

**6800+**

**ARG6800+**

***Analog Remote Gain Module***

**Installation and Operation Manual**

175-000148-00  
Edition A



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# **ARG6800+**

## **Analog Remote Gain Module**

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# **Installation and Operation Manual**



# Preface

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## Manual Information

### Purpose

This manual details the features, installation procedures, operational procedures, and specifications of the ARG6800+ Analog Remote Gain Module.

### Audience


This manual is written for technicians and operators responsible for the installation, setup, and/or operation of the ARG6800+ Analog Remote Gain Module.

### Revision History

<b>Edition</b>	<b>Date</b>	<b>Revision History</b>
A	May 2003	Initial release

## Writing Conventions

To enhance your understanding, the authors of this manual have adhered to the following text conventions:

<b>Term or Convention</b>	<b>Description</b>
<b>Bold</b>	Indicates dialog boxes, property sheets, fields, buttons, check boxes, list boxes, combo boxes, menus, submenus, windows, lists, and selection names.
<i>Italics</i>	Indicates email addresses, the names of books or publications, and the first instances of new terms and specialized words that need emphasis.
CAPS	Indicates a specific key on the keyboard, such as ENTER, TAB, CTRL, ALT, or DELETE.
Code	Indicates variables or command-line entries, such as a DOS entry or something you type into a field.
>	Indicates the direction of navigation through a hierarchy of menus and windows.
<a href="#">hyperlink</a>	Indicates a jump to another location within the document or elsewhere (such as a Web site).
 <b>Note</b>	Indicates important information that helps to avoid and troubleshoot problems.

## Obtaining Leitch Documents

Leitch documents can be viewed or downloaded from the Leitch Web site at [www.leitch.com](http://www.leitch.com) (go to **Support>Documentation**). Alternatively, contact your Leitch customer service representative to request a document.

# Unpacking/Shipping Information

Leitch has carefully inspected, tested, and calibrated this product before shipment to ensure years of stable and troublefree service.

1. Check equipment for any visible damage that may have occurred during transit.
2. Confirm that you have received all items listed on the packing list.
3. Contact your Leitch dealer if any item on the packing list is missing.
4. Contact the carrier if any item is damaged.
5. Remove all packaging material from the product and its associated components before you install the unit.

Keep at least one set of original Leitch packaging, in the event that you need to return a product for servicing. If the original packaging is not available, you can purchase replacement packaging from Leitch at a modest cost, or supply your own packaging as long as it meets the following criteria:

- Withstands the weight of the product
- Holds the product rigid within the packaging
- Leaves at least two inches of space between the product and the container
- Protects the corners of the product

Ship products back to Leitch for servicing prepaid and, if possible, in the original packaging material. If the product is still within the warranty period, Leitch will return the product prepaid after servicing.

# Installation Information

Note the following installation recommendations:

- If this product is rack-mountable, mount it in an appropriate rack using the provided rack mounting and support equipment.
- Connect each frame to a separate electrical circuit for protection against circuit overloading.
- If this product relies on forced air cooling, remove all obstructions to the air flow prior to installing the frame in the rack.
- If this product has a provision for external earth grounding, ground the frame to earth via the protective earth ground on the rear panel.

See the following documents for further installation information:

- “Chapter 2: Installation” for more information about installing this product
- *FR6802+ Frame Installation and Operation Manual* for information on installing an FR6802+ frame
- *6800/7000 Series Frames and Power Supply Installation and Operation Manual* for information about installing and operating a 6800/7000 series frame



## Safety Standards and Compliances

See the *6800+ Safety Instructions and Standards Manual* to find the safety standards and compliances for this 6800+ series product.

A safety manual is shipped with every *FR6802+ Frame Installation and Operation Manual*, and can be downloaded from the Leitch Web site at [www.leitch.com](http://www.leitch.com). Alternatively, contact your Leitch customer service representative for a copy of this safety manual.

## Safety Terms and Symbols

This product manual uses the following safety terms and symbols to identify certain conditions or practices. See the *6800+ Safety Instructions and Standards Manual* for more information.

	<p><b>WARNING:</b> Identifies conditions or practices that can result in personal injury or loss of life—high voltage is present. Uninsulated dangerous voltage within the product’s enclosure may be sufficient to constitute a risk of electric shock to persons.</p>
	<p><b>CAUTION:</b> Identifies conditions or practices that can result in damage to the equipment or other property. Important operating and maintenance (servicing) instructions are included in the literature accompanying the product.</p>



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# Introduction

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## Overview

The ARG6800+ is an analog audio remote gain distribution amplifier module with configurable outputs. This module boasts both card-edge and remote control capabilities.

The following topics are described in this chapter:

- Product description and main features
- Front module and back connector descriptions
- Signal flow

# Product Description

The ARG6800+ analog audio remote gain distribution amplifier module provides the ultimate flexibility and versatility in one package. The module can be configured to function as either mono or stereo, can have summed outputs, and provides a complete remote (or local) gain range with unsurpassed technical specifications.

The ARG6800+ can be configured with one of two back connectors: a single-slot back connector with five 3-pin audio connectors (ARG6800+SR), or a double-slot back connector with ten connectors (ARG6800+DR).

You can set up, control, and monitor the ARG6800+ either locally via card-edge switches or remotely on a PC. For remote control, you can use either a serial RS-232 connection (with the +Pilot Lite™ software) or an optional ICE6800+ Ethernet connection (with CCS™ software or remote control panel).

