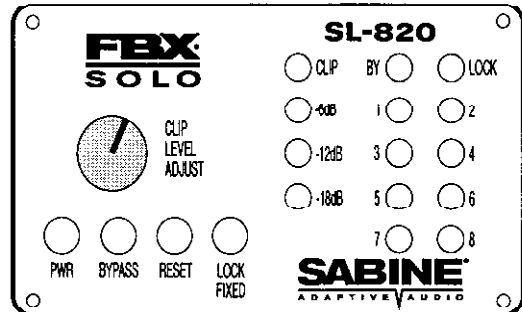
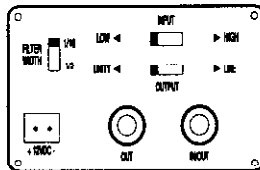


FBX[®] SOLO

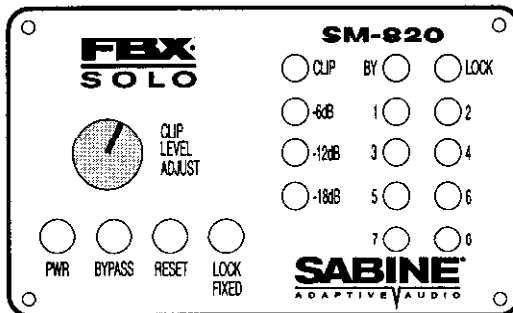
FEEDBACK EXTERMINATOR

820 Series

- 8 Feedback Exterminator Filters
- 20 bit Resolution
- Two Stage filter reset
- Programmable Noise Gate
- Up to 9dB Gain
- Switchable Phantom Power (SM model)



FBX-SOLO
Model SL-820



FBX-SOLO
Model SM-820

The Sabine FBX-SOLO gives you automatic real-time feedback control for any and all channels of your mix. In setup and during the performance, it gives you more gain and increases the clarity of your mains and monitors. It's the affordable solution to feedback problems, perfect for wireless mics, monitors, acoustic/electric instruments, harmonica mics, multi-mic locations like conference rooms and courthouses -- wherever there's one or more open microphones.

The FBX-SOLO incorporates the latest in design and digital signal processing technology. It automatically senses feedback in a sound system and determines its pitch. It then places one of its eight constant "Q" micro-filters on the resonating frequency and eliminates the feedback in typically less than one second.

Special features of the SL-820 and SM-820:

- New ultra fast & quiet **TURBO SETUP MODE** grabs feedback at very low levels. Turbo saves your ears!
- The SL-820 has 1/4" in/out connectors and input/output level switches for any combination of ins and outs. The SL is for use with acoustic/electric guitars and guitar amplifiers, mixer insert points, powered mixer patch points and high impedance mics.
- The SM-820, with selectable phantom power, has XLR in/out connectors for use with balanced microphones.
- Both models offer standard FBX features like switchable filter widths and lockable fixed filters.
- New improved performance - 20 bit A/D conversion, expanded dynamic range & up to 8 FBX filters.

WORLD'S BEST FEEDBACK CONTROLLER:

Before the invention of the FBX, the most common device for controlling feedback was the 31-band graphic EQ. However, the FBX has three distinct advantages. The most obvious is the FBX functions automatically, even during the program. Another is the FBX micro-filters are precisely placed while EQ filters are fixed; FBX filters can be placed between predetermined graphic filters.

The difference: FBX filters are not as deep, so there is more system gain. The final and most important advantage is that

FBX micro-filters are ten times narrower than 31-band EQ filters. FBX micro-filters return up to 90 percent of the power removed by EQ filters.

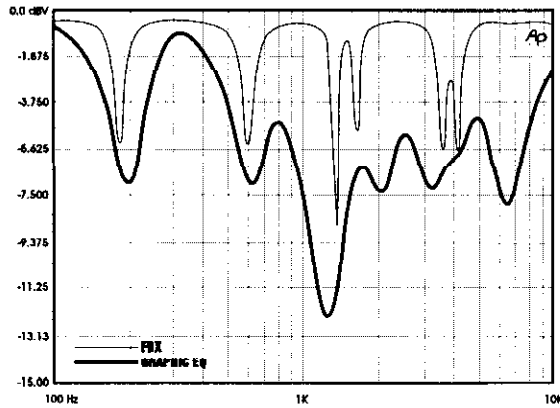
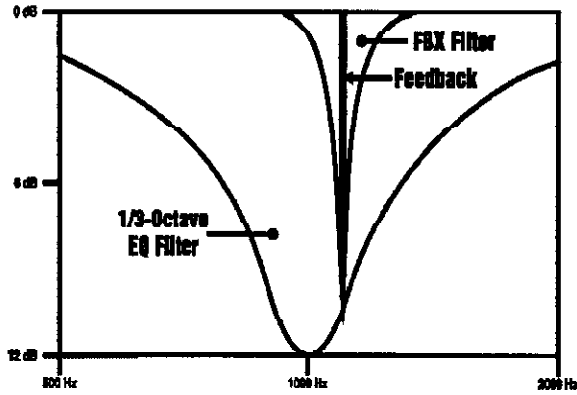
Over the years, engineers stopped using 12-band EQs in favor of the narrower-filter 31-band EQ for controlling feedback. The FBX represents the next step. An EQ would need more than 10,000 sliders to be equivalent to your FBX. With the SOLO, your monitors will finally sound loud enough, everyone in the audience will understand each word, and the mains will sound natural and transparent.

