

XTREME

USER'S GUIDE



A R T

APPLIED RESEARCH AND TECHNOLOGY



Extreme User's Guide

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Applied Research and Technology's XTREME provides you with three of the most intense distortion circuits ever designed for the guitar. Additionally, 32 of the most desirable digital effect presets are available, including Flanger, Chorus, Reverb, Delay, Pitch Shifting, and Dual Pitch Shifting in single and multi-effects combinations. The XTREME operates in mono or stereo, taking a mono input and creating spacious stereo sounds, plus it's incredibly easy to use. Applied Research and Technology designed a combination of powerful processing and ease of use into the XTREME. We strongly suggest that you read and refer to this manual while getting used to your new processor.

Take the time to fill out the User Registration Card. We periodically mail information about new products and product updates that you don't want to miss (and every once in a while there are some great giveaways and contests—with prizes and gear worth tons o' money—for our registered users). It only takes a minute, and in return we'll be your friend for life and send you stuff!

Fill in the following information for your reference:

DATE OF PURCHASE_____

PURCHASED FROM_____

SERIAL NUMBER_____

125-5004-101



Introduction

Thank you for purchasing the XTREME—and congratulations! You now own the nastiest, coolest, and most versatile distortion processor ever developed. Additionally, the XTREME is one of the most sophisticated pieces of audio signal-processing technology available. The XTREME offers the wickedest distortions you'll ever need and incredible digital effects in a sturdy steel case designed to be abused on the floor. The XTREME utilizes the absolute best in analog and digital circuits and a straightforward user interface that quickly and easily gives you access to all of its features. Grab your guitar and get ready to wail like you've never wailed before!

Features

- The last distortion device you'll ever need
- Three analog distortion types: XTREME, Scream, and Retro
- Over 100dB of gain
- 3-band EQ with sweepable mid frequency control
- 16-bit digital effects
- 32 digital effects presets
- Flanger
- Chorus
- Reverb
- Delay
- Single pitch shifting and dual pitch shifting
- Stereo outputs
- Rubber Activator pads for on/off control of analog and digital effects
- Status lights for all functions
- AC-powered, no tone variation due to elderly 9-volt batteries
- All-steel construction—the way it ought to be!
- Self-adhesive non-skid pads
- Looks as cool as it sounds. Quadruples your chances for getting dates
- You own the pedal every manufacturer will be taking apart before encountering our second-generation, double secret, copy-protect vaporization device (bye-bye)
- Designed and manufactured in the United States of America



Quick Start Instructions

You've unpacked your XTREME and you're in a hurry to get it up and running. You probably would rather play with it than read the manual (at least, right now). Fair enough. But check out the basics, outlined here, just to get your XTREME on line. It should take only a couple of minutes for you to read through them, and then you'll be ready to fire up your XTREME. Refer to this section if you have any difficulty. And later, when you want to get into more of the details of your XTREME, check out the rest of the manual.

Quick Setup

Before you do anything, make sure your amp is in a clean mode, with any preamp gain turned low. The Xtreme has more than enough gain to drive the daylights out of your amplifier. Turn the Xtreme's Output knob to its full counterclockwise position. Turn this knob up *only* after all other setup steps are completed. Insert the supplied AC adapter's plug into the input labeled Power on the XTREME's back panel.

Straight into an amp: If you're patching the XTREME into a guitar (or other instrument) amplifier, use one good-quality shielded cord between the instrument and the XTREME's Input. Run a second shielded cord from Output 1 to the amp's input. If the amp has stereo input capabilities (or if you're using two amps), connect another cord between the XTREME's Output 2 and the amp's second-channel input (or the second amp's input). Note: Many guitar amps have two input channels, but are *not* stereo (check your amp's manual).

In an amp's effects loop: If you're patching the XTREME into a guitar (or other instrument) amplifier's effects loop, and it's mono, use one shielded cord between the amp's effects-send jack and the XTREME's Input. Run a second shielded cord from Output 1 to the amp's effects-return jack. (If the amp has stereo returns, use another shielded cord to connect the XTREME's Output 2 to the amp's other effects return jack.)

Into a mixer: Connect a shielded cord between your guitar and the



XTREME's Input. Connect another shielded cord between Output 1 and a line input on your mixer. If you want to run in stereo, connect a second shielded cord from the XTREME's Output 2 to another line input on your mixer.

Note: If you need further help during your initial hook-up, refer to the diagrams and information on pages 17 through 20.

Plug the XTREME's AC adapter into the wall socket (the reassuring glow of the LEDs tell you that the XTREME is now powered up). Now turn on your amplifier or your mixer and monitor amplifier.

Make sure that your guitar's volume control, or your mixer's or amp's input or send level control, is turned up and that signal is being sent to the XTREME.

