

CK70|CK71

Back Accessory Interface (BAI)

Integration Guide

Intermec Technologies Corporation

Worldwide Headquarters

6001 36th Ave.W.

Everett, WA 98203

U.S.A.

www.intermec.com

The information contained herein is provided solely for the purpose of allowing customers to operate and service Intermec-manufactured equipment and is not to be released, reproduced, or used for any other purpose without written permission of Intermec Technologies Corporation.

Information and specifications contained in this document are subject to change without prior notice and do not represent a commitment on the part of Intermec Technologies Corporation.

© 2011 by Intermec Technologies Corporation. All rights reserved.

The word Intermec, the Intermec logo, Norand, ArciTech, Beverage Routebook, CrossBar, dcBrowser, Duratherm, EasyADC, EasyCoder, EasySet, Fingerprint, INCA (under license), i-gistics, Intellitag, Intellitag Gen2, JANUS, LabelShop, MobileLAN, Picolink, Ready-to-Work, RoutePower, Sabre, ScanPlus, ShopScan, Smart Mobile Computing, SmartSystems, Trakker Antares, and Vista Powered are either trademarks or registered trademarks of Intermec Technologies Corporation.

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

Contents

- About This Integration Guide5
- Specifications5
 - Pin Specifications5
 - Mechanical Specifications7
 - Accessory Attachment8
 - Installation8
 - Durability8
 - Magnet Specifications9
 - Environmental Rating9
- Using the BAI9
- About the Data Collection Resource Kit10
 - Installing the Data Collection Resource Kit10
 - After Installing the Data Collection Resource Kit11

About This Integration Guide

This guide provides information about the Back Accessory Interface (BAI) for the Intermec CK70 and CK71 Mobile Computers. Use this guide to understand the BAI and to help develop BAI-compatible adapter accessories. For more information, or if you would like to continue with this development, contact Intermec Product Support.

This guide provides the following information:

- Specifications about the BAI
- Procedures for using the BAI with the mobile computer
- Procedures for downloading the Data Collection Resource Kit

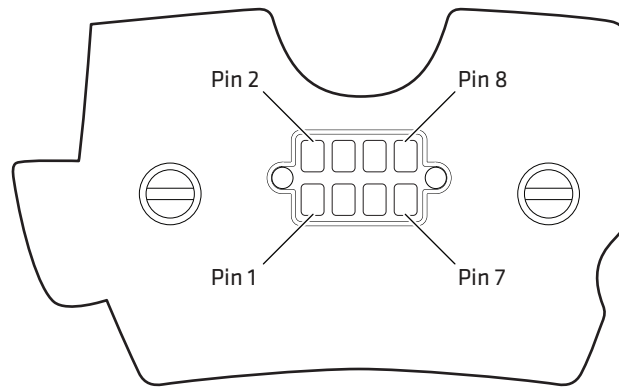
Specifications

This section provides BAI specifications.

Pin Specifications

The BAI connects to the mobile computer through a set of 8 gold-plated contacts.

Note: When OTB_PWR is inactive, all signals are electrically isolated.



The Location of the BAI Pins

Pin Descriptions

Pin	Pin Name	I/O	Description
1	OTB_PWR	Output	Provides power to the accessory.
2	GND		
3	OTB_RX	Input	This signal is active when the mobile computer receives data from the accessory. When no data is transmitted, the signal is held in the mark condition (logic '1').
4	OTB_TX	Output	This signal is active when the mobile computer transmits data to the accessory. When no data is transmitted, the signal is held in the mark condition (logic '1').
5	OTB_I/O_Voltage	Input	This signal is a reference level for the interface translator. This signal is driven by the accessory to define the high level I/O voltage for the interface.
6	OTB_ID	BiDir	The mobile computer uses this interface (OneWire) to identify the type of device that is attached.
7	OTB_RTS	Output	This signal is active low to prepare the accessory to accept transmitted data from the mobile computer. When the accessory is ready, it asserts Clear to Send. RTS and CTS are commonly used as handshaking signals to moderate the flow of data into the accessory.
8	OTB_CTS	Input	This signal is active low by the accessory to inform the mobile computer that transmission may begin. RTS and CTS are commonly used as handshaking signals to moderate the flow of data into the accessory.

