

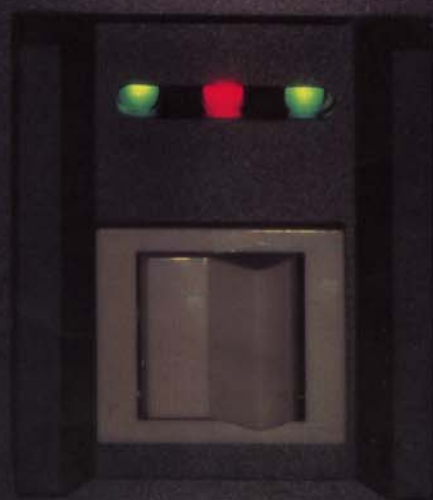


*Higher Fidelity*



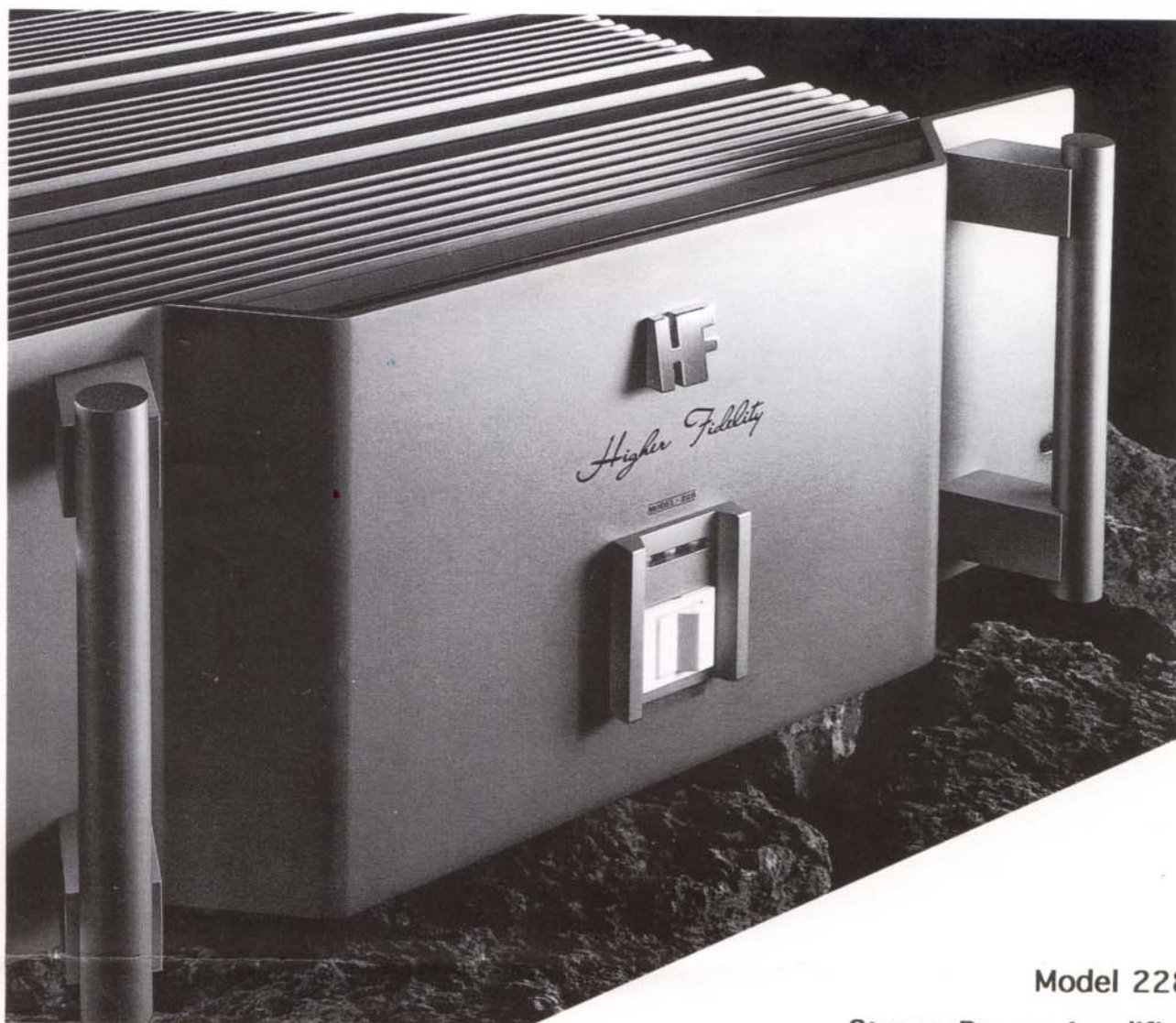
*Higher Fidelity*

MODEL 228



ON

OFF



**Model 228**  
**Stereo Power Amplifier**

#### **NEW AMPLIFIER**

After years of building power amplifiers, Higher Fidelity engineers have encountered difficulties from different types of speaker system that incorporate complex crossover networks. In order to achieve optimal sounding to the ears of audio recording engineers and performing musicians, to drive studio monitor speaker systems or for sound reinforcement purpose, different circuit adjustments were needed for different purposes of application. It is then came the concept of a new amplifier circuitry that will automatically optimize the sounding of different speaker system loading.

#### **NEW CIRCUITRY**

Speaker systems very often incorporate complex crossover networks and multiple speakers to maximize the coverage of audio frequency. Such intricate loading can alter the operating state of a power amplifier. The TriActing circuitry used by Higher Fidelity automatically optimizes driving capability of power amplifiers. This circuitry adjusts itself to eliminate distortion caused by the loading composition of any complex speaker system.

#### **NEW ARCHITECTURE**

Decades of engineering experience and laboratory testing techniques were

committed to the designing and building of Higher Fidelity amplifiers. The total housing is constructed with aluminum alloy, which is a good heat radiant, non-corrosive, non-magnetic, and good strength to weight ratio. The hanging toroidal transformer method increases the contact pressure on the bolt head by hundreds of times comparing