

# X Series

Série X  
Serie X  
X 系列  
X Serie  
X Серия  
X Série

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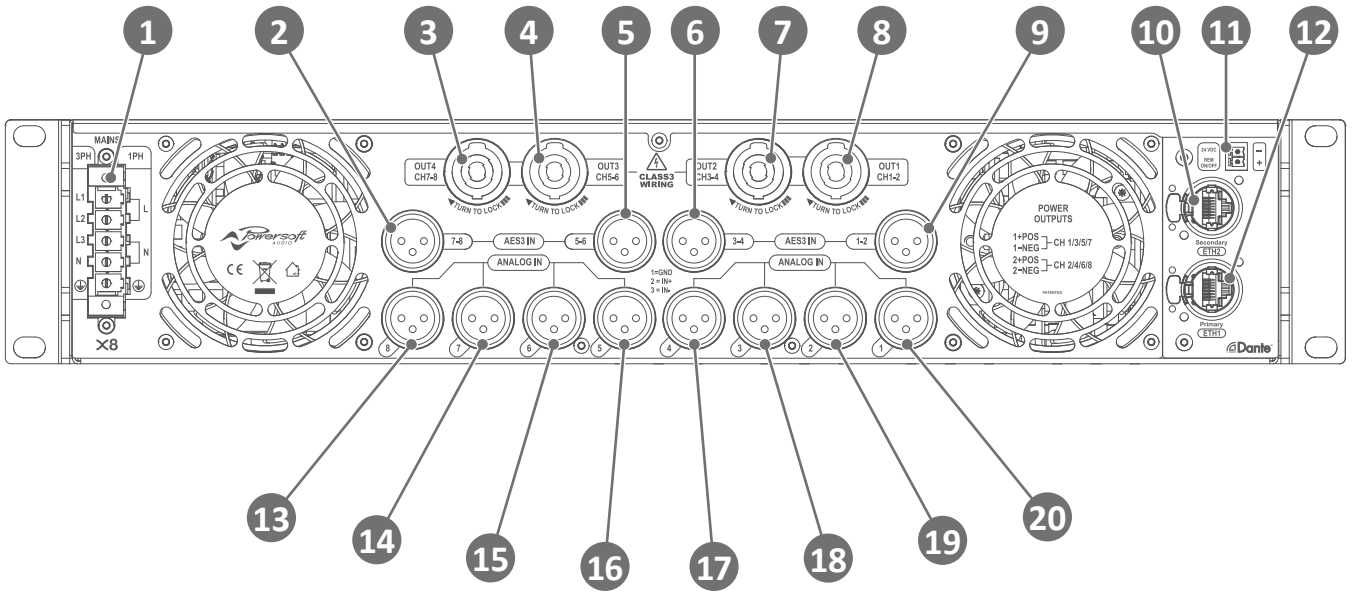
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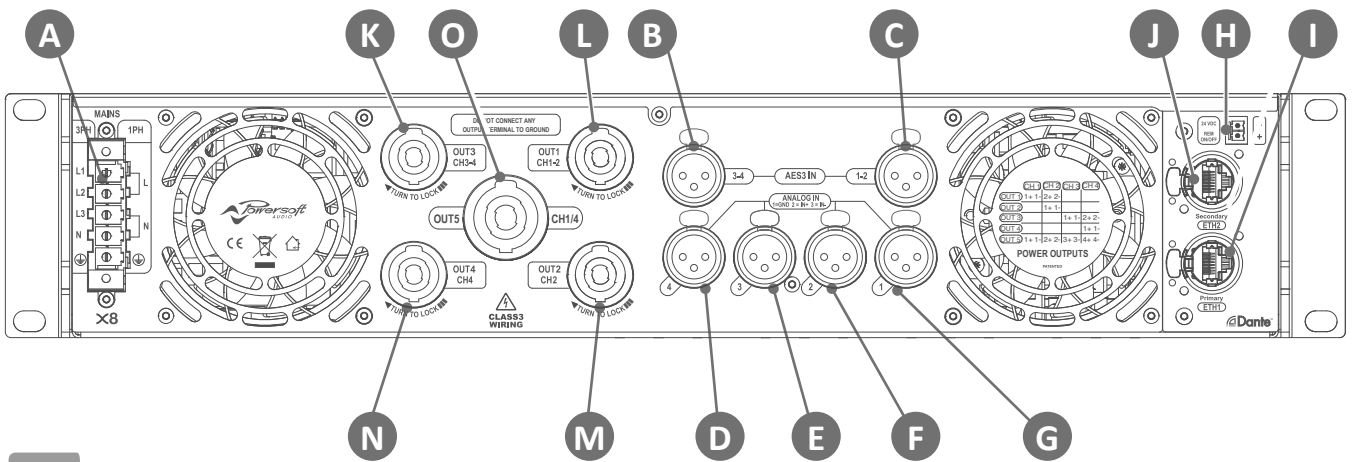
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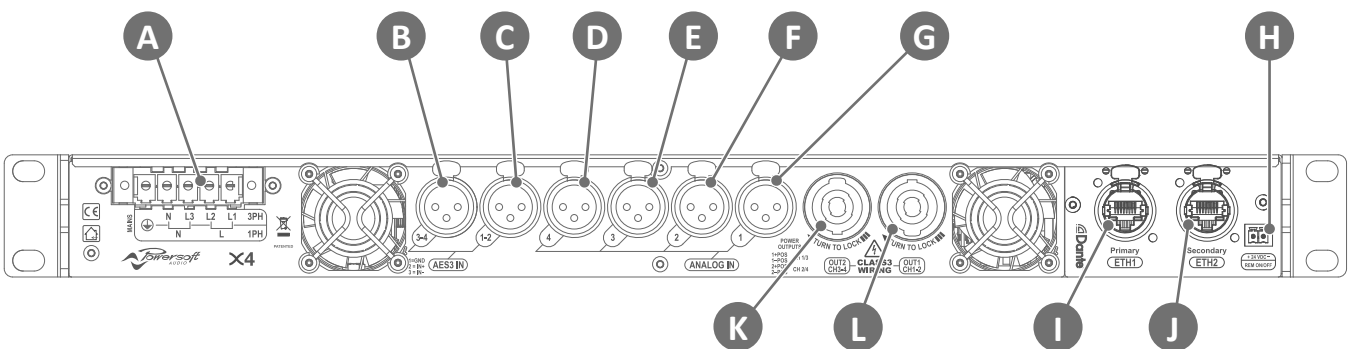
# C



