



Sugden Audio is pleased to introduce Three New Products which we are sure will Further enhance the Companies standing and reputation amongst Discerning music lovers.

The Companies main objective in developing the Products have been Musical Performance coupled to a practical user interface, pride of possession and product longevity.

The market trends for New and Fashionable Technologies have not been ignored and the products have been developed to complement them and present their user with the very best euphonic experience.

The Three products consist of:-

Sapphire Range

DAP800 High End Pre Amplifier with the benefit of an added Digital Input Inter Face,

FBA 800 Floating Bridge Pure Class a Power Amplifier

Masterclass Range

FPA-4 Pure Class A single ended Output Stage Power Amplifier

‘Rescuing Music from Technology’

As with all Sugden Products they are designed and manufactured by Sugden Employees, in our West Yorkshire, premises. The use of through hole as opposed to surface mount components, where possible, enhances product life, performance and reliability.

Pre Amplifier Sapphire DAP 800

The DAP 800 is an Analogue pre Amplifier with a separate in built DAC facility. It has:-

Analog Inputs:

- One pair of Balanced Inputs
- Four Pair of Phono/RCA Inputs
- One Pair of By-Pass Inputs Phono/RCA

Digital Inputs

- One x USB type B
- Two x Toslink Optical SPDIF
- Three x Coaxial SPDIF

Analog Outputs

- One pair of XLR Balanced Outputs
- One pair of Phono/RCA Tape outputs
- Two pair of Phono/RCA outputs

The Individual sections of the pre-amp i.e. Analogue and Digital are self contained stages having their own Power Supplies voltage regulation and circuit board assemblies The analogue stage has a 50 watt toroidal transformer and the digital a 15 watt E core transformer. The digital facility power supplies are totally isolated from the analogue stage

The Pre Amplifiers analogue stage incorporates a Sugden VCV circuit in its most developed advanced form. This circuit has a high impedance input section, current gain stage (without attenuation problems) which drives a folded cascode stage into a Class A output stage. The folded cascode circuit facilitates a wide bandwidth with maximum dynamics and low capacitive connectivity.

The tonal balance is irrespective of the output level and the sense of headroom, imaging and soundstage is to be believed.

The DAC facility to interface with digital products includes inputs for USB, Optical and coaxial SPDIF signals. The actual DAC is a Non-oversampling, digital filtering- less, DAC where the digital interface transceiver is a Wolfson Micro electronics device. The DAC also includes Post Conversion Filtering in the analogue output stage. The USB signal received is converted via a circuit including a Texas Instruments Universal IC whose SPDIF output signal is re clocked and de jittered by the Wolfson interface transceiver.

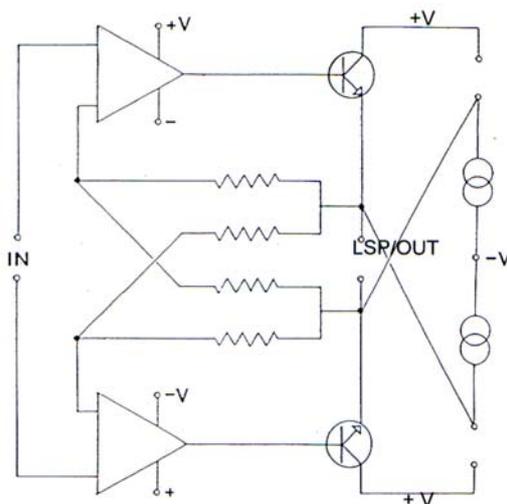


This DAC configuration has been adopted for Sugdens digital Processing after many many hours of actual auditioning of a wide sample of DSPs. The auditory perception/ Musical performance in terms of dynamic balance, tonal balance, voice and emotion, are so much more satisfying and the Companies preference.

