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Regulatory Compliance

The ADSP-BF706 EZ-KIT Mini is designed to be used solely in a laboratory environment. The board is not intended for use as a consumer end product or as a portion of a consumer end product. The board is an open system design which does not include a shielded enclosure and therefore may cause interference to other electrical devices in close proximity. This board should not be used in or near any medical equipment or RF devices.

The ADSP-BF706 EZ-KIT Mini is in the process of being certified to comply with the essential requirements of the European EMC directive 2004/108/EC and therefore carries the “CE” mark.

The EZ-KIT Mini evaluation system contains ESD (electrostatic discharge) sensitive devices. Electrostatic charges readily accumulate on the human body and equipment and can discharge without detection. Permanent damage may occur on devices subjected to high-energy discharges. Proper ESD precautions are recommended to avoid performance degradation or loss of functionality. Store unused EZ-KIT Mini boards in the protective shipping package.
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### ADSP-BF706 EZ-KIT Mini Bill of Materials

### ADSP-BF706 EZ-KIT Mini Schematic

### Index
Thank you for purchasing the ADSP-BF706 EZ-KIT Mini™, Analog Devices, Inc. low-cost evaluation system for the ADSP-BF706 Blackfin® processors.

The ADSP-BF706 processor is a member of the Blackfin family of products. Blackfin processors combine a dual-MAC state-of-the-art signal processing engine, the advantages of a clean, orthogonal RISC-like microprocessor instruction set, and single-instruction, multiple-data (SIMD) multimedia capabilities into a single instruction-set architecture. New enhancements to the Blackfin+™ core add 32-bit MAC and 16-bit complex MAC support, cache enhancements, branch prediction and other instruction set improvements—all while maintaining instruction set compatibility to previous Blackfin products.

The EZ-KIT Mini is shipped with all of the necessary hardware—you can start the evaluation immediately. The package contains the standalone evaluation board and USB cable. The EZ-KIT Mini ships with an on-board debug agent.
Product Overview

The evaluation board is designed to be used in conjunction with the CrossCore® Embedded Studio (CCES) development tools to test capabilities of the ADSP-BF706 Blackfin processor. The CCES development environment aids advanced application code development and debug, such as:

- Create, compile, assemble, and link application programs written in C++, C, and assembly
- Load, run, step, halt, and set breakpoints in application programs
- Read and write data and program memory
- Read and write core and peripheral registers

Product Overview

The board features:

- Analog Devices ADSP-BF706 processor
  - 88-Lead LFCSP (QFN) package
  - 25 MHz CLKin core crystal
- Quad SPI Flash (SPI2)
  - 32M bit serial flash memory
  - Winbond W25Q32
- Audio
  - ADAU1761 low-power stereo codec
  - Line-in
  - Headphone
Preface

• USB0 interface
  • Micro-AB connector

• RESET controller
  • Analog Devices ADM6384 microprocessor supervisory circuits

• Debug (JTAG/SWD) interface
  • USB Mini-B connector

• Power measurement
  • VDD_INT and VDD_EXT

• LEDs
  • Four LEDs: one power (green), one board reset (red), one general-purpose (amber), and one debug status (multi-colored)

• Push buttons
  • Two push buttons: one reset and one IRQ/Flag

• External connection point connectors
  • EPP10
  • SPORT
  • TWI
  • TMR
  • GPIOs

• USB bus-powered
Purpose of This Manual

- Other features
  - ADSP-BF706 EZ-KIT Mini for Arduino Uno R3 connectivity
  - Boot mode strapped to SPI master
  - 0.051 ohm resistors for processor current measurement

For information about the hardware components of the EZ-KIT Mini, refer to ADSP-BF706 EZ-KIT Mini Bill Of Materials.

Purpose of This Manual

The ADSP-BF706 EZ-KIT Mini Evaluation System Manual provides instructions for installing the product hardware (board). The text describes operation and configuration of the board components and provides guidelines for running your own code on the ADSP-BF706 EZ-KIT Mini. Finally, a schematic and a bill of materials are provided for reference.

Intended Audience

The primary audience for this manual is a programmer who is familiar with Analog Devices processors. This manual assumes that the audience has a working knowledge of the appropriate processor architecture, instruction set, and C/C++ programming languages.

Programmers who are unfamiliar with Analog Devices processors can use this manual, but should supplement it with other texts (such as the ADSP-BF70x Blackfin+ Processor Hardware Reference and the ADSP-BF70x Blackfin+ Processor Programming Reference) that describe your target architecture.
Preface

Programmers who are unfamiliar with CrossCore Embedded Studio should refer to the CCES online help.