Now turn up the XTREME's Output level, and raise the gain or return level on your amp or mixer. You should be hearing the XTREME. If not, check your connections and your amp or monitor system (you did remember to turn everything on, didn't you?).

Select distortion types with the switch to the left of the illuminated inlay. Select the second bank of presets with the switch to the right of the inlay. Turn the distortion or digital effects on or off with the rubber activator pads. For a complete list of the preset settings, see pages 15 and 16.

Give your guitar a real workout. Try the three distortion types and all the digital presets (try them separately, too!), and don't hold back. Then, when you're ready, check out the rest of this manual for all the details on how to get the most out of your XTREME.

Installation

Even though it's primarily designed for plugging straight into a guitar amp, the XTREME may be used in a variety of setups including: straight

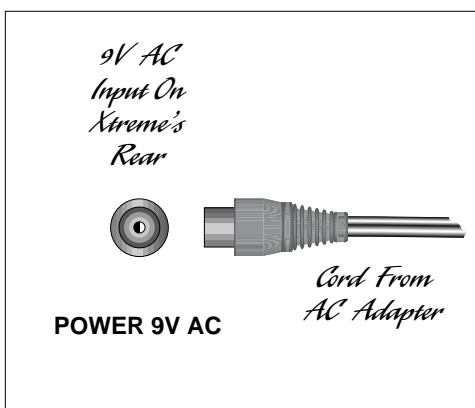


into a power amplifier, P.A., or mixing console, as well as into the effects loop of an instrument or P.A. amplifier. Self-contained in an all-steel enclosure, the XTREME is designed for continuous professional use and can withstand the rigors of the road and stage.

Powering The XTREME

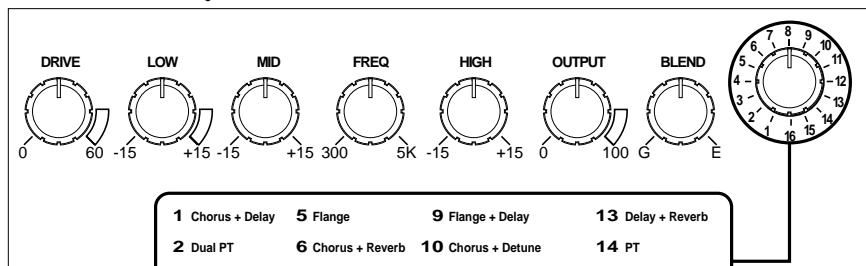
The XTREME is powered by an external AC adapter. Always make sure that its output jack is securely plugged into the rear of the XTREME, and that the adapter is held firmly in an electrical outlet.

Never operate the XTREME or AC adapter in the rain or in wet locations. If the AC adapter cord is ever cut or damaged, discontinue using it and replace the adapter with a new one. To prolong its life, unplug the adapter when the XTREME is not in use. Alternatively, the XTREME's AC adapter can be plugged into a switched power strip so that you can conveniently turn it off with your other gear. Refer to the label on the adapter for proper operating voltages.



KNOBS AND PRESETS

The upper half of the XTREME's face panel includes the controls for the distortion circuitry, a Blend control, and the Preset encoder knob. A list-



XTREME

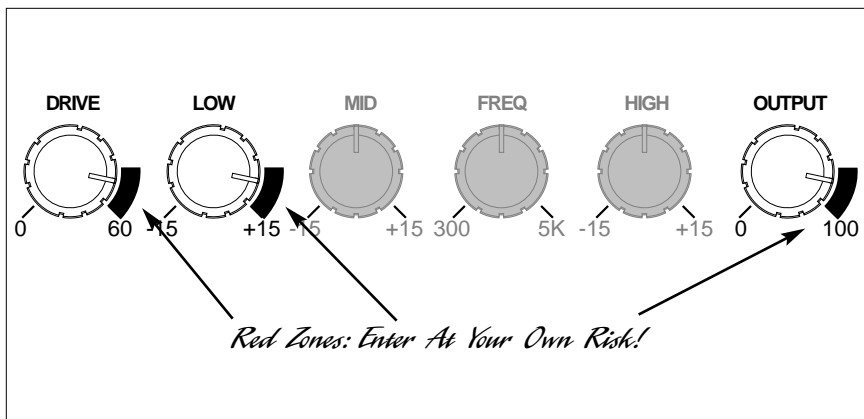
ing of the effect combinations for the digital presets is included on the XTREME's front panel, below the controls. Keep in mind that the distortion can be used with or without digital effects, and if you're using the XTREME with an amp, it can be like adding a third overdrive channel—with three different types of distortion, plus effects!

