

# FOCAL K2 Power Series 6.5 2 Way Component Speaker **System User Guide**

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FOCAL K2 Power Series 6.5 2 Way Component Speaker System



#### **Product Specifications:**

• Model: K2 POWER

Available Models: ES 100 KE, ES 165 KE, ES 165 KX2E, ES 165 K2S, ES 165 K2E, ES 165 KX3E, EC 165 KE, SUB 25 KXS, SUB 25 KXE, SUB 30 KXE

• Components: Woofer, Tweeter

• Outputs: Right Output, Left Output, Speaker Output

#### **Product Usage Instructions**

#### Facility:

- 1. Refer to the user manual for detailed installation instructions.
- 2. Ensure proper placement and secure installation of the components.

# **Component Configuration:**

Each model may have different component configurations. Refer to the user manual for specific details on the configuration of your model.

#### **Audio Settings:**

- ES 100 KE: Woofer high pass/full adjustment 12 dB
- ES 165 KE: Woofer low pass slope 6 dB or 12 dB, +/- 3 dB adjustment
- ES 165 K2S: Woofer low pass slope 6 dB or 12 dB, +/- 3 dB adjustment
- ES 165 K2E: Woofer low pass slope 6 dB or 12 dB, +/- 3 dB adjustment
- ES 165 KX2E: Tweeter high pass slope 18 dB, Woofer low pass slope adjustment
- ES 165 KX3E: Tweeter level adjustment, Midrange high pass adjustment, Woofer low pass slope adjustment
- EC 165 KE: Refer to the user manual for specific audio settings.

#### **Safety Instructions:**

Read and follow all important safety instructions provided in the user manual. Securely install any subwoofers to

# **Frequently Asked Questions**

#### Q: Where can I find the user manual for my K2 POWER product?

A: You can access the user manual at <a href="https://www.focal.com/usermanual/k2-power">https://www.focal.com/usermanual/k2-power</a>

#### Q: How should I adjust the audio settings for optimal sound quality?

**A:** Refer to the specific audio settings mentioned for each model in the user manual and adjust them according to your preferences for the best sound quality.

#### **IMPORTANT SAFETY INSTRUCTIONS!**

The exclamation mark represented in an equilateral triangle is intended to alert users to the existence of important instructions in the user manual relating to the use and maintenance of the device.

- 1. Read these instructions.
- 2. Keep these instructions.
- 3. Heed all the warnings.
- 4. Follow all the instructions.
- 5. To avoid damaging your hearing, do not listen to loudspeakers at high volumes for long periods of time. Listening to loudspeakers at high volumes can cause damage to the user's ears and may lead to hearing problems (temporary or permanent deafness, buzzing in the ears, tinnitus, hyperacusis). Exposure to excessive volumes (over 85dB) for more than one hour can cause irreparable damage to your hearing.
- 6. If a subwoofer is installed in your vehicle, it is important to secure it firmly. We recommend that you attach the enclosure to the floor or chassis of the vehicle for safety.
  If the subwoofer is not properly secured, it could become a projectile in the event of an accident. This point is
  - even more important if the subwoofer is installed in a hatchback, a station wagon, a utility vehicle or a van.
- 7. If cables or harnesses are provided, use them the proper way (like mentioned in this user manual) without replacing or modifying them.
- 8. If a fuse is included in the kit or harness, use only same rating one in case of replacement.

The methods of installing and mounting loudspeakers to any surface (vehicle floor or chassis) depend on the conditions and standards of installation, refurbishment, safety and cabling in force and applicable to the surfaces and/or brackets involved. In addition, the products may vibrate and damage the brackets onto which they are mounted. For this reason, the installation operations must be performed by a qualified professional who is familiar with installation and safety standards. Focal does not provide any end-of-use warranty for a given bracket or installation, as installing the loudspeakers is the customer's sole responsibility. Focal is therefore not liable in any capacity whatsoever in the event of incident, accident and/or any other result or damage of any kind related to the installation of loudspeakers.

#### **Conditions of warranty**

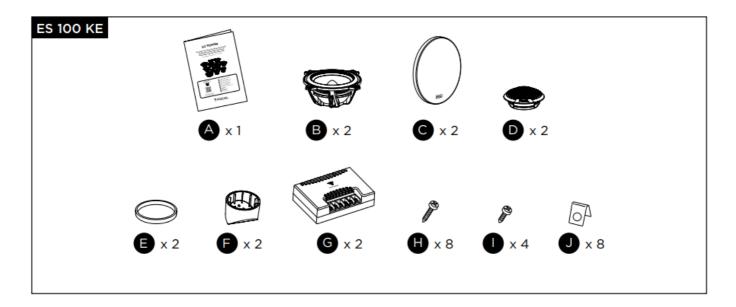
All Focal loudspeakers are covered by warranty drawn up by the official Focal distributor in your country. Your distributor can provide all details concerning the conditions of warranty. Warranty cover extends at least to that granted by the legal warranty in force in the country where the original purchase invoice was issued.