Manual Contents

The manual consists of:

- **Chapter 1, Using ADSP-BF706 EZ-KIT Mini**
  Describes EZ-KIT Mini functionality from a programmer’s perspective and provides a simplified memory map of the processor.

- **Chapter 2, ADSP-BF706 EZ-KIT Mini Hardware Reference**
  Provides information about the EZ-KIT Mini hardware components.

- **Appendix A, ADSP-BF706 EZ-KIT Mini Bill Of Materials**
  Provides a list of hardware components used to manufacture the EZ-KIT Mini board.

- **Appendix B, ADSP-BF706 EZ-KIT Mini Schematic**
  Lists the resources for board-level debugging.

What’s New in This Manual

This is the second edition (Revision 1.1) of the *ADSP-BF706 EZ-KIT Mini Evaluation System Manual*. Changes to this manual from the previous revision (Revision 1.0) include an updated Bill of Materials and a revised schematic.
Technical Support

You can reach Analog Devices processors and DSP technical support in the following ways:

- Post your questions in the processors and DSP support community at EngineerZone®:
  ez.analog.com/community/dsp

- Submit your questions to technical support directly at:
  www.analog.com/support

- Email your questions about processors and processor applications to:
  processor.support@analog.com or
  processor.china@analog.com (Greater China support)

- Contact your Analog Devices sales office or authorized distributor.
  Locate one at:
  www.analog.com/adi-sales

- Send questions by mail to:
  Processors and DSP Technical Support
  Analog Devices, Inc.
  Three Technology Way
  P.O. Box 9106
  Norwood, MA 02062-9106
  USA

Supported Processors

This evaluation system supports the Analog Devices ADSP-BF706 Black-fin processors.
Supported Tools

Information on supported tools for the ADSP-BF706 EZ-KIT Mini and the ADSP-BF70x family of Blackfin processors is available at: www.analog.com/BF706EZKitMini.

Product Information

Product information can be obtained from the Analog Devices website and the CCES online help system.

Analog Devices Website


To access a complete technical library for each processor family, go to www.analog.comprocessors/technical_library. The manuals selection opens a list of current manuals related to the product as well as a link to the previous revisions of the manuals. When locating your manual title, note a possible errata check mark next to the title that leads to the current correction report against the manual.

Also note, myAnalog.com is a free feature of the Analog Devices website that allows customization of a Web page to display only the latest information about products you are interested in. You can choose to receive weekly email notifications containing updates to the Web pages that meet your interests, including documentation errata against all manuals. myAnalog.com provides access to books, application notes, data sheets, code examples, and more.
Visit myAnalog.com (found on the Analog Devices home page) to sign up. If you are a registered user, just log on. Your user name is your email address.

EngineerZone

EngineerZone is a technical support forum from Analog Devices. It allows you direct access to Analog Devices technical support engineers. You can search FAQs and technical information to get quick answers to your embedded processing and DSP design questions.

Use EngineerZone to connect with other DSP developers who face similar design challenges. You can also use this open forum to share knowledge and collaborate with the Analog Devices support team and your peers. Visit ez.analog.com to sign up.

Notation Conventions

Text conventions used in this manual are identified and described as follows.

