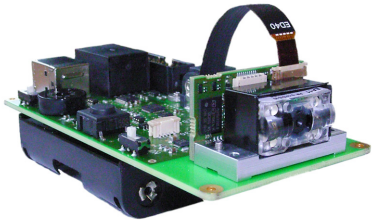
Honeywell

ED40

Development Kit



Quick Start Guide

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Before You Begin

This section provides you with safety information, technical support information, and sources for additional product information.

Safety Information

Your safety is extremely important. Read and follow all warnings and cautions in this document before handling and operating Honeywell equipment. You can be seriously injured, and equipment and data can be damaged if you do not follow the safety warnings and cautions.

This section explains how to identify and understand cautions and notes that are in this document. You may also see icons that tell you when to follow ESD procedures and when to take special precautions for handling optical parts.

Follow ESD Procedures

This icon appears at the beginning of any procedure in this manual that could cause you to touch components (such as printed circuit boards) that are susceptible to damage from electrostatic discharge (ESD). When you see this icon, you must follow standard ESD guidelines to avoid damaging the equipment you are servicing.

Optics

Because finger oils can impede the performance of scanner parts and dissolve the reflective coating of the plastic mirrors, always wear finger cots or non-powdered latex gloves when handling optical parts.

Note: Notes either provide extra information about a topic or contain special instructions for handling a particular condition or set of circumstances.

Contact Customer Support

To search our knowledge base for a solution or to log in to the Technical Support portal and report a problem, go to www.hsmcontactsupport.com.

For our latest contact information, see www.honeywellaidc.com/locations.

Product Service and Repair

Honeywell International Inc. provides service for all of its products through service centers throughout the world. To find your service center, go to www.honeywellaidc.com and select **Support**. Contact your service center to obtain a Return Material Authorization number (RMA #) before you return the product.

To obtain warranty or non-warranty service, return your product to Honeywell (postage paid) with a copy of the dated purchase record.Limited Warranty

Warranty Information

For warranty information, go to www.honeywellaidc.com and click **Resources > Warranty**.

Send Feedback

Your feedback is crucial to the continual improvement of our documentation. To provide feedback about this manual, contact the Honeywell Technical Communications department at ACSHSMTechnicalCommunications@honeywell.com.

What is the ED40 Development Kit?

The ED40 Development Kit is a design tool for the ED40 decode board and an imager. With the Development Kit you can verify the operation of the ED40 and connect the ED40 to your host PC to configure it.

The ED40 development kit can be used with the following scan engines:

- EA11
- EA21
- EA30 (all models)
- EA31
- EV14 (does not require ED40 decode board but supported with this development kit)

Development Kit Contents

- Development board (ED40 decode board and scan engine ordered separately)
- USB cable for connection to a host system
- RS-232 cable (P/N 236-161-XXX)
- Honeywell universal power supply
- Ribbon cables to connect the decode board to the demo board
- This Quick Start Guide

Required Accessories

- ED40 decode board + imager or an EV14 engine.
- A Honeywell AC power cord for your country

