

IP30

Handheld RFID Reader

IP30, IP30NI



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
006	4/2010	This document was revised to include: <ul style="list-style-type: none">• new operating temperature specifications.• new CN4NI and CK61 information.
005	6/2009	Revised specifications for new read and write ranges.
004	2/2009	Revised specifications for new 865 MHz EU standard.
003	8/2008	Revised to support the CK3 Mobile Computer.
002	4/2008	Revised to include correct part numbers for the CK61 power supply.

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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 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 to download our current manuals (in PDF).

Visit the Intermec technical knowledge base (Knowledge Central) at 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, go to www.intermec.com and 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

IN Information System PTD LTD

6th Floor
Daegu Venture Center Bldg 95
Shinchun 3 Dong
Donggu, Daegu City, Korea
E-mail: jmyou@idif.co.kr or korlim@gw.idif.co.kr

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

Here are some related Intermec documents that you might find useful:

- *Basic Reader Interface Programmer's Reference Manual*
- *Intermec Computer Command Reference Manual*

The Intermec web site at 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.
- 2 Click the **Products** tab.
- 3 Using the **Products** menu, navigate to your product page. For example, to find the CN3 computer product page, click **Computers > Handheld Computers > CN3**.
- 4 Click the **Manuals** tab.
- 5 If your product does not have its own product page, click **Support > Manuals**. Use the **Product Category** field, the **Product Family** field, and the **Product** field to help you locate the documentation for your product.

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.

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**
- **Using the Battery**
- **Attaching the IP30**
- **Establishing a Connection With the IP30**

Introducing the IP30

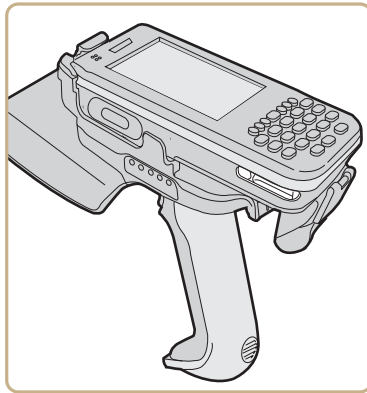
The IP30 allows you to connect via Bluetooth or USB. Together, the IP30 and your mobile computer provide a high-performance mobile RFID solution that allows you to bring the read/write device to the tagged product rather than moving tagged products past a fixed reader.

The IP30 supports the following mobile computers:

- CN3B and CN3F Mobile Computers. CN3 WAN configurations are not supported with the IP30.
- CN4 Series Mobile Computer.
- CK3 Series Mobile Computer.
- CK61 and CK61ex Series Mobile Computers.



Note: When paired with CN4NI and CN4ENI products, the IP30 supports North America NI, Division 2, Class I, II and III as defined in ANSI/ISA 12.12.01 for operation in environments where flammable and explosive gases and vapors may be present.



The Bluetooth Version of the IP30 Attached to the CN3

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
- CN3B, CN3F, CN4, CK3, or CK61 Series Mobile Computer
- A custom application to read and write tags. For help, see [“RFID Applications and the IP30” on page 26](#).

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.

Microsoft Windows Mobile and SmartSystems Platform Bundle Versions Needed

Mobile Computer	Windows Mobile Version	SmartSystems Platform Bundle Version
CK3	Windows Mobile 6.1 or later.	SSPB version 6.20 or later.
CK61	<ul style="list-style-type: none"> • Windows Mobile 5.0 version 3.21 or later. • Windows CE version 5.0 or later. 	SSPB version 5.50 or later.
CN3B, CN3F	<ul style="list-style-type: none"> • Windows Mobile 5.0 version 3.21 or later. • Windows Mobile 6.1 version 4.41.32 or later. 	<ul style="list-style-type: none"> • SSPB version 5.50 or later for Windows Mobile 5.0. • SSPB version 7.00.36 or later for Windows Mobile 6.1.
CN4	Windows Mobile 6.1 version 4.41.32 or later.	SSPB version 7.00.36 or later.

For more information on how to upgrade your Windows operating system and SmartSystems Platform Bundle (SSPB), see your mobile computer user’s manual.






