

SMASHUP

Reference Manual

ALESIS

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Introduction

Welcome!

Thank you for making the Alesis Smashup a part of your studio. Since 1984, we've been designing and building creative tools for the audio community. We believe in our products, because we've heard the results that creative people like you have achieved with them. One of Alesis' goals is to make high-quality studio equipment available to everyone, and this Reference Manual is an important part of that. After all, there's no point in making equipment with all kinds of capabilities if no one explains how to use them. So, we try to write our manuals as carefully as we build our products.

The goal of this manual is to get you the information you need as quickly as possible, with a minimum of hassle. We hope we've achieved that. If not, please drop us an email and give us your suggestions on how we could improve future editions of this manual.

We hope your investment will bring you many years of creative enjoyment and help you achieve your goals.

Sincerely,
The people of Alesis

For more effective service and product update notices, please register your Smashup online at:

<http://www.alesis.com/support/warranty.htm>

Introduction

About the Smashup

Your new Smashup is a member of the Alesis ModFX family of performance effects boxes. This particular ModFX unit is a deluxe compressor with the ability to model several different types of compression.

Each ModFX unit provides a different set of sound effects and signal processing, and they are easy to arrange and connect to each other. With a uniform, friendly, uncomplicated user interface and high-resolution digital processing, the ModFX products are perfect for keyboardists, guitarists, and any other studio or live performance artists.

Important features of your Smashup

High resolution processing

The Smashup internally uses 28-bit stereo digital signal processing. The digital-to-analog and analog-to-digital conversion is sampled at 48kHz with 24 bits of resolution. That means you can get the effect you want, without adding unwanted noise and distortion.

ModLink

If you're using multiple ModFX boxes to make your own unique effects chain, ModLink makes it easy to hookup without needing patch cords between units in a chain. The nine-pin connectors built into each side of the case enable a ModFX box to transfer digital audio and word clock directly to another. Any number of units can be connected together.

Selectable compression types

Capitalizing on the unique capabilities of Alesis's digital signal processing techniques, the Smashup is able to sound like several different types of classic analog compressors. Adjustable attack and release controls, plus unique "look ahead" and "sizzle" features, make this compressor uniquely suited to the needs of guitarists, bassists, remix engineers, and producers.

Smashup Key Features

- Digital emulation of six different kinds of analog compression
- Adjustable threshold, attack, release, and output level
- Look Ahead feature anticipates upcoming peaks for compression before they're processed
- Sizzle feature keeps clarity and punch even with extreme compression settings
- Uniform, friendly, uncomplicated user interface—no fiddling with complicated menus or “hidden” knobs
- Stereo processing via four 1/4” unbalanced connectors
- ModLink port, a cable-free connection that transfers digital audio and word clock to other boxes in the ModFX family
- Footswitch connection to control the bypass function
- Ability to mount 3 ModFX boxes in the optional ModFX rack adapter
- Input trim control to adjust input level
- Internal 28-bit digital processing
- 24-bit D/A and A/D conversion at 48kHz sampling rate for quiet, distortion-free effects
- External 9VAC power supply included

Introduction

How to Use This Manual

A little technical knowledge will help you get the most out of your gear...it's really pretty simple. This manual is divided into the following sections describing the various functions and applications for the Smashup. While it's a good idea to read through the entire manual once carefully, those having general knowledge about effect devices should use the table of contents to look up specific functions.

Chapter 1: Quick Start. If you're already experienced with effect boxes, this will get you started using the Smashup right away. It's a short guide to the essential elements of hooking it up and using it for the first time. A brief tour of the front and rear panels also directs you to the chapters focused on individual features.


Chapter 2: Connections gives detailed instructions for connecting the Smashup to a variety of typical audio systems. It also discusses the process of linking the Smashup with other ModFX devices.

Chapter 3: Using the Smashup explains the controls of the Smashup and their functions.

Chapter 4: Sample Settings provides a selection of sound charts created by the sound designers at Alesis for you to try.

Near the end of the manual are troubleshooting tips, specifications, and an index to help you find what you're looking for.

Helpful tips and advice are highlighted in a shaded box like this



When something important appears in the manual, an exclamation mark (like the one shown at left) will appear with some explanatory text. This symbol indicates that this information is vital when operating the Smashup.

Safety Instructions/Notices

Important Safety Instructions (English)

Safety symbols used in this product



This symbol alerts the user that there are important operating and maintenance instructions in the literature accompanying this unit.



This symbol warns the user of uninsulated voltage within the unit that can cause dangerous electric shocks.



This symbol warns the user that output connectors contain voltages that can cause dangerous electrical shock.



Please follow these precautions when using this product:



1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a damp cloth. Do not spray any liquid cleaner onto the faceplate, as this may damage the front panel controls or cause a dangerous condition.
7. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

Continued next page

Important Safety Instructions

11. Use only attachments or accessories specified by the manufacturer.
-  12. Use only with a cart, stand, bracket, or table designed for use with professional audio or music equipment. In any installation, make sure that injury or damage will not result from cables pulling on the apparatus and its mounting. If a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
-  14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when the power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. This unit produces heat when operated normally. Operate in a well-ventilated area with at least six inches of clearance from peripheral equipment.
16. This product, in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
17. Do not expose the apparatus to dripping or splashing. Do not place objects filled with liquids (flower vases, soft drink cans, coffee cups) on the apparatus.
18. **WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

CE Declaration Of Conformity

See our website at:

<http://www.alesis.com>

FCC Compliance Statement

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Important Safety Instructions

Instructions de Sécurité Importantes (French)

Symboles utilisés dans ce produit



Ce symbole alerte l'utilisateur qu'il existe des instructions de fonctionnement et de maintenance dans la documentation jointe avec ce produit.



Ce symbole avertit l'utilisateur de la présence d'une tension non isolée à l'intérieur de l'appareil pouvant engendrer des chocs électriques.



Ce symbole prévient l'utilisateur de la présence de tensions sur les raccords de sorties, représentant un risque d'électrocution.

Veillez suivre ces précautions lors de l'utilisation de l'appareil:



1. Lisez ces instructions.
2. Gardez ces instructions.
3. Tenez compte de tous les avertissements.
4. Suivez toutes les instructions.
5. N'utilisez pas cet appareil à proximité de l'eau.
6. Ne nettoyez qu'avec un chiffon humide. Il est potentiellement dangereux d'utiliser des pulvérisateurs ou nettoyeurs liquides sur cet appareil.
7. Installez selon les recommandations du constructeur.
8. Ne pas installer à proximité de sources de chaleur comme radiateurs, cuisinière ou autres appareils (dont les amplificateurs) produisant de la chaleur.
9. Ne pas enlever la prise de terre du cordon secteur. Une prise murale avec terre deux broches et une troisième reliée à la terre. Cette dernière est présente pour votre sécurité. Si le cordon secteur ne rentre pas dans la prise de courant, demandez à un électricien qualifié de remplacer la prise.
10. Évitez de marcher sur le cordon secteur ou de le pincer, en particulier au niveau de la prise, et aux endroits où il sort de l'appareil.

Suite de la page suivante

11. N'utilisez que des accessoires spécifiés par le constructeur.



12. N'utilisez qu'avec un stand, ou table conçus pour l'utilisation d'audio professionnel ou instruments de musique. Dans toute installation, veillez de ne rien endommager à cause de câbles qui tirent sur des appareils et leur support.



13. Débranchez l'appareil lors d'un orage ou lorsqu'il n'est pas utilisé pendant longtemps.

14. Faites réparer par un personnel qualifié. Une réparation est nécessaire lorsque l'appareil a été endommagé de quelque sorte que ce soit, par exemple lorsque le cordon secteur ou la prise sont endommagés, si du liquide a coulé ou des objets se sont introduits dans l'appareil, si celui-ci a été exposé à la pluie ou à l'humidité, ne fonctionne pas normalement ou est tombé.