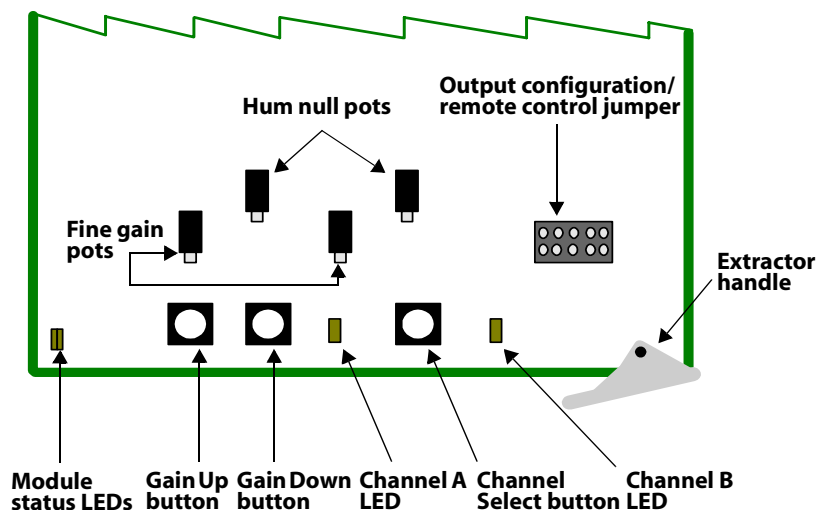
Other ARG6800+ features include the following:

- Balanced inputs and outputs
- Remote control for mute settings
- Remote indication for channel state and overload
- Remote and local control for independent channel gain adjustment
- Local control for selecting output configuration
- Configurable outputs to one of the following options:
  - Eight outputs designated to one channel (1x8)
  - Four outputs designated to channel A, four outputs designated to channel B (dual 1x4)
  - Eight outputs designated to the combined stream of both channels (2x8 sum)

# Module Descriptions

## Front Module

Figure 1-1 is a top-front view of a the ARG6800+ front module, and shows the general location of standard LEDs, controls, and jumpers.



**Figure 1-1.** ARG6800+ Module Controls

Table 1-1 on page 4 briefly describes generic 6800+ LEDs, switches, and jumpers. See “Chapter 3: Operation” for more information on specific ARG6800+ front module controls and jumpers.

**Table 1-1.** Generic 6800+ Front Module Features


Feature	Description
Module status LEDs	Various color and lighting combinations of these LEDs indicate the module state. See “LEDs and Alarms” in Chapter 3 for more information.
Gain Up and Down buttons	Press to increase or decrease the gain accordingly. Use a monitoring application (such as +Pilot Lite or another CCS software application like Pilot™, CoPilot™, or Navigator™) to read the actual gain levels.
Channel Select button	Press to select between channel A and B.
Channel A and B LEDs	Verify the selected channel. The selected channel (A/B) is indicated by the corresponding lit LED.
Fine gain pots controls	Rotate the potentiometer to adjust the attenuation of the input signal to a maximum of $\pm 1.5$ dB, $\pm 5\%$ . (This control is factory set.)
Hum null pots controls	Rotate the potentiometer to adjust the offset between the input balanced pair. (This control is factory set.)
Output configuration/remote control jumper	Set the jumper to configure the output locally or remotely. Jumper settings include the following: <ul style="list-style-type: none"> <li>• <b>1x8 Ch A:</b> All eight outputs are set to channel A</li> <li>• <b>1x8 Ch B:</b> All eight outputs are set to channel B</li> <li>• <b>Dual 1x4:</b> Four outputs are sets to channel A, four outputs are set to channel B</li> <li>• <b>Sum:</b> All eight outputs are set to output the averaged stream of both channel A and B</li> <li>• <b>Remote:</b> Remote configuration, operation, and monitoring of the ARG6800+ allowed</li> </ul>

## Back Connectors

### FR6802+ Frame Back Connectors

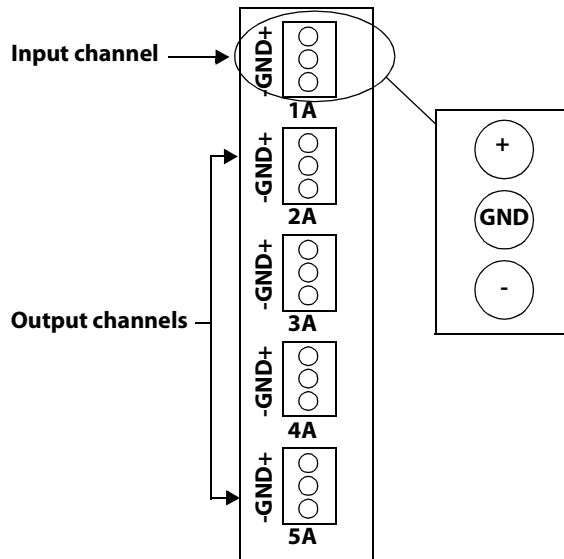
Figure 1-2 shows the single-slot back connector used by the ARG6800+ when installed in an FR6802+ frame.

