

Bachmann PrintBoy SDK
Enterprise Edition
Guide To Programming
version 6.0



Bachmann Software & Services

*Essential Printing and File Management Software
for Palm OS and Pocket PC Handhelds*

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About This Document

The PrintBoy SDK Enterprise Edition Guide To Programming is part of the PrintBoy Software Development Kit. The following PrintBoy SDK documents are provided as part of the SDK:

- PrintBoy SDK Enterprise Edition Guide To Programming
- PrintBoy SDK Getting Started Guide
- PrintBoy SDK Standard Edition API Reference for CodeWarrior Developers
- PrintBoy SDK Standard Edition API Reference for eMbedded Visual C++ Developers
- PrintBoy SDK Standard Edition API Reference for eMbedded Visual Basic Developers
- PrintBoy SDK Standard Edition API Reference for Mobile Web Developers
- PrintBoy SDK Enterprise Edition API Reference for CodeWarrior Developers
- PrintBoy SDK Enterprise Edition API Reference for eMbedded Visual C++ Developers
- PrintBoy SDK Enterprise Edition API Reference for eMbedded Visual Basic Developers
- PrintBoy SDK Enterprise Edition API Reference for Mobile Web Developers
- PrintBoy SDK Guide to Printer Drivers

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Please note that developer technical support for PrintBoy SDK is by e-mail only for registered customers. Additional peer support for PrintBoy SDK may be found on the Yahoo PrintBoy SDK Discussion group, found on the Web at <http://groups.yahoo.com/group/printboydev>

Introduction to the PrintBoy SDK Enterprise Edition

Bachmann PrintBoy SDK Enterprise Edition is a cross-platform mobile printing and reporting toolkit that lets you add printing functionality to your handheld Palm OS or PocketPC application, by providing developers with tools to help design and layout reports, forms and other types of print jobs on a printed page.

This document is designed to provide you with information on how to get started with PrintBoy SDK, and covers the following topics:

- **Developer Tools** – What developer tools and languages are supported with the PrintBoy SDK
- **PrintBoy API Overview** – Which PrintBoy SDK API families are right for you and your mobile application
- **SDK Components** – What components are in the PrintBoy SDK
- **SDK License Key** – How to use your License Key
- **Installation and Configuration** – How to install and configure the PrintBoy print engine on a handheld, as well as make use of the examples.

Developer Tools

PrintBoy SDK Enterprise Edition works with Metrowerks CodeWarrior Palm OS tool for C and C++ developers. GCC support is also available.

The PrintBoy SDK Standard Edition works with the following development tools and languages:

- Metrowerks CodeWarrior
- Satellite Forms
- AppForge

PrintBoy API Overview

PrintBoy SDK comes in both Standard and Enterprise Editions. Each SDK Edition has support for several families of programming APIs which are particularly suited for different types of applications. Which SDK version is right for you depends on what type of application you have, what your output requirements are, and what printers you need to work with.

The following guide can help you determine which PrintBoy SDK Edition and API is right for you:

PrintBoy SDK, Enterprise Edition

PrintBoy SDK Enterprise Edition contains all of our PrintBoy programming APIs, and is the recommended SDK edition for virtually all applications that need to print. The Enterprise Edition comes with the following programming APIs:

ReportLayout - Rapidly create standard reports such as invoices, receipts, and forms using high-level elements such as row/column tables, logos and bitmaps, and fully formatted aligned text with automatic word-wrapping. ReportLayout is fully printer-independent.

HTML - Use standard HTML tags to specify your print layout, and print HTML content with a single API call. HTML SDK is fully printer-independent.

Print Manager - Employ a rich set of drawing primitives that allow you to precise positioning control of text, lines, rectangles, bitmaps and other elements. Requires printers that support a full x/y coordinate system.

Page Manager - Quickly and easily add basic text printing output to your application. Employs a "line-printing" model similar to that used by dot-matrix printers to enable simple printing with minimum effort.

PrintBoy SDK Standard Edition

Although the Enterprise Edition offers the most comprehensive printing support and is the preferred method of integrating mobile printing with support for the widest variety of printers, PrintBoy SDK is also available in a more limited Standard Edition. The Standard Edition comes with the following programming APIs:

Print Manager - Employ a rich set of drawing primitives that allow you to precise positioning control of text, lines, rectangles, bitmaps and other elements. Requires printers that support a full x/y coordinate system.

Page Manager - Quickly and easily add basic text printing output to your application. Employs a "line-printing" model similar to that used by dot-matrix printers to enable simple printing with minimum effort.

Why choose the Enterprise Edition over the Standard Edition?

1) Because Print Manager requires a printer with a fully graphical x/y coordinate system, such as an office laser printer, your application will need to be aware of which printers support this criteria and which do not. If you are willing to work with a more limited, known set of graphical printers, and if you require precise control of the positioning of output elements, and if you are willing to develop printing code using low-level drawing primitives, you may be able to use Print Manager.

2) At the other extreme, because Page Manager assumes a very simplistic "line printer" printing model, if you do not require much control over fonts or other graphical elements, and you are willing to accept "plain-text" output, you may be able to use Page Manager.

What are the situations where I would use Print Manager or Page Manager instead of ReportLayout or HTML?

- The only reason to consider targeting Print Manager is if you require very precise positioning control over graphical elements such as rectangles, lines and bitmaps, and you are willing to work with an x/y coordinate system and basic drawing primitives in order to achieve that level of control. Otherwise all of

the primary Print Manager graphical elements are supported by using ReportLayout and its table, bitmap and font features, and will work across the entire range of printer drivers.