<table>
<thead>
<tr>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>File &gt; Close</td>
<td>Titles in reference sections indicate the location of an item within the</td>
</tr>
<tr>
<td></td>
<td>CCES environment's menu system (for example, the Close command appears on the</td>
</tr>
<tr>
<td></td>
<td>File menu).</td>
</tr>
<tr>
<td>{this</td>
<td>that}</td>
</tr>
<tr>
<td></td>
<td>brackets and separated by vertical bars; read the example as this or</td>
</tr>
<tr>
<td></td>
<td>that. One or the other is required.</td>
</tr>
<tr>
<td>[this</td>
<td>that]</td>
</tr>
<tr>
<td></td>
<td>rated by vertical bars; read the example as an optional this or that.</td>
</tr>
<tr>
<td>[this, ...]</td>
<td>Optional item lists in syntax descriptions appear within brackets delimited</td>
</tr>
<tr>
<td></td>
<td>by commas and terminated with an ellipse; read the example as an optional</td>
</tr>
<tr>
<td></td>
<td>comma-separated list of this.</td>
</tr>
<tr>
<td>Example</td>
<td>Description</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><code>.SECTION</code></td>
<td>Commands, directives, keywords, and feature names are in text with <code>letter gothic</code> font.</td>
</tr>
<tr>
<td><code>filename</code></td>
<td>Non-keyword placeholders appear in text with italic style format.</td>
</tr>
</tbody>
</table>
| ![Note](https://example.com/note.png) | **Note:** For correct operation, ...  
A Note provides supplementary information on a related topic. In the online version of this book, the word `Note` appears instead of this symbol. |
| ![Caution](https://example.com/caution.png) | **Caution:** Incorrect device operation may result if ...  
**Caution:** Device damage may result if ...  
A Caution identifies conditions or inappropriate usage of the product that could lead to undesirable results or product damage. In the online version of this book, the word `Caution` appears instead of this symbol. |
| ![Warning](https://example.com/warning.png) | **Warning:** Injury to device users may result if ...  
A Warning identifies conditions or inappropriate usage of the product that could lead to conditions that are potentially hazardous for the devices users. In the online version of this book, the word `Warning` appears instead of this symbol. |
Notation Conventions
1 USING ADSP-BF706 EZ-KIT MINI

This chapter provides information about developing programs for the ADSP-BF706 EZ-KIT Mini evaluation system.

The following topics are covered.

- Package Contents
- ADSP-BF706 EZ-KIT Mini
- Default Configuration
- EZ-KIT Mini Installation
- EZ-KIT Mini Session Startup
- Evaluation License
- SPI Flash
- Audio Codec
- USB Interface
- ADSP-BF706 EZ-KIT Mini for Arduino Uno R3 Connectivity
- External Connection Points
- Debug Interface
- Power-On-Self Test
- Power Architecture
Package Contents

- Power Measurements
- Example Programs
- Reference Design Information

Package Contents

Your ADSP-BF706 EZ-KIT Mini package contains the following items.

- ADSP-BF706 EZ-KIT Mini
- USB Mini-B to Standard-A cable
- Rubber feet in a bag
- Release note

Contact the vendor where you purchased your EZ-KIT Mini or contact Analog Devices, Inc. if any item is missing.

ADSP-BF706 EZ-KIT Mini

The ADSP-BF706 EZ-KIT Mini has an on-board debug agent.
Default Configuration

The ADSP-BF706 EZ-KIT Mini board is designed to run as a standalone unit.

When removing the EZ-KIT Mini board from the package, handle the board carefully to avoid the discharge of static electricity, which can damage some components.

The EZ-KIT Mini evaluation system contains ESD (electrostatic discharge) sensitive devices. Electrostatic charges readily accumulate on the human body and equipment and can discharge without detection. Permanent damage may occur on devices subjected to high-energy discharges. Proper ESD precautions are recommended to avoid performance degradation or loss of functionality. Store unused EZ-KIT Mini boards in the protective shipping package.

Figure 1-1 shows the default jumper settings. Confirm that your board is in the default configuration before using the board.

![Figure 1-1. Default EZ-KIT Mini Hardware Setup](image-url)
EZ-KIT Mini Installation

It is assumed that the CrossCore Embedded Studio software is installed and running on your PC.

Follow these instructions to ensure correct operation of the product software and hardware.

To connect to the on-board debug agent of the EZ-KIT Mini:

1. Plug one side of the included USB cable into the debug agent (DA) USB (ZP1) connector of the EZ-KIT Mini. Plug the other side into a USB port of the PC.

2. The status LED (labeled STATUS) lights up green if the connection with the PC is working and the appropriate Windows driver is installed.

EZ-KIT Mini Session Startup

It is assumed that the CrossCore Embedded Studio software is installed and running on your PC.

Note: If you connect USB to the board before installing CCES on the PC, the Windows driver wizard may not find the board drivers.

1. Navigate to the CCES environment via the Start menu.

   Note that CCES is not connected to the target board.
2. Use the Debug Configurations wizard to connect to the EZ-KIT Mini board.

If a debug configuration exists already, select the appropriate configuration and click Debug. Go to step 8.

To create a debug configuration, do one of the following:

- Click the down arrow next to the bug icon 
  , select Debug Configurations.
- Choose Run > Debug Configurations.

The Debug Configuration dialog box appears.

3. Select CrossCore Embedded Studio Application and click (New launch configuration).

The Select Processor page of the Session Wizard appears.


The Select Connection Type page of the Session Wizard appears.

5. Select EZ-KIT and click Next.

The Select Platform page of the Session Wizard appears.

