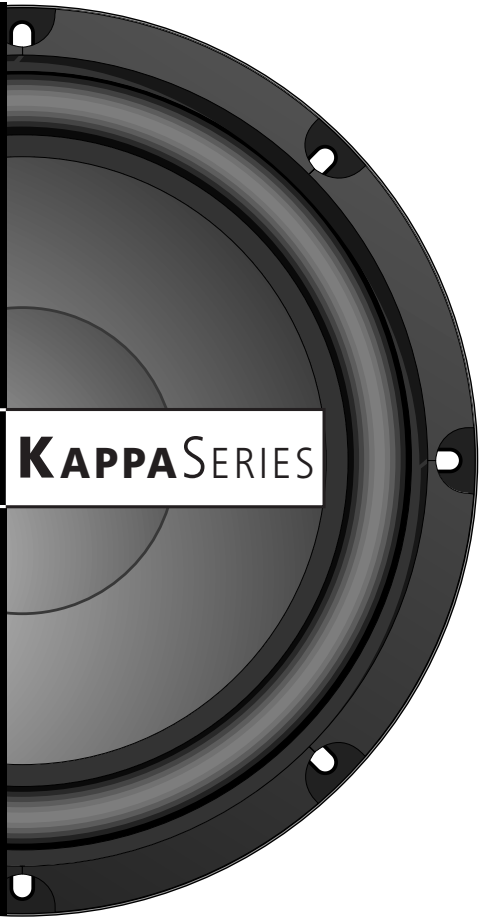
80.1w, 100.1se, 100.1dvc, 120.1se, 120.1dvc

INSTRUCTIONS



Infinity

KAPPA SERIES

Thank you for choosing an Infinity Kappa Series subwoofer. Kappa Series subwoofers are designed to suit a broad range of mobile-audio applications and can be used in a wide variety of enclosure types to produce extended, powerful bass in a limited amount of vehicle space. To ensure maximum subwoofer performance, we strongly recommend that installation be left to a qualified professional. Although these instructions explain how to install a Kappa Series subwoofer in a general sense, they do not show box-construction details and exact installation methods for your particular vehicle. If you do not feel you have experience, do not attempt the installation yourself, but instead ask your authorized Infinity dealer about professional installation options.

Remember to keep your sales receipt with this manual in a safe place so both are available for future reference.

WARNING: Playing loud music in an automotive environment can permanently damage your hearing, as well as hinder your ability to hear traffic. The maximum volume levels achievable with Infinity speakers, combined with high power amplification, may exceed safe levels for extended listening. We recommend using low volume levels when driving. Infinity accepts no liability for hearing loss, bodily injury, or property damage as a result of use or misuse of this product.

A Few Words About Enclosures

Your Kappa Series subwoofer requires an enclosure to realize its full low-frequency response. The speaker's design is flexible enough to produce exceptional results whether you specify a small sealed, vented or bandpass enclosure. In vented and bandpass enclosures, box size and port-tuning frequency will also help dictate the low-frequency performance and output capability of your system.

Your Kappa Series subwoofer will also work in infinite-baffle applications where there is no space or budget to build a box. Be aware that infinite-baffle or "free-air" mounting will reduce the power handling of any subwoofer compared to an application using an enclosure.

Finally, any deviation from recommended enclosure volumes or port dimensions should be made using dedicated enclosure-design software. If this type of software is not available to you, ask your authorized Infinity dealer for help.

Your Car and Bass Reproduction

Depending on the size of the vehicle's interior listening space, reproduced bass frequencies below 80Hz are boosted by nearly 12dB per octave in the car as frequency decreases. NOTE: This effect, known as the vehicle's transfer function, plays an important part in shaping the overall in-car response and is displayed graphically along with freespace response on the enclosed data sheet for your Kappa subwoofer.

Enclosure Calculations and Building Boxes

Use the recommended box designs on the enclosed data sheet. Choose cabinet dimensions to fit your vehicle, but do not change the enclosure's volume. Doing so will change the tuning frequency of the enclosure and may adversely affect final performance. If you cannot perform the necessary calculations yourself, please contact your authorized Infinity dealer for help.

In addition, there are a number of points you'll want to keep in mind as you construct an enclosure:

1. Use 3/4" (19 mm) MDF (medium-density fiberboard) or marine birch wood to build an enclosure. Enclosures for 12" and larger subwoofers, or small subwoofers driven by high-power amplifiers, should be constructed using 1" (26mm) material.
2. Seal all joints with glue and screws; do not use nails. We recommend "deck," "zip" or drywall screws since they have coarse threads for better grip and don't require pre-drilling holes. Once the box has been tested, seal all interior joints with silicone caulk.
3. Depending on the application, fill the enclosure according to the design you have chosen from the enclosed data sheet in one of three ways: zero-percent fill (i.e., no fill), 50-percent fill (i.e., 1"-thick polyfill sheets on all inside walls except where subwoofer is mounted), or 100-percent fill (i.e., entire box is stuffed with loosely packed polyester fiberfill).
4. Use PVC or ABS pipe for ports. Keep in mind that the openings at either end of the port must be at least one port diameter away from any obstructions, including filling material inside the box. Rectangular vents can be used as long as the cross-section surface area matches the recommended port-area values in the enclosed data sheet.
5. When using vented boxes, we recommend using a subsonic filter (like the DBO feature found on Kappa Series power amplifiers) to limit the power sent to the speaker at frequencies below the enclosure's port-tuning frequency, thus limiting the speaker's excursion.

