget to connect, or ProMode won't play!)
 - Tap the name of your Prodigy II system in the list, then tap **Done** if prompted.
- c. In the **MIDI Devices** pane, confirm that the name of your Prodigy II appears with a check mark to the right. Do not select **None** unless you want to temporarily disable MIDI.

2. Connect Audio

Now that MIDI is connected, it's time to connect the iPad's audio output to your speakers or audio system. There are two options:

- **Use Prodigy II's audio output ports:**
This option is ideal if you want to use the speakers that came with your piano or take advantage of Prodigy's audio ports to connect your own gear. You can even play digitally to a soundbar using the built-in TOSLINK port.

- **Connect directly to your external speakers:**

This method bypasses the PianoDisc electronics and connects your iPad directly to your external speakers. It's a great choice for systems like Sonos or Apple HomePod wireless speakers.

Regardless of the method you choose, follow the manufacturer's instructions to play audio from your iPad to the speakers. If you're using Prodigy II's ports, the following connection options are available:

- **Bluetooth Audio:** Connects automatically but has a limited range. The iPad must be in the same room as the piano.
- **Wi-Fi Audio:** Requires manual connection but allows you to play from anywhere within your Wi-Fi range, even the next room or out on the patio.

Prodigy II also supports these output options:

- **Analog RCA:** Connect to amplified speakers or an amplifier.
- **Speaker:** This is an amplified output that connects directly to unamplified speakers. Note that the internal amplifier may not provide enough power to match the piano's volume; we recommend using high-sensitivity speakers.
- **TOSLINK:** This fiberoptic digital connection is ideal for soundbars or receivers. Note that the TOSLINK output is only available in ProMode and cannot be used in Standard Mode. (Refer to the section **Understanding The Web User Interface** for setup details.)

3. Mute Other Sounds

In ProMode, muting other sounds isn't strictly necessary if **HW Decode** is turned off. When audio decoding is disabled, notifications and sounds won't affect playback. However, they can still be distracting, especially if you're using amplified speakers.

If **HW Decode** is enabled—or you simply want to minimize distractions—follow these steps. Otherwise, you can skip this step:

- Navigate to **Focus** in your iPad's **Settings**. Focus is Apple's feature for muting sounds and notifications.
- Turn off **Share Across Devices** to ensure important notifications still appear on other linked devices, like your phone.
- Tap **Do Not Disturb** to prevent interruptions from app sounds and notifications during playback.
- Alternatively, navigate to **Sounds** in **Settings** and disable all sounds and keyboard clicks.

4. Change Your Playback Device

Now that your iPad is connected to the Prodigy II, ensure it's set to play music through the piano system. iPads can route playback to any connected device, including Bluetooth speakers or the internal speaker. If the iPad's playback device isn't correctly set, you might hear the data squeal mentioned earlier. Even if your piano is connected, the iPad could still be set to play through a different device. Let's double check:

- a. Swipe down from the upper-right corner of the screen to open the **Control Center**.
- b. In the **Audio Card** at the upper right, tap the icon showing where music is playing. This will reveal a list of output devices. (See Figure 6.)
- c. Select the device name corresponding to your Prodigy II. (If you just connected Bluetooth, it's probably already selected.)
- d. Tap outside the Control Center to close it.

5. Setup ProMode Preferences

After connecting audio and MIDI, review your **ProMode Preferences** to ensure everything is configured correctly.

- Open the **iQ App** and tap **Settings**.
- Select **ProMode Preferences**.
- Select **Force** to ensure you're always connected before trying to play. If you forget to connect MIDI, the app will remind you before playback.
- If **HW Decode** is off or if you're playing directly to third-party speakers like Sonos or HomePod, toggle **External Audio** to **On**. Use the delay slider to set the coarse delay, and use Prodigy II's **Sync** feature to set the fine delay.

Tip: Turning on **External Audio** sends stereo accompaniment to Prodigy II. If **HW Decode** is enabled at the same time, Prodigy II will try to decode the accompaniment channel, which may result in incorrect notes or playback pauses. Ensure **HW Decode** is **Off** before enabling **External Audio**.

- If you're having trouble hearing the accompaniment at low volume, adjust the **Playback Volume Range**. Since PianoDisc doesn't control external speakers, this setting lets you define the volume threshold where the piano begins to play. Below this threshold, the piano remains silent. The piano will still have its full dynamic range, but the app ensures the accompaniment volume is sufficient before starting the piano.

6. Play!

You're now ready to play your piano using the **PianoDisc iQ App**. If you set up ProMode with **Auto Connect Bluetooth MIDI** and **Bluetooth Audio**, everything will connect automatically when you open the app and power on your Prodigy II. If you used other connection methods, remember to re-connect them before playing.

You're all set! Play music from the iQ App, and it will stream wirelessly to your Prodigy II.

Professional Use In the Studio

For music professionals, whether recording engineers, musicians, or music students, Prodigy offers an incredibly versatile tool in studio environments. By leveraging its MIDI capabilities, Prodigy can integrate seamlessly with digital audio workstations (DAWs), opening up a world of creative possibilities. Here, we'll explore how professionals set up and use Prodigy, why MIDI is the preferred choice, and the essentials of integrating a player piano into a studio workflow.

Introduction to MIDI

MIDI (Musical Instrument Digital Interface) is a universal standard for digital music communication. Unlike audio files, which record sound, MIDI files contain instructions for creating music. These instructions include details like which notes to play, how long to hold them, how hard to strike the keys, and when to use the pedals. Think of MIDI as a digital version of sheet music, designed to be interpreted by instruments, software, or devices in real-time.

MIDI and PianoDisc

MIDI is the foundation of the PianoDisc system. Every PianoDisc performance starts as MIDI data and ends as MIDI when the piano plays. This MIDI data drives the keys, pedals, and dynamics of the piano, translating the instructions into a live performance.

To make music playback accessible for casual users, PianoDisc also offers its music in an **audio-encoded MIDI format**, packaged as MP3 files. These files can be played on standard music players, smartphones, or tablets. However, this format is designed purely for convenience and distribution. The audio-encoded MIDI format is not editable, making it less flexible for advanced use. For users seeking greater control, the raw MIDI format is superior, allowing for precise editing, sequencing, and integration into professional workflows.

MIDI Sequencing and Editing

A **MIDI sequencer** is an essential tool for working with MIDI data, enabling users to record, arrange, and refine performances. Sequencers are often built into Digital Audio Workstations (DAWs) and provide powerful features for PianoDisc users, whether you're editing your own recordings, enhancing downloaded files, or integrating your piano into professional music production. With a sequencer, you can:

- **Edit Your Own Performances:** Record a performance using **ProRecord** or **ProScan** and refine it in a sequencer. Fix missed notes, adjust timing, or fine-tune dynamics to create a polished final version.

- **Enhance Downloaded Files:** Many MIDI files available online are designed for generic playback and may not sound optimal on your piano. A sequencer allows you to optimize these files by tweaking dynamics, pedal usage, or note timing. You can even adapt arrangements to better suit your preferences or skill level.
- **Professional Applications:** MIDI sequencing is a cornerstone of professional music production. A sequencer can be used to draft compositions, synchronize performances with other instruments, or experiment with adding accompaniments like virtual strings, percussion, or synths.

By leveraging a MIDI sequencer, you gain complete control over your music. Whether you're fixing a downloaded file, editing your own performance, or using your PianoDisc system as part of a professional workflow, a sequencer unlocks a world of creative possibilities.

Digital Audio Workstations (DAWs)

A **Digital Audio Workstation (DAW)** is software that serves as the central hub for modern music production. It combines MIDI sequencing, audio recording, and editing tools into one powerful platform, making it indispensable for both casual and professional users. For PianoDisc users, a DAW offers an incredible way to extend the capabilities of your system, enabling you to explore a world of creative possibilities.

How a DAW Fits In

At its core, a DAW includes a MIDI sequencer, allowing you to record, edit, and arrange MIDI data. In addition to sequencing, a DAW also provides advanced audio tools for recording, mixing, and mastering music. This combination of MIDI and audio capabilities makes a DAW ideal for:

- **Adding Additional Instruments:** Incorporate virtual strings, percussion, or synthesizers to complement your piano.
- **Creating Full Productions:** Combine your piano performance with other tracks, vocals, or effects to produce complete songs.
- **Syncing Video:** Use a DAW to synchronize MIDI and audio tracks with video for film scoring or multimedia projects.

Whether you're working on a solo piano performance or a complex orchestral arrangement, a DAW gives you everything you need in one cohesive environment.

Virtual Instruments

One of the most exciting features of a DAW is the ability to use **virtual instruments**. These are high-quality, software-based instruments that use MIDI data to create sound. Virtual instruments range from realistic acoustic pianos and orchestras to experimental synthesizers, offering endless sonic possibilities.

- **Superior Sound Quality:** Virtual instruments are often sampled from world-class instruments and can deliver a level of detail and realism far beyond the built-in sounds of most MIDI devices, including the ProRecord.
- **Endless Variety:** With a DAW, you're not limited to the sounds built into your system. You can access an expansive library of instruments, from concert grand pianos to rare synthesizers, all played directly using MIDI data from your PianoDisc system.
- **Layering and Customization:** Virtual instruments allow you to layer sounds or create entirely new timbres by combining multiple instruments.

For PianoDisc users, this means you can use your system not only to control the piano but also to “play” a virtually infinite range of instruments at studio-quality levels.

Examples of DAWs

DAWs are available for all major platforms, offering options for every level of user:

- **For Windows:** Ableton Live, FL Studio, Cubase, Reaper
- **For Mac:** Logic Pro, GarageBand, Cubase, Pro Tools
- **For Mobile:** GarageBand (iPad), Cubasis (iPad), n-Track Studio

Each DAW offers unique features, from GarageBand's user-friendly interface for beginners to Logic Pro and Cubase's advanced tools for professionals. Regardless of your platform, there's a DAW to fit your needs and skill level.

By integrating a DAW into your setup, you unlock tools for sequencing, audio production, and virtual instrumentation that go far beyond the capabilities of standalone hardware. Whether you're refining a piano performance, building a full composition, or experimenting with new sounds, a DAW gives you the flexibility to bring your musical vision to life.

TIP: While the iQ and ProRecord apps offer simple play and record features, they are best thought of as "music scratch pads" for casual use, rather than professional tools. These apps are ideal for quickly capturing ideas or enjoying playback but lack the advanced editing and evaluation capabilities of a Digital Audio Workstation (DAW). For professional or educational use, a DAW provides a much more robust platform, allowing precise MIDI editing, detailed performance analysis, and the ability to integrate additional instruments, vocals, or effects. For any serious work, we recommend using a DAW to take full advantage of the PianoDisc system's potential.

PianoDisc's Role in the Studio

The PianoDisc system is more than just a player piano—it's an essential tool for music professionals, offering versatility and efficiency in a wide range of creative and technical applications. Here's how PianoDisc is used by professionals in studios around the world:

Music Production

One of the most common uses for PianoDisc in the studio is composing and editing without needing a pianist present at all times. MIDI data can be sent directly to the PianoDisc system, allowing it to play complex passages with precision, freeing composers and arrangers to focus on other elements of the production process. Whether it's creating intricate orchestrations or experimenting with new ideas, PianoDisc streamlines music production by eliminating the dependency on live performers during initial phases.

Film Scoring

PianoDisc-equipped pianos are a favorite among film composers, including the legendary **Danny Elfman** (*The Nightmare Before Christmas*, *Batman*, *Edward Scissorhands*, and *MUCH more!*), who has used a PianoDisc-equipped Bösendorfer to score iconic films. In the fast-paced world of film scoring, PianoDisc's ability to instantly edit, playback, and ship MIDI files allows composers to make real-time adjustments and deliver scores efficiently. This flexibility significantly reduces the time and effort required for revisions, which is critical in meeting tight production deadlines.

Microphone Placement and Recording

Capturing the perfect piano sound is one of the greatest challenges in studio recording. With PianoDisc, recording engineers can experiment with microphone placement without needing a pianist present, allowing them to:

- Optimize mic positioning to capture the exact tonal balance and dynamics they want.

- Test multiple configurations in a quiet, controlled environment without distractions.
- Perform recording sessions once the mic placement is perfected, ensuring consistency and quality.

This level of precision is invaluable for high-quality piano recordings, particularly in classical and solo piano productions.

Vocal Accompaniment

PianoDisc simplifies the process of accompanying vocalists, particularly in demanding studio sessions. A pianist can pre-record a performance, and the system can adjust tempo or transpose the accompaniment to match the vocalist's needs. This means vocalists can rehearse or record multiple takes without requiring the pianist to be present for an extended session. It's a time-saving solution that also ensures flexibility and consistency.

Self-Evaluation for Performers

For students and professionals alike, PianoDisc is an exceptional tool for performance critique and self-improvement. By recording their performances, musicians can:

- Watch themselves play to identify areas for improvement.
- Compare multiple takes to fine-tune their interpretation.
- Use MIDI data to analyze technical details such as timing and dynamics.

This is particularly useful for pianists preparing for auditions, competitions, or recording sessions, as it provides a clear and objective way to evaluate and refine their performance.

Additional Uses

PianoDisc's versatility opens up even more possibilities in professional environments:

- **Live Playback:** In live performance settings, PianoDisc can automate challenging or repetitive piano parts, allowing performers to focus on other elements of the show.
- **Collaborative Composing:** Composers can share MIDI files with collaborators remotely, enabling real-time feedback and revisions.
- **Sound Design:** Experimenting with prepared piano techniques or effects becomes easier, as PianoDisc ensures consistent playback while engineers focus on capturing the desired sound.