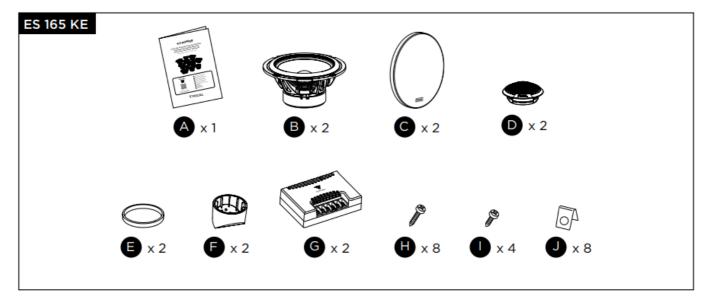
REGISTER YOUR PRODUCT ONLINE

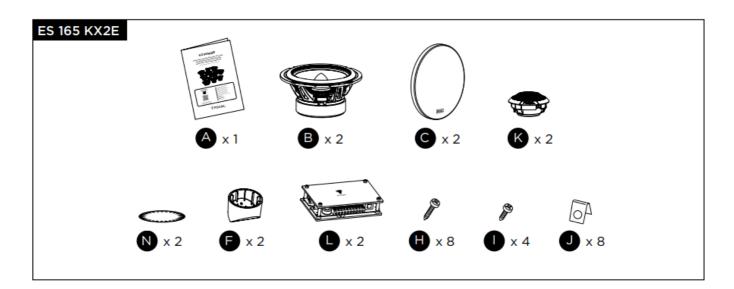


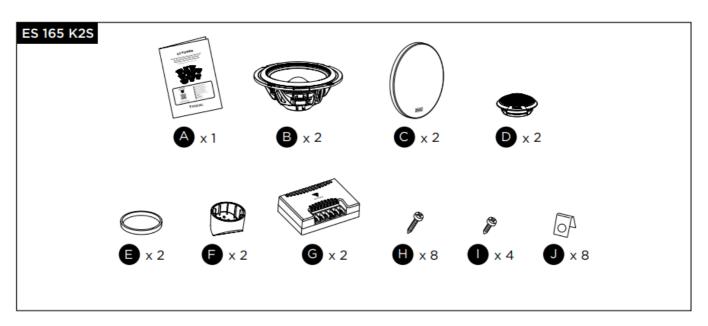
# www.focal.com/warranty

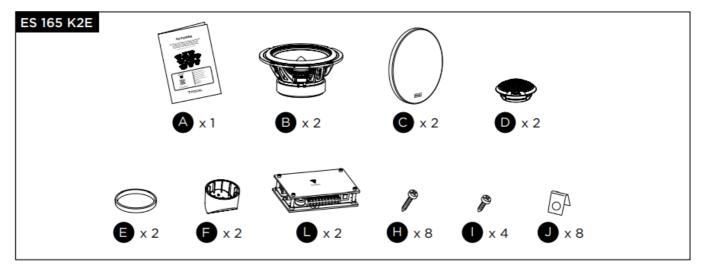
# WHAT'S IN THE BOX

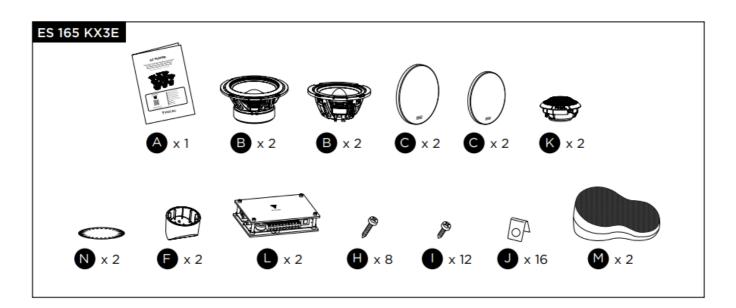


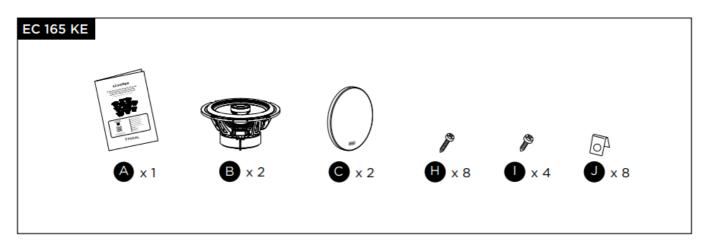


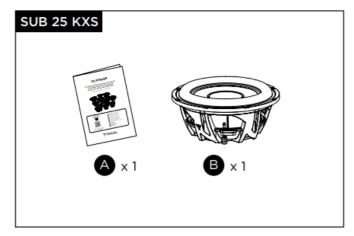


