

# IP30

## Handheld RFID Reader

### User's Guide



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There are U.S. and foreign patents as well as U.S. and foreign patents pending.

## Document Change Record

This page records changes to this document. The document was originally released as Revision 001.

Version Number	Date	Description of Change
002	4/2008	Revised to include correct part numbers for the CK61 power supply.
003	8/2008	Revised to support the CK3 Mobile Computer.



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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

This section explains how to identify notes that are in this document.



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

## Global Services and Support

### Warranty Information

To understand the warranty for your Intermec product, visit the Intermec web site at [www.intermec.com](http://www.intermec.com) and click **Support > Returns and Repairs > Warranty**.

Disclaimer of warranties: The sample code included in this document is presented for reference only. The code does not necessarily represent complete, tested programs. The code is provided “as is with all faults.” All warranties are expressly disclaimed, including the implied warranties of merchantability and fitness for a particular purpose.

### Web Support

Visit the Intermec web site at [www.intermec.com](http://www.intermec.com) to download our current manuals (in PDF). To order printed versions of the Intermec manuals, contact your local Intermec representative or distributor.

Visit the Intermec technical knowledge base (Knowledge Central) at [www.intermec.com](http://www.intermec.com) and click **Support > Knowledge Central** to review technical information or to request technical support for your Intermec product.

## **Telephone Support**

In the U.S.A. and Canada, call **1-800-755-5505**.

Outside the U.S.A. and Canada, contact your local Intermec representative. To search for your local representative, from the Intermec web site, click **About Us > Contact Us**.

## **Service Location Support**

For the most current listing of service locations, click **Support > Returns and Repairs > Repair Locations**.

For technical support in South Korea, use the after service locations listed below:

### **AWOO Systems**

102-1304 SK Ventium

522 Dangjung-dong

Gunpo-si, Gyeonggi-do Korea, South 435-776

Contact: Mr. Sinbum Kang

Telephone: +82-31-436-1191

E-mail: [mjyun@awoo.co.kr](mailto:mjyun@awoo.co.kr)

### **IN Information System PTD LTD**

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Donggu, Daegu City, Korea

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## **Who Should Read This Manual**

This document is for the person who is responsible for installing, configuring, and maintaining the IP30.

This document provides you with information about the features of the IP30, and how to install, configure, operate, maintain, and troubleshoot it.



# Related Documents

Document Title	Part Number
<i>Basic Reader Interface Programmer's Reference Manual</i>	937-000-xxx
<i>Intermec Computer Command Reference Manual</i>	073529-xxx

The Intermec web site at [www.intermec.com](http://www.intermec.com) contains our documents (as PDF files) that you can download for free.

**To download documents**

- 1 Visit the Intermec web site at [www.intermec.com](http://www.intermec.com).
- 2 Click **Support > Manuals**.
- 3 In the **Select a Product** field, choose the product whose documentation you want to download.

To order printed versions of the Intermec manuals, contact your local Intermec representative or distributor.

# Patent Information

Product is covered by one or more of the following patents:

4864158, 4888591, 4999636, 5030807, 5055659, 5280159, 5504485, 5521601, 5550547, 5673037, 5763867, 5777561, 5825045, 5828318, 5828693, 5850181, 5850187, 5942987, 5995019, 6078251, 6121878, 6122329, 6172596, 6195053, 6249227, 6280544, 6286762, 6286763, 6288629, 6360208, 6384712, 6404325, 6429775, 6486769, 6501807, 6525648, 6639509, 6645327, 6677852, 6768414, 6784789, 6816063, 6919793, 7039359, 7103087, 7117374, 7121467, 7158046, 7207486, 7298268

There may be other U.S. and foreign patents pending.

***Before You Begin***

# 1 Getting Started

Use this chapter to familiarize yourself with the IP30 Portable RFID Reader. This chapter covers these topics:

- Introducing the IP30
- Learning About the IP30
- Charging and Installing the Battery
- Attaching the IP30
- Establishing a Connection with the IP30

# Introducing the IP30

The Intermec IP30 RFID Handle is designed for all CN3, CK3, and CK61 Series Mobile Computers. The IP30 allows you to connect via Bluetooth or USB. Together, the IP30 and your mobile computer provides a high-performance mobile RFID solution that allows you to bring the read/write device to the tagged product rather than moving tagged products past a fixed reader.



*The Bluetooth version of the IP30 attached to the CN3*



**Note:** The screen captures used in this document are from the Windows Mobile 5.0 platform. If you are using Windows Mobile 6.0 or Windows CE, the screens may look different than what are shown in this guide.