Distortion Controls

Use the distortion with or without the XTREME's digital effects—your choice. And don't forget to try the distortion tones with an amp's overdrive for a completely out-of-control experience. And if your amp only has one channel, or a wimpy second channel, the XTREME's distortion adds another channel and fattens up your amp into a 10-ton grinding machine.

About Those Red Zones. . .

You'll notice the Drive, Low, and Output knobs have *Red Zones* marked

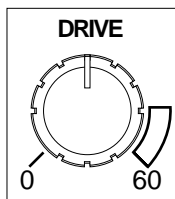


at their maximum settings. *When employing the Xtreme Distortion, use these settings at your own risk!* If you want beyond-shred, over-the-edge XTREME distortion types, dial 'em in! ART assumes no responsibility for ticked-off parents, girlfriends, boyfriends, neighbors, relatives, pets, wildlife, or your old, never-to-be-used-again distortion box. You no longer have to claim, "I need more gain!" Ready? Wail!



Drive

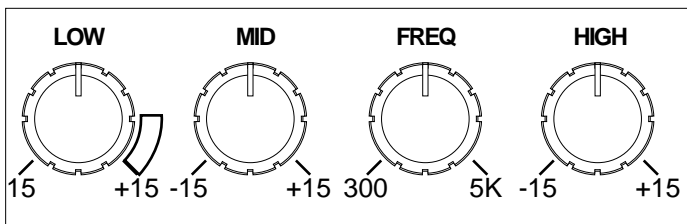
The Drive control sets the amount of gain for the distortion circuit. Its range is from 0 (none) to 60 (We warned you!). Use lower settings for cleaner, bluesy overdrive sounds, and dial up higher settings when you want to be XTREME. The Drive control has a Red Zone (use it!).



Low

The Low control adjusts the amount of low end in your guitar's sound, letting you add thump to the bottom, or thin it out for a sharper type of cutting ability. The range is from a cut of 15dB to a boost of over 15dB (at 12 o'clock, it's "flat"—no boost or cut). If you feel the need to crank up the Low control, make sure your amp is seated firmly on a stable surface. (If you're

using a stack, you may want to duct tape your head to the cabinet, to keep it from



falling off). If you're plugging the XTREME straight into a mixer/recorder setup, keep one eye on the VU meters and another on the monitors (to make sure their speakers don't jump out of the enclosures!).

Like the Drive knob, the Low control has a Red Zone. (To turn your speaker cabinet into a humongous hair dryer, crank up the Low and point at your head—make sure you've inserted ear plugs first, though.)

Mid & Freq

The Mid control adjusts the amount of boost or cut to the "body" of your sound. The Freq control sets the frequency range you want to boost or cut. Its range is from 300 Hz to 5kHz. To obtain proper "suck," or "scoop," for maximum shred, set the Freq control somewhere between 12 and 3 o'clock and cut the midrange by setting the Mid control to be-



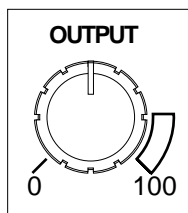
tween 7 and 9 o'clock. (This is an especially great way to create a “cabinet simulation” effect when you plug the XTREME straight into a mixer/ recorder setup—even at low distortion settings.) You can also select a frequency to boost, making it easy to sustain—or even to feed back—specifically at certain notes or when you play in certain ranges.

High

The High control adjusts the amount of high end in your guitar sound. Its range is from a cut of 15dB to a boost of 15dB (at 12 o'clock, it's “flat”—no boost or cut). To splinter glass, boost the High control. To get rid of the edge, cut the High control.

Output

The Output control is *not* a master output level for the entire XTREME. It is the output of the analog distortion section leading into the digital effects. Therefore, you can use it to match the output of the XTREME's analog distortion section to your guitar's “normal” level (the level you hear when the XTREME's analog distortion section is bypassed). The Output control is also useful for boosting the output level for your incredible leads and bone-grinding rhythm.



The Output control is located before the digital effects section (it drives the digital circuitry). Depending on how you want to use the XTREME, set the Output control so that the level is the same when you turn the distortion on and off. Or, set the Output control so that the signal (Peak=Red) LED flickers red occasionally. If you see the Signal (Peak=Red) LED on constantly, turn down the Output control—you're over-driving the digital section. (If you like the sound of digital circuitry screaming, spitting, sputtering, and otherwise convulsing, leave it up). The Output control has a Red Zone. Don't say we didn't warn you.

Now that you know how to grind your axe using the distortion section, don't forget that the XTREME offers a whole other section full of digital voodoo. Feel free to put down the manual and shred away, to get a feel



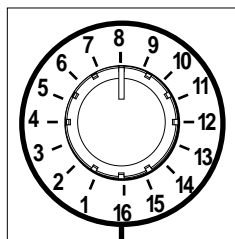
for your new powers. When your calluses have calluses, pick the manual back up and read on.