15. Puisque son fonctionnement normale génère de la chaleur, placez cet appareil au moins 15cm. des équipements périphériques et assurez que l'emplacement permet la circulation de l'air.

16. Ce produit, utilisé avec un amplificateur et un casque ou des enceintes, est capable de produire des niveaux sonores pouvant engendrer une perte permanente de l'ouïe. Ne l'utilisez pas pendant longtemps à un niveau sonore élevé ou à un niveau non confortable. Si vous remarquez une perte de l'ouïe ou un bourdonnement dans les oreilles, consultez un spécialiste.

17. N'exposez pas l'appareil à l'égoutture ou à l'éclaboussement. Ne placez pas les objets remplis de liquides (vases à fleur, boîtes de boisson non alcoolique, tasses de café) sur l'appareil.

18. **AVERTISSEMENT:** Pour réduire le risque du feu ou de décharge électrique, n'exposez pas cet appareil à la pluie ou à l'humidité.

Important Safety Instructions

Lesen Sie bitte die folgende Sicherheitshinweise (German)

Sicherheit Symbole verwendet in diesem Produkt



Dieses Symbol alarmiert den Benutzer, daß es wichtige Funktionen und Wartung Anweisungen in der Literatur gibt, die diese Maßeinheit begleitet.



Dieses Symbol warnt den Benutzer der nicht isolierten Spannung innerhalb der Maßeinheit, die gefährliche elektrische Schläge verursachen kann.



Dieses Symbol warnt den Benutzer, dem Ausgabestecker Spannungen enthalten, die gefährlichen elektrischen Schlag verursachen können.

Folgen Sie bitte diesen Vorkehrungen, wenn dieses Produkt verwendet wird:



1. Lesen Sie die Hinweise.
2. Halten Sie sich an die Anleitung.
3. Beachten Sie alle Warnungen.
4. Beachten Sie alle Hinweise.
5. Bringen Sie das Gerät nie mit Wasser in Berührung.
6. Verwenden Sie zur Reinigung nur ein weiches Tuch. Verwenden Sie keine flüssigen Reinigungsmittel. Dies kann gefährliche Folgen haben.
7. Halten Sie sich beim Aufbau des Gerätes an die Angaben des Herstellers.
8. Stellen Sie das Gerät nicht in der Nähe von Heizkörpern, Heizungsklappen oder anderen Wärmequellen (einschließlich Verstärkern) auf.
9. Verfehlen Sie nicht den Zweck des grounding Terminals auf dem Netzstecker. Dieses Terminal wird für Ihre Sicherheit zur Verfügung gestellt.
10. Verlegen Sie das Netzkabel des Gerätes niemals so, daß man darüber stolpern kann oder daß es gequetscht wird.

Fortsetzung auf nächster Seite

Important Safety Instructions

11. Benutzen Sie nur das vom Hersteller empfohlene Zubehör.



12. Verwenden Sie ausschließlich Wagen, Ständer, oder Tische, die speziell für professionelle Audio- und Musikinstrumente geeignet sind. Achten Sie immer darauf, daß die jeweiligen Geräte sicher installiert sind, um Schäden und Verletzungen zu vermeiden. Wenn Sie einen Rollwagen benutzen, achten Sie darauf, das dieser nicht umkippt, um Verletzungen auszuschließen.

13. Ziehen Sie während eines Gewitters oder wenn Sie das Gerät über einen längeren Zeitraum nicht benutzen den Netzstecker aus der Steckdose.



14. Die Wartung sollte nur durch qualifiziertes Fachpersonal erfolgen. Die Wartung wird notwendig, wenn das Gerät beschädigt wurde oder aber das Stromkabel oder der Stecker, Gegenstände oder Flüssigkeit in das Gerät gelangt sind, das Gerät dem Regen oder Feuchtigkeit ausgesetzt war und deshalb nicht mehr normal arbeitet oder heruntergefallen ist.

15. Dieses Gerät produziert auch im normalen Betrieb Wärme. Achten Sie deshalb auf ausreichende Lüftung mit mindestens 15 cm Abstand von anderen Geräten.

16. Dieses Produkt kann in Verbindung mit einem Verstärker und Kopfhörern oder Lautsprechern Lautstärkepegel erzeugen, die anhaltende Gehörschäden verursachen. Betreiben Sie es nicht über längere Zeit mit hoher Lautstärke oder einem Pegel, der Ihnen unangenehm is. Wenn Sie ein Nachlassen des Gehörs oder ein Klingeln in den Ohren feststellen, sollten Sie einen Ohrenarzt aufsuchen.

17. Setzen Sie den Apparat nicht Bratenfett oder dem Spritzen aus. Plazieren Sie die Nachrichten, die mit Flüssigkeiten (gefüllt werden Blumenvases, Getränkdosen, Kaffeetassen) nicht auf den Apparat.

18. **WARNING:** um die Gefahr des Feuers oder des elektrischen Schlages zu verringern, setzen Sie diesen Apparat nicht Regen oder Feuchtigkeit aus.

Important Safety Instructions

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1 Quick Start Guide

If you can't wait to get started

The Alesis Smashup is a unique product, but its basic hookup and operation is similar to other in-line signal processors (like EQs and compressors) in most respects. If you're experienced with signal processors, this chapter is a "shorthand" guide for those who want to start using the Smashup right away. If you have questions about any of the features, don't worry – later chapters will unveil the mysteries of the Smashup's special features.

If you're new to signal processing...

start with the more detailed instructions for hookup and operation starting in the next chapter.

Hook it up to a synthesizer

1. First, make sure the power is off to all the components you're connecting: amp, mixer, and instruments.
2. Pull the Smashup and its power supply out of the package.
3. Using a pair of 1/4" instrument cables, plug the outputs of the synthesizer into the INPUTS on the back of the Smashup.
4. Connect the OUTPUTS of the Smashup to the inputs of a mixer, powered speakers, or instrument amplifier.
5. Insert the power jack of the Smashup's power adapter into the POWER 9VAC input on the rear panel of the Smashup and plug the power adapter into an AC outlet (preferably on a power strip with its switch off).

The Smashup doesn't have a POWER switch of its own. The moment you plug in the power, its top panel LEDs will come on.

6. Turn the power on to the system: the keyboard, then the Smashup's power strip (if it's not already on), then the mixer, then the amp.
7. Turn the INPUT TRIM knob on the back of the Smashup while playing the keyboard to adjust the input level. The SIGNAL LED on the top panel will light green, not red, when the level is correct.
8. Experiment with the knob and button settings on the Smashup to create different sounds.

For more detailed information on connecting the Smashup, see chapter 2: Connections.

A quick overview of the controls

Sizzle

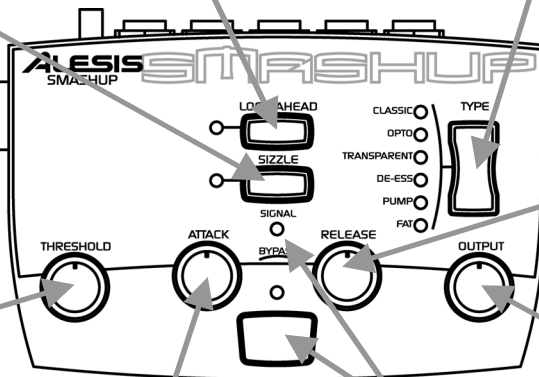
Adds “punch” and “air” to the signal, especially useful for bass sounds. It puts a high-pass filter before the compressor’s detector, and adds a bit of HF EQ on the output.