## Unpacking the IP30

When you unpack the IP30, these items are included:

- IP30 RFID Handle
- Product Documentation
- Mounting Plates (for CK3 and CK61 Series Mobile Computers only)

## **What You Need**

To use the IP30, you need these items:

- Battery (Model AB3 or AB19)
- Battery charger or dock with power supply
- CN3, CK3, or CK61 Series Mobile Computer
- A custom application to read and write tags. For help, see **“RFID Applications and the IP30” on page 20.**

You may also need to upgrade your Windows operating system and SmartSystems Platform Bundle (SSPB) before you can connect the IP30 to your mobile computer.

- For CN3 Series Mobile Computers you need:
  - Windows Mobile 5.0 Version 3.21 or later.
  - SSPB Version 5.50 or later.
- For CK3 Series Mobile Computers you need:
  - Windows Mobile 6.1 or later.
  - SSPB Version 6.20 or later.
- For CK61 Series Mobile Computers you need:
  - Windows Mobile 5.0 Version 3.30, or Windows CE 5.0 Version 3.31 or later.
  - SSPB Version 5.50 or later.

For more information on downloading and installing system software, see **“Upgrading Firmware” on page 26.**






# Learning About the IP30

This section explains the LEDs and ports on the IP30.

## Understanding the LEDs

The IP30 has five LEDs that show you the operating status of the reader.

### LED Icon Descriptions

LED Icon	LED Name	Description
	Intermec Ready-to-Work™ Indicator	Blue LED remains on when the IP30 is connected to the mobile computer. For more information, see the next section.
	Data Communications	Flashes when there is data communications between the reader and the mobile computer.
	RFID Transmit	Flashes when the IP30 RFID reader is transmitting data.
	Tag ID	Flashes when an RFID tag ID is successfully read or written to.
	Battery	This LED indicates the status of the battery: <ul style="list-style-type: none"><li>• Green: The battery is fully charged (more than 80% capacity).</li><li>• Orange: The battery is charged (from 20% to 80% capacity).</li><li>• Red: The battery is low (less than 20% capacity).</li></ul>

## About the Intermec Ready-To-Work Indicator

The blue Ready-to-Work Indicator™ shows when a connection is established between your mobile computer and IP30. The next table explains the different states of the Ready-To-Work Indicator.

LED	Description
Off	The IP30 is not yet ready for operation, or the IP30 is in low power mode.
Blinking	The IP30 is not associated with or connected to the mobile computer.
Steady	A connection has been established between the IP30 and the mobile computer.

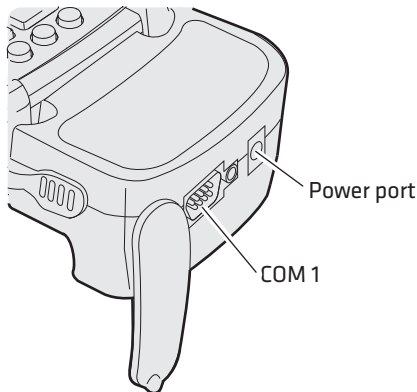
The IP30 enters low power mode if there is no host activity after 5 minutes. The IP30 will remain Ready-To-Work as long as the mobile computer maintains a communications link. To determine if the IP30 is ready to work, pull the trigger.

## Understanding the Ports

The USB version of the IP30 for the CK61 has two ports located on the IP30 adapter. To access these ports, you must remove the port cover.

### To remove the port cover

- On bottom of the IP30 adapter, remove the port cover by pulling away from the right side of the port cover.



### IP30 USB Adapter Port Descriptions

Port	Description
Power	Connect the CK61 to an external source to power and charge the CK61. Use power supply P/N 851-065-005. For North America use power supply P/N 851-065-105. Note that this does not charge the IP30. To charge the IP30 battery see the next section.
COM 1	Connect other RS-232 devices such as printers to the CK61.

## Charging and Installing the Battery

To charge the IP30 battery, you need to have power supply (P/N 851-082-103), a country specific power cord, and one of these chargers or accessories:

- AC6 2-Bay Charger (P/N 852-907-001)
- AC7 4-Bay Charger (P/N 852-908-001)
- IP30 Battery Pack Adapter (P/N 871-233-001)



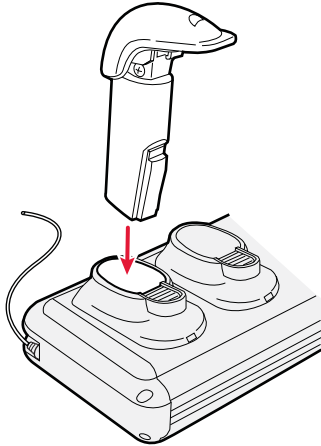
**Note:** The battery pack adapter is installed onto the AC20 quad charger, or AD20 single charger for the CK3 to charge the IP30 battery.

The IP30 does not ship with any of these accessories. For more information on these accessories, contact your local Intermec sales representative.