to the traditional flat rest construction. Vibration of the massive transformer is therefore dampen and reduced by the same ratio. Large area circuit board is anchored to angled metal plates to dampen out all possible vibrations. The advantages are clearly reflected by the sound of silence in music playback.

## POWER AMPLIFIER SPECIFICATIONS

### MODEL 228

### MODEL 138

|                           |   |  |
|---------------------------|---|--|
| Output Power (Dynamic)    | : 200 watts RMS 8 ohm x 2<br>400 watts RMS 4 ohm x 2<br>800 watts RMS 2 ohm x 2 | : 257 watts RMS 8 ohm<br>550 watts RMS 4 ohm<br>1100 watts RMS 2 ohm<br>2200 watts RMS 1 ohm |
| Output Power (Continuous) | : 200 watts RMS 8 ohm x 2   | : 275 watts RMS 8 ohm  |
| Input Sensitivity         | : 1.5 V unbalanced<br>0.775 V balanced<br>100 mV for 1 watt 8 ohm               | : 1.5 V unbalanced<br>0.775 V balanced<br>90 mV for 1 watt 8 ohm                             |
| Frequency Response        | : 20 Hz-20 KHz $\pm$ 0.1dB  | : 20 Hz-20 KHz $\pm$ 0dB   |
| Power Band Width          | : 5 Hz-150 KHz  | : 3 Hz-150 KHz   |
| Slew Factor               | : 8 at 200 watts<br>50 at 1 watt  | : 8 at 275 watts<br>50 at 1 watt   |
| Slew Rate                 | : 80 V/uS   | : 100 V/uS   |
| Rise Time                 | : 1.8 uS  | : 1.5 uS   |
| Fall Time                 | : 1.8 uS  | : 1.5 uS   |
| Damping Factor (8 ohm)    | : 300 min (20Hz-20KHz)  | : 500 min (20Hz-20KHz)   |
| S.N. Ratio                | : 105 dB (Unweighted)   | : 105 dB (Unweighted)  |
| Power Consumption         | : 50 watts (Idling)<br>2200 watts (Maximum)                                     | : 30 watts (Idling)<br>3300 watts (Maximum)  |