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 an 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">• Green: The battery is fully charged (more than 80% capacity).• Orange: The battery is charged (from 20% to 80% capacity).• Red: The battery is low (less than 20% capacity).

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.

Ready-To-Work Indicator Descriptions

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.

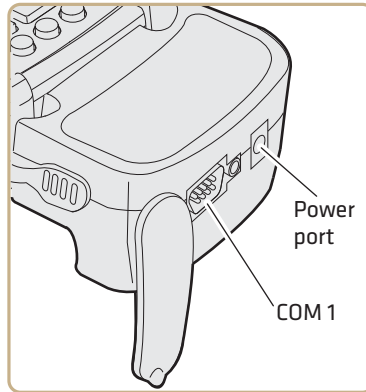
The IP30 enters low power mode if there is no host activity after 5 minutes. The IP30 will remain Ready-to-Work as long as the mobile computer maintains a communications link. To determine if the IP30 is ready to work, pull the trigger.

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



IP30 USB Adapter Port Descriptions

Port	Description
Power	Connect a power supply to the CK61 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.

Using the Battery

The IP30 uses the Model AB3 and Model AB19 batteries as a main power source.



You must use the Model AB19 (P/N 318-037-001) battery for NI environments where flammable and explosive gases and vapors may be present.



The battery used in this device may present a fire or chemical burn hazard if it is mistreated. Do not disassemble it, heat it, above 100C (212F), or incinerate it.

Disposed of used batteries promptly. Keep away from children. Contact your Intermec representative for replacement batteries.

Charging and Installing the Battery

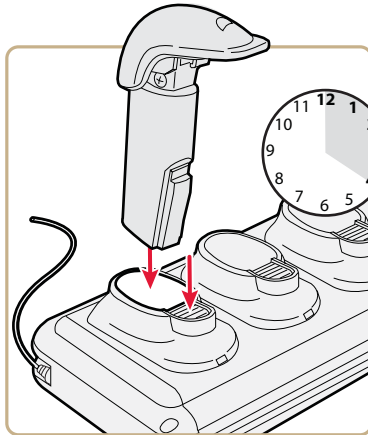
To charge the IP30 battery you need to have a power supply (P/N 851-082-103), a country specific power cord, and one of these chargers or accessories:

- AC6 2-Bay Charger (P/N 852-907-001)
- AC7 4-Bay Charger (P/N 852-908-001)
- AC20 Quad Charger with IP30 Battery Pack Adapter (P/N 871-233-001)
- AD20 Single Charger with IP30 Battery Pack Adapter (P/N 871-233-001)

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

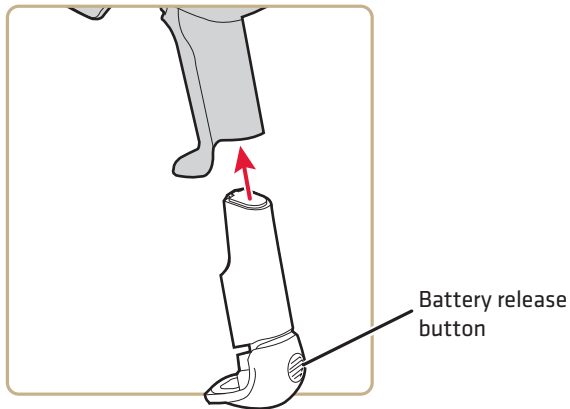
To charge the IP30 battery

- Insert the battery into a slot on the battery charger. A fully discharged battery charges to full capacity in approximately 4 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 using a Bluetooth connection, a USB connection, or a USB connection connected to a common access card reader. The IP30 can connect to the following mobile computers:

- CN3B, and CN3F Mobile Computers
- CN4 Series Mobile Computers
- CK3 Series Mobile Computers
- CK61 Series Mobile Computers

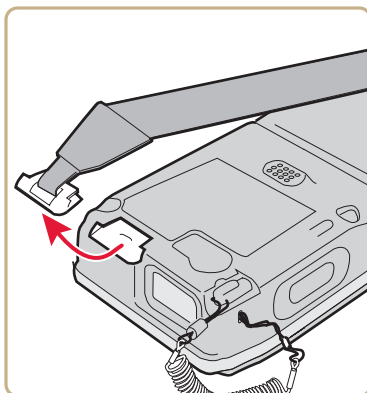
The next sections describe how to connect the IP30 to your mobile computer.