WHO NEEDS THE FBX?

Virtually every sound system will be improved with the FBX. Small bands that do not have sound technicians can now increase their monitor volumes so they can hear themselves clearly and with full fidelity, without worrying if the program is going to be ruined by feedback.

Auditoriums and churches of all sizes will enjoy reliable feedback control. Hotels and conference centers around the world can offer meeting rooms with sound systems that won't howl during programs. The SOLO can be installed in theaters, schools, sports arenas, courtrooms -- anywhere multiple microphones are used. It can also be used for teleconferencing, intercoms or interactive remote classrooms.

A DIRECT HIT ON FEEDBACK! The FBX-SOLO targets feedback without taking a big chunk out of your sound. Tests prove that a single 1/3-octave EQ slider pulled down 12 dB removed almost half the power going to the speakers over a two-octave range. And, as the illustration at right shows, you can't place a graphic EQ filter precisely on the ringing frequency. When you pull down multiple sliders in a normal setup (below), you end up with giant holes in your sound. On the other hand, FBX constant "Q" micro-filters are 10 times narrower - you get back up to 90% of the power you lose with a graphic EQ! That means more gain before feedback and no loss in sound quality.



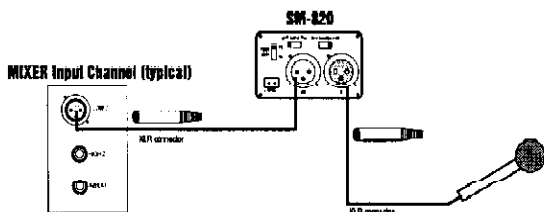
FREQUENCY RESPONSE:
Full Set-Up FBX vs. 1/3-Octave Graphic Equalizer. Test procedure: A PA system was set up using a microphone, mixer, FBX, power amp and two speakers. The system's gain was raised until the FBX removed six feedback points. Next, the FBX was replaced with a 1/3-octave graphic EQ. The EQ was adjusted while the input was raised to the same level achieved with the FBX. The frequency response curves of each device were then plotted.

What this means to you: Doubling the cost of your microphones, speakers and power amp probably would not improve your system's frequency response as much as replacing your EQ with an FBX for chasing feedback.

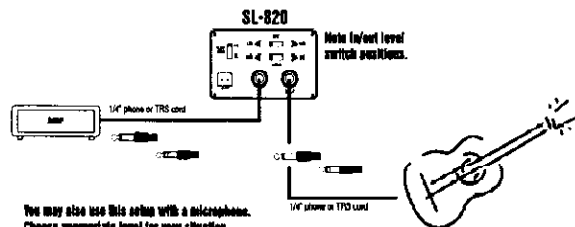
HOW CAN THE SOLO BE USED?

Assign a SOLO to any specific mixer channel. You can also use the SM-820 to connect a phantom-powered mic to a non-phantom-powered mixer.

APPLICATION	SL-820 (Connected to insert point/instrument)	SM-820 (Connected to mic)
SOUND REINFORCEMENT • Individual vocal microphones in mains and monitors	✓	✓
ACOUSTIC GUITARS • Miked • With pickups	✓✓	
INSTALLATIONS • Churches • Schools • Theatres • Hotels • Conference rooms • Sports arenas • Courtrooms • Anywhere multiple wireless microphones are used	✓✓✓✓✓✓✓✓	✓✓✓✓✓✓✓✓
TELECONFERENCING	✓	✓
INTERCOMS	✓	✓
INTERACTIVE REMOTE CLASSROOMS	✓	✓



SM-820: Use the SM-820 with balanced microphones



You may also use this setup with a microphone. Choose appropriate level for your situation.