Look Ahead

Looks at the digital signal several milliseconds before it is processed, to anticipate peak. Reduces the attack time to less than zero.

Type selects the kind of compression the Smashup will emulate. Several different analog compression types are modeled. See page 30.

Release determines how quickly the compressor will “let go” of the signal after levels have fallen below the threshold. Turn counter-clockwise for faster releases.



Threshold sets the level where the compressor starts working on the signal. At the “5 o’clock” setting, the threshold is high and there’s no compression; turn counter-clockwise for more compression (and less output).

Attack sets how much time will pass after a peak is detected before the signal is compressed. Turn clockwise to let more attack through, counter-clockwise to compress all peaks.

Use this to increase the signal to normal levels after it has been compressed.

Output increases the output level.

Signal LED
When this lights green, the Smashup is getting an input signal. When it’s red, it’s seeing too much level...so turn down the instrument...

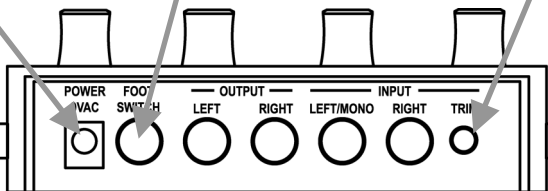
BYPASS lets signal pass through without any compression.

Rear Panel

Plug the power adapter in here.

The **FOOT SWITCH** may be connected to any momentary pedal, to engage the **BYPASS** function.

...or the **TRIM** control here on the back panel.



The **ModLink** connectors let you arrange several ModFX units in a chain, without having to use input and output cables inside the chain.

INPUTS and OUTPUTS are standard 1/4” line-level jacks.

If you’re using a ModLink chain, you only need to connect to the first unit’s input, and the last unit’s output.

2 Connections

Unpacking and Inspection

Your Smashup was packed carefully at the factory. The shipping carton was designed to protect the unit during shipping. Please retain this container in the highly unlikely event that you need to return the Smashup for servicing.

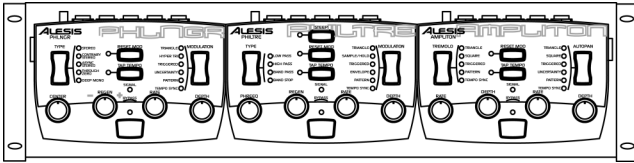
The shipping carton should contain the following items:

- Smashup with the same serial number as shown on the shipping carton
- Power Adapter
- This instruction manual

To register your purchase, go to the Alesis website at www.alesis.com.

Installing in a Rack

The Smashup is designed for tabletop use, but can also be installed in a standard 19" audio equipment rack. For rack mounting, contact your Alesis dealer for the ModFX Rack. This rack shelf holds three ModFX units in a 3-space high 19" rack.



Power

The Smashup comes with an AC power adapter that transforms the voltage from a standard outlet into 9 volts AC (830 mA). Plug the small end of the power adapter cord into the Smashup's POWER INPUT socket and then plug the adapter itself into a good quality, noise-free AC power source of the proper rating.

The supplied AC line adapter is designed only for the destination to which the unit is shipped. To use the Smashup in another country, contact your Alesis dealer for an Alesis P3 adapter suitable for the electrical system in the country you are traveling to.

! Make sure you read the initial Important Safety Instructions chapter at the front of this manual.

Avoid "popping":

Don't plug the power adapter into the Smashup until all other audio cables have been hooked up. Make sure your amplifier or powered speakers are switched off when plugging in the Smashup to avoid damage.

Connecting audio

The Smashup will work in many different applications, whether you are connecting an instrument directly into it, or connecting it through a mixing console. But since the Smashup is a stereo effect unit, it's important to know whether the source will be stereo or mono.

In-line connection

If you're connecting a keyboard, guitar or bass directly to the Smashup, hook it up this way:

1. Connect a 1/4" phone cord to the [LEFT/MONO] INPUT of the Smashup from the instrument.
2. Connect another 1/4" phone cord from the LEFT OUTPUT of the Smashup to an amplification system or mixer input.
3. **If the instrument and amp or mixer is stereo**, connect a second pair of 1/4" phone cords from the instrument to the RIGHT INPUT of the Smashup, and connect the RIGHT OUTPUT of the Smashup to the other input of the stereo amplification system, or the next mixer input.
4. If you're connecting directly to a stereo mixer, pan the two channels hard left and hard right to get the maximum effect.



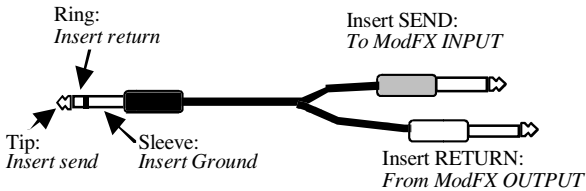
When connecting audio cables and/or turning power on and off, make sure that all devices in your system are turned off and the volume controls are turned down.

Turn up the trim...

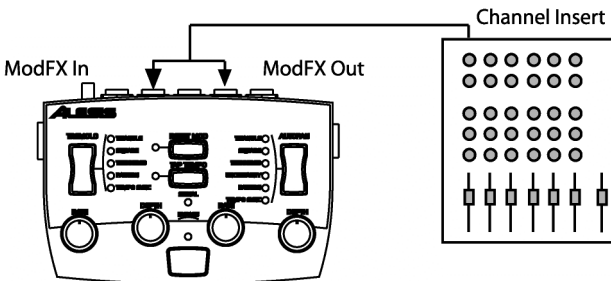
Most guitars and basses have relatively low output levels. For the quietest effect, turn up the volume on the guitar to full, then crank up the [TRIM] control on the back of the Smashup until the SIGNAL LED on its top panel flashes red while you play, then back it off a bit.

Connecting to the Channel Inserts of a mixing console:

Most recording consoles have a jack in each channel near the mic and line inputs labeled "Insert". This is typically a TRS jack with the send and return on the same jack. To use the Smashup as a channel insert, you will need an insert cable (not included).



This cable splits the TRS insert jack into two unbalanced mono connectors. Usually, the tip is connected to the INPUT of the Smashup and the ring is connected to the OUTPUT of the Smashup. However, this may be reversed on some recording consoles. Check your mixer's Reference Manual to be sure or just try it both ways – this won't damage the Smashup.



For stereo operation, you would use two insert cables, inserted into two adjacent channels of the mixer. One would send and receive signal to the left channel of the Smashup, and the pan pot of that mixer channel would normally be panned to the left. Pan the next mixer channel, for the right side of the Smashup, to the right.

Connecting to the Main Outputs of a mixing console:

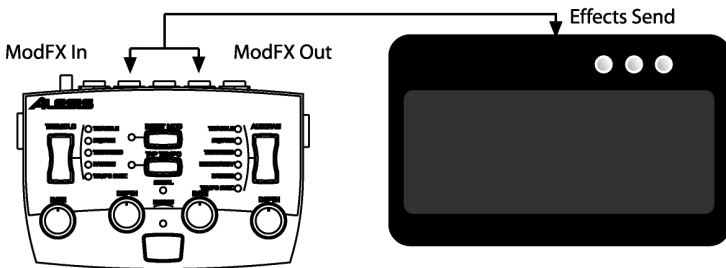
In addition to channel inserts, most mixing consoles have main insert jacks near the main outputs. You can use insert cables to connect the Smashup to the main L/R bus the same way you connect it to a pair of channels. Simply connect one insert cable to the left main insert of the mixer, and connect the two mono jacks to the left INPUT and OUTPUT of the Smashup. Use another insert cable to connect the right main insert to the right INPUT and OUTPUT of the Smashup.

