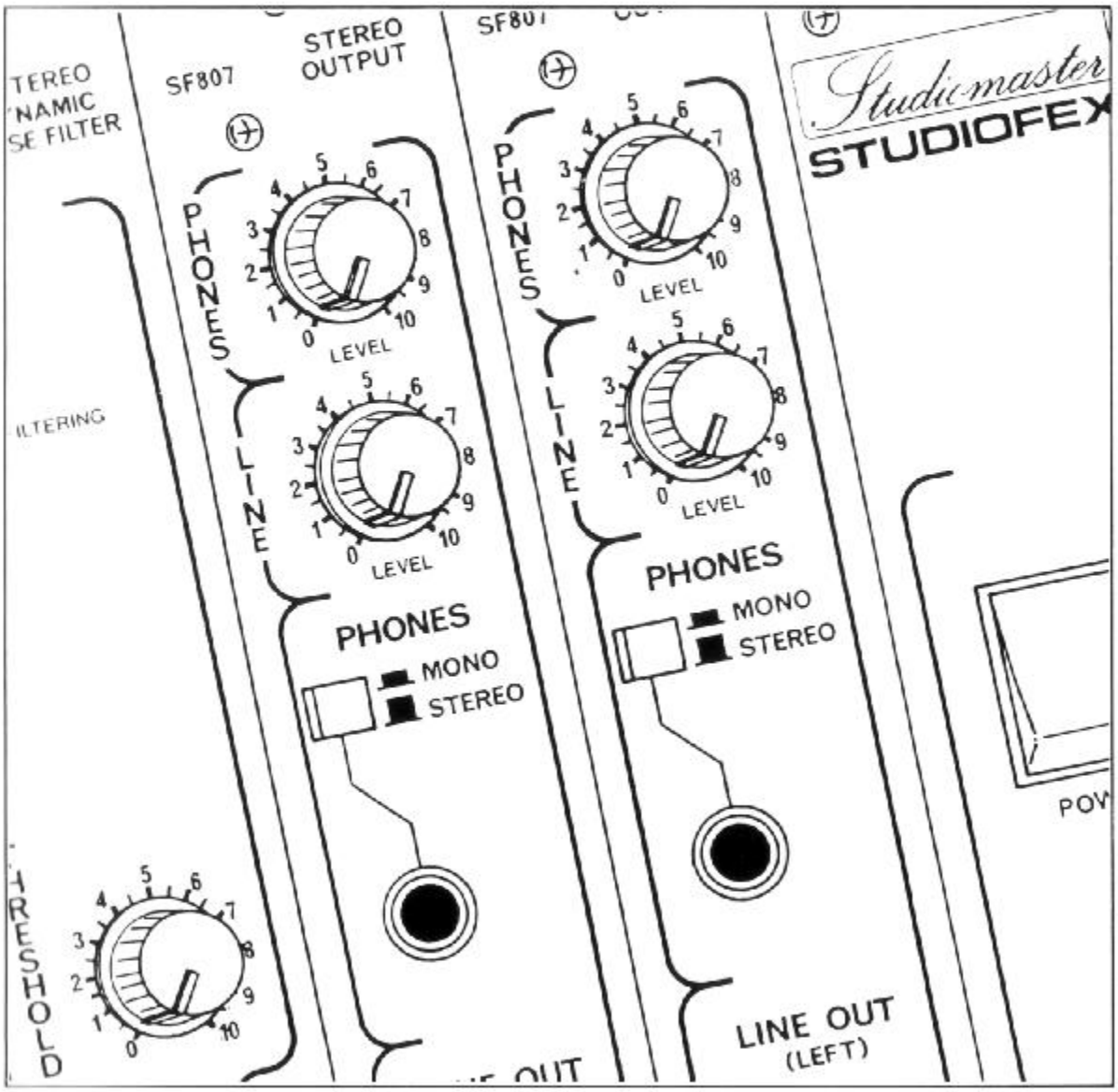
Studiomaster Studiofex SF803

Parametric EQ



Owners Manual

SF803 Parametric EQ

CONTENTS

STUDIOFEX is a fully modular studio effects system which brings together both the features and the performance which today's music demands. To get the best from the **STUDIOFEX SF803 PARAMETRIC EQUALISER,** familiarise yourself with all of its features by reading these instructions thoroughly.

Please also read the instructions which are supplied with the STUDIOFEX MOTHER UNIT.