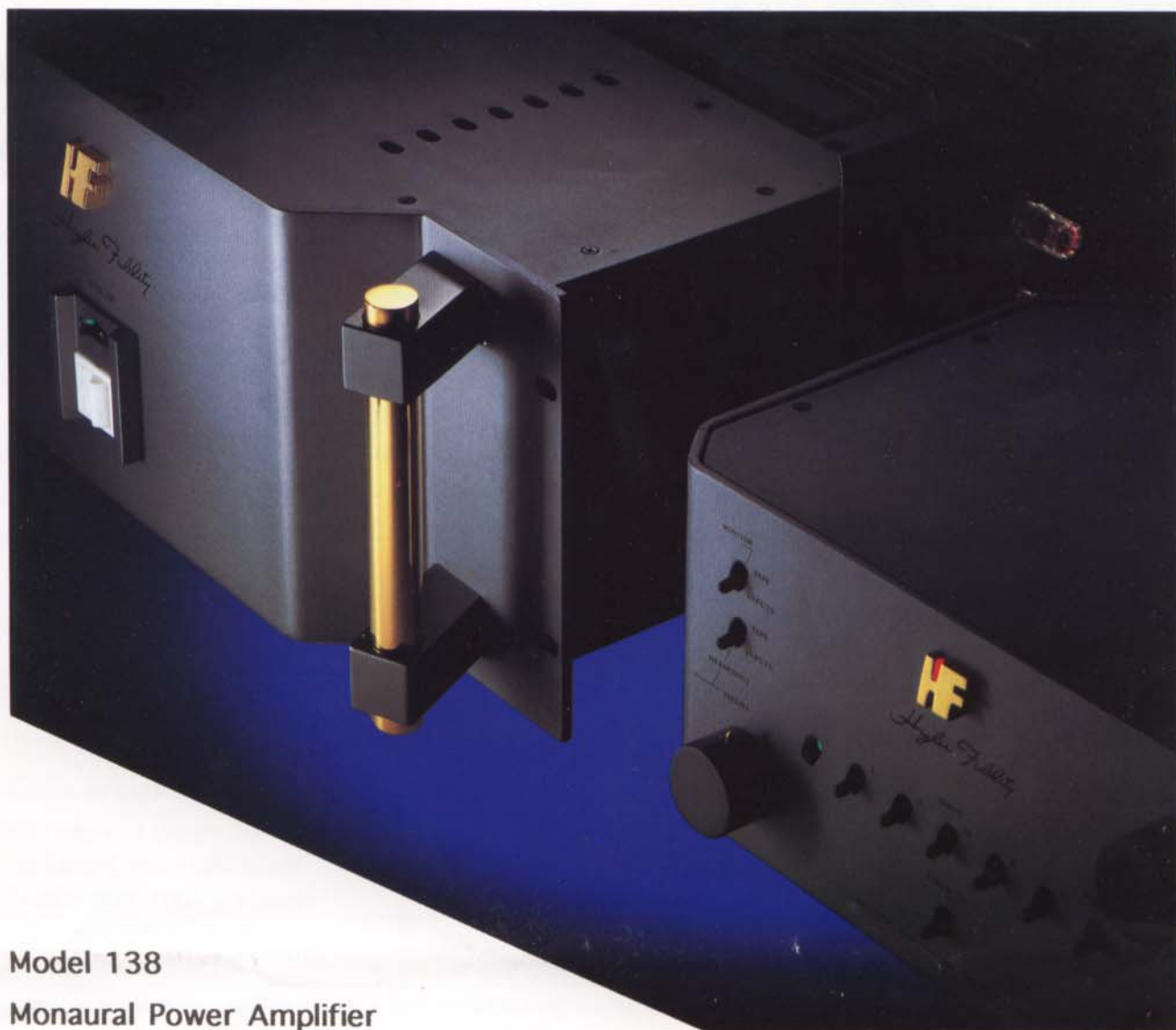


### HIGHER FIDELITY AMPLIFIERS

Each and every micro volt, milli volt and voltage amplifiers are in class "A" operation. Electronic formulae that are used to design this active amplifier which is staged to perform within guided figures of distortion, noise, frequency band width, gain and overload etc., are common formulae. These figures do not represent

the actual sound reproduction character of the amplifier. It is only by careful listeners' hearing and engineers' thinking logic that gives the formulations some bases for adjustment. These important adjustments include operating temperature, voltage, current of every single stage and the entire amplifier. This process continues until the stage of "Sounding Right" is reached and agreed by many listeners.

