1999 PRODUCT CATALOG

KENWOOD
eXcelon

YOU ARE LOOKING AT THE FUTURE OF CAR AUDIO

We call it Kenergy. It's the ability of components to take action instead of sitting there like dumb hunks of iron. These components can talk to each other. Control each other. Kenwood Excelon products with Kenergy include head units that can control frequency output to the speakers. Amps that kick up the bass and increase cooling with a button-touch to the head unit. Two-way speakers that can be bi-wired for extra precision, and woofers with slamming punch controlled by our amps' special circuits. Smart components that let you get the sound you want exactly and that can fine-tune it on the fly in real time. This is what a car audio system should be. With Kenergy, this is what it is.

Head Units with System E's+

System E's+, a cross-over built in to our head units, controls the frequencies output to speakers or amps, and cuts so much distortion your system will play nearly twice as loud with perfect clarity.

Woofers

Our subs have special terminals that link to an Excelon amp's Sigma Servo circuit. That lets the amp actually sense and control the subwoofer, giving it more punch than a SWAT team.

Amps with BMS and PowerSlide

Bass Management System (BMS) lets you pump up the amp's bass output 6 or 12 dB from the head unit, while the PowerSlide door opens to cool off under peak-loads.

Mid Range Speakers

Separate terminals on our 2-way DualMag speakers let you bi-wire the tweeter and woofer to different amps for extremely low distortion and super fidelity.

WE NAMED THEM EXCELON FOR A REASON

From the beginning, Kenwood Excelon components were designed to be as excellent as possible—in sound, looks, protection, reliability, you name it. There's MASK, the world's only self-hiding, revolving faceplate. PowerSlide amps that combine more power, sound control, and circuit protection than you'll find anywhere else. DualMag speakers, with opposing pole technology giving them a voice coil grip that cuts harmonic distortion way down. And our new dB+ woofers, with rock-solid frames, longer-throw voice coils, one-piece magnet/pole pieces, and tons of other features that make them the most vicious subs to ever hit a sound-off. Put everything together in a Kenergy system, and there is no competition.

Power Amplifier

TECHNOLOGY

BMS

Lets you precisely increase bass response by +6dB anywhere between 50 Hz and 100 Hz. The high-Q slope won't muddy vocals as typical "bass boost" circuits do. With a MASK head unit, you can activate a +6dB or +12dB increase right from the head unit.

Electronic Crossovers

Variable high- and low-pass filters can be applied separately to front and rear channels and can also be overlapped to easily smooth out peaks and dips.

Low-Voltage Memory

Keeps track of the number of times your system dips below 10 volts (up to ten incidents) and reports them as a number of blinks, letting you know if your electrical system needs to be strengthened.

High-Efficiency Design

Most amplifiers are about 40% efficient; the rest of the power simply produces heat. Kenwood amps are about 60% efficient. They produce more sound from less power and operate at a lower temperature, which makes them more reliable.

Separate Power Sources for Driver and Output Stages

A signal is increased inside an amp by the driver stage and then by the final stage. Most amps run both stages from one power supply, which can cause the driver stage to loose power and distort. Kenwood amps have two power supplies, one for each stage. This keeps both stages separate and clean.

LAPT

Conventional high-power transistors produce high levels of distortion at low volumes, distortion that gradually goes down only as the volume goes up. The LAPT (Linear Amplification Power Transistor) transistors we use are called "linear" because they deliver the same clean sound at any volume.

Audio-Use Capacitors

Our capacitors are larger than most and designed for audio use only. They charge and discharge very rapidly and have very low resistance due to oxygen-free copper leads, which greatly improves the ability of a Kenwood amplifier to reproduce loud, rapidly changing music.

Copper-Shielded EE Core Transformer

Kenwood Excelon amplifiers use an EE transformer design which greatly reduces the radio frequency interference that can leak into the audio and appear as hum.

4-Status LEDs and Triangle Power Indicator

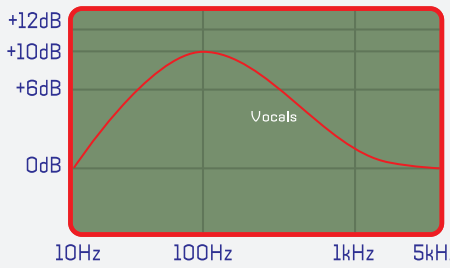
Power up a Kenwood Excelon amp, and a cool blue triangle lights up. Four status lights tell you when the fan is on, when BMS is active, when your system is in an undervoltage situation, and when a protection circuit has shut down the amp.

Power Slide

This sliding door on top of the amp lets more cooling air in when it's needed. Underneath there's a fan that sucks air through the amp and out the top. PowerSlide automatically opens when the amp reaches 176 degrees, or when you give it a +6dB or +12dB command from a Kenwood Excelon MASK head unit.

BMS (Bass Management System)

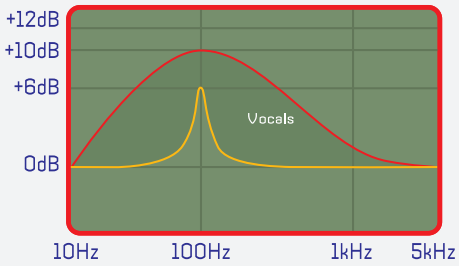
Conventional Bass Boost
+10dB/100Hz (Fixed)



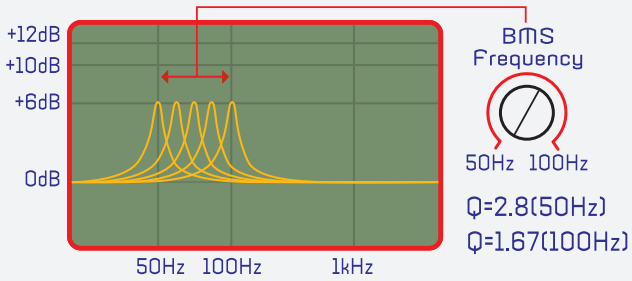
Q=0.5

- Vocal range is also boosted. This results in "boomy" bass and "muddy" vocals.

BMS
+6dB/100Hz



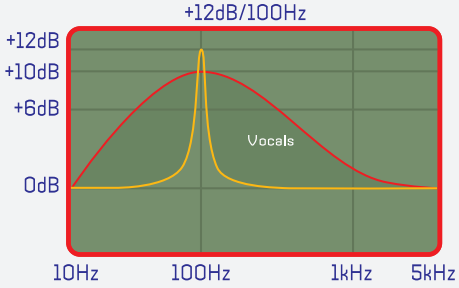
Variable Frequency



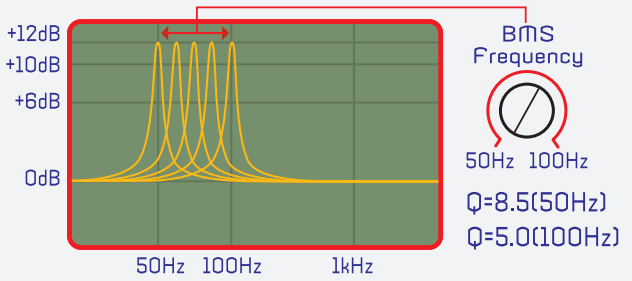
Q=2.8(50Hz)
Q=1.67(100Hz)

- High Q Value will not affect vocal range because it increases bass at the center frequency only.

BMS
+12dB/100Hz



Variable Frequency



Q=8.5(50Hz)
Q=5.0(100Hz)

- Even at +12dB, the increase will not affect the vocal range. Selected from Kenwood Excelon MASK Head Unit only.

MOSFET Transistors

MOSFET (Metal Oxide Semiconductor-Field Effect Transistor) switching transistors have a significantly higher switching speed than bipolar transistors and generate almost no heat, so they offer quick response, excellent linearity, and high efficiency.

Noise Filtering

All Kenwood amplifiers use two types of filters to clean the vehicle's voltage before it reaches the power supply, improving efficiency (more energy is used to amplify music instead of noise) and resulting in clearer music.

Fast-Recovery Diodes

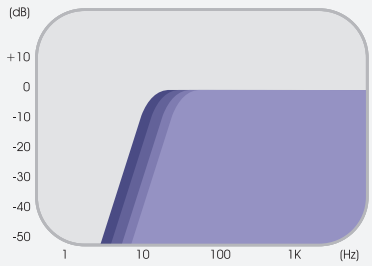
Diodes change AC power to smooth DC power. If a diode can't react quickly, voltage drops, creating distortion. Compared to conventional diodes, our fast-recovery diodes handle twice the amperage and reduce voltage drop by a third, delivering sound that's dependably clear and clean.

You can activate the amp's Bass Management System and open PowerSilde from an Excelon MASK head unit. The head unit's display confirms your settings.