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 **Note**

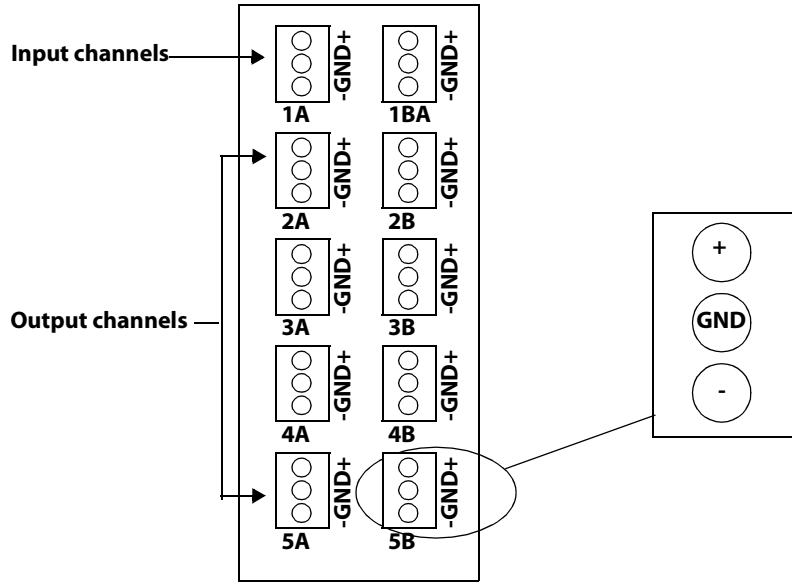
If you connect the ARG6800+ front module to an ARG6800+SR single-slot back connector, the output configuration will be fixed to **Channel A** for all eight outputs. As well, the remote parameters for **Channel B Gain, Mute, and State** will be disabled.

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**Figure 1-2.** Single-Slot Back Connector for FR6802+ Frame (ARG6800+SR)

Figure 1-3 on page 6 shows the double-slot back connector used by the ARG6800+ when installed in an FR6802+ frame.

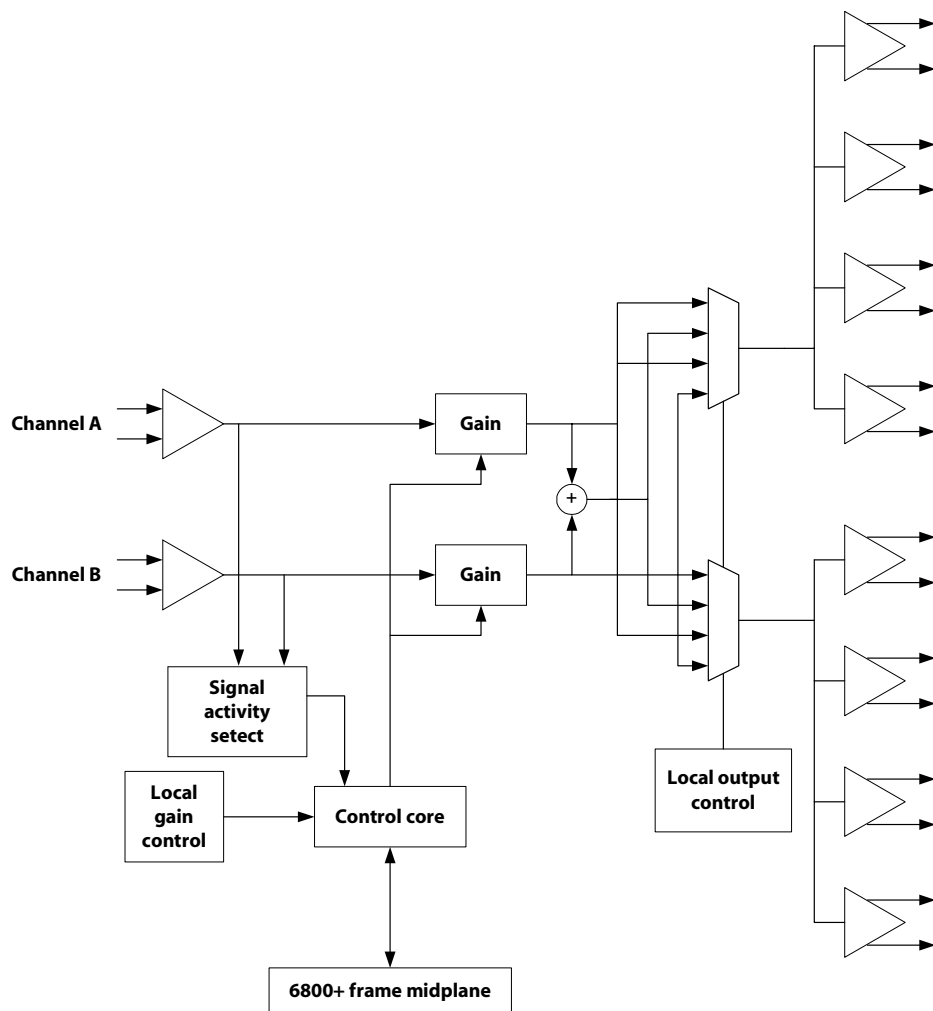


**Figure 1-3.** Double-Slot Back Connector for FR6802+ Frame (ARG6800+DR)



# Signal Flow

Figure 1-4 shows the basic signal flow of the ARG6800+.



**Figure 1-4.** Signal Flow Diagram



## Chapter 2

# Installation

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## Overview

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**Caution**

Before installing this product, read the *6800+ Series Safety Instructions and Standards* manual shipped with every *FR6802+ Frame Installation and Operation Manual*, or downloadable from the Leitch Web site at [www.leitch.com](http://www.leitch.com). This safety manual contains important information about the safe installation and operation of 6800+ series products.

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This chapter describes the ARG6800+ installation process, including the following topics:

- Unpacking the module
- Setting jumpers
- Installing modules
- Making connections
- Removing modules

See the *FR6802+ Frame Installation and Operation Manual* for information about installing and operating an FR6802+ frame and its components.

# Unpacking the Module

## Preparing the Product for Installation

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 **Note**

Contact your Leitch customer service representative if parts are missing or damaged.

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Before you install the ARG6800+, perform the following:

- Check the equipment for any visible damage that may have occurred during transit.
- Confirm receipt of all items on the packing list. *See* “Checking the Packing List” for more information.
- Remove the anti-static shipping pouch, if present, and all other packaging material.
- Retain the original packaging materials for possible re-use.