Alternatively, you could plug the mixing console's main outputs directly into the Smashup's inputs, then feed the Smashup's outputs to your monitor amps or mixdown recorder. However, with this method if you fade down the volume at the end of the song, the sound quality will change as you fade, since the signal will fall below the threshold setting. That's why it's better to use insert jacks, if they're available.

Connecting to the inserts on an instrument amplifier:

The insert send on a guitar or bass amp is usually labeled "effects send and return" or "insert send and return". This allows you to preamplify your instrument before compressing it and sending it to the power amp.

Most guitar amps are single channel, so connect a single insert cable from the amp to the LEFT INPUT and LEFT OUTPUT of the Smashup. Some amps have separate "effect send" and "effect return" jacks; for these, use standard cables. Check the manual of your amplifier for details.



If you are using a dedicated rack-mount preamplifier, another method would be to insert the Smashup between the preamp and the input(s) of the power amp.

Don't connect the Smashup into an effect send/return loop

Unlike most effects, compression is NOT designed to be "added" to a signal—it acts on the entire level going through it.

Never connect the Smashup between the power amp and the speaker!

The high power levels created by the power amp will destroy the circuitry of the Smashup.

Connecting to equipment with XLR inputs and outputs:

If you are connecting the Smashup to a product with XLR balanced inputs and outputs, you will need to convert this signal to a 1/4" unbalanced connector. Make sure that **Pin 2** of the XLR connector is connected to the **Tip** of the 1/4" adapter or cable.

Watch out for high levels, however: some XLR sources put out levels close to the maximum the Smashup can accept (about +12 dBu) even when its trim is at minimum. Lower the level of the source if the [SIGNAL] LED flashes red.

About audio cables

The connections between the Smashup and your studio are your music's lifeline, so use only high quality cables. These should be low-capacitance shielded cables with a stranded (not solid) internal conductor and a low-resistance shield. Although quality cables cost more, they do make a difference.

Route cables to the Smashup correctly by observing the following precautions:

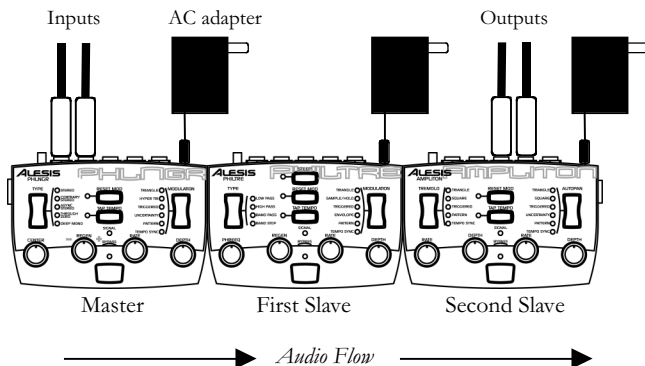
- Do not bundle audio cables with AC power cords.
- Avoid running audio cables near sources of electromagnetic interference such as transformers, monitors, computers, etc.
- Do not place cables where they can be stepped on. Stepping on a cable may not cause immediate damage, but it can compress the insulation between the center conductor and shield (degrading performance) or reduce the cable's reliability.
- Avoid twisting the cable or having it make sharp, right angle turns.
- Never unplug a cable by pulling on the wire itself. Always unplug by firmly grasping the body of the plug and pulling directly outward.

Don't use line transformers:

Many XLR-to-1/4" adapters sold at electronics stores are NOT adapters, but transformers (and very low quality transformers at that). Don't use these on the output of the Smashup—they're unnecessary and generally sound awful because they don't have the headroom to handle the Smashup's output. Get a hard-wired adapter or cable from your professional audio dealer, or make one yourself from components.

Using the ModLink

The Smashup can be connected to other effect boxes in the ModFX family via the ModLink. The ModLink is a cable-free connection between two ModFX units that transfers digital audio and word clock. The 9-pin male connector on the left side of the unit is the ModLink IN port. The 9-pin female connector on the right side is the ModLink OUT port. By directly connecting two ModFX units via the ModLink, audio will pass from the left-most unit to the right-most unit.



The audio signal flows from left to right. The Master will send its digital audio output to the First Slave, and the First Slave will, in turn, send its output to the Second Slave.

What about the input and output jacks on the slave units?

When a unit is a slave to another unit, its audio input jacks are disabled; it will get its audio input digitally from its ModLink port. The output jacks, however, are always active; so an audio output can be tapped from any linked unit, without interrupting the flow to the rest of the chain.

3 Using the Smashup

This section defines compression, and explains the functions of the Smashup's controls in greater detail.

What is a compressor?

Most types of signal processors, such as reverbs, phaser/flangers, and equalizers, make an obvious change in the sound. But a compressor's action is much more subtle; when used properly, many listeners won't be aware that signal processing is being used. Yet, compressors are essential in modern audio work to make instruments hold their place in the mix, and add sustain and body. Almost every lead vocal on a pop record is compressed during tracking or mixdown. Often the entire stereo mix is compressed or limited during the mastering process.

A compressor/limiter like the Smashup is essentially an automatic volume control. Imagine an engineer with his hand on a fader and his eyes on an input level meter. As long as the meter stays below a certain point (the threshold), he leaves the fader up and the gain is unchanged. But the instant the sound gets louder, the engineer pulls down the fader by a certain amount. After the sound gets soft again, the engineer will push the fader back up. That's what the Smashup is doing, except much faster and more accurately than humanly possible.

Paradoxically, by cutting the peak levels, the Smashup allows you to raise the average level of a sound using the [OUTPUT] control and make the overall sound louder. By coordinating the [THRESHOLD] and [OUTPUT] controls, you can set a stable sound that will hold its position in the mix regardless of the dynamics of the instrument or vocal. Compression is the tool to use when you want a lead vocal to go from a scream to a whisper and not get buried behind the instruments.

What the controls do

Let's go back to the "engineer with his hand on a fader and eyes on the meter" analogy. The top panel controls simply tell the "engineer" what rules he should follow. [THRESHOLD] tells him how high the input level can rise before he has to start pulling down the fader: if it's turned full clockwise, he won't pull down his fader at all; if it's turned full counter-clockwise, he'll have his hand on the fader even for very faint sounds.

How far does he pull the level down? That depends on the [TYPE] setting, as will be explained later. For example, in Classic mode, Smashup acts as a compressor/limiter with a ratio of 4:1. That means that if the input rises above the threshold by 8 decibels, the output will only be allowed to rise 2 decibels. In Transparent mode, the compression ratio is a gentler 2:1, so an input 8 dB above the threshold will be allowed to rise 4 dB. In most modes, the detector of the Smashup looks at peak levels, not the average level of the signal. In addition, each compressor has its own "knee" characteristic (hard or soft). Soft-knee compressors allow signal levels near the threshold to be compressed more gradually.

The [ATTACK] and [RELEASE] controls involve the speed of the engineer's response, as does the [LOOK AHEAD] switch. Short attack times may order the engineer to pull down the fader 1/10,000th of a second after he sees a too-loud signal; long attack times tell him to let transients less than about 1/5th of a second pass. [RELEASE] tells the engineer how quickly he should push the fader back up again after a loud signal has stopped; when it's turned counter-clockwise, he pushes the fader back up instantly, and when it's full clockwise, he may take a few hundred milliseconds to push his fader back up to unity gain.

The [OUTPUT] control is simply a gain control located after our "automatic engineer in the box". Since the engineer will pull the fader down when he "sees" levels above the [THRESHOLD] setting, it's up to you to compensate for that action by raising the output level, if that's necessary to restore the average level after the peaks have been removed.

The most important controls are the [THRESHOLD] and [OUTPUT] knobs. They both interact to get the effect you want, and that requires some experimenting.

Attack/Release times vary by Type

In fact, each Type has its own Attack/Release behavior and time ranges.