Power Amplifier

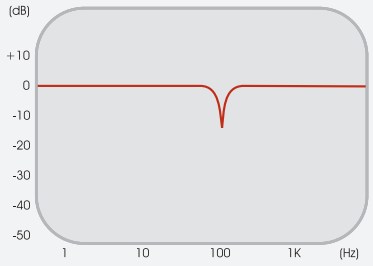
TECHNOLOGY

Infrasonic Filter



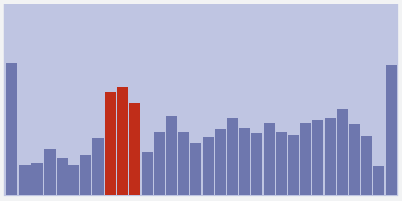
Infrasonic filters remove power-robbing frequencies that are too low to hear. Multiple cutoff frequencies and 24dB/octave (shown) or 18dB/octave slopes allow precise control.

Band-Reject Filter



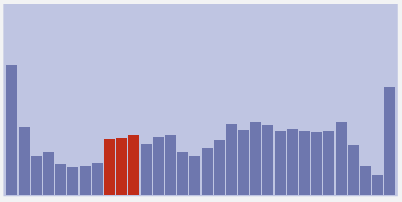
The KAC-X401M's band-reject filter adjusts from 40Hz – 200Hz. Its high Q-value, lets you to zero-in on the exact frequencies that needs taming.

Without Band-Reject Filter



Most car interiors will produce a large response peak (standing wave) in the upper bass/lower midrange region.

With Band-Reject Filter

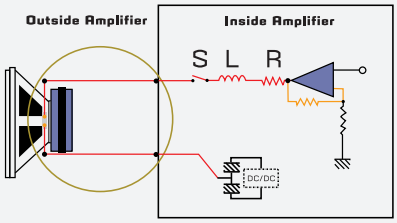


After using the KAC-X401M's Band Reject Filter to tame the car's standing wave, response is much smoother.

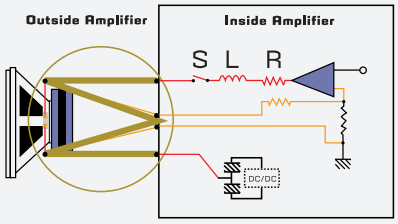
Sigma Drive and Sigma Servo

To keep a subwoofer from vibrating after a note, an amp must control speaker motion precisely. Kenwood's exclusive Sigma Drive and Sigma Servo circuits give the amp the instantaneous feedback needed to damp the speaker. Sigma Drive tracks this feedback from the amp's speaker connections, while Sigma Servo uses two additional wires which connect to the speaker itself to track movement. Sigma Drive more than doubles the typical damping factor of 100, and Sigma Servo boosts it to 9,990.

Without Sigma Servo



With Sigma Servo



Conventional amps rely on feedback from the amp's output stage, ignoring errors introduced by internal circuitry or the speaker. Sigma Servo gets feedback from the speaker itself, increasing the amp's Damping Factor from the typical 100 to over 9,000.

Copper Bus Bar

Thin wire or circuit board traces inside an amp can lose up to 30 watts. Kenwood's top amplifiers avoid this problem by using solid oxygen-free copper bus bars with at least a hundred times more mass than a circuit board trace.

Protection Circuits

Our circuits provide protection against heat, static electricity, over-voltage, under-voltage, over-current, speaker short, reverse input voltage and ground disconnection. All fuses are chassis-mounted (not line mounted) so they can't be accidentally removed.

Infrasonic Filter

CDs often have sound recorded below the threshold of human hearing which an amp can reproduce, wasting a large amount of power. Our amps have a selectable infrasonic filter that eliminates these frequencies, thus increasing the power available for music.

Band-Reject Filter

Every vehicle interior resonates at a particular frequency, which can cause a bump in frequency response. Our adjustable band-reject filter reduces the bump to smooth overall response.

KAC-X501F
Multi-Channel Power Amplifier
Key Features
- Power Output: 50 Watts x 4 (4 ohms at 12V, 20Hz – 20kHz, 0.05% THD)
- Maximum Power Output: 600 Watts x 2
- PowerSlide
- B.M.S. (Bass Management System)
- PowerSlide/BMS Head Unit Interface
- Sigma Drive
- Variable High-Pass and Low-Pass Crossovers; Selectable Infrasonic Filter

KAC-X401M
Mono Power Amplifier
Key Features
- Power Output: 200 Watts x 1 (4 ohms at 12V, 20Hz – 20kHz, 0.05% THD)
- Maximum Power Output: 1200 Watts x 1
- PowerSlide
- B.M.S. (Bass Management System)
- PowerSlide/BMS Head Unit Interface
- Sigma Servo
- Variable Low-Pass Crossover and Band Reject Filter; Selectable Infrasonic Filter

KAC-X301T
2-Channel Power Amplifier
Key Features
- Power Output: 75 Watts x 2 (4 ohms at 12V, 20Hz – 20kHz, 0.05% THD)
- Maximum Power Output: 800 Watts x 1
- PowerSlide
- B.M.S. (Bass Management System)
- PowerSlide/BMS Head Unit Interface
- Sigma Drive
- Variable High-Pass and Low-Pass Crossovers; Selectable Infrasonic Filter

KAC-X201T
2-Channel Power Amplifier
Key Features
- Power Output: 50 Watts x 2 (4 ohms at 12V, 20Hz – 20kHz, 0.05% THD)
- Maximum Power Output: 600 Watts x 1
- PowerSlide
- B.M.S. (Bass Management System)
- PowerSlide/BMS Head Unit Interface
- Sigma Drive
- Variable High-Pass and Low-Pass Crossovers; Selectable Infrasonic Filter

dB+ Sub Woofer

TECHNOLOGY

Quality and Power

Kenwood dB+ Woofers are both musical and loud—really loud. One reason is their super-large X-max, the length of the voice coil that hangs outside of the magnetic field and which determines how far the speaker can move. The larger the X-max the greater the distance the cone can move and still be controlled by the magnetic circuit. A dB+ woofers' X-max is larger than other woofers, and everything in a dB+ woofer is built to take full advantage of this huge X-max.

Gold-Plated Binding Posts

Large, super conductive, posts take up to 8-gauge wire, and features extra side terminals to connect second set of wires for Kenwood amps with Sigma Servo damping circuit.

Rock Solid

For years it was believed that only subwoofers with cast aluminum baskets were rigid enough to deliver superior bass performance. But the new Kenwood Excelon dB+ woofers represent a breakthrough in basket design: thick, rolled steel in a form that equals the performance of cast aluminum without the excessive cost. In vibration resistance tests, the new dB+ frame proved just as solid as the best

Spiral Vent

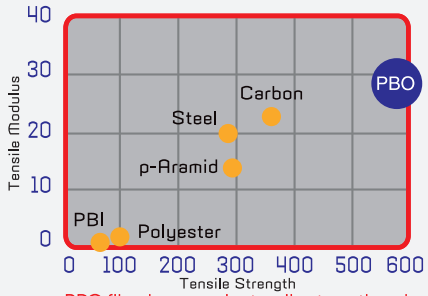
The large, tapered vent with spiral ridges allows air to swirl through like water in a whirlpool, avoiding the sudden "pop" that can give woofers with ordinary vents a "puh-puh-puh" sound.

PBO

PBO Advanced Fiber (Polyphenylenebenzobisoxazole)

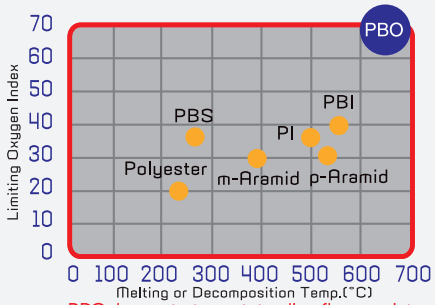
(PBO is a rigid-rod lyotropic liquid crystal polymer) This fiber uses the latest material that science and technology have to offer.

Tesile Strength and Modulus



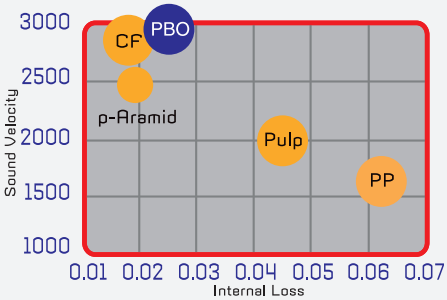
PBO fiber has superior tensile strength and modulus than that of other materials

Thermal Stability and Flamability



PBO demonstrates outstanding flame resistance and thermal stability when compared to other organic fibers

Sound Velocity and Internall Loss



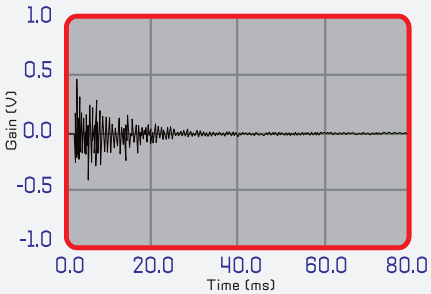
PBO provides higher sound speed and better internal loss to provide higher sound pressure level with no cone noise when compared to other fibers

dB+ Frame

Low Resonance/Anti-Vibration Frame

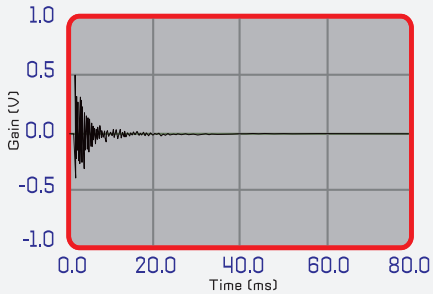
These graphs show attenuation abilities of different types of frame construction. Slow vibration attenuation will cause the bass to be undefined.