DIGITAL EFFECTS CONTROLS

The XTREME's high-quality digital effects were specially chosen to be impressively musical, plus they are perfect complements to the analog distortion sounds. Note that you can use the digital effects with or without the distortion, so you can even use the XTREME for adding digital effects to clean guitar sounds, or during mixdown to enhance tracks you've recorded.

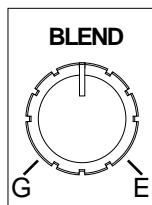
Preset Encoder

The Preset encoder is a continuously variable, 16-position knob that selects presets. For easy reference, the related effects combinations are printed below the row of controls. Using the digital effects is simple: Select an effects combination you wish to use and set the Blend control for the proper amount of effect-enhanced signal. (See pages 15 and 16 for a complete listing of the XTREME's presets and their values.)



Blend Control

The Blend control adjusts how much of the digital effects are added to your guitar sound. The Blend control ranges from "G" (100% guitar, or distortion-enhanced guitar, depending on whether the distortion is bypassed) to "E," for Effect (100% effect, dripping wet).



Changing Banks

A total of 32 presets of digital effects and combinations of effects are available in the XTREME. Variations of the 16 listed effect combinations are available in Bank 2. To change Preset Banks, simply press the switch located to the right of the illuminated inlay (if you use your foot, don't stomp it—a simple touch will do). The Bank 2 LED glows bright red when Bank 2 is



The Presets are arranged to offer the most effective and useful selections for any playing style. If you like a particular digital effects preset, press the Bank switch and you'll find the same effect combination with value changes suited to either rhythm or lead playing. Experiment with the variations—twice the presets means twice the tonal possibilities.

DISTORTION TYPES

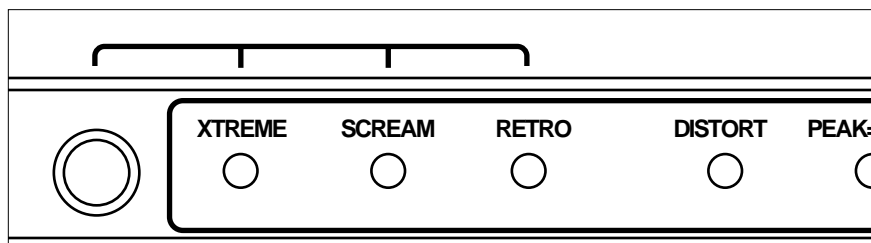
The XTREME provides you with three distortion types, each with its own personality. With over 100dB of gut-wrenching gain, and complete tonal control, virtually any distortion sound—no matter how subtle or explosive—is available with the XTREME.

Xtreme

This is the ultimate distortion. In fact, the XTREME is named for this sound—XTREME! If your playing style demands a tone beyond the distortion formerly known as shred, then this is your setting. The Red Zones are marked on the Drive, Low, and Output controls, indicating that if you dial up those settings, you've gone beyond previously known limits. Don't try to clean up this sound; it won't happen. Nail down your amp, and blast!

Scream

The Scream distortion is reminiscent of the screamin' green stompbox of the late '70s and '80s, only with a heck of a lot more gain. The Scream distortion retains a bit of clean signal mixed with the distorted tone for a really ratty but smooth and intelligible sound. The Drive control lets you to clean up the sound at lower settings and produce great sustain when





it's driven harder. Similar to using a hot-rodded version of classic metal-clad overdrives, this distortion is primo when you want to give your combo or head a firm kick in the shins.

Retro

The Retro distortion offers enough versatility to produce a wide range of textures, from smooth overdriven vintage tones to down and dirty Texas Blues distortions. The Drive control allows you to clean up to the faintest of tube rattle to the roar of an overworked white Bassman. If you're good with your guitar's volume pot, this is the easiest distortion to sail through "Little Wing"-type material. . . and then some.

Changing Distortion Types

The switch to the left of the illuminated inlay toggles through the three different distortion types in the XTREME. Simply press the button until the LED indicating the distortion type you want lights up.

ACTIVATOR PADS

The two rubber Activator pads allow you to bypass or activate each of the effect sections independently. LED Status lights in the illuminated inlay keep you informed whether the distortion or digital effects (or both) are on or off. Once in operation, the XTREME acts as two stomp boxes: a distortion like you've never heard and a digital pedal with unbelievably cool sounds.

LEAD-FOOT WARNING!