In order to support optimum formulae and the important adjustments that ensure production of preamplifier to be "Sounding Right", it is important to ensure the accuracy of components at time of production and through out their operating life. Each and every single active and passive components are burnt-in and tested. Experience in complex burning-in and testing processes is one of the valuable know-how our engineers have gained over many years of building custom devices. Our engineers devote exactly the same technique and dedication in building your Higher Fidelity amplifiers. We build these art crafts one by one to bring the world of audio reproduction to Higher Fidelity.



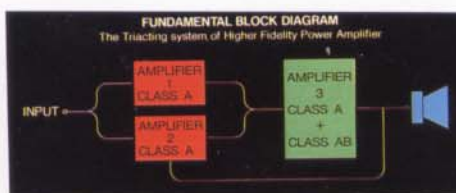
**Model 138**  
**Monaural Power Amplifier**

### THE TRIACTING CIRCUIT FOR AC OUTPUT SIGNAL CORRECTION

The art of designing and constructing a pure class "A" voltage amplifier to achieve very low distortion, high dynamic range and slew rate, has been proven for decades by the audio electronics industry. However, to build a power amplifier with the same performance when driving different speaker systems, of dynamic or electronic nature, remains a task for many audio engineers.

The TriActing circuitry is designed specially to accomplish this task. The circuitry consists of three amplifiers. Amplifier 1 & 2 are pure class "A" voltage

amplifiers and amplifier 3 is the combination of a pure class "A" voltage amplifier and a class "AB" biased current amplifier. Amplifier 3 serves as the main power amplifier that has a simple function of driving the speaker load, while the usual complexity of detecting and cancellation of distortion is diverted to amplifier 2.



**Amplifier 1**, class "A", serves as the reference amplifier. It is adjusted to amplify the signal from the original input to drive amplifier 3.

**Amplifier 2**, class "A", serves as the comparison amplifier. It amplifies the original input signal and receives a signal from the output of amplifier 3 to be nullified. Then distortion signal will be extracted and inverted to combine with the signal from amplifier 1 to drive and cancel distortions in amplifier 3.

**Amplifier 3**, which is the power amplifier, transforms differentiated signal into power signal dynamically with rise and fall at the speed of the original input regardless of the loading condition. This technique simplifies the operating condition of amplifier 3, thus resulting in a distortion free output signal.

## PHONO AMPLIFIER SPECIFICATIONS

| Model                                 | MILLI-VOLT AMPLIFIER<br>EQ-1001                  | MICRO-VOLT AMPLIFIER<br>EQ-2002 | MICRO-VOLT AMPLIFIER<br>EQ-3003 |
|---------------------------------------|--|---------------------------------|---------------------------------|
| Dimention                             | 292(W)x78(H)x246(D) mm / 11.5"(W)x3"(H)x9.75"(D) |                                 |                                 |
| Approx. Weight                        | 4.3 kg / 9.5 lbs                                 |                                 |                                 |
| Input Sencitivity For<br>150mV Output | 1mV  | 0.075mV                         | Switched<br>0.075mV / 1.4mV     |
| Input Impedance                       | 47K ohm  | 40 ohm                          | 500 ohm / 47K ohm               |
| Voltage Gain (1KHz)                   | 42dB   | 66dB                            | 66dB / 42dB                     |
| Input Overload (1KHz)                 | 44dBm  | 43dB / 0.1mV                    | 43dB/0.1mV / 44dBm              |
| RIAA Equalization                     | 20Hz-20KHz $\pm 0.2$ dB                          | 20Hz-20KHz $\pm 0.3$ dB         | 20Hz-20KHz $\pm 0.3$ dB         |
| T.H.D.+ Noise (1KHz)                  | 0.003%   | 0.005%                          | 0.005%                          |
| S.N. Ratio (Unweighted)               | 83dB   | 79dB                            | 79dB / 83dB                     |
| Channel Separation                    | >125dB (20Hz-20KHz)                              |                                 |                                 |
| Power Supply                          | Form Higher Fidelity Model MV-2/MV-3             |                                 |                                 |