Standard Steel Frame



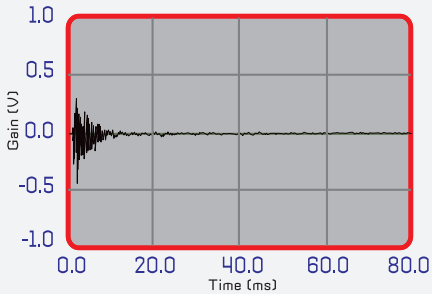
Dampens frame vibration slowly, low cost

Cast Aluminum



Dampens frame vibration quickly, high cost

dB+ Frame



Similar to Cast Aluminum with a lower cost

Sub Woofer Components

3-D dB+ Logo Dust Cap
More that just good-looking, its rigidity prevents noise.

One Piece Rubber Surround and Gasket
Dampens basket vibration, which improves bass clarity.

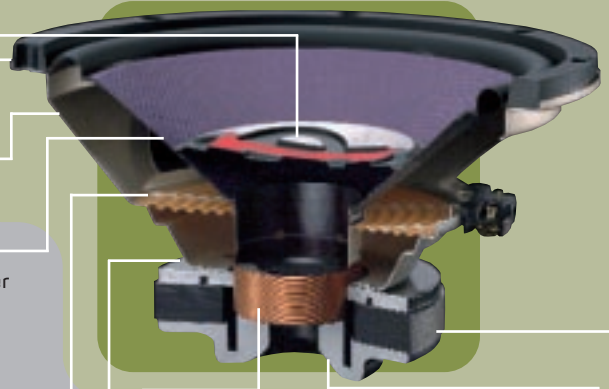
1.2mm Steel Frame (Basket)
The rigid design and thick steel has vibration resistance which equals that of cast aluminum, as measured by extensive testing

PBO Advanced Fiber Cone
Compared to carbon or kevlar cones, our extra-deep and rigid PBO cones deliver higher sound pressure level (SPL), faster sound speed, lighter weight, more damping (with no cone noise), wider sound range, and better stability across all its dimensions. The specifications of our cones will never change due to heat, cold, sun, or age.

Advanced Feed Construction (AFC) Conex Spider (Damper)
The lead wires are stitched into the spider from both sides, cannot rattle and enable perfectly linear motion for the cone and voice coil.

Top Plate
Black heat-absorbing coating improves heat emission.

2.5 or 2 Inch Voice Coil
Extra-deep Kapton voice coil with glass fiber bobbin delivers longer movement for greater sound pressure level.



Spiral Vented Pole Piece
Solid, one-piece pole and backplate features extended slot for long voice coil travel and spiral vent to reduce air vent noise.

Strontium Ferrite Magnet
52.9 oz. in KFC-XW12dB+
42.3 oz. in KFC-XW10dB+

Sub Woofers

cast aluminum frames. And the construction quality doesn't end with the basket. The thick rubber gasket that seals a speaker against the baffle of an enclosure and the cone's rubber surround are typically two parts glued together, creating a potentially weak seam. A dB+ woofer's gasket and surround are one solid rubber piece which cannot come apart, thereby eliminating the resonance that can creep into the speaker at this joint. Finally, a dB+'s pole piece and back plate are also one solid piece. The back plate features a deep bumped yolk for long voice coil excursion.

The Best Cone Material Yet

With our new PBO cone material, cones of carbon, kevlar, or polypropylene have all been surpassed. In every measurement of sound pressure level, speed, strength, weight, and stability, PBO is superior: there is simply no other cone material that equals PBO. The result: technology that allows dB+ woofers to move more air over a wider frequency range and with less mechanical noise than any other woofers on the market.

KFC-XW12dB
12" Woofer

Key Features
- Power Handling: 1,000 Watts
- Sensitivity: 93dB
- Voice Coil: 2-1/2"
- Frequency Response: 23Hz - 600Hz

KFC-XW10dB
10" Woofer

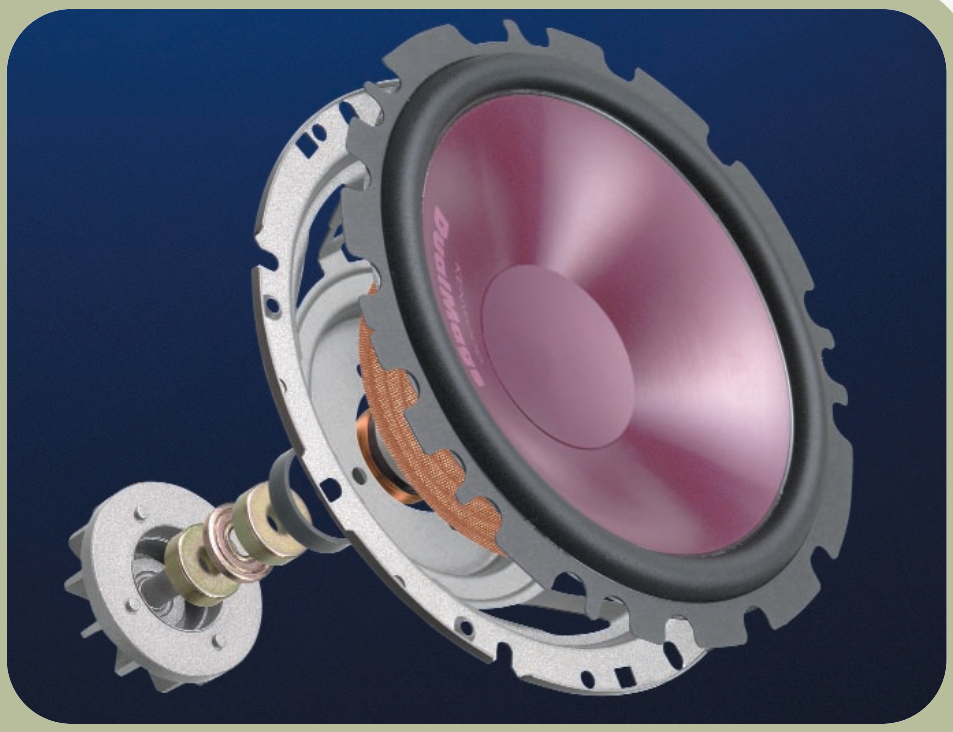
Key Features
- Power Handling: 800 Watts
- Sensitivity: 92dB
- Voice Coil: 2"
- Frequency Response: 25Hz - 600Hz

Dual Mag

TECHNOLOGY

DualMag Speakers

Instead of using iron ferrite magnets that surround the voice coil as in traditional speaker design, Kenwood's patented DualMag design uses two small but very powerful neodymium magnets inside the voice coil. The magnets are turned so that their like poles face each other. This puts far more magnetic force in the voice coil gap, which controls the cone much more tightly for more accurate sound. Weight is reduced by up to two-thirds and the slimmer profile fits into tighter spots during installation.



Four-Layer Voice Coil

Our new four-layer voice coil and thicker, oxygen-free copper voice coil wires for the woofer lets DualMags deliver more powerful bass and flatter frequency response. At the same time, the new magnetic circuit features increased magnetic energy. The result is high-energy bass with greater stability and without generating magnetic energy fluctuations caused by the widened gap of the voice coil.

UFLC Tweeter Diaphragm

The tweeters use a Urethane Film Laminate Cloth Dome material which features improved damping

and reduced distortion. Because it's so light weight, it effectively extends the high frequency range and improves propagation speed, resulting in clear and crisp highs with quicker response.

Multiple-Component Crossover Networks

Smooth transition between woofer and tweeter with flatter frequency response is made possible by employing an advanced second order crossover. This crossover is capable of allowing three

settings of tweeter attenuation either flat, -2db or –4db. The woofer can also be played full range in the low frequency or it can be crossed over to create a bandpass effect on the midrange. The crossover has a clear plastic cover so you can see all the components inside.

Pearl Mica-Injected Polypropylene Woofer Cones

Our pearl mica-injected polypropylene woofer cones are made from a higher grade of pearl mica, with uniform-sized crystals that bond together more tightly to produce a stronger cone. The cones are molded from the apex out so they are the same thickness throughout, allowing them to deliver more accurate sound across the entire frequency range.

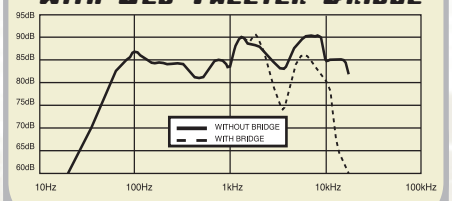
Anti-Masking Tweeter Bridge

DualMag two-way speakers have a unique tweeter bridge that minimizes sound masking of the midrange driver by as much as 92%. The bridge also allows the midrange driver to have a dust cap, which gives it more rigidity and better bass response.