Attaching the IP30 to the CN3B or CN3F Mobile Computer

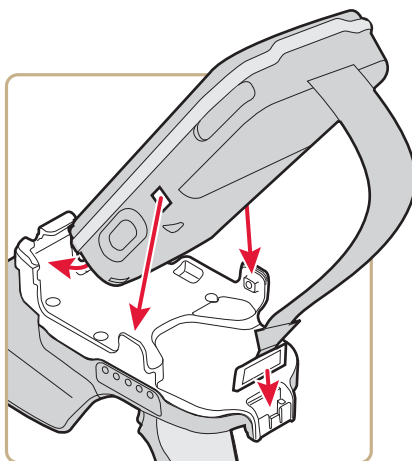
This section explains how to connect the IP30 to the CN3 using a Bluetooth connection, a USB connection, or a USB connection connected to the Model AR6 Common Access Card Reader.

To attach the IP30 to the CN3

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



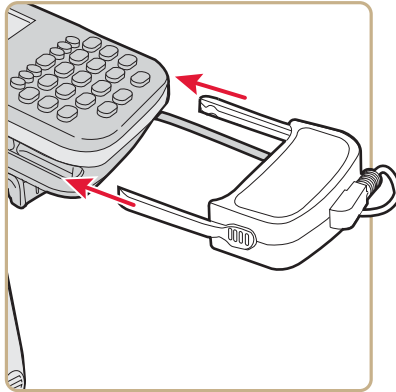
2 Insert the CN3 into the IP30.



3 Lock the CN3 into place by lowering it into the IP30 locking bracket.

4 If you are using the Bluetooth version of the IP30, go to **“Establishing a Connection With the IP30” on page 22.** Otherwise, continue to the next step.

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



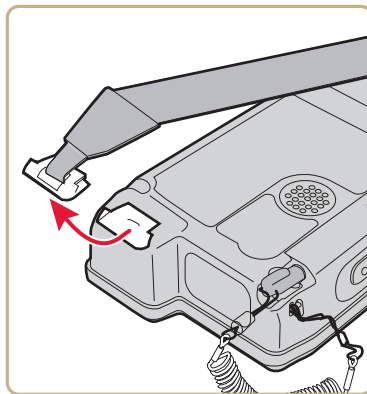
- 5 Configure the IP30. For help, see [“Configuring RFID Settings” on page 27](#).

Attaching the IP30 to the CN4 Series Mobile Computer

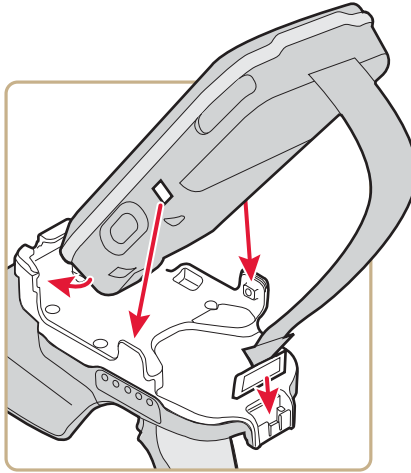
This section explains how to connect the IP30 to the CN4 using a Bluetooth connection, a USB connection, or a USB connection connected to the Model AR6 Common Access Card Reader.

To attach the IP30 to the CN4

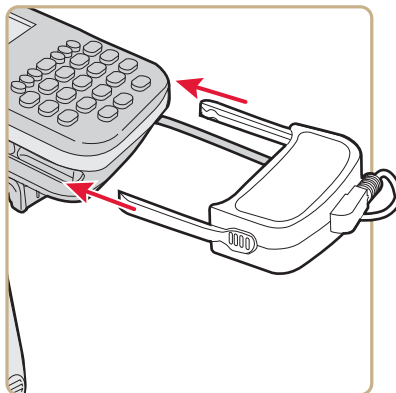
- 1 Remove the CN4 handstrap and insert it into the IP30 handle.



