



The Aphex Audio Level Interface is designed to allow use of -10dBV consumer hi-fi equipment with $+4$ or $+8\text{ dBm}$ professional and industrial audio systems. The 124 provides an extremely clean, reliable two-way buffer so both systems can operate at maximum performance levels, matching impedances and operating levels.

Matches Consumer IHF Equipment to Professional Equipment

Digital Ready

Dual Buffered Interface

Transformerless Outputs

Servo-Balanced Inputs and Outputs

Recessed Controls

Pushbutton 600 Ohm Input Termination

Clip Indicator

Self Powered

Superb Signal Quality

Aphex Audio Level Interface

Model 124A

Performance

Aphex products are well known for their audio performance. The 124 is no exception. Inputs and outputs are transformerless for wide, flat frequency response and perfect square waves to preserve transients. Hum and noise rejection are very high, while the noise and distortion of the 124 are almost non-existent. The 124 is so clean it is a perfectly transparent interface for digital equipment.

Two Way Buffering

The 124 is actively balanced and buffered in *both directions*, with very low output impedances. A more expensive type of balanced input circuit is used for even higher hum and noise rejection. In addition, *all* inputs and outputs are carefully filtered for freedom from RF interference.

Some other devices are passive in one direction, simply using resistors to lower level from +4 to -10. The passive circuitry unbalances the input, eliminates all common-mode rejection allowing for hum and noise pickup, and presents a rather high impedance at the -10 output, permitting even more noise to enter the system.

Servo-Balanced High Level Circuits

Although more complex and costly, servo-balancing has many advantages over conventional balanced circuits.

On the inputs, it means that high common mode voltages, such as induced hum from a nearby AC line, are compensated for, preserving headroom that is sacrificed in other devices (balanced input overload is greater than +30dBm with common mode input voltage tolerance of over 200 volts rms). The input impedance of 100KOhms allows bridging over 600 Ohm balanced or unbalanced line with negligible loading effects. Front panel switchable 600 Ohm load allows for input line termination when required.

On the outputs, servo-balancing means that the outputs may be used balanced or unbalanced (single-ended) at any time by simply grounding either unused pin. The servo compensates for the voltage loss on one side so there is no 6dB loss of level as with other systems. The outputs are also short-circuit proof, so nothing is damaged if the wrong pins are grounded. Output impedance is very low so long lines are driven effortlessly. A front panel indicator will flash red when the balanced output level is 5dB below clipping.

Compact Package

The 124 is housed in an all metal package which is compact and self-powered. It may be attached to its dedicated piece of equipment; rack mounted singly or in pairs using the optional rack mounting kit (Aphex Part No. 44-008).

APPLICATIONS

Two-way interface amplifier for connecting any unbalanced device such as a cassette deck, equalizer, CD player or DAT deck to the IHF inputs and outputs. The balanced inputs and outputs go to a studio console, patchbay or other line level equipment. The different gains and impedances are matched for optimal performance.

Line driver. The servo-balanced input and output stages of the 124 can be used as a very effective line driver for long lines. The output stage provides a short-circuit proof, low impedance source that will be relatively unaffected by the impedance of the cable. Gain may even be taken to boost signal level.

In this application, either the unbalanced IHF or balanced high level inputs may be used. For the latter, the IHF inputs and outputs are simply jumpered.

Signal splitter. The 124 may be used to provide two high quality balanced outputs from a single unbalanced mono signal. A "Y" connector is used to split the incoming signal to each of the IHF unbalanced inputs.

IHF distribution amp. The very low output impedance of the 124 allows it to drive a considerable number of unbalanced devices such as cassette decks, VTR's, power amps, etc. Balanced or unbalanced inputs can be selected by patching the various inputs and outputs.

Specifications

IHF Inputs	RCA jacks
IHF Outputs	RCA jacks
Balanced Inputs	XLR-type
Balanced Outputs	XLR-type
IHF Input Level	-10dBV, peak +15dBV (Ref. 1.0V)
IHF Input Impedance	18kohms
IHF Output Level	-10dBV, peak +18dBV (Ref. 1.0V)
IHF Output Impedance	150 ohms
Balanced Input Level	+4dBm (+8dBm via internal jumpers), peak +30dBm
Balanced Input Impedance	100kohms (Front panel switchable 600 ohm load)
Balanced Output Level	+4dBm, Front panel adjustable \pm 6dB, peak +25dBm
Balanced Output Impedance	65 ohms
THD	0.005%
Dynamic Range	99dB
Bandwidth	5 Hz - 100 kHz +0, -0.5 dB
Common Mode Rejection	>45dB
Power	100, 120, 220 or 240 VAC
Fuse	Thermal
Dimensions	1 3/4" H x 8 1/4" W x 7 1/4" D
Weight	3 1/2 lbs

APHEX

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