Stereo Field Expander Operator's Guide

SFX™

Technology for an enhanced 300-degree stereo sound field experience

Congratulations!

You're one of the first to experience playing in the enhanced 300-degree stereo sound field created by SFX Technology.

Your rack-mount SFX Encoder, coupled with an SFX Stereo Decoder Speaker Cabinet, create whole new stereo possibilities for the live performer.

SFX Stereo Technology delivers an enhanced 300-degree sound field from a special SFX Stereo Decoder Speaker Cabinet – producing sound so rich, vibrant and natural, the source-point seems to emanate from everywhere in live performances.

A brief history of the SFX Technology

Aspen Pittman and Drew Daniels co-invented The SFX Stereo Technology, which was recently awarded US patent 6219426-B1, and patents are pending in several foreign countries as well.

SFX Technology produces a stunning stereo image in live performance – stunning because it emanates from a single cabinet!

Most everyone records using stereophonic effects, but must perform in mono. This is because using stereo speakers widely spread on stage will only produce stereo results for the small number of listeners sitting in the center of the audience. Moving the speakers towards each other produces a mono result because the they mix together within just a few feet.

SFX is the first and only way play live with convincing stereo effects. Its ground-breaking technology will forever change the rules for live stereo performances.

Pittman and Daniels Research exclusively licensed this technology to Fender Musical Instruments Corporation in 1999. FMIC is currently producing the award-winning Acoustasonic™ Amp which is an "all-in-one" acoustic-electric solution with preamps, power amps, Digital Stereo Processing (DSP), and two speakers housed in a single combo cabinet.

The Acoustasonic Amp won Best New Amp at the Music and Sound Retailer Awards at the Los Angeles NAMM show, and the SFX line won the coveted International Press Award at the Frankfurt Musik Messe in April 2000.

The new Fender Acoustasonic Amp utilizes SFX Technology.

Groove Tubes Custom Shop Products and the SFX Stereo product line

Groove Tubes has received Fender's blessing to produce a limited quantity of SFX Stereo Technology systems for those musicians who want SFX Stereo but also want to keep their existing tube amps and stereo effects devices.

Our goal was to produce a complete SFX Stereo system – an electronic SFX Encoder, and a range of SFX Stereo Decoder Speaker Cabinets that would work with any tube amp, tube preamp, stereo effects unit and/or tube power amps.

We also designed special SFX Stereo Decoding Speaker Cabinets for keyboard instruments – the K1 and K3 – because so many modern keyboard samples are based upon stereo patches, which are greatly enhanced by the SFX Stereo Technology.

The E1 SFX Stereo Encoder

The E1 SFX Stereo Encoder converts the stereo left-right signals from your stereo effects device or keyboard into special front-side signals for input to your stereo amplifier, which in turn power any of our special SFX Decoding Speaker Cabinets.

SFX™ TECHNOLOGY

Groove Tubes™ Custom Shop™ SFX™ Technology – like hearing color in a black-and-white world.

SFX ENCODING

E1

Electronic SFX Stereo Encoder

SFX DECODING

G3

SFX Stereo Decoder Speaker Cabinet for guitar

K3

SFX Stereo Decoder Speaker Cabinet for keyboards

K1

SFX Stereo Decoder Speaker Cabinet for keyboards

S12

SFX Stereo Decoder Satellite

S15

SFX Stereo Decoder Satellite

Required equipment

1 Your instrument

2 Your amplifiers

3 A stereo effects unit

4 An E1 SFX Encoder

5 A SFX Decoding Speaker Cabinet

Required cables for setup

Depending upon whether you choose “in-series” or “in-parallel” setup, you’ll need a minimum of seven male mono 1/4-inch phone to male mono 1/4-inch phone cables.

The E1 may be used for guitar, bass or keyboard applications, while the SFX Decoder Speaker Cabinets are specially designed for their respective instruments.

The E1 provides either a common series signal path or a parallel signal path that allows for mixing the dry/wet level of your effects at the E1 instead of your stereo effects device, thereby preserving your preamps’ sonic and dynamic character.

These two effects signal processing paths are explained in the following paragraphs. Further questions may be directed to us here at Groove Tubes.

Once you hear the SFX magic, we predict you’ll never be able to play in ordinary mono again.