# D



# E



## English

## X8 Rear panel

1. AC mains Phoenix connector
  2. Input: channels 7 & 8 AES XLR
  3. Output: channels 7 & 8 speakON
  4. Output: channels 5 & 6 speakON
  5. Input: channels 5 & 6 AES XLR
  6. Input: channels 3 & 4 AES XLR
  7. Output: channels 3 & 4 speakON
  8. Output: channels 1 & 2 speakON
  9. Input: channels 1 & 2 AES XLR
  10. Ethernet: etherCON secondary port
  11. Remote ON/OFF Phoenix connector
  12. Ethernet: etherCON primary network
  13. Input: channel 8 analog XLR
  14. Input: channel 7 analog XLR
  15. Input: channel 6 analog XLR
  16. Input: channel 5 analog XLR
  17. Input: channel 4 analog XLR
  18. Input: channel 3 analog XLR
  19. Input: channel 2 analog XLR
  20. Input: channel 1 analog XLR
- X4-X4L Rear panel
- A. AC mains Phoenix connector
  - B. Input: channels 3 & 4 AES XLR
  - C. Input: channels 1 & 2 AES XLR
  - D. Input: channel 4 analog XLR
  - E. Input: channel 3 analog XLR
  - F. Input: channel 2 analog XLR
  - G. Input: channel 1 analog XLR
  - H. Remote ON/OFF Phoenix connector
  - I. Ethernet: etherCON secondary port
  - J. Ethernet: etherCON primary port
  - K. Output: channels 3 & 4 speakON
  - L. Output: channels 1 & 2 speakON
  - M. Output: channel 2 speakON
  - N. Output: channel 4 speakON
  - O. Output: channels 1/4 speakON