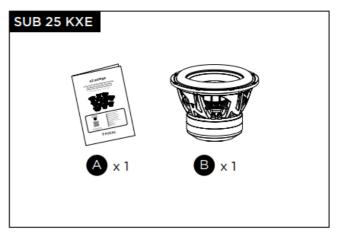


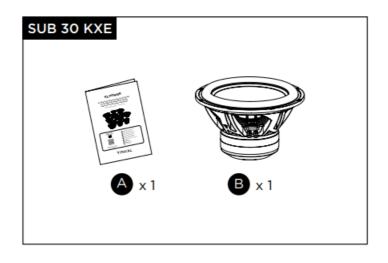






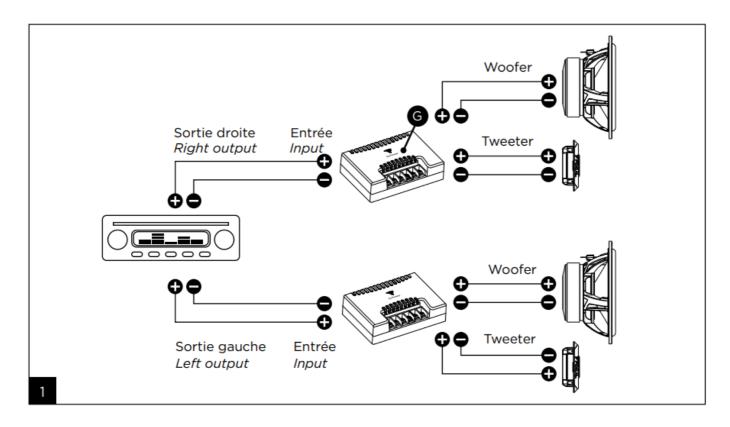




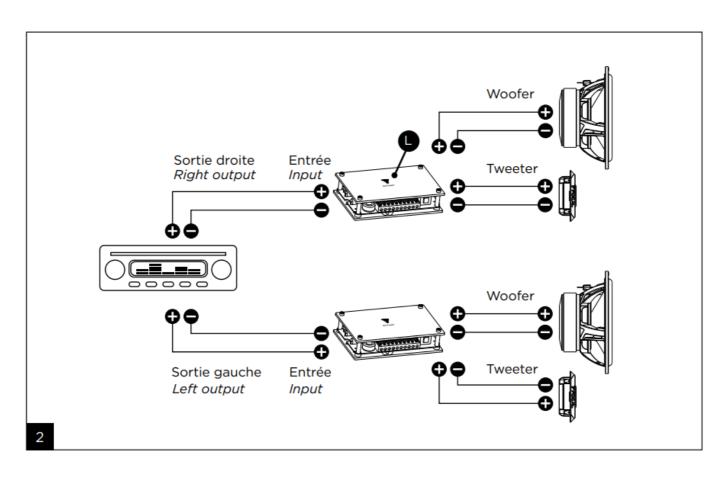


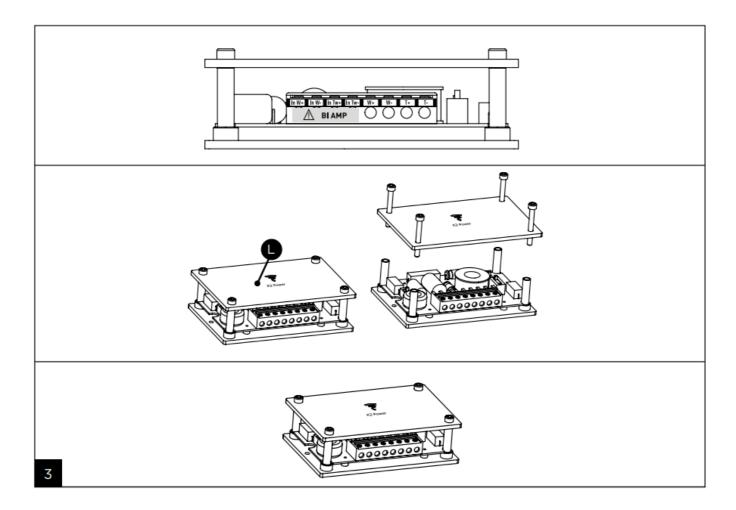
#### **OVERVIEW**

# ES 100 KE / ES 165 KE / ES 165 K2S

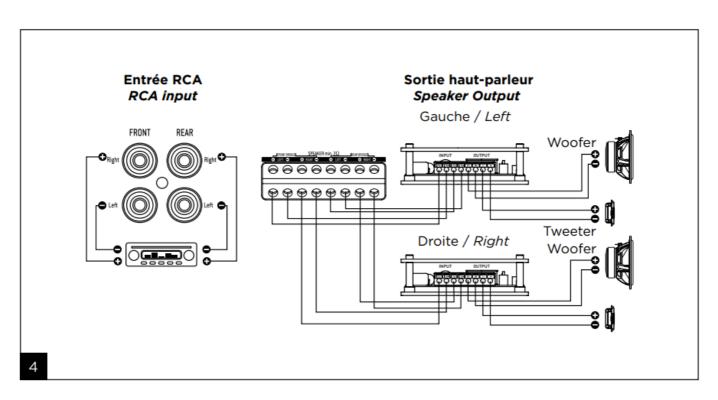


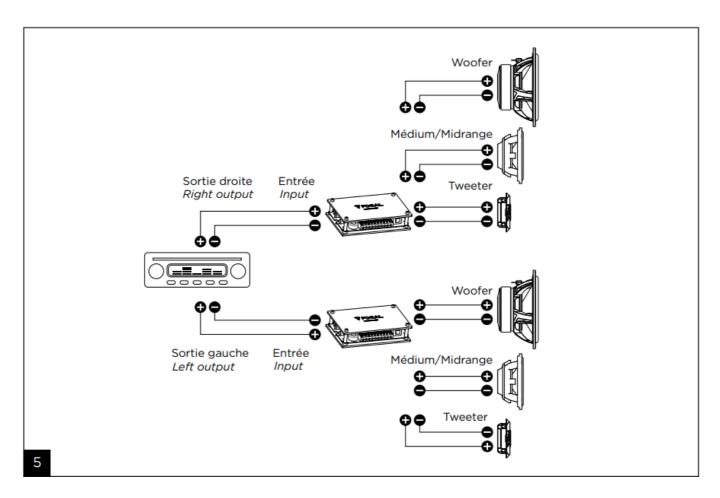
#### ES 165 KX2E / ES 165 KX3E / ES 165 K2E