Please take the time to read this brief setup guide so you may fully realize the potential, and magic, of SFX Stereo

An SFX Stereo system requires either a separate preamp and stereo amp – or two amps, with the first amp having a common effects loop.

The SFX Encoder “in-series” setup

The SFX E1 Encoder is placed in the signal chain AFTER your stereo effects unit, and BEFORE your amplifiers.

1 Connect the preamp OR the effects loop output (send) of your amp top to the stereo effects processor you have chosen.

Note

Your preamp signal will enter your stereo FX device as a mono signal, and exit in stereo mode (left/right).

2 Connect the stereo effects left and right outputs to the corresponding SFX Encoder inputs for Left and Right.

Note for keyboards

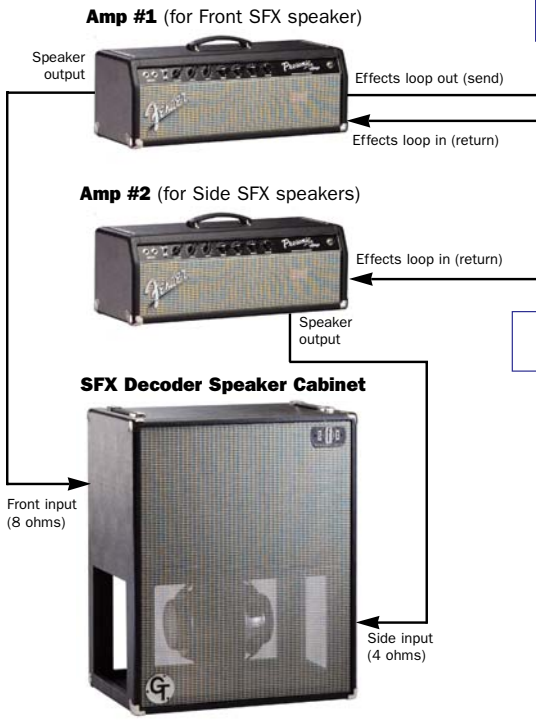
Stereo keyboards already contain left-right stereo information, so your setup is easy. Simply connect the left-right outputs of your keyboard to the corresponding SFX Encoder inputs for Left and Right. Additionally, the effects mix control on your E1 will act as a master volume for your whole system for the two sides.

3 Connect the SFX Encoder outputs, labeled Front and Side, to either
the effects loop returns of both your original amp top and your second amp – OR to the inputs of your stereo amp.

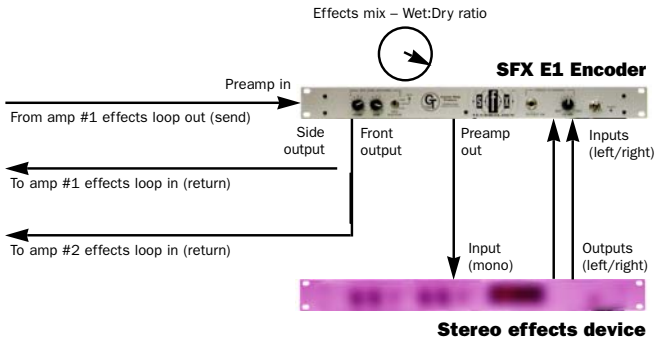
4 Connect the speaker outputs of the two amps to the SFX Decoder Speaker Cabinet. Be sure the Front signal amplifier is connected to the SFX Decoder Speaker Cabinet’s Front input, and the Side signal amplifier’s output to the SFX Decoder Speaker Cabinet’s Side input. Also, be sure to set your amp’s impedance selector (if applicable) to the correct input impedance of the SFX Decoder Speaker Cabinet.

5 Now you’re ready for action! Plug in your instrument and get the preamp signal level showing adequate gain into the stereo effects processor. These usually have a level and peak indicator to help with this process. Now set the stereo effects parameter on your stereo effects to produce a dramatic Left:Right ratio – and also

SFX Encoder “in-series” setup



SFX Encoder “in-parallel” setup



set your Wet:Dry ratio to taste. Next, adjust the SFX balance of Side/Front by using the SFX Encoder levels as a balance control. We suggest turning the Front speaker up first to maximum level, then add in the Side cabinet to the desired level, which will be determined by the acoustical environment you're playing in. This can be instantly monitored by defeating the SFX signal on the front panel, and hearing the amazing results of SFX Stereo processing. Normally, the Side level will be louder than your Front, so you'll usually set your Side level lower than your front.

