

Robert Kōda



Takumi-series
K-70



The Robert Kōda brand is pleased to present the Takumi K-70 amplification system – our vision of amplification's ultimate form.

The concept of *Dynamic Simplicity* is core to our philosophy. Dynamic simplicity, can only be achieved by the use of single ended Class A, current mode circuits, woven together in our unique way where elements mutually couple to form a strength far greater than their sum. Unavoidably expensive to execute and time consuming to create, this is the path of the K-70.

Our word on sound quality.

At Robert Koda, the true measure of an amplifier is one of sound quality.

While the industry has remained fascinated with specifications, we have understood it's many false pointers and from an early time adopted the purest approaches, whatever their cost may be.

The most outstanding sonic virtues of the K-70 include its ability to take the loudspeakers to the peak of their performance without spurious overtones and to deliver music's intoxicating beauty with truth, sublime delicacy and dynamic explosiveness on a grand scale.

A unique chassis layout.

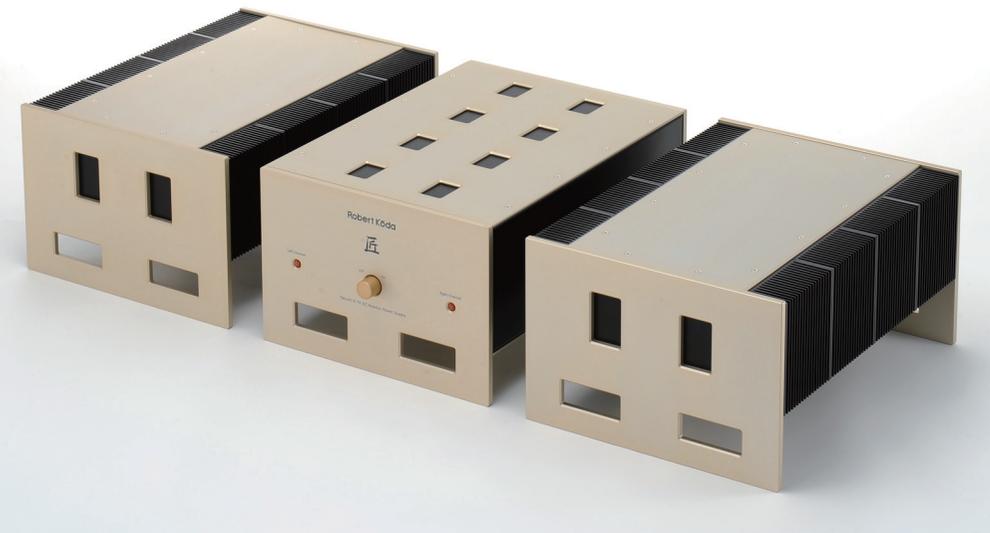
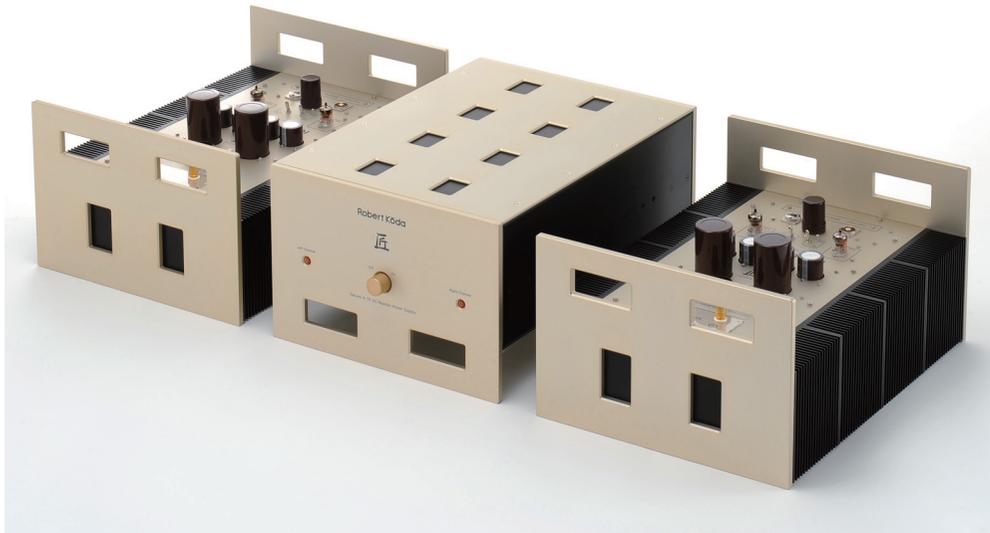
Not content with the sub-optimal performance of standard power supplies, we designed and built a DC reactor power supply that is capacitor un-reliant. Its bulk and use of magnetically stored energy necessitates that it be housed in a separate enclosure, so we have adopted a triple chassis format, allowing the mono-amps close placement to the loudspeakers.