Balanced dome tweeters

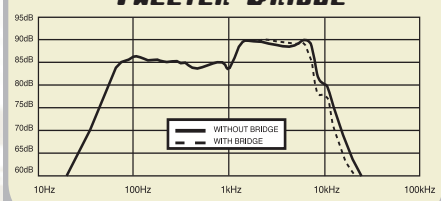
Cone tweeters are clear, but beam sound in one direction. Dome tweeters disperse sound, but aren't as clear. Balanced Dome Tweeters combine the advantages of both. The area of the dome and the area of the cone are precisely matched (which is why they are called balanced) resulting in clean highs that can be heard from a variety of positions inside the car.

With Old Tweeter Bridge



The masking effect of the previous DualMag tweeter bridge introduced response irregularities in the woofer's upper range.

With Anti-Masking Tweeter Bridge



The DualMags redesigned tweeter bridge virtually eliminates woofer response irregularities. Note that the woofer's frequency response with the bridge is nearly identical to its response with no bridge at all.

Crossover

The cutoff frequency for the crossover—that is, where the high frequencies stop going to the midrange driver and start going to the tweeter—is crucial in a two-way speaker. In the 5 -inch and 6-inch two-ways, Kenwood used a 12dB slope, which means the high frequencies are cut off more sharply, which keeps each of the drivers sounding pure, and the overall sound of the speaker flat. Because the 4-inch midrange and its tweeter are much closer in their ability to reproduce highs, Kenwood wisely chose to use a 6dB cutoff for this model. The result is a smooth transition between the tweeter and the driver.

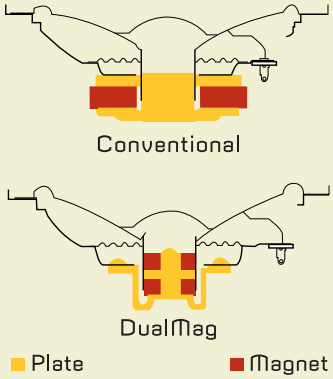
Butyl Rubber Surrounds

Butyl rubber has greater internal loss than standard urethane, preventing harmonic distortion at higher frequencies. It more efficiently absorbs edge reflections that can cause audible distortion, resulting in clearer bass performance.

Flat Edge Diaphragm

Our woofer cones have flat outer edges that stiffen the cone. By reducing flexing, these cones control resonance and reduce midrange distortion.

DualMag vs. Conventional



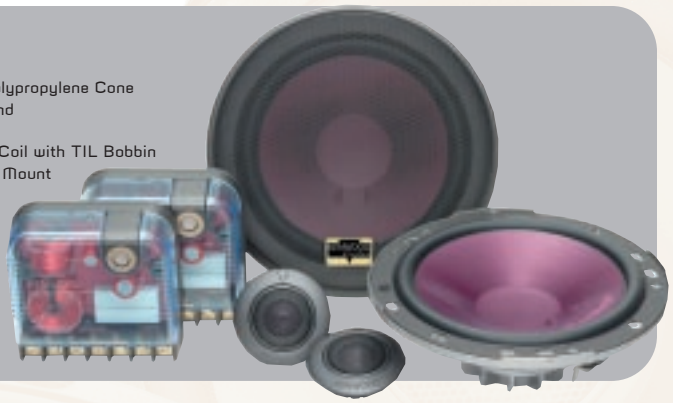
Conventional speakers use heavy iron magnets outside the voice coil; DualMags use much more powerful Neodymium inside the voice coil for light weight and improved performance.

KFC-XR60P
6-½" Woofer & 1" Dome Tweeter Package

KFC-XR50P
5" Woofer & 1" Dome Tweeter Package

Key Features
- DualMags Woofer Technology
- Pearl Mica Injection-Molded Polypropylene Cone
- Butyl Rubber Midrange Surround
- UFLC Soft Dome Tweeter
- 4-Layer Heat-Resistant Voice Coil with TIL Bobbin
- +/- 30 Degree Swivel Tweeter Mount
- 2-Way Component Passive Crossover
- Tweeter Attenuation Crossover Adjustment

DualMags ADVANCED LIGHTWEIGHT SPEAKERS



DualMags ADVANCED LIGHTWEIGHT SPEAKERS

KFC-XR600
6-½" 2-Way Speaker

Key Features
- DualMags Woofer Technology
- Pearl Mica Injection-Molded Polypropylene Woofer Cone
- Butyl Rubber Woofer Surround
- 1" UFLC Soft Dome Tweeter
- New Bridged Tweeter Support
- 4-Layer Heat-Resistant Voice Coil with TIL Bobbin
- Bi-Wire Connections

KFC-XR500
5" 2-Way Speaker

Key Features
- DualMags Woofer Technology
- Pearl Mica Injection-Molded Polypropylene Woofer Cone
- Butyl Rubber Woofer Surround
- 1" UFLC Soft Dome Tweeter
- New Bridged Tweeter Support
- 4-Layer Heat-Resistant Voice Coil with TIL Bobbin
- Bi-Wire Connections

KFC-XR400
4" 2-Way Speaker

Key Features
- DualMags Woofer Technology
- Pearl Mica Injection-Molded Polypropylene Woofer Cone
- Butyl Rubber Woofer Surround
- 13/16" Soft Dome Tweeter
- New Bridged Tweeter Support
- Heat-Resistant Voice Coil with TIL Bobbin
- Bi-Wire Connections

KFC-X576C
5" x 7" 2-Way Speaker

Key Features
- Pearl Mica Injection-Molded Polypropylene Woofer Cone
- Butyl Rubber Woofer Surround
- 1-9/16" PPTA Balanced Dome Tweeter
- +/- 15 Degree Swivel Tweeter Mount

KFC-X466C
4" x 6" 2-Way Speaker

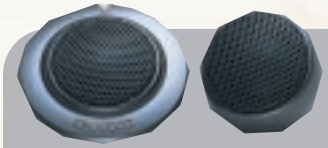
Key Features
- Pearl Mica Injection-Molded Polypropylene Woofer Cone
- Butyl Rubber Woofer Surround
- Heat-Resistant TIL Voice Coil Bobbin
- 1" PPTA Balanced Dome Tweeter

KFC-X716
7"x 10" 3-Way Speaker

Key Features
- Fits Many 6" x 9" Speaker Cutouts
- Pearl Mica Injection-Molded Polypropylene Woofer Cone
- Flat Edge Woofer Diaphragm
- Butyl Rubber Woofer Surround
- 2-3/4" PEI Cone Midrange
- 1" PPTA Balanced Dome Tweeter
- Multiple Component Crossover

KFC-X696
6" x 9" 3-Way Speaker

Key Features
- Pearl Mica Injection-Molded Polypropylene Woofer Cone
- Flat Edge Woofer Diaphragm
- Butyl Rubber Woofer Surround
- 2-3/4" PEI Cone Midrange
- 1" PPTA Balanced Dome Tweeter
- Multiple Component Crossover



KFC-XT13
1" Soft Dome Tweeter

Key Features
- Ultra Lightweight Polyimide Soft Dome
- Heat-Resistant Polyimide Voice Coil Bobbin
- 3-Way Mounting (Surface/Flush/Angle)
- +/-30 Degrees Swivel Mount
- 12dB/Octave In-Line High-Pass Filter

KFC-X166
6" 2-Way Speaker

Key Features
- Pearl Mica Injection-Molded Polypropylene Woofer Cone
- Butyl Rubber Woofer Surround
- Heat-Resistant Voice Coil Bobbin and Polyimide Damper
- 1-9/16" PPTA Balanced Dome Tweeter
- +/- 15 Degree Swivel Tweeter Mount
- Bi-Wire Connections

KFC-X136
5-¼" 2-WaySpeaker

Key Features
- Pearl Mica Injection-Molded Polypropylene Woofer Cone
- Butyl Rubber Woofer Surround
- Heat-Resistant Voice Coil Bobbin and Polyimide Damper
- 1-9/16" PPTA Balanced Dome Tweeter
- +/- 15 Degree Swivel Tweeter Mount
- Bi-Wire Connections

KFC-X106
4" 2-Way Speaker

Key Features
- Pearl Mica Injection-Molded Polypropylene Woofer Cone
- Butyl Rubber Woofer Surround
- Heat-Resistant Voice Coil Bobbin and Polyimide Damper
- 1" PPTA Balanced Dome Tweeter
- +/- 15 Degree Swivel Tweeter Mount
- Bi-Wire Connections