6. Choose the default ADSP-BF706 EZ-KIT via Debug Agent.

7. Click Finish to close the wizard.

The new debug configuration is created and added to the Debug Configurations list.
8. In the **Name** edit box, users can select an appropriate name to describe the configuration, otherwise a default name is provided.

9. In the **Program(s) to load** section, choose the program to load (if the appropriate program is not already populated) when connecting to the board. If not loading any program upon connection to the target, do not make any changes.

While connected to the target, there is no way to choose a program to download. To load a program once connected, terminate the session and then load the new program.

To delete a configuration, go to the **Debug Configurations** dialog box and select the configuration to delete. Click **x** and choose **Yes** when asked if you wish to delete the selected launch configuration. Then **Close** the dialog box.

To disconnect from the target board, click the terminate button or choose **Run > Terminate**.

To delete a session, choose **Target > Session > Session List**. Select the session name from the list and click **Delete**. Click **OK**.

The default configurations that show up in the CCES Debug Configurations wizard are for JTAG mode debugging only. To use SWD mode, a new platform needs to be created using the Target Configurator. When creating a new platform, choose **BF706 EZ-KIT-Mini** and then select JTAG or SWD.
Evaluation License

When starting CCES for the first time, you are prompted to install a license with a serial number or to enable evaluation of the product without a serial number. In the box that contains the EZ-KIT Mini is a business card with a serial number on it. When prompted, choose “I have a serial number that I would like to activate” and enter the serial number shown on the card. If the evaluation license is installed but not activated, it allows 10 days of unrestricted use and then becomes disabled. The license can be re-enabled by activation. Once activated, the evaluation license offers unrestricted use for a defined period and then becomes disabled until an additional license is installed.

If installing CCES without using a serial number, you will be limited to 90 days.

An evaluation license can be upgraded to a full license. Licenses can be purchased from:

- Analog Devices directly. Call (800) 262-5645 or 781-937-2384 or go to:
  www.analog.com/buyonline.

- Analog Devices, Inc. local sales office or authorized distributor. To locate one, go to:
SPI Flash

The ADSP-BF706 processor has three SPI interfaces: SPI0, SPI1, and SPI2. SPI2 is connected to a Winbond W25Q32BC 32 Mb serial flash memory with dual and quad SPI support. This flash is used for booting and scratchpad space. The boot mode of the ADSP-BF706 EZ-KIT Mini is SPI master, which is set by resistors on the board.

For more information, refer to the SPI flash example in the POST, which is included in the ADSP-BF706 EZ-KIT Mini Board Support Package.

Audio Codec

The ADAU1761 (U2) is a SigmaDSP® low power, stereo audio codec (24 bits) connected to the ADSP-BF706 EZ-KIT Mini through TWI and SPORT0 interfaces. Line-in is provided through a 3.5 mm audio jack (J1) and headphone connected to a 3.5 mm jack (J2). When cables are inserted, the loopback from J2 to J1 is disconnected.

Connector P7 allows connection to the unused microphone and line-out functionality of the audio codec.

Refer to ADSP-BF706 EZ-KIT Mini Schematic for more information.

USB Interface

The ADSP-BF706 processor has an integrated USB PHY; the EZ-KIT Mini provides a micro-AB connector (P8).

See Power Architecture for information on powering an external USB device.
ADSP-BF706 EZ-KIT Mini for Arduino Uno
R3 Connectivity

The ADSP-BF706 EZ-KIT Mini supports shield use through connectors P2, P3, P5, and P6, allowing compatibility with the Arduino Uno R3 boards. The connectors are not provided, but can be purchased online. The connectors are standard 0.1" stackable headers that allow for more than one shield to be attached. Signal output from the Arduino Uno R3 board is buffered on the ADSP-BF706 EZ-KIT Mini to ensure that the voltage level is tolerant with the ADSP-BF706 processor. Output signals from the ADSP-BF706 processor drive at 3.3V to connectors P2, P3, and P5. See ADSP-BF706 EZ-KIT Mini Schematic for more details.

External Connection Points

Connectors P1, P4, and P9 allow a user to attach wires to processor signals for interfaces such as EPPI, SPORT, TWI, TMR and GPIO of the ADSP-BF706 processor.