- 2 Insert the CN4 into the IP30.



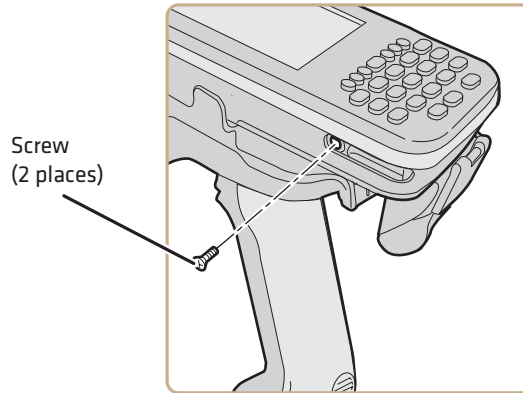
- 3 Lock the CN4 into place by lowering it into the IP30 locking bracket.
- 4 If you are using the Bluetooth version of the IP30, go to **“Establishing a Connection With the IP30” on page 22.** Otherwise, continue to the next step.
- 5 Connect the USB adapter or the Model AR6 Common Access Card Reader to the IP30.
If you are using the USB version of the IP30:
 - a Insert the IP30 USB adapter into the docking connector until it snaps into place.



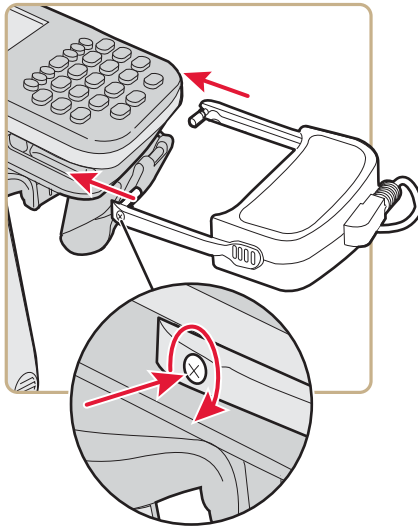
- b** Configure the IP30. For help, see **“Configuring RFID Settings” on page 27.**

If the USB adapter has captive screws:

- a** Remove the side fasteners from the CN4 by unscrewing the two screws located on the bottom of the CN4.



- b** Insert the USB adapter and secure it by screwing in the two captive screws.

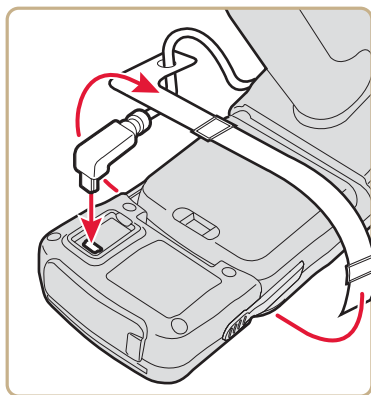


If you are using the AR6 Common Access Card Reader:

- a** Insert the AR6 into the docking connector until it snaps into place.



- b** Insert the right-angle USB cable into the USB port located on the bottom of the AR6.



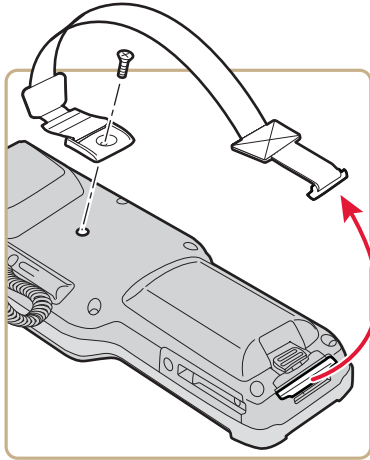
- c** Wrap the Velcro™ strap around the AR6 to secure the USB cable.
- d** Configure the IP30. For help, see **“Configuring RFID Settings” on page 27.**