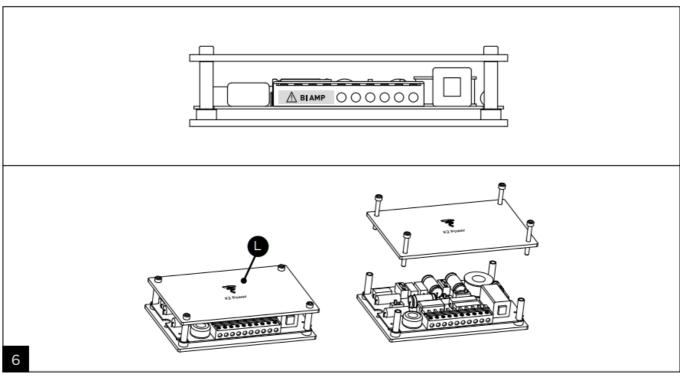


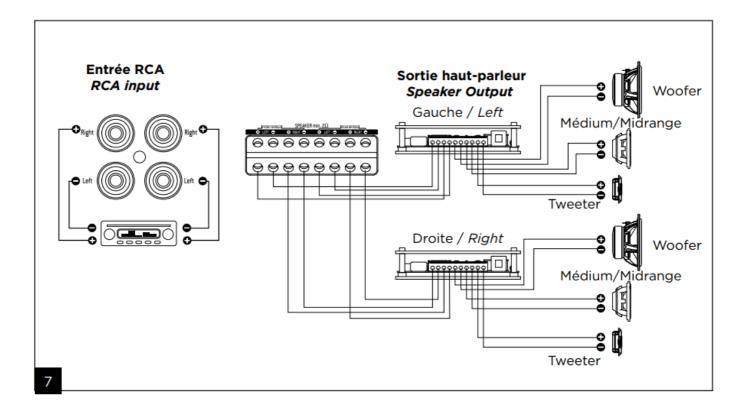


# **ES 165 KX3E**

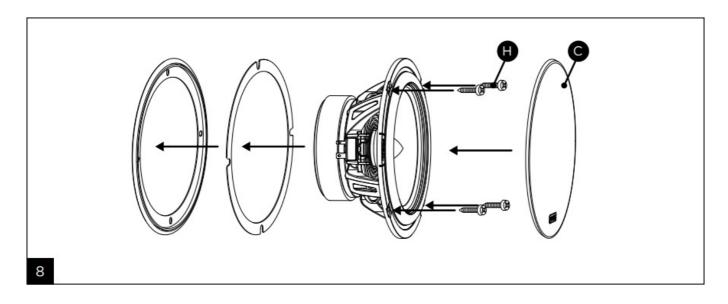




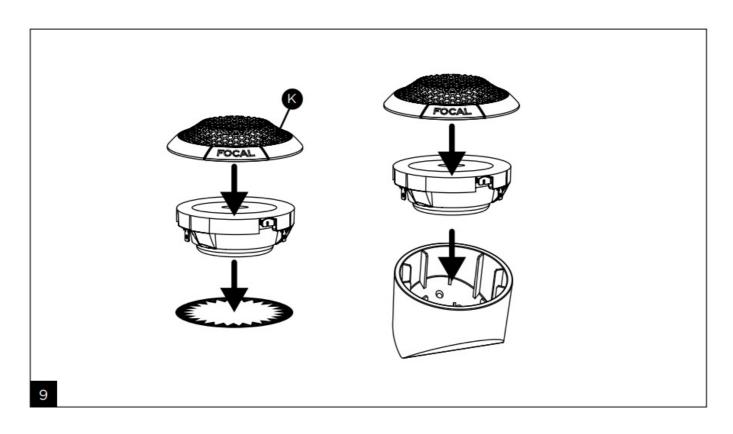


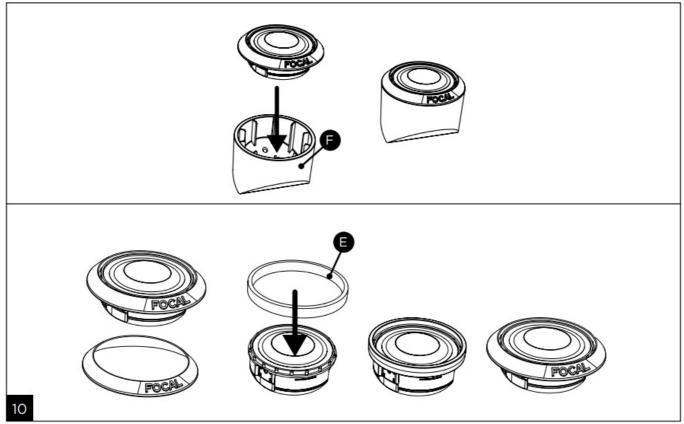


# ES 165 KX2E / ES 165 KX3E | TWEETER FRAK



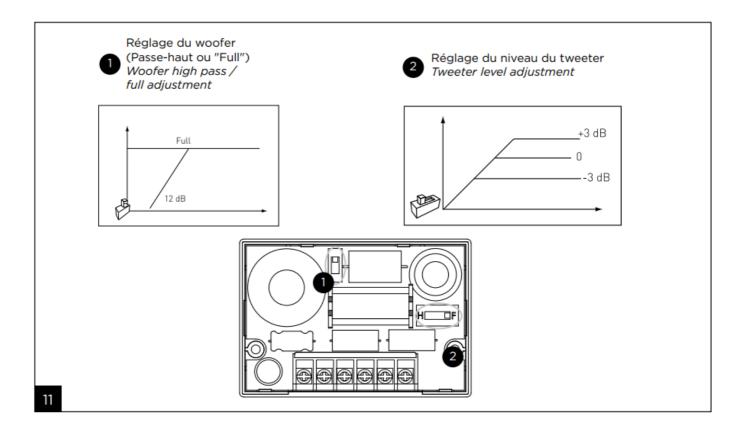
ES 100 KE / ES 165 KE / ES 165 K2E / ES 165 K2S | TWEETER TKME



