

# X

always ahead . . .

The XETEC® XIRCUIT series -  
power, sound performance  
and technology.



XIRCUIT-Xi-120.2

XIRCUIT-Xi-240.2



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## XETEC XIRCUIT xi-120.2/240.2

Congratulations for buying this **XETEC** product and thank you for your confidence! With this **XETEC** amplifier you have purchased an innovative and professional high-end product, which will enable you to enjoy your music on a very high quality level for many years. We have especially focused on electronic as well as product design to give you a product that will accompany you for many years, as our products are always one step ahead and will still be modern for many years.

**XETEC** products represent the experience our engineers have made through many years assisted by car audio magazines as well as professional installers.

Please read these instructions very carefully, to avoid unnecessary trouble and defects.

In case of trouble, please contact your local dealer or check our website [www.xetec.de](http://www.xetec.de) for troubleshooting. There we also offer up-to-date tech-tips and technical support for you.

The **XETEC xi-120.2/240.2** is a state-of-the-art 2-channel car audio amplifier, especially developed for top quality speaker systems and subwoofers. A perfect choice are the **XETEC** Component systems and subwoofers.

You can also run in bridged mode to gain more than twice the output power, in order to drive subwoofers, midbasses or high power component systems.

The versatility and many adjustment options make the **XETEC xi-120.2/240.2** an allround genius for car music reproduction.

### SPECIAL FEATURES

#### xi-120.2/240.2 – State-of-the-art 2-channel Amplifier

- aluminium heatsink
- xi-120.2: 2x71 W @ 4 Ohms
- xi-240.2: 2x125 W Ausgangsleistung
- 2 Ohms stable

- xi-120.2: Bridged mode: 1x210 W @ 4 Ohms
- xi-240.2: Bridged mode: 1x384 W
- HPA technology
- Highpass, Lowpass and Bandpass VCVS (=Voltage Controlled Voltage Source) filters for front and rear channels with bypass function
- Balanced RCA inputs for maximum noise suppression
- Input sensitivity 200 mV - 6 V
- Full protection (DC, Overheat, Shortcircuit, Overload)
- Gold plated input terminals

### PROPERTIES

- **Independent high and lowpass filters** can be configured either as high-pass, lowpass or bandpass filters and combinations out of these three options.
  - Each 2 channels can be run in bridged mode for higher output power
  - 2ch mode Highpass: drives 2 satellite speakers
  - 2ch mode Bandpass: drives 2 (or more) midbasses
  - 2ch mode Lowpass: drives 2 (or more) subwoofers
  - 1ch mode Lowpass: drives 1 subwoofers in bridged mode
  - 1ch mode Bandpass: drives 1 (or more) midbasses in bridged mode
- Protection circuit: Overload, Short-circuit, DC, Overheat

### SAFETY

- **Before you make any connection, the battery must be disconnected!**
- **A main fuse must be installed into the +12 V wire within the first 12" from the + terminal of the battery (insurance regulation!).**
- **Please note that a minimum speaker impedance of 2 Ohms (>4 Ohm in bridged mode!) must be maintained. Do not connect speakers with lower impedance in normal as well as in bridged mode!**
- **Make sure that you do not use defective speakers and subwoofers. They can cause damage to your amplifier!**
- **The fuses inside the amplifier only protects the device itself, not the battery and the car!**

## IMPORTANT NOTICE: STABILITY OF AMPLIFIERS

### Normal operation:

Every amplifier is only capable of driving loads (speakers) up to a certain limit, which is set either by the protection circuits or the maximum power output. XETEC amplifiers accept loads down to 2 Ohms in normal operation.

### Bridged mode:

In bridged mode each two channels of the amplifier are driving the same load, the acceptable impedance for each channel is also **divided by two!!!**

### That means:

A normal amplifier „sees“ 4 Ohms as 4 Ohms. In a bridged amplifier, each amplifier „sees“ 2 Ohms only!!! That's why in bridged mode always 4 Ohms must be maintained although the amplifier might be 2-Ohms stable.

## CAUTION

This product is capable of conducting very high sound pressure levels, and can thus be harmful to your health. Prolonged exposure to high volume levels can cause hearing loss! Please use restraint on the volume control. XETEC wants you to enjoy your amplifier for a long time to come, and we do not take responsibility for hearing loss nor other health problems.

