

***Installing J2ME™
MIDlets Using MIDway***

January 30, 2003



WHITE PAPER

Installing J2ME™ MIDlets on Java™-enabled phones is easy if you use the MIDway application and follow these simple steps.

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Downloading MIDlet applications to phones does not have to be a problem. Preparation is most of the battle and this paper explains exactly where problems may occur and how to solve them. In addition, it provides simple directions for using the MIDway application and the Java App Loader program to successfully download MIDlets to a phone.

MIDway is a utility that allows you to download MIDlets to a phone via a serial sync cable. For many developers this is preferable to downloading via Over the Air (OTA), which can be a slow and cumbersome process.

Requirements

In order to install MIDlets on a phone, the following items are required:

- MIDway.exe application
- A Java-enabled Motorola P2K phone, such as the V60i, V66i, T280i, or T720
- Serial data sync cable (USB sync cables do not work with MIDway)
- JAR and JAD files

Prepping the JAD File

Before you can send a MIDlet program to a phone, you must verify that the JAD file attribute MIDlet-Jar-URL is correctly setup. Currently, MIDway does not appear to support JAR file paths. Any attempts to send an invalid JAD file to a phone will result in a JAR download error. If this happens, you will have to edit the JAD file before sending it to your phone.

Below are examples of incorrect JAR file paths and the correct way MIDway wants it:

WRONG

```
MIDlet-Jar-URL: C:\Projects\Java\WirelessExample\HelloWorld.jar
```

```
MIDlet-Jar-URL: file://C:/Projects/Java/WirelessExample/HelloWorld.jar
```

RIGHT

```
MIDlet-Jar-URL: HelloWorld.jar
```

NOTE: By default, CodeWarrior Wireless Studio auto-generates complete JAR paths in the JAD file. This means that all JAD files created by CodeWarrior Wireless Studio must be edited.

Installing MIDlets on J2ME Phones

Use the following steps to successfully download a MIDlet application to a phone:

Step 1: Prepare the Phone

To prepare the phone to download a MIDlet, you must:

- On the phone, unplug the data cable
- On the PC, exit MIDway if it's already running

Step 2: Launch Java App Loader

You must launch the Java App Loader program to enable the phone for downloading. To do that:

- Press the phone's Menu key to display menu options
- Select the Java Tools | Java App Loader menu item

The Java App Loader program launches.

Step 3: Connect the Data Cable to the Phone

With the Java App Loader program running, it's time to reconnect the phone to the PC using the data cable. To do that:

- Plug the data cable into the phone

The message "JAL Link is Active" appears on the phone screen.

Step 4: Launch the MIDway Application

With the phone ready to accept a download, it's time to run the MIDway application. To do that:

- Double-click the MIDway.exe application icon, OR
- Use the Start menu

The empty MIDway window (Figure 1) appears on the screen.