## Française

## Panneau arrière X8

1. Connecteur secteur Phoenix CA
  2. Entrée: AES XLR canaux 7 et 8
  3. Sortie: speakON canaux 7 et 8
  4. Sortie: speakON canaux 5 et 6
  5. Entrée: AES XLR canaux 5 et 6
  6. Entrée: AES XLR canaux 3 et 4
  7. Sortie: SpeakON canaux 3 et 4
  8. Sortie: SpeakON canaux 1 et 2
  9. Entrée: AES XLR canaux 1 et 2
  10. Ethernet: port secondaire etherCON
  11. Connecteur Phoenix à distance ON / OFF
  12. Ethernet: réseau primaire etherCON
  13. Entrée: XLR analogique canal 8
  14. Entrée: XLR analogique canal 7
  15. Entrée: XLR analogique canal 6
  16. Entrée: XLR analogique canal 5
  17. Entrée: XLR analogique canal 4
  18. Entrée: XLR analogique canal 3
  19. Entrée: XLR analogique canal 2
  20. Entrée: XLR analogique canal 1
- Panneau arrière X4-X4L
- A. Connecteur secteur Phoenix CA
  - B. Entrée: AES XLR canaux 3 et 4
  - C. Entrée: AES XLR canaux 1 et 2
  - D. Entrée: XLR analogique canal 4
  - E. Entrée: XLR analogique canal 3
  - F. Entrée: XLR analogique canal 2
  - G. Entrée: XLR analogique canal 1
  - H. Connecteur Phoenix à distance ON/OFF
  - I. Ethernet: port secondaire etherCON
  - J. Ethernet: port primaire etherCON
  - K. Sortie: SpeakON canaux 3 et 4
  - L. Sortie: SpeakON canaux 1 et 2
  - M. Sortie: SpeakON canaux 2
  - N. Sortie: SpeakON canaux 4
  - O. Sortie: SpeakON canaux 1/4

## Español

## Panel Posterior X8

1. Conector Phoenix de alimentación AC
  2. Entrada Canales 7 y 8 AES XLR
  3. Salida Canales 7 y 8 speakON
  4. Salida Canales 5 y 6 speakON
  5. Entrada Canales 5 y 6 AES XLR
  6. Entrada Canales 3 y 4 AES XLR
  7. Salida Canales 3 y 4 speakON
  8. Salida Canales 1 y 2 speakON
  9. Entrada Canales 1 y 2 AES XLR
  10. Ethernet: Puerto Secundario etherCON
  11. Conector Phoenix ON/OFF Remoto
  12. Ethernet: Puerto Primario etherCON
  13. Entrada: analoga canal 8 XLR
  14. Entrada: analoga canal 7 XLR
  15. Entrada: analoga canal 6 XLR
  16. Entrada: analoga canal 5 XLR
  17. Entrada: analoga canal 4 XLR
  18. Entrada: analoga canal 3 XLR
  19. Entrada: analoga canal 2 XLR
  20. Entrada: analoga canal 1 XLR
- Panel Posterior X4-X4L
- A. Conector Phoenix de alimentación AC
  - B. Entrada Canales 3 y 4 AES XLR
  - C. Entrada Canales 1 y 2 AES XLR
  - D. Entrada: analoga canal 4 XLR
  - E. Entrada: analoga canal 3 XLR
  - F. Entrada: analoga canal 2 XLR
  - G. Entrada: analoga canal 1 XLR
  - H. Conector Phoenix ON/OFF Remoto
  - I. Ethernet: Puerto Secundario etherCON
  - J. Ethernet: Puerto Primario etherCON
  - K. Salida Canales 3 y 4 speakON
  - L. Salida Canales 1 y 2 speakON
  - M. Salida Canale 2 speakON
  - N. Salida Canale 4 speakON
  - O. Salida Canales 1/4 speakON