The mono amps may be placed in the normal mode, in a traditional aspect that would be upside-down, with connectors, vacuum tubes, etcetera out of sight and 'hanging downward', or in the inverted mode for easy access to the connectors with the glorious exposed electronics and tube filaments on full display. A side-on mode further shortens cable lengths for the most avid audiophiles striving for no compromise in there audio systems. Extruded silk screening on the “front” and “rear” of the main units facilitates all these alternative orientations.

Flexible input options

The K-70 offers both balanced and unbalanced inputs. Unusually, both inputs are fully optimised leaving the choice dependant only on how the source component best performs. Both balanced and unbalanced inputs may be further configured to utilise signals in current transmission form (Current Mode) supporting a handful of special current mode products including our own in-house D/A converters.

A unique chassis layout.



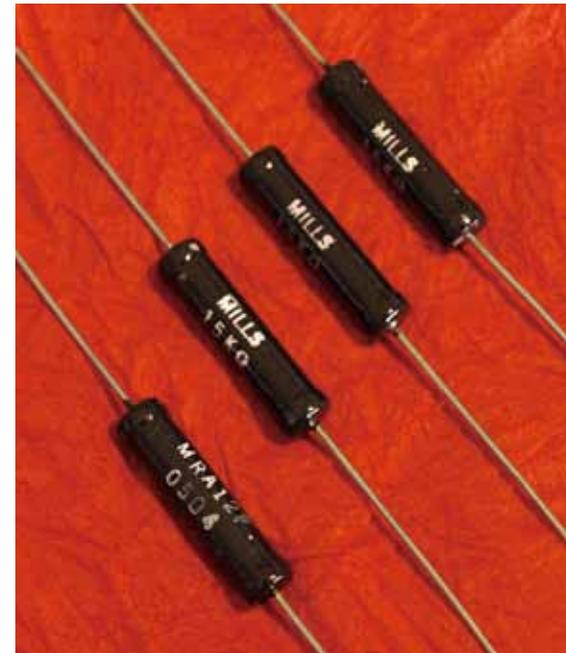
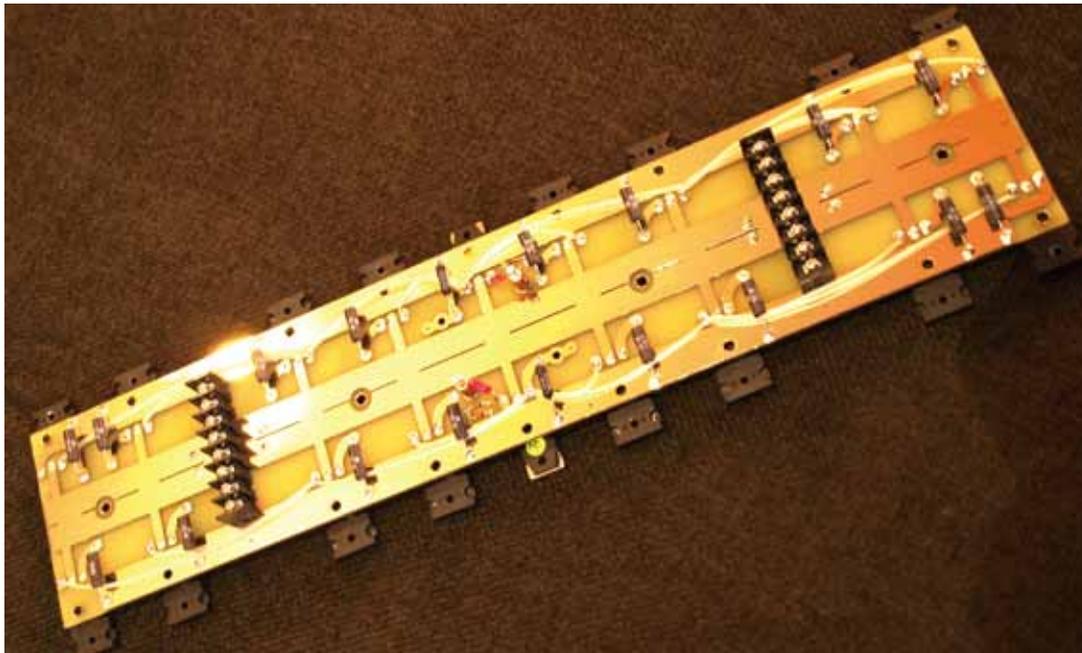
Total reactive load stability. High performance loudspeakers often present reactive loads where voltages and currents are no longer in tune with each other. This places unusual demands upon amplifiers and often causes them to severely under-perform, sounding unpleasant and underpowered. It is from this notion that many brands have pursued a super high current and power approach.