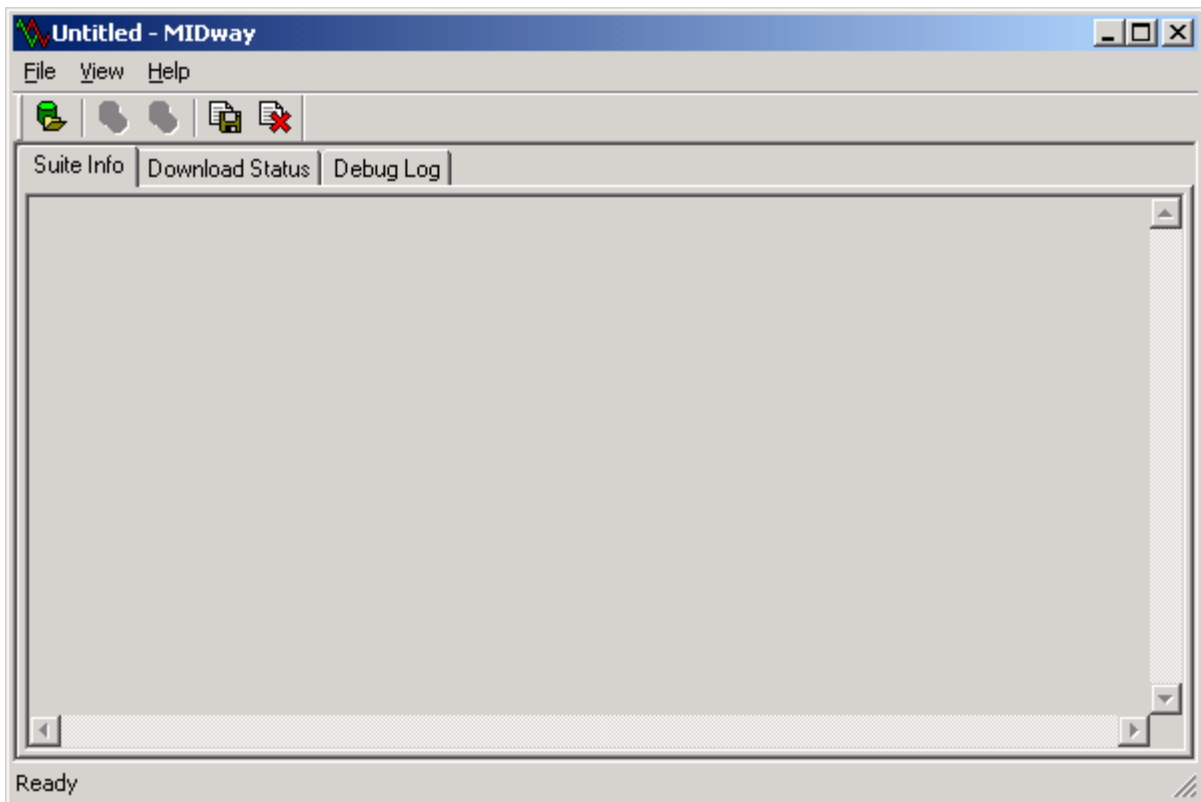


Figure 1: The MIDway application window as it appears after launch.

Step 5: Select and Open JAD File

With MIDway up and running, it's time to select the JAD file to send to the phone. You do this by locating and opening the MIDlet's Java™ Application Descriptor (JAD) file into MIDway.

- Select the File | Open menu item

The standard Open window (Figure 2) appears.

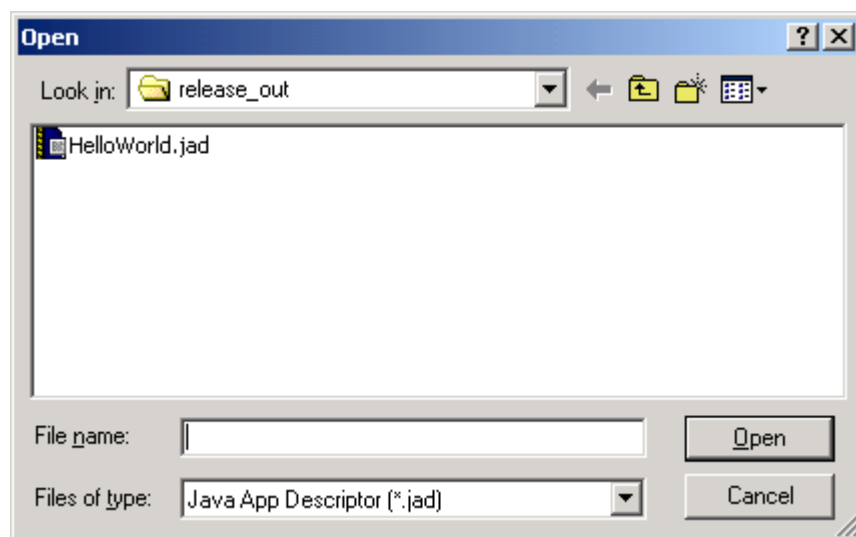


Figure 2: Use the standard Open window to locate and select the JAD file for the MIDlet to download.

- Locate and select the JAD file representing the MIDlet to send, then click Open

The MIDway application opens the JAD file and displays information from the file (Figure 3).