## Italiano

## Pannello Posteriore X8

1. Connettore Phoenix di alimentazione
  2. Ingresso: XLR canali 7 & 8 AES
  3. Uscita: speakON canali 7 & 8
  4. Uscita: speakON canali 5 & 6
  5. Ingresso: XLR canali 5 & 6 AES
  6. Ingresso: XLR canali 3 & 4 AES
  7. Uscita: speakON canali 3 & 4
  8. Uscita: speakON canali 1 & 2
  9. Ingresso: XLR canali 1 & 2 AES
  10. Ethernet: etherCON porta secondaria
  11. Connettore Phoenix ON/OFF remoto
  12. Ethernet: etherCON porta primaria
  13. Ingresso: XLR canale 8 analogico
  14. Ingresso: XLR canale 7 analogico
  15. Ingresso: XLR canale 6 analogico
  16. Ingresso: XLR canale 5 analogico
  17. Ingresso: XLR canale 4 analogico
  18. Ingresso: XLR canale 3 analogico
  19. Ingresso: XLR canale 2 analogico
  20. Ingresso: XLR canale 1 analogico
- Pannello Posteriore X4-X4L
- A. Connettore Phoenix di alimentazione
  - B. Ingresso: XLR canali 3 & 4 AES
  - C. Ingresso: XLR canali 1 & 2 AES
  - D. Ingresso: XLR canale 4 analogico
  - E. Ingresso: XLR canale 3 analogico
  - F. Ingresso: XLR canale 2 analogico
  - G. Ingresso: XLR canale 1 analogico
  - H. Connettore Phoenix ON/OFF remoto
  - I. Ethernet: etherCON porta secondaria
  - J. Ethernet: etherCON porta primaria
  - K. Uscita: speakON canali 3 & 4
  - L. Uscita: speakON canali 1 & 2
  - M. Uscita: speakON canale 2
  - N. Uscita: speakON canale 4
  - O. Uscita: speakON canali 1/4

## 中文

## X8 后面板

1. 交流电凤凰芯接头
  2. 输入: 通道7&8 AES XLR接头
  3. 输出: 通道7&8 speakON接头
  4. 输出: 通道5&6 speakON接头
  5. 输入: 通道5&6 AES XLR接头
  6. 输入: 通道3&4 AES XLR接头
  7. 输出: 通道3&4 speakON接头
  8. 输出: 通道1&2 speakON接头
  9. 输入: 通道1&2 AES XLR接头
  10. 以太网: etherCON二级网络端口
  11. 远程开关凤凰芯接头
  12. 以太网: etherCON主网络端口
  13. 输入: 通道8模拟XLR卡依接头
  14. 输入: 通道7模拟XLR卡依接头
  15. 输入: 通道6模拟XLR卡依接头
  16. 输入: 通道5模拟XLR卡依接头
  17. 输入: 通道4模拟XLR卡依接头
  18. 输入: 通道3模拟XLR卡依接头
  19. 输入: 通道2模拟XLR卡依接头
  20. 输入: 通道1模拟XLR卡依接头
- X4-X4L 后面板
- A. 交流电凤凰芯接头
  - B. 输入: 通道3&4 AES XLR接头
  - C. 输入: 通道1&2 AES XLR接头
  - D. 输入: 通道4模拟XLR接头
  - E. 输入: 通道2模拟XLR接头
  - F. 输入: 通道2模拟XLR接头
  - G. 输入: 通道1模拟XLR接头
  - H. 远程开关凤凰芯接头
  - I. 以太网: etherCON二级网络端口
  - J. 以太网: etherCON主网络端口
  - K. 输出: 通道3&4 speakON接头
  - L. 输出: 通道1&2 speakON接头
  - M. 输出: 通道2 speakON接头
  - N. 输出: 通道4 speakON接头
  - O. 输出: 通道1/4 speakON接头