Pin Electrical Characteristics

Pin	Minimum	Maximum	Units
1 - OTB_PWR			
Voltage	3.0 V	4.5 V	V
Current capacity (including inrush)	-	200 mA	mA
Idle current (not enabled)	-	50 uA	uA
3 - OTB_RX			
Input logic - high	I/O_Voltage x 0.65	I/O_Voltage	V
Input logic - low	0 V	I/O_Voltage x 0.35	V
4 - OTB_TX			
Output logic - high	I/O_Voltage - 0.4	-	V
Output logic - low	-	0.4 V	V
5 - OTB_I/O_Voltage			
Voltage range	1.65 V	5.5 V	V
Current consumption	-	5 uA	uA
Signals active from I/O voltage	-	12 nS	nS

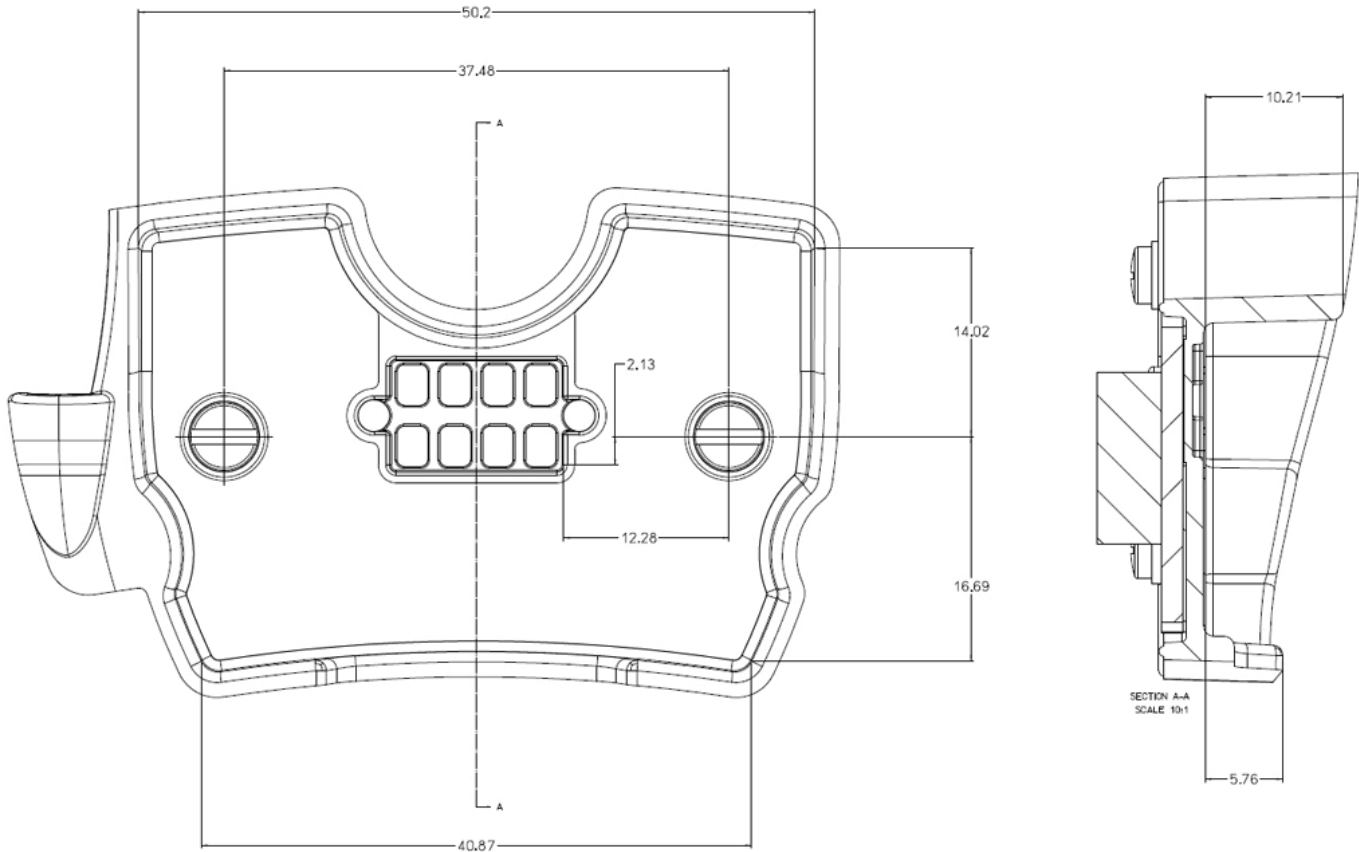
Pin Electrical Characteristics (continued)