Debug Interface

The EZ-KIT Mini has an on-board debug agent which provides software development with one piece of hardware.
Power-On-Self Test

The Power-On-Self-Test Program (POST) tests all EZ-KIT Mini peripherals and validates functionality as well as connectivity to the processor. Once assembled, each EZ-KIT Mini is fully tested for an extended period of time with POST. All EZ-KIT Mini boards are shipped with POST pre-loaded into flash memory. The POST is executed by resetting the board and pressing the proper push button(s). The POST also can be used as a reference for a custom software design or hardware troubleshooting.

Note that the source code for the POST program is included in the ADSP-BF706 EZ-KIT Mini Board Support Package along with the readme.html file that describes how the board is configured to run POST.

Power Architecture

The ADSP-BF706 EZ-KIT Mini has two methods to power the board—through the debug agent’s USB mini connector (ZP1) or through the micro USB connector (P8) attached to the ADSP-BF706 processor.

By selecting the jumper positioning on JP2, the power source can be swapped between the two. Only change the JP2 jumper setting when both USB cables are removed.

- Method 1. To configure the board to use the 5V power from the debug agent’s USB mini connector, set JP2 to positions 1 and 2 (labeled DA).
- Method 2. To configure the board to use power from the USB micro connector, set JP2 to positions 2 and 3 (labeled 706).

The debug agent can be powered separately, even with the JP2 setting of the 706 as the power source (jumper on positions 2 and 3), by inserting a USB cable connected to a PC in both the micro and mini USB connector.
If the ADSP-BF706 EZ-KIT Mini is acting as a USB host through con-
nector P8 and needs to supply power to a bus-powered device, install P13
to allow the appropriate bulk capacitance.

The voltage domains of the ADSP-BF706 EZ-KIT Mini are 3.3V (VDD_-
EXT, 3V_SLEEP) and 1.1V (VDD_INT). These voltage domains are provided
by VR1, VR2, and VR3.

A FET switch (U10) controls the 5V to the USB devices over the USB0_
VBUS signal.

Power Measurements

Locations are provided for measuring the current draw from various power
planes. Precision 0.051 ohm shunt resistors are available on the VDD_INT
and VDD_EXT voltage domains. To measure current draw, the correspond-
ing jumper is removed, voltage across the resistor is measured using an
oscilloscope, and the value of the resistor is measured using a precision
multi-meter. P15 is the jumper for VDD_EXT and P14 for VDD_INT. Once
voltage and resistance are measured, the current is calculated by dividing
the voltage by the resistance. For the highest accuracy, use a differential
probe for measuring the voltage across the resistor.

Example Programs

Example Analog Devices programs are provided with the ADSP-BF706
EZ-KIT Mini Board Support Package to demonstrate various capabilities
of the product. Refer to a readme file provided with each example for
more information.

Various third party demos and software examples are also available at:
www.analog.com/BF706EZKitMini.
Reference Design Information

A reference design info package is available for download on the Analog Devices website. The package provides information on the design, layout, fabrication, and assembly of the EZ-KIT Mini.

The information can be found at: www.analog.com/BF706EZKitMini.
This chapter describes the hardware design of the ADSP-BF706 EZ-KIT Mini board.

The following topics are covered.

- **System Architecture**
  Describes the board’s configuration and explains how the board components interface with the processor.

- **Push Buttons**
  Shows the locations and describes the push buttons.

- **Jumpers**
  Shows the locations and describes the configuration jumpers.

- **LEDs**
  Shows the locations and describes the LEDs.

- **Connectors**
  Shows the locations and provides part numbers for the on-board connectors. In addition, the manufacturer and part number information is provided for the mating parts.
System Architecture

This section describes the processor’s configuration on the EZ-KIT Mini board (Figure 2-1).

Figure 2-1. EZ-KIT Mini Block Diagram

This EZ-KIT Mini is designed to demonstrate the ADSP-BF706 processor’s capabilities. The ADSP-BF706 EZ-KIT Mini has a 25 MHz input clock and runs at 400 MHz internally.

USB circuitry and a micro USB AB connector are provided for connecting to the EZ-KIT Mini as a host or a device. The frequency for the USB circuit is generated by an external 24 MHz crystal.

User I/O to the processor is provided in the form of one user push button and one LED. See ADSP-BF706 EZ-KIT Mini Schematic for more information.
Push Buttons

This section describes operation of the push buttons. The push-button locations are shown in Figure 2-2.

Figure 2-2. Push-Button Locations

Reset Push Button (SW1)

The reset push button (SW1) resets the processor (U1) and is available on connector P3.