How the Smashup goes beyond “just compression”

Having explained what the controls are designed to do, you should be aware that the Smashup’s digital compression algorithms do much more than just control levels. Just as a tube guitar amp sounds different from a solid-state power amp, the most popular compressors sound notably different from each other, even when their attack, threshold, ratio and release controls are set exactly the same. And, like guitar amps, there’s no single “best” compressor...good studios often have 6 or 7 different brands of compressor in the rack because some are better on rock vocals, others are best on bass, still others offer a unique drum sound. Alesis analyzed the behavior of many compressors, and the Smashup’s different [TYPE] settings are the result. You really get six different-sounding compressors in a single, compact ModFX box.

There’s no way to describe the complete behavior of each control in each mode. Just be aware that a particular [ATTACK] setting will have a totally different result when the [TYPE] is set to OPTO, as compared to FAT. Experiment with all the settings on different instruments and vocals, and you’ll find some really great-sounding combinations.

Operational advice

Gain structure

Extreme settings will lead to extreme results. If you turn the threshold down all the way, the Smashup will do what it's being told to do: turn the level way down. If you then try to compensate by cranking the [OUTPUT] control to its maximum, you'll amplify the noise of your source and the Smashup itself. The noise will fade itself in whenever the input signal stops, resulting in the classic "pumping" and "breathing" problems. Noise is present in every system, and improper use of any compressor will amplify it to an obnoxious level.

For low noise operation, make sure your mixer, Smashup, and amplifier settings are set properly. As a general rule, you want as much gain as possible in the front of the system (at the instrument or microphone preamp), so that a good line-level signal is travelling through the whole signal path. If you have a weak signal to start with, and then amplify it at the end of the signal path (by turning the main outputs of the mixer all the way up, for example) it will be excessively noisy.

When using a compressor on a live P.A. system, improper settings can cause feedback. Make sure that a channel is well below the feedback point when there is no gain reduction active. If you hear feedback every time the music stops, you must lower the overall level of the system.

Setting Levels

Proper setting of the output levels is crucial in order to achieve the maximum signal-to-noise ratio. As a good rule of thumb, it is usually best to first set the [OUTPUT] level control at 12 o'clock or 50%. Then, press the [BYPASS] button in and out while listening to signal through the unit. Turn the [OUTPUT] level up or down so that the output level is roughly the same whether the unit is bypassed or compressing.

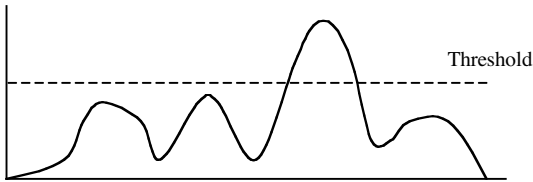
About stereo compression

The Smashup is, in fact, two separate compressor channels joined by one set of controls. The detectors of the two channels are linked. This means that if the left channel's signal rises above the threshold, the right channel's gain will be reduced by the same amount as the left channel, and vice versa. This keeps the stereo image from wandering from left to right when compressing a stereo mix.

Description of Controls

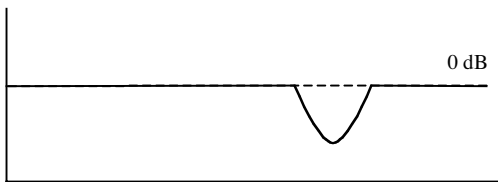
Threshold

The [THRESHOLD] knob sets the level where compression will begin. As long as the input signal level is below the Threshold level, the Smashup will do nothing to the signal. Once the input signal crosses the Threshold, the Smashup will begin compressing (turning down the level).



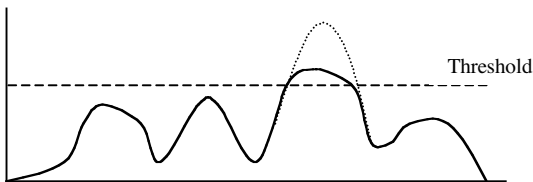
Graph of input level

This shows the level of an input to the Smashup. The dotted line represents the [THRESHOLD] level.



Graph of compression

This shows the Smashup's internal gain setting, with the solid line meaning "no reduction" for most of the graph above. (This assumes the [ATTACK] and [RELEASE] knobs are set fast enough to track the input this closely).



Graph of output level

This is what the output will sound like—the third peak in the signal has been "smashed" from its original level.

Attack

The [ATTACK] knob controls the amount of time before compression starts. The range of this control is generally in the range from 0.1 (full counter-clockwise) to 300 milliseconds; but this may vary depending on the [TYPE] setting. [ATTACK] has no effect when the [LOOK AHEAD] switch is engaged.

Long attacks are useful for keeping the initial transients of percussive sounds like drums, lead guitar, and bass. Short attacks are good for melodic parts like vocals and strings. Experiment with different short attack times on snare drums to get more or less of the “stick” attack.

Look Ahead

When the [LOOK AHEAD] switch is turned on, a very small amount of delay (under 3 milliseconds, about the time sound takes to travel 3 feet) is introduced in the signal. The detector of the compressor looks at the peak levels in this delay, so it can “pre-attack” or lower its gain even before the peak arrives for processing.

For obvious reasons, when [LOOK AHEAD] is on, the [ATTACK] knob has no effect.

Release

The [RELEASE] knob controls the amount of time the compressor takes to stop compressing after the signal crosses under the threshold. The range of this control is very different from type to type, but in every case the longest release time is at the full clockwise rotation.

Short release times are good for percussive, punchy sounds; longer release times can make compression less obvious on vocals. Adjusting the release time may be necessary when using extreme compression and “pumping” or “breathing” is audible, or if lower-level signals are getting lost after peaks.

Pumping and Breathing

When a compressor is making large changes to the input signal (10 to 12 dB or more) the noise floor will also rise and fall with the signal level. When this noise signal rises and falls drastically between signals, such as a heavily compressed, noisy drum track, you might hear the noise level “breathing” between drum hits. One solution to this breathing problem is to turn up the release time. This way, the noise floor won’t have time to rise between drum hits.

However, if the Release time is too long, lower level signals after the peak will be lost as the compressor slowly stops reducing gain. This is called “pumping” as the lower level signals (noise included) slowly fade back up to their normal signal level. The secret to avoiding these problems is to achieve a balanced release time on the input signal.

The PUMP mode of the Smashup is set up intentionally to use pumping as a creative tool.

Output

The [OUTPUT] knob controls the level of the Smashup's output. The Output control is useful for making up level that was lost during compression, or matching the input level of a mixer or recorder. The unity gain setting of the [OUTPUT] knob (the level where input level = output level when [THRESHOLD] is set to the maximum) is around the "12 o'clock" position.

Set the output low enough to avoid clipping the output (unless that's the sound you're going for), and high enough so there's a good signal-to-noise ratio.

This control is disabled if the [BYPASS] button is pressed. If you get approximately the same level when Bypass is on as when it is off, that's generally a good place for the [OUTPUT] knob to sit.

Intentional clipping: *The output drivers of some classic analog compressors have unique "soft clip" characteristics that enhance the tone of the signal. Certain TYPE settings emulate this output overdriving when you deliberately raise the [OUTPUT] control above unity gain. Try it!*

Sizzle

This button adds brightness and punch to the signal, avoiding the "dull" sound that compression sometimes brings. [SIZZLE] is especially good for electric bass and drums. Technically speaking, [SIZZLE] does two things: adds a little high frequency EQ on the output to brighten things up, and puts a 120 Hz high-pass filter before the compressor's detector so strong bass notes won't be compressed.

FAT mode and Sizzle

The FAT mode starts out "pre-sizzled", and pressing [SIZZLE] adds even more bottom and high end.