## 0. INSTALLATION

For safety reasons, the amplifier has to be mounted properly and fixed to the car's body. Please fix the device using the screws that come with your product. Be careful when drilling holes, there might be wires, fuel lines or the gas tank behind a wall! Never drill holes when you do not know what's behind. Never install signal wires close to power cables to avoid hum and alternator noise is being induced.

## 1. CONNECTIONS

**Before you make any connections, always disconnect the battery!**

1.1 First of all, connect the RCA cables coming from the radio/head unit to the respective inputs of your amplifier. Always run signal cables in a distance to power cables and the vehicle's factory wires to avoid induction of noise.

**For bridged mode operation you need an Y-adaptor to connect the L and R input to Mono!**

- 1.2 Now the speaker wires must be connected to the respective speaker terminals. Please make sure to use speakers with the correct impedance! Also make sure to connect all speakers with correct polarity to avoid phase problems which can spoil the sound of the whole system.
- 1.3 Next step is the ground connection. Check for a good grounding point using your vehicle's chassis. Make sure that this point has good electrical contact! Some parts of the chassis might only be glued and have no contact to battery (-). Run all ground cables of the system to this point to avoid alternator whine and other noise.
- 1.4 As the next connection the +12 V cable has to be connected to the (+) terminal of the battery. Always be careful not to run this cable around sharp edges, the insulation might be damaged. For holes always use grommets!

**Always use an in-line fuse in the +12 V power cable in max. 12" from the battery's + terminal (value must meet the current requirements of the whole sound system, minimum value is 60 A).**

- 1.5 The last connection is the remote wire. The head unit must always be turned off during this connection, as it might be damaged when remote output is shorted to ground! Now you can reconnect the battery and insert the main fuse into the power cable's fuse holder.

### CAUTION:

**Both, the +12 V and the ground cable, must have sufficient diameter!**

XETEC proposes the following minimum gauges:

Total output power of the system:

Up to 100 W:	6 mm <sup>2</sup>	Up to 1000 W:	35 mm <sup>2</sup>
Up to 250 W:	8 mm <sup>2</sup>	Up to 1200 W:	40 mm <sup>2</sup>
Up to 500 W:	10 mm <sup>2</sup>	More than 1200 W:	50 mm <sup>2</sup>
Up to 750 W:	25 mm <sup>2</sup>		

Weaker cables will reduce the performance of your system significantly, and may cause damage to your amplifiers. Weak cables also will heat-up!

### CAUTION

**Always replace fuses with same value. Higher values may cause damage to your amplifier, battery or car!**

## 2. FIRST POWER-ON

- 2.1 Adjust all level controls to minimum
- 2.2 Turn on the radio at low volume
- 2.3 Increase the volume and adjust the front speaker's volume
- 2.4 Now adjust the volume ratio between front and rear speakers and subwoofer.

**XETEC** recommends the following crossover frequencies:

16 cm front speaker: Highpass 80-100 Hz

16 cm rear speaker: Highpass 100-120 Hz

13 cm front speaker: Highpass 100-140 Hz

13 cm rear speaker: Highpass 120-150 Hz

10 cm front speaker: Highpass 120-200 Hz

10 cm rear speaker: Highpass 150-200 Hz

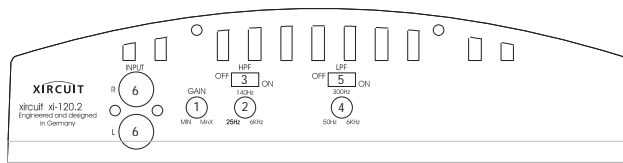
16 cm midbass: Bandpass 80/150 Hz (= Highpass 80 Hz+ Lowpass 150 Hz),  
Composystems then are run with Highpass 150-180 Hz!