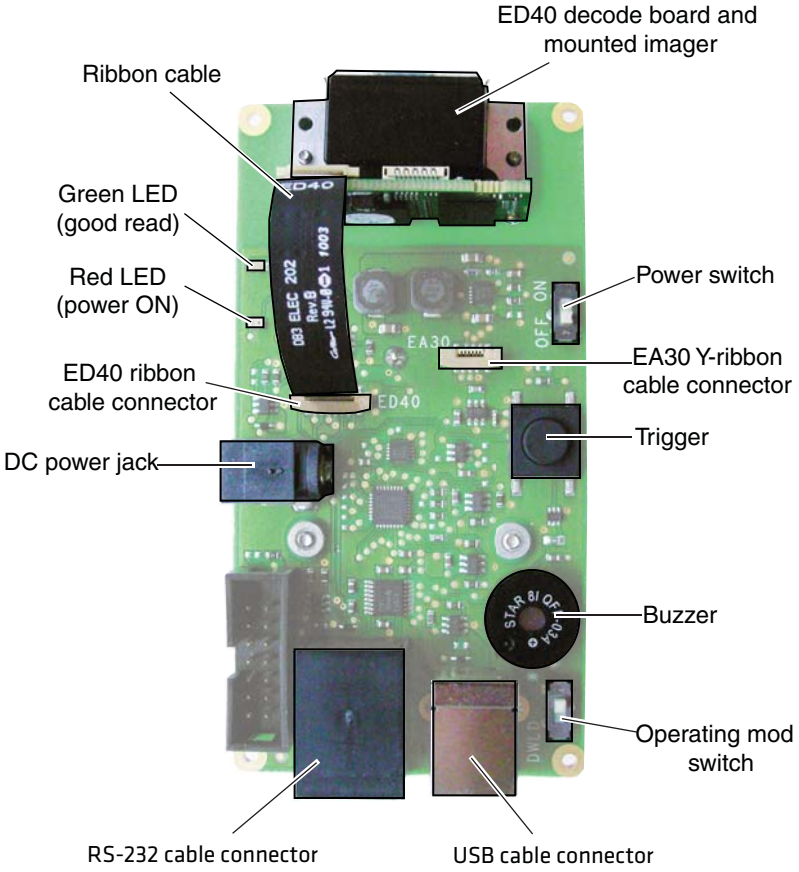
Optional Accessories

- Software development kit (Contact your Honeywell OEM Sales Representative.)
- Three 1.5 V AA-type batteries

Introducing the ED40 Development Board

This section introduces the ED40 development board including information on the controls and power supply requirements.

Development Board Controls



Example ED40 and Imager Mounted on the Development Board

ED40 Development Board Controls

Control	Description	
Power switch	ON	Turns power on.
	OFF	Turns power off.
EA30 ribbon cable connector	Used to connect the EA30 imager Y-ribbon cable to the development board.	
		**Note:** Some EA30 models use a special Y-ribbon cable that connects the EA30 to ED40 decode board and the development board.
Trigger	Press to scan bar codes. To configure different trigger modes see **"Configuring the ED40 Using EasySet" on page 10**.	
Buzzer	Generates an audio signal according to the configuration, for example, a good read beep or error beep.	
Operating mode switch	*	Normal operating mode (download disabled).
	DWLD	Download mode. The ED40 does not read bar codes in this mode.
		**Note:** To upgrade the firmware, use WinFlash (firmware download wizard) available in the EasySet software on the Honeywell website at **www.intermec.com/EasySet**.
USB cable connector	Used to connect a USB cable.	
RS-232 cable connector	Used to connect an RS-232 cable. A power supply connected to the RS-232 cable is required for RS-232 communication.	
DC power jack	Used to connect the Honeywell external power supply if necessary.	
ED40 ribbon cable connector	Used to connect the ribbon cable from the ED40 to the development board.	
Red LED	The red LED turns on when the scan engine is powered-up.	
Green LED	The green LED flashes when the scan engine performs a good read.	
Ribbon cable	Connects the ED40 to the development board. End marked "ED40" connects to the ED40 decode board, the other end to the development board.	
		**Note:** If you use your own ribbon cable, be sure to use the proper impedance match for correct USB operation (see the *ED40 Integration Guide* for details). The ribbon cables provided in this kit are designed to ensure proper USB interface operation.

Power Supply Requirements

Power for the ED40 development board can be supplied in several different ways:

- External power supply connected to the DC jack (only needed when USB power is insufficient)
- External power supply connected to the RS-232 cable
- Host provides power via the USB cable
- Battery power

When the development board is powered-up, it detects the power source. Priority is given first to the DC jack, then the RS-232 or USB cables, and lastly to the batteries. This means that if you have installed batteries as well as an external power supply to the DC jack, at power-up the development board will detect the external power supply first and use this source instead of the batteries.

Note: If you decide to change the power source during operation be sure to turn the development board off, connect your new power source, then turn the development board back on so it will detect the new power source.

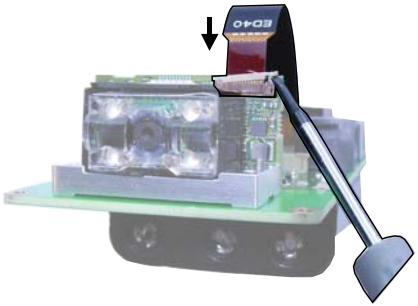
The type of power supply you use depends on how you will be operating the development board and which cables you will be using.

Mounting the ED40+Imager on the Board

To mount the ED40+Imager on the development Board

1. Place the mounted ED40+imager on the development board. Line up the screw holes on the bottom of the bracket with the holes on the development board.
2. Use the screws provided to attached the bracket to the development board.

3. Use a small screw driver or other pointed object to carefully open the ribbon cable connector. Attach the end of the ribbon cable marked “ED40” to the ED40 decode board and the other end to the development board. Close the connector.



An unmounted ED40+imager can also be used with the development board. Just simply connect the ribbon cable to the decode board and development board. There are no screw holes for the engine.

Note: If connecting an EA30 or EA31 with a Y-cable, be sure to also connect the 6 pin end of the Y-cable to the development board.

Mounting the EV14 on the Board

To mount the EV14 engine on the development board

1 Use the double-sided tape provided in the kit to secure it on the development board.

Align the EV14 close to the left edge of the development board so that the ribbon cable is as straight as possible.