## Deutsch

## X8 Rückseite

1. Phoenix Netzkabelanschlussbuchse
  2. Eingang: XLR-Buchse AES Kanäle 7 & 8
  3. Ausgang: speakON-Buchse Kanäle 7 & 8
  4. Ausgang: speakON-Buchse Kanäle 5 & 6
  5. Eingang: XLR-Buchse AES Kanäle 5 & 6
  6. Eingang: XLR-Buchse AES Kanäle 3 & 4
  7. Ausgang: speakON-Buchse Kanäle 3 & 4
  8. Ausgang: speakON-Buchse Kanäle 1 & 2
  9. Eingang: XLR-Buchse AES Kanäle 1 & 2
  10. Ethernet: etherCON Sekundärer Port
  11. Phoenix Buchse: Fernein-/ausschaltung
  12. Ethernet: etherCON Primärer Port
  13. Eingang: XLR-Buchse analog Kanal 8
  14. Eingang: XLR-Buchse analog Kanal 7
  15. Eingang: XLR-Buchse analog Kanal 6
  16. Eingang: XLR-Buchse analog Kanal 5
  17. Eingang: XLR-Buchse analog Kanal 4
  18. Eingang: XLR-Buchse analog Kanal 3
  19. Eingang: XLR-Buchse analog Kanal 2
  20. Eingang: XLR-Buchse analog Kanal 1
- X4-X4L Rückseite
- A. Phoenix Netzkabelanschlussbuchse
  - B. Eingang: XLR-Buchse AES Kanäle 3 & 4
  - C. Eingang: XLR-Buchse AES Kanäle 1 & 2
  - D. Eingang: XLR-Buchse analog Kanal 4
  - E. Eingang: XLR-Buchse analog Kanal 3
  - F. Eingang: XLR-Buchse analog Kanal 2
  - G. Eingang: XLR-Buchse analog Kanal 1
  - H. Phoenix Buchse: Fernein-/ausschaltung
  - I. Ethernet: etherCON Sekundärer Port
  - J. Ethernet: etherCON Primärer Port
  - K. Ausgang: speakON-Buchse Kanäle 3 & 4
  - L. Ausgang: speakON-Buchse Kanäle 1 & 2
  - M. Ausgang: speakON-Buchse Kanäle 2
  - N. Ausgang: speakON-Buchse Kanäle 4
  - O. Ausgang: speakON-Buchse Kanäle 1/4