Speaker Features/Specifications

DualMag Speakers

Speaker Features	KFC-XR60P	KFC-XR50P	KFC-XR600	KFC-XR500	KFC-XR400
Woofer	6-1/2" Pearl-Mica Injection-Molded Polypropylene Cone	5" Pearl-Mica Injection-Molded Polypropylene Cone	6" Pearl-Mica Injection-Molded Polypropylene Cone	5" Pearl-Mica Injection-Molded Polypropylene Cone	4" Pearl-Mica Injection-Molded Polypropylene Cone
Tweeter	1" UFLC Soft Dome	1" UFLC Soft Dome	1" UFLC Soft Dome	1" UFLC Soft Dome	13/16" Soft Dome
Magnet Weight	0.82 oz x 2	0.82 oz x 2	0.82 oz x 2	0.82 oz x 2	0.29 oz x 2
Power Handling	180 Watts	160 Watts	180 Watts	160 Watts	100 Watts
Sensitivity	91dB	90dB	92dB	91dB	90dB
Impedance	4 ohms	4 ohms	4 ohms	4 ohms	4 ohms
Frequency Response	35Hz - 30kHz	40Hz - 30kHz	35Hz - 30kHz	40Hz - 30kHz	45Hz - 30kHz
Mounting Depth	1-15/16"	1-7/8"	1-15/16"	1-7/8"	1-5/8"

Round Speakers

Speaker Features	KFC-X166	KFC-X136	KFC-X106
Woofer	6" Pearl-Mica Injection-Molded Polypropylene Cone	5" Pearl-Mica Injection-Molded Polypropylene Cone	4" Pearl-Mica Injection-Molded Polypropylene Cone
Tweeter	1-9/16" PPTA Film Balanced Dome	1-9/16" PPTA Film Balanced Dome	1" PPTA Film Balanced Dome
Magnet Weight	11.9 oz	8.2 oz	6.5 oz
Power Handling	150 Watts	100 Watts	70 Watts
Sensitivity	92dB	91dB	90dB
Impedance	4 ohms	4 ohms	4 ohms
Frequency Response	35Hz - 30kHz	40Hz - 30kHz	45Hz - 30kHz
Mounting Depth	2-5/16"	2-1/4"	1-5/8"

Oval Speakers

Speaker Features	KFC-X716	KFC-X696	KFC-X576C	KFC-X466C
Woofer	7" x 10" Pearl-Mica Injection-Molded Polypropylene Cone	6" x 9" Pearl-Mica Injection-Molded Polypropylene Cone	5" x 7" Pearl-Mica Injection-Molded Polypropylene Cone	4" x 6" Pearl-Mica Injection-Molded Polypropylene Cone
Midrange	2-3/4" PEI Cone	2-3/4" PEI Cone		
Tweeter	1" PPTA Film Balanced Dome	1" PPTA Film Balanced Dome	1-9/16" PPTA Film Balanced Dome	1" PPTA Film Balanced Dome
Magnet Weight	18 oz	18 oz	8.3 oz	5.6 oz
Power Handling	280 Watts	260 Watts	120 Watts	60 Watts
Sensitivity	93dB	93dB	92dB	90dB
Impedance	4 ohms	4 ohms	4 ohms	4 ohms
Frequency Response	25Hz - 30kHz	25Hz - 27kHz	35Hz - 30kHz	40Hz - 30kHz
Mounting Depth	3-1/4"	3-1/4"	2-1/16"	1-3/4"

Tweeters

Tweeter Features	KFC-XT13
Tweeter	1" Soft Dome
Magnet Weight	0.21 oz
Power Handling	150 Watts
Sensitivity	90dB
Impedance	4 ohms
Frequency Response	4kHz - 26kHz
Mounting Depth	3/4"

Head Units

TECHNOLOGY

MASK

MASK is the world's only self-hiding, revolving faceplate. Switching off the car's ignition activates twin motorized gear trains driven by a solid metal shaft which turn the faceplate over to show a blank face. During use, the faceplate revolves 90° to give access to the CD or cassette opening. Because the opening is behind the faceplate, MASK units feature more room for a larger display. The face can be angled at 0, 7, or 15 degrees for a perfect view.

In addition to automatically hiding itself when the ignition is turned off, MASK opens 90 degrees, revealing the CD or cassette loading slot. MASK can also be angled to give the driver a better view, and the Black MASK feature lets you shut off the display's secondary information, giving a clean, cool look.

Flip-Down Removable Faceplate

The flip-down removable faceplate features a larger display because the cassette or CD slot is behind the faceplate. Pushing a button lowers the faceplate; after inserting a cassette or CD it can be flipped up to return it to its normal position. The faceplate is easily removed by sliding it left or right off the unit.

New Fluorescent Displays

Many of our head units now feature a bright multi-color fluorescent display, active graphics, and a 10 step brightness adjustment.

White LED Display

Other white displays use phosphor sheets that can fade, becoming unreadable in as little as three years. Ours use phosphor-coated LEDs—they're brighter, easier to read from different angles, and last up to twenty-five times longer. They also feature a 10 step contrast adjustment and 2-step dimmer.

Menu System

Accessing all the features on our head units is easy, thanks to a simple menu system. Hold down the AUDIO button for a few seconds and the menu will appear offering adjustments and options for everything from System E's+ frequency cutoff levels to display options.

44 Watts of Power

Kenwood's top head units now produce 44 watts of maximum power per channel through four channels. The full bandwidth rating, which is performance at less than 1% total harmonic distortion (THD), is 22 watts per channel.

High-Voltage Pre-outs

When a head unit produces more voltage, it produces a higher sound level above a system's noise floor (the electrical noise and RF interference that exists in any system.) In practice, this means much cleaner sound overall. Several Kenwood models offer 4-volt preouts—double the typical 2-volt output.

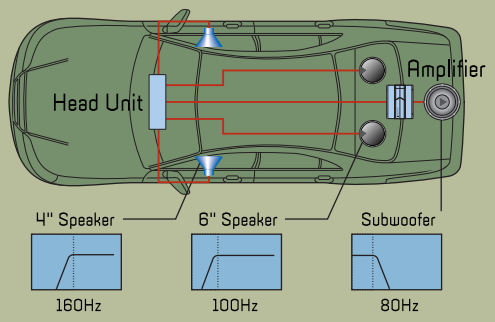
Grip Remote

All Kenwood Excelon head units now come with a "Grip" remote

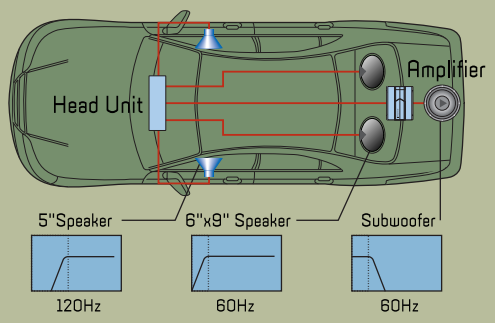
System E's+

This built-in crossover will improve the sound and power of any system. System E's+ has eight selectable high-pass cut-off frequencies: 40, 60, 80, 100, 120, 150, 180, 220 Hz, at a 12db-per-octave slope. You can apply it to the front and rear speaker leads and preouts independently, so you can pick the right high-pass filter for any size speakers. System E's+ lets you cut out the bass to smaller speakers, allowing the whole system to play almost twice as loud without distortion. Its selectable low-pass filter (50, 80, or 120Hz at a 12dB per octave slope), lets you cut the highs to large speakers so they won't sound muddy. The Source Tone Memory feature means you can set a different balance between the subwoofer and the rest of the system for each of your sources. When you switch to a source—your CD player for example—System E's+ switches to the level you set before. You can even switch the phase for the non-fade preout if necessary to make sure the sound from your subs is in phase with the sound from the rest of your system.

System Plan 1



System Plan 2

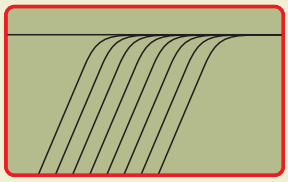


that fits comfortably in your hand, with a groove in back for your index finger and the buttons placed for easy operation.

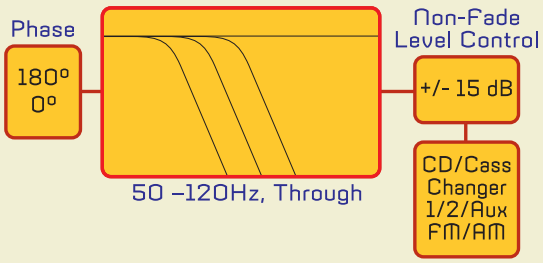
DRIVE Distortion Reduction Filter

As clean as CD sound is, it still contains digital distortion introduced by the digital mastering process itself which represents smooth analog sound waves as square stair-steps. Our patented DRIVE circuitry actually restores the natural waveshape, virtually eliminating this distortion, and giving music a more realistic, alive sound.

Front/Rear High Pass Filter



Non-Fade Low Pass Filter



High Pass Filter Frequencies: Through, 40, 60, 80, 100, 120, 150, 180, 220Hz
Low Pass Filter Frequencies: Through, 50, 80, 120Hz

System E's+'s sophisticated control lets you select different high-pass filter cutoff frequencies (from the 8 available) for front and rear preouts and speaker outputs. Activate Non-Fade for the rear preout, and you can select a low-pass filter. The non-fading level control even remembers different settings for each source.