The K-70' s unique architecture makes it at total ease with such speakers and this, combined with the amplifier' s near instantaneous recovery from overload, its non reliance on protection circuits, and a total lack of time smear ensures the seventy watts available appears limitless, easily coaxing the loudspeakers to adhere to the task of presenting the event even with demanding, swinging music at high volumes, but arso to deliver new levels of speaker control.

The highest grade components.

In a musical instrument the fine details of materials, parts and construction can enhance or destroy pedigree. In the reproduction of the recorded art of the musicians playing those instruments, in any of the active or passive parts within an amplifier, it is the same thing. The choice of parts and materials, along with the design architecture, are key to preserving the original content.

All concepts built into the K-70 are thought out very carefully in order not to offend the intent of those artists. Great care has been taken at all levels to deliver an electronic component that is able to perform optimally so, an outstanding collection of parts has been crafted together to highlight the amplifiers underlying capabilities.

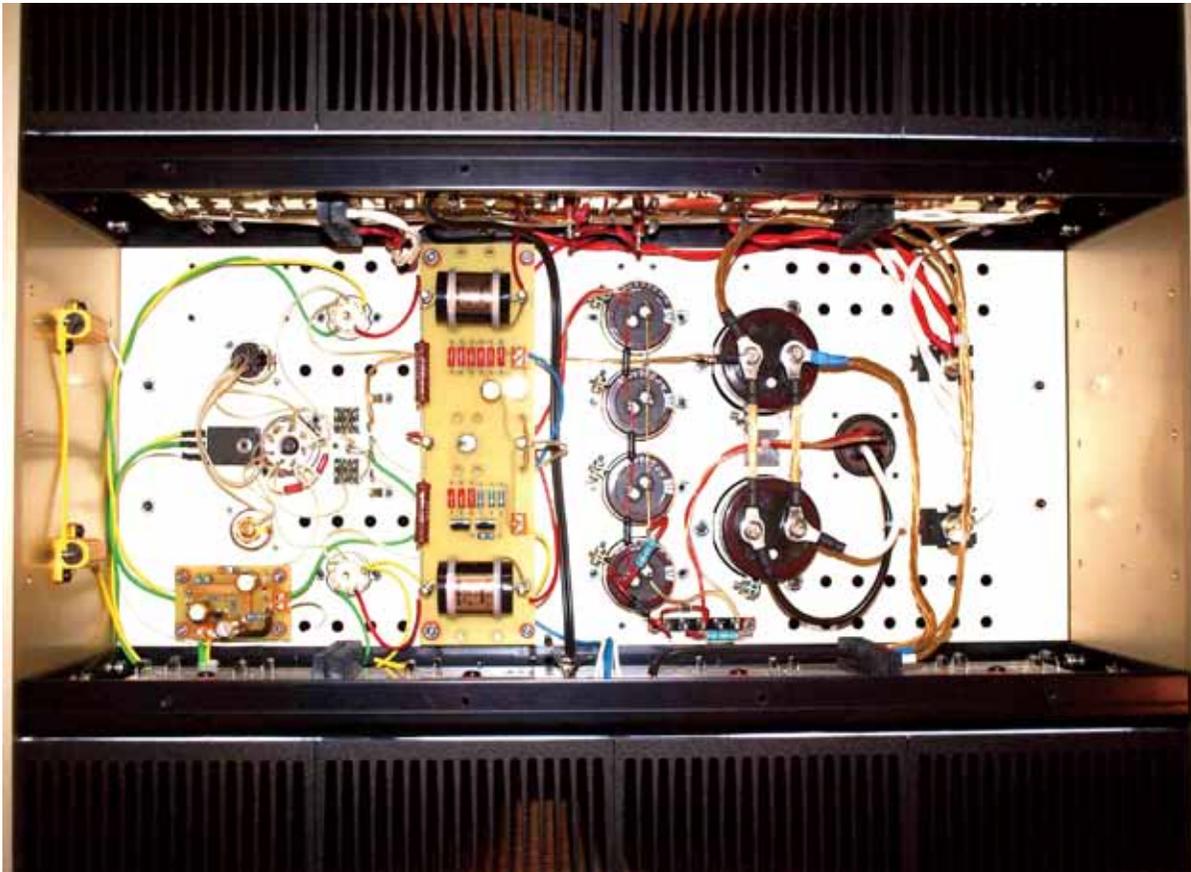


The highest grade components.

Wiring looms

Printed circuit board traces have been substantially eliminated in favour of point-to-point wiring and each area is given special consideration with the appropriate wiring loom built for particular signal level and function. Fine pure silver litz, litz configured gold plated OFC copper and highly specified “four nines” silver-based alloy solder all contribute to achieve maximum performance. The main printed circuit boards are manufactured in a “litz” process forming a foil thickness of a substantial 280uM, this is flash gold plated and being free of silk screening. provides an unpitted surface with excellent electrical characteristics.

Every step of the wiring is undertaken with extreme care and dedication. Directly before assembly each wire and the solder is cleaned of oxidisation. After soldering each joint is cleaned and checked for perfect integrity. Outside of any form of mass production assembly lines the wiring looms are reliably built by hand in practised, time-consuming fashion by a technician dedicated to the task, resulting in a wiring loom practically impossible to implement in ordinary amplifiers or standard manufacturing processes.