## Русский

## X8 Задняя панель

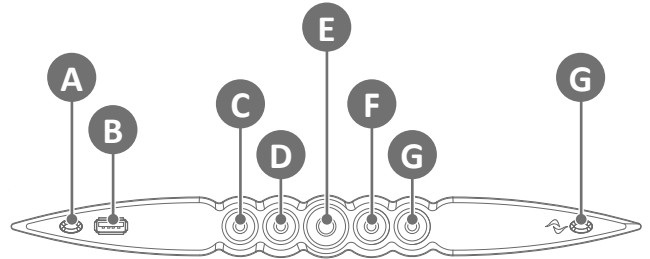
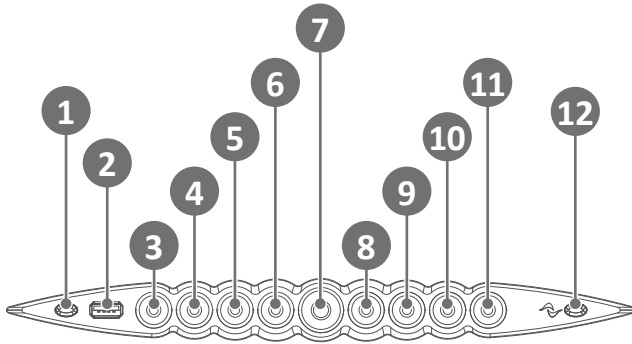
1. Разъем питания типа Phoenix
  2. Вход: каналы 7 и 8 тип AES XLR
  3. Выход: каналы 7 и 8 тип speakON
  4. Выход: каналы 5 и 6 тип speakON
  5. Вход: каналы 5 и 6 тип AES XLR
  6. Вход: каналы 3 и 4 тип AES XLR
  7. Выход: каналы 3 и 4 тип speakON
  8. Выход: каналы 1 и 2 тип speakON
  9. Вход: каналы 1 и 2 тип AES XLR
  10. Ethernet: вторичный порт etherCON
  11. Дистанционное Вкл./Выкл. (Phoenix)
  12. Ethernet: основной порт etherCON
  13. Аналоговый вход: канал 8 тип XLR
  14. Аналоговый вход: канал 7 тип XLR
  15. Аналоговый вход: канал 6 тип XLR
  16. Аналоговый вход: канал 5 тип XLR
  17. Аналоговый вход: канал 4 тип XLR
  18. Аналоговый вход: канал 3 тип XLR
  19. Аналоговый вход: канал 2 тип XLR
  20. Аналоговый вход: канал 1 тип XLR
- X4-X4L Задняя панель
- A. Разъем питания типа Phoenix
  - B. Вход: каналы 3 и 4 тип AES XLR
  - C. Вход: каналы 1 и 2 тип AES XLR
  - D. Аналоговый вход: канал 4 тип XLR
  - E. Аналоговый вход: канал 3 тип XLR
  - F. Аналоговый вход: канал 2 тип XLR
  - G. Аналоговый вход: канал 1 тип XLR
  - H. Дистанционное Вкл./Выкл. (Phoenix)
  - I. Ethernet: вторичный порт etherCON
  - J. Ethernet: основной порт etherCON
  - K. Выход: каналы 3 и 4 тип speakON
  - L. Выход: каналы 1 и 2 тип speakON
  - M. Выход: каналы 2 тип speakON
  - N. Выход: каналы 4 тип speakON
  - O. Выход: каналы 1/4 тип speakON

## Português

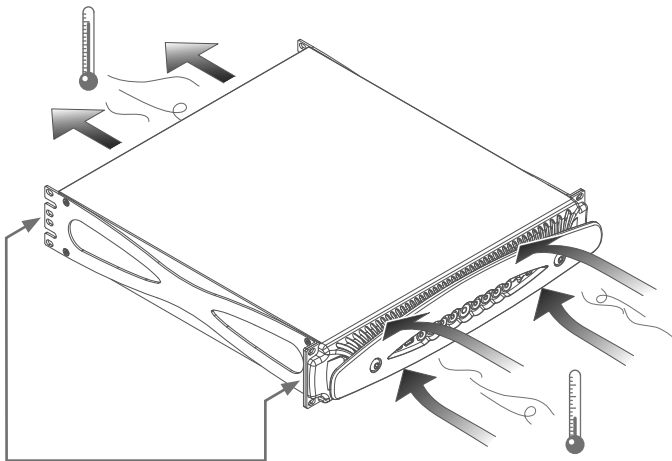
## X8 Painel traseiro

1. Conector Phoenix AC principal
  2. Entrada: canais 7 & 8 AES XLR
  3. Saída: canais 7 & 8 speakON
  4. Saída: canais 5 & 6 speakON
  5. Entrada: canais 5 & 6 AES XLR
  6. Entrada: canais 3 & 4 AES XLR
  7. Saída: canais 3 & 4 speakON
  8. Saída: canais 1 & 2 speakON
  9. Entrada: canais 1 & 2 AES XLR
  10. Ethernet: etherCON porta secundária
  11. Conector Phoenix remoto ON/OFF
  12. Ethernet: etherCON rede primária
  13. Entrada: canal 8 XLR analógico
  14. Entrada: canal 7 XLR analógico
  15. Entrada: canal 6 XLR analógico
  16. Entrada: canal 5 XLR analógico
  17. Entrada: canal 4 XLR analógico
  18. Entrada: canal 3 XLR analógico
  19. Entrada: canal 2 XLR analógico
  20. Entrada: canal 1 XLR analógico
- X4-X4L Painel traseiro
- A. Conector Phoenix AC principal
  - B. Entrada: canais 3 & 4 AES XLR
  - C. Entrada: canais 1 & 2 AES XLR
  - D. Entrada: canal 4 XLR analógico
  - E. Entrada: canal 3 XLR analógico
  - F. Entrada: canal 2 XLR analógico
  - G. Entrada: canal 1 XLR analógico
  - H. Conector Phoenix remoto ON/OFF
  - I. Ethernet: etherCON porta secundária
  - J. Ethernet: etherCON porta primária
  - K. Saída: canais 3 & 4 speakON
  - L. Saída: canais 1 & 2 speakON
  - M. Saída: canal 2 speakON
  - N. Saída: canal 4 speakON
  - O. Saída: canais 1/4 speakON