From streamlining music production and film scoring to enabling precision recording and self-evaluation, PianoDisc is a powerful tool in any studio setting. Its ability to integrate seamlessly with modern workflows and adapt to a variety of professional needs makes it an indispensable asset for musicians, composers, and recording engineers alike.

By leveraging Prodigy's MIDI capabilities and integrating it into a DAW-driven studio workflow, professionals can unlock new creative possibilities. Whether for recording pristine acoustic piano tracks, composing intricate arrangements, or experimenting with live playback, Prodigy shines as a versatile and indispensable tool in the hands of music professionals.

Connecting PianoDisc to a DAW

To integrate your PianoDisc system with a Digital Audio Workstation (DAW), a MIDI connection is essential. While Prodigy II provides a variety of MIDI connection options, it's important to understand how each works and the specific setup requirements to avoid potential issues like MIDI loops.

MIDI Connection Options

Prodigy II supports the following MIDI connection methods:

- **Bluetooth MIDI:** A wireless and convenient option for connecting Prodigy II to your DAW.
- **5-Pin DIN MIDI (Optional MIDI Flex Cable):** A traditional wired connection, ideal for compatibility with older equipment.
- **USB MIDI:** A modern wired connection, offering fast and reliable data transfer.

NOTE: Prodigy II is designed to be connected directly to a computer or iPad using a USB-C cable. If you connect your iPad to Prodigy II via a **Lightning adapter** and a USB-C cable, your iPad may temporarily disable the Lightning port and display an error message about excessive power usage. We recommend connecting via a USB hub, or better yet, **using an iPad with a USB-C port.**

Connecting to a computer via a USB cable may introduce noise into the audio outputs. In a studio environment, we recommend using MIDI only and relying on your DAW and local speakers for audio playback.

Prodigy II provides a **unified MIDI OUT interface** to your DAW, which is used to control the piano. However, **MIDI IN** functionality—required to record MIDI data from the piano—is only available when using **ProRecord** or **ProScan**, which are optional accessories.

Unified MIDI Interface

When using ProRecord or ProScan, these systems connect directly to Prodigy II, which then serves as the unified MIDI interface for your DAW. This means:

- **Connect the DAW to Prodigy II:** Always establish the MIDI connection between your DAW and the Prodigy II system, not directly to ProRecord.
- **ProRecord/ProScan Integration:** Refer to the section titled **ProRecord/ProScan Integration** for details on setting up these accessories with Prodigy II.

Avoiding MIDI Loops (Stuck Keys or Rapidly Repeating Notes)

Many DAWs and sequencers have a feature called "**MIDI Thru**" that is often enabled by default. When this feature is active, any MIDI data received by the computer is immediately sent back out. While this behavior is fine for digital keyboards with a **Local Off** function, it can cause issues with a player piano.

If your DAW introduces a MIDI loop, playing a key may result in it being stuck down or rapidly repeating. This happens because the note you play is sent to the DAW and then immediately sent back to the piano, creating a feedback loop. If you encounter this issue, it's likely caused by a MIDI loop in your DAW or a misconfigured record input. (Refer to the section titled **ProRecord/ProScan Integration** for details on setting up these accessories with Prodigy II.)

To avoid MIDI loops, make sure to turn off your DAW's MIDI Thru function.

Example: Recording and Playing Back in Logic Pro

Let's walk through a real-world example of recording and playing back a track in Logic Pro. We'll use a Prodigy II system with a ProRecord accessory (refer to **ProRecord/ProScan Integration** for proper configuration). In this example, we'll connect via Bluetooth MIDI, but the process is nearly identical if you're using 5-pin MIDI ports or USB, aside from the initial connection steps.

1. Open the **Audio MIDI Setup** utility. You can find it in your Mac's **Applications > Utilities** folder.
2. Next, click **Window > Show MIDI Studio** if your studio configuration isn't already open.
3. Click the **Bluetooth** icon in the upper-right corner of the MIDI Studio window (see Figure 7).
4. In the Bluetooth Configuration window, select Prodigy2, not ProRecord.

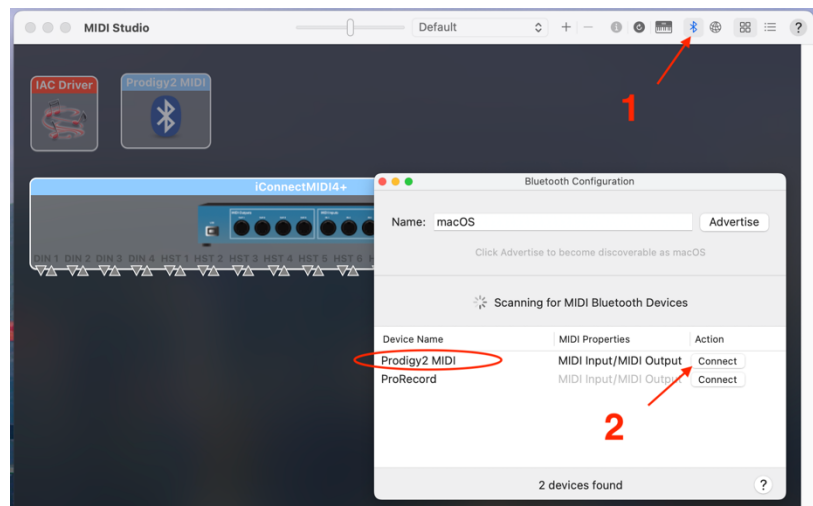


Figure 7

5. Open Logic Pro. When first opened, Logic Pro will prompt you to select an **Empty Project** or **Live Loops**. Choose **Empty Project**.
6. You'll then be prompted to create a new track. The settings you choose here are crucial, as they determine how Logic Pro interacts with Prodigy (see Figure 8).
7. Choose MIDI for the track type, disable **Use External Instrument Plug-In**, and set your **MIDI Destination** to "Prodigy2 MIDI Bluetooth – 1". Do not select All.
8. Once inside the new project, you should see a single piano track. Click File > Project Settings > MIDI, then select the General tab.

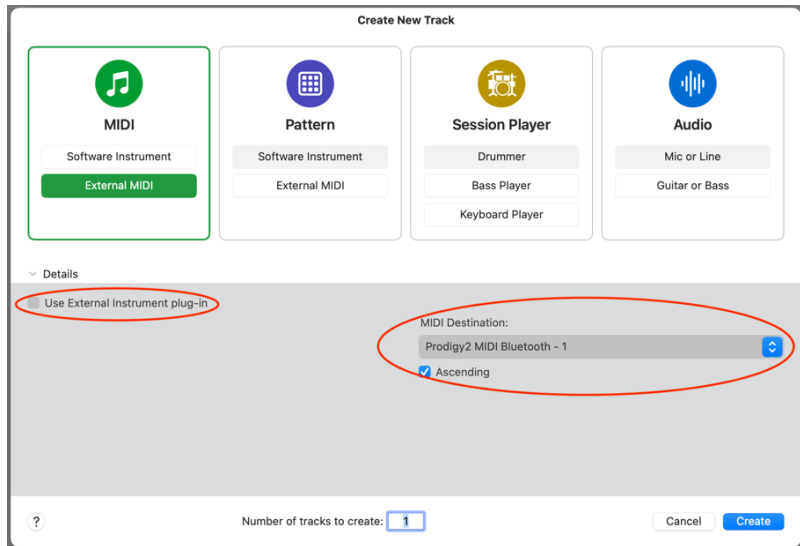


Figure 8

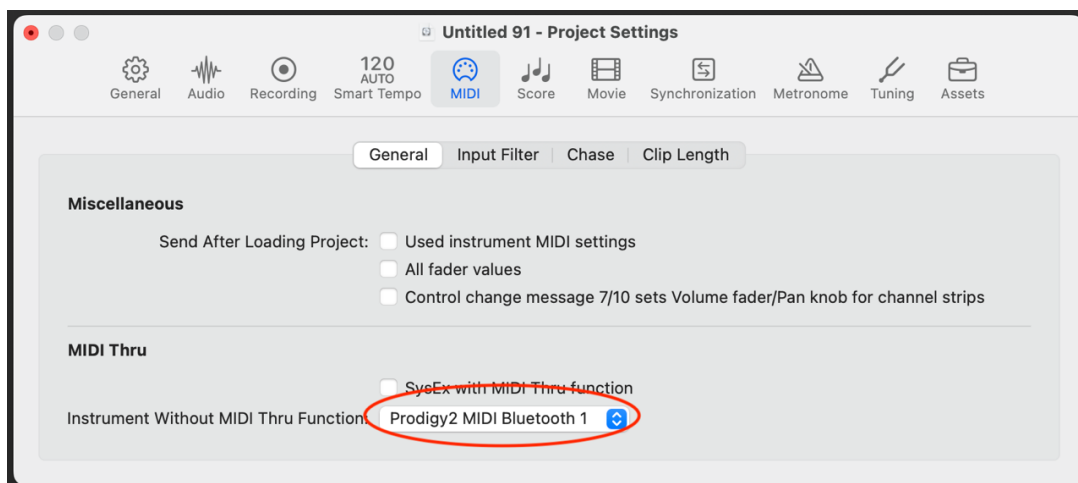


Figure 9

9. In the **General** tab, set **Instrument Without MIDI Thru Function** to "Prodigy2 MIDI Bluetooth – 1". This prevents a MIDI loop when the track is armed for recording (see Figure 9).

10. Finally, arm the track for recording. You can now play and record without experiencing a MIDI loop (see Figure 10)

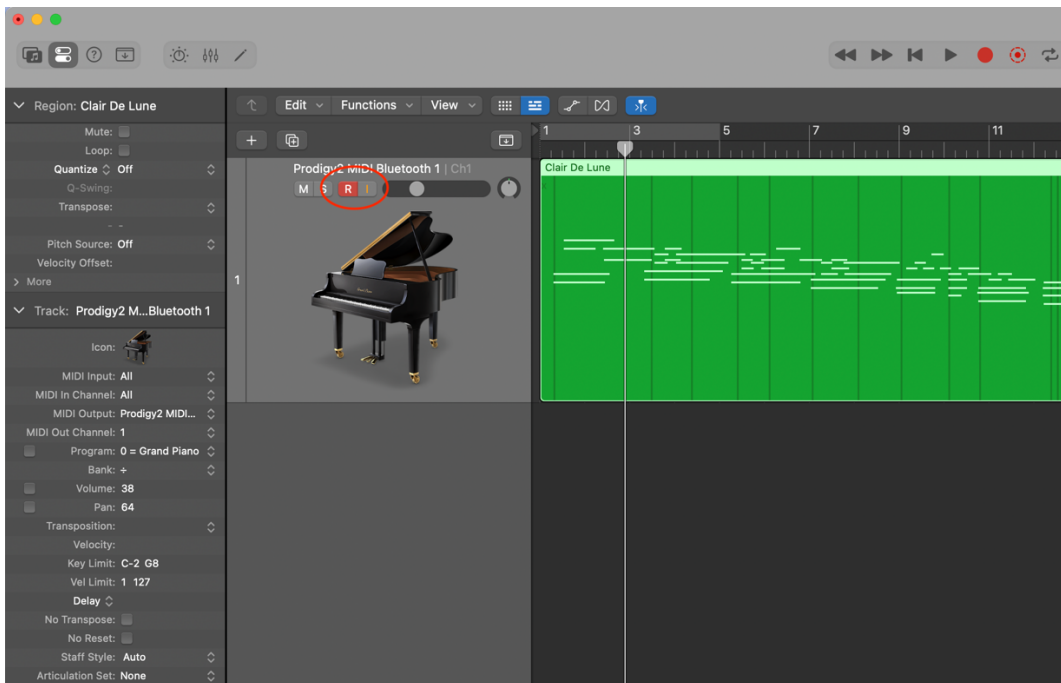


Figure 10

TIP: When the track is not armed for recording, a MIDI loop may still occur if you manually play the piano. To avoid this, disable either MIDI input or output in the track details pane on the left, depending on your focus.

ProRecord/ProScan Integration

PianoDisc's ProRecord and ProScan products are optional key sensor systems that allow an artist or piano student to capture, record, and reproduce any song they play. The difference between the two is that the ProRecord includes a sound module, while the ProScan does not. Both feature a non-contact optical system that captures key movement and converts it into MIDI. They are sold separately from Prodigy II.

If you add a record system to your Prodigy II, your technician will typically set it up for you. However, you may wish to double-check that it's attached and configured correctly, especially if you are experiencing MIDI loops (see the section above). MIDI loops typically cause keys to stick down or rapidly repeat.

Connecting ProRecord or ProScan to Prodigy II is simple:

1. Use a ProRecord MIDI Flex cable to connect the ProRecord to one of Prodigy II's Flex ports. No additional power is necessary, as it is provided through the Flex connection.
2. In the Prodigy II LED Menu, navigate to **Setup → ProRecord**.
3. Set the port to **Flex 1** or **Flex 2**, depending on which port your ProRecord is plugged into. Note that **Flex 1** is the outermost (top) port, and **Flex 2** is directly below it, next to the Key Driver port.
4. Play the piano! As you play, you'll notice the < symbol appear on the LCD screen next to the port you used. This indicates that MIDI is being received by Prodigy II.
5. Connect your DAW or iPad to Prodigy II via MIDI to record and play back your performances. (See the section *Professional Use in the Studio* for complete instructions.)

NOTE: In addition to ProRecord and ProScan, other record systems can also be connected to the Flex ports and will behave similarly. However, there is no official support for systems other than ProRecord and ProScan. While the setting is labeled **ProRecord**, you simply need to select the port your sensor system is plugged into.