ENGINEERING SPECIFICATIONS

FILTERS

Eight independent digital notch filters controlled automatically from 40Hz to 20KHz

Filter width: 1/10 octave or 1/5-oct. selectable; constant "Q"

Filter depth: DSP controlled, variable to -50dB

Resolution: 1/50th octave

Time required to find and eliminate feedback: 0.4 seconds, typical @ 1KHz

Total number combined filters active: User selectable 1 to 8

Number of Dynamic vs. Fixed filters: User selectable

Last configuration stored in memory

INPUT/OUTPUT - SL-820 ONLY

I/O Connectors: 1/4" TRS; tip=input, ring=output, sleeve=ground

Input Impedance: Unbalanced >1 meg Ohm

Output Impedance: Unbalanced 10 Ohms nominal; Maximum load 2K Ohms

Maximum Input/Output Level at lowest gain: +20 dBV

Gain Range (with line out selected): 0 to +35 dB (high in), +30 to +65 dB (low in)

Input to Output Gain @ unity setting: +/- 0.5 dBV

Bypass: Digital

INPUT/OUTPUT - SM-820 ONLY

I/O Connectors: XLR-3 PIN 2 high Balanced

Input Impedance: 1K Ohm nominal

Output Impedance: Unbalanced 10 Ohms nominal; Maximum load 2K Ohms

Maximum Input/Output Level at lowest gain: -10 dBV**

Gain Range: -15 to +20dB (at high output)

Input to Output Gain @ unity setting: +/- 0.5 dBV

Bypass: Digital

EIN: -105dBm @ 150 Ohms, 20Hz-20KHz or better

Phantom Power: 48V switch selectable

PERFORMANCE***

Frequency Response: < ±0.75dB, 20Hz to 20KHz

Signal to Noise Ratio: >94dB typical

Total Harmonic Distortion: <0.01% @ 1KHz @ +15dBV

Dynamic Range: >100dB

NOISE GATE

Attack Time: Fixed (400mS)

Threshold: Selectable (-24dB, -36dB, -48dB, -60dB)

POWER SUPPLY

8-20VDC @ 400 mA

DIMENSIONS

1-U height, 1/6-RU width; 2.78 x 1.65 x 5.5 in.
(6.95 x 4.13 x 13.75 cm)

WEIGHT

9 oz. (0.26 kg)

OPTIONS

SL6RACK Rack Tray (holds up to six units)

PUT THE FBX ADVANTAGE TO WORK FOR YOU, TOO!

THEATERS/ENTERTAINMENT:

Late Show with David Letterman
Oprah Winfrey Show
Tavern on the Green
Vienna State Opera
Willie Nelson
Cairo Opera House
United Artists Theaters
Lone Star Amphitheater
Craig Chaquico
Grand Ole Opry
L.A. Shakespeare Festival
Waylon Jennings
Steve Miller Band
Disneyland's Tomorrowland
Jeff Carson
Larry Sanders Show

SPORTS ARENAS:

Lambeau Field, Green Bay
Jacksonville Jaguars Stadium
Shea Stadium
Baltimore Ravens Stadium
Olympics 2000 (Sydney)
Gateway Arena
Orlando Arena
Citrus Bowl
National Bowling Stadium

CORPORATE SOUND:

Walt Disney Company
Hewlett Packard
Microsoft
American Stock Exchange
Boeing Test Labs
Busch Gardens
Sea World
Universal Studios
Wendy's Restaurants

EDUCATION:

University of Michigan
Iowa State Education System
The Rotunda (U. Va.)
Northwestern College
University of Florida
Ohio University
University of North Carolina
Bangkok University

HOTELS:

The Sands Hotel
Luxor Hotel
Westin Bonaventure Hotel
Hyatt Regency San Francisco
Debbie Reynolds Hotel
Marco Island Marriott
Crown Plaza Hotel

CONVENTION CENTERS:

Jacob Javitz Convention Center
Meadowlands Exposition Center
Metro Portland Convention Center

SOUND COMPANIES:

Showco
Rock 'n' Road Audio
Wavelength Hire Co.
Sound Services
Sound Planning
Sounds Great Enterprises
...And thousands more!

GOVERNMENT:

NASA
The Pentagon
Australian Federal Parliament
United Nations Headquarters
U.S. District Court (Foley Square)
Navy's Sea Lift vessels
Iane Cove Municipal Council
Church House, Westminster
Government Hall (Honduras)
Congress Innsbruck
Penna. State Supreme Court

CHURCHES:

The Vatican
Crystal Cathedral
St. Mary's Cathedral
Grand Mosque (Oman)
Baylake United Methodist Church
Golden Era A/V Facility

BROADCAST:

CBS Studios
NBC Studios L.A.
INN
CBC
Korean Broadcast System
Austrian Federal Broadcast
City TV, Toronto
CBS Sound Shop
WRKO Radio

*Below approximately 200Hz the feedback filters become slightly wider to increase the capture speed of feedback and rumble at these low frequencies.

**Note: Inputs may be balanced or unbalanced.

***Tests performed using an Audio Precision System One model 322 or equal.