DOSC (Digital Optimum Servo Control)

Kenwood CD players use DOSC, a technology that can actually read through dirty and scratched CDs and can also automatically adjust to the differences in reflection rates between different CDs (the reason one CD might play fine in one CD player and skip in another.) DOSC can adjust both laser gain and balance in 256 steps, thousands of times a second, enabling it to read even the most difficult discs.

CD Receivers

KDC-X911
CD Tuner

Key Features

- MASK Self-Hiding Revolving Faceplate
- System E's+ Advanced Crossover System
- PowerSlide/B.M.S. Interface
- DRIVE Distortion Reduction Circuitry
- 8V (Balanced), 4V (Unbalanced) Preamp Output
- Front, Rear and Non-Fading Preouts
- Multi-Color LCD Display with Fluorescent Backlight and Dot Matrix Readout
- Dual-Zone Audio Control
- Grip-Type Full-Function 10-Key Remote
- RDS

KDC-X811
CD Receiver

Key Features

- MASK Self-Hiding Revolving Faceplate
- System E's+ Advanced Crossover System
- PowerSlide/B.M.S. Interface
- DRIVE Distortion Reduction Circuitry
- 4V Preamp Output
- Front, Rear and Non-Fading Preouts
- Multi-Color LCD Display with Fluorescent Backlight and Dot Matrix Readout
- Dual-Zone Audio Control
- Grip-Type Full-Function Remote
- RDS
- Maximum Output Power: 44 Watts x 4
- Full-Bandwidth Power: 22 Watts x 4

KDC-X711
CD Receiver

Key Features

- MASK Self-Hiding Revolving Faceplate
- System E's+ Advanced Crossover System
- PowerSlide/B.M.S. Interface
- DRIVE Distortion Reduction Circuitry
- 4V Preamp Output
- Front and Rear Preouts
- Multi-Color LCD Display with White LED Backlight and Dot Matrix Readout
- Dual-Zone Audio Control
- Grip-Type Full-Function Remote
- RDS
- Maximum Output Power: 44 Watts x 4
- Full-Bandwidth Power: 22 Watts x 4

CD Changer

KDC-CX82
10-Disc CD Changer

Key Features

- Compatible with All Kenwood Units with Changer Control (except P907)
- DRIVE Distortion Reduction Circuitry
- 20-Bit Resolution Integrated Quad D/A Converter and Digital Filter
- Digital Optimum Servo Control and Precision Digital Timing
- Disc Naming (100 Discs)
- CD Text
- Allows Control of Additional Changer or Auxiliary Input
- Ebony Finish

Cassette Receivers

KRC-X957
Cassette Receiver

Key Features

- MASK Self-Hiding Revolving Faceplate
- System E's+ Advanced Crossover System
- PowerSlide/B.M.S. Interface
- 4V Preamp Output (in CD Changer Mode)
- Front and Rear Preouts
- Dolby® B Noise Reduction
- Multi-Color LCD Display with White LED Backlight and Dot Matrix Readout
- Dual-Zone Audio Control
- Grip-Type Full-Function Remote
- RDS
- Maximum Output Power: 44 Watts x 4
- Full-Bandwidth Power: 22 Watts x 4

KRC-X657
Cassette Receiver

Key Features

- Flip-Down Removable Faceplate
- System E's Crossover System
- Front and Rear Preouts
- Dolby® B Noise Reduction
- Multi-Color LCD Display with White LED Backlight and Dot Matrix Readout
- Grip-Type Full-Function Remote
- RDS
- Maximum Output Power: 44 Watts x 4
- Full-Bandwidth Power: 22 Watts x 4

MD Receiver

KMD-X91
MD Receiver

Key Features

- MASK Self-Hiding Revolving Faceplate
- System E's+ Advanced Crossover System
- PowerSlide/B.M.S. Interface
- DRIVE Distortion Reduction Circuitry and 10-Second Digital Anti-Skip
- 4V Preamp Output
- Front, Rear and Non-Fading Preouts
- Multi-Color LCD Display with Fluorescent Backlight and Dot Matrix Readout
- Dual-Zone Audio Control
- Grip-Type Full-Function Remote
- RDS
- Maximum Output Power: 44 Watts x 4
- Full-Bandwidth Power: 22 Watts x 4

MD Changer

KMD-D400
MD Changer

Key Features

- 3 Disc Capacity in Changer, + 1 Disc in Player
- Compatible with All Kenwood Units with Changer Control (except P907)
- DIN-Size In-Dash Mounting
- Flip-Down Removable Faceplate
- 24-Bit Resolution
- 10 Second Digital Anti-Skip
- Multi-Color LED Display with White LED Backlight
- 11-Band Spectrum Analyzer Display

Not a Kenwood Excelon Model

Mobile Video

TECHNOLOGY

P907: Flip-Up Video Monitor and CD Player—In the Space of a Radio

At first glance, the Kenwood Excelon Mobile Monitor/CD Player appears to be a normal in-dash CD player, with convenient CD controls along the unit's bottom. Push a button, though, and a high-definition screen slides smoothly out. Flip it up, tilt it to the left or right for a perfect viewing angle, and enjoy virtually any video source: TV, from its built-in tuner, or an optional VCR, DVD player, or game system. Or use the complete set of CD controls, including advanced features such as disc and track naming. When you're done, flip the screen down, and it automatically retracts.

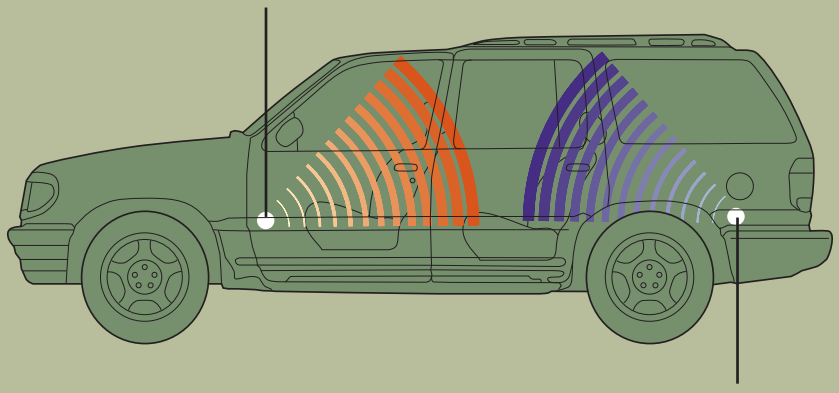
LZ-700W: Large, High-Rez Screen... and Touch-Panel Controls, Too

Our 7" diagonal, 16:9 format LCD screen is one of the largest and highest resolution screens available for in-vehicle use. It can show widescreen format movies across the entire screen, and allows you to choose from normal, full, and zoom viewing modes. The screen itself is also a touchscreen, with complete video source switching controls.

Graphic User Interface

Dual Zone

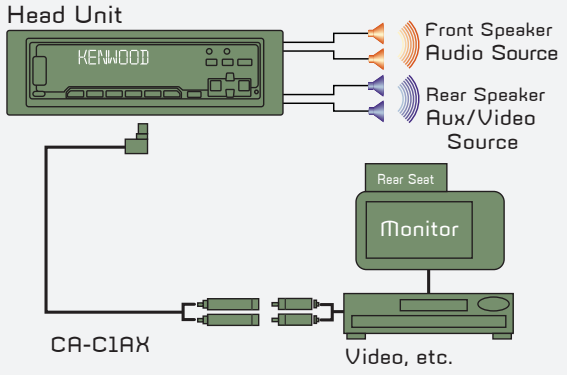
Front Speaker: Audio Source



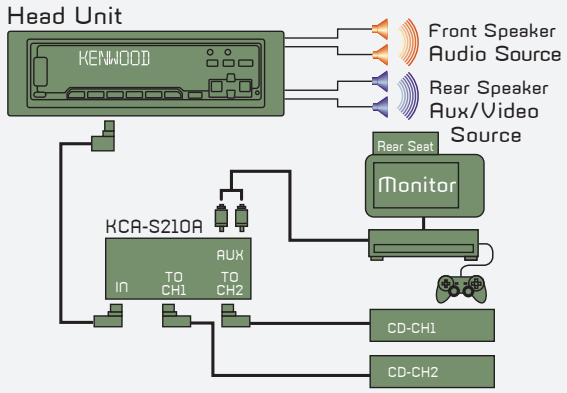
Rear Speaker: Aux Source

The new Dual Zone feature allows separate audio sources to play in the front and rear of a vehicle, and is excellent for mobile video. An additional audio source, such as the audio output of a video unit, can be connected to the head unit's auxiliary input and played through the rear speaker outputs or preouts—perfect for entertaining passengers in the back with a movie while the driver and front passenger listens to music.