Menu Options

The Prodigy II's LCD menu provides access to a wide range of settings and parameters. Many commonly used options are also available in the iQ section of the Calibrate app, which is often more convenient to use after the Prodigy II has been installed. However, certain settings can only be adjusted directly from the LCD menu.

In the following section, we'll explain each menu item and its function in detail. For more information on how to navigate the menu, see the **Menu Navigation** section earlier in this guide.

Volume

The volume control lets you view and adjust the current volume level. Keep in mind that other factors can also affect the volume. For instance, changing the volume on your iPad while it's connected via Bluetooth or Wi-Fi audio, or adjusting the channel volume when using MIDI, can alter the overall volume. You can choose to pre-set the initial volume to a specific level or have it automatically return to the last level used before shutdown.

Sync

The Sync feature adjusts the piano's timing to match the audio accompaniment. Timing can sometimes drift out of sync due to factors such as calibration, physical distance, or wireless signal delays.

The sync adjustment range is -120ms to +120ms. In certain situations, such as when using external speakers, additional delay may be necessary. The iQ app's external audio settings allow you to set a coarse sync adjustment, while this control is intended for precise fine-tuning. In most cases, only minor fine adjustments will be needed.

MIDI

The MIDI menu is hidden until you insert an SD card with MIDI files. This menu has a variety of settings related to playing MIDI files directly from the SD card without the iQ App. The following menu items are available:

- **Player:** This menu allows you to control playback by selecting the sort order, playing, pausing, skipping to the next song, or stopping. Use the Play option to start playing a MIDI file stored on the SD card. Note that the SD card must be installed and contain at least one MIDI file.

Since the Prodigy II is mounted under the piano, these controls are not typically used during regular operation. They are primarily intended for testing and verification purposes but can also be helpful if you want to stop autoplay and don't have an iPad nearby.

- **Playlist:** This option allows you to play the playlists stored on your SD card. Playlists are saved in the playlists.json file on the SD card and are not easily editable without technical knowledge. Most users will rely on the playlists feature in the iQ app, which operates differently from the playlists stored on the SD card. For details about the playlist format and how to edit it, refer to **Appendix E: SD Card Playlists and Indexing**.

As the Prodigy II is mounted under the piano, these controls are generally not used during regular operation. They are primarily designed for testing and verification purposes.

- **Record:** This option allows you to record a performance directly to the SD card. To use this feature, the SD card must be installed, and the system must be equipped with a compatible key sensor system, such as PianoDisc ProScan or ProRecord. However, most users will typically record performances using the iQ App or ProRecord App.

Since the Prodigy II is mounted under the piano, these controls are generally not used during normal operation. They are primarily intended for testing and verification purposes.

- **Auto Play:** This enables the piano to start playing automatically when powered on, making it particularly useful with smart power outlets. For full instructions, see **Appendix C: Auto Play & Hospitality**. Auto Play has the following configurable functions:
 - **Enable:** Set to "ON" to enable Auto Play or "OFF" to disable it.
 - **Playlist:** Select the playlist to play at startup by marking it with an "x." Playlists are stored in the playlists.json file on the SD card and are not easily editable without technical knowledge. For more details about the playlist format and how to edit it, refer to **Appendix E: SD Card Playlists and Indexing**.
 - **Sort:** Choose how songs are played at startup. **Default** plays songs in the order they appear on the SD card. **Sequence** plays songs in alphabetical order. **Shuffle** plays songs in random order (recommended, as it avoids repeating the same song order each time the piano is powered on).

- **Loop Play:** Determines whether the playlist repeats after finishing. If Loop Play is **ON**, playback will restart from the beginning once all songs have been played. If Loop Play is **OFF**, playback will stop after the last song. Typically, enabling Loop Play with Shuffle provides endless, varied playback.
- While technicians usually configure Auto Play through the Calibrate App (since the Prodigy II box is mounted under the piano), it can also be configured via the LCD menu if needed.

Info

In some situations, knowing critical details about your Prodigy II, such as its IP address, can be incredibly helpful. While this information is easily accessible through the Calibrate App's **Info** button, it's also useful to know how to view these details directly when an iPad isn't available.

- **IP Address:** Displays the Wi-Fi IP address, which is used for configuring settings via a web browser. If the Prodigy II has not yet connected to a Wi-Fi network, it may show `192.168.4.1` or display "Unknown/Not Set." In this case, refer to the **Connecting Your Prodigy II to Wi-Fi** section of this guide.
- **BT Name:** Shows the name of your Prodigy II, which can be customized in the Calibrate App or Web User Interface (Web UI). The Bluetooth MIDI device will use the same name, with "MIDI" appended. Knowing this name is helpful if multiple devices are nearby.
- **Device ID:** A unique identifier that PianoDisc tech support may request during troubleshooting. This information is typically not needed for regular use.
- **Version:** Displays the version numbers of the MIDI and audio engines.

Setup

The Setup menu includes many critical parameters to optimize the Prodigy II's performance. Installation technicians typically use the **Calibrate App** via the iQ interface for configuration. However, some settings are only accessible through the LCD menu. Below is a description of these settings and their functions:

- **Reset Wi-Fi:** If your Wi-Fi network changes or you move locations, you may need to reset the Wi-Fi connection. After resetting, press the **Reset button** or cycle power on your system and follow the instructions in the **Connecting Your Prodigy II to Wi-Fi** section to join a new network.

IMPORTANT: Before resetting Wi-Fi, check your IP Address using the Info feature (above). If the IP address is not 192.168.4.1 or “Unknown/Not Set,” you likely don’t need to reset Wi-Fi. Avoid resetting unless absolutely necessary.

- **Time:** Prodigy II uses its internal clock to monitor system heat and make real-time adjustments for consistent playback. While the displayed time itself is not used functionally, some users may prefer to set it correctly since it’s visible on the screen. Normally, the time is set automatically via Wi-Fi, but you can adjust it manually if desired.
- **Get Time:** Forces the system to immediately request the current time from the internet. This process typically happens automatically at startup, so manual intervention is rarely needed.
- **Time Zone:** Sets your local time zone by selecting a city in the same zone. While the time zone doesn’t impact performance, setting it ensures the displayed time is correct. Note that the system does not account for Daylight Savings Time (DST), so adjustments may be necessary in summer months.
- **Start Volume:** Sets a default volume level when Prodigy II powers on, working with Auto Play to ensure consistent startup volume.

If you use the iQ App, it will override the **Start Volume** setting and adjust to match your iPad’s current volume. Setting this to 0 disables the feature, and the last volume level used before powering down will be restored.

- **Gain Offset:** Since a piano can’t be turned down to zero like a digital instrument, even its lowest volume is much louder than the lowest volume of accompaniment. **Gain Offset** adjusts the volume balance between the piano and accompaniment tracks. A good starting point is 20%, which boosts the accompaniment’s volume to better match the piano. However, higher offsets (up to 50%) dramatically reduce dynamic range, and in some cases may make it seem like the volume control isn’t working. Use the lowest offset necessary and adjust your speakers or amplifier volume instead.
- **Line In:** This menu setting controls how Prodigy II responds to the audio signal from an external device. “Fixed” lets you manually set the piano’s playback volume on the LCD screen, independent of the external player. “Auto” links the piano’s volume directly to the external player, adjusting from its lowest level upward. The numbered options (“+1” through “+5”) shift the threshold at which the piano begins playing, requiring progressively higher input volume before the piano responds. These settings are useful for balancing the piano with accompaniment tracks from different devices.
- **HDR (High Dynamic Range):** As part of the mastering process, many songs undergo dynamic compression, which removes some of the natural highs and lows in volume to create a more uniform listening experience. While this can make playback more

consistent, it often diminishes the emotional depth and energy of the music. The HDR (High Dynamic Range) feature addresses this by reintroducing some of that dynamic range, restoring the subtle and dramatic variations that bring music to life.

HDR offers four settings: **Off**, **Low**, **Medium**, and **High**. When HDR is set to Off, songs play using their original, embedded dynamic range. The Low, Medium, and High settings progressively increase the dynamic range, adding more variation in volume and expression to the music.

It's important to note that the effect of HDR depends on the system's volume setting. At lower volumes, the dynamic range will still be limited, even with HDR enabled. As you increase the volume, the HDR effect becomes more noticeable, with the maximum impact achieved at around 50% volume.

When HDR is enabled, you'll notice that some passages of a song play much quieter, while others become significantly louder. This effect creates a more dynamic and engaging performance but requires careful adjustment to suit your environment.

Selecting the appropriate HDR setting and pairing it with an optimal volume level is key to achieving the best results. For example, setting HDR to High can produce a dramatic effect, but it will feel more subtle if the volume is only at 20%. Conversely, the same setting will be far more pronounced when the volume is closer to 50%.

- **HW Decode:** HW Decode enables Prodigy II to process PianoCD signals, which use a special encoding format. In this format, the audio track contains piano performance data encoded on the right channel, while the left channel is reserved for accompaniment audio. Prodigy II's internal hardware decoding extracts this performance data and uses it to play the piano, while also routing the left channel audio to the amplifier for playback through speakers.

This feature should normally be set to **ON** to ensure the system functions correctly. If HW Decode is turned **OFF**, Prodigy II will not process the encoded piano performance data and will instead treat both channels as standard stereo audio, sending them directly to the amplifier. While this setup might seem logical for typical audio playback, it would render the encoded performance data on the right channel unplayable by the piano.

HW Decode turns on automatically if you connect an external device to the LINE IN port. You can manually disable it in situations where decoding is unnecessary, such as when using ProMode. ProMode allows you to play the piano using alternate methods that don't require decoding, such as live MIDI playback or other advanced setups. For more details about ProMode, refer to the **Playing the Piano** section of this guide.

- **Automation:** Enables connection to Amazon Alexa and MQTT-based home automation platforms. This should generally remain ON, even if you don't use these services. If desired, you can disable it here.
- **Legacy Mode:** Activates compatibility with older SilentDrive systems (pre-2010). Use this mode if Prodigy II is connected to such a system. For more modern SilentDrive HD

systems, this setting should remain OFF. If unsure, you can test both modes to determine which works. If neither work, you may need to use re-direct mode (see below).

- **Redirect:** The Redirect feature allows Prodigy II to send piano playback data as MIDI signals to a selected **MIDI Flex** port instead of using its native connection to the **Key Driver** port. This feature is particularly useful when integrating Prodigy II with older PianoDisc systems (like “Blue Boards”) or even competing player piano systems that accept MIDI input. By redirecting playback data as MIDI, Prodigy II can effectively upgrade almost any player piano system, regardless of the manufacturer or its production date. This makes it possible to bring modern features like wireless playback to systems that lack these capabilities.

In most cases, Prodigy II connects to the piano through the **Key Driver** port, which provides low-level performance data optimized for precise playback. MIDI, by contrast, is a more generalized, high-level format. While **Redirect** allows compatibility with systems that rely on MIDI for playback, it disables the **Key Driver** port. As a result, enabling **Redirect** on systems that use the **Key Driver** port will prevent the piano from playing.

To use Redirect, select the **Flex Port** that corresponds to the receiving system’s MIDI IN connection in the Redirect menu.

IMPORTANT: Redirect should only be enabled when connecting Prodigy II to a system that exclusively uses MIDI for playback. Enabling it indiscriminately will disrupt normal playback functionality and may cause confusion or troubleshooting issues.

When used appropriately, Redirect makes Prodigy II a powerful tool for upgrading or adding features to a wide variety of player piano systems. See the “Prodigy II MIDI-Based Upgrade Video” available on PianoDisc’s website for more information.

- **ProRecord:** Prodigy II is designed to automatically detect when a ProRecord or ProScan key sensor system is connected. These systems enable the piano to capture and record key presses, translating your performance into MIDI data. However, if the devices are powered on at different times, after a power cycle, or due to other factors, Prodigy II may fail to recognize the connected ProRecord or ProScan. This can create a **MIDI loop**, where the piano sends and receives data in an endless cycle. When this happens, you may notice unusual behavior, such as keys getting stuck in the down position or playing repeatedly on their own.

To fix this, use the ProRecord setting to manually specify which MIDI Flex Port your ProRecord or ProScan is connected to. This ensures Prodigy II communicates correctly with the key sensor system and prevents MIDI loops. If no ProRecord or ProScan is connected, leave this setting on “Auto,” which allows Prodigy II to handle connections automatically.

If you are using a different key sensor system, such as PianoDisc's legacy TFT system, it should still work as long as you manually select the correct Flex Port in the ProRecord menu. This ensures compatibility even when automatic detection is not available.

By configuring this setting appropriately, you can avoid common issues and ensure smooth operation with your key sensor system, whether it's a ProRecord, ProScan, or a compatible legacy system.

- **Remote Debug:** Sends diagnostic data to PianoDisc for streamlined tech support. While this feature is optional, leaving it ON ensures faster and more efficient assistance. To view the data being sent, click the "i" icon in the upper left corner of the Calibrate App.
- **Dual Sustain:** In some vertical pianos, the damper mechanism requires extra support to operate correctly without sagging. This is particularly true for pianos where the damper assembly is supported on both sides. In these rare cases, a second pedal solenoid is necessary to ensure smooth and consistent operation of the sustain (damper) pedal.

The Dual Sustain feature enables Prodigy II to drive a second solenoid by using the tenor Key Driver board. This configuration allows the sustain pedal to work reliably, even in these specialized setups. However, this setting is rarely required and should only be enabled by a trained piano technician. Most pianos do not need Dual Sustain.

If you believe your piano may require Dual Sustain, consult your piano technician to determine if your setup meets the criteria. For the vast majority of users, this setting should remain OFF.