# F

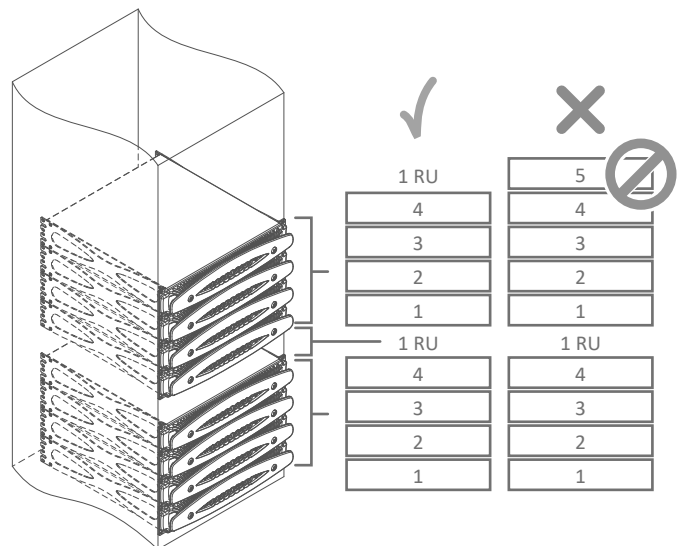


# G



- Mounting brackets
- Supports de fixation
- Soportes de montaje
- Staffe di montaggio
- 安装支架
- Montagehalterungen
- Монтажные кронштейны
- Soportes de montagem

# H



**English****X8 Front panel**

1. Wi-Fi on/off switch
2. USB port
3. CH1 Status LED and MUTE
4. CH2 Status LED and MUTE
5. CH3 Status LED and MUTE
6. CH4 Status LED and MUTE
7. Main on/off switch, status LED and MUTE ALL
8. CH5 Status LED and MUTE
9. CH6 Status LED and MUTE
10. CH7 Status LED and MUTE
11. CH8 Status LED and MUTE
12. Armonía callback

**X4 - X4L Front panel**

- A. Wi-Fi on/off switch
- B. USB port
- C. CH1 Status LED and MUTE
- D. CH2 Status LED and MUTE
- E. Main on/off switch, status LED and MUTE ALL
- F. CH3 Status LED and MUTE
- G. CH4 Status LED and MUTE
- H. Armonía callback

**Française****Panneau avant X8**

1. Interrupteur marche / arrêt Wi-Fi
2. Port USB
3. LED d'état Canal 1 et MODE MUET
4. LED d'état Canal 2 et MODE MUET
5. LED d'état Canal 3 et MODE MUET
6. LED d'état Canal 4 et MODE MUET
7. Interrupteur marche / arrêt principal, LED d'état et MODE MUET partout
8. LED d'état Canal 5 et MODE MUET
9. LED d'état Canal 6 et MODE MUET
10. LED d'état Canal 7 et MODE MUET
11. LED d'état Canal 8 et MODE MUET
12. Rappel Armonía

**Panneau avant X4 - X4L**

- A. Interrupteur marche / arrêt Wi-Fi
- B. Port USB
- C. LED d'état Canal 1 et MODE MUET
- D. LED d'état Canal 2 et MODE MUET
- E. Interrupteur marche / arrêt principal, LED d'état et MODE MUET partout
- F. LED d'état Canal 3 et MODE MUET
- G. LED d'état Canal 4 et MODE MUET
- H. Rappel Armonía