Note

The more stereo separation, the better SFX will work. If you have a programmable stereo effects device, create hard left/right programs to increase the dramatics of SFX Stereo Technology. You'll notice the very wide dispersion pattern – up to 300 degrees – from your SFX Decoder Speaker Cabinet.

Suggestions for recording an SFX system in live performance

We're commonly asked for suggestions in miking the SFX Stereo phenomenon, and frankly it's a hard thing to do.

The best bet is to just mic the front speaker, as it's mono compatible. If you want a stereo recording, or for live reinforcement purposes, we suggest using a stereo mic such as a MS recording system.

Groove Tubes Custom Shop Products has just such a device for this type of stereo recording. Click over to **www.groovetubes.com** – or see our catalog for our MS-Stereo Matrix Decoder System that's used with stereo mics, or any two mics with cardioid and figure-eight patterns available.

Note

Always use shielded signal cable to avoid noise and hum.

The SFX Encoder "in-parallel" setup

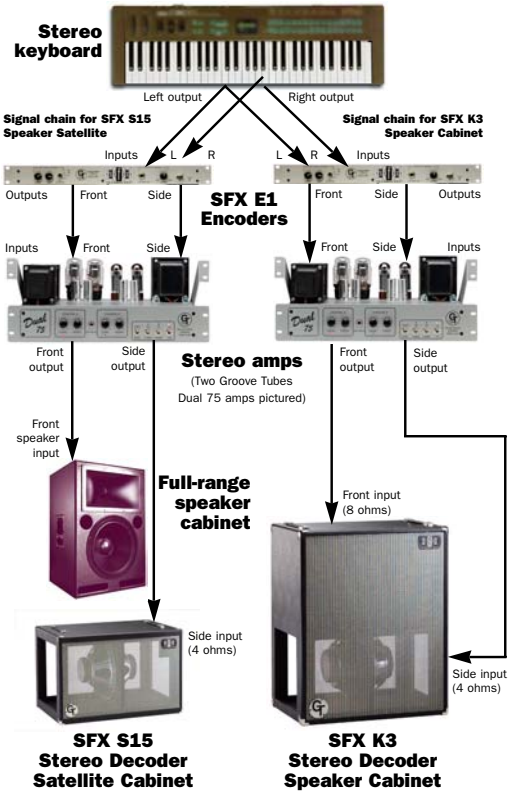
This stereo effects signal patching system allows for mixing the dry/wet level of your effects at the SFX Encoder, instead of in the stereo effects device. This preserves your original tube preamp's sonic and dynamic character.

The SFX Encoder must be placed in the signal chain after your preamp, and before your stereo effects unit. This requires using a conventional guitar amp with an effects loop – such as a current-model Fender or Marshall – and a second slave amp to produce the stereo result.

The second amp doesn't need to be a perfect match to your first amp, but does need to have a similar power level as the primary amp. You may also use separate components such as a preamp and a stereo amp.

SFX setup for keyboards

Configured using "in-parallel" effects loop connections



SFX satellite speaker setup

Configured using "in-parallel" connections

Tech specs

Basic description

The SFX Technology is a line-level signal processor which can achieve Unity Gain through system with output level adjustments.

Encoder section

Input impedance – Left/Right 30k
Input levels – Left/Right Functions between 10dBv and +4dBu
Output level – Front +15dBu
Output level – Side +21dBu
Output impedance – Front 100 ohms
Output impedance – Side 100 ohms

Parallel effects loop with mix control section

Input level Functions between -10dBv and +4dBu
Input impedance 30K ohms
Output level – preamp +21dBu
Output impedance – preamp 100 ohms

Typical general system specs

Frequency response 20Hz to 20KHz, + or - 0.2 dB
Frequency response at 10Hz -0.5dB
Frequency response @ 00KHz -0.3dB
Distortion at 1KHz/0 dBu <0.3% THD
Clipping level – Front Out +15dBu
Clipping level Side Out +21dBu
Clipping level Preamp Out +21dBu
Input impedance – all inputs 30K ohms nominal
Output impedance – all outputs 100 ohms nominal

Power section

AC input 115 volts/60 cycles – and internally switchable to 230 volts
Fuse External 0.25 amp at 250 volts

www.groovetubes.com

1 Connect the preamp OR the effects loop output (send) of your amp top to the SFX Encoder input labeled “PREAMP IN – from preamp.”