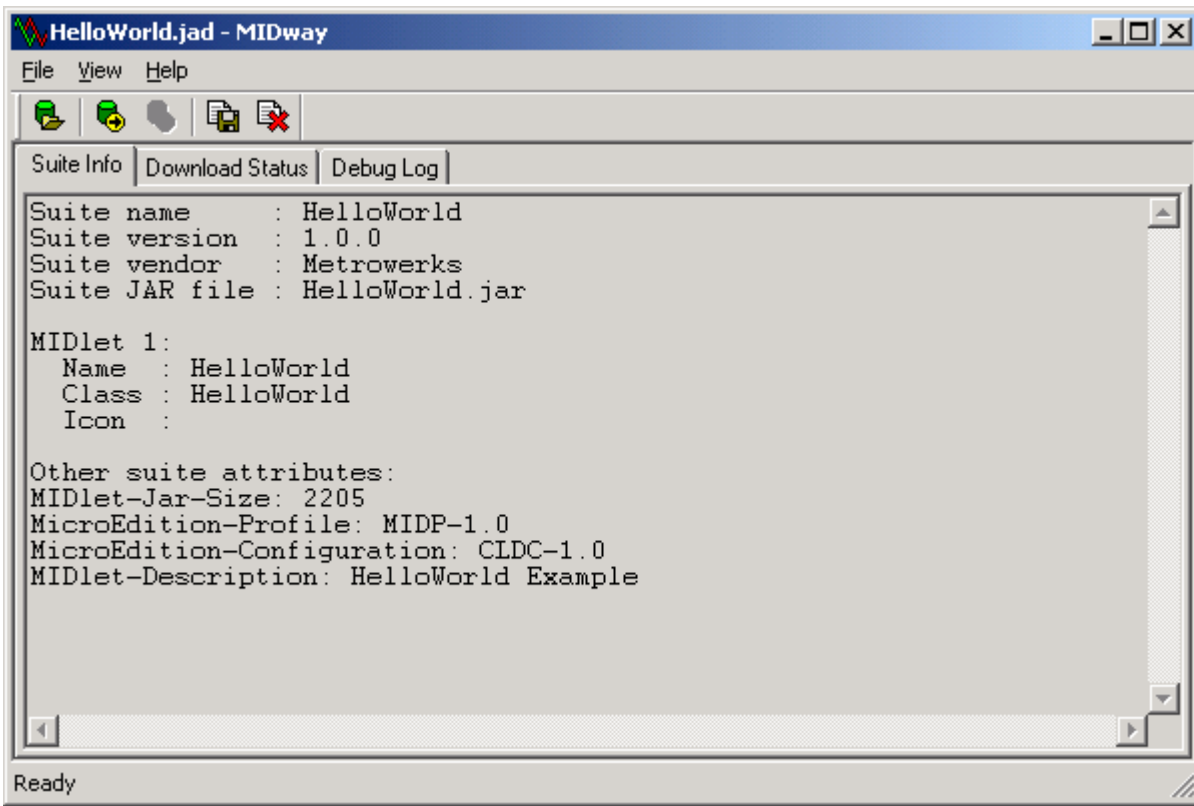


Figure 3: The MIDway window as it appears after successfully opening a JAD file.

Step 6: Download MIDlet to Phone

With the JAD file loaded into MIDway, you can now send it to the waiting phone. To send the JAD file to the phone:

- Select the File | Send menu item

The MIDway window (Figure 4) displays status messages as the JAD file is sent to the phone.

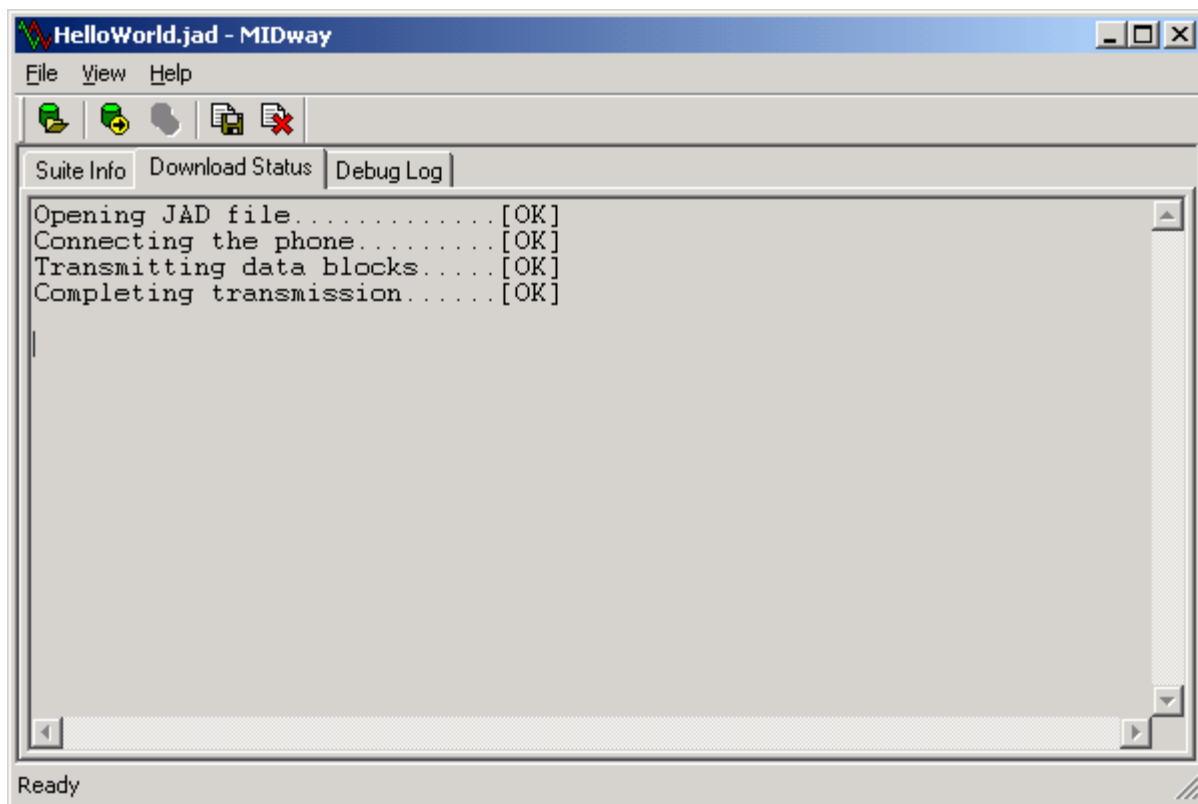


Figure 4: The MIDway window shows status messages while sending a JAD file.

If you encounter any download errors, check these areas:

- For JAR download errors, common causes include:
 - Failure to remove the JAR file path from the MIDlet-Jar-URL attribute field in the JAD file
 - Ensure that the JAD and JAR files are located in the same directory
- If the JAR file is rejected, common causes include:
 - Verify that common JAR manifest and JAD attribute field contents are identical
 - Ensure that the MIDlet-Jar-SIZE attribute field contains the correct JAR size in bytes

Conclusion

Downloading a MIDlet program to a J2ME-enabled phone is a straightforward process, as long as the JAD file has its paths properly set up.



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