

Twin powered
AM / FM Stereo FM
solid state receiver



The finest
high performance
stereo receiver
in the medium
priced field!

The twin-powered amplifier section

The Harman/Kardon 630 is the first receiver in the world with two totally separate power supplies. Several manufacturers *imply* that their receivers incorporate two power supplies. In reality, they employ a single supply with negative and positive voltages. The 630 also employs negative and positive voltages. But, in addition, each channel is completely isolated and has its own power transformer and electrolytics. Each channel has its own regulated voltages to permit that channel to respond to full RMS power output without being affected by the other channel. Thus, the 630 guarantees flawless performance regardless of how much power the amplifier is called upon to deliver.

Power rating

Power rating is one of the most abused specifications in high fidelity. Despite the existence of standard procedures, it is often

the manufacturer who determines the conditions under which power is rated. Harman/Kardon engineers believe that CONTINUOUS power, calculated from RMS voltage measurements, is the only meaningful way to rate power output.

But such a rating is still insufficient. Firstly, CONTINUOUS power output must be measured with both channels driven simultaneously at a specified distortion level. Secondly, the load impedance and power line voltage at which the measurement was taken must be given.

Finally, the measurements should be made across the entire frequency spectrum, rather than at 1,000 Hz.

In short, the conditions under which the receiver is measured should be similar to those under which it will be used.

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The tuner section

The tuner section of the 630 is a worthy companion to its superb amplifier. Hard limiting of noise plus excellent alternate channel selectivity provides the listener with an FM signal that is totally transparent. And because the capture ratio of the 630 is exceptionally high, multipath impulse noise and interference from strong adjacent stations is virtually eliminated. By careful design of the multiplex circuitry, distortion has been reduced significantly. In short, the tuner of the 630 assures unprecedented sensitivity, selectivity and achieves a degree of excellence on a par with its superfine audio section.

630 Specifications

AMPLIFIER SECTION

Power Output: 30/30 watts RMS, both channels driven into 8 ohms from 20-20kHz at less than 0.5% THD, 120 volts, 50/60 hertz A.C. (same specifications applies to 220 volts, 50 hertz model).

(Measured by the most stringent and conservative standards. If measured by competitive standards, power specification would read 45/45 watts, RMS, both channel driven).

Peak Power: In excess of 60 watts per channel, both channels driven.

Power Bandwidth: From less than 10 hertz to beyond 40kHz at less than 0.5% THD into 8 ohms, both channels driven simultaneously.

Total Harmonic Distortion: Less than 0.5% at 30/30 watts, RMS from 20-20kHz. (Typically runs 0.2% from 20-20kHz).
0.07% at 1 watt, both channels driven simultaneously.

Intermodulation Distortion: Less than 0.15% at rated output.

Hum and Noise: Better than 85 dB below rated output (unweighted).

Damping Factor: 40:1.

Frequency Response: From below 4 hertz beyond 70 kHz ± 0.5 dB at normal power levels. From below 1 hertz to beyond 100 kHz ± 1 dB at normal power levels.

Square Wave Tilt: Less than 5% at 20 hertz (Typical reading is 2% at 20 hertz).

Square Wave Rise Time: Less than 2 microseconds.

Stability: Absolutely stable with all types of speakers including electrostatic design.

TUNER SECTION

FM Sensitivity: 1.9 microvolts, IHF.

Ultimate Signal to Noise: 70dB.

Capture Ratio: 2.5dB.

Image Rejection: 50dB.

Spurious Response Rejection: 78dB.

Multiplex Separation: 35dB.

T. H. D.: 0.6% Mono.
0.7% Stereo.

Dimensions: 17" W x 13 $\frac{3}{4}$ " D x 4 $\frac{3}{4}$ " H.
[43.2 cm. W x 34.9 cm. D x 12.0 cm. H]

Weight: 28 pounds. [12.7 kg.]

Model CW95 walnut enclosure available as an accessory.

630

Twin powered
AM FM Stereo FM
solid state receiver



**Der Receiver
mit dem höchsten
Leistungsvermögen
in der mittleren
Preisklasse!**

**Der Verstärker-
teil mit Doppelstromversorgung**
Harman/Kardons Receiver 630
und 930 sind die ersten
Empfänger-Verstärker der Welt
mit zwei voneinander unab-
hängigen Netzteilen, was durch-
aus nicht allgemein üblich ist.
Der Receiver 630 arbeitet mit
negativen und positiven Span-
nungen, jedoch für beide Kanäle
vollständig getrennt. Jeder Kanal
hat seinen eigenen Netztrans-
formator sowie seine eigenen
Dioden und Elektrolytkonden-
satoren. Damit verfügt auch jeder
Kanal über separat geregelte
Spannungen, die es ihm ermög-
lichen, die effektive Ausgangs-
leistung ohne Beeinflussung
durch den Nachbarkanal ab-
zugeben. So garantiert der
Harman/Kardon 630 eine fehler-
freie Arbeitsweise, die unab-
hängig von der Höhe der abzu-
gebenden Leistung ist.