*See* “Unpacking/Shipping Information” on page v for information about returning a product for servicing.

## Checking the Packing List

Ordered Product	Content Description
ARG6800+	<ul style="list-style-type: none"> <li>• One ARG6800+ front module</li> <li>• One ARG6800+ <i>Installation and Operation Manual</i></li> </ul>
ARG6800+S	<ul style="list-style-type: none"> <li>• One ARG6800+ front module</li> <li>• One standard single-slot back connector with five 3-pin male audio connectors (ARG6800+SR)</li> <li>• Five 3-pin female mating connectors</li> <li>• One ARG6800+ <i>Installation and Operation Manual</i></li> </ul>
ARG6800+D	<ul style="list-style-type: none"> <li>• One ARG6800+ front module</li> <li>• One standard double-slot back connector with ten 3-pin male audio connectors (ARG6800+DR)</li> <li>• Ten 3-pin female mating connectors</li> <li>• One ARG6800+ <i>Installation and Operation Manual</i></li> </ul>
ARG6800+SR	<ul style="list-style-type: none"> <li>• One standard single-slot back connector with five 3-pin male audio connectors</li> <li>• Five 3-pin female mating connectors</li> </ul>
ARG6800+DR	<ul style="list-style-type: none"> <li>• One standard double-slot back connector with ten 3-pin male audio connectors</li> <li>• Ten 3-pin female mating connectors</li> </ul>

# Setting Jumpers

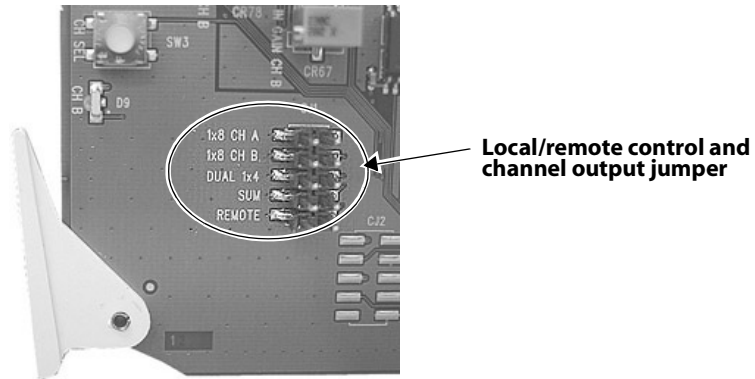
## Note

If a jumper is not placed on the **CJ1** jumper, the module will route all eight outputs to channel A.

The ARG6800+ module has one standard jumper (**CJ1**). You can set the jumper to configure the outputs remotely on a PC, or locally.

1. Locate jumper **CJ1** on the module (beside the extractor handle).

Figure 2-1 shows the location of the **CJ1** jumper.



**Figure 2-1.** Location of the CJ1 Jumper

## Note

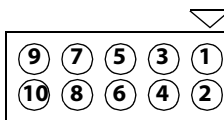
If you configure the module for remote control, the card-edge LEDs for channel A and B selection will not be active.

2. Place a jumper on pins 9 and 10 to set the module for remote control and to configure the outputs on a PC.

Alternatively, place a jumper on one of the following pin sets to configure the module outputs locally:

- **Pins 1 and 2 (1x8 Ch A):** All eight outputs are set to channel A
- **Pins 2 and 4 (1x8 Ch B):** All eight outputs are set to channel B
- **Pins 5 and 6 (Dual 1x4):** Four outputs are sets to channel A, four outputs are set to channel B
- **Pins 7 and 8 (Sum):** All eight outputs are set to output the combined stream of both channel A and B

Figure 2-2 identifies the pin locations.



**Figure 2-2.** Pin Locations on Jumper CJ1

## Note

The white triangle on the module near the jumper pins indicates pin 1.

All other module parameters (such as **Mute**) must be set remotely.

## Installing 6800+ Modules

There are three types of modules:

- Double-slot back connectors
- Single-slot back connectors
- Front modules

Back connectors come in two sizes: double-slot and single-slot. The 6800+ front modules can connect to either single- or double-slot back connectors depending on the product type (*see the [Installation and Operation Manual](#) that accompanies an individual front module for details on its back connector requirements*).

Up to twenty front modules connected to single-slot back connectors fit in an FR6802+ frame. Up to ten front modules can fit in a frame if they are connected to double-slot back connectors (two spaces are required to accommodate the extra slot of the back connector).

You can install most 6800+ modules in any unused slot without interfering with other frame functions.

## Installing 6800+ Modules in an FR6802+ Frame



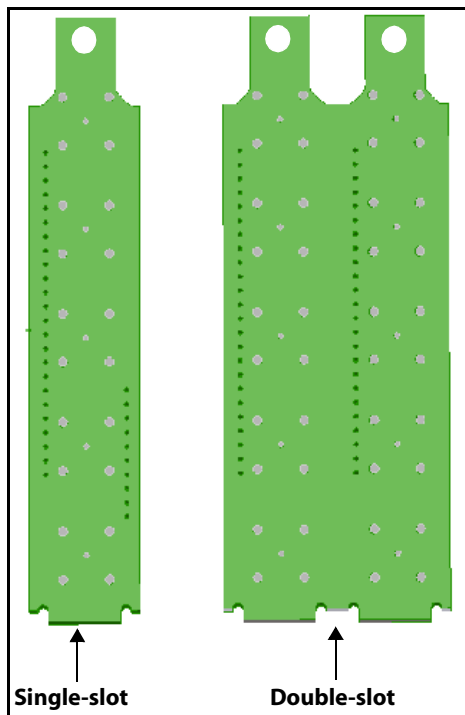
### Note

The ARG6800+ is not compatible with 6800/7000 series frames.