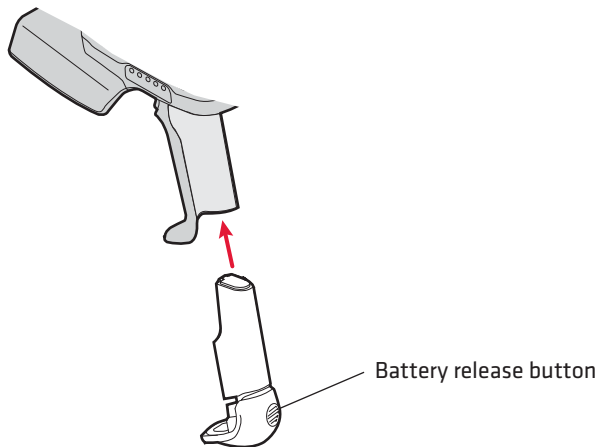
**To charge the IP30 battery**

- Insert the battery into a slot on the battery charger. A fully discharged battery charges to full capacity in approximately 3 hours.



**To install the battery**

- 1 Insert the battery into the IP30.



- 2 Once the battery is in the IP30, push the battery release button and slide the battery in until the battery is secure.

### To remove the battery

- Push the battery release button on the bottom of the IP30 battery to remove it.



**Note:** Charging the IP30 battery does not charge the mobile computer that it is connected to. See the mobile computer user's manual for charging options.

## Attaching the IP30

You can connect the IP30 via Bluetooth or USB to these mobile computers:

- CN3 Series Mobile Computers
- CK3 Series Mobile Computers
- CK61 Series Mobile Computers

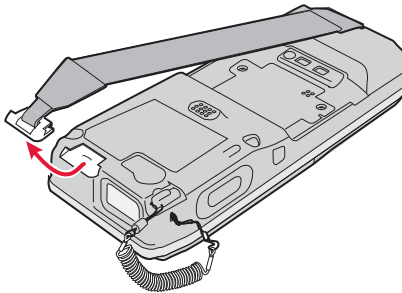
The next sections describe how to connect the IP30 to your mobile computer.

## Attaching the IP30 to the CN3

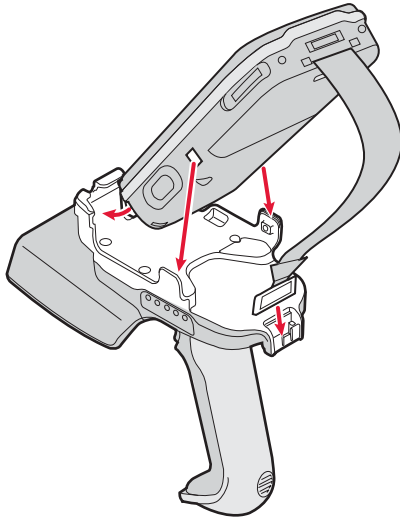
This section explains how to attach the Bluetooth and USB versions of the IP30 to your CN3.

### To attach the IP30 to the CN3

- 1 Remove the CN3 handstrap and insert it into the IP30 handle.

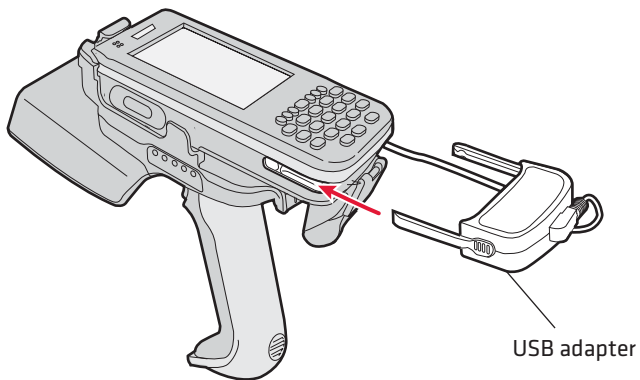


- 2 Insert the CN3 into the IP30.



- 3 Lock the CN3 into place by lowering it into the IP30's locking bracket.
- 4 If you are using the Bluetooth version of the IP30, go to [page 15](#) to establish a connection between your mobile computer and the IP30.

If you are using the USB version of the IP30, insert the IP30 USB adapter into the docking connector until it snaps into place.



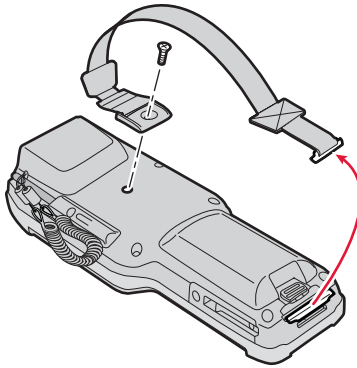
Once you have secured the USB adapter into place, you can configure your device. For help, see **“Configuring RFID Settings” on page 21.**

## **Attaching the IP30 to the CK3**

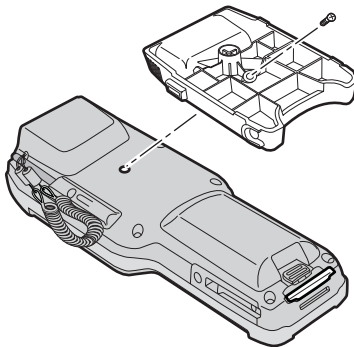
This section explains how to attach the Bluetooth and USB version of the IP30 to your CK3.