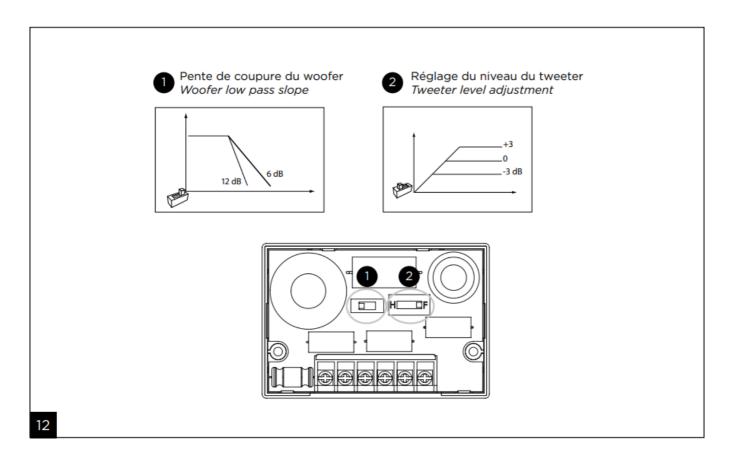


# **INSTALLATION**

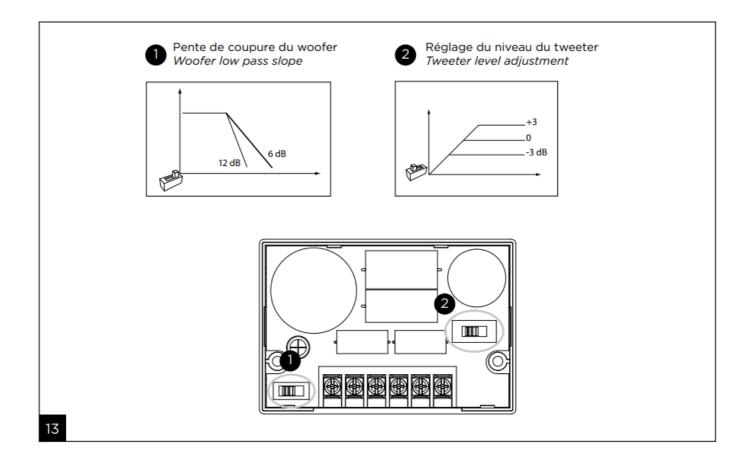
**ES 100 KE** 



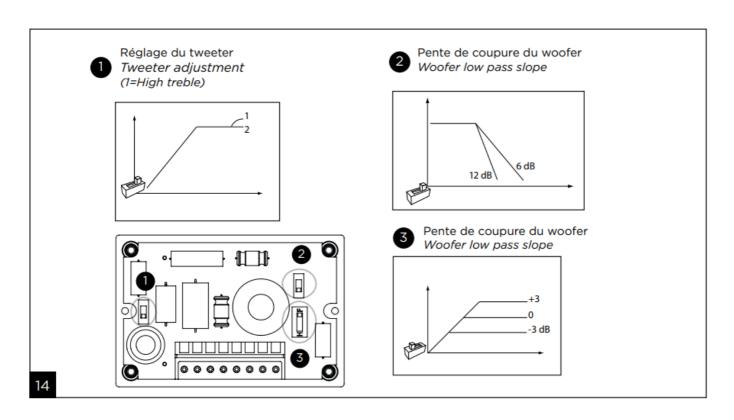
#### **ES 165 K2S**



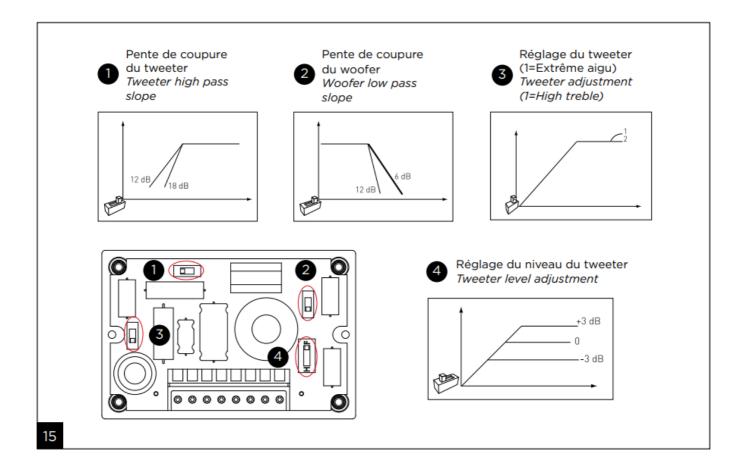
**ES 165 K2E** 



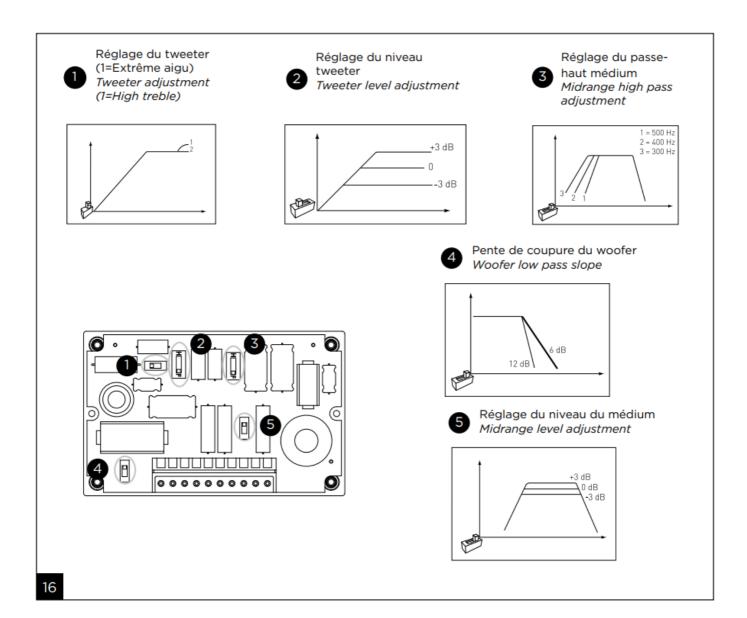
#### **ES 165 KX2E**



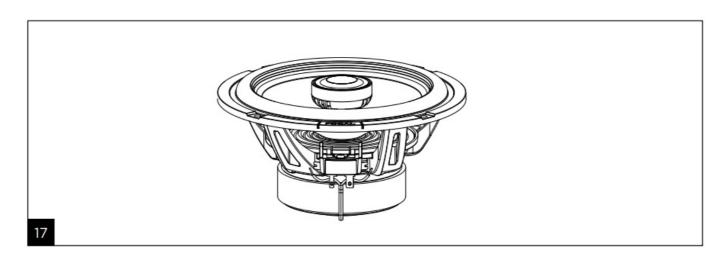
**ES 165 KX2E** 



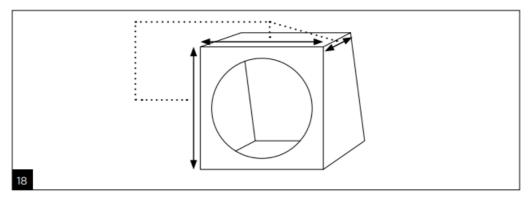
# **ES 165 KX3E**

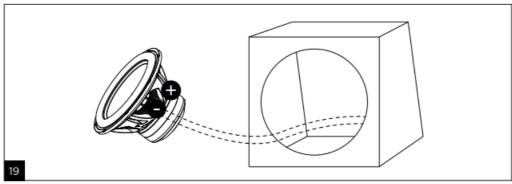


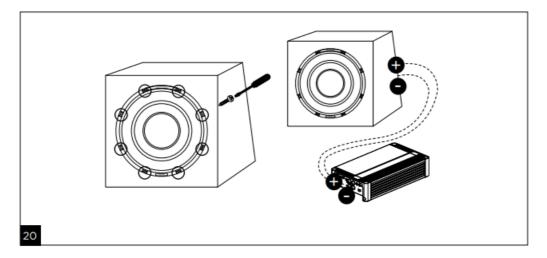
# **EC 165 KE**



SUB 25 KXS / SUB 25 KXE / SUB 30 KXE







# **Specifications**

# **ES 100 KE**

- Cone K2 Sandwich
- Midrange 4" (100mm)
- Maximum power 120W
- Nominal power 60W RMS
- Sensitivity (2.83V/1m) 90dB
- Impedance  $4\Omega$
- Frequency response 110Hz-22kHz
- Voice-coil diameter 3/4" (20mm)
- **Depth** 11/2" (39mm)
- Magnet Neodymium
- Suspension  $\mathsf{TMD} \ensuremath{\mathbb{B}}$
- Tweeter M-Shaped