SUGDEN NOTE

Before moving on to describe the two special Power Amplifiers FBA800 and FPA-4 we would express our belief in the sonic advantages of CLASS A operation

Power Amplifier Sapphire FBA 800



FBA 800 Principle

The FBA 800 is a, Floating Bridge Power Amplifier operating in Pure Class A output mode... Power output is set at 40 watts / channel, the unit's toroidal transformer is rated at 350. The Amplifier has the input facilities of: Balanced Input or Phono/ asymmetric input, (both stereo pairs) Output is through a Stereo pair of Speaker Binding Posts

Selected optional facilities are:

Input sensitivity: this can be reduced in one step by -6dB. This allows the user to adjust the balance/ matching of the Audio, chain, i.e. PreAmp – Power Amp,- Loudspeakers. The sensitivity is selected by Push Button, located on the front Panel.

Balanced or Phono/RCA input:

is also exercised by a Push Button on the front Panel.

The FBA 800 Power Amplifier is a Stereo, Class A amplifier operating in the Bridged Mode with the Output earth Floating. Each channel consists of two amplifiers working as voltage amplifiers driving an output stage of Bridged Power transistors. The advantages are a low noise floor, better power output relative to the voltage rails (x2) and with the fixed current of the Class A mode, low output impedance and better load tolerance. The Amplifier has been designed for modern high efficiency loudspeakers.

The Power amplifier is D.C. coupled, with a servo lock, ensuring excellent low frequency detail. For safety purposes the amplifier includes a d.c. protection circuit. This circuit is statically switched using extremely low impedance Mosfet switching devices. This circuit also soft switches the Power Amp On and Off

The power supply is a low impedance design with a single custom made bi-filar wound transformer, with four separate windings, The main smoothing capacitors for the output stage are specially developed for professional audio applications with excellent ripple characteristics and long life. The Four power transistors per channel in the output stages are multi emitter devices with an output capability of 26 amps per device, .giving a tone burst potential ofwatts.

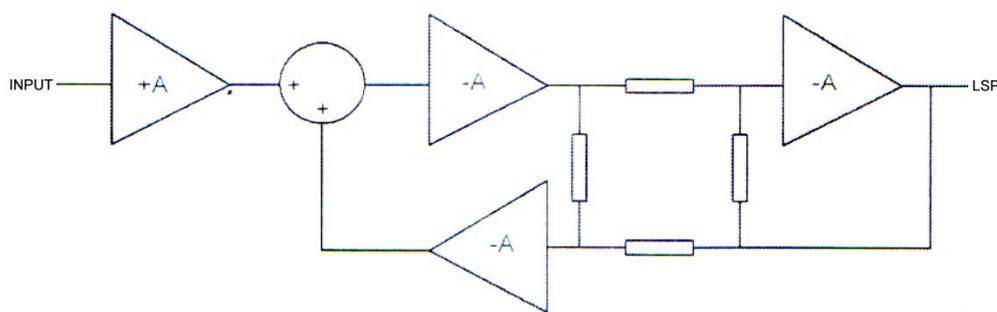
In the balanced mode the FBA800 operates in the full balanced mode from the input of the unit to the output. This is accomplished by using the two amplifiers per channel in the balanced mode

For people who want to experience all the emotions of music this Amplifier is set completely in Class A. No compromise has been taken with the build quality of its electronic circuitry, electronic components, or case work. It includes gold plated circuit boards, and high quality internal silver wiring all designed to give long life and the ultimate musical performance.

It is always exciting when a new project reaches the performance stage and the FBA 800 amplifier through its development has continued to astound and excite through thousands of hours of tuning and development. The finished product is a precious link **to simply more music.**

FPA 04 Masterclass Power Amplifier

AMPLIFIER WITH SUGDEN'S ERROR CORRECTION (S.ec)



The FPA 04 power amplifier is the latest member of the Sugden Masterclass Family. A Pure Class A Power Amplifier of 30 watts per channel with a Pure class A output stage. This output stage is of the classic Sugden single ended design which has given musical satisfaction to thousands of discerning music lovers over many years.