### **To attach the IP30 to the CK3**

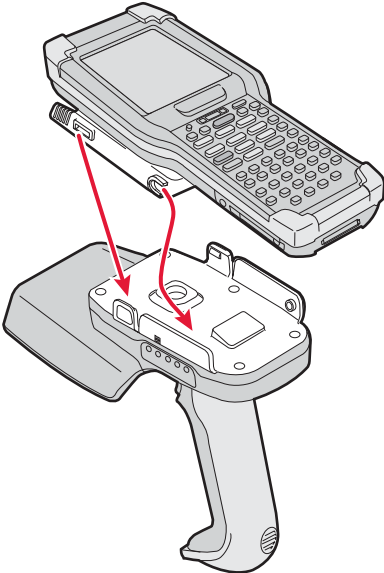
- 1** Remove the CK3 handstrap by removing the Phillips head screw.



- 2** Attach the mounting plate onto the CK3 by using the Phillips head screw provided with your IP30. Turn the screw clockwise to secure it onto the computer.

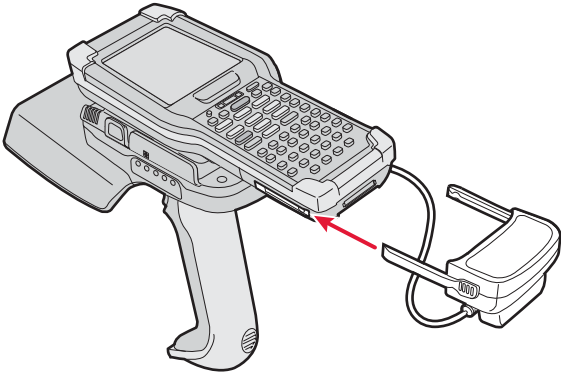


- 3** Lock the CK3 into place by lowering it into the IP30's locking bracket.



- 4** If you are using the Bluetooth version of the IP30, go to [page 15](#) to establish a connection between your mobile computer and the IP30.

If you are using the USB version of the IP30, insert the IP30 USB adapter into the docking connector until it snaps into place.

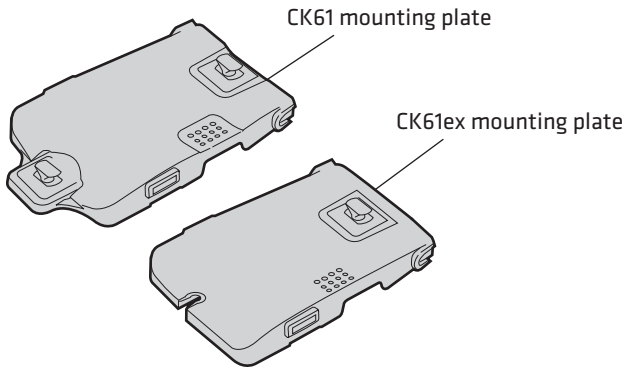


Once you have secured the USB adapter into place, you can configure your device. For help, see **“Configuring RFID Settings” on page 21.**

## **Attaching the IP30 to the CK61**

This section explains how to attach the Bluetooth and USB versions of the IP30 to your CK61.

Before you attach the IP30, make sure you are using the correct mounting plates.



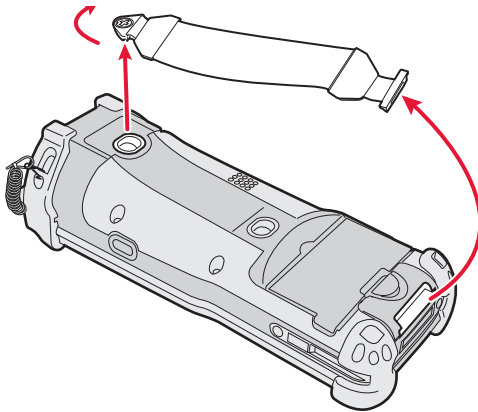
*CK61 and CK61ex mounting plates*



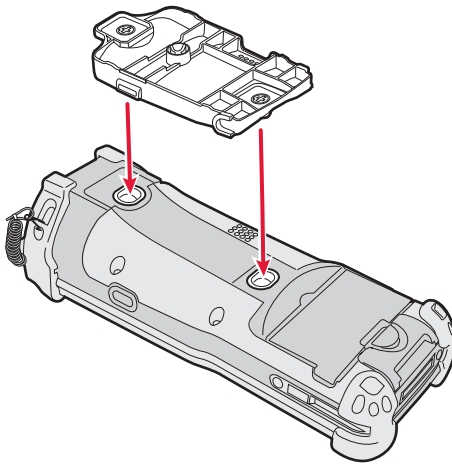
**Note:** The illustrations in this section show the CK61 mounting plate. If you have a CK61ex, use the CK61ex mounting plate to attach the IP30 to the mobile computer.