Follow these steps to install modules into an FR6802+ frame. All modules are hot-swappable, and can be installed with the power supply either turned on or turned off.

1. Remove a blank back connector from the frame. See Figure 2-3.

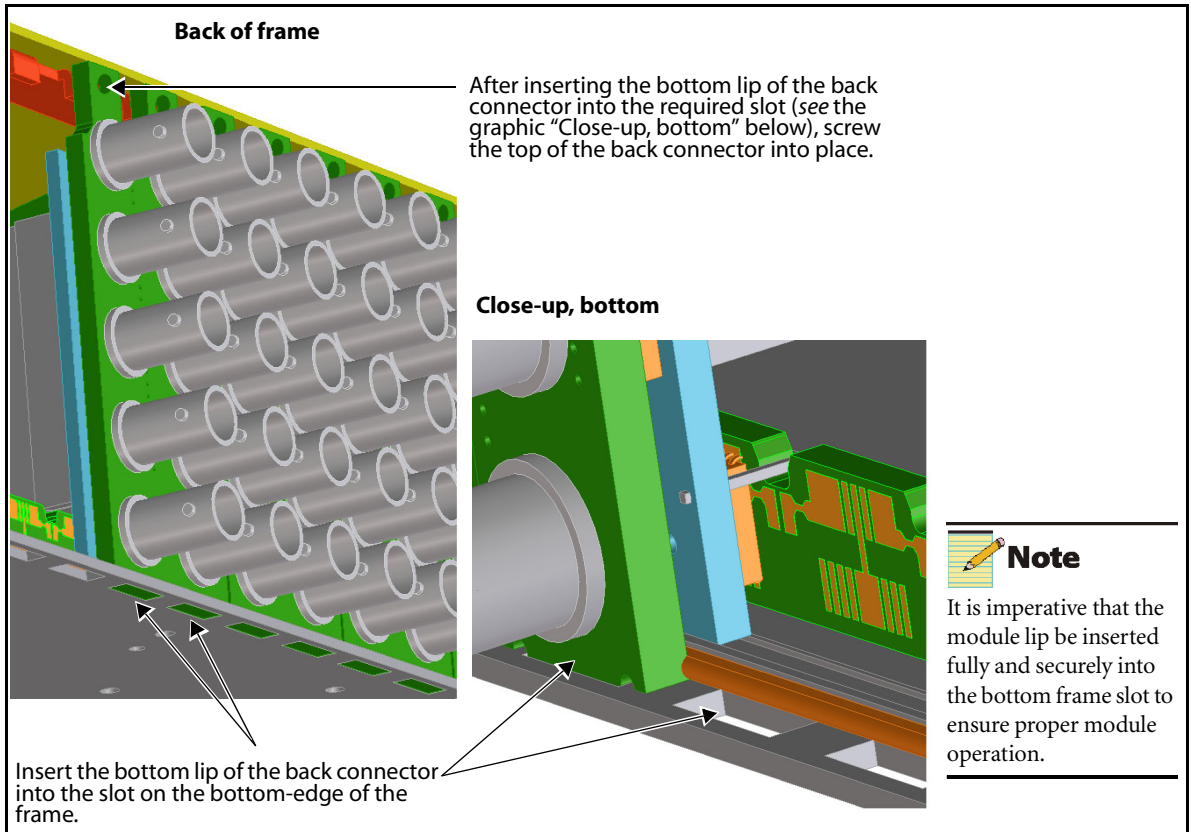
Do not discard the blank back connectors. They may be needed for future configurations.



**Figure 2-3.** Blank Back Connectors



2. Install the new back connector by inserting the bottom lip into the required frame slot, and then screwing it into place. See Figure 2-4. Ensure that the EMI gaskets on the right side of the back connector remain in place during the installation. The EMI gaskets fit tightly.



**Figure 2-4.** Typical Installation of Back Connectors, Rear View

### **Caution**

The front module must match the corresponding back connector; otherwise, the modules will not operate correctly. Some module insertions may be prevented if the modules are incompatible.

3. Apply the back connector labels to the back connecting module, if these are supplied separately.
4. Pull out the finger-release screws on the right and left side of the front panel, and then open it.
5. Locate the front module slot that corresponds with the matching back connector.

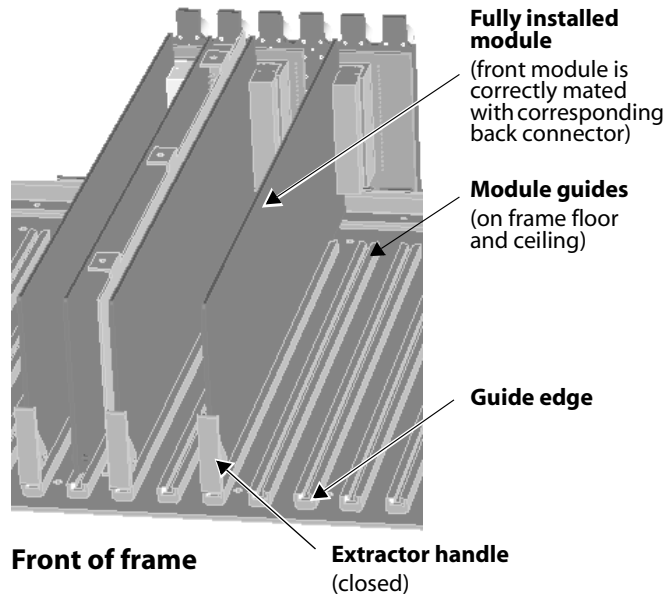
- Slide the front module into the guides on the frame floor.  
See Figure 2-5.