System 1



System 2



LZ-700W
Widescreen Mobile Television

TOUCH SCREEN CONTROL

Key Features
- 7" Wide LCD Screen
- Widescreen (16:9) Aspect Ratio
- High Resolution (336,960 Pixels)
- Selectable Screen Viewing Modes
- Optical Touch Screen Control
- Built-In TV Tuner
- 2 Audio/Video Inputs

P907
In-Dash Mobile Monitor/CD Player with TV Tuner

TOUCH SCREEN GUI CONTROL

Key Features
- **Touch Screen GUI Control**
- DIN-Size In Dash Mounting
- 5.8" Wide Retractable LCD Screen
- Widescreen (16:9) Aspect Ratio
- Adjustable Video Screen Viewing Angle
- Selectable Screen Viewing Modes
- Built-In TV Tuner
- Built-In Single Disc CD Player with Changer Control
- System E's Crossover System
- 4V Preamp Output
- Front and Rear Preamp Outputs
- Grip-Type Full-Function Remote
- RDS

C907
10-Disc CD Changer

Key Features
- For Use with P907 In-Dash Mobile Television System
- DRIVE Distortion Reduction Circuitry
- 20-Bit Resolution Integrated Quad D/A Converter and Digital Filter
- 0-Bit Mute
- Digital Optimum Servo Control and Precision Digital Timing
- Disc Naming (100 Discs)
- CD Text
- MZ-Bus Control

Accessories

CA-C1AX
Aux Input Adapter

CA-6011CR
Black Chrome Color Faceplate for KRC-X657

CA-6011FC
Carbon Color Faceplate for KRC-X657

CA-6011FW
Wood Color Faceplate for KRC-X657

KCA-S210A
2 changer plus Aux Input Switcher

KCA-RC700
Steering Wheel Remote Control

KCA-RC600
Grip-Type 10-Key Remote Control

KCA-RC800AV
Pre-Programmed/Learning Audio/Video Remote Control

KCA-R6A
Card-Style 10-Key Remote Control

KCA-R51FP
Add on CD Changer Controller with FM Modulator

KBA-700
Balanced Transmission Converter

KBC-600
Balanced RCA Cable

TDF-97R
Replacement Faceplate for KRC-X657

Specifications

Power Amplifiers

Power Ratings	KAC-X501F	KAC-X401M	KAC-X301T	KAC-X201T
Power Output at 4 Ohms, at 12V (20Hz-20kHz, 0.05% THD)	50 Watts x 4	200 Watts x 1	75 Watts x 2	50 Watts x 2
Power Output at 2 Ohms, at 12V (1kHz, 0.5% THD)	100 Watts x 4	400 Watts x 1	150 Watts x 2	100 Watts x 2
Bridged Power Output at 12V (1kHz, 0.5% THD)	200 Watts x 2		300 Watts x 1	200 Watts x 1
Power Output at 4 Ohms, at 14.4V (20Hz-20kHz, 0.05% THD)	75 Watts x 4	300 Watts x 1	100 Watts x 2	75 Watts x 2
Power Output at 2 Ohms, at 14.4V (1kHz, 0.5% THD)	150 Watts x 4	600 Watts x 1	200 Watts x 2	150 Watts x 2
Bridged Power Output at 14.4V (1kHz, 0.5% THD)	300 Watts x 2		400 Watts x 1	300 Watts x 1
Maximum Output Power	600 Watts x 2	1200 Watts x 1	800 Watts x 1	600 Watts x 1
Power Supply Features				
Power Slide	Automatic and Manual Activation	Automatic and Manual Activation	Automatic and Manual Activation	Automatic and Manual Activation
Power MOSFET Switching Power Supply	•	•	•	•
Dual Power Supply	•			•
Copper-Shielded EE Core Transformer	2	2	2	•
Large Secondary Capacitors	•	•	•	•
Large Toroidal Noise Suppression Filter	•	•	•	•
Glass Epoxy Printed Circuit Board	•	•	•	•
Brushless Cooling Fan	Top-Mounted + 2	Top-Mounted	Top-Mounted + 2	Top-Mounted
Power Input Terminals	Gold-Plated, Large Screw-Type	Gold-Plated, Large Screw-Type	Gold-Plated, Large Screw-Type	Gold-Plated, Large Screw-Type
Audio Features				
Sigma Servo		•		
Sigma Drive	•		•	•
LAPT Audio Transistors	•	•		
Balanced Isolation Circuit	•	•	•	•
Glass Epoxy Printed Circuit Board	•	•	•	•
Stereo, Mono, or Tri-Mode Operation	•		•	•
Input Selector	AB/A (Independent)			
Variable High-Pass Electronic Crossover	50Hz - 200Hz, 12dB per Octave		50Hz - 200Hz, 12dB per Octave	50Hz - 200Hz, 12dB per Octave
Variable Low-Pass Electronic Crossover	50 - 200Hz, 24dB per Octave	50 - 200Hz, 24dB per Octave	50 - 200Hz, 18dB per Octave	50 - 200Hz, 18dB per Octave
Selectable Infrasonic Filter	Off/15/25Hz, 24dB per Octave	Off/15/20/25/30Hz, 24dB per Octave	Off/25Hz, 18dB per Octave	Off/25Hz, 18dB per Octave
Band-Reject Filter		40-200Hz		
B.M.S. (Bass Management System)	B Channels	•	•	•
Speaker Connectors	Gold-Plated, Screw-Type	Gold-Plated, Large Screw-Type	Gold-Plated, Screw-Type	Gold-Plated, Screw-Type
Sigma Servo Terminals		•		
Audio Specifications				
Frequency Response (+0, -3dB)	5Hz - 50kHz	5Hz - 50kHz	5Hz - 50kHz	5Hz - 50kHz
Signal-to-Noise Ratio	110dB	105dB	105dB	105dB
Input Sensitivity (Rated Output)	0.2 - 5V	0.2 - 5V	0.2 - 5V	0.2 - 5V
Input Impedance	10k ohms	10k ohms	10k ohms	10k ohms
Damping Factor	200	9900 (at Sigma Connection)	200	200
Dimensions (D x W x H)	10-11/16" x 2-1/2" x 14-15/16"	10-11/16" x 2-1/2" x 14-15/16"	10-11/16" x 2-1/2" x 11-13/16"	10-11/16" x 2-1/2" x 10-5/8"

Specifications

Woofers

Woofer Features	KFC-XW12DB	KFC-XW10DB
Woofer	12" PBO Advanced Fiber Cone	10" PBO Advanced Fiber Cone
One-Piece Rubber Surround and Gasket	•	•
3-D Injection-Molded Dust Cap	•	•
Voice Coil	2-1/2" Kapton and Glass Fiber	2" Kapton and Glass Fiber
Heat-Resistant Conex Damper	w/ Advanced Feed Construction	w/ Advanced Feed Construction
Strontium Ferrite Magnet	•	•
Frame	1.2mm-thick Steel	1.2mm-thick Steel
Extended Pole Piece	Extra-Long, Spiral-Vented	Extra-Long, Spiral-Vented
Speaker Connectors	Gold-Plated, 2-Way SB	Gold-Plated, 2-Way SB
Magnet Weight	52.9 oz	42.3 oz
Power Handling	1,000 Watts	800 Watts
Sensitivity	93dB	92 dB
Impedance	4 ohms	4 ohms
Frequency Response	23Hz - 600Hz	25Hz - 600Hz
Mounting Depth	6-1/8"	5-1/2"
Displacement	0.15 cu. Ft.	0.085 cu. Ft.

Thiele-Small Parameters		
Nominal Impedance (Z)	4 ohms	4 ohms
DC Resistance (Re)	2.8 ohms	2.78 ohms
Resonant Frequency (Fs)	19.3Hz	24.4Hz
Mechanical Q Factor (Qms)	11.3406	6.446
Electrical Q Factor (Qes)	0.4	0.462
Total Q Factor (Qts)	0.386	0.431
Volume Acoustic Compliance (VAS)	6.996 cu. ft. / 198 liters	2.792 cu. ft. / 79 liters
Moving Mass (Mms)	3.3 oz.	2.618 oz.
Voice Coil Diameter (d)	2-3/8"	1-7/8"
Force Factor (Bl)	9.94 Tm	9.23 Tm
Peak Excursion (Xmax)	0.354"	0.472"

CD and MD Receivers

Power Ratings	KDC-X911	KDC-X811	KDC-X711	KMD-X91
Maximum Output Power		44 Watts x 4	44 Watts x 4	44 Watts x 4
Full Bandwidth Power (less than 1% THD)		22 Watts x 4	22 Watts x 4	22 Watts x 4