## POWER SUPPLY SPECIFICATIONS

| Model             | REGULATED DC POWER SUPPLY<br>MV-2  | REGULATED DC POWER SUPPLY<br>MV-3   |
|-------------------|--|---|
| Dimention         | 292(W)x156(H)x246(D) mm / 11.5"(W)x6.25"(H)x9.75"(D)                       |   |
| Weight            | 5 kg / 11 lb   | 9kg / 19.8 lb   |
| Function          | Regulate DC supply to<br>one of Higher Fidelity<br>Model EQ-1001/2002/3003 | Regulate DC supply to Higher Fidelity<br>Model 2623 and 2 units of<br>Model EQ-1001/2002/3003 |
| Power consumption | No load: 5 watts<br>Full load: 10 watts                                    | No load: 1 watts<br>Full load: 80 watts   |

All specifications presented in this catalog subject to change without notice.

**Your Higher Fidelity Consultant**

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## LINE CONTROL AMPLIFIER MODEL 2623 SPECIFICATIONS

|                              |   |
|------------------------------|---|
| Dimension                    | : 292(W)x156(H)x250(D) mm / 11.5"x6.25"x9.5"    |
| Weight                       | : 7 kg / 15.4 lbs                               |
| Power Supply                 | : Higher Fidelity Model MV-3                    |
| Number of Channels           | : 2 Channels                                    |
| Inputs per Channel           | : 6 (4 unbalance, 1 balance, 1 tape monitor)    |
| Outputs per Channel          | : 2 unbalance, 2 balance                        |
| Output for Recording         | : 1 per Channel                                 |
| Output for Headphones        | : 1 pair  |
| Gain Selector                | : 0dB/→5dB Switched                             |
| Balance Input Section        | : Input Impedance : 1 K ohm                     |
|                              | : Maximum Input Voltage : 5 V R.M.S.            |
|                              | : Frequency Response : 20 Hz-20 KHz +0dB -0.1dB |
|                              | : T.H.D.+Noise : 0.002 %                        |
|                              | : I.M. Distortion : 0.001 %                     |
|                              | : S.N. Ratio : 98 dB (Unweighted)               |
| Balance Output Section       | : Output Voltage : 18 V R.M.S. (600 ohm Load)   |
|                              | : Frequency Response : 20 Hz-20 KHz +0dB -0.1dB |
|                              | : T.H.D.+ Noise : 0.002 %                       |
|                              | : I.M. Distortion : 0.001 %                     |
|                              | : S.N. Ratio : 98 dB (Unweighted)               |
| Unbalance Section            | : Output Voltage : 18 V R.M.S. (600 ohm Load)   |
|                              | : Input Sensitivity : 200 mV/Volt               |
|                              | : Rated Output Voltage : 3 V R.M.S.             |
|                              | : Frequency Response : 5 Hz-150 KHz +0dB -0.2dB |
|                              | : : 20 Hz-20 KHz ±0dB                           |
|                              | : T.H.D.+ Noise : 0.002 %                       |
|                              | : I.M. Distortion : 0.001 %                     |
|                              | : Voltage Gain : 15 dB                          |
|                              | : S.N. Ratio : 98 dB (Unweighted)               |
| Headphones Amplifier Section | : Circuitry : TriActing Method                  |
|                              | : Load : All dynamic & electric Headphones      |
|                              | : Output Voltage : 12 V (>4 ohm)                |
|                              | : T.H.D.+ Noise : 0.05 %                        |
|                              | : Rated Output Power : 1 watt R.M.S. 8 ohm      |
|                              | : Voltage Gain : 13.5 dB                        |
|                              | : Frequency Response : 20 Hz-20 KHz +0dB -0.1dB |
|                              | : Output DC : Unmeasurable                      |

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