The module is properly seated when its edge is flush with the guide edge and the extractor handle closes. See Figure 2-6.

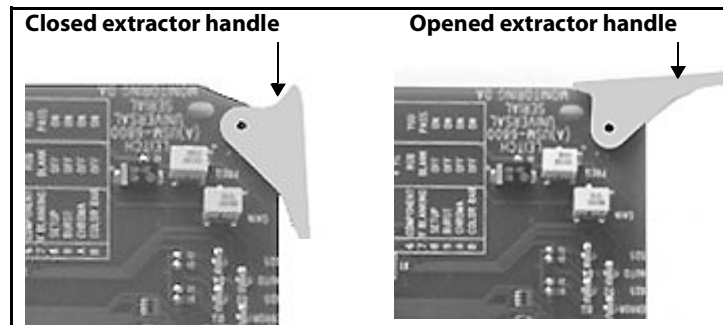
### Note

For illustration purposes, the top of the FR6802+ frame is not shown here.

### Rear of frame



**Figure 2-5.** Frame Floor with Module Guides, Disassembled View



**Figure 2-6.** Extractor Handle in Closed and Opened Positions

- Install the remaining front modules and back connectors, and then make all of the necessary system connections.
- Close the front panel to ensure proper frame ventilation.

### Caution

To prevent overheating during general frame operation and maintain proper airflow, keep the front panel closed and all back connector slots covered during operation.

## Making Connections

Once you have installed an ARG6800+ back connector, plug the 3-pin female mating connectors into the 3-pin male audio connectors on the back connector. Now you can connect it to the appropriate audio signal inputs and outputs. See Figure 1-2 on page 5 and Figure 1-3 on page 6.

If you have connected the ARG6800+ front module to an ARG6800+SR single-slot back connector, the output configuration is fixed to **Channel A** for all four outputs.

## Removing 6800+ Modules

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**Note**

Modules are hot-swappable and can be removed or replaced without powering down the frame.

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**Caution**

To prevent overheating during general frame operation and maintain proper airflow, keep the front panel closed and all back connector slots covered during operation.

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To remove a module from an FR6802+ frame, follow these steps:

1. Pull out the finger-release screws on the right and left side of the front panel, and then open it.
2. Grasp the extractor handle on the installed module, and then pull the module out of its slot using the handle as a lever.
3. Close the front panel to ensure proper frame ventilation.
4. Unscrew the top of the corresponding back connector, and tip it towards you.
5. Pull the bottom lip of the back connector out from its slot.
6. Reinstall a new or blank back connector in the empty slot to ensure proper frame ventilation.

## Overview

This chapter describes how to operate the ARG6800+ using card-edge controls only. See the following Leitch documents for information on how to operate this product remotely:

- *+Pilot Lite User Manual for serial control interface*
- *CCS™ Navigator™, Pilot™ CoPilot™ or RCP-CCS-1U Remote Control Panel Manual for Ethernet control interface*

The following topics are discussed in this chapter:

- Understanding card-edge controls
- Setting local ARG6800+ card-edge controls
- Monitoring alarms and status LEDs

# Understanding Card-Edge Controls

## Control Types

### Note

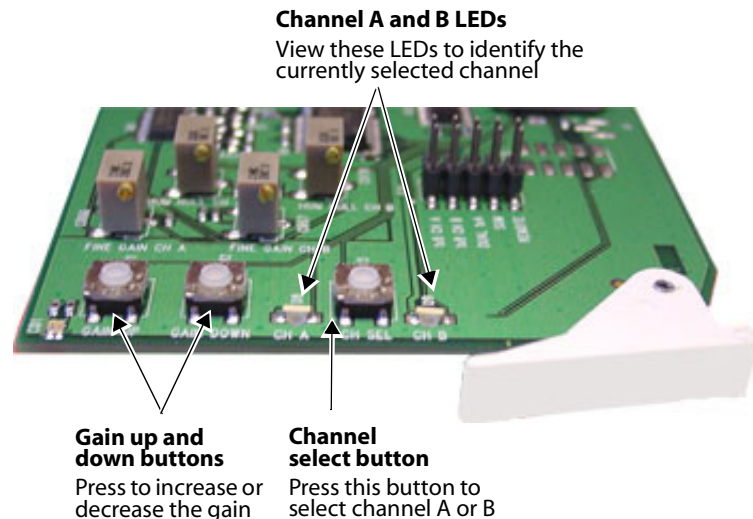
Leitch recommends that you use the available 6800+ software control options (serial/local or Ethernet/remote) to aid in viewing, setting, and confirming parameter values.

You can operate and monitor certain controls for the ARG6800+ using the **Gain Up/Dwn** and **Ch Sel** buttons, the **Ch A/B** LED indicators, and the **CJ1** jumper (used for setting the channel output and local/remote control). See Figure 3-1 for the location of all card-edge controls.

Other settings can only be configured using remote control software (for example, **+Pilot Lite** for serial control or **CCS Pilot/CoPilot/Navigator** for Ethernet control). See “Setting Remotely Controlled Parameters” on page 24 for a list of controls that can only be configured on a PC.

### Note

Four potentiometers are also located on the card-edge to adjust the fine gain of the input signal (**Fine Gain Ch A/B** pots) and to adjust the offset between the input balanced pair (**Hum Null Ch A/B** pots). These items are factory set, and should only be adjusted by qualified personnel.



**Figure 3-1.** Card-Edge Controls

## Gain Up and Down Buttons

The **Gain Up** and **Gain Dwn** buttons increase and decrease the audio signal gain respectively in 0.5 dB steps. The gain range is -95.5 dB to 31.5 dB.