Equalisation

The process of **EQUALISATION (EQ)** is simply to alter the gain at different frequencies so that the signal is either boosted or cut depending on its frequency. Every mixing console has some form of EQ which provides sufficient flexibility for most applications without making the controls cluttered. The SF803 PARAMETRIC EQUALISER has all the controls necessary for the flexibility that is demanded by many of the equalisation requirements that mixing console EQ cannot meet.

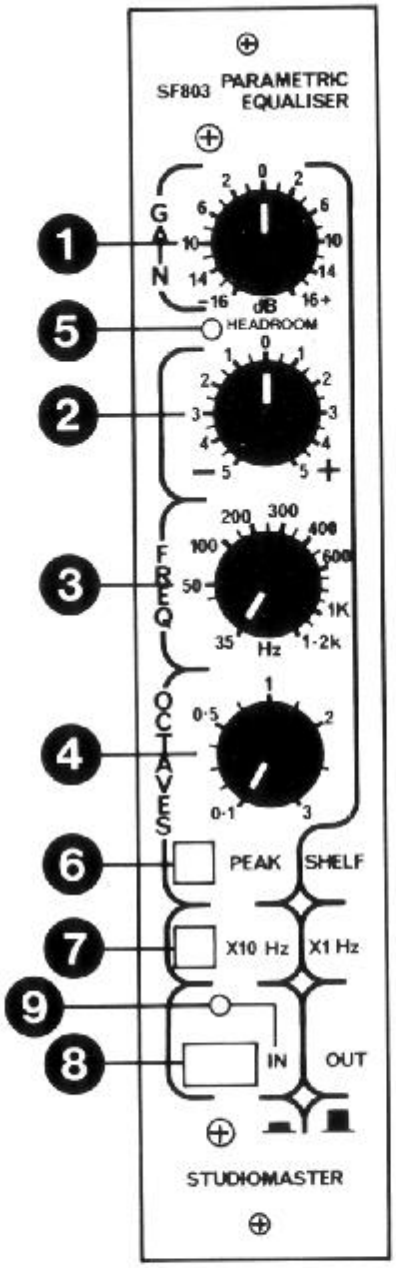
Features

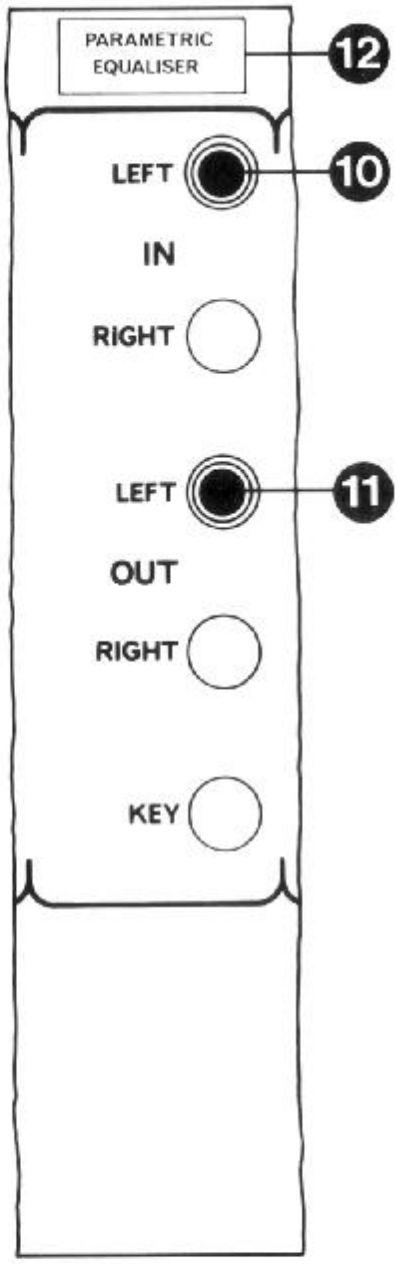
FRONT (see FIG 1)

1 The **GAIN** control allows the overall signal level to be adjusted to compensate for any aggressive adjustment of the +/- control which could cause a rise or fall in the overall signal level.
2 The +/- control sets the amount of boost or cut. A setting of "0" means that no frequencies are boosted or cut.
3 The **FREQUENCY** control determines the part of the audio spectrum which is to be boosted or cut. The frequency calibrations refer to the centre frequency of the part of the spectrum to be modified.
4 The **OCTAVES** control determines how wide a frequency range is affected. (In the **PEAK** mode only). The equalisation parameter that this adjusts is often referred to as "Q".
5 The **HEADROOM** LED shows when the signal levels within the SF803 are becoming too high. It lights 5dB before clipping.
6 The **PEAK/SHELF** button determines whether the response of the unit peaks/dips around the selected frequency, or in the **SHELF** mode, flattens out above the selected frequency to a constant gain set by the +/- control.
7 The **x10/x1** button provides the **FREQUENCY** control with two overlapping ranges.
8 The **IN/OUT** button allows the parametric equaliser to be in-circuit or bypassed. When depressed, it is in-circuit.
9 The **IN** LED lights when the SF803 is in-circuit.