Type Select Switch

The up/down [TYPE] rocker switch on the right side of the unit selects the type of compression used by the Smashup. The LEDs next to the switch light up to indicate the current Type.

The Smashup contains six different compression styles. Some are modeled after the operation of classic analog compressor/limiters, and others are totally unique. Each Type has its own unique sound and effect on the other controls, though the differences may be subtle at first.

Each Type has its own compression ratio (the amount of gain reduction applied when a signal rises above the threshold), hard knee/soft knee setting, detector characteristics, attack and release curves, and distortion characteristics. These have been carefully developed to give you the most useful compressor sounds, without having to set eight different controls.

There's no way to adequately describe all the characteristics of the complex digital compression algorithms developed by Alesis engineers, so after you've read the following descriptions be sure to try each one with several different audio sources:

Classic

This is the standard VCA-style compressor sound, as found in classic units like the dbx™ 160. The compression ratio is 4:1, but it has a very soft knee setting and a slightly nonlinear release. Classic mode is great for taking the peaks out of vocals with a fast attack, or to get a clean sustain on guitar or bass while still preserving some dynamics.

Opto

The first compressors regulated the audio level by using an optical system. A light got brighter at higher input levels, and this light shone on a photoresistor that reduced the output level. The most famous of these devices, the Tektronix™ LA-2A, is still a prized possession of many studios. Optical compressors have a very particular sound to them. Because the lamp filament takes a moment to get to full brightness, they naturally have a slower attack than other compressors. In OPTO mode, the Smashup emulates the sound of these units. In particular, the attack time is not as quick as in other types, even at the minimum setting. The ratio is 6:1 with a soft knee setting; it is useful for classic vocals and drum sounds.

Transparent

When you want compression without any side effects, use TRANSPARENT mode. In this mode, the compression ratio is a more subtle 2:1 with a soft knee, and it emulates a clean, solid-state output driver circuit with no coloration. Even at extremely low settings of [THRESHOLD], gain isn't reduced as much as it is in other types.

De-Ess

De-essing is commonly used to process voices where the “s” sound and other sibilants are too loud and distracting. By telling the compressor to be extra sensitive to a certain range of frequencies, the “s” sound can be almost completely removed from a voice. The ratio is 8:1 with a soft knee, but because the detector is listening most closely to 4.5 kHz, the resulting sound is still relatively transparent.

Pump

On the other hand, PUMP is designed to emulate a limiter deliberately overdriven to provide creative processing. With a 100:1 compression ratio and a hard knee, the [THRESHOLD] sets a wall that the input signal can't rise above. The PUMP type has some secret ingredients that are especially suited for extreme guitar and drum processing. On drums, adjust the [ATTACK] and [RELEASE] controls properly, and you'll make a polyrhythm out of the resulting pumping sound. Note that even at full counter-clockwise, the [RELEASE] setting is still relatively short; though the release times will vary according to the [THRESHOLD] setting automatically.

Fat

FAT is a close relative of PUMP, but designed for extra bottom end. This is another heavy compression type with an infinite ratio, but has a softer knee than PUMP. The most important characteristic of FAT is that it won't compress the bottom end as much, and adds a little high end EQ for brightness. Pressing [SIZZLE] doubles this effect.

In many standard compressors, a “detector loop” is included. By placing an equalizer in this loop with a boost at around 4 kHz, the detector will be more sensitive to the “s” sounds in that range. Note that the tone of the signal doesn't change—it will just compress the signal when the high frequency content rises above the threshold.

Bypass

This button sends the signal directly from the input to the output without any compression. Press [BYPASS] to check the sound of the source without any effect from the Smashup. When the red BYPASS LED is lit, the compressor is off. The Bypass function can also be activated by the foot switch.

Since the Smashup is a digital effect, signal always passes through the digital A/D–D/A conversion process, so that digital signal will flow through to other effects in a ModLink chain even when [BYPASS] is on. So, unlike old analog effects, this is not a “hardwire” bypass switch—the Smashup must be powered on to pass signal through, even in bypass mode. Similarly, the [TRIM] control is always active, since it’s an analog control regulating the level feeding the analog-to-digital converters.

Using the Foot Switch

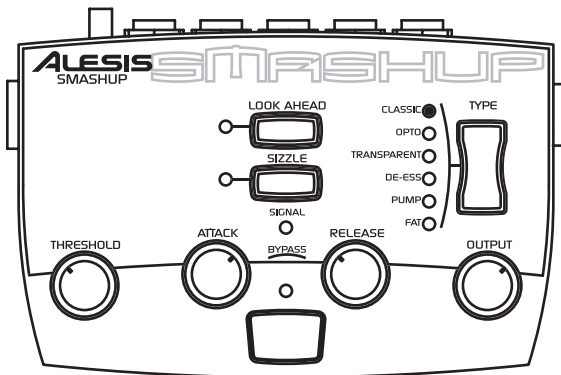
If you need to bypass the effect totally but your hands aren’t free, simply connect any momentary footswitch (such as those used for keyboard sustain pedals, either NC normally closed or NO normally open) to the [FOOT SWITCH] jack on the rear panel. The footswitch will turn the BYPASS LED on and off.

4 Sample Settings

While there's nothing like discovering new sounds for yourself, we thought it would be a good idea to provide some sample settings of the Smashup to help get you started. Simply set the knobs on your Smashup so they're at the positions shown, and press the rocker switches so each effect is in the mode shown by the LEDs. Feel free to modify these any way you want to suit your particular playing style.

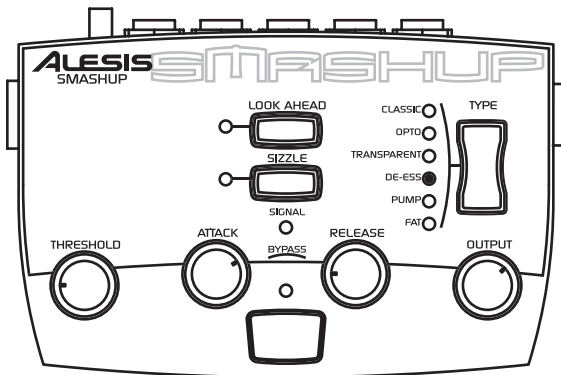
Threshold and Output settings may need changing

Since we don't know how loud your instrument is, the settings of [THRESHOLD] can only be a starting point. (They're shown for a typical -10 dBV signal with an average crest factor.)



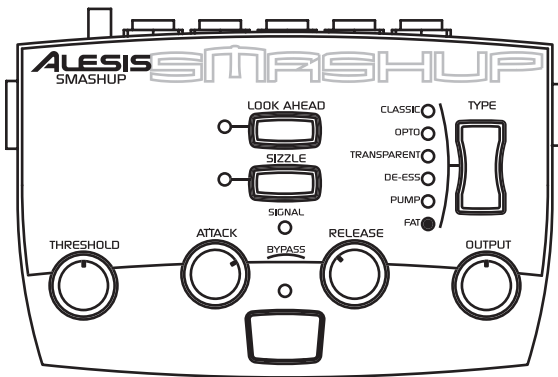
Classic

A good all-around setting; the slow attack lets a little "bite" through on instruments.



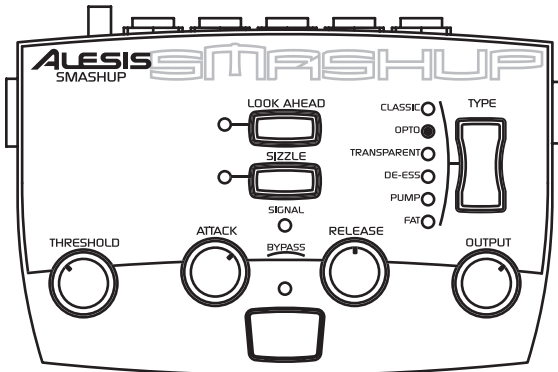
De-Ess

If there's too much sibilance in a vocal track, try this setting.