Wiring looms

Multi level matched critical parts.

We carefully batch test and match our transistors and vacuum tubes across the range of operating points in which they will be used. the purpose is to actually mimic the exact operating conditions and so the tubes and transistors to be tested are soldered to test boards, the boards bolted to heat sinks delivering test-time thermal accuracy versus intended production conditions and tables of recorded data collated for each part. Matching is then undertaken utilising all the data obtained in order to match the physical devices.

Selected devices are paired and a record of their specification is kept with each unit's serial number and certificate of performance. Such tight matching produces a measurably superior result.

Other parts within the K-70 that do not require such rigorous matching are all still tested on a thermal level and other testing grounds to ensure best reliability.

DC Reactor Isolated Power Supply

To avoid physical music-killing anomalies including dirty AC mains, Robert Kōda has utilised a choke input power supply free of capacitors and regulators. Our DC Reactor power supply is largely insensitive to the quality of the AC line so the amplifier can perform perfectly, even under adverse conditions. The Reactor supply generates very little noise feedback into the AC spur, thus, additionally, not compromising other components within the system.

Instead of regular Toroidal transformers, we have adopted the more sophisticated “R” core type, custom manufactured to meet the requirements of the power supply.

Finally, the high source impedance and low termination impedance of this structure secures the elimination of possible sound effects the DC connecting cables may otherwise impart on overall performance.

Enigmatically, the main amplifiers themselves are substantially insensitive to the quality of the power supply and this form of mutual coupling permits an ease of sound of unparalleled quality.

DC Reactor Isolated Power Supply



Superlative S/N ratio, genuinely low output impedance and a wide frequency response with single ended technology.

Single ended amplifiers of the finest example are known for their sound qualities yet several intrinsic technical limitations prohibit the possibility of achieving a universally outstanding performance.