- Crossover 12/12dB (3.5kHz)
- Voice-coil height 3/8" (8.5mm)
- Adjustable tweeter level +3/0/-3dB/oct

#### **ES 165 KE**

- · Cone K2 Sandwich
- Woofer 61/2" (165mm)
- Maximum power 200W
- Nominal power 100W RMS
- Sensitivity (2.83V/1m) 91dB
- Impedance 4Ω
- Frequency response 60Hz-22kHz
- Voice-coil diameter 11/4" (32mm)
- Depth 3" (74mm)
- · Magnet Ferrite
- Suspension TMD®
- Tweeter M-Shaped
- Crossover 6-12/12dB (3kHz)
- Voice-coil height 5/8" (15mm)
- Adjustable tweeter level +3/0/-3dB/oct

#### **ES 165 K2E**

- · Cone K2 Sandwich
- Woofer 61/2" (165mm)
- Maximum power 200W
- Nominal power 100W RMS
- Sensitivity (2.83V/1m) 93dB
- Impedance  $2\Omega$
- Frequency response 60Hz 22kHz
- Voice-coil diameter 11/4" (32mm)
- Depth 3" (74mm)
- Magnet Ferrite
- Suspension TMD®
- Tweeter M-Shaped
- Crossover 6-12/12dB (3.5kHz)
- Voice-coil height 5/8" (15mm)
- Adjustable tweeter level +3/0/-3dB/oct

# ES 165 KX3E (Woofer)

#### ES 165 KX3E (Midrange)

	ES 165 KX3E (Woofer)	ES 165 KX3E (Midrange)
Cone	K2 Sandwich	K2 Sandwich
Diameter	6 <sup>1/2</sup> " (165mm)	4" (100mm)
Maximum power	240W	100W
Nominal power	120W RMS	50W RMS
Sensitivity (2.83V/1m)	93dB	88dB
Impedance	4Ω	4Ω
Frequency response	45Hz-32kHz	45Hz - 32kHz
Voice-coil diameter	2" (40mm)	3/4" (20mm)
Depth	3" (76mm)	1 <sup>1/4</sup> " (33.5mm)
Magnet	Ferrite	Ferrite
Suspension	TMD*	TMD®
Tweeter	Aluminium, M-Shaped	Aluminium, M-Shaped
Crossover	6-12/12/12dB (3/4/500/3/5kHz)	6-12/12/12dB (3/4/500/3/5kHz)
Adjustable tweeter level	+3/0/-3dB/oct	+3/0/-3dB/oct

#### **EC 165 KE**

- Cone K2 Sandwich
- Woofer 61/2"(165mm)
- Maximum power 160W
- Nominal power 80W RMS
- Sensitivity (2.83V/1m) 93dB
- Impedance 4Ω
- Frequency response 60Hz-22kHz
- Voice-coil diameter 1" (25mm)
- Depth 3" (74mm)
- Magnet Ferrite
- Suspension TMD®
- Tweeter M-Shaped
- · Crossover Integrated
- Voice-coil height 5/8" (15mm)

#### **ES 165 KX2E**

- Cone K2 Sandwich
- Woofer 61/2" (165mm)
- Maximum power 240W
- Nominal power 120W RMS
- Sensitivity (2.83V/1m) 92.5dB
- Impedance 2Ω
- Frequency response 55Hz-32kHz

- Voice-coil diameter 2" (40mm)
- Depth 3" (76mm)
- Magnet Ferrite
- Suspension TMD®
- · Tweeter M-Shaped
- Crossover 6-12/12-18dB (3kHz)
- Voice-coil height 5/8" (16.5mm)
- Adjustable tweeter level +3/0/-3dB/oct

#### **ES 165 K2S**

- · Cone K2 Sandwich
- Woofer 61/2" (165mm)
- Maximum power 140W
- Nominal power 70W RMS
- Sensitivity (2.83V/1m) 88dB
- Impedance 2Ω
- Frequency response 60Hz-22kHz
- Voice-coil diameter 11/4" (32.5mm)
- · Magnet Ferrite
- Suspension TMD®
- Tweeter M-Shaped
- Crossover 6-12/12dB (3kHz)
- Voice-coil height 1/2" (13mm)
- Adjustable tweeter level +3/0/-3dB/oct

#### **SUB 25 KXE**

- · Cone K2 Sandwich
- Subwoofer 10" (250mm)
- Maximum power 1200W
- Nominal power 600W RMS
- Sensitivity (2.83V/1m) 84.5dB
- Impedance  $2\times4\Omega$
- Frequency response 25Hz-5kHz
- Voice-coil diameter 21/2" (65mm)
- Depth 63/4" (172mm)
- Magnet Ferrite
- Voice-coil height 2" (55mm)

#### **SUB 25 KXS**

- · Cone K2 Sandwich
- Subwoofer 10" (250mm)

- Maximum power 700W
- Nominal power 350W RMS
- Sensitivity (2.83V/1m) 84.5dB
- Impedance 4Ω
- Frequency response 25Hz-5kHz
- Voice-coil diameter 13/4" (45mm)
- Magnet Neodymium
- Voice-coil height 11/4" (32mm)

#### **SUB 30 KXE**

- · Cone K2 Sandwich
- Subwoofer 12" (300mm)
- Maximum power 1600W
- Nominal power 800W RMS
- Sensitivity (2.83V/1m) 86.5dB
- Impedance 2×4Ω
- Frequency response 25Hz-5kHz
- Voice-coil diameter 21/2" (65mm)
- Depth 63/4" (172mm)
- Magnet Ferrite
- · Voice-coil height 2" (55mm)

# READ FIRST! IMPORTANT SAFETY INSTRUCTIONS!

Warning symbol. This symbol is designed to warn the user of the presence of important instructions mentioned and relating to the handling, operation and maintenance of the device.