**To attach the IP30 to the CK61**

- 1** Remove the CK61 handstrap by turning the quarter screw counterclockwise.

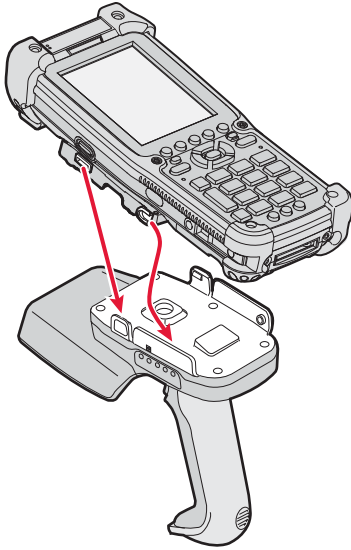


- 2** Attach the the correct mounting plate onto the CK61 and turn the quarter screw(s) clockwise to secure it onto the computer.



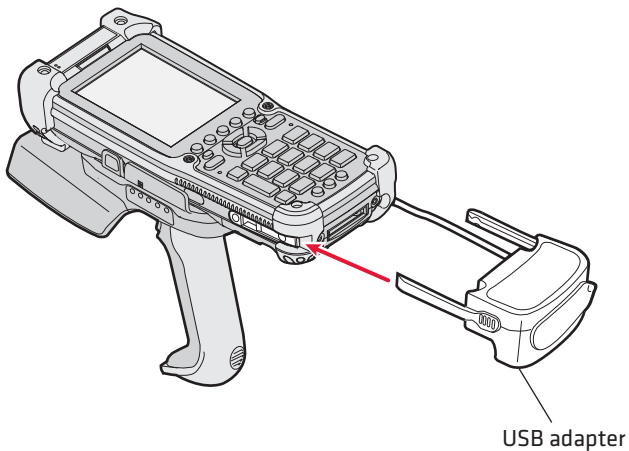
## Chapter 1 – Getting Started

- 3 Lock the CK61 into place by lowering it into the IP30's locking bracket.



- 4 If you are using the Bluetooth version of the IP30, go to [page 15](#) to establish a connection between your mobile computer and the IP30.

If you are using the USB version of the IP30, insert the IP30 USB adapter into the docking connector until it snaps into place.





Once you have secured the USB adapter into place, you can configure your device. For help, see “**Configuring RFID Settings**” on page 21.

## Establishing a Connection with the IP30

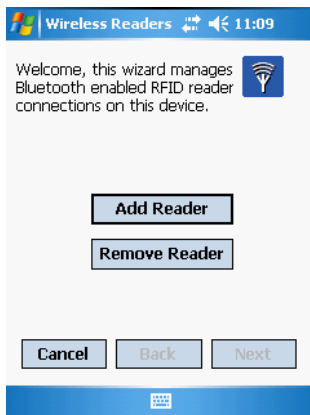
To use the IP30, you must first establish a connection between the IP30 and mobile computer using the Wireless Reader Wizard applet.



**Note:** The USB version of the IP30 establishes a connection with your mobile computer once the IP30 USB adapter is plugged in. For help, see “**Attaching the IP30**” on page 8.

### To connect to the IP30 using the Wireless Reader Wizard

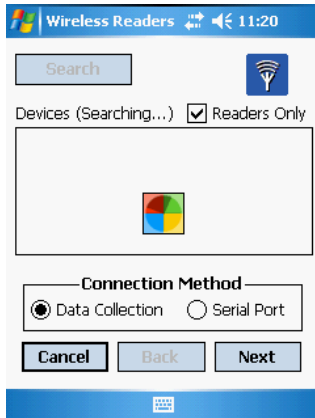
- 1 Make sure you have your Bluetooth radio enabled on your mobile computer, see the mobile computer user’s manual for more information.
- 2 For Windows Mobile, select **Start > Settings > System** and tap the **Wireless Readers** icon. The Wireless Reader wizard appears.



For Windows CE, select **Start > Programs > Windows Explorer**. The Windows Explorer screen appears.

- a Go to **Program Files > Intermec > Network** and double-tap the **BluetoothReaderWizard** icon.
- 3 Tap **Add Reader**. The wizard advances to the next screen.

- 4 Select how you would like to find your reader (the default is Search) and then click **Next**. The computer starts discovering readers.



- 5 Select the reader you want to connect from the Devices list and then tap **Next**.