By exploring well beyond convention and the limits imposed by such thinking, the K-70 has tackled and succeeded gracefully in defeating these underlying limitations.

Output impedance has been levelled to an astonishing 0.07 ohms, enabling the K-70 immense control over the loudspeaker. Power response has been extended to beyond 200Khz and signal to noise ratio, another performance area particularly weak with amplifiers incorporating vacuum tubes, now surpasses the most complex and ultimate specification driven transistor models, exceeding 100 dB at one watt!

Further, the design has taken the notion of simplicity one step further and the K-70 incorporates only a single vacuum tube gain element, finalising our design goals of creating an amplifier of exceptional simplicity, dynamic stability and technical excellence.

Minimal and non-invasive Electronic Circuit Monitoring

The extreme complexities of hardware monitoring circuits regulating operational conditions and adjusting runtime parameters are avoided only by virtue of the fact that the Takumi K-70 is built to be the purest form of any amplifying device. Not intended as a retrospective statement or a traditional stance or “it was done better in the old days” purist attitude, the amplifier is designed and built about the premise that if done correctly the circuit will function optimally within all operational parameters without recourse to spurious monitors, computers and applied dynamic variation of real-time values.

Such measurement and control devices generate their own noise and may additionally involve themselves with the continual adjustment of the audio circuit’s operating parameters. Hardly a requirement of the specification of pure amplification and, more like the computing methodology, “black-boxing” an equalisation functionality deep down in the logic, the Takumi receives no such gamut of potential interferences. Not even a fuse lies in any path modulated by audio. The amplifier remains the basic power amplifier concept, powerful, clean and proficient.

A truly limited and hand built product.

The meticulous assembly and testing of each Takumi K-70 amplification system takes a full two weeks and involves great personal effort and unique build team resources. This electronics heart and final unit assembly is undertaken by the designer himself.

A further one week minimum of run time in the producers music room is required to validate sonic performance before final test bench testing and packing.

Rob Koch' s search for this his final definition (and paradoxically first product) of amplification over a period of many enthusiastic years, the cost of materials, energy and Robert Kōda's unique sourcing of materials to arrive at this amplification unit all bear witness to the fact:

These units cannot and will not be rushed to life by means of mass-production methods and are a labour of hand-woven love. They are created by the most discerning artisans for the most discerning listeners and we are unapologetically proud to be able to offer a limited availability of just 20 units per year.

We wish you years of incredible listening, please sit back to listen to the musicians' and performers' art as it was meant to be presented, with their individual takes on their chosen art forms untainted by the delivery equipment. Hear their jesting, their yearnings, their messages, their emotions, dare we say, 'see' their souls.

Specifications

<u>DNA</u>	Single Ended Class A1 hybrid power amplifier with separate power supply.
<u>Output power</u>	Greater than 70W. Power delivery maximised for 3 to 7 ohm loads.
<u>Gain</u>	25.5dB SE in or balanced in, voltage mode. 10V/mA in current mode.
<u>Input impedance</u>	30K Ohms, Voltage mode, 50 ohms current mode.
<u>Output impedance</u>	Less than 0.07 ohms 20 Hz to 20Khz.
<u>Signal to Noise Ratio</u>	Greater than 115dB A weighted at nominal output. Greater then 97dB A weighted at 1W/8 ohms
<u>Power response</u>	Less than 5Hz to greater than 200KHz.
<u>Power consumption</u>	1000 Watts at any volume into any load.
<u>Size</u>	380mm wide, 256mm high, 500mm deep (each of 3 units)
<u>Weight</u>	Power supply: 40Kg Mono amps: 20Kg each
<u>Operating environment</u>	Operating temperature 0 to 35 degrees Celsius. Altitude sea level thru 3000m above sea level. Storage temperature -20 to +50 degrees Celsius.

The brand was established in Tokyo in 2007. Our primary concern is to bring to the market a product that is not the work of a company, but rather of a person who, on a private basis has designed and built an amplifier that truly transcends technology and develops a sound of transfixing and sublime quality.

Robert Kōda's motivation is to give fellow music listeners an opportunity to own and enjoy amplifiers this special. Our company values are such that we stand by what we make and build amplifiers to endure beyond the "consumerism" age.

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