Die Ausgangsleistung
Leistungsangaben gehören zu
den am häufigsten manipulierten
Daten in der HiFi-Technik.
Obwohl genormte Meßverfahren
existieren und die Ausgangs-
leistung als solche kein Quali-

tätskriterium darstellt, bestimmt
oft der Hersteller die Bedingun-
gen, unter denen die Leistung
eines Gerätes gemessen wird.
Die Ingenieure von Harman/
Kardon glauben, daß die Angabe
der Dauerleistung — bezogen
auf Messungen der Effektivspan-
nung (RMS) — die einzig sinn-
volle Aussage über die Aus-
gangsleistung darstellt.
Aber auch diese Leistungs-
angabe ist noch ungenau.
Erstens muß die Dauerleistung
unter Berücksichtigung des
angegebenen Klirrfaktors und
gleichzeitigem Betrieb beider
Kanäle bestimmt werden.
Zweitens ist die Lautsprecher-
Impedanz und die Netzspannung
anzugeben, bei der eine Mes-
sung vorgenommen wurde. Und
schließlich müssen die Messun-
gen über den ganzen Frequenz-
bereich von 20 Hz bis 20 kHz
erfolgen, nicht nur bei 1000 Hz.
Mit einem Wort, die Meß-
bedingungen müssen identisch
sein mit den Bedingungen, denen
das Gerät in der Praxis unter-
liegt.

harman/kardon

Der Empfangsteil

Der Empfangsteil des Modells 630 ist ein würdiges Gegenstück zu dem hervorragenden Verstärker. Die wirksame Unterdrückung der Störgeräusche und die ausgezeichnete Trennschärfe gegenüber Nachbarkanälen ermöglicht dem Hörer einen klaren, rauschfreien UKW-Empfang. Und da die Gleichwellenselektion des 630 außergewöhnlich hoch ist, sind Störungen durch starke benachbarte Sender ausgeschlossen. Durch die sorgfältige Gestaltung des Multiplex-Stereo-Decoders werden Verzerrungen auf ein Minimum reduziert. Kurz, der Empfangsteil des 630 besitzt eine in dieser Klasse bisher nicht erreichte Empfindlichkeit und Trennschärfe und repräsentiert damit einen Grad der Vollkommenheit, der dem hochwertigen Verstärkerteil dieses Gerätes ebenbürtig ist.

Technische Daten Receiver 630

VERSTÄRKERTEIL

Ausgangsleistung: 2 x 30 Watt, RMS, beide Kanäle gleichzeitig an 8 Ohm, von 20 Hz bis 20 kHz und einem Klirrfaktor < 0,5 %; 220 Volt, 50 Hz.

Spitzenleistung: 2 x 60 Watt.

Leistungsbandbreite: Von < 10 Hz bis 40 kHz an 8 Ohm, Klirrfaktor < 0,5 %, beide Kanäle gleichzeitig betrieben.

Klirrfaktor: < 0,5 % bei 2 x 30 Watt, RMS, von 20 Hz — 20 kHz (Typisch 0,2 % von 20 Hz — 20 kHz); 0,07 % bei 1 Watt, beide Kanäle gleichzeitig betrieben.

Intermodulation: < 0,15 % bei Nennleistung.

Fremdspannungsabstand: > 85 dB.

Dämpfungsfaktor: 40 : 1.

Frequenzgang: < 4 Hz — 70 kHz, \pm 0,5 dB; < 1 Hz — 100 kHz, \pm 1,0 dB, bei normalem Lautstärkepegel.

Rechteck-Dachschräge: < 5 % bei 20 Hz (Typisch 2 % bei 20 Hz).

Rechteck-Anstiegszeit: < 2 μ sec.

Stabilität: Absolut, mit allen Lautsprechertypen, einschl. Elektrostaten.

EMPFANGSTEIL

FM-Eingangsempfindlichkeit: 1,9 μ V, IHF.

Signal-Geräuschspannungsabstand: 70 dB.

Klirrfaktor: Mono 0,6 %, Stereo 0,7 %.

Stereo-Übersprechdämpfung: 35 dB bei 1 kHz.

Gleichwellenselektion: 2,5 dB.

Spiegelfrequenzdämpfung: 50 dB.

Nebenwellendämpfung: 78 dB.

Abmessungen: 43,2 x 12,0 x 34,9 cm (b x h x t).

Gewicht: 12,7 kg.

Gehäuse: Auf Wunsch Nußbaumgehäuse lieferbar.