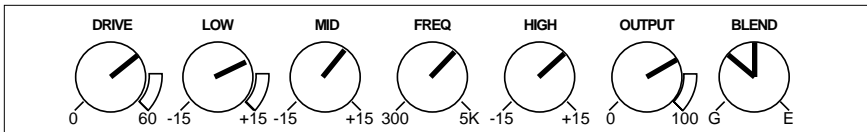
Even though the XTREME is built like a tank and the rubber Activator pads are designed to be pressed with your feet, the Distortion and Bank Select switches were designed to be pressed with a finger. If you choose to use your foot for these, do it lightly. A tap is all it takes! Practice this maneuver with caution. (This can be difficult with high-heeled, flame-throwing, pointy-toed stage wear.)



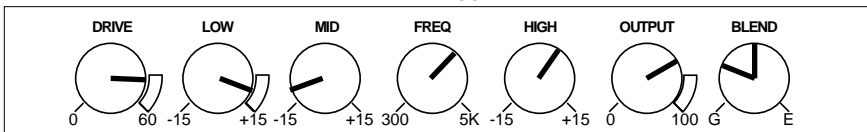
EXAMPLE SETTINGS

Check out these settings for a quick tour of how devastating the XTREME can be. When you test these sounds, set your amp's tone controls to their "flat" (no boost or cut) position, and turn down the amp's overdrive, so that you can hear the XTREME's full range of tones. Use the XTREME's EQ controls to adjust your tone. (Add the digital effects of your choice, too!)

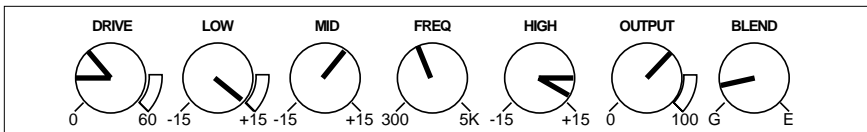
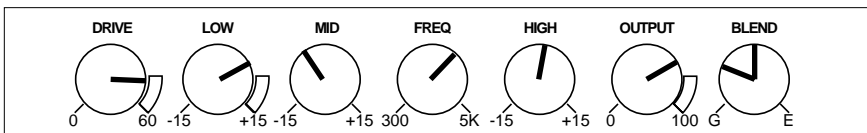
"Xtreme!"



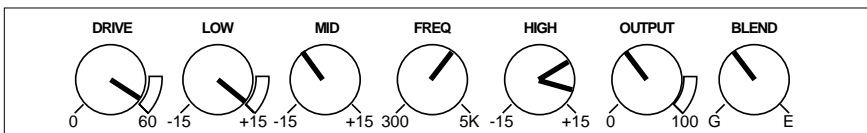
"Dimebaggin'"



"Ragin'"



"Blues Kings"



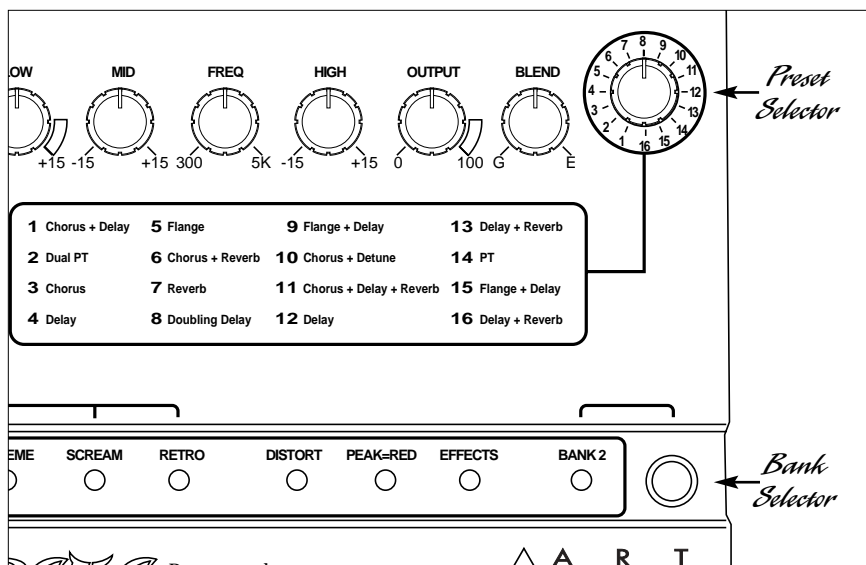
"Retro Rocket"



DIGITAL EFFECTS PRESET LIST

The following list describes all of the 32 presets in the XTREME's digital effects section. They are arranged by banks (1 and 2). Here's a quick explanation of some of the abbreviations:

doubling	Short delay that gives the illusion of two instruments playing in unison.
ms	Short for "milliseconds," or thousandths of a second
PT	Short for Pitch Transposer, which creates a harmony. In the dual PT programs (Preset 2 in each bank), two harmonies are created—one an octave above the note you play, and another one octave below.
regen	Short for "regeneration." This means sending part of the output signal back through an effect. Regenerating a delayed signal produces echoes. In flanging and chorus-ing, regeneration of certain frequencies (highs, for instance) can create a thicker, more dramatic effect.
sec	Short for "second" (equal to 1,000 milliseconds).