## Channel Select Button and Ch A/B LEDs

The **Ch Sel** button selects between channel A or B. The **Ch A** and **Ch B** LEDs indicate which channel is active. Local control applies to the currently selected channel.

## CJ1 Jumper for Channel Output and Local/Remote Control



### Note

You need to configure modules for local or remote operation *prior* to power-up. To change the configuration, first remove power from the module, reset the jumper, and then reapply power.

Locally configure the outputs using this jumper, or set the jumper for remote configuration.

- If you configure the jumper for remote control (pins 9 and 10), any changes that you make to the card-edge buttons and pots will not take effect. The channel selection LEDs will remain unlit to signify that the module is under remote control.
- If you configure the jumper for local control, all gain output configuration must be done with the buttons, pots, and jumpers on the module. Local control changes will be reflected in the remote control software, but you will not be able to change these settings remotely.

See “Setting Jumpers” on page 12 for more information on configuring the module outputs locally with this jumper.

## Fine Gain Ch A and B Potentiometers



### Note

These are factory set and should only be adjusted by qualified personnel. A 3/32” slotted screw driver or tweaker is used to adjust pots.

The **Fine Gain Ch A** and **Fine Gain Ch B** pots finely adjust the gain of the input signal and set the exact unity. The gain can be trimmed to a maximum of  $\pm 1.5$  dB,  $\pm 5\%$ .

## Hum Null Ch A and B Potentiometers



### Note

These are factory set and should only be adjusted by qualified personnel. A 3/32” slotted screw driver or tweaker is used to adjust pots.

The **Hum Null Ch A** and **Hum Null Ch B** pots adjust the offset between the input balanced pair signals.

# Setting Local ARG6800+ Card-Edge Controls

When configuring the module locally, Leitch recommends that you use the available 6800+ software control options (serial/local or Ethernet/remote) to aid in viewing, setting, and confirming parameter values.

Follow these steps to locally configure the ARG6800+:



## Note

Placing a jumper on pins 9 and 10 will set the module for remote control.



## Note

If the ARG6800+ is connected to an ADA6800+SR back connector, the output configuration is fixed to channel A for all eight outputs. The remote parameters for channel B **Gain**, **Mute**, and **State** will be disabled.

1. Configure the module audio outputs locally by placing a jumper over one of the following pin sets on jumper **CJ1**:
  - **Pins 1 and 2 (1x8 Ch A)** to set all eight outputs to channel A
  - **Pins 3 and 4 (1x8 Ch B)** to set all eight outputs to channel B
  - **Pins 5 and 6 (Dual 1x4)** to set four outputs to channel A and four outputs to channel B
  - **Pins 7 and 8 (Sum)** to set all eight outputs to the combined stream of both channel A and B

See “Setting Jumpers” on page 12 for more information.

2. Press the **Ch Sel** button to select an audio channel (either A or B). The **Ch A** or **Ch B** LED will light to indicate the currently selected channel.
3. Press the **Gain Up** button to increase the audio signal gain on the selected channel.
 

Each time you press the button, the gain will increase by 0.5 dB. Increase the gain to a maximum of 31.5 dB.
4. Press the **Gain Dwn** button to decrease the audio signal gain on the selected channel.
 

Each time you press the button, the gain will decrease by 0.5 dB. Decrease the gain to a minimum of -95.5 dB.
5. Using a 3/32” slotted screwdriver or tweaker, qualified personnel may choose to adjust the **Fine Gain Ch A** and **Fine Gain Ch B** potentiometers, or the **Hum Null Ch A** and **Hum Null Ch B** potentiometers at this time.

As the potentiometer settings are factory set, Leitch does not recommend readjustment for normal operating circumstances.



## Operation Notes

Note the following:

- Each time the ARG6800+ powers up, the channel gain returns to the last known value.
- The default setting for the local gain channel selection is channel A.
- Local changes made to gain controls will be reflected in the remote gain control settings of your CCS control software application.
- When the module is set to local control, gain adjustment and output configuration are done on the card-edge but also reflected in your CCS control software application. Any remote attempts to adjust the gain, configure the outputs, or mute the signal will have no effect.
- When the module is set to remote control, any local attempts to use card-edge features will have no effect. The **Ch A/B** LEDs on the module will be unlit to signify that the module is under remote control.
- If a jumper is not placed on the **CJ1** jumper, the module will route all outputs to channel A.
- If the input channel is  $<-40$  dBu for five seconds, it is considered inactive. If the input the channel is  $>-40$  dBu for five seconds, it is considered active. This channel state information is relayed to you through your CCS control software application.

## Setting Remotely Controlled Parameters

The ARG6800+ has several parameters that cannot be set or monitored with card-edge controls. Table 3-1 describes ARG6800+ parameters and alarms that are only accessible remotely. See your CCS control software application manual or online help for more information on setting and monitoring the following parameters remotely:

**Table 3-1.** Remotely Controlled Parameters

Parameter Name	Range	Description
Out Config	<ul style="list-style-type: none"> <li>• 1x8 Ch A</li> <li>• 1x8 Ch B</li> <li>• Dual 1x4</li> <li>• Sum</li> </ul>	Sets the output configuration for the module  Note: if the ARG6800+ is connected to an ADA6800+SR back connector, this parameter will be unavailable
Ch A	-95.5 to 31.5 dB	Sets the gain for channel A in steps of 0.5 dB (can also be set locally)
Ch B	-95.5 to 31.5 dB	Sets the gain for channel B in steps of 0.5 dB (can also be set locally)  Note: if the ARG6800+ is connected to an ADA6800+SR back connector, this parameter will be unavailable
Ch A Mute	<ul style="list-style-type: none"> <li>• On</li> <li>• Off</li> </ul>	Mutes channel A
Ch B Mute	<ul style="list-style-type: none"> <li>• On</li> <li>• Off</li> </ul>	Mutes channel B  Note: if the ARG6800+ is connected to an ADA6800+SR back connector, this parameter will be unavailable
Ch A State	<ul style="list-style-type: none"> <li>• Active</li> <li>• Inactive</li> </ul>	Indicates if channel A is active or inactive (read-only parameter)