The facilities on the Amplifier include, Phono (RCA/ asymmetrical) stereo pair and a pair of stereo Balanced input XLR connectors. Output is via two stereo pair of speaker binding posts with facilities for Spade, Bare wire or Speaker Jack Connectors.

The Balanced Input facility is connected to left and right virtual transformer circuits to convert the signals to single ended. This takes advantage of the characteristics of the balanced input which together with the superb performance of the unbalanced circuitry gives the potential for **simply more music.**

The input stage of the amplifier (which is a New Design) has been developed to enhance the overall performance and further exploit the potential of the Class A output Stage. It has the characteristics of a very good Valve amplifier with soft clipping and low internal overloads. The phase shift at high frequencies is also extremely low resulting in a very open, uncompressed big and fatigue free sound stage.

The amplifier benefits from a comparator and correction circuit so that errors which would occur in the power stage, due to varying loads and distortion, are corrected to match the output of the high impedance input amplifier. Whilst it is maintaining the signal authenticity it is also increases the load stability and forces the output impedance to zero. The Amplifier with Sugden Error Correction

has extremely low open loop output impedance with a resultant high damping factor at quite high frequencies.

Coupling of the output of the Amplifier to its chosen speakers is via a 'soft connection' protection board. It is a static contact switching board using extremely low 'on resistance' power mosfets. These devices are timed on and off to enable soundless connection to the speakers however sensitive.

This Amplifier like other Sugden Amplifiers has been designed and developed to give the ultimate musical satisfaction from the myriad of music storage / reproduction sources which now exist.

Anthony Miller
Managing Director

Sapphire DAP 800



Sapphire FBA 800



Masterclass FPA-4



SAPPHIRE SERIES Technical Specifications and Facilities



DAP 800 Digital Analogue Pre-amplifier

Facilities

Analogue inputs
Digital inputs

Four line level inputs, one balanced input, bypass
Three SPDIF coax, two SPDIF optical, one USB type B
Word length up to 24bit 96k

Outputs

Two line level outputs, one balanced output,
tape output

Volume control
Mains power switching

Motorised remote control (analogue) RC5 compatible
Separate for analogue and digital circuits

Technical Specification

Input sensitivity
Maximum output
Frequency response

120mV for 1 Volt out
9 Volts
0dB 15Hz – 98kHz
3dB 8Hz – 125kHz

Signal to noise
Distortion

>85dB
<0.05% @ 1kHz, 1Volt out

Nett Weight
Dimensions

10 kgs
120 x 430 x 340mm (hwd)



The manufacturer reserves the right to change the specification or design at any time without notice



SAPPHIRE FBA 800 Class A Stereo Power Amplifier

Facilities

Inputs	Stereo line level, stereo balanced
Outputs	Stereo pair multi way locking binding posts
Front panel gain selector	6dB input attenuation
Front Panel input selector	RCA or XLR

Specification

Input sensitivity	735mV for full output
Power output	40 Watts into 8 ohms both channels working
Frequency response	0dB 20Hz - 80kHz
Bandwidth	3dB points 6Hz - 113kHz
Signal to noise	>96dB
Distortion at 1 Watt, 1 kHz	>0.05%
Net weight	25kgs
Dimensions	206 x 430 x 460mm (hwd)





FPA-4 Class A Stereo Power Amplifier

Facilities

Inputs Stereo line level, stereo balanced
 Outputs Stereo pair multi way locking binding posts

Specification

Input sensitivity 1V for full output
 Power output 30 Watts into 8 ohms both channels working (depending on input voltage)
 Frequency response 0dB 18Hz - 95kHz
 Bandwidth 3dB points 10Hz - 125kHz
 Signal to noise >82dB
 Distortion at 1 Watt, 1 kHz <0.04%
 Net weight 15kgs
 Dimensions 143 x 430 x 350mm (hwd)