REAR (see FIG 2)

10 **INPUT** jack socket.
11 **OUTPUT** jack socket.
12 Module identification label.





Front **Fig 1** Rear **Fig 2**

All jacks are wired Tip = Signal, Sleeve = Ground.

MODULE IDENTIFICATION

A sheet of labels is supplied. Cut the **PARAMETRIC EQUALISER** name from the label sheet and stick it above the module's jack sockets at the rear of the MOTHER UNIT (as shown in **FIG 2 - 12**).

INSTALLATION

To install the SF803 PARAMETRIC EQUALISER module into the mother unit, firstly make sure that the power is switched off. Then locate the circuit card of the module squarely into the top and bottom guide slots at the desired position in the mother unit. Gently slide it in. If the module comes to a stop part of the way in, gently move it from side to side so that the rear of the card is guided into the rear guide slots. Now push it fully in. If resistance is felt at this stage, remove the module, and check that the wafer connector has not become damaged. Once the module's front panel is located flush with the front of the mother unit, fix it in place with the special posidrive screws supplied with it. The bushes into which the screws are fitted are initially unthreaded, so when first used, some resistance will be felt as the special screws cut a thread.

NOTE: Make sure the screws go in straight. DO NOT overtighten. Use only the screws provided: STUDIOMASTER PART No FX07018.

CONNECTIONS

The mother unit incorporates a signal routing system which routes the output from a module to the input of the module to its right. The modules are therefore permanently connected in a "daisy-chain" fashion. If a signal is applied

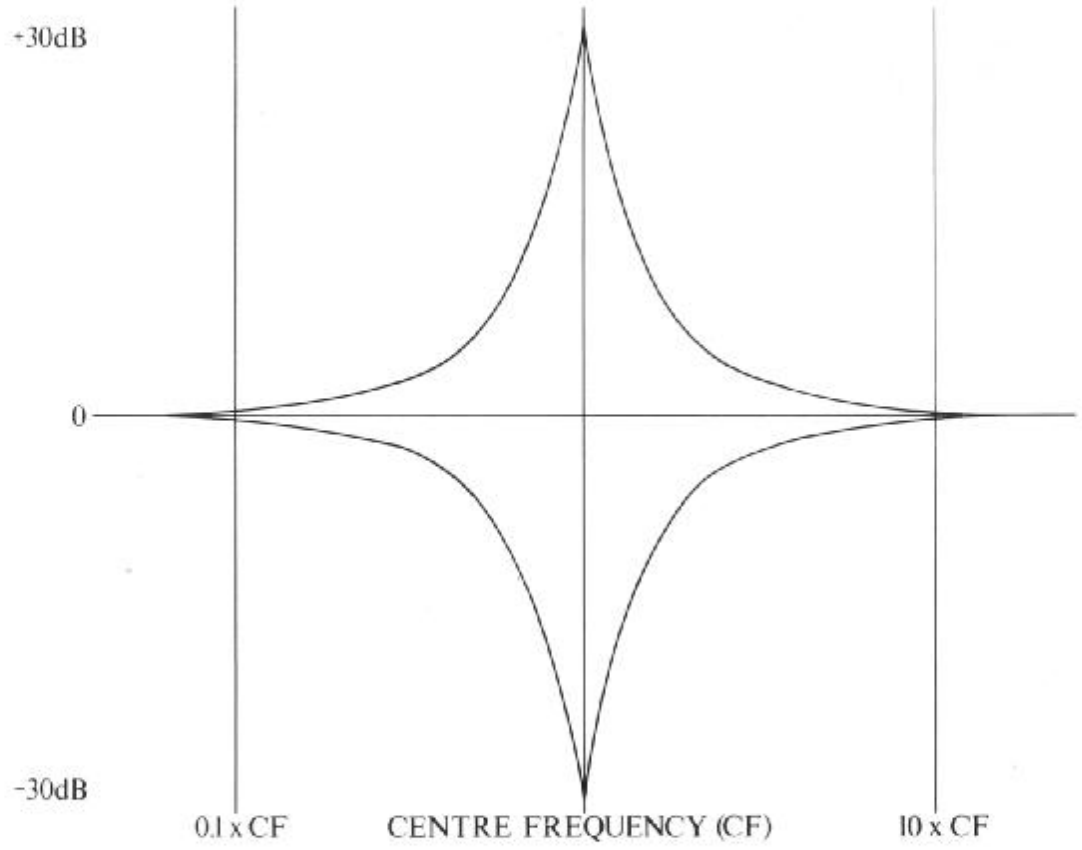
to a module to the left of the parametric equaliser, and extracted from module to the right of the parametric equaliser, then simply pressing the **IN/OUT** button will bring equalisation into the daisy-chain. Alternatively, the input and output sockets may be connected via jack leads direct to mixing console insert points or to a patch bay. The SF803 is a single channel device which defaults to being routed into the **LEFT** channel, unless this is overridden by means of jack leads. The **RIGHT** channel normally bypasses the SF803 unaffected.