- **License:**
Most Prodigy II systems do not require a license and will function normally right out of the box. However, in rare cases, you may see a message on the main screen stating, "Unlicensed, contact support." This means your system needs to be activated with a license code.

If this message appears, contact PianoDisc support and provide your **Device ID**, which can be found in the system's Info menu. Support will guide you through the activation process to ensure your system operates as intended.

For the vast majority of users, this setting is not relevant, and no action is required.

Test

The **Test** menu includes several features designed to help you or your technician verify that your piano and its hardware are functioning properly. These tests are particularly useful for troubleshooting and maintenance. The available tests are:

- **Test Piano:**
This test plays every note on the piano, as well as the pedal, in a continuous loop until

stopped. It ensures that all keys and the pedal are responding correctly to playback signals.

TIP: You can activate this test without navigating the menu by pressing and holding any of the three buttons on the Prodigy II unit when you're not in a menu. This shortcut allows you to start the test by reaching under the piano, even if you can't see the screen.

- **Test MIDI:**

This test checks the MIDI send and receive functionality on both MIDI Flex Ports. It requires a special loopback cable, which connects the **Flex 1** and **Flex 2** ports to complete the test circuit. If the loopback cable is not connected, the test will fail, even if your MIDI hardware is functioning normally.

The loopback cable is a special-order item from PianoDisc and is not typically included with the system. If you require one, contact PianoDisc to purchase it.

- **Test SD:**

This test verifies the SD card's functionality by performing read and write operations. To run the test, ensure an SD card is inserted into the system beforehand. If no SD card is present, the test will fail.

These tests are invaluable for confirming system health and identifying any potential hardware issues, making them a critical part of Prodigy II maintenance and troubleshooting.

Service (Normally Hidden)

The Service menu provides advanced diagnostics and features that, if used improperly, could cause your system to stop working correctly or require re-calibration. For this reason, the Service menu is normally hidden and inaccessible. If directed by PianoDisc technical support to enter this menu, here is a brief description of the available options:

- **Check RAM:** Displays the amount of available RAM. The amount of free RAM varies based on several factors, and there is no "correct" value or range, as long as the value is greater than zero. This feature is primarily for diagnostic use.
- **Check Flash:** Tests the internal flash memory. When run, the result should always display as "Passed."
- **Erase Flash:** Erases the internal flash memory, which can improve boot speed and help troubleshoot issues. While this process does not remove your license (if applicable), it will erase all other settings. To initiate, press and hold any button until the countdown timer reaches zero. To cancel, release the button before the countdown finishes. The

erasure process may take several minutes to complete.

TIP: If your Prodigy II has slow boot times, it is often because the internal flash memory is being optimized, which can take time but should eventually stabilize. If the delay is persistent or inconvenient, erasing the flash will force a reorganization. Before erasing, we strongly recommend saving your SilentDrive settings in the Calibrate app for easy restoration. Note that iQ settings are not saved and will need to be restored manually.

- **Scan I2C:** A diagnostic tool used to troubleshoot internal communication between hardware components.
- **Check ESP32:** Tests communication between the internal Audio and MIDI modules. This test should only be run after the system name appears on the LCD screen, as running it immediately after boot may falsely indicate a failure. When performed correctly, the result should display as “Passed.”
- **Read GPIOs:** A diagnostic feature for internal testing. There are no specific “correct” values or states for this function.
- **USB Debug:** Reports the state of the USB port when diagnostic firmware is loaded. Normally, USB Debug will be off during regular operation, as the USB port is used for MIDI functionality. This option does not allow for selection or changes—it simply displays the current state.
- **Volume Limit:** This setting lets you place a ceiling on how loudly the piano can play, anywhere between 50% and 100% of its full range. It’s useful if you want to keep the piano at a comfortable level for the room, avoid disturbing others, or reduce the strain on the system’s power supply. Once set, no matter how high the external volume is turned up, the piano will never exceed the limit you’ve chosen.
- **Radios:** Allows you to disable the internal Wi-Fi and Bluetooth radios. Radios should normally remain on to ensure proper operation of Prodigy II, as disabling them will prevent the piano from being controlled by the iQ App or Calibrate App. Disabling radios may be useful in specific situations, such as when **Auto Play** is enabled, and the piano is located in a public venue.
- **Save Debug:** Runs a series of diagnostic tests and saves the system’s diagnostic data to an SD card in a file named `debug.json`. If **Remote Debug** is enabled, PianoDisc technical support can access this data remotely. However, if **Remote Debug** is disabled or the system has connectivity issues, technical support may ask you to manually save this file to provide detailed information about the issue.

Exit

Select this option to exit the menu system and return to normal operation. Alternatively, if no buttons are pressed, the menu will automatically time out after 10 seconds and return to operation mode.

Appendix A: Controlling Prodigy II with Siri

With Prodigy II and Apple's Siri, you can use your voice to play your favorite PianoDisc music or adjust the volume! Before getting started, let's review the requirements:

- A Prodigy or Prodigy II player system connected wirelessly to an iPad.
- PianoDisc music loaded in your iQ App's "My Music" section.
- An iPad with the latest PianoDisc iQ App (3.3.0 or higher).

Configuring Siri

While most of the time you don't need to change any settings, there are a few important things to check before you start using Siri:

1. In your iPadOS/iOS settings, open the Settings App (the grey gear icon) and navigate to **General->Language & Region**.
2. Ensure language is set to **English** and the region is set to **United States** or **United Kingdom**. Currently, only these two regions are supported.
3. Next, navigate to **Siri** in Settings and ensure it's enabled. Next, touch **Apps->PD iQ** to control how the iQ App interacts with Siri.
4. Enable all of the switches, with special attention to **Use with Siri Requests**. This must be enabled in order to use Siri with your piano.

That's it! You're now ready to start using Siri to control your PianoDisc system.

Preparing the Music

Siri can have trouble with overly complex song names and those with excessive punctuation. While a song named, "Ludwig van Beethoven: Piano Concerto No. 5 in E-flat major, Op. 73, 'Emperor' – Allegro, Adagio un poco mosso, Rondo: Allegro (Performed by Alexander von Steinberg)" provides a lot of useful detail, it's quite a mouthful to remember when you want to ask Siri to play it and Siri will likely get confused.

While not practical to rename everything, you may want to simplify overly-complex names that you plan to play frequently. Here's how:

1. Open the iQ App and touch **My Music->Tracks**.

2. Touch the three dots to the right side of the song you want to rename.
3. Touch **Edit->Song Name** and change the name to something simpler.
4. Press **Ok** then **Done**. The file is now re-named.

Interacting With Prodigy II

Siri requires a very specific command format in order to play your PianoDisc system. If you accidentally say the wrong thing, Siri may misunderstand and play from Apple Music instead. To control your piano, start with, “Siri, [command] on my piano”. Here are some things you can say:

“Siri, play my piano” ...to start playing all of the songs in order.

“Siri, shuffle the music on my piano” ...to start shuffling all of your songs.

“Siri, stop my piano” ...to stop playing.

“Siri, pause my piano” ...to pause playback.

“Siri, resume” ...to resume playback.

“Siri, skip to the next song” ...to skip to the next song.

“Siri, set the volume to 50%” ...to change playback volume to 50%.

“Siri, turn up the volume” ...to increase the volume.

“Siri, turn down the volume” ...to decrease the volume.

“Siri, play the song Happy Birthday on my piano” ...to start playing the song “Happy Birthday” from your library (assuming it is present in “My Music”).

“Siri, play the album Greatest Hits on my piano” ...to start playing the album “Greatest Hits” from your library (assuming it is present in “My Music”).

“Siri, play the playlist Favorites on my piano” ...to start playing a playlist named “Favorites” (assuming you have a playlist by this name in your iQ App).

You may not always need to add “my piano” if you frequently use Siri to control the iQ App. Her responses and reactions can evolve and change over time. If commands aren’t successful, try adjusting how they are phrased.

TIP: Siri struggles to understand commands when there is background noise. Telling your piano to start playing is very reliable, but often the noise of the piano makes it difficult to issue subsequent commands. Make sure your iPad is positioned far enough from the piano to minimize this effect.

Appendix B: Controlling Prodigy II with Amazon Alexa

With Prodigy II and Amazon's Alexa, you can use your voice to play your favorite PianoDisc music, adjust the volume, or even ask what's playing! Before getting started, let's review the requirements:

- Prodigy II connected to your home Wi-Fi. The Wi-Fi network must have internet access. (Prodigy II requires Audio engine firmware version 0.4.3 or higher and MIDI engine firmware version 1.0.0 or higher.)
- 32 GB or smaller SD card formatted as FAT32.
- Player-piano-compatible MIDI files (we recommend solo piano songs on a single track without additional instruments, see below for more details).
- An Amazon account with at least one Amazon Echo device connected to the same Wi-Fi network as your Prodigy II.
- An iPad with the latest PianoDisc iQ App (3.3.0 or higher).

TIP: Since Amazon doesn't have access to the contents of your iPad, it's not possible to play the songs in your normal iQ library. For that, you'll need to use Siri. Echo devices can only play MIDI files without accompaniment that are stored on your SD card.

Configure Your Prodigy II

In most cases, no settings need to be changed to enable automation on your Prodigy II, as it is enabled by default. However, if you previously disabled automation, you'll need to turn it back on:

- Use the Prodigy II LCD menu to navigate to **Setup->Automation**.
- If Automation is off, toggle it back on.

For advanced users... if you previously enabled a local MQTT server in the audio engine's Web UI, you'll need to delete those details and reboot in order to use Alexa.

Sourcing the Music

The easiest way to source music is to purchase it from **PianoDisc**. PianoDisc offers music in several formats, so it's important to select the correct album type. PianoDisc refers to piano-only music as "**Acoustic**" and assigns 4-digit catalog numbers to these songs and albums. All of PianoDisc's Acoustic collection is available in MIDI format. If you don't see a MIDI format option for the album you want, feel free to contact us, and we'll ensure you get the files you need.

In addition to PianoDisc's music library, there are hundreds of thousands of MIDI files available online. Some are professionally tailored for playback on player systems, while others are made for different instruments or edited by amateurs. While it can be exciting to find songs you love, it can also be frustrating if the files don't play correctly or require significant tweaking.

If you're comfortable with technology, learning to use a MIDI sequencer, such as **Apple's Logic Pro** (for macOS) or **Reaper** (for Windows and macOS), can make sourcing and customizing your music much easier. However, using a sequencer requires advanced technical skills, and it may not be the best option for everyone. Even if you're not familiar with MIDI sequencing, it's still possible to find high-quality music online if you know what to look for.

For those interested in sourcing and customizing their own music, refer to **Appendix D** for detailed guidance on what to consider when selecting and editing MIDI files.

Preparing the SD Card

We recommend a 32GB or smaller SD card for ease of preparation. While larger sizes can also work, MIDI files are very small, and 32GB is more than enough capacity for a large amount of music. Here are the steps to preparing your card:

1. Insert the SD card into a Mac or PC.
2. Format the card as FAT32.
3. Copy the MIDI files you prepared in the previous step. Remember to use simplified naming!
4. After copying the files, use the safe-eject feature to safely remove the SD card from your computer.
5. Insert the SD card into your Prodigy II. If the LCD display shows "Reading SD Card" for more than a minute, you may need to press the **Reset button** or cycle power on Prodigy II to force it to read the card.

TIP: As of this writing, PianoDisc doesn't sell a pre-prepared SD card. However, one will be sold soon. Check the PianoDisc music store website for updates:
<https://store.pianodisc.com>.

Adding or Changing Playlists

In addition to playing specific songs or albums, Alexa can also play playlists. When you insert an SD card with music for the first time, two playlists are created automatically:

- **All Songs:** Includes all songs on the SD card, played sequentially.
- **Example List:** A demo playlist designed for advanced users, illustrating how to customize playlists.

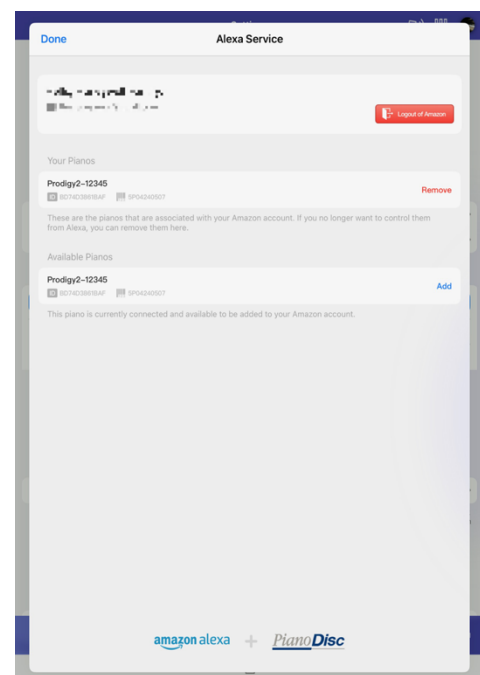
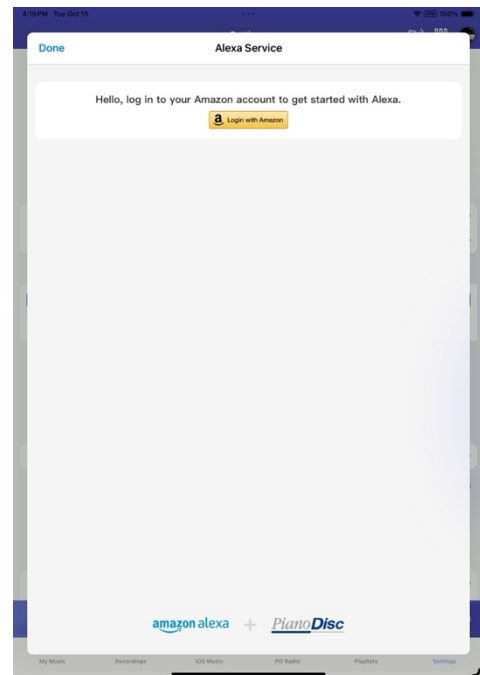
Playlists stored on the SD card are different from those created in the iQ App and must currently be edited manually. This process is technical and should only be attempted by professional technology integrators. If you're interested in creating or editing your own playlists, refer to **Appendix E** for detailed instructions.