2 Connect the SFX Encoder’s output labeled “PREAMP OUT – to the input” to your stereo effects processor.

Note

Your preamp signal will enter your stereo effects device as a mono signal, and exit in stereo mode (Left/Right).

3 Connect the stereo effects unit’s left and right outputs to the corresponding SFX Encoder inputs labeled “FX INPUTS – LEFT/RIGHT.”

4 Connect the SFX Encoder outputs, labeled Front and Side, to the effects loop returns of both your original amp top, and/or your second amp – unless you’re using a stereo amp.

5 Connect the two amps speaker outputs to the SFX Decoder Speaker Cabinet. Be sure the Front signal amplifier is connected to the SFX Decoder Speaker Cabinet’s “Front” input, and the Side signal amplifier’s output to the SFX Decoder Speaker Cabinet’s “Side” input. Also, be sure to set your amp’s impedance selector (if applicable) to the correct input impedance of the SFX Decoder Speaker Cabinet.

6 Now you’re ready for action! Plug in your instrument and get the preamp signal level showing adequate gain into the stereo effects processor. These usually have either a level and/or a peak indicator to help you with this. In the parallel setup, set your stereo effects device “mix” level to produce 100% Wet and 0% Dry signal as you’ll mix the Wet/Dry ratio at the SFX Encoder to preserve the original tone of your tube preamp. After you have set your effects device for maximum wetness, then you should only need to mix in a small fraction of its signal with your original tube preamp signal (at the E1) with your original tube preamp signal.

Note

This balance is usually 98% original dry tone with 2% fully wet-effected signal from your stereo effects device. In this mode, you can turn your effects on/off via a footswitch (the E1 has a 1/4-inch switching jack for this purpose) and you’ll notice no level or tonal change at all. Once you’ve heard your effects mixed this way, you’ll never want to go back to an “in-series” signal path again.

7 Next, we’ll adjust the SFX balance between the Side and Front signals using the E1 front panel level controls. We suggest turning the Front speaker to maximum level, then adding in the Side cabinet to the desired level, which will be determined by the acoustical environment you’re playing in. In acoustically live rooms with many reflective surfaces, you’ll need less Side levels.The SFX balance – and the magic – can be instantly monitored by defeating the SFX Side signal on the front panel.

8 The more stereo separation in the effects processing, the more dramatic the SFX processing will be. If you have a programmable stereo effects device, create extreme hard left/right programs to increase the dramatics of SFX Stereo Technology.

Notice the 300-degree dispersion pattern from your SFX system. Your whole band will hear and enjoy your new “magic” stereo image. You may also find you’re getting better results at lower volume levels than previously needed. This is a good thing and be sure to point this out during band meetings – as maybe they should get an SFX system, too!

If your SFX gear needs repair

1 Locate the original bill of sale with date of purchase.

2 Call or write the factory with a brief description of the problem.

3 We will issue a Return Authorization Number.

4 Pack the unit carefully, preferably in the original box, and include a copy of your bill of sale. Ship it prepaid to the factory with the Return Authorization Number on the outside of the box. You are responsible for any freight or insurance charges when shipping to us. We will pay for freight and insurance when we return the unit to you after repairing it (only when under warranty).

The Groove Tubes Custom Shop Products Warranty

Your SFX Stereo Technology gear is warranted to the original purchaser for a period of ONE YEAR – except tubes and/or speakers which are warranted for three months – from the date of purchase. This warranty protects the purchaser against defects in material and workmanship.

This warranty is VOID if the unit has been damaged due to accident, improper handling, improper installation, shipping damage, abuse or misuse, unauthorized repair or attempted repair, custom modification, or in the event that the serial number has been defaced or altered. Groove Tubes LLC reserves the right to make such determination on the basis of factory inspection.

All liability for incidental or consequential damages from breach of any expressed or implied warranties is disclaimed and excluded herefrom.

GROOVE TUBES

Groove Tubes LLC
Custom Shop Products
1543 Truman Street
San Fernando, California 91340 USA
Tel 818 361 4500
Fax 818 365 9884
www.groovetubes.com