- The only reason to consider targeting Page Manager is if you are using a specialized printer such as Oneil or Symbol, and you need to access Page Manager APIs that support magstripe card reading or special font control such as fontsize multipliers. Otherwise all of the Page Manager API functions are supported by using ReportLayout or HTML, and will work across the entire range of printer drivers.

In summary, if your application does not fall into one of the above situations, you should be using ReportLayout or HTML printing for your application's printing needs.

PrintBoy SDK Components

The PrintBoy SDK is made up of several key components

- PrintBoy SDK Software Development Toolkit

The SDK allows software developers to use Bachmann PrintBoy SDK printing functionality right from within their Palm OS compatible application. The SDK consists of headers, examples and libraries that are incorporated into your C or C++ application.

- PrintBoy Print Engine for Palm OS

The PrintBoy print engine supports graphical and non-graphical printing across a wide variety of printers, and also provides for the handling of communications to each of the supported PrintBoy printer drivers.

- PrintBoy Enterprise Run-Time Engine for Palm OS

This run-time reporting and HTML engine converts all application function calls into the appropriate layout and format for your data. The PrintBoy Enterprise Run-Time uses the PrintBoy Print Engine on the handheld to perform transparent communications via infrared (IrDA), serial, Bluetooth and network (TCP/IP) interfaces to a wide variety of printers.

- Printer Drivers

The PrintBoy Print Engine provide a standard Printer Driver Subsystem for Palm OS. Printer drivers can be written by Bachmann Software, printer manufacturers, or third party software developers (contact Bachmann Software for the standard printer driver interface specification). Each printer driver conforms to a standard set of interfaces, and the driver developer is free to implement the required functions according to what makes sense for a particular printer. PrintBoy and the PrintBoy Print Engine come with a rich set of bundled printer drivers for most popular printers in use today.

Unlocking the PrintBoy Print Engine with Your SDK License Key

PrintBoy SDK is licensed to software developers such that the PrintBoy engine and printing components may be distributed along with your PocketPC application. In order to successfully make use of the PrintBoy printing system, you must obtain a valid PrintBoy Enterprise Edition License Key from Bachmann Software. Your License key is emailed to you upon purchasing PrintBoy SDK.

To unlock the PrintBoy SDK for use within your application, you must pass a valid license key to the ReportLayout or HTML api, as follows:

```
// Note: replace the trial key with a valid PrintBoy SDK registration key  
err = ReportLayoutSetLicenseKey (pReport, "PRINTBOY_SDK_TRIAL");
```

or

```
err = PBPrintHTML ("myhtml.htm", "PRINTBOY_SDK_TRIAL");
```

If you are evaluating PrintBoy SDK prior to purchasing, you may use a special evaluation license key "PRINTBOY_SDK_TRIAL" for a maximum period of 60 days. PrintBoy SDK will continue to function during the trial period, and will cease functioning after 60 days or until a valid license key is passed to ReportLayoutSetLicenseKey().

If a valid license key is not passed in via ReportLayoutSetLicenseKey(), you will receive an error code prnErrInvalidLicense.

Installation and Configuration

PrintBoy SDK Installation (Windows PC)

Bachmann PrintBoy SDK contains a set of developer tools that reside on your Windows PC and are required to be used within Metrowerks CodeWarrior to enable the use of PrintBoy API's within your program.

To get started, simply store the contents the SDK zip file on a folder on your PC. You will need to reference this folder in order to access include files and libraries from within your Metrowerks projects. All of the files under the "Print Manager", "Drivers" and "Fonts" folders are Palm runtime components which are intended for installation on the handheld itself.

For further information on PrintBoy C++ APIs, please refer to the document "PrintBoy SDK Enterprise Edition API Reference for CodeWarrior Developers"

Bachmann PrintBoy Run-Time Print Engine Installation (Palm OS Handheld)

To install the PrintBoy Run-Time Print Engine on your target handheld device, perform the following steps:

1. Place your Palm OS device in the synchronization cradle
2. From the folder "Runtime Print Engine Installer", run the program "PrintBoy PalmOS Print Engine.exe", and follow the prompts.
3. When the installer is complete, your target handheld should have the print engine, print drivers, and PrintSetup.exe components.

To verify that you have installed correctly, on your Palm OS main screen you should see an icon for PrintSetup.

Installing the PrintBoy Example Applications (Palm OS Handheld)

To install the PrintBoy Example programs on your target handheld device, perform the following steps:

1. Build the examples you wish from the /Samples folder, using your development tool of choice.
2. Place your Palm OS device in the synchronization cradle
3. Add the sample application .prc file to the Palm Install Tool.
4. Press the HotSync button and the application will be installed to your Palm handheld.

Configuring PrintBoy for Your Target Printer

Just like on Windows Control Panel, PrintBoy SDK comes with a printer configuration tool that allows end users to select their default printer and configure how the driver will operate. PrintBoy SDK comes with an application called "Print Setup". Print Setup lists all printer drivers the user has installed on the handheld device, and lets you select a default printer, and configure it to meet your needs.

To use Print Setup, first find it on the Palm handheld screen. Tap it to launch it, and the main PrintSetup screen should appear.

You can configure your driver using the Print Setup Wizard, by using Wi-Fi network Printer Discovery, or you can perform manual setup.

If you are doing a manual setup, using the list at the top of the screen, select the driver name that corresponds to your target printer, and tap on the "Save As Default" button to make it your default printer. If necessary, you can also change the communications parameters for the selected printer.

To verify that the driver is configured correctly, you can perform a test printout using one of the SDK example programs.

That's it – you are now ready to print using PrintBoy SDK!