2 Open the ribbon cable connector on the EV14 and insert the “ED40” end of the ribbon cable. Close the connector.

EV14 Ribbon Cable Connector Open

The cable connector and ribbon cable are fragile. Be very careful when opening the connector and removing the cable.

Note: Ribbon cables wear out and need to be replaced after repeated connection. Honeywell recommends having a spare on hand (order from Honeywell).

Operating the Development Board

You can use one of two operating methods:

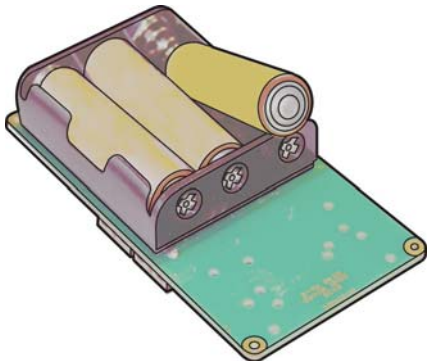
- Standalone operation
- Host computer operation

Standalone Operation

Standalone operation allows you to turn on the development board and read bar codes. In standalone mode the development board is powered using the external Honeywell power supply connected to the DC power jack or battery power.

To use standalone operation

1. Set the power switch to OFF.
2. Insert three AA batteries as shown or connect the external power supply to the DC power jack on the development board.



3. Set the operating switch to * (normal operating mode).
4. Set the power switch to ON.
5. Aim at a bar code and press the trigger.

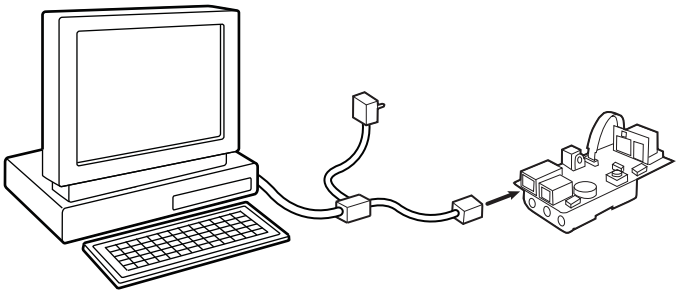
   When the ED40 successfully scans a bar code the green LED flashes and the buzzer sends an audio signal.
6. When finished, set the power switch to OFF to preserve battery power.

Host Computer Operation

Host computer operation is when you connect the ED40 to the host with an RS-232 cable or a USB cable. This type of connection allows you to send and receive data from the host as well as configure the ED40 online using EasySet.

Using an RS-232 Cable

When using an RS-232 cable the development board is powered by the external power supply connected to the RS-232 cable.



RS-232 Connection with a Connected External Power Supply

To use host computer operation with an RS-232 cable

1. Set the power switch to OFF.
2. Connect the RS-232 cable to the host computer and the RS-232 connector on the development board.

Note: Be sure to use the correct RS-232 cable (P/N 236-161-XXX). Other RS-232 cables may provide power but will not provide a serial connection.

3. Connect the external power supply to the RS-232 cable.
4. Set the operating mode switch to * (normal operating mode).
5. Set the power switch to ON.
6. For an RS-232 cable, set the host computer serial port to 57,600 bauds, 8 data bits and no parity.
7. Aim the ED40 at a bar code and press the trigger.
8. The development board transmits the bar code data to the host.

Using a USB Cable

When using a USB cable the development board is powered by the host via the USB cable. However if the host is not able to provide enough power, connect the external power supply to the DC power jack on the development board.

By default the USB cable mode is Virtual COM. Install the latest Virtual COM driver before connecting the ED40 to the host for the first time. You can download the driver using the EasySet Configuration Application.

Note: If you have an old Virtual COM driver installed, you must uninstall it (see **Troubleshooting** at the end of this guide). If you use EasySet to install the latest driver, it automatically will uninstall an old driver.

Use EasySet to install the USB virtual COM port driver

1. Download and install the **latest version of EasySet** (we recommend that you install it in the default location proposed by the installer).
2. Start EasySet and select **Options > Virtual COM driver installation**.

   If the VCP Installer window proposes options to **Repair** or **Remove** the VCP Installer, the driver is already installed - click **Cancel** to exit the installation procedure.

   If the VCP Installer window offers to guide you through the installation, click **Next** and **Install** each time as requested to complete the VCP driver installation.

To test that the install is successful, press the trigger. If the imager turns on (lighting on) the install is successful. Aim the ED40 at a bar code and press the trigger. The development board transmits the bar code data to the host.

Note: To change the default Virtual COM USB cable mode to Keyboard HID, see **"Troubleshooting" on page 12**.