Subwoofer: Lowpass 70-100 Hz, Subsonic 20-35 Hz

## 3. CONTROLS

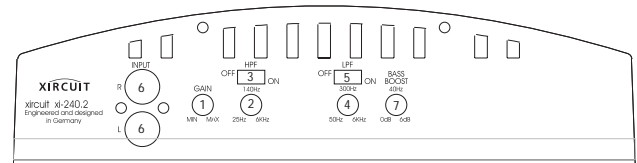
### xi-120.2

- 1 Level front
- 2 lowpass
- 3 Bypass lowpass working correctly
- 4 highpass
- 5 Bypass highpass
- 6 RCA line inputs rear (left and right channels)
- 7 Bass boost 40Hz

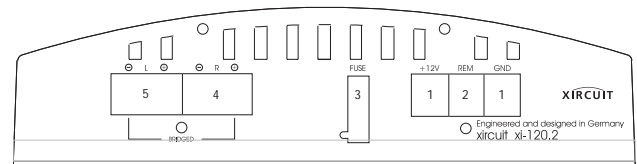


### xi-240.2

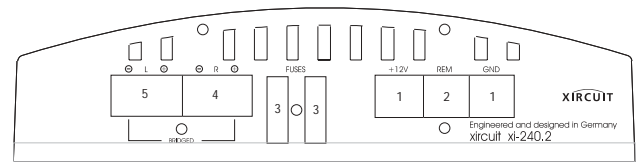
- 1 Level front
- 2 lowpass
- 3 Bypass lowpass working correctly
- 4 highpass
- 5 Bypass highpass
- 6 Bass boost 40Hz
- 7 RCA line inputs rear (left and right channels)



## 4. CONNECTORS



- 1 +12 V and ground power input
- 2 Remote
- 3 Fuse(s)
- 4 Speaker right
- 5 Speaker left rear



## OPTIONAL ACCESSORY

XETEC „ParaQ-7“ parametric equalizer for perfect sound

## APPLIED TECHNOLOGIES

- HPAAs © by XETEC design group GmbH: „High Precision Analog Amplifier“, symmetrical State-of-the-Art power amplifier.
- X-SMPS © by XETEC design group GmbH: „x-Switched-Mode-Power-Supply“, high efficiency power supply
- VCVS-Filter © by XETEC design group GmbH: „Voltage Controlled Voltage Source“ filters for the crossover networks
- X-protect © by XETEC design group GmbH: Highly sensitive protection circuits

## TECHNICAL DATA

### XETEC xi-120.2:

RMS Output power @4 Ohms: 2x71 W

RMS Output power @2 Ohms: 2x105 W

RMS Output power @4 Ohms: 1x210 W in bridged mode

Max input Current (@13,8 V): 20 A

Idle current (no signal): 0,7 A

Fuse: 1x25 A

Total Harmonic Distortion (THD): <0,03 %

SNR: >91 dB(A)

Freq.Response (bypass mode): 5 Hz-30.000 Hz (in bypass mode)

Damping Factor: 302

Stability: >2 Ohm, (>4 Ohm in bridged mode!)

Input Sensitivity: 200 mV-6 V

Crossover frequencies: highpass 25 Hz-6 kHz lowpass 50 Hz-6 kHz

Warranty: 2 Year

## TECHNICAL DATA

### XETEC xi-240.2:

RMS Output power @4 Ohms: 2x125 W

RMS Output power @2 Ohms: 2x198 W

RMS Output power @4 Ohms: 1x384 W in bridged mode

Max input Current (@13,8 V): 33 A

Idle current (no signal): 1,1 A

Fuse: 2x20 A

Total Harmonic Distortion (THD): <0,03 %

SNR: >90 dB(A)

Freq.Response (bypass mode): 5 Hz-30.000 Hz (in bypass mode)

Damping Factor: 420

Stability: >2 Ohm, (>4 Ohm in bridged mode!)

Input Sensitivity: 200 mV-6 V

Crossover frequencies: highpass 25 Hz-6 kHz lowpass 50 Hz-6 kHz

Warranty: 2 Year

## TROUBLESHOOTING

1. Power indicator LED in top plate is not lit
  - Main fuse or fuse in amplifier blown?
  - Remote wire properly connected? Is there remote voltage (12 V)?
  - Amplifier overheated?
  - Battery voltage low (<10,2 V)?
  - DC on one of the speaker outputs?
  - Overload
2. Distortions at medium level
  - Please check the speaker connections for short-circuits
  - Are the speakers OK?
  - Radio volume turned up too high. Better turn up the amplifier's level controls
3. Alternator whine and similar noise
  - Bad ground connections?
  - Use ONE ground contact only!
  - RCA cables run too close to power cables?

In case of further trouble, please ask your local XETEC dealer for support.

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