Attaching the IP30 to the CK3 Series Mobile Computer

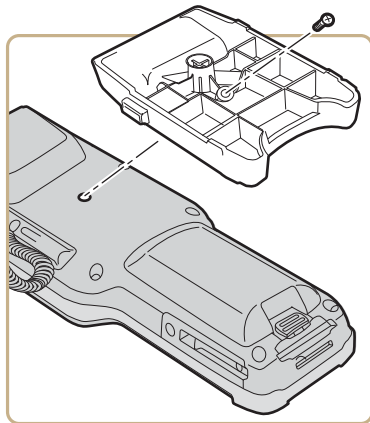
This section explains how to attach the Bluetooth and USB version of the IP30 to your CK3.

To attach the IP30 to the CK3

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

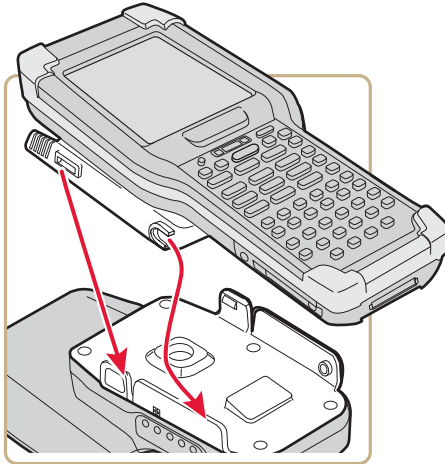


- 2 Attach the mounting plate onto the CK3 by using the Phillips head screw provided with your IP30. Turn the screw clockwise to secure it onto the mobile computer.



Chapter 1 – Getting Started

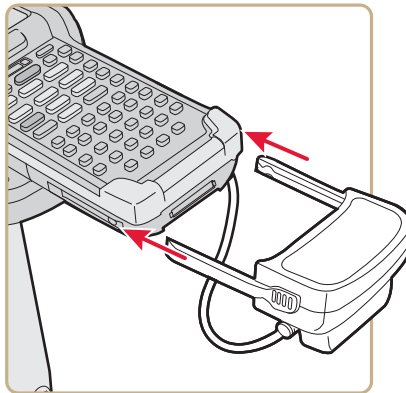
- 3 Lock the CK3 into place by lowering it into the IP30's locking bracket.



- 4 If you are using the Bluetooth version of the IP30, go to **“Establishing a Connection With the IP30”** on page 22 to establish a connection between your mobile computer and the IP30.
- 5 Connect the USB adapter or the Model AR6 Common Access Card Reader to the IP30.

If you are using the USB version of the IP30:

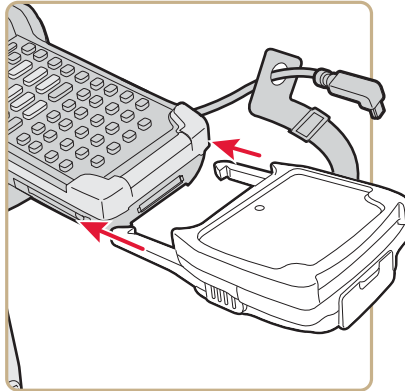
- a Insert the IP30 USB adapter into the docking connector until it snaps into place.



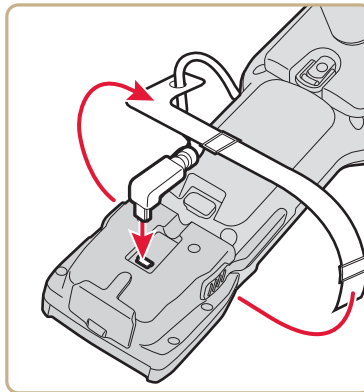
- b** Configure the IP30. For help, see **“Configuring RFID Settings” on page 27.**

If you are using the AR7 Common Access Card Reader:

- a** Insert the AR7 into the docking connector until it snaps into place.



- b** Insert the right-angle USB cable into the USB port located on the bottom of the AR7.