For most users, the built-in ability to shuffle all songs or play them sequentially is sufficient. You can also prepare separate SD cards for different seasons or occasions, making it easy to switch between musical styles without additional setup.

Linking Your Amazon Account

Once Prodigy II is connected to the internet and the SD card is prepared, it's time to link your Amazon account to Prodigy II. Here's how:

1. While not mandatory, we recommend you first create a PianoDisc account at the PianoDisc music store: <https://store.pianodisc.com>.
2. Open the PD iQ App and touch the **Settings** tab and scroll to the top.
3. If you have a PianoDisc account, touch **Login Now** and enter your PianoDisc music store credentials. If you don't have an account, it's ok to skip this step.
4. Touch **Connect Bluetooth MIDI** (or auto connect) and select your Prodigy II from the list of Bluetooth devices. Once connected, touch **Done**. You should see a checkmark next to your Prodigy II Bluetooth MIDI connection.
5. Scroll down a bit, and in the **Automation** section, touch **Amazon Alexa**.
6. Touch the yellow **Login with Amazon** button and then touch **Continue** to log in to your Amazon account. Note that this is a secure connection directly to Amazon, and PianoDisc has no access to your Amazon password or account.
7. In the Amazon pop-up window, login to Amazon using the same Amazon account and credentials that your Echo devices are associated with. Once logged in, you'll see a red **Logout of Amazon** button (which you don't want to press).
8. In the **Your Pianos** section, you'll see any Prodigy II systems previously associated with your account. If you see any, touch **Remove** to remove them from your account, as only one piano can be controlled by Alexa at a time.
9. In the **Available Pianos** section, you should see your Prodigy II. Click the **Add** button to associate it with your account.
10. Press **Done** to close the window. Your piano is now linked to your Amazon account!

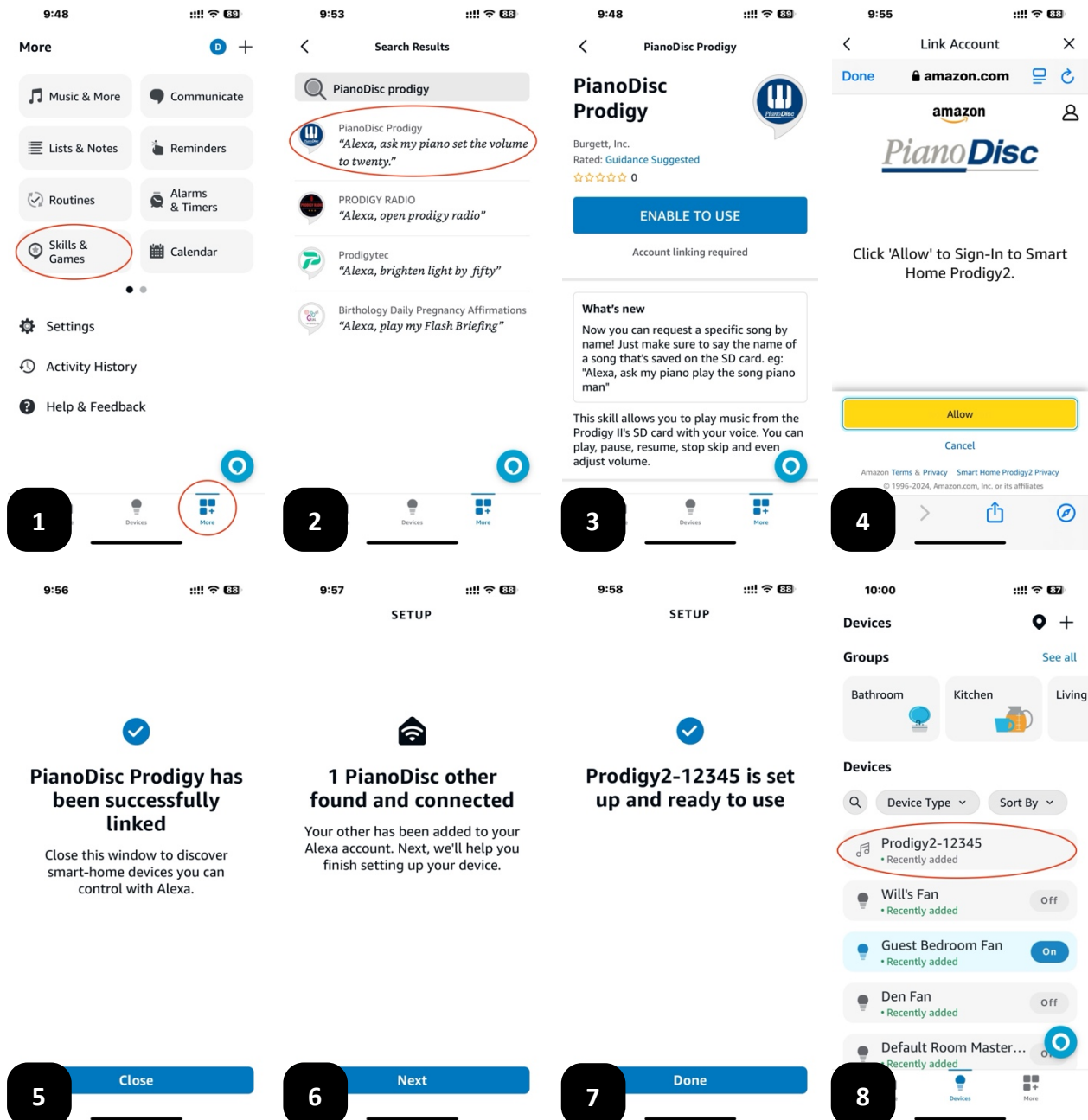


Installing the Prodigy II Skill

Amazon Echo devices use “Skills” to control third-party IoT devices like Prodigy II. We’ll need to install the Prodigy II skill before your piano can be controlled by Alexa. Here’s how:

1. Download and install the Amazon Alexa app on your phone and log in with your Amazon credentials.
2. In the bottom right corner of the Alexa APP, touch the **More** button, then touch **Skills & Games**.
3. Search for “PianoDisc Prodigy” and touch the icon.
4. Now touch the **Enable To Use** button.
5. Touch **Allow** to add the Prodigy2 skill to your Amazon account.
6. Once connected, Amazon will search for your piano. It’s important to link your account in the iQ APP before installing the skill. Otherwise, it won’t be able to find the piano.
7. Once the piano is located, press **Next** and then **Done**. Your Prodigy2 will now appear in your device list, ready to use!

(see illustrations on the next page)



Interacting With Prodigy II

Amazon skills require a very specific command format in order to play your PianoDisc system. If you accidentally say the wrong thing, Alexa may misunderstand and play from Amazon Prime Music instead. To control your piano, start with, “Alexa, tell my piano to...”. Here are some things you can say:

“Alexa, tell my piano to play” ...to start playing all of the songs on your SD card in order.

“Alexa, tell my piano to shuffle” ...to start shuffling all of the songs on your SD card.

“Alexa, tell my piano to stop” ...to stop playing.

“Alexa, tell my piano to pause” ...to pause playback.

“Alexa, tell my piano to resume” ...to resume playback.

“Alexa, tell my piano to skip this song” ...to skip to the next song.

“Alexa, tell my piano to set the volume to 50%” ...to change playback volume to 50%.

“Alexa, tell my piano to turn up the volume” ...to increase the volume.

“Alexa, tell my piano to turn down the volume” ...to decrease the volume.

“Alexa, ask my piano what song is playing” ...to hear the name of the current song.

“Alexa, tell my piano to play Happy Birthday” ...to start playing the song “Happy Birthday” from your SD card (assuming it is present on your card).

“Alexa, tell my piano to play the playlist Favorites” ...to start playing a playlist named “Favorites” from your SD card (assuming you configured it in playlists.json on your SD card—this is a feature for advanced users only).

TIP: Alexa devices struggle to understand commands when there is background noise. Telling your piano to start playing is very reliable, but often the noise of the piano makes it difficult to issue subsequent commands. Make sure your Echo device is positioned far enough from the piano to minimize this effect. Some Echo devices with remote controls or push-to-talk buttons may help reduce this issue.

Appendix C: Auto Play & Hospitality

While most users control Prodigy II from the iQ App, businesses such as hotels, restaurants, hospitals, and nursing homes have unique requirements. Additionally, even **home users** may sometimes seek the simplest and most user-friendly player piano experience. Here are some of the challenges hospitality businesses face:

- **Staff training:** Training staff to use the player piano and control it through the iQ App can be complicated by frequent turnover. In these settings, simplicity is more critical than extensive functionality.
- **Consistency:** A consistent experience is crucial for the hospitality industry. Ensuring that appropriate music is played at a consistent and suitable volume level is essential.
- **Reliability:** Dependable performance is important, and reliance on Wi-Fi or Bluetooth, particularly over long distances, can lead to a frustrating and complex setup.
- **Loss prevention:** The use of an untethered iPad raises concerns about theft or loss.
- **Security:** In public areas, anyone can access Prodigy II's hotspot, connect via Bluetooth, or use Wi-Fi audio. Careless or malicious users can disrupt the system, negatively affecting other guests' experiences.
- **Frequent recalibration:** Regular usage can result in the need for frequent recalibration.

Benefits of configuring Prodigy II as an appliance for hospitality applications:

- + **Ease of use:** Prodigy II can be connected to a switched outlet or smart switch, allowing staff to turn it on or off as easily as a light.
- + **Scheduled playback:** With a smart switch (not included), you can schedule the piano to play and stop or even trigger playback based on motion or occupancy.
- + **No need for staff training:** Anyone who can operate a light switch can control the piano.
- + **Loss prevention:** Without the need for an iPad, there are no concerns about theft or loss.
- + **Variety in music:** Shuffling music from the internal SD card ensures fresh, non-repetitive music every day, keeping the ambiance enjoyable for guests.
- + **Pre-set volume:** By setting the volume level in advance, you ensure a consistent listening experience without needing adjustments.
- + **Increased security:** Disabling wireless connectivity prevents guests from interfering with the system, offering rock-solid internal playback without signal loss or interference.

Prodigy II is designed to address these challenges and is uniquely suited to provide a reliable, simple solution for the hospitality industry—or even your own home!

Here are the system requirements:

- **Prodigy II with the latest firmware:** Audio engine firmware version 0.4.4 or higher, and MIDI engine firmware version 1.0.4 or higher.
- **32 GB or smaller SD card,** formatted as FAT32.
- **Player-piano-compatible MIDI files:** We recommend solo piano songs on a single track without additional instruments (see below for more details).
- **An iPad with the PianoDisc Calibrate App:** This is only required for setup and re-calibration.

Sourcing the Music

The easiest way to source music is to purchase it from **PianoDisc**. PianoDisc offers music in several formats, so it's important to select the correct album type. PianoDisc refers to piano-only music as "**Acoustic**" and assigns 4-digit catalog numbers to these songs and albums. All of PianoDisc's Acoustic collection is available in MIDI format. If you don't see a MIDI format option for the album you want, feel free to contact us, and we'll ensure you get the files you need.

In addition to PianoDisc's music library, there are hundreds of thousands of MIDI files available online. Some are professionally tailored for playback on player systems, while others are made for different instruments or edited by amateurs. While it can be exciting to find songs you love, it can also be frustrating if the files don't play correctly or require significant tweaking.

If you're comfortable with technology, learning to use a MIDI sequencer, such as **Apple's Logic Pro** (for macOS) or **Reaper** (for Windows and macOS), can make sourcing and customizing your music much easier. However, using a sequencer requires advanced technical skills, and it may not be the best option for everyone. Even if you're not familiar with MIDI sequencing, it's still possible to find high-quality music online if you know what to look for.

For those interested in sourcing and customizing their own music, refer to **Appendix D** for detailed guidance on what to consider when selecting and editing MIDI files.

Preparing the SD Card

We recommend a 32GB or smaller SD card for ease of preparation. While larger sizes can also work, MIDI files are very small, and 32GB is more than enough capacity for a large amount of music. Here are the steps to preparing your card:

1. Insert the SD card into a Mac or PC.
2. Format the card as FAT32.
3. Copy the MIDI files you prepared in the previous step. Remember to use simplified naming!
4. After copying the files, use the safe-eject feature to safely remove the SD card from your computer.
5. Insert the SD card into your Prodigy II. If the LCD display shows "Reading SD Card" for more than a minute, you may need to press the **Reset button** or cycle power on Prodigy II to force it to read the card.

TIP: As of this writing, PianoDisc doesn't sell a pre-prepared SD card. However, one will be sold soon. Check the PianoDisc music store website for updates:
<https://store.pianodisc.com>.

Adding or Changing Playlists

In addition to playing specific songs or albums, Alexa can also play playlists. When you insert an SD card with music for the first time, two playlists are created automatically:

- **All Songs:** Includes all songs on the SD card, played sequentially.
- **Example List:** A demo playlist designed for advanced users, illustrating how to customize playlists.