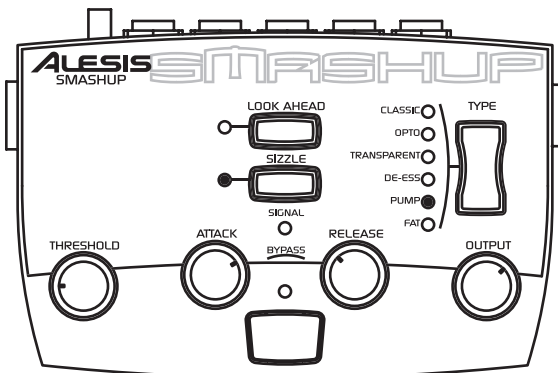
Fat

Try this on any instrument that needs a strong low end, especially basses and kick drums.



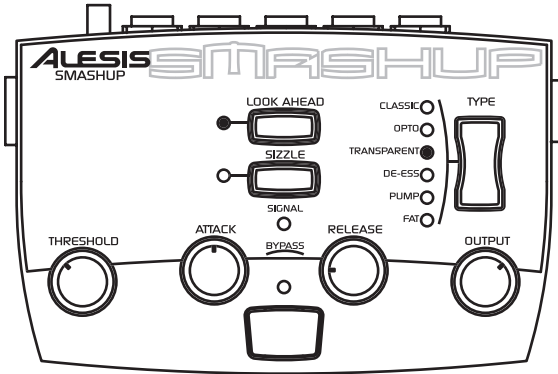
Opto

This duplicates the sound of optical compressors used in classic recordings (and today). This is equally useful on vocals and instruments.



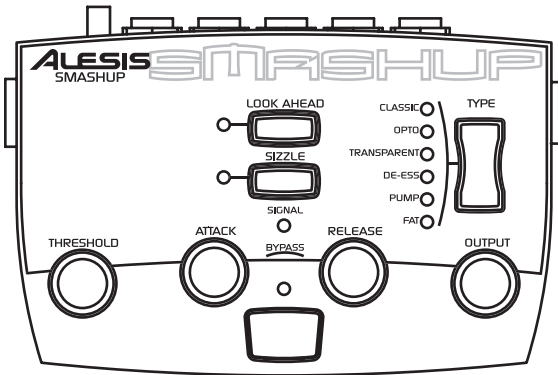
Pump

When you want compression taken to its extreme, try this setting. It's compression as an effect, not a technique.



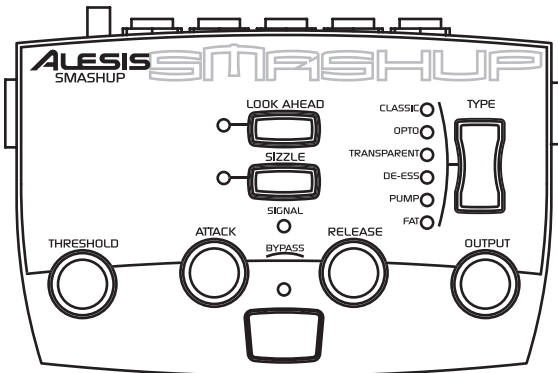
Transparent

This setting will provide consistent compression without calling attention to itself. Note that [ATTACK] has no effect, since [LOOK AHEAD] is on.

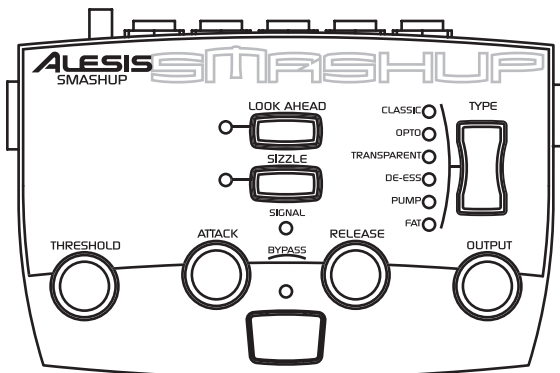
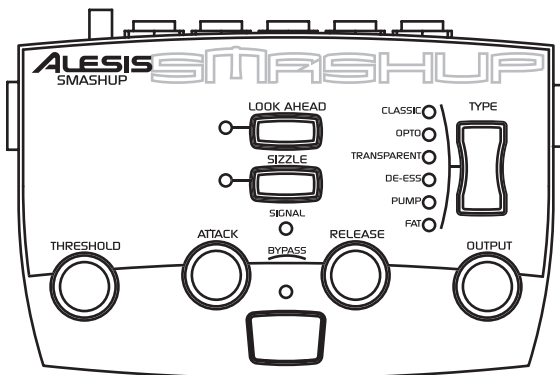
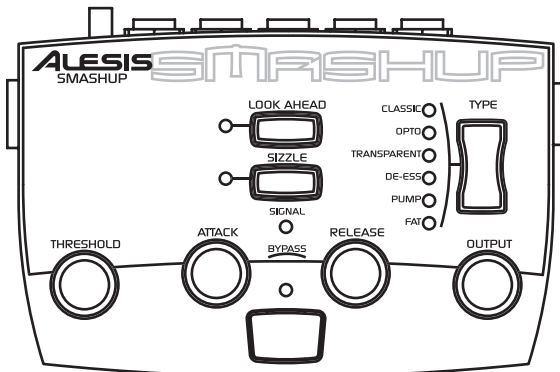


Blank

Fill in your own favorite settings here. Photocopy the next page if you need more space.



Blank Settings Templates



5 Troubleshooting

Troubleshooting Index

If you experience problems while operating your Smashup, please use the following table to locate possible causes and solutions before contacting Alesis Product Support for assistance.

Symptoms	Cause	Solution
No audio outputs.	No input audio (SIGNAL LED doesn't flash). Bad cables. Destination is turned down.	Test with a known good input. Replace the cables. Check the connections and the level of the mixer or amp that the Smashup is connected to.
ModLinked units are not working properly	Input Trim knob is turned down	Adjust the knob to the proper level.
Distorted sound	Input cables are connected to a linked unit Power is not connected [THRESHOLD] or [OUTPUT] set low	Connect the input cables to the Master of the link chain Go take a walk Set [THRESHOLD] wide open, and [OUTPUT] to 12 o'clock to start
Buzz or hum from outputs	Power dropout to one of the units in the chain Input level too high (SIGNAL LED on front panel flashes red) [OUTPUT] is set high Audio cables are crossing a power cable or a power adapter. Bad cables Problem with the source	Plug in a power supply to every unit in a chain. Turn down the source, or the Smashup's TRIM control Turn it down, or choose a different [TYPE] setting (Transparent or De-Ess) Make sure that the Smashup and its audio cables are kept away from power cables and wall warts. Don't wrap cable in tight bundles. Replace the cables Try bypassing the Smashup by connecting the input cables to the output cables and see if the problem remains.

Symptoms	Cause	Solution
AC hum	Ground loop	Place all equipment in the studio on a common ground (see next page)

Avoiding ground loop noise

In today's studio, where it seems every piece of equipment has its own computer chip inside, there are many opportunities for ground loop problems to occur. These show up as hums, buzzes or sometimes radio reception and can occur if a piece of equipment "sees" two or more different paths to ground. While there are methods to virtually eliminate ground loops and stray radio frequency interference, most of the professional methods are expensive and involve installing a separate power source just for the sound system. Alternatively, here are some helpful hints that professional studio installers use to keep those stray hums and buzzes to a minimum.

KEEP ALL ELECTRONICS OF THE SOUND SYSTEM ON THE SAME AC ELECTRICAL CIRCUIT.