- 1. Read these instructions.
- 2. Keep these instructions.
- 3. Heed all warnings.
- 4. Follow all the instructions.
- 5. Do not use this device near water.
- 6. After removing the product from its packaging, keep the packaging out of the reach of children. It poses a suffocation risk.
- 7. Never use chemical products or abrasive detergents to clean the device. Clean with a dry cloth only.
- 8. Do not obstruct ventilation openings, as this may alter the sound quality of the device.
- 9. During storage, the device should not be exposed to temperatures below 20°C or above 80°C. The operating temperature range for the device is between -10°C and 50°C.
- 10. If the product emits smoke or an unusual smell, immediately turn off the power supply (turn off the ignition and remove the key) and stop using it.
  - Contact your retailer as soon as possible.

- 11. Do not turn on any function likely to distract you when driving. Functions or settings that require prolonged attention should only be used when the vehicle is at a complete stop. There is a risk of accident.
- 12. Do not listen to the loudspeakers at a high volume, so that you can hear external noise when driving.
- 13. If cords or connectors are supplied, use them properly as described in the user manual without replacing them or modifying them.
- 14. If the kit or connector includes a fuse, it must only be replaced by a fuse of the same rating.
- 15. Do not attempt to repair this device yourself. Opening the device may expose you to dangerous voltages or other risks.
- 16. All maintenance tasks should be performed by a qualified professional.
  Maintenance is required in case of any kind of damage to the device (spillages or objects inserted into the device, exposure to rain, if the device malfunctions or is dropped, etc.).
- 17. When replacement components are needed, make sure that the maintenance technician uses the components recommended by the manufacturer or components with exactly the same technical features as the original product.
  - Using non-compliant components could cause fires, electric shocks or other risks.
- 18. After any maintenance or repair work on the device, ask the maintenance technician to test it to check that it is working safely.
- 19. If a subwoofer is installed in the vehicle, it is essential to secure it by attaching it solidly. We recommend attaching the subwoofer to the floor or chassis of the vehicle for safety. If it is not properly secured, it could become a projectile in the event of an accident. This is even more important if the subwoofer is installed in a hatchback, a station wagon, a utility vehicle or a van.
- 20. Some users who are not self-sufficient enough to use the product on their own without danger. In particular, children under 14 or people with some types of disabilities must be supervised and/or accompanied when using the device.
- 21. To avoid damaging your hearing, do not listen to loudspeakers at high volumes for long periods of time. Listening to loudspeakers at high volumes can cause damage to the user's ears and may lead to hearing problems (temporary or permanent deafness, buzzing in the ears, tinnitus, hyperacusis). Exposure to excessive volumes (over 85dB) for more than one hour can cause irreparable damage to your hearing.

The methods of installing and mounting loudspeakers to any surface (bracket, ground anchoring, etc.) depend on the conditions and standards of installation, refurbishment, safety and cabling in force and applicable to the surfaces and/or brackets involved. In addition, the products may vibrate and damage the brackets onto which they are mounted. For this reason, the installation operations must be performed by a qualified professional who is familiar with installation and safety standards. Focal does not provide any end-of-use warranty for a given bracket or installation, as installing the loudspeakers is the customer's sole responsibility. Focal is therefore not liable in any capacity whatsoever in the event of incident, accident and/or any other result or damage of any kind related to the installation of loudspeakers.

To facilitate the Focal-JMlab warranty, it is now possible to register your product online at: <a href="https://www.focal.com/warranty">www.focal.com/warranty</a>



Thank you for purchasing a Focal product. Welcome to our High-Fidelity world. Our values are innovation, tradition, excellence and pleasure; our one and only aim is to bring you a sound that is rich, pure and true. To get the most out of your product, we recommend that you read the instructions in this booklet, then store it in a safe place to refer to in the future if needed.

#### Important recommendations

First of all, check the space available for fitting the speaker drivers (refer to the plans on the packaging) then proceed with the cutting required. If mounted in the factory location, check that there is sufficient space between the speaker driver and the protective grille.

- Keep the speaker drivers clear of any metal shavings and dust particles during the cutting process.
- Clean thoroughly before fitting the speaker drivers.
- Ensure that there are no objects positioned across the grille, as this could damage the speaker drivers.

#### Choosing an amplifier

It is not an excess of amplifier power that can damage your loudspeaker and drivers, but rather a lack of power. It is recommended to use an amplifier that delivers 20% more power than the system's total power to avoid a surge or damage to the products. Your dealer will be able to guide you, depending on your tastes and budget. Ensure that you follow the recommendations for your amplifier in order to correctly connect each product from the K2 Power line.

#### Pre-installation wiring

You will only be able to begin fitting your products once you have connected them using the terminal block on the speaker drivers (fig. 1, 2). We recommend using a cable with a marker to ensure the polarity of the speaker drivers is respected (+/-).

#### Bi-amplification cabling

In a bi-amplified 2-way kit (4-channel amplifier), make sure you follow (fig. 3, 4). In a bi-amplified 3-way kit (4-channel amplifier), make sure you follow (fig. 5, 6, 7).

#### Installation

Please use suitable screws to avoid damaging your sub, your vehicle trim or any of its other components (fig. 8).

#### Loudspeaker positioning

The loudspeakers in the range have been designed to deliver the most faithful sound reproduction for any style of music.

Nonetheless, a few simple rules should be followed to optimise their performance and to guarantee good tonal balance and a realistic sound image.

#### SUB 25 KXS / SUB 25 KXE / SUB 30 KXE

It is essential that the subwoofer is contained within an enclosure of suitable dimensions, to create an appropriate internal volume that will maximise the performance of the selected speaker driver (fig. 18). Please use suitable screws to avoid damaging your sub, the floor of your vehicle or any of its other components (fig. 20). Connect your subwoofer to the amplifier using the terminal block located on the side of the speaker driver (fig. 20). Ensure that the subwoofer is pointing towards an open space in order to achieve the best performance.

#### **SPECIAL PRECAUTIONS**

#### Maintenance

To look after the K2 Power speaker drivers, simply dust using a dry cloth. If the grille is marked, we recommend that you use just a damp cloth. Never use solvents, detergents, alcohol or corrosive products, scrapers or scouring utensils to clean the surface of the speaker drivers.

#### Running-in period

The speaker drivers used are complex mechanical components that require a running-in period to operate at their best.

This running-in period varies depending on the conditions in question and may take several weeks. To reduce this time, we recommend operating your speaker drivers for about 20 hours at a moderate volume. Once the speaker drivers' characteristics have fully stabilised, you will be able to enjoy the performance of your K2 Power products to the full.