Playlists stored on the SD card are different from those created in the iQ App and must currently be edited manually. This process is technical and should only be attempted by professional technology integrators. If you're interested in creating or editing your own playlists, refer to **Appendix E** for detailed instructions.

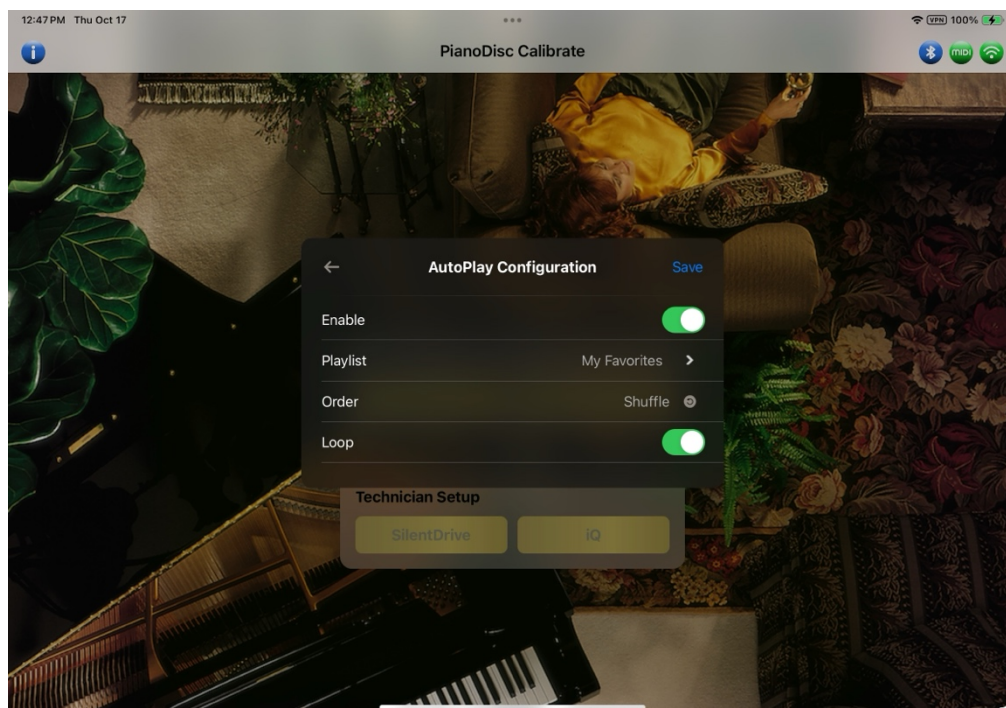
For most users, the built-in ability to shuffle all songs or play them sequentially is sufficient. You can also prepare separate SD cards for different seasons or occasions, making it easy to switch between musical styles without additional setup.

Configuring the Prodigy II

Once the SD card is prepared, there are two ways to configure auto-play. You only need to choose one method:

Option 1: Calibrate Method

1. Add Prodigy II to your Wi-Fi network.
2. Download the latest **PD Calibrate App** from the Apple App Store.
3. Open the app and tap the Bluetooth icon to connect your Prodigy II's Bluetooth MIDI. Both the MIDI and Wi-Fi icons should turn green in the upper-right corner of the app.
4. Tap the "Auto Play" button on the Calibrate App's home screen.
5. Enable Auto Play by switching it on.
6. Select a playlist or leave it as the default if no playlists are available.
7. We recommend setting the order to **Shuffle** to avoid repeating the same songs each time the system boots.
8. We also recommend turning on the **Loop** switch to ensure the music continues playing as long as the system is on.
9. Once done, tap **Save** to store your settings.
10. Tap the **iQ** button to enter the iQ Settings page.
11. Adjust the **Start Volume** to a level appropriate for your environment. For low-volume playback with reasonable note repeat capability, 10% is a good starting point.



Option 2: LCD Menu Method

1. Use the LCD Menu to navigate to **MIDI -> Auto Play**.
2. Set Enable to "ON".
3. Put an 'x' next to the playlist (if any) that you want to play, or leave it as the default "My Favorites."
4. We recommend setting the sort order to **Shuffle** to avoid repeating the same songs each time the system boots.
5. We also recommend setting **Loop Play** to "ON" to ensure music will continue playing as long as the system is on.
6. Exit the **Auto Play** menu (or wait for it to time out).
7. Navigate to Setup -> Start Volume.
8. Adjust the **Start Volume** to a level appropriate for your environment. For low-volume playback with reasonable note repeat capability, 10% is a good starting point.

There's no need to save. Once you've made these changes, you're ready to go!

Now that you've enabled auto-play, each time the system turns on, it will shuffle the songs on the SD card at the volume level you pre-set. Disconnecting the power will, of course, stop playback. Don't worry about turning off the power during playback-Prodigy II is designed to be turned on or off at any time, just like a light bulb.

Disabling Radios (Optional)

To make the system "bullet-proof" for public use, you may want to disable the Bluetooth and Wi-Fi radios. This prevents unwanted or malicious interference by the general public. However, **disabling the radios will also prevent the system from being controlled via the iQ or Calibrate Apps**, so only disable the radios if you're in a public space and want to minimize disruption.

Here's how to do it:

1. Press and hold both the first and third buttons on the Prodigy II CPU.
2. While continuing to hold the buttons, either cycle the power or tap the reset button using a toothpick or paperclip.
3. Keep holding the buttons until you see **"* Service Mode *"** on the screen. Once it appears, you can release the buttons, and the boot process will continue as usual.
4. Navigate to **Service -> Radios** and toggle the switch off. The system will reboot, and all internal radios will be disabled.

To re-enable the radios, simply reverse the process, and you'll be able to connect using the Apps again. After rebooting, the screen will flash “Radios Disabled / See Service Menu.” This is normal and can be ignored.

Self-Service Re-Calibration

As a mechanical instrument, pianos naturally change over time, making periodic re-calibration essential to maintain optimal performance. This is particularly important in hospitality environments where the piano may be used for extended periods. While we recommend having a qualified piano technician perform re-calibration whenever possible, we understand that this may not always be practical. That’s why PianoDisc provides an easy-to-use self-calibration option for situations where professional service isn’t immediately available.

For detailed instructions on auto-calibration, refer to the Calibrating Prodigy II section earlier in this guide.

Final Thoughts

By following the steps outlined in this appendix, you’ve configured your **Prodigy II** to provide a reliable, user-friendly experience tailored to the unique demands of hospitality businesses and retail customers alike. From enabling auto-play to customizing playlists and securing the system against interference, these features ensure consistent, high-quality performance with minimal effort or technical oversight.

For hospitality applications, this means staff can focus on their guests without worrying about complex setups or disruptions. For home users, it offers a simple, worry-free way to enjoy music without needing to fiddle with advanced settings or devices. Whether for a bustling restaurant, a serene nursing home, or a cozy living room, the configurations described here make it easier than ever to enjoy the magic of a player piano.

By adopting these best practices, you’re ensuring a more robust, hassle-free experience—one that will delight customers, guests, and families for years to come.

Appendix D: Sourcing MIDI Files for SD Card Playback

IMPORTANT: The following section is intended for technically skilled individuals or professional integrators who wish to explore advanced features of the Prodigy II. Understanding or using this information is **not necessary** for everyday enjoyment of your Prodigy II. For most owners, these features are beyond the scope of regular use and are not required for standard operation.

In addition to PianoDisc's library, there are hundreds of thousands of MIDI files available for purchase (and free download) on the internet. But not all MIDI files are created equal. While it can be fun to search for good quality songs, it can also be frustrating if you don't know what you're looking for or aren't an advanced user.

While we generally recommend sticking with PianoDisc selections, here are a few tips to make sure you get compatible music if you want to try your hand at sourcing your own music:

One Track

MIDI files can have one or more "tracks". Typically, each track will be used for a different instrument or part of the song. While the Prodigy II internal MIDI player can play either Type 0 or Type 1 MIDI files, files with only a single track are required for the best experience.

One Channel/Instrument

MIDI files can also feature more than one channel for different instruments. The PianoDisc player works best with piano-only music on the first MIDI channel (0 or 1).

One Tempo

For the best results, songs should only have a single tempo message and not use continuous tempo adjustment.

Piano-Specific

MIDI files are used for lots of purposes and instruments, but files prepared for playback on the piano work best. While files made for other instruments may also work, piano-specific files will provide the best result.

Only Notes, Pedals, and MSC

Prodigy II only responds to note, pedal and MIDI Show Control (MSC) messages. While other data in the MIDI files will be ignored, a large amount of unnecessary data (such as continuous controllers) may degrade playback performance.

Simplified Naming

While a file named, “Ludwig van Beethoven: Piano Concerto No. 5 in E-flat major, Op. 73, 'Emperor' – Allegro, Adagio un poco mosso, Rondo: Allegro (Performed by Alexander von Steinberg).mid” provides a lot of useful detail, it’s quite a mouthful to remember when you want to ask Alexa to play it.

Choose a **simple name** that you’ll remember and omit any punctuation, track numbers, or other details. It’s far easier to say, “Alexa, tell my piano to play Beethoven Emperor” than, “Alexa, tell my piano to play, Ludwig van Beethoven: Piano Concerto No. 5 in E-flat major, Op. 73, 'Emperor' – Allegro, Adagio un poco mosso, Rondo: Allegro (Performed by Alexander von Steinberg)”.

Simplified Organization

While Prodigy II supports folders, we recommend saving all of the MIDI files to the root directory and using folders sparingly. For the best results, avoid multiple levels of folders (folders within folders).

Final Thoughts

By following these tips, you can prepare and organize MIDI files that work seamlessly with your **Prodigy II** for SD card playback. Whether you're expanding your music library with online downloads or creating your own collection, ensuring the files are piano-specific, properly formatted, and easy to organize will make playback more enjoyable and frustration-free.

For those who are ambitious and interested in customizing their files further, learning a MIDI sequencer—such as **Apple's Logic Pro** (for macOS) or **Reaper** (for Windows and macOS)—can be an invaluable tool. Sequencers allow you to edit tracks, remove unnecessary data, adjust tempos, and tailor files specifically for your piano.

Taking the time to source or prepare high-quality MIDI files will unlock new musical possibilities and help you get the most out of your Prodigy II system.

Appendix E: SD Card Playlists and Indexing

IMPORTANT: The following section is intended for technically skilled individuals or professional integrators who wish to explore advanced features of the Prodigy II. Understanding or using this information is **not necessary** for everyday enjoyment of your Prodigy II. For most owners, these features are beyond the scope of regular use and are not required for standard operation.

Playlists created on an SD card differ significantly from those made in the **iQ App** and serve a unique purpose. While the iQ App is ideal for general use, offering on-the-fly playlist creation and control, SD card playlists are designed for users who want to configure their Prodigy II for specific use cases, such as auto-play or integration with home automation platforms. These playlists allow for a more structured and hands-off approach, making them perfect for those setting up dedicated playback systems or customizing their piano's behavior for specific scenarios. By understanding how to create and manage SD card playlists, you can ensure your Prodigy II is ready to deliver music tailored to your preferences and needs.

When an SD card is inserted into your **Prodigy II**, the system automatically creates an **index.txt** file and a sample playlist file called **playlists.json**. These files help the system organize your music for use with Alexa, other home automation platforms, or the auto-play feature.

Index File

The **index.txt** file is automatically generated by your **Prodigy II** when an SD card is inserted. It contains a list of all songs detected on the card and shows how the system has processed and renamed them. This file is not meant to be edited, as it will be overwritten every time the system scans the card. Instead, the **index.txt** file serves as a way to verify that your files have been recognized correctly and are usable.

The Prodigy II system uses a basic **FAT32 file system**, which has some limitations. Special characters, such as curly quotes or apostrophes, may cause the system to truncate or alter file names during processing. For example, a file named Heidi's Song.mid might be truncated or renamed to something like HEIDI~1.MID, making it harder to recognize or play.

Reviewing the **index.txt** file helps you identify any potential issues and ensure your files are properly named. If you notice truncated or unusable file names, rename the original files on your computer to simpler names without special characters or excessive length. After making changes, reinsert the SD card and check the **index.txt** file again to confirm the updates.

Playlists

Playlists are managed in the **playlists.json** file. While there is currently no dedicated tool to edit this file, you can easily modify it using any JSON editor. By default, the system creates two sample playlists:

- **All Songs:** Includes all songs on the SD card in sequential order.
- **Example List:** A demo playlist showing how to customize playlists.

Here are the key elements of a playlist:

- **name:** The name of the playlist, which you'll use when requesting it from Alexa or other platforms.
- **sort:** Specifies the playback order and can be either **"Sequence"** (play songs in order) or **"Shuffle"** (play songs randomly).
- **repeat:** Determines how many times the playlist repeats before stopping. A value of **0** repeats the playlist indefinitely, while any other number repeats it that many times.
- **content:** Contains two subsections:
 - **include:** A comma-separated list of song names (copied exactly from **index.txt**) to include in the playlist. If **include** is empty (**[]**), all songs are included by default.
 - **exclude:** A comma-separated list of song names to exclude from the playlist.

Example Usage

Let's say you've loaded 100 of your favorite songs onto the SD card. You want to shuffle all songs for regular playback but also have the option to play "Happy Birthday" as a special request without it appearing in the normal rotation. Here's how you would configure the playlist in **playlists.json** to shuffle all songs except "Happy Birthday":

```
[{
  "name": "My Favorites",
  "sort": "Shuffle",
  "repeat": 0,
  "content": {
    "include": [],
    "exclude": ["/sd/Happy Birthday.mid"]
  }
}]
```

Before finalizing your `playlists.json` file, it's a good idea to run it through a JSON validation service, like <https://jsonlint.com>. Prodigy II requires valid JSON in order to recognize your playlists.