SIGNAL LEVELS

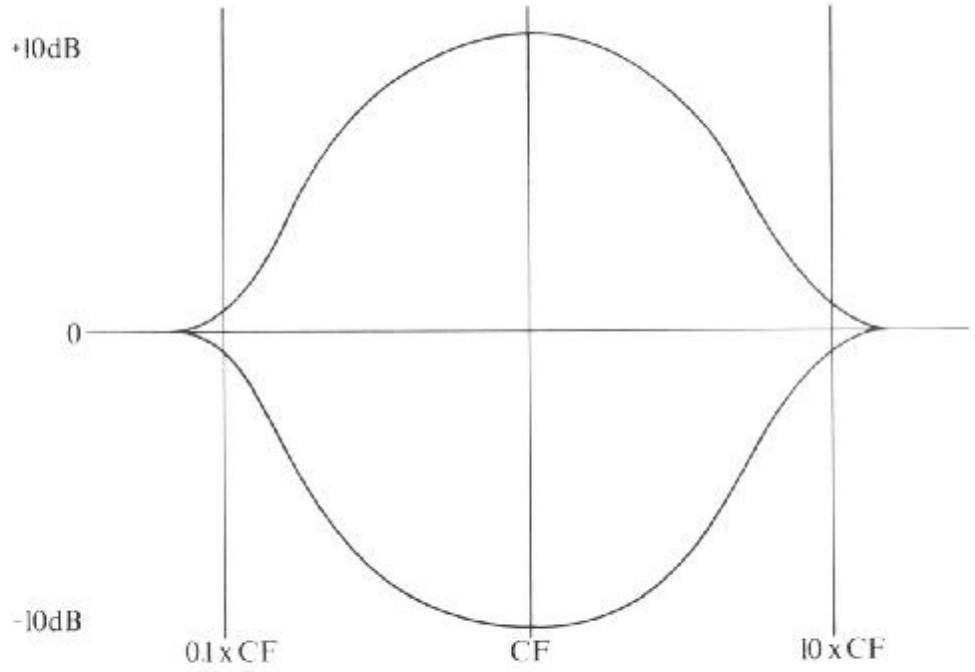
The Studiofex SF803 has been designed with adequate headroom for operation at +4dBm, but has sufficient dynamic range to allow operation at -10dBV.

Applications

There are no set rules to using a parametric equaliser, or indeed any other creative effect. General un-evenness in frequency response is usually corrected using wide bandwidth (**OCTAVES**) settings at the appropriate frequency. If a spectrum "tilt" is required, this can be accomplished in the **SHELF** mode. If the top end needs lifting (or the bottom end cutting), turn the +/- control clockwise. If the top end needs cutting (or the bottom end lifting), turn the +/- control anti-clockwise. The **FREQUENCY** control will then determine the "turnover" point. The **GAIN** control may need some adjustment if the spectrum is tilted using the **SHELF** mode.