#### Warranty terms and conditions

All Focal loudspeakers are covered by guarantee drawn up by the official Focal distributor in your country. Your distributor can provide all details concerning the conditions of guarantee. Guarantee cover extends at least to that granted by the legal guarantee in force in the country where the original purchase invoice was issued.

For the purposes of improvement or to take into account any legal or regulatory changes, FOCAL-JMLab reserves the right to modify the technical specifications of its products without prior notice. Where required, any images shown are for illustrative purposes only, and may differ slightly from the products sold.

#### Correct elimination of this product.

This marking indicates that within the EU this product should not be disposed of with other household wastes. To prevent any risk to the environment or human health, please recycle them responsibly to encourage the reuse of material resources. To return your used device, please use the return and collection systems available, or contact the retailer where you purchased the product. They can recycle this product safely.













Scansionare il codice QR per informazioni sullo smaltimento degli imballaggi Scan QR code for information on packaging disposal

Please note that for the ES 100 KE, ES 165 KE, ES 165 K2S, ES 165 K2E kits, the actual shape of the accessory is as follows:



We inform you that in the ES 165 KX3E kit, a midrange/tweeter stand is included among the accessories.



#### **Product Sheet**

The fourth generation of K2 Power, with its emblematic aramid fibre cone, remains true to K2's precious and distinctive DNA, by focusing on performance, power and style, while incorporating patented innovations to deliver the best. Designed, manufactured and developed in our workshops in France, the 2-way component kit ES 165 KX2E also features the FRAK tweeter, an exclusive Focal technology that lies behind sensational treble. The listening experience is marked by unparalleled harmonic balance.



#### **Key points**

- Made in France in the Focal workshops
- K2 Cone
- FRAK tweeter from the K2 Power M range
- · Robust design and high quality materials
- Exceptional power handling
- · Aluminium grilles included

	ES 165 KX3E (Woofer)	ES 165 KX3E (Midrange)
Cone	K2 Sandwich	K2 Sandwich
Diameter	6 <sup>1/2</sup> " (165mm)	4" (100mm)
Maximum power	240W	100W
Nominal power	120W RMS	50W RMS
Sensitivity (2.83V/1m)	93dB	88dB
Impedance	4Ω	4Ω
Frequency response	45Hz-32kHz	45Hz - 32kHz
Voice-coil diameter	2" (40mm)	3/4" (20mm)
Depth	3" (76mm)	1 <sup>1/4</sup> " (33.5mm)
Magnet	Ferrite	Ferrite
Suspension	TMD®	TMD*
Tweeter	Aluminium, M-Shaped	Aluminium, M-Shaped
Crossover	6-12/12/12dB (3/4/500/3/5kHz)	6-12/12/12dB (3/4/500/3/5kHz)
Adjustable tweeter level	+3/0/-3dB/oct	+3/0/-3dB/oct

ES 165 KX2E

# **Technical Sheet**

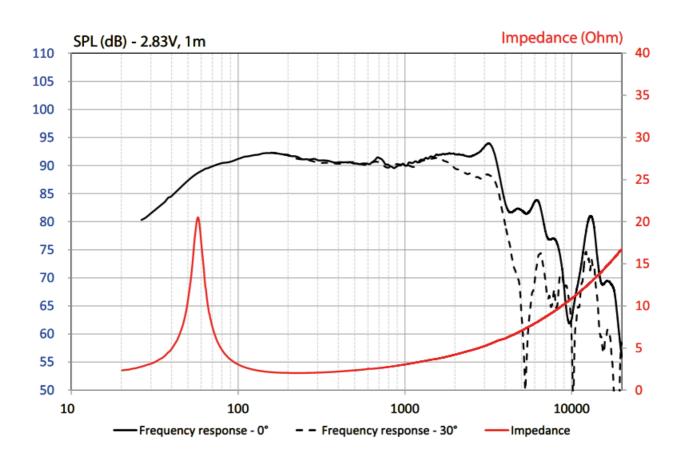
# Woofer 61/2"



**SPECIFICATIONS** 

Nominal power	120W		
Maximum power	240W		
Sensitivity (2.83V/1m)	93dB		
Cone	K2 Sandwich		
Nom. impedance	2Ω		
Surround	Butyl		
DC resistance	1.8Ω		
VC diameter	40mm	15/8"	
Former	Kapton		
Layers	2		
Wire	CCAW		
Magnet (dxh)	100x22mm	4x7/8"	
Net weight	1700g	3.7lbs	

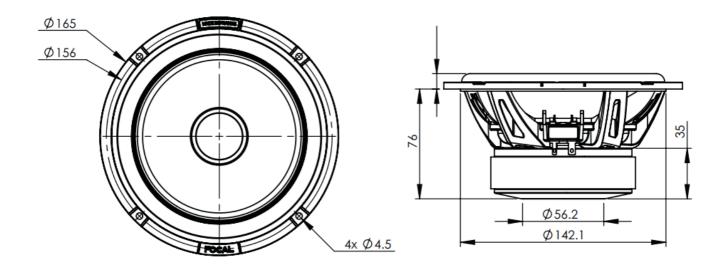
# FREQUENCY RESPONSE/IMPEDANCE



# **PARAMETERS**

Rdc	1.8Ω	
Fs	55Hz	
Mms	15.3g	
Cms	0.54mm/N	
Vas	141	
Qts	0.55	
Qes	0.61	
Qms	5.2	
BxI	4 N/A	
Sd	128.6cm <sup>2</sup>	
SPL	89.5dB	
Xmax	5.3mm	

# **MECHANICAL DRAWING (MM)**



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#### **Documents / Resources**



FOCAL K2 Power Series 6.5 2 Way Component Speaker System [pdf] User Guide K2 Power Series 6.5 2 Way Component Speaker System, K2 Power Series, 6.5 2 Way Component Speaker System, Component Speaker System, Speaker System, System

#### References

- 7 Top-of-the-range speakers and hi-fi equipment | Focal
- **?** Se connecter à focal-naim
- 7 Top-of-the-range speakers and hi-fi equipment | Focal

# • User Manual

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