Final Thoughts

Customizing your **playlists.json** file unlocks the full potential of your Prodigy II system, enabling you to create a truly personalized listening experience. With playlists, you can organize your music into thematic collections, such as classical, jazz, or holiday favorites, and easily switch between them as desired. This flexibility ensures that your piano is always ready to set the perfect mood, whether it's for a special occasion or everyday enjoyment.

By taking the time to prepare your SD card, verify file names, and create meaningful playlists, you're enhancing the functionality of your system and making it even easier to enjoy the music you love. Whether you're using Alexa, home automation platforms, or the auto-play feature, these tools make your Prodigy II a versatile and reliable centerpiece for your musical experience.

Appendix F: Using Lyrion Media Server with Your Prodigy II System

Lyrion Media Server (LMS—formerly Logitech Media Server) offers PianoDisc Prodigy II users a robust and flexible way to manage and play music. While PianoDisc cannot officially support or warranty LMS as it is a separate third-party software package, the Prodigy II system can function as a "player" within LMS.

In LMS terminology, a "player" refers to any device that receives and plays audio streams from the server. By setting up your Prodigy II as an LMS player, you can curate your PianoDisc music library on your computer and stream it directly to your piano. When playing PianoDisc music, the piano performs the piano part live on the instrument, while the accompaniment is heard through connected speakers. This setup provides an excellent alternative to the iQ app and introduces new possibilities for sharing and enjoying your PianoDisc system.

Benefits of LMS Integration

1. **Collaboration and Sharing:** LMS enables multiple users to control playback simultaneously, unlike the iQ app, which requires a dedicated device and cannot synchronize across multiple devices.
2. **Centralized Library:** All your PianoDisc music is stored in one place, eliminating the need for multiple downloads or device-specific setups.
3. **Multi-Device Control:** Use any device with a web browser or compatible LMS app to access and control your music library.

Collaboration Is a Key Advantage

The iQ app limits control to one device at a time, requiring each additional device to redownload the music. LMS eliminates this limitation, allowing multiple users to:

- Control playback simultaneously from different devices.
- Share playlists and organize music collaboratively.
- Seamlessly transition control between devices without interruptions.

Downloading & Installing LMS

Logitech Media Server (LMS), now known as Lyrion Music Server, is a versatile open-source software project that works on many operating systems and system architectures, including Windows, Mac, Linux, Docker, and more. While it was originally developed and distributed by Logitech, it is now maintained by the open-source community. As such, it offers thorough

documentation and a vibrant user community. Visit <https://lyrion.org/getting-started/> to download the server and access detailed guides.

TIP: LMS is typically used with music players like the Logitech Squeezebox. If you post on forums or interact with the LMS community, remember that most users won't be familiar with player pianos or how the technology integrates with Prodigy II. To make discussions easier, mention that Prodigy II's audio engine uses **Squeezelite for ESP32**, which is terminology they will recognize.

Enabling LMS Support on Prodigy II

Before enabling LMS support on your Prodigy II, ensure that LMS is installed and running on your network. Enabling LMS without a server can disrupt audio playback and cause connectivity issues. Here's how:

1. Access the Prodigy II Web User Interface (see "Understanding The Web User Interface (Web UI)" for details).
2. Navigate to the **Audio Tab** under the **Usage Templates** section.
3. Locate the checkbox labeled **Disable LMS**.
4. Uncheck this box, click **Save**, and restart your Prodigy II system.
5. Once Prodigy II restarts, it will appear as an output device in your LMS setup.

Preparing Your PianoDisc Music Library for LMS

PianoDisc music files are uniquely formatted MP3s designed specifically for the PianoDisc system. Each file combines two distinct parts:

1. **The Piano Performance:** Encoded as MIDI data within the right audio channel, this controls the piano keys, creating the live performance on your instrument.
2. **The Accompaniment:** This plays through external speakers and includes additional instruments, vocals, or is silent for piano-only performances.

How PianoDisc Files Differ from Standard MP3s

Unlike regular MP3 files, PianoDisc files embed MIDI data within the right audio channel. This data is essential for the PianoDisc system to interpret and control the piano's key movements.

Standard MP3 files, which lack this embedded MIDI data, cannot control the piano. When played through the PianoDisc system, regular MP3 files will only output sound through the speaker system, leaving the piano silent.

Conversely, if you attempt to play a PianoDisc MP3 file on a standard audio system, the MIDI data will produce an audible "squeal" on the right channel. This sound is the raw data meant for the PianoDisc system and should not be played through normal speakers. Proper routing through the PianoDisc system ensures that the piano plays the intended performance while the accompaniment plays through the speakers.

Preparing Your Library for LMS

For optimal use of LMS with Prodigy II, it's important to organize your music correctly:

- 1. Download Purchased Music**

When you purchase music from the PianoDisc store, you'll receive an email with download links. While the iQ app downloads these files automatically, LMS requires you to manually download and store them on your computer.

- 2. Organize Your Library**

Create a dedicated folder exclusively for PianoDisc MP3 files. This separation helps avoid confusion and ensures that only compatible files are used with the PianoDisc system. Playing standard MP3 files on the PianoDisc system or PianoDisc files on standard speakers may lead to suboptimal results.

- 3. Add Music to LMS**

- a. Open the LMS web interface on your computer.
- b. Navigate to **Settings** and locate the **Media Folders** or **Library** tab.
- c. Add the folder containing your PianoDisc MP3 files.
- d. Click **Rescan** to index the library and make the files available for playback.

By understanding the key differences between PianoDisc files and regular MP3s, you can ensure seamless operation with your Prodigy II system and enjoy the intended performance quality without interruptions or playback issues.

Control Methods and Collaboration

One of the most exciting features of using Lyrion Media Server (LMS) with your Prodigy II system is the variety of ways you can control your piano and its music. LMS opens up new possibilities for how you experience your piano, making it easy for multiple people to join in

and share control, whether you're hosting a gathering, relaxing at home, or enjoying a special moment with friends or family.

LMS gives you several ways to manage and enjoy your music library. Whether you prefer a phone, tablet, computer, or a mix of devices, LMS has something for everyone.

Web Interface

The LMS web interface is like the command center for your music, and it's as easy as opening a webpage. From any device on your home network, you can access your library, pick songs, and control the piano. Here are some features we think you'll love:

- **See Everything at a Glance:** Browse through your entire library on a clear, organized screen.
- **Adjust the Music Instantly:** Add or remove songs from the playlist, skip tracks, or rearrange the queue—all in real-time.
- **Share the Controls:** Anyone connected to your network can open the web interface and join in, so your family and friends can take turns choosing songs.

Picture this: you're having a quiet evening with friends, and someone asks to hear a favorite tune. They can simply pull out their phone, log in, and add it to the queue without interrupting the flow of music.

Mobile Apps

Smartphone and tablet apps make controlling your piano even more personal and convenient. With a quick tap, you can browse your music, manage playlists, and fine-tune the settings.

- **iPeng (iOS):**
A feature-packed app for iPhones and iPads, iPeng lets you create playlists, manage the music in different rooms, and even adjust playback settings like volume—all from the palm of your hand.

How You Might Use It:

Imagine curling up on the couch with your iPad, queuing up a beautiful playlist for dinner, and setting the mood for a relaxing evening.

- **Squeeze Control (Android):**
The Android counterpart to iPeng, Squeeze Control offers a similar experience with a friendly, easy-to-use interface.

How You Might Use It:

While you're in the kitchen preparing a meal, use your Android phone to select light, cheerful background music without leaving your workspace.

- **Squeezer (Android):**

If you're looking for something simple, this free app focuses on the basics: picking songs, controlling playback, and creating quick playlists.

How You Might Use It:

Perfect for guests who just want to add a song or two to the mix, without needing a full tutorial.

Desktop Control

For those who enjoy using their computer, desktop programs like **SqueezePlay** offer a more traditional way to control your music. Here are some features you're may enjoy:

- **Big-Screen Browsing:** Easily explore your music on a larger screen.
- **Quick Adjustments:** Perfect for making changes to playlists or settings when you're already at your computer.
- **Backup for Long Sessions:** Ideal for keeping control during extended playtimes or special events.

If you're hosting a small celebration, you can have the playlist up on your laptop so it's easy to make adjustments while greeting guests or pouring wine.

A Shared Music Experience

Unlike the iQ app, which limits control to a single device, LMS allows everyone in your home to join in. This shared access makes your piano the center of attention, bringing people together for a collaborative musical experience. Here's what makes it special:

- **Create Together:** Guests can add their favorite songs to the playlist, making the evening more personal and engaging.
- **No Interruptions:** Whether someone adjusts the volume or skips a track, it all happens seamlessly, with no need to pause the music.
- **Perfect for Family Fun:** Let the kids add their playful selections while you relax and enjoy a playlist curated by everyone.

Picture a holiday gathering: Grandma selects her favorite ballads, the kids add their cheerful tunes, and you mix in some classic piano performances—all coming together in one delightful evening of music and memories.

LMS for Every Occasion

LMS isn't just a way to control your Prodigy II—it's a way to transform how you experience it. Whether you're planning a quiet evening alone, a lively get-together, or a cozy family night, LMS provides flexibility and ease of use that anyone can enjoy. From its intuitive web interface to powerful mobile apps, LMS helps make your piano a true centerpiece in your home.

Tips for Using LMS with Your Prodigy II System

To ensure a smooth and enjoyable experience when using Lyrion Media Server (LMS) with your Prodigy II piano, consider the following suggestions:

Keep Your PianoDisc Music Separate

It's best to store your PianoDisc MP3 files in a dedicated folder within LMS. This helps prevent any mix-ups with regular music files, ensuring that your piano performs correctly without unexpected playback issues.

Ensure a Strong Network Connection

For uninterrupted music streaming, make sure both your LMS server and Prodigy II are connected to the same network. A stable Wi-Fi or Ethernet connection is essential to keep the music playing smoothly.

Troubleshooting Common Issues

If you encounter any problems, here are some common issues and their solutions:

1. Prodigy II Doesn't Appear in LMS

- **Possible Cause:** LMS support might be disabled on your Prodigy II.
- **Solution:** Access the Prodigy II Web User Interface, navigate to the Audio Tab under Usage Templates, and ensure that LMS support is enabled. After making changes, save and restart your Prodigy II system.

2. Music Stops or Skips During Playback

- **Possible Cause:** Network interruptions or interference.
- **Solution:** Check your network connection for stability. If using Wi-Fi, ensure a strong signal.

3. Prodigy II Shows as Connected but No Sound Plays

- **Possible Cause:** Firewall settings on your LMS server might be blocking communication.
- **Solution:** Adjust your firewall settings to allow LMS traffic. Ensure that ports 3483 (TCP/UDP) and 9000 (TCP) are open. This adjustment helps maintain proper communication between LMS and your Prodigy II.

4. Playback Delays or Buffering Issues

- **Possible Cause:** High network traffic or limited bandwidth.
- **Solution:** Limit the number of devices using the network during playback. If possible, prioritize LMS traffic on your router to ensure smooth streaming to your Prodigy II.

By following these tips and solutions, you can enhance your experience with LMS and your Prodigy II piano, ensuring that your music plays beautifully and without interruption.

Definitions

192.168.4.1	This is the default address for Prodigy II when it is in Access Point Mode. In this mode, Prodigy II acts as its own temporary Wi-Fi network (access point) that you can join with your phone or iPad to provide the login details for your home Wi-Fi network. If this address appears as the IP address on the Prodigy II screen or in the Calibrate App, it means that Prodigy II is not yet connected to your main Wi-Fi network. Connecting to this address allows you to configure the system and connect it to your home Wi-Fi.
2.4 GHz Wi-Fi	A common type of wireless network used by smart devices, including Prodigy II. It has a long range but slower speeds compared to 5 GHz or 6GHz. Prodigy II <u>only</u> connects to 2.4 GHz networks.
Access Point (AP) Mode	A temporary network mode where Prodigy II creates its own Wi-Fi network, allowing you to connect directly to it with your phone or iPad. This mode is used during initial setup or when reconfiguring the system's Wi-Fi settings. While in Access Point Mode, Prodigy II broadcasts a unique network name (SSID) starting with "Prodigy2-" that you can join to provide the system with the login details for your home Wi-Fi network. Access Point Mode is indicated by the IP address 192.168.4.1 , which means Prodigy II is not yet connected to your home Wi-Fi.
Accompaniment	Background music or additional instruments that play alongside the piano. For example, a song might include piano, drums, and vocals, where only the piano plays live on the keyboard, and the rest is heard through speakers.
AirPlay 2	AirPlay 2 is Apple's wireless streaming technology that allows you to send audio, video, and other content from an Apple device, such as an iPhone or iPad, to compatible devices like speakers or TVs. With AirPlay 2, you can stream high-quality audio to multiple speakers simultaneously, making it ideal for multi-room setups. While Prodigy II does not directly support AirPlay 2, you can use a third-party audio receiver with AirPlay 2 support, such as a wireless adapter, to connect to Prodigy II via its Line Input port. This allows you to enjoy the benefits of AirPlay 2 while integrating with your piano system.