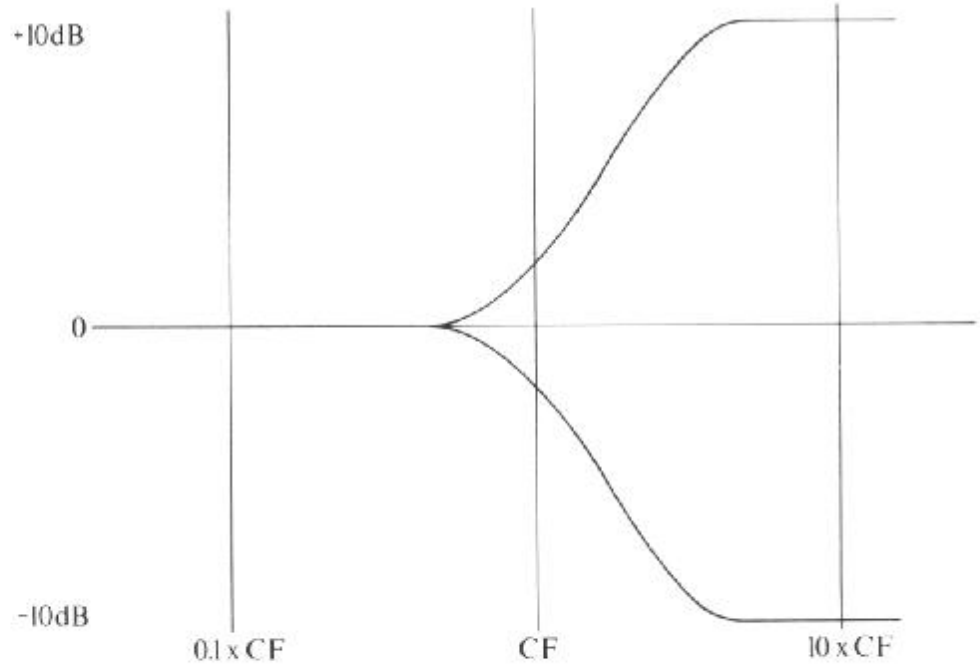


PEAK Mode
OCTAVES Anti-clockwise **Fig 3**



PEAK Mode
OCTAVES Clockwise

Fig 4



SHELF Mode

Fig 5

Instruments which have a desirable characteristic at a particular frequency, such as the "slap" on a kick drum can be found in the **PEAK** mode using a low bandwidth (**OCTAVE**) setting. Any instrument can be made to display a completely different character when EQ is used to alter the distribution of energies throughout the spectrum. Some have very subtle (or hidden) characteristics which can only be brought out with EQ. The table below lists the frequencies at which some of these characteristics might be found.

INSTRUMENT	CHARACTERISTIC	FREQUENCY
Kick Drum	Slap Body	3kHz 40-80Hz
Snare Drum	Crack Body	5kHz 150-300Hz
Hi-Hat & Cymbals	Sparkle Ring	8kHz 150-250Hz
Tom-Toms	Slap Body	5kHz 60-250Hz
Guitar	Bite Body	2.5kHz 250Hz
Bass	Slap Bite Body	1kHz 2.5kHz 50-80Hz
Vocals	Presence Sibilance Body	5kHz 10kHz 150-250Hz

Removing a troublesome frequency such as 50/60Hz mains hum will also require a low bandwidth (**OCTAVES**) setting, where the +/- control will obviously have to be turned

anticlockwise, just enough to sufficiently attenuate the offending noise.

If it is found necessary to apply "aggressive" equalisation, then adjustment to the **GAIN** control may be required to correct the signal level at the output, particularly if the **HEADROOM** LED flashes.

The SF803 also makes an ideal companion for the Studiofex SF800 STEREO GATE or SF801 STEREO COMPRESSOR for achieving frequency conscious gating or compression.

Specifications

Frequency Response	:	10Hz to 120kHz +/-1dB
T.H.D.	:	0.006% (1kHz, 0dBm)
Output Noise	:	-94dBm (DIN Audio) (EQ set flat)
Output Noise	:	-87dBm (DIN Audio) (+10dB @ 1kHz)
Maximum Output Level	:	+17dBm into 600ohm +21dBm into 10kohm
Input Impedance	:	43kohm
Gain Control Range	:	+/-16dB
Boost/Cut Range	:	+/-10 to +/-28dB
Bandwidth	:	0.1 to 3 octaves
Centre Frequency	:	35Hz to 12.5kHz
Headroom Indication	:	-5dB

Notes

Notes

Should your **STUDIOFEX SF803 PARAMETRIC EQUALISER** develop a serious fault, DO NOT attempt to rectify it yourself. Service work should only be carried out by qualified and experienced Service Engineers.

For this work to be done, consult the dealer from who you purchased your SF803 or alternatively contact the Service Department at the address below:

The Service Department

STUDIOMASTER
Studiomaster House
Chaul End Lane
Luton
Bedfordshire LU4 8EZ
ENGLAND

TEL: 0582 570621
INTERNATIONAL TEL: +44582 570621
TELEX: 825612 STUDIO G
FAX: 0582 570242
INTERNATIONAL FAX: +44582 570242

Or in U.S.A. and Canada:

STUDIOMASTER INC.
1340-G Dynamics Street
Anaheim
CA-92806
U.S.A

TEL: (714) 524 2227
FAX: (714) 524 5096

The contents of this manual are correct at the time of going to press. The manufacturer reserves the right to change specifications and features without prior notice.

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