Most stray hums and buzzes happen as a result of different parts of the sound system being plugged into outlets of different AC circuits. If any noise generating devices such as air conditioners, refrigerators, neon lights, etc., are already plugged into one of these circuits, you then have a perfect condition for stray buzzes. Since most electronic devices of a sound system don't require a lot of current (except for power amplifiers), it's usually safe to run a multi-outlet box or two from a SINGLE wall outlet and plug in all of the components of your system there.

KEEP AUDIO WIRING AS FAR AWAY FROM AC WIRING AS POSSIBLE.

Many hums come from audio cabling being too near AC wiring. If a hum occurs, try moving the audio wiring around to see if the hum ceases or diminishes. If it's not possible to separate the audio and AC wiring in some instances, make sure that the audio wires don't run parallel to any AC wire (they should only cross at right angles, if possible).

TO ELIMINATE HUM IF THE ABOVE HAS FAILED:

1. Disconnect the power from all outboard devices and tape machines except for the Smashup, the mixer and control room monitor power amp.
2. Plug in each tape machine and outboard effects device one at a time. If possible, flip the polarity of the plug of each device (turn it around in the socket) until the quietest position is found.
3. Make sure that all of the audio cables are in good working order. Cables with a detached ground wire will cause a very loud hum!!

4. Keep all cables as short as possible, especially in unbalanced circuits.

If the basic experiments don't uncover the source of the problem, consult your dealer or technician trained in proper studio grounding techniques. In some cases, a "star grounding" scheme must be used, with the mixer at the center of the star providing the shield ground on telescoping shields, which do NOT connect to the chassis ground of other equipment in the system.

Line conditioners and spike protectors

Although the Smashup is designed to tolerate typical voltage variations, in today's world the voltage coming from the AC line may contain spikes or transients. These can cause audible noises, and they can stress your gear and, over time, possibly cause a failure. There are three main ways to protect against this, listed in ascending order of cost and complexity:

- **Line spike/surge protectors.** Relatively inexpensive, these are designed to protect against strong surges and spikes, acting somewhat like fuses in that they need to be replaced if they've been hit by an extremely strong spike.
- **Line filters.** These generally combine spike/surge protection with filters that remove some line noise (dimmer hash, transients from other appliances, etc.). A good example is the Isobar™ series from Tripp Lite.
- **Uninterruptible power supply (UPS).** This is the most sophisticated option. A UPS provides power even if the AC power line fails completely. Intended for computer applications, a UPS allows you to complete an orderly shutdown of a computer system in the event of a power outage. In addition, the isolation it provides from the power line minimizes all forms of interference—spikes, noise, etc.

Care and Maintenance

Cleaning

Disconnect the AC cord, then use a damp cloth to clean the Smashup's metal and plastic surfaces. For heavy dirt, use a non-abrasive household cleaner such as Formula 409™ or Fantastik™. **DO NOT SPRAY THE CLEANER DIRECTLY ONTO THE FRONT OF THE UNIT AS IT MAY DESTROY THE LUBRICANTS USED IN THE SWITCHES AND CONTROLS!** Spray onto a cloth, then use cloth to clean the unit.

Refer all servicing to Alesis

We believe that the Smashup is one of the best signal processors that can be made using current technology, and should provide years of trouble-free use. However, should problems occur, **DO NOT** attempt to service the unit yourself unless you have training and experience. Service on this product should be performed only by qualified technicians. **NO USER-SERVICEABLE PARTS INSIDE.**

Obtaining repair service

Before contacting Alesis, check over all your connections, and make sure you've read the manual.

Customers in the USA and Canada:

If the problem persists, contact Alesis and request the Product Support department. Make sure you have the unit's serial number with you. Talk the problem over with one of our technicians; if necessary, you will be given a return order (RO) number and instructions on how to return the unit. All units must be shipped prepaid and COD shipments will not be accepted.

For prompt service, indicate the RO number on the shipping label. **Units without an RO will not be accepted.** If you do not have the original packing, ship the unit in a sturdy carton, with shock-absorbing materials such as Styrofoam pellets (the kind without CFCs, please) or "bubble-pack" surrounding the unit. Shipping damage caused by inadequate packing is not covered by the Alesis warranty.

Tape a note to the top of the unit describing the problem, include your name and a phone number where Alesis can contact you if necessary, as well as instructions on where you want the product returned. Alesis will pay for standard one-way shipping back to you on any repair covered under the terms of this warranty. Field repairs are not authorized during the warranty period, and repair attempts by unqualified personnel may invalidate the warranty.

Customers outside the USA and Canada:

Contact your local Alesis distributor for any warranty assistance. The Alesis Limited Warranty applies only to products sold to users in the USA and Canada. Customers outside of the USA and Canada are not covered by this Limited Warranty and may or may not be covered by an independent distributor warranty in the country of sale. Do not return products to the factory unless you have been given specific instructions to do so.

Specifications

Audio Input

Input Connectors:	2 unbalanced 1/4" jacks
Maximum Input Level:	+10 dBV
Nominal Level:	-10 dBV
Input Impedance:	470k Ω
Input Converter Resolution:	24-bit, 48 kHz sampling

All measurements done over a 22Hz – 22kHz range with a 1kHz sine wave at -1dBFS input. Impedances are measured at 1kHz.

Audio Output

Output Connectors:	2 unbalanced 1/4" jacks
Maximum Output Level:	+9 dBV
Output Impedance:	500 Ω
Output Converter Resolution:	24-bit, 48 kHz sampling

Audio Performance

(Analog In to Analog Out)

Signal To Noise Ratio:	>100 dB A-weighted
THD+N:	< 0.005%
Frequency Response:	\pm 1dB from 22Hz to 22kHz
Internal DSP Resolution:	28-bit
Power Consumption:	7 Watts max (9VAC Alesis P3)

Mechanical

Size:	2.1" H x 5.8" W x 3.9" D (53mm H x 148mm W x 98mm D)
Weight:	12.6oz. (357 g)

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Warranty / Contact Alesis

Alesis Limited Warranty

ALESIS CORPORATION ("ALESIS") warrants this product to be free of defects in material and workmanship for a period of one (1) year for parts and for a period of one (1) year for labor from the date of original retail purchase. This warranty is enforceable only by the original retail purchaser and cannot be transferred or assigned. For the most effective service, the purchaser should register the purchase on the ALESIS website at <http://www.alesis.com/support/warranty.htm>.

During the warranty period ALESIS shall, at its sole and absolute option, either repair or replace free of charge any product that proves to be defective on inspection by ALESIS or its authorized service representative. In all cases disputes concerning this warranty shall be resolved as prescribed by law.

To obtain warranty service, the purchaser must first call or write ALESIS at the address and telephone number available on the Alesis Website to obtain a Return Authorization Number and instructions concerning where to return the unit for service. All inquiries must be accompanied by a description of the problem. All authorized returns must be sent to ALESIS or an authorized ALESIS repair facility postage prepaid, insured and properly packaged. Proof of purchase must be presented in the form of a bill of sale, canceled check or some other positive proof that the product is within the warranty period. ALESIS reserves the right to update any unit returned for repair. ALESIS reserves the right to change or improve design of the product at any time without prior notice.

This warranty does not cover claims for damage due to abuse, neglect, alteration or attempted repair by unauthorized personnel, and is limited to failures arising during normal use that are due to defects in material or workmanship in the product.

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For more effective service and product update notices, please register your Smashup online at:

<http://www.alesis.com/support/warranty.htm>

Alesis Contact Information

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E-mail: support@alesis.com
Website: <http://www.alesis.com>

Alesis Smashup Reference Manual
Revision 1.0 by Dan Tinen

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