Alexa	Alexa is a virtual assistant developed by Amazon that allows you to control smart devices, play music, set reminders, and much more using voice commands. When integrated with Prodigy II, Alexa enables hands-free control of the piano, such as starting or stopping playback, selecting playlists, or adjusting volume, simply by speaking commands like, “Alexa, play my piano.” To use Alexa with Prodigy II, you’ll need to link your Amazon account and enable the Prodigy II Alexa skill. Alexa requires a compatible device, such as an Amazon Echo or a smartphone with the Alexa app installed.
Analog	Analog is a type of audio signal, like what’s used with the Line Input on Prodigy II, where the sound travels as a smooth wave instead of digital data. Unlike digital inputs, such as Bluetooth or Wi-Fi, analog doesn’t send exact information about things like volume. Instead, Prodigy II guesses the volume based on how strong the signal is. This means the piano’s volume might not perfectly match what you see on the screen, so it’s important to turn up the volume on your device enough to give a strong signal for the piano to play smoothly.
Blue Boards	A pre-SilentDrive technology for driving the solenoids that move the piano keys. In order to control Blue Board systems, Prodigy II must be configured in Redirect Mode .
Bluetooth Audio (A2DP)	A wireless method to stream music from your device, such as an iPad, to Prodigy II. It works similarly to connecting wireless earbuds and is the simplest way to play music. Bluetooth Audio is managed through the iPad's settings. To connect or disconnect, open the Settings app, navigate to the Bluetooth section, and select or deselect your Prodigy II from the list of available devices. Once connected, ensure the iPad is set to play audio through Prodigy II in the iPad’s Control Center.
Bluetooth MIDI	A way to send piano-playing instructions wirelessly to Prodigy II. Unlike Bluetooth Audio, which streams sound, Bluetooth MIDI is used for more advanced functions, such as in ProMode , during recording sessions, and for calibration. It allows precise control over the piano’s keys and dynamics. Bluetooth MIDI connections are not managed through the iOS settings; instead, they are joined or removed directly within the app being used, such as the iQ App or the Calibrate App.

Calibrate App	The Calibrate App is a specialized tool designed for configuring and fine-tuning your Prodigy II system. It allows technicians and advanced users to adjust settings such as SilentDrive calibration, key dynamics, and other performance parameters to ensure optimal piano playback. The app connects to Prodigy II via Bluetooth MIDI and provides detailed diagnostics and customization options. While powerful, it is recommended for use by trained technicians or experienced users, as incorrect adjustments can affect performance.
DAW	A digital audio workstation (DAW) is Software used to record, edit, and produce music. Examples include GarageBand or Logic Pro. Prodigy II can connect to a DAW for recording piano performances or playing digital tracks.
DC Offset	In audio signals, a DC offset means the “zero point” of the waveform is shifted up or down instead of being centered evenly around the baseline. In practice, the signal carries a small amount of unwanted direct current (DC) along with the audio. For Prodigy II systems with first generation line in circuitry, this can cause problems because the system expects the piano control signal to be centered. A signal with DC offset may confuse the input circuit, leading to poor performance or no detection at all.
DualSync	DualSync is a proprietary PianoDisc music format that allows a piano performance to be synchronized with a third-party song. The DualSync file contains the piano performance as well as information that allows the app to sync it with an audio accompaniment file. Typically the audio accompaniment file is a standard MP3 track from a famous musician. While PianoDisc sells DualSync piano performances, the matching audio track must be sourced separately from a third party, such as Apple iTunes or Amazon. Note that DualSync music is <u>not</u> compatible with subscription services (such as Apple Music) because DualSync requires an unencrypted audio file and subscription services only allow downloads of encrypted music.
FAT32	A format for SD cards and USB drives required by Prodigy II. Cards must be formatted this way to work properly with the system.
Firmware	The built-in software that runs Prodigy II. Keeping firmware up to date ensures your system works well and gains new features. Prodigy II has both an Audio Engine and MIDI Engine that both require firmware updates.

HDMI Audio Extractor	An HDMI audio extractor is a device that separates the audio signal from an HDMI video source. It allows you to connect the audio output to another device, such as Prodigy II, while the video continues to play on a screen. This is especially useful when using video sources like Apple TV or Blu-ray players with Prodigy II. The extractor converts the HDMI audio into an analog signal, which can then be fed into Prodigy II's Line Input port for playback. This setup is ideal for synchronizing video and piano performances.
HomePod	HomePod is Apple's smart speaker system, known for high-quality sound and integration with Apple devices. With Prodigy II, HomePod can be used as an external speaker exclusively in ProMode, where the piano's accompaniment audio is streamed directly to the HomePod for playback. This setup allows seamless integration with Apple's ecosystem, offering a wireless solution for enhanced sound quality.
Individual Key Calibration (Learn)	When calibrating a PianoDisc system, each of the piano's 88 keys must be individually adjusted to play at its lowest volume (velocity). Since every piano, key, and action is different, this calibration allows the piano to play consistently across its entire dynamic range. This calibration process is called "Individual Key Calibration" but is colloquially called, "Learn" by many piano technicians.
IP Address	An IP address is a unique numerical label assigned to devices on a network to help them communicate. For example, 192.168.4.1 is the default IP address Prodigy II uses when in Access Point (AP) Mode. This address acts as the "location" for accessing the system's configuration page. To use an IP address, open a web browser on your phone, tablet, or computer and type the address directly into the browser's address bar (not the search bar). Pressing "Enter" or "Go" will load the configuration page, allowing you to set up or adjust Prodigy II's network settings. Once connected to your home Wi-Fi, Prodigy II will automatically receive a new IP address, which can be found in its menu or the Calibrate App.
iQ	A patented PianoDisc technology that allows any music player to play PianoDisc music and control the volume of the piano with its native controls.

iQ App	A PianoDisc app used to play music, create playlists, and control Prodigy II. It works on iPads and iPhones.
Key Driver Board(s)	Modern key driver boards use SilentDrive HD technology to control the solenoids that move your piano's keys. These boards receive instructions from the Prodigy II's CPU to ensure smooth and precise key movement. Older versions of the technology include SilentDrive (non-HD) and Blue Boards.
Latency	The slight delay between sending a command (like pressing play) and Prodigy II responding. This can happen with Bluetooth or Wi-Fi but is usually not noticeable.
Live Orchestrated	Live Orchestrated (or just "Orchestrated") is a term for music in the PianoDisc library that was recorded using a live band and typically consists of instrumentals and vocals. It is a form of piano accompaniment that plays through the piano's speakers.
LMS	Lyrion Media Server (LMS) is open-source software originally developed by Slim Devices and later acquired by Logitech. Though Logitech no longer actively distributes LMS, it remains maintained by the open-source community. LMS is designed to stream music to multiple devices across a network, supporting both hardware players, such as the now-discontinued Logitech Squeezebox, and software-based players. Prodigy II can act as an LMS player meaning it can receive and play music streamed from an LMS setup. This feature allows Prodigy II to integrate into advanced home audio systems where LMS is used to manage and distribute music across multiple rooms or devices. While Prodigy II offers this functionality for advanced users, it is not required for typical operation and is best suited for those already using LMS in their home.
Mesh Network	A type of Wi-Fi system with multiple devices working together to provide strong signal coverage throughout your home. However, mesh networks can sometimes cause interruptions with Prodigy II if devices are switched between access points.
Micro SD Card	A small memory card used to store music files or firmware updates for Prodigy II. It must be formatted as FAT32 and can hold up to 32GB of data.

MIDI	A digital language that tells the piano how to play notes, including their timing, volume, and duration. MIDI (Musical Instrument Digital Interface) is like a set of instructions for the piano keys.
MIDI Engine	The part of Prodigy II that processes MIDI data and files and sends instructions to the Key Driver Boards to move the piano keys.
MIDI Flex Port	Prodigy II has two interchangeable MIDI Flex ports that can be used for a variety of purposes, depending on which adapter cable is connected. PianoDisc offers adapter cables for ProRecord, ProScan, 5-pin DIN MIDI, and diagnostics. These ports can also be used to connect with studio equipment or operate in Redirect Mode, allowing MIDI data to be sent to external devices. While Prodigy II can automatically detect some configurations, it's important to verify that the ports are correctly configured in the setup menu for optimal performance. Any compatible adapter cable can be plugged into either port, and Prodigy II will adjust itself to the connected device when properly configured.
MP3	An MP3 file is a digital audio file that uses lossy data compression to reduce the size of the file while maintaining audio quality. MP3 stands for "MPEG Audio Layer 3". MP3 files are widely used for storing and sharing music, as they can be easily downloaded and played on a variety of devices, such as computers, smartphones, and portable media players. MP3 files are known for their small size and good audio quality. When used with a PianoDisc system, the right channel of an MP3 file is typically a high-pitched data squeal in PianoCD format. To ensure proper piano playback, bit rates below 256kbps are not recommended.
MQTT	A communication system used in home automation. If Prodigy II is integrated with smart home devices, MQTT (Message Queuing Telemetry Transport) can send or receive commands to control it.
PianoCD Data (Format)	PianoCD is a proprietary PianoDisc audio format in which MIDI data is encoded as audio (much like a FAX machine). When properly decoded by a PianoDisc player system, the data track is converted back to MIDI and used to play the piano. If the audio is played through speakers instead, it will sound like a high-pitched squeal.
ProMode	An advanced playback mode where the piano (MIDI) and accompaniment music are sent separately. This allows better sound quality and synchronization with external speakers.

ProRecord	ProRecord is a reflective optical sensor system that can turn any piano into a MIDI controller and synthesizer. Using sensors under the keys, key motion is converted to MIDI data that can capture a piano performance to an app or DAW. ProRecord also has a built-in synthesizer, allowing students to practice the piano silently with headphones, not disturbing others. (Silent practice is called QuietTime and requires an optional mute rail.)
ProScan	ProScan is a reflective optical sensor system that can turn any piano into a MIDI controller. Using sensors under the keys, key motion is converted to MIDI data that can capture a piano performance to an app or DAW. Unlike ProRecord, ProScan does not include a built-in synthesizer.
QuietTime	A feature of some PianoDisc record systems that uses a mute rail to stop hammers from hitting the strings; instead playing a synthesized piano sound through headphones. This allows students to practice silently without disturbing others.
Radio Frequency Interference (RFI)	Signal interference caused by other electronic devices, such as Wi-Fi routers or Bluetooth headphones. This can disrupt Prodigy II's performance.
RSSI (Received Signal Strength Indicator)	A measurement of how strong your Wi-Fi signal is. Higher numbers (closer to zero) mean a better connection. For example, -50 is strong, while -80 is weak.
S/PDIF	S/PDIF (Sony/Philips Digital Interface Format) is a digital audio transmission standard that is used to transmit audio data between devices. It is commonly used to transmit uncompressed, lossless audio signals, and is often used in home theater systems, soundbars, and other audio systems. S/PDIF is transmitted over a TOSLINK connector, which is a fiber-optic cable with a small, square connector.
SilentDrive	The PianoDisc system that moves your piano keys to play music. It is designed for smooth, precise, and quiet key movement. The HD version (introduced in 2010) offers better precision than the original.
SilentDrive Calibration	A process that adjusts how much force Prodigy II uses to move each key. It ensures keys respond accurately at both soft and loud volumes.

Sonos	Sonos is a wireless multi-room speaker system that can be used with Prodigy II as an external speaker. In ProMode, Sonos devices can receive the piano's accompaniment audio for enhanced playback. Alternatively, Sonos can connect via Prodigy II's line-out ports using the discontinued Sonos Connect , which is still available on the used market. This allows Prodigy II to integrate into a Sonos ecosystem for synchronized playback with other speakers in your home.
Standard Mode	The default way to play music using Prodigy II. In this mode, Bluetooth Audio sends both the piano and accompaniment music directly to the system, with the audio output played through Prodigy II's local audio output ports (usually connected to speakers under the piano), not external devices. This provides a simple, integrated solution for playback.
Symphony	Symphony is a term for music in the PianoDisc library that was recorded using exclusively synthesized instruments and piano. Symphony albums do not contain vocals. Symphony accompaniment plays through speakers, while the piano performance is played on the actual piano.
Sync	Sync is a setting in Prodigy II used to ensure the piano's timing matches the audio accompaniment during playback. Because the piano is a mechanical instrument, the physical movement of its keys takes time. The Sync setting compensates for this delay, keeping the piano and audio perfectly aligned for a smooth and coordinated performance. This setting is essential for maintaining accuracy and realism when playing music with both piano and accompaniment.
TFT Record	TFT Record is a legacy PianoDisc sensor technology for converting key movement into MIDI data. Unlike modern ProRecord and ProScan technology, TFT used sensors that lightly contacted the bottom of each key. While TFT record is no longer sold, it is often found in older PianoDisc systems and is still compatible with PRODIGY II.
TOSLINK (S/PDIF)	A type of digital audio connection used to send high-quality sound to external speakers or amplifiers. Prodigy II can play to the TOSLINK port in ProMode.

Transport Controls	Transport controls are the buttons or functions used to control media playback on a player. These typically include Play, Pause, Stop, Rewind, Fast Forward, and Skip. On Prodigy II, transport controls are used to manage playback of songs or playlists, either through the iQ App, physical buttons, or connected devices. They provide the basic tools for navigating and controlling your music.
Version Mismatch	An error that occurs when Prodigy II's MIDI and Audio engines have incompatible firmware versions. Updating both to the latest versions resolves this issue.
Wi-Fi Audio	A feature that allows music to be sent to Prodigy II over your home Wi-Fi network. Unlike Bluetooth Audio, Wi-Fi Audio works even if your iPad is in another room.

Technical Support

If you're stuck or need assistance, we recommend first reaching out to your installer or dealer, as they are often best equipped to address your specific setup or configuration needs. If they are unable to help or the issue requires further support, you can contact us directly. Our team is available to provide additional guidance and ensure your Prodigy II system is running smoothly. Contact details are provided at the end of this guide. We're here to help!

Email

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