GPIO Push Button (SW2)

The GPIO push button (SW2) is connected to the processor’s PC_02 port pin.
Jumpers

This section describes functionality of the configuration jumpers. Figure 2-3 shows the jumper locations.

Figure 2-3. Jumper Locations

Power Jumpers (P14-15)

Remove jumpers listed in Table 2-1 to measure the respective voltage across the adjacent sense resistor.

Table 2-1. Power Jumpers

<table>
<thead>
<tr>
<th>Power Jumper</th>
<th>Resistor</th>
</tr>
</thead>
<tbody>
<tr>
<td>P14</td>
<td>VDD_INT</td>
</tr>
<tr>
<td>P15</td>
<td>VDD_EXT</td>
</tr>
</tbody>
</table>
Debug Agent Jumper (ZJP1)

Debug agent jumper (ZJP1) needs jumpers across pins 1, 3 as well as 2, 4 for proper operation. The jumpers should run parallel to the silkscreen for ZJP1.

Power Selection Jumper (JP2)

Positions 1, 2 select the debug agent as the entire board power source. 5V is supplied from ZP1. Setting JP2 to positions 2, 3 selects 5V power from the USB connector (P8). The debug agent can still be powered through ZP1. See Power Architecture for more details.

Bulk Decoupling for USB Host Mode (P13)

When powering through ZP1, a device connected to P8 can be powered by the 5V sourced via USB connector ZP1. When using this feature, install a jumper on P13 prior to any USB cable insertion. P13 insertion adds a bulk cap to the 5V supply connected to P8.
This section describes the on-board LEDs. Figure 2-4 shows the LED locations.

**Figure 2-4. LED Locations**

### GPIO LED (LED0)

One LED is connected to the general-purpose I/O pins of the processor (see Table 2-2). The LED is active high and is ON (amber) by writing a 1 to the correct processor signal.

Table 2-2. GPIO LED

<table>
<thead>
<tr>
<th>LED Reference Designator</th>
<th>Processor Programmable Flag Pin</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED0</td>
<td>PC_03</td>
</tr>
</tbody>
</table>
Reset LED (LED1)

When LED1 is ON (red), it indicates that the master reset is active. The reset LED is controlled by the Analog Devices ADM6384 supervisory reset circuit. A master reset is asserted by pressing SW1 which activates LED1. For more information, see Reset Push Button (SW1).

Power LED (LED2)

When LED2 is ON (green), it indicates that power is supplied to the 3V_SLEEP domain. 3V_SLEEP domain can be turned off for USB power-saving modes.

Status LED (ZLED1)

Status LED (ZLED1) provides the status of the debug agent.

- Green – Signifies the debug agent is powered, configured, and ready to invoke a CCES session.
- Magenta – Signifies the ICE is operating in JTAG mode. The LED blinks during USB activity between the host PC and the emulator.
- Cyan – Signifies the ICE is operating in SWD mode. The LED blinks during USB activity between the host PC and the emulator.
Connectors

This section describes connector functionality and provides information about mating connectors. The connector locations are shown in Figure 2-5.

![Figure 2-5. Connector Locations](image)

Connectors P2, P3, P5, and P6 allow interfacing with Arduino Uno Rev 3.0 boards. Not installed by default, these connectors are 0.1" stackable headers that are available online.

Connectors P1, P4, and P9 are external connection points to processor signals that are not installed by default. See ADSP-BF706 EZ-KIT Mini Schematic for more details.
## USB Connector (P8)

<table>
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<td>Hirose</td>
<td>ZX62D-AB-5P8</td>
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<tr>
<td>Mating Cable</td>
<td></td>
<td></td>
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<td>USB Micro-B to Standard-A or Micro-A to Standard-A receptacle cable</td>
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## USB Connector (ZP1)

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## Audio Connectors (J1-2)

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<td>CP1-35155JGRTR-ND</td>
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<tr>
<td>Mating Connector</td>
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<td>3.5 mm cable, headphone cable</td>
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Connectors
# A  ADSP-BF706 EZ-KIT MINI BILL OF MATERIALS

The bill of materials corresponds to the ADSP-BF706 EZ-KIT Mini Schematic.

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ADSP-BF706 EZ-KIT-MINI
Schematic
Power selection jumper

1&2: Debug agent connector (ZP1) source of power
2&3: BF706 USB connector (P8) source of power
2&3: Separate power sources, BF706 power from P8, and debug agent from ZP1 (requires 2 USB cables)

Add jumper to P13 when bus-powered device connected to P8.
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