**Note:** The Devices list will show all data collection devices, including RFID readers, that are Bluetooth enabled. To connect to the right reader, verify that the serial number you selected matches the one located on the bottom of the IP30's antenna.

- 6 When prompted to add the reader to your device list, tap **Yes**.
- 7 In the Passcode text box, enter the passcode for your reader. The default passcode for Intermec Bluetooth readers is 0000.
- 8 Tap **Next**. The computer connects to the reader and displays the remote device information.



- 9 Tap **Finish**.
- 10 Refresh Intermec Settings to see the Bluetooth reader under RFID. You can now configure and modify your device. For help, see **“Configuring RFID Settings” on page 21**.



## 2 Creating and Using RFID Applications

This chapter explains how you can use RFID applications for the IP30 and includes these topics:

- RFID Applications and the IP30
- Creating Applications for the IP30
- Configuring RFID Settings
- Configuring the BRI Server

## RFID Applications and the IP30

The IP30 communicates with the mobile computer through the Basic Reader Interface (BRI) Server, which can be accessed in the Application Connection screen within Intermec Settings. The BRI Server controls the reader by issuing various BRI commands.

- To configure the BRI Server, see “**Configuring the BRI Server**” on page 22.
- For more information on the BRI, see the *Basic Reader Interface Programmer’s Reference Manual* (P/N 937-000-xxx) or the *Intermec Computer Command Reference Manual* (P/N 073529-xxx).

### Using the RFID Resource Kit

The Intermec Developer Library RFID Resource Kits includes Java and .NET tools you can use to develop applications that control the reader and data management.

The resource kit is available as part of the Intermec Developer Library (IDL). To learn more about the RFID Resource Kit, go to [www.intermec.com](http://www.intermec.com) and choose **Products > Applications and Software > Development Tools > Developer Resource Kits**.

## Creating Applications for the IP30

You must create an application for the IP30 before it can read and write tags. Intermec recommends this general outline for developing your RFID application:

- Write your application on a development workstation (your desktop PC).
- Install and test the application on your mobile computer.



**Note:** European regulatory requirements state that a reader operating in the 869 MHz frequency can only operate for 6 minutes every hour. The IP30 provides event messages periodically informing the user of the remaining time the reader can be used before this time limit expires. For more information, see the RFID Resource Kits.

If you do not have an application but want to verify that your IP30 can read and write tags, you can download Intermec's demo application on the Intermec website.

### To download Intermec's RFID demo application

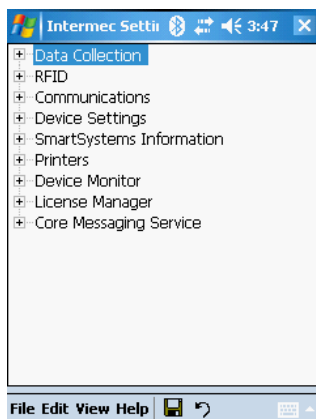
- 1 Go to [www.intermec.com](http://www.intermec.com) and choose **Support > Downloads**. The Download screen appears.
- 2 Select **IP30 Handheld RFID Reader** from the **Downloads** list. The Downloads page displays all of the downloads available for the IP30
- 3 Download the installation (.cab) file you need and install it onto your mobile computer. For information on how to install applications onto your mobile computer, see the mobile computer user's manual.

## Configuring RFID Settings

This section explains how you use Intermec Settings to change the settings for the RFID module in the IP30. As you install and test applications, you can configure the RFID settings for the best system performance.

### To change RFID module settings

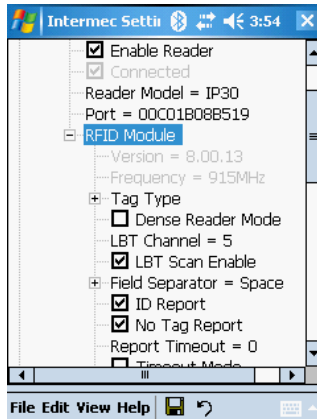
- 1 For Windows Mobile, go to Intermec Settings by tapping on **Start > Settings > System > Intermec Settings**. The Intermec Settings window appears.




For Windows CE, go to Intermec Settings by tapping on **Start > Settings > Control Panel** and double-clicking on the

**Intermec Settings** icon. The Intermec Settings window appears.

- 2 Tap on **RFID > Reader 1 > RFID Module**. The RFID Module screen appears.



- 3 Change the RFID settings as needed. For help, see the *Basic Reader Interface Programmer's Reference Manual* (P/N 937-000-xxx) or the *Intermec Computer Command Reference Manual* (P/N 073529-xxx).
- 4 Tap **File > Save Settings** or tap the (  ) icon to save your settings.