**Table 3-1.** Remotely Controlled Parameters (*Continued*)

Parameter Name	Range	Description
Ch B State	<ul style="list-style-type: none"> <li>• Active</li> <li>• Inactive</li> </ul>	<p>Indicates if channel B is active or inactive (read-only parameter)</p> <p>Note: if the ARG6800+ is connected to an ADA6800+SR back connector, this parameter will be unavailable</p>
Ch A Overload (alarm)	<ul style="list-style-type: none"> <li>• On</li> <li>• Off</li> </ul>	Indicates is an overload condition exists on channel A (read-only parameter)
Ch B Overload (alarm)	<ul style="list-style-type: none"> <li>• On</li> <li>• Off</li> </ul>	Indicates is an overload condition exists on channel B (read-only parameter)

See “LEDs and Alarms” on page 26 for more information on remotely monitoring ARG6800+ alarms.

## Reading the Software Version

The current software version of your ARG6800+ module can only be viewed using Pilot (via Ethernet control). See your *CCS Pilot User Manual* or Online Help for information on viewing software versions.

# LEDs and Alarms

## Channel A and B LEDs

The **Ch A** and **Ch B** LEDs indicate which channel is currently selected.

## Module Status LEDs

The ARG6800+ module does not have any card-edge alarms. Instead, module status LEDs on the corner of the module light if an error is detected. *See* Figure 1-1 for the location of these LEDs, and Table 3-2 for a definition of the LED colors.

Alarms are usually logged and monitored within the available 6800+ software control applications (for example, +Pilot Lite or Pilot). *See* the appropriate software control user manual or online help for more information.

**Table 3-2.** Status LED Descriptions

LED Color Sequence	Meaning
Off	There is no power to the module; the module is not operational.
Green	There is power to the module; the module is operating properly.
Red	There is an alarm condition.

## Chapter 4

# Specifications

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## Overview

The following specification tables appear in this chapter:

- Balanced analog audio input
- Balanced analog audio output
- Channel monitoring
- Power consumption

Specifications and designs are subject to change without notice.

# Balanced Analog Audio Input

Item	Specification
Number of inputs	<ul style="list-style-type: none"> <li>• ARG6800+SR: 1 input</li> <li>• ARG6800+DR: 2 inputs</li> </ul>
Connector	3-pin Leitch audio connector
Signal type	Balanced
Input impedance	HiZ, >30 k $\Omega$
Maximum input level	+28 dBu
CMR range	$\pm 20$ V
CMRR (common mode rejection ratio)	90 dB @ 60 Hz @ 8 dBu
Gain range	-95.5 to 31.5 dB in 0.5 dB steps (gain increment tolerance $\pm 0.05$ dB)
Gain trim	Local front adjust potentiometers provide $\pm 1.5$ dB to set exact unity

## Balanced Analog Audio Output

Item	Specification
Number of outputs	<ul style="list-style-type: none"> <li>• ARG6800+SR: 4 outputs</li> <li>• ARG6800+DR: 8 outputs</li> </ul>
Connector	3-pin Leitch audio connector
Signal type	Balanced
Output impedance	66 $\Omega$
Maximum output level	+28 dBu

## Performance

Item	Specification
SNR	>90 dB @ unity gain, 20 Hz to 20 kHz relative to +8 dBu signal, unweighted
Frequency response	$\pm 0.05$ dB 20 Hz to 20 kHz relative to 1 kHz @ unity gain
THD	<0.02% 20 Hz to 20 kHz @ 24 dBu
IMD	<0.02%, SMPTE @ +18 dBu
Crosstalk	>85 dB isolation, 20 Hz to 20 kHz
Output isolation	>70 dB, 20 Hz to 20 kHz

# Channel Monitoring Specifications

Item	Specification
Channel state	<ul style="list-style-type: none"><li>• Inactive state if Channel <math>&lt; -40</math> dBu for 5 sec</li><li>• Active state if Channel <math>&gt; -40</math> dBu for 5 sec</li></ul>
Channel overload	Overload condition if Channel $> 23.5$ dBu for 1 sec

## Power Consumption

Total power required by the ARG6800+ is 3 W.



## Warranty

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Leitch Incorporated ("Leitch") warrants to each original end-user purchaser or licensee (each, a "Customer") of hardware or software products manufactured by Leitch (each, a "Product"), or of non-warranty repair or other services provided by Leitch ("Services"), that each such Product and all such Services will be free from defects in materials and workmanship that adversely affect the Product's performance or the Services' intended purpose for a period (the "Warranty Period") of:

- One year for server hardware Products;
- Two years for non-server, and Desktop hardware Products;
- Ninety days for parts, assemblies and supplies to support hardware Products previously sold to Customers;
- Ninety days for media of software licensed separately from Leitch hardware Products, and encoding created by Leitch as physically affixed on or embedded in such media;
- The same period as the hardware Product warranty for media of software licensed as an integral part of any Leitch hardware Product, and encoding created by Leitch as physically affixed on or embedded in such media
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Please refer to the current "Leitch Limited Warranty Policy" for a complete description of the warranty provided, including important exclusions and limitations as well as procedures for obtaining warranty service.



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