Power-Handling Limitations

The power-handling capability of any woofer is related to both its ability to dissipate heat and the maximum excursion limits of its cone. Once the speaker's voice coil moves outside the magnetic gap, power can no longer be converted into motion and all the amplifier's power is converted into heat in the voice coil. This voice-coil heating is the largest detriment to speaker longevity, so overexcursion should be avoided. Since speaker-cone excursion is different for each type of enclosure, power handling is different for each enclosure.

Sealed enclosures exert the most control over the motion of a subwoofer because the air inside the box acts like a spring against the motion of the woofer cone. Larger boxes allow for more excursion, thus providing more low-frequency output for the amount of power used. When placed in a sealed box larger than the Vas of the subwoofer, it will perform as if it were in an infinite-baffle installation.

Vented and bandpass enclosures have the lowest amount of excursion for the amount of sound output. This is a result of port output reinforcing the sound output from the woofer. The mass of the air contained in the port provides an acoustic load on the woofer's cone at the tuning frequency, and this added mass decreases woofer-cone excursion. Vented boxes do not provide adequate woofer control when driven below the port-tuning range, so proper design is important. A vented bandpass box will have the lowest overall cone excursion provided a subsonic filter is used.

- Voice-coil overheating and burning due to overexcursion are often caused by overdriving an amplifier into "clipping." A severely clipped signal, or squarewave, contains nearly twice the power of a clean sine wave at the same level. Bass that sounds broken up and distorted at higher volumes is usually indicative of an amplifier that is clipping and being asked to deliver power beyond its rated power.
- Infinite-baffle or "free-air" mounting applications allow for greater cone excursion than subwoofers mounted in an enclosure. In order to compensate, recognize that the power-rating value of the subwoofer will likely be half its rated power in this application.
- Study the excursion curves on the enclosed Kappa Series data sheet and note the differences for different enclosure applications. The type and size of box used will produce different excursion demands on the enclosed subwoofer and, consequently, different levels of power handling. As long as recommended parameters are used, the subwoofer will perform properly in its enclosed environment. However, any design deviation may result in less than optimum performance, and may also subject the subwoofer to overexcursion (i.e., where the voice coil leaves the gap) that can eventually damage the speaker. For additional help with this issue, please contact your authorized Infinity dealer.

Specifications

Kappa 80.1w

Configuration:	8" woofer
Nominal Impedance:	4 ohms
Power Handling:	100W rms/400W peak
Sensitivity @ 2.83V/1m:	93dB
Frequency Response:	30Hz – 300Hz
Mounting Depth:	4" (102mm)
Cut-out Diameter:	7-3/16" (183mm)

Kappa 100.1se

Configuration:	10" subwoofer
Nominal Impedance:	4 ohms
Power Handling:	250W rms/1000W peak
Sensitivity @ 2.83V/1m:	93dB
Frequency Response:	25Hz – 250Hz
Mounting Depth:	5-1/16" (129mm)
Cut-out Diameter:	8-7/8" (226mm)

Kappa 120.1se

Configuration:	12" subwoofer
Nominal Impedance:	4 ohms
Power Handling:	300W rms/1200W peak
Sensitivity @ 2.83V/1m:	94dB
Frequency Response:	20Hz – 250Hz
Mounting Depth:	5-13/16" (148mm)
Cut-out Diameter:	10-13/16" (275mm)

Kappa 100.1dvc

Configuration:	10" subwoofer
Nominal Impedance:	4 ohms per voice coil
Power Handling:	250W rms/1000W peak
Sensitivity @ 2.83V/1m:	93dB
Frequency Response:	25Hz – 250Hz
Mounting Depth:	5-1/16" (129mm)
Cut-out Diameter:	8-7/8" (226mm)

Kappa 120.1dvc

Configuration:	12" subwoofer
Nominal Impedance:	4 ohms per voice coil
Power Handling:	250W rms/1000W peak
Sensitivity @ 2.83V/1m:	94dB
Frequency Response:	25Hz – 250Hz
Mounting Depth:	5-13/16" (148mm)
Cut-out Diameter:	10-13/16" (275mm)

DECLARATION OF CONFORMITY

CE

We, Infinity Systems A/S
Kongevejen 194B
DK-3460 Birkerød
DENMARK

declare in own responsibility, that the products described in this owner's manual are in compliance with technical standards:
EN 50 081-1/1992
EN 50 082-1/3.1995

Steen Michaelsen
Infinity Systems A/S
Birkerød. DENMARK. 3/98

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