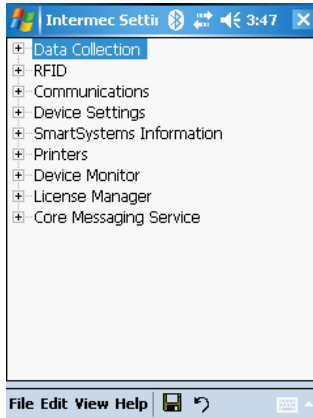
## Configuring the BRI Server

The IP30 BRI server handles communications between your application and the RFID module. You can configure many settings for the BRI server. For help, see the next section.

### To configure BRI server settings

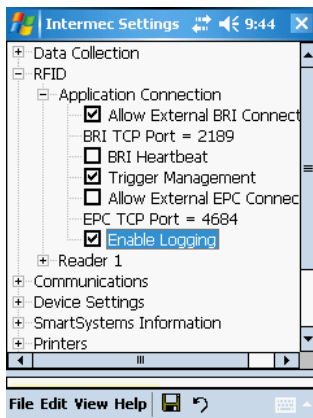
- 1 For Windows Mobile, go to Intermec Settings by tapping on **Start > Settings > System > Intermec Settings**. The Intermec Settings window appears.






For Windows CE, go to Intermecc Settings by tapping on **Start > Settings > Control Panel** and double-tapping on the **Intermecc Settings** icon. The Intermecc Settings window appears.

- 2 Tap on **RFID > Application Connection**. The BRI application server settings appear.



- 3 Change the BRI application server settings as needed. For help, see the *Basic Reader Interface Programmer's Reference Manual* (P/N 937-000-xxx) or the *Intermecc Computer Command Reference Manual* (P/N 073529-xxx).
- 4 Tap **File > Save Settings** or tap the (  ) icon to save your settings.



# 3 Upgrading and Troubleshooting

This chapter includes information on upgrading the IP30 and includes these topics:

- Upgrading Firmware
- Troubleshooting the IP30
- Calling Intermec Product Support

## **Upgrading Firmware**

This section explains how to upgrade the IP30 firmware using your mobile computer. There are two ways to upgrade your IP30:

- Using a media card.
- Using the SmartSystems Console.

You need to download the latest upgrade files from the Intermec web site to your desktop PC.

### **Upgrading Firmware Using a Media Card**

To upgrade the IP30 firmware, you need:

- a media card. The CN3 uses a mini-SD card, the CK3 uses a micro-SD card, and the CK61 uses an SD card.
- a media card reader (optional).

You can use any file transfer method (ActiveSync, FTP server, and so on) to copy the upgrade files to your media card. Intermec recommends using a media card reader.

#### **To upgrade firmware using a media card**

- 1** Download the device upgrade (.cab) file from the Intermec web site to your desktop PC.
- 2** Load the upgrade (.cab) file onto the media card.
- 3** Insert the media card into your mobile computer.
- 4** The upgrade (.cab) file will automatically install to the device.

### **Upgrading Using the SmartSystems Console**

You can use the SmartSystems Console to upgrade the firmware on your IP30. The console is part of SmartSystems Foundation, which is available from the Intermec website.

#### **To upgrade firmware using SmartSystems**

- 1** Download the device upgrade (.exe) file onto your desktop PC.
- 2** Double-click the application file to install it. The application file should appear in the software vault.
- 3** From the SmartSystems Console in the software vault, locate the upgrade file, and drag-and-drop it to the mobile computer your IP30 is connected to.

## **Troubleshooting the IP30**

This section includes a list of problems and possible solutions.

### **Problems While Working With RFID**

Many problems that you may encounter when working with your RFID system can be solved by carefully checking the RFID settings and changing them accordingly. For help, see **“Configuring RFID Settings” on page 21**. If you are still having trouble connecting your IP30, look at the on the next page for possible solutions.

Problem	Solution
<p>The IP30 is unable to read RFID tags, or seems to read tags slowly or inconsistently.</p>	<ul style="list-style-type: none"><li>• Check to see if you have an active Bluetooth or USB connection between your IP30 and mobile computer. For help, see <b>“Establishing a Connection with the IP30” on page 15.</b></li><li>• To maximize IP30 performance, make sure you have chosen the correct tag types for your application. For help, see <b>“Configuring RFID Settings” on page 21.</b></li><li>• The IP30 uses a linear antenna. It can only read a tag’s antenna which is oriented in the same way as the IP30’s antenna. A tag’s antenna is oriented the same as the IP30 antenna if the tag element is parallel to the front edge of the IP30 antenna.</li><li>• Move slightly closer or farther from the tag attempting to be read. Environmental factors can reduce or create deadspots.</li><li>• Make sure that you are not putting metal or other objects on the antenna. Large rings, or hand jewelry can also affect the performance of the IP30.</li><li>• Check to see if the mobile computer is working properly. If the device is busy, the IP30 will not be able to work as well if there are too many applications running in the background.</li><li>• Make sure that the battery is fully inserted into the handle.</li><li>• Make sure your battery is not low, it may affect the performance of the IP30.</li></ul>
<p>The IP30 does not respond to your RFID application.</p>	<ul style="list-style-type: none"><li>• Your application may not be communicating with the IP30 and/or the BRI server on your mobile computer.</li><li>• You may need to change BRI server settings to communicate with your application. For help, see <b>“Configuring the BRI Server” on page 22.</b></li></ul>