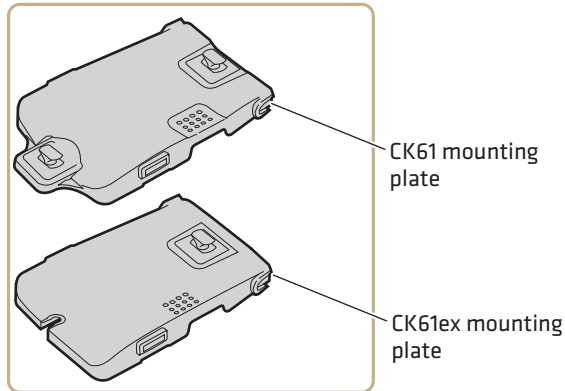


- c** Wrap the Velcro™ strap around the AR7 to secure the USB cable.
- 6** Configure the IP30. For help, see **“Configuring RFID Settings” on page 27.**

Attaching the IP30 to the CK61 Series Mobile Computer

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

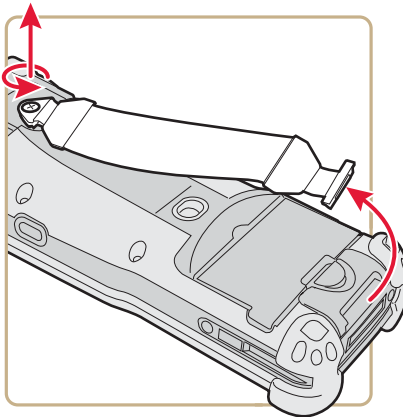
Before you attach the IP30, make sure you are using the correct mounting plates.



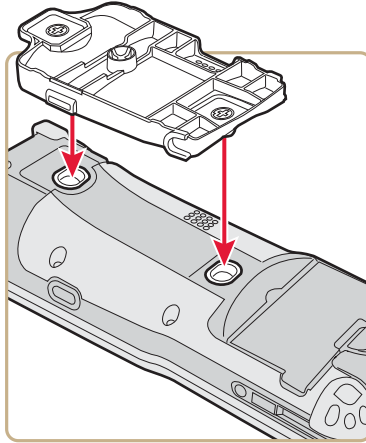
CK61 and CK61ex Mounting Plates

To attach the IP30 to the CK61

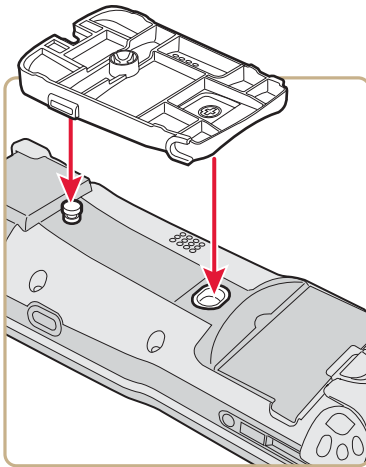
- 1 Remove the CK61 handstrap by turning the quarter screw counterclockwise.



- 2 Attach the correct mounting plate onto the CK61 and turn the quarter screw or screws clockwise to secure it onto the mobile computer.

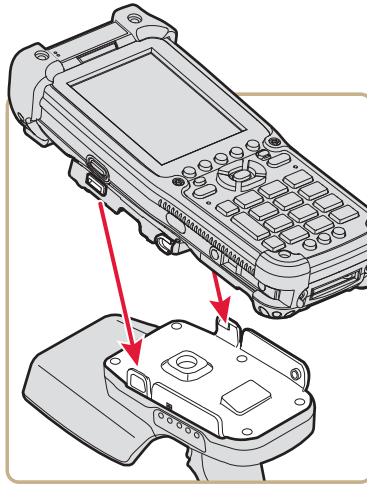


Attaching the CK61 Mounting Plate



Attaching the CK61ex Mounting Plate

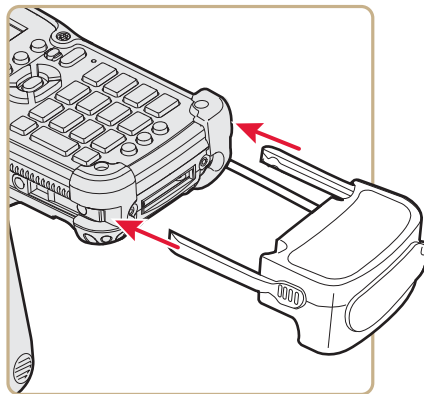
- 3** Lock the CK61 into place by lowering it into the IP30 locking bracket.