General Features				
MASK Self-Hiding Revolving Faceplate with Viewing Angle Adjustment and Switchable Black MASK	•	•	•	•
System E's Plus Advanced Crossover System	•	•	•	•
Selectable Balanced/Unbalanced Output	•			
High Voltage Preamp Output	8V Balanced, 4V Unbalanced	4V	4V	4V
Front, Rear, and Non-Fading Gold-Plated RCA Preouts	•	•		•
Independent Non-Fading Level Control	•	•	•	•
Front and Rear Gold-Plated RCA Preouts			•	
Selectable Rear/Non-Fading Preout			with ± Level Control	
Low Output Impedance (80 Ohms)	•	•	•	•
Electronic Audio Control (Volume, Balance, Fader, Bass, Treble)	•	•	•	•
Source Tone Memory	including Non-Fading Level	including Non-Fading Level	including Non-Fading Level	including Non-Fading Level
Programmable Security Code System	•	•	•	•
Ebony Faceplate	•	•	•	•
LCD Display	Multi-Color, with Fluorescent Backlight	Multi-Color, with Fluorescent Backlight	Multi-Color, with White LED Backlight	Multi-Color, with Fluorescent Backlight
Dot Matrix Readout with Graphics Display	13 Character with Graphics Display	13 Character with Graphics Display	12 Character with Graphics Display	13 Character with Graphics Display
Spectrum Analyzer Display	•	•		•
2-Zone Audio Control	with Adapter	with Adapter	with Adapter	with Adapter
External Amplifier Control	with Compatible Amplifier	with Compatible Amplifier	with Compatible Amplifier	with Compatible Amplifier
Full-Function 10-Key Remote	Grip-Type			
Full-Function Remote		Grip-Type	Grip-Type	Grip-Type
Changer Control Type (see table on Page 21 for features)	Type 3	Type 3	Type 3	Type 3
Tuner Type (see table on Page 21 for features)	CR-2	CR-2	CR-2	CR-2

Compact Disc Features				
All Features	See Table on Page 21	See Table on Page 21	See Table on Page 21	

Mini Disc Features				
Digital Anti-Skip				10 Seconds
Digital to Analog Converter				Integrated Quad 1-bit
Digital Filter				8-Times Oversampling
Digital Optimum Servo Control				•
Precision Digital Timing				•
Title Display				•
Dimensions (D x W x H)	7-3/16" x 2-1/16" x 6-3/8"	7-3/16" x 2-1/16" x 6-3/8"	7-3/16" x 2-1/16" x 6-3/8"	7-3/16" x 2-1/16" x 6-3/8"

Specifications

CD Changers

Compact Disc Features	KDC-CX82	C907
All Features	See Table on Page 21	See Table on Page 21

General Features		
Disc Capacity	10 Discs	10 Discs
Compatible with All Kenwood Units with Changer Control	•	
For Use With P907 In-Dash Mobile Television System		•
Allows Control of Additional Changer or Auxiliary Input for LZ-700W Mobile Television	•	
MZ-Bus Control		•
Ebony Finish	•	
Dimensions (W x H x D)	9-13/16" x 3-1/8" x 7-15/16"	9-13/16" x 3-1/8" x 7-15/16"

In-Dash MD Changer

General Features	KMD-D400
Disc Capacity	3 Disc Changer + 1 Disc Player
Compatible with All Kenwood Units with Changer Control	• (Not for P907)
DIN-Size In-Dash Mounting	•
For Use in Double-DIN Dashboard Opening with Cassette/Receiver/Controller	•
Flip-Down Removable Faceplate with Carrying Case	•
Disabled System Indicator	•
LCD Display	Multi-Color, with White LED Backlight
Spectrum Analyzer display	11-Band

Mini Disc Features	
Digital Anti-Skip	10 Seconds
Digital-to-Analog Converter	24-Bit Resolution Integrated Quad
Digital Filter	24-Bit Resolution
Precision Digital Timing	•
Kenwood Mini Disc Transport Mechanism	•
Title Display	Track, Disc
Dimensions (W x H x D)	7-1/16" x 1-15/16" x 6-1/16"

Cassette Receivers

Power Ratings	KRC-X957	KRC-X657
Maximum Output Power	44 Watts x 4	44 Watts x 4
Full Bandwidth Power (less than 1% THD)	22 Watts x 4	22 Watts x 4

General Features		
MASK Self-Hiding Revolving Faceplate with Viewing Angle Adjustment and Switchable Backlight	•	
Flip-Down Removable Faceplate with Carrying Case		•
System E's Plus Advanced Crossover System	•	
System E's Crossover System		•
High Voltage Preamp Output	4V in CD Changer Mode	
Front and Rear RCA Preouts	Gold-Plated	Gold-Plated
Selectable Rear/Non-Fading Preout	with ± Level Control	
Selectable Front/Non-Fading Preout		with ± Level Control
Low Output Impedance (80 Ohms)	•	
Electronic Audio Control (Volume, Balance, Fader, Bass, Treble)	•	•
Source Tone Memory	including Non-Fading Level	•
Programmable Security Code System	•	
Disabled System Indicator		•
Ebony Faceplate	•	•
LCD Display	Multi-Color, with White LED Backlight	Multi-Color, with White LED Backlight
Dot Matrix Readout	12 Character	8 Character
2-Zone Audio Control	with Adapter	
External Amplifier Control	with Compatible Amplifier	
Full-Function Remote	Grip-Type	Grip-Type
Changer Control Type (see table on Page 21 for features)	Type 3	Type 3
Tuner Type (see table on Page 21 for features)	CR-2	CR-2

Cassette Features		
Cassette Mechanism Type (see table on Page 21 for features)	Type 1	Type 2
Dimensions (W x H x D)	7-3/16" x 2-1/16" x 6-5/16"	7-3/16" x 2-1/16" x 6-1/8"

Specifications

Performance Specifications: CD/MD Head Units and Changers

CD Specifications	All CD Head Units	KDC-CX82/ C907	KMD-X91	KMD-D400
Frequency Response	10Hz - 20kHz (±1dB)	5Hz - 20kHz (±1dB)	20Hz - 20kHz (±2dB)	5Hz - 20kHz (±1dB)
Total Harmonic Distortion	0.01% (1kHz)	0.005% (1kHz)	0.01% (1kHz)	0.005% (1kHz)
Signal-to-Noise Ratio	105dB (1kHz)	100dB (1kHz)	90dB (1kHz)	100dB (1kHz)
Dynamic Range	100dB	96dB	90dB	96dB
Channel Separation	85dB	96dB	85dB	90dB

Performance Specifications: Cassette Head Units

Cassette Specifications	KRC-X957	KRC-X657
Frequency Response	30Hz - 20kHz (70µs, ±3dB)	30Hz - 18kHz (70µs, ±3dB)
Wow & Flutter (WRMS)	0.08%	0.08%
Signal-to-Noise Ratio	65dB (Dolby B), 57dB (Dolby Off)	65dB (Dolby B), 57dB (Dolby Off)
Channel Separation	43dB (1kHz)	43dB (1kHz)

Audio Specifications: Cassette Head Units

Audio Specifications	KRC-X957	KRC-X657
Preamp Output Level (in CD Changer Mode)	4V	1.8V
Preamp Output Impedance	≤80 ohms	≤600 ohms
Tone Control Characteristics	±10dB at 100Hz (Bass) ±10dB at 10kHz (Treble)	±10dB at 100Hz (Bass) ±10dB at 10kHz (Treble)

Audio Specifications: CD Head Units

Audio Specifications	KDC-X911	KDC-X811/KDC-X711
Preamp Output Level	8V (Balanced) 4V (Unbalanced)	4V
Preamp Output Impedance	≤80 ohms	≤80 ohms
Tone Control Characteristics	±10dB at 100Hz (Bass) ±10dB at 10kHz (Treble)	±10dB at 100Hz (Bass) ±10dB at 10kHz (Treble)

Compact Disc Features	
Digital to Analog Converter	20-Bit Resolution Integrated Quad 1-Bit
Digital Filter	20-Bit Resolution 8-Times Oversampling
DRIVE Distortion Reduction Circuitry	•
0-Bit Mute	•
Digital Optimum Servo Control	•
Precision Digital Timing (DPAC)	•
CD Text	•
Disc Naming	30 Discs
Disc Name Preset Play	•
Direct Track Access (with Remote)	•

Cassette Features	Type 1	Type 2
Full-Logic Auto-Reverse Transport	•	•
Double-Guttered Tape Head	4-Channel	•
Dolby® Noise Reduction	B	B
Metal Tape Selector	•	•
Direct Program Search System (DPSS)	•	
Tape Advance		•
Repeat	Track	Track
Blank Skip	•	•
Tape Counter	•	

Type 3 Changer Control Features	
Changer Control	2 (with KCA-5210A or Compatible Changer)
CD Text	•
Disc Naming	up to 100 Discs (Depending on Changer)
Disc Name Preset Play	•
Direct Disc and Track Access	with Remote
Search	Track, Disc
Random Play	Disc, Magazine
Repeat Play	Track, Disc
Intro Scan	Track, Disc

CR-2 Tuner Features	
High-Speed Multipath Control (CRSC) with ANRC	•
Radio Data System (RDS)	•
Station Naming	24 Stations
Station Name Preset Play	with Remote
Station Presets	24 (18 FM, 6 AM)
Preset Seek Tuning	•
Automatic Memory Entry	•
Tuner Mode Antenna Control	•
DAB Tuner Control	•

CR-2 Tuner Specifications	
FM Useable Sensitivity (0.8µV/75 ohms, 30dB S/N)	9.3dBf
FM Quieting Sensitivity (1.6µV/75 ohms, 50dB S/N)	15.2dBf
FM Selectivity (±400kHz)	≥80dB
FM Signal-to-Noise Ratio (Mono)	70dB
FM Stereo Separation (1kHz)	40dB
AM Useable Sensitivity (25µV, 20dB S/N)	28dBµ

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