Bank 1

Preset	Description	
1	Chorus + Delay	Slow chorus + 380ms regen delay
2	Dual Pitch Transpose	Octave up + octave down
3	Chorus	Slow chorus
4	Delay	425ms regen delay
5	Flange	Slow flange with high regen
6	Chorus + Reverb	Slow analog chorus + 2.0 Sec hall reverb
7	Reverb	.04 sec room reverb
8	Doubling Delay	80ms doubling delay
9	Flange + Delay	Slow flange with high regen + 450ms regen delay
10	Chorus + Detune	Slow chorus + octave up
11	Chorus + Delay + Reverb	Medium analog chorus + 175ms delay + 0.8 sec room reverb
12	Delay	350ms regen delay
13	Delay + Reverb	150ms regen delay + 1.0 sec room
14	PT (Pitch Transposing)	Octave down
15	Flange + Delay	Slow flange with high regen + 345ms regen delay
16	Delay	390ms regen delay



Bank 2

Preset	Description	
1	Chorus + Delay	Slow chorus + 380ms regen delay
2	Dual Pitch Transpose	Octave up + octave down
3	Chorus	Slow chorus
4	Delay	425ms regen delay
5	Flange	Slow flange with high regen
6	Chorus + Reverb	Slow analog chorus + 2.0 sec hall reverb
7	Reverb	.04 sec room reverb
8	Doubling Delay	80ms doubling delay
9	Flange + Delay	Slow flange with high regen + 450ms regen delay
10	Chorus + Detune	Slow chorus + octave up
11	Chorus + Delay + Reverb	Medium analog chorus + 175ms delay + 0.8s room reverb
12	Delay	350ms regen delay
13	Delay + Reverb	150ms regen delay + 1.0s room
14	PT (Pitch Transposing)	Octave down
15	Flange + Delay	Slow flange with high regen + 345ms regen delay
16	Delay	390ms regen delay

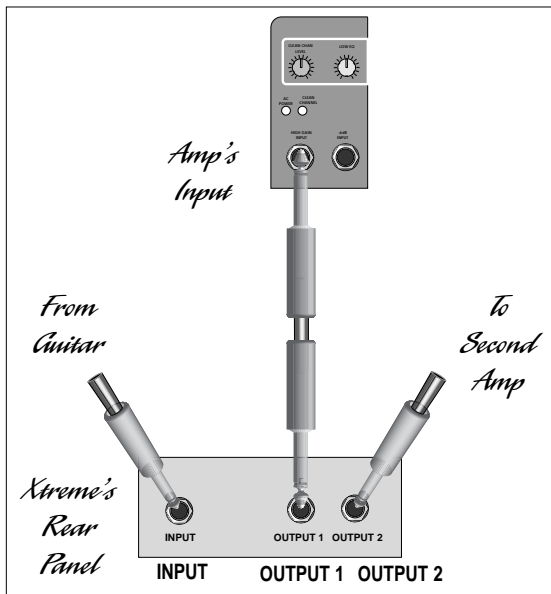


SETUP DIAGRAMS

PLUGGING DIRECTLY INTO AN XTREME & AMP



Before you do anything, make sure your amp is in a clean mode, with any preamp gain turned low. The Xtreme has more than enough gain to drive the daylights out of your amplifier. When plugging a guitar into the XTREME, make sure that there is sufficient signal level coming from the instrument (check that you've turned up the volume knob). Turn up the XTREME's Drive and Output controls before turning up the amplifier's volume control.