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All specifications and features are subject to change without notice.

the
Harman-Kardon

630

twin powered
am/fm/stereo fm
solid state receiver

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Archiv Michael Otto
HiFi-Classic.de

harman/kardon

THE MUSIC COMPANY



the 630

introduction

Harman-Kardon introduces the 630 Twin Powered Receiver — the first *high performance* stereo receiver in the medium price field. It's been a long time coming . . . and the music lover is certain to be enthusiastic over its superior performance and features.

Just connect this superb instrument with the finest speakers and turntable for a critical listening test. Listen. The "veil" that is often present in medium price receivers is gone! Sound quality is crystal clear and totally transparent. You can now pick out individual instruments due to the sharp, clear transients and rapid recovery time.

Why does the 630 clearly offer better performance than anything presently available anywhere near its price range? Simply because Harman-Kardon has incorporated the inspiration, talent and engineering skill which produced Citation — the world's finest components — into this new receiver. Including the remarkable feature of two separate power supplies. Thus, each channel is completely isolated with its own power transformer and electrolytic capacitors.

why twin power?

It is axiomatic, especially in solid state designs, that closely regulated supply voltages result in cleaner and more transparent sound. The power supply must be able to respond to sudden tone bursts and to deliver ample power to drive out heavy and sustained bass passages. A kettledrum beat or pedal note from a pipe organ calls for enormous power, many times the current drawn than during quieter passages. And no matter how well a stereo amplifier responds to quieter passages, the amplifier, when taxed in this way, cannot respond to tremendous orchestral hurdles unless its power supply has the energy to drive it out. Equally im-

portant, the power supply must be able to recover instantly from these sudden drains on its reserves so that its voltage level is fully restored before the next loudness peak occurs. The Harman-Kardon 630 utilizes two separate power supplies, one for each channel, to guarantee flawless performance regardless of how much power the amplifier is called upon to deliver. Each channel, therefore, has its own regulated voltages to permit the channel to respond to full RMS power output without being affected by the other channel. Recovery time of the 630 is instantaneous.

the rms rating

Power rating is one of the most abused specifications in high fidelity. It is the manufacturer who determines the conditions under which power is rated. Harman-Kardon engineers believe that RMS rating is the only meaningful way to rate power output.

But even such a rating is insufficient. Firstly, RMS power output must be measured with both channels driven simultaneously at a specified distortion from 20Hz to 20kHz.

Secondly, the impedance and line voltage at which the measurement was taken must be given.

Finally, measurements should be made across the entire spectrum, rather than at 1,000Hz.

The Harman-Kardon 630 has a guaranteed power specification of 30 watts, RMS, per channel, both channels driven simultaneously into 8 ohm non-inductive loads. Distortion (THD) is *guaranteed* at less than 0.5% from 20Hz to 20kHz at full RMS output. All power measurements were taken at 120 volts, 50/60Hz, A.C. current.

(The Audiophile will note that if the 630 were rated by using the measuring methods of competitive receivers, it would be rated at 45 watts per channel, RMS, both channels driven.)

In short, the power rating of the 630 is based on the same, stringent and conservative measurements used for Citation — the world's finest individual components.

improving speaker performance

A speaker, may be called upon to reproduce the sound of a full symphony orchestra. Given the dynamic range and the orchestral tone bursts which occur in a symphony, the speaker must change direction rapidly — as the music changes. The forward or rear motion of the speaker cone resists any change of direction. The amplifier must perform the function of "braking" the speaker cone whenever a rapid change in direction is required. The ability of

an amplifier to "brake" a speaker is referred to as its damping factor. Many amplifiers have relatively high speaker damping at 1,000 hertz, where it is rarely required. The 630 delivers inordinately high speaker damping down to below 20 hertz. This results in exceptionally tight, clean bass. Moreover, the 630's extremely broad frequency response and virtually unmeasurable distortion also contribute to its ability to improve any speaker system.

the am/fm/stereo fm tuner section

The tuner section of the 630 is a worthy companion to the superb amplifier. Hard limiting of noise plus excellent alternate channel selectivity provides the listener with an FM signal that is totally transparent. And because the capture ratio of the 630 is exceptionally high, multipath impulse noise and interference from strong

adjacent stations is virtually eliminated. By careful design of the multiplex circuitry, distortion has been reduced significantly. In short, the tuner of the 630 assures unprecedented sensitivity, selectivity and achieves a degree of excellence on a par with its super-fine audio section.

perfect matching

A receiver is *not* necessarily a sum of its parts. A great amplifier, a superb preamp, a magnificent tuner. Put them together . . . and they can produce less than ideal sound.

Something more is required . . . the careful and precise *integration* of the components. Thus, our designers went through the fastidious and meticulous process to develop magnificent individual components. But it was not until each component achieved a level of excellence in conjunction with every other component that the 630 was released to the consumer.

Thus the Harman-Kardon 630 . . . starting with Citation technology . . . is powerful, sensitive and versatile . . . the state of the art in receiver design.