- 4** If you are using the Bluetooth version of the IP30, establish a connection between your mobile computer and the IP30. For help, see **“Establishing a Connection With the IP30” on page 22.**
- 5** Connect the USB adapter or the Model AR5 Common Access Card Reader to the IP30.

If you are using the USB version of the IP30:

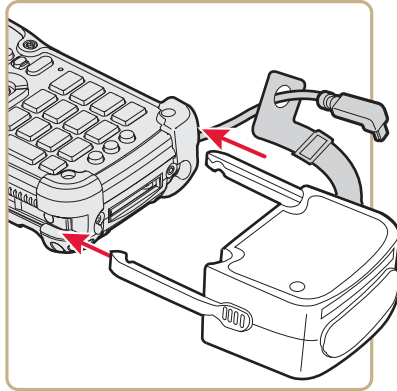
- a** Insert the IP30 USB adapter into the docking connector until it snaps into place.



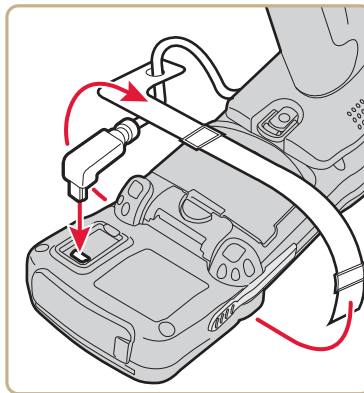
- b** Configure the IP30. For help, see **“Configuring RFID Settings” on page 27.**

If you are using the Model AR5 Common Access Card Reader:

- a** Insert the AR5 into the docking connector until it snaps into place.



- b** Insert the right-angle USB cable into the USB port located on the bottom of the AR5.



- c** Wrap the Velcro™ strap around the AR5 to secure the USB cable.
- 6** Configure the IP30. For help, see **“Configuring RFID Settings” on page 27.**

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 9.

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 5.0 or Windows Mobile 6.1, 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**. The Network screen appears.
 - b 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 to 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 27**.

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 28.
- For more information on the BRI, see the *Basic Reader Interface Programmer’s Reference Manual* or the *Intermec Computer Command Reference Manual*.

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 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 the Intermec demo application from the Intermec web site.

To download the Intermec RFID demo application

- 1** Go to 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 your 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** Go to Intermec Settings on your mobile computer.
- 2** For Windows Mobile 5.0, tap **RFID > Reader 1 > RFID Module**. The RFID Module screen appears.

For Windows Mobile 6.1, tap **RFID > Enable Reader Service**, and select the **Enable RFID Service** check box.

For Windows CE, tap **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* or the *Intermec Computer Command Reference Manual*.
- 4** 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.

To configure BRI server settings

- 1** Go to Intermec Settings on your mobile computer.
- 2** Tap **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* or the *Intermec Computer Command Reference Manual*.
- 4** Save your settings.

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Upgrading and Troubleshooting

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

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

Upgrading the IP30 Firmware

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

- Use a media card.
- Use SmartSystems™ Foundation.

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

Upgrading the IP30 Firmware Using a Media Card

To upgrade the IP30 firmware, you need:

- a media card. The CN3 uses a miniSD™ card, the CK3 uses a microSD™ 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** Make sure you have an active USB or Bluetooth connection with your mobile computer and IP30. For help, see [“Attaching the IP30” on page 9](#).
- 2** Download the device upgrade (.cab) file from the Intermec web site to your desktop PC.
- 3** Load the upgrade (.cab) file onto the media card.
- 4** Insert the media card into your mobile computer.
- 5** The upgrade (.cab) file will automatically install onto the IP30.

Upgrading the IP30 Using SmartSystems Foundation

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 web site.