Pin	Minimum	Maximum	Units
6 - OTB_ID			
Output logic - high	I/O_Voltage x 0.8	-	V
Output logic - low	-	0.4 V	V
Input logic - high	I/O_Voltage - 0.4	I/O_Voltage	V
Input logic - low	0 V	0.15 V	V
7 - OTB_RTS			
Input logic - high	I/O_Voltage x 0.65	I/O_Voltage	V
Input logic - low	0 V	I/O_Voltage x 0.35	V
8 - OTB_CTS			
Output logic - high	I/O_Voltage - 0.4	-	V
Output logic - low	-	0.4 V	V



Note: All signal directions are referenced from the mobile computer.

Mechanical Specifications



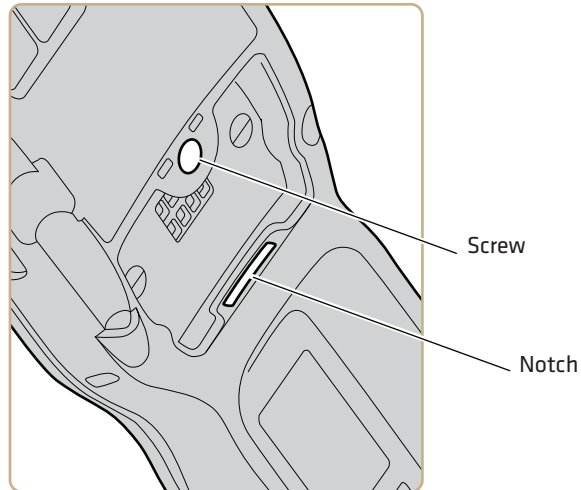
BAI Front and Side Views

Accessory Attachment

For more information on mating surfaces and dimensions, contact Intermecc Product Support. The Product Support team will assist in providing 3D models of the CK70 or CK71 mobile computer, sample BAI peripherals, and software related information.

Installation

You can attach your adapter accessory to the BAI by sliding it into the notch at the bottom of the mobile computer, and securing it with an 8-32 UNC screw.



The Location of the Screw and Notch

Durability

When used appropriately with the mobile computer, you can install and remove the BAI up to 500 times. You may see minor wear to the mobile computer or the BAI.

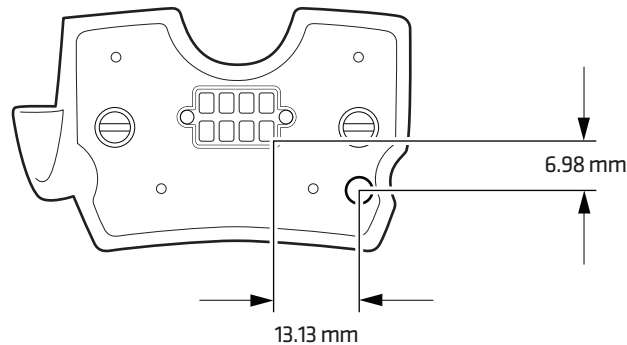


Note: Connecting your adapter accessory to the BAI may reduce the mobile computer battery life.

Magnet Specifications

The BAI contains a magnet that is required for the mobile computer to function. The magnet ensures the mobile computer will reset if the SD card or SIM card is removed. Use the magnet specifications to develop accessories that are sensitive to magnetic fields.

Specification	Value
Diameter	4 mm
Field strength	1280 mT



Location of the Magnet in the Bottom Right Corner

Environmental Rating

The BAI maintains the environmental rating for the mobile computer. For more information about the environmental rating of the mobile computer, see the [70 Series Mobile Computer User's Manual](#).