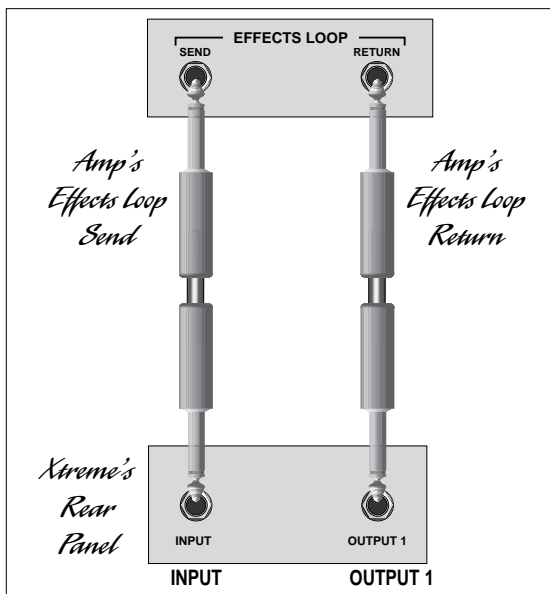




USING THE XTREME IN AN AMP'S EFFECTS LOOP

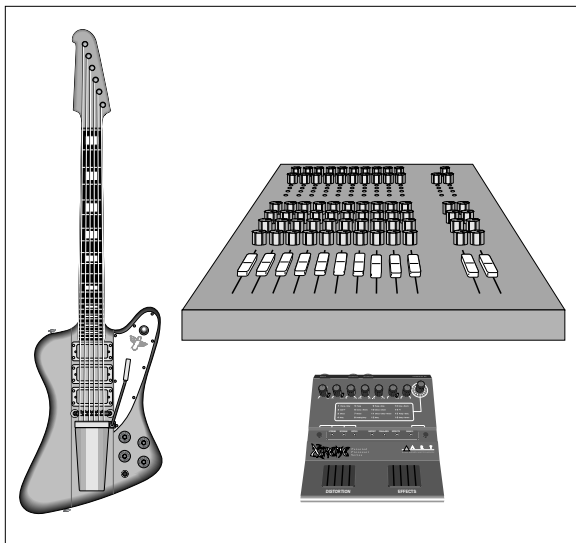


Patch the XTREME into the effects loop of an instrument amplifier as shown (for mono set-ups, use the XTREME's Output 1 jack). If the amp has two effects-loop return jacks for stereo operation, you may connect a second cord between the XTREME's Output 2 and the amp's second return jack.

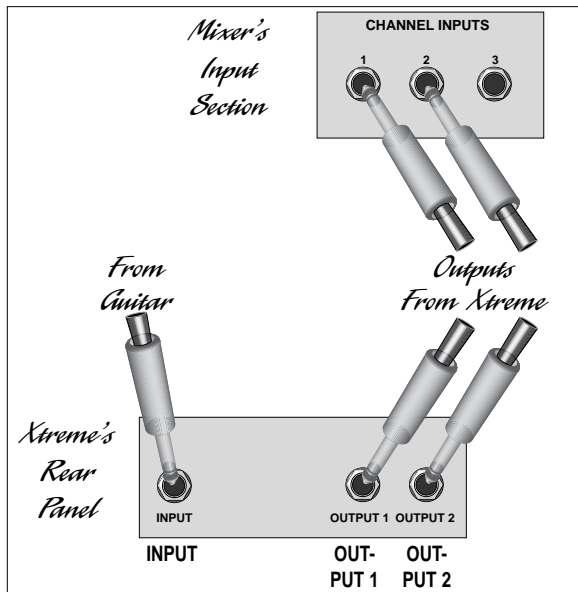




PATCHING THE XTREME INTO A MIXER'S REVERB SEND/RETURN LOOP

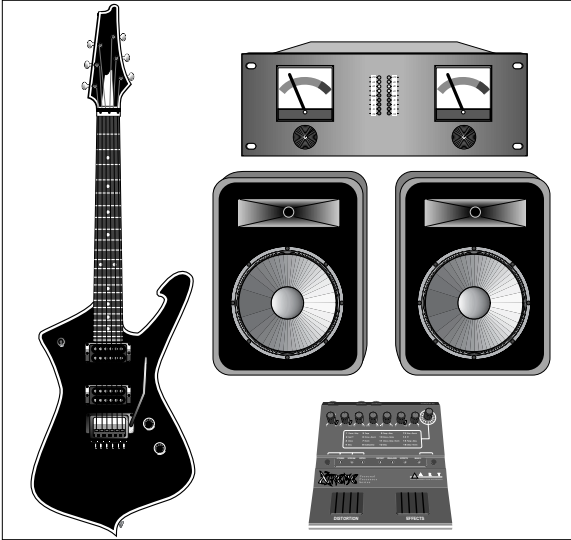


Connect the Output 1 and Output 2 of the XTREME to two line input channels of your mixer (use Output 1 if you wish to run in mono). Adjust the Input and Output levels of the XTREME and then the Input level of the mixer. Once you see signal present to the mixer, turn up your mixer's output levels (or monitor amp).