The 630 makes listening to music more than just a casual pleasure. Listening becomes a profound experience.

Harman-Kardon 630 receiver twin powered/special features

- Two separate power supplies results in complete isolation of both amplifier sections.
- Special filtering of SCA keeps stereo signal clean without extraneous interference or distortion.
- Newly designed FM muting circuit removes all traces of interstation interference when tuning FM stations.
- Illuminated pushbutton ON/OFF switch permits user to turn receiver on and off without upsetting careful positioning of controls.
- Special front panel switch and rear panel jacks permits user to connect Dolby B processor for use with Dolby B FM broadcasts. Front panel switch changes deemphasis network to conform exactly with Dolby B broadcast requirements.
- Large illuminated meter permits user to tune to exact center of station for lowest noise and distortion.
- Heavy counterweight flywheel provides exceptionally smooth tuning action.
- Stereo headphone receptacle on front panel.
- Dual concentric tone controls for bass and treble.
- Heavy duty, ultra-wideband silicon output transistors are capable of handling twice the available power of the 630.
- D. C. coupled audio design enables amplifier to extend almost to D. C. with virtually non-existent phase shift.
- The 630 has the widest frequency response of any receiver in the world. Square wave tilt at 20 hertz is less than 5% which is equivalent to the finest professional amplifiers.
- Sharply illuminated dial with logging scale and illuminated dial pointer enable user to read dial from across room.
- Rugged construction assures long, trouble-free life.
- Tape monitor facility to listen to tape as it is recorded.
- Two tape recorder outputs on rear panel permits user to connect reel to reel to tape deck and cassette deck simultaneously.
- Gold anodized machined aluminum knobs give the 630 the look of luxury.
- Preamp and power amplifier may be separated for use with other amplifiers and preamplifiers.

amplifier section

Power Output: 30/30 watts RMS, both channels driven into 8 ohms from 20-20kHz at less than 0.5% THD, 120 volts, 50/60 hertz A.C. (same specifications applies to 220 volts, 50 hertz model).

(Measured by the most stringent and conservative standards. If measured by competitive standards, power specification would read 45/45 watts, RMS, both channels driven).

Peak Power: In excess of 60 watts per channel, both channels driven.

Power Bandwidth: From less than 10 hertz to beyond 40kHz at less than 0.5% THD into 8 ohms, both channels driven simultaneously.

Total Harmonic Distortion: Less than 0.5% at 30/30 watts, RMS from 20-20kHz. (Typically runs 0.2% from 20-20kHz) 0.07% at 1 watt, both channels driven simultaneously.

Intermodulation Distortion: Less than 0.15% at rated output.

Hum and Noise: Better than 85dB below rated output (unweighted).

Damping Factor: 40:1.

Frequency Response: From below 4 hertz beyond 70kHz ± 0.5 dB at normal power levels. From below 1 hertz to beyond 100kHz ± 1 dB at normal power levels.

Square Wave Tilt: Less than 5% at 20 hertz (Typical reading is 2% at 20 hertz).

Square Wave Rise Time: Less than 2 microseconds.

Stability: Absolutely stable with all types of speakers including electrostatic design.

tuner section

FM Sensitivity: 1.9 microvolts, IHF.

Ultimate Signal to Noise: 70dB.

Capture Ratio: 2.5dB.

Image Rejection: 50dB.

Spurious Response Rejection: 78dB.

Multiplex Separation: 35dB.

T. H. D.: 0.6% Mono.
0.7% Stereo.

Dimensions: 17" W x 13³/₄" D x 4³/₄" H.

Weight: 28 pounds.

Model CW95 walnut enclosure available as an accessory.

front panel controls

- Illuminated pushbutton ON/OFF switch.
- Stereo headphone receptacle.
- Two room stereo speaker switching.
- Tape monitor switch.
- FM muting switch.
- High cut filter.
- Stereo to mono switch.
- Contour switch.
- Dolby B switch.
- Dual concentric bass controls for left and right channels.
- Dual concentric treble controls for left and right channels.
- Zero to infinity balance control.
- Close tracking volume control.
- Function selector switch.
- Large tuning knob.
- Illuminated function call outs.
- Stereo indicator light.
- Large AM/FM tuning meter.

rear panel connections

- Low level inputs.
- Knurled grounding screw.
- High level inputs.
- Two sets of tape recorder outputs.
- Dolby B outputs to processor.
- Dolby B inputs from processor.
- Connections for two sets of stereo speakers.
- Patch cords across preamplifier outputs and amplifier inputs may be removed to employ preamplifiers with external power amplifiers or quadraphonic processor.
- A. C. convenience receptacle.
- A. C. fuse.
- Two speaker fuses to protect outputs of receiver and speakers.

All specifications and features subject to change without notice.

harman/kardon
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