To upgrade firmware using SmartSystems Foundation

- 1** Make sure you have an active USB or Bluetooth connection with your mobile computer and IP30. For help, see [“Attaching the IP30” on page 9](#).
- 2** Make sure that your device is Discovered in the SmartSystems Console. For help, see the SmartSystems Foundation Online help.
- 3** Download the device upgrade (.exe) file onto your desktop PC.
- 4** Double-click the application file to install it. The application file should appear in the software vault.
- 5** 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.

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 is the IP30 serial number?
- What versions of the IP30 and RFID software are you using? For help viewing software versions, refer to your mobile computer user's manual.

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

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 27**. If you are still having trouble connecting your IP30, look at the table on the next page for possible solutions.

Troubleshooting RFID Problems

Problem	Solution
The IP30 is unable to read RFID tags, or seems to read tags slowly or inconsistently.	<ul style="list-style-type: none"> • Check to see if you have an active Bluetooth or USB connection between your IP30 and mobile computer. For help, see “Establishing a Connection With the IP30” on page 22. • To maximize IP30 performance, make sure you have chosen the correct tag types for your application. For help, see “Configuring RFID Settings” on page 27. • Adjust the FIELDSTRENGTH attribute to 26dB. For more information on how to adjust this attribute, see “Configuring RFID Settings” on page 27. • 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. • Move slightly closer or farther from the tag attempting to be read. Environmental factors can reduce the read range or create deadspots. • 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. • 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. • Make sure that the battery is fully inserted into the handle. • Make sure your battery is not low, it may affect the performance of the IP30.
The IP30 does not respond to your RFID application.	<ul style="list-style-type: none"> • Your application may not be communicating with the IP30, the BRI server on your mobile computer, or both. • You may need to change BRI server settings to communicate with your application. For help, see “Configuring the BRI Server” on page 28.

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 22](#). If you are still having trouble connecting your IP30, look at the table below for possible solutions.

Troubleshooting Connectivity Problems

Problem	Solution
You cannot connect to the IP30 via Bluetooth.	<ul style="list-style-type: none">• Make sure your Bluetooth radio is enabled and that you have established a connection between your IP30 and your mobile computer.• Verify that your IP30 is not connected to different mobile computer than the one you are trying to connect to.• Make sure that the battery is fully inserted into the handle. For help, see “Using the Battery” on page 7.• Set the BTPWROFF attribute in Intermec Settings to its default value of 500. See the Intermec Computer Command Reference Manual.• Check your IP30 battery to see if it still has power. For help, see “Understanding the LEDs” on page 4.
You cannot connect to the IP30 via USB.	<ul style="list-style-type: none">• Make sure that you have secured the USB adapter to your mobile device. For help, see “Attaching the IP30” on page 9.• Make sure that the battery is fully inserted into the handle. For help, see “Using the Battery” on page 7.• Check your IP30 battery to see if it still has power. For help, see “Understanding the LEDs” on page 4.

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	≡ 3.7 V, 2400 mA
Operating temperature	-15°C to 50°C (5°F to 122°F)
Storage temperature	-30°C to 70°C (-22°F to 158°F)
Humidity (non-condensing)	10 to 95%

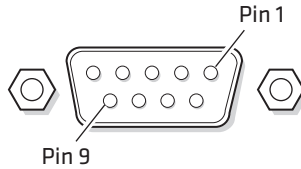
RFID Specifications

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 915 MHz	Maximum: 30 dBm (26 dB for use with WWAN connection on the CN4.)
865-867 MHz, 869 MHz	Maximum: 23 dBm
Read range (typical maximum) 915 MHz	457 cm (15 ft)
865-867 MHz, 869 MHz	198 cm (6.5 ft)
Write range (typical maximum) 915 MHz	228 cm (7.5 ft)
865-867 MHz, 869 MHz	100 cm (3.3 ft)

Port Pin Assignments

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

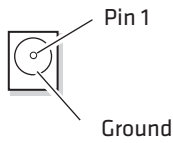
Serial Port (COM1)



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
1	12 V



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IP30 Handheld RFID Reader User's Guide



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