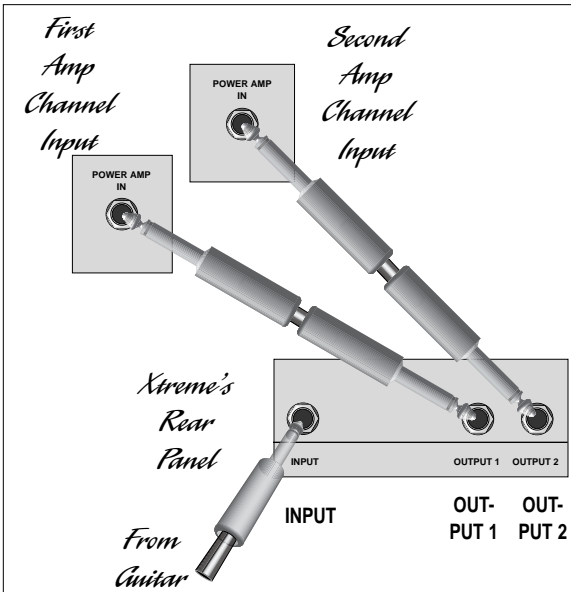




USING THE XTREME IN STEREO WITH A POWER AMP & SPEAKERS



Plug your instrument into the XTREME. Connect the Output 1 and Output 2 jacks into the Left and Right Input jacks on the power amp. Connect the speaker outputs of the amp to two cabinets (or a stereo cabinet). Power on the XTREME before turning on the power amp.





WARRANTY & SERVICE INFORMATION

LIMITED WARRANTY

Warranty and Service for this unit will be provided by Applied Research and Technology, Inc. in accordance with the following warrant statement.

Applied Research and Technology, Inc. (ART) warrants to the original purchaser that this product and the components thereof will be free from defects in workmanship and materials for a period of three years from the date of purchase. Applied Research and Technology, Inc. will, without charge, repair or replace, at its option, defective product or component parts upon prepaid delivery to the factory service department or authorized service center, accompanied by proof of purchase date in the form of a valid sales receipt.

EXCLUSIONS: This warranty does not apply in the event of misuse or abuse of the product or as a result of unauthorized alterations or repairs. This warranty is void if the serial number is altered, defaced, or removed.

ART reserves the right to make changes in design or make additions to or improvements upon this product without any obligation to install the same on products previously manufactured.

ART shall not be liable for any consequential damages, including without limitation damages resulting from loss of use. Some states do not allow limitations of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific rights and you may also have other rights which vary from state to state.

For units purchased outside the United States, service will be provided by an authorized distributor of Applied Research and Technology, Inc.



Service

The following information is provided in the unlikely event that your unit requires service.

- 1) Be sure that the unit is the cause of the problem. Check to make sure the unit has power supplied, all cables are connected correctly, and the cables themselves are in working condition.
- 2) If you find the unit to be at fault, write down a complete description of the problem, including how and when the problem occurs. Please write down a description of your complete setup before calling Customer Service.
- 3) Call the factory for a Return Authorization (RA) number.
- 4) Pack the unit in its original carton or a reasonable substitute. The packing box is not recommended for a shipping carton. Put the packaged unit in another box for shipping. Print the RA number clearly on the outside of the shipping box. Print your return shipping address on the outside of the box.
- 5) Include with your unit: a return shipping address (we cannot ship to a P.O. Box), a copy of your purchase receipt, a daytime phone number, and a description of the problem.
- 6) Ship only your unit and its power supply (keep your manual!) to:
APPLIED RESEARCH AND TECHNOLOGY, INC.
215 TREMONT STREET
ROCHESTER, NEW YORK 14608
ATTN: REPAIR DEPARTMENT
RA# _____
- 7) Contact our Customer Service department at (716) 436-2720 for your Return Authorization number or questions regarding technical assistance or repairs. Customer Service hours are 8:30 AM to 6:00 PM Eastern Time, Monday through Friday.



XTREME SPECIFICATIONS

Dimensions	9.0" D x 8.25" W x 2.0" H
Weight	3.0 lbs
Connections	Mono 1/4" input, Stereo 1/4" outputs (L&R)
Digital presets	32
Input impedance	470k ohms
Output impedance	300 ohms
Maximum input level	-0dBv
Maximum output level	0dBv
Residual output noise	<-85dBv
Input dynamic range	>108dB
Power requirements	9VAC @ 400mA

ART retains a policy of constant product improvement. ART reserves the right to make changes in design or make additions to or improvements upon this product without any obligation to install the same on products previously manufactured. Therefore, specifications are subject to change without notice.

Designed and manufactured in the United States of America.

Applied Research & Technology, Inc.
215 Tremont Street
Rochester, NY 14608 USA

(716) 436-2720
(716) 436-3942 (FAX)



Xtreme Settings

Make photocopies of this page and mark your settings for future reference.

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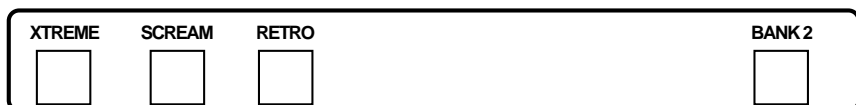
DISTORTION ON



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ROCHESTER, NY 14608 USA
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