Using the BAI

This section provides information about using the BAI with your mobile computer.

Before you can use your BAI accessory, you need to configure the COM port and install the BAI.

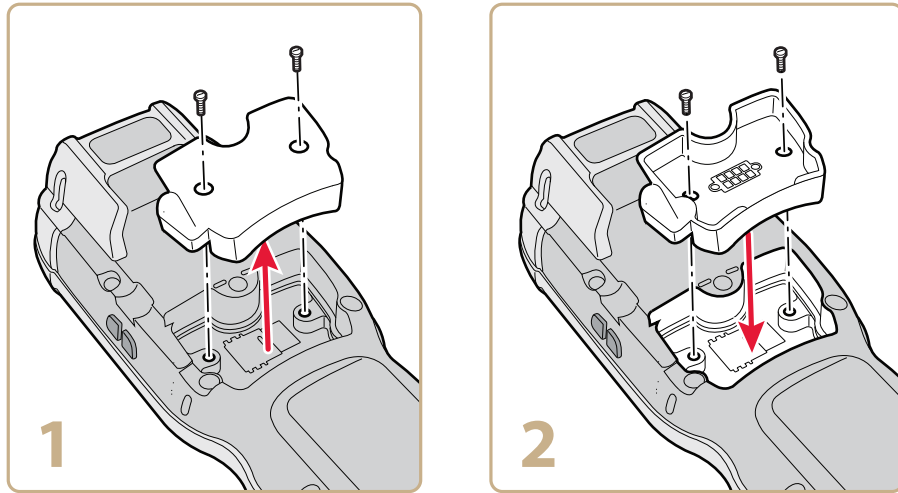


Note: When the BAI is installed and the COM port is configured, IrDA cannot communicate wirelessly. If the BAI is installed, but the COM port is not configured, IrDA can still communicate wirelessly.

To configure the COM Port

- 1 Tap **Start** > **Settings** > **System** > **Intermec Settings** > **Communications** > **Serial Port Switch** > select **COM5 back accessory**.
- 2 When prompted to save and reboot, tap **ok**.
- 3 Tap **OK** to save.
- 4 Press the **Power** button.
- 5 Tap **Reboot**. The computer reboots.

To install the BAI



About the Data Collection Resource Kit

Use the Data Collection Resource Kit to create the application that allows the accessory to communicate with the mobile computer.

The Data Collection Resource Kit includes tools and libraries for integrating bar code scanning, imaging, and magnetic stripe card reading into your data collection application.

For more information on the Data Collection Resource Kit, see the *Intermec Developer Library (IDL) Resource Kit Developer's Guide*.

Installing the Data Collection Resource Kit

Before you can use your BAI accessory with the mobile computer, you must install the Data Collection Resource Kit.

To install the Data Collection Resource Kit

- 1 Go to www.intermec.com and select **Products > Software & Tools > Developer Library > Developer Resource Kits**. The Developer Resource Kits page appears.
- 2 Click **Review and download IDL Resource Kits**. The Developer Resource Kits Downloads page appears. The “Developer Tools” section includes a list of the Resource Kits.
- 3 Click **IDL Resource Kit - Data Collection ver. x.xx.xx.xxxx** and follow the prompts to install it.

When the process is complete, the window closes automatically.

After Installing the Data Collection Resource Kit

Once the installation is finished, you can access the Resource Kit components and documentation from within your development environment.

You can find shortcuts to documents, example folders, and other information for the resource kits in this location on your desktop PC: **Start > All Programs > Intermec > Resource Kits**. You can also double-click the IDL Resource Kits icon on your desktop to browse the Resource Kit installation.

Each Resource Kit folder includes a shortcut to its ReadMe file and user's guide. All Example programs include ReadMe files that explain content and installation.



Worldwide Headquarters
6001 36th Avenue West
Everett, Washington 98203
U.S.A.

tel 425.348.2600

fax 425.355.9551

www.intermec.com

© 2011 Intermec Technologies
Corporation. All rights reserved.

CK70 and CK71 Back Accessory Interface (BAI) Integration Guide



P/N 944-634-001