## Problems With Connectivity

The IP30 connects to your mobile computer via Bluetooth and USB connections. For information on how to connect your mobile computer, see **“Establishing a Connection with the IP30” on page 15**. If you are still having trouble connecting your IP30, look at the table below for possible solutions.

Problem	Solution
You cannot connect to the IP30 via Bluetooth.	<ol style="list-style-type: none"> <li data-bbox="426 444 955 558">1 Make sure your Bluetooth radio is enabled and that you have established a connection between your IP30 and your mobile computer.</li> <li data-bbox="426 566 955 651">2 Verify that your IP30 is not connected to different mobile computer than the one you are trying to connect to.</li> <li data-bbox="426 659 955 743">3 Make sure that the battery is fully inserted into the handle. For help, see <b>“Charging and Installing the Battery” on page 6</b>.</li> <li data-bbox="426 751 955 865">4 Set the BTPWROFF attribute in Intermec Settings to its default value of 500. See the <i>Intermec Computer Command Reference Manual</i> (P/N 073529-xxx).</li> <li data-bbox="426 873 955 959">5 Check your IP30 battery to see if it still has power. For help, see <b>“Understanding the LEDs” on page 4</b>.</li> </ol>
You cannot connect to the IP30 via USB.	<ol style="list-style-type: none"> <li data-bbox="426 976 955 1060">1 Make sure that you have secured the USB adapter to your mobile device. For help, see <b>“Attaching the IP30” on page 8</b>.</li> <li data-bbox="426 1068 955 1153">2 Make sure that the battery is fully inserted into the handle. For help, see <b>“Charging and Installing the Battery” on page 6</b>.</li> <li data-bbox="426 1161 955 1247">3 Check your IP30 battery to see if it still has power. For help, see <b>“Understanding the LEDs” on page 4</b>.</li> </ol>

## **Calling Intermec Product Support**

You may need to call Intermec Product Support if you have problems operating the IP30. Before calling, be sure you can answer the following questions:

- What were you doing when the error occurred?
- What error message did you see?
- Can you reproduce the problem?
- What versions of the IP30 and RFID software are you using?  
For help viewing software versions, refer to the mobile computer user's manual.

When you have gathered this information, call Intermec Product Support at 1-800-755-5505.



# A

## Specifications

This appendix includes physical and electrical specifications for the IP30 and information about the port pin assignments.

# IP30 Specifications

Height	19 cm (7.5 in)
Length	19 cm (7.5 in)
Width	10.1 cm (4 in)
Weight	.43 kg (1.9 lbs) without handheld computer.
Electrical rating	≡ 3.7V, 2400 mA
Operating temperature	-0°C to 50°C (32°F to 122°F)
Storage temperature	-30°C to 70°C (-22°F to 158°F)
Humidity (non-condensing)	10 to 95%

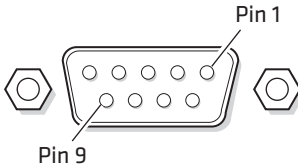
# RFID Specifications

Protocols supported	EPCglobal Class 1 Gen 2 ISO 18000-6B (Fairchild and Phillips) ISO 18000-6C Phillips v1.19
Frequency range	865-867 MHz, 869 MHz, or 915 MHz
Output power	
865-867 MHz, 915 MHz	Maximum: 29 dBm
869 MHz	Maximum: 23 dBm
Read range	
865-867 MHz, 915 MHz	182 cm (6 ft)
869 MHz	91 cm (3 ft)
Write range	
865-867 MHz, 915 MHz	121 cm (4 ft)
869 MHz	70 cm (2 ft)

## Port Pin Assignments

This section describes the port pin assignments for the USB version of the IP30 for the CK61.

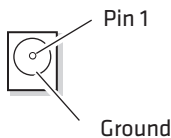
### Serial Port (COM1)



#### Serial Port Pin Assignments

Pin	Description	Active Polarity
1	DCD	
2	Receive data (RXD)	High
3	Transmit data (TXD)	High
4	DTR	
5	Signal ground	
6	DSR	
7	RTS	
8	CTS	
9	5.0 V (up to 500 mA)	

### Adapter Port



#### Adapter Port Pin Assignment

Pin	Description	Active Polarity
1	12 V	

***Appendix A – Specifications***





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## IP30 Handheld RFID Reader User's Guide



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