Note: If you do not have EasySet, contact your local Honeywell OEM representative to get the latest USB driver.

Configuring the ED40 Using EasySet

EasySet is a configuration application that provides you with two ways to configure the ED40 development board.

- Online setup—send configuration commands from EasySet directly to the product. Online setup is only possible in host computer operation.
- Offline setup—send configuration commands to a bar code setup sheet, print the setup sheet and scan the bar codes.

EasySet is available at **www.intermec.com/EasySet.** Simply download and install.

To reset factory default settings, scan this bar code:

Reset factory defaults

Online Setup with EasySet

Online setup is available if you are using an RS-232 cable or a USB cable (virtual COM or keyboard HID USB cable modes).

To configure the ED40 online with EasySet

1. Connect the ED40 development board to a host PC with an RS-232 cable or a USB cable as described in **"Host Computer Operation" on page 8**.
2. Start EasySet. The first time you start EasySet, the Select product dialog box appears.
3. If the Select product dialog box does not appear, choose **Product > Select.**
4. Select your product.
5. Select **Communication > Select Communication Interface.** The Communication Interface dialog box appears.
6. Select the communication interface that you are using for your ED40 and click **OK**.

   By default the communication interface is **RS serial or USB Virtual Com interface**. Only select USB Keyboard HID interface if you have changed the USB cable mode.

7 For RS serial or USB Virtual COM interface the **Connection parameters** dialog box appears. Select the COM port. Click **Apply**.

Note: You can find the USB Virtual COM port by opening the Windows **Device Manager** (Open the Windows **Control Panel** and click on **System**. Click on the **Hardware** tab and then click on the **Device Manager** button.). The Virtual COM port is listed under **Ports (COM & LPT)**.

For USB Keyboard HID interface the **Select Device** dialog box appears. Select your device and click **OK**.

Note: If you are using USB Keyboard HID interface, be sure to configure the keyboard for your country in EasySet (**Interface > Keyboard settings**). The default keyboard is North American Windows.

8 EasySet connects to your ED40 decode board and retrieves the current configuration. These settings are indicated with a blue check mark or blue text. Open the folders to find the configuration commands needed. Double click each command to send it to the ED40.

Offline Setup with EasySet

To configure the ED40 offline by scanning bar codes

1 Start EasySet. The first time you start EasySet, the Select product dialog box appears.

2 If the Select product dialog box does not appear, choose **Product > Select.**

3 Select your product.

4 Open the folders to find the configuration commands needed. Double-click each command to send it to the setup sheet.

5 Click on the Word icon to export the setup sheet to Microsoft Word. Print out the setup sheet and scan the commands.

Note: For instructions on integrating and operating the ED40 with other devices, see the *ED40 Decode Board Integration Guide* available from your Honeywell OEM Sales Representative.

Troubleshooting

This section provides information for troubleshooting your ED40 development board.

Problem	Possible Solution
The red LED is flashing continuously.	You may have a bad connection between the ED40 and the development board. Reconnect the ribbon cable or replace the ribbon cable. Or the RS-232 cable and USB cable are connected at the same time. Only connect one interface cable at a time.
No communication with the host when using an RS-232 cable.	Be sure you are using the correct RS-232 cable (P/N 236-161-xxx). Any other RS-232 cable will provide power but no communication with the host. Make sure the power supply is plugged into the cable. The red power on LED should light up when you have power plugged in on the cable.
Communication issues with the USB interface (reliability or dropping characters)	Check that the host provides enough power. If in doubt, try using the external power supply. Also, make sure you are using the proper impedance matched ribbon cable (such as the one included in this kit). Do not use ribbon cables from previous development kits.

Problem	Possible Solution
Cannot install the driver for Virtual COM USB cable mode.	Try changing the USB mode to Keyboard HID by reading the bar code below. **To read the bar code:** **1** Switch the power to OFF. **2** Unplug the USB cable. **3** Plug in the external power supply or use batteries. **4** Switch the power to ON. **5** Read the USB Keyboard HID bar code. **6** Switch the power to OFF. **7** Plug in the USB cable. **8** Switch the power to ON. Now you are in Keyboard HID USB cable mode. Depending on your host the power supply may not be necessary. To revert back to Virtual COM USB cable mode, read the reset factory defaults bar code on page 10.

USB Keyboard HID

By default the international keyboard is North American Windows. If you are using a different keyboard use EasySet to select the correct keyboard.

Need to manually uninstall the USB serial driver.	**To manually uninstall the USB serial driver:** **1** Open the **Control Panel, Programs and Features**. **2** Select the driver in the list of programs. **3** Then click **Uninstall**.

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