**Español****Panel Frontal X8**

1. Interruptor on/off de la red local de Wi-Fi
2. Puerto USB
3. LED de estado y MUTE Canal 1
4. LED de estado y MUTE Canal 2
5. LED de estado y MUTE Canal 3
6. LED de estado y MUTE Canal 4
7. Interruptor principal on/off, LED de estado y MUTE General
8. LED de estado y MUTE Canal 5
9. LED de estado y MUTE Canal 6
10. LED de estado y MUTE Canal 7
11. LED de estado y MUTE Canal 8
12. Boto de llamada para Armonía

**Panel Frontal X4 - X4L**

- A. Interruptor on/off de la red local de Wi-Fi
- B. Puerto USB
- C. LED de estado y MUTE Canal 1
- D. LED de estado y MUTE Canal 2
- E. Interruptor principal on/off, LED de estado y MUTE General
- F. LED de estado y MUTE Canal 3
- G. LED de estado y MUTE Canal 4
- H. Boton de llamada para Armonía

**Italiano****Pannello Frontale X8**

1. Interruttore Wi-Fi
2. Porta USB
3. LED di stato e MUTE Canale 1
4. LED di stato e MUTE Canale 2
5. LED di stato e MUTE Canale 3
6. LED di stato e MUTE Canale 4
7. Interruttore di accensione principale, LED di stato e MUTE ALL
8. LED di stato e MUTE Canale 5
9. LED di stato e MUTE Canale 6
10. LED di stato e MUTE Canale 7
11. LED di stato e MUTE Canale 8
12. Armonía callback

**Pannello Frontale X4 - X4L**

- A. Interruttore Wi-Fi
- B. Porta USB
- C. LED di stato e MUTE Canale 1
- D. LED di stato e MUTE Canale 2
- E. Interruttore di accensione principale, LED di stato e MUTE ALL
- F. LED di stato e MUTE Canale 3
- G. LED di stato e MUTE Canale 4
- H. Armonía callback

**中文****X8 前面板**

1. Wi-Fi 开关按钮
2. USB 端口
3. 通道1状态LED和静音
4. 通道2状态LED和静音
5. 通道3状态LED和静音
6. 通道4状态LED和静音
7. 总开关按钮, 状态LED和总静音
8. 通道5状态LED和静音
9. 通道6状态LED和静音
10. 通道7状态LED和静音
11. 通道8状态LED和静音
12. Armonía 回叫

**X4 - X4L 前面板**

- A. Wi-Fi开关按钮
- B. USB端口
- C. 通道1状态LED和静音
- D. 通道2状态LED和静音
- E. 总开关按钮, 状态LED和总静音
- F. 通道3状态LED和静音
- G. 通道4状态LED和静音
- H. Armonía 回叫

**Deutsch****X8 Vorderseite**

1. Wi-Fi Ein-/Ausschalter
2. USB Port
3. Status-LED und MUTE-Schalter Kanal 1
4. Status-LED und MUTE-Schalter Kanal 2
5. Status-LED und MUTE-Schalter Kanal 3
6. Status-LED und MUTE-Schalter Kanal 4
7. Netz Ein-/Ausschalter, Status LED und MUTE für alle Kanäle
8. Status-LED und MUTE-Schalter Kanal 5
9. Status-LED und MUTE-Schalter Kanal 6
10. Status-LED und MUTE-Schalter Kanal 7
11. Status-LED und MUTE-Schalter Kanal 8
12. Armonía Rückruffunktion

**X4 - X4L Vorderseite**

- A. Wi-Fi Ein-/Ausschalter
- B. USB Port
- C. Status-LED und MUTE-Schalter Kanal 1
- D. Status-LED und MUTE-Schalter Kanal 2
- E. Netz Ein-/Ausschalter, Status LED und MUTE für alle Kanäle
- F. Status-LED und MUTE-Schalter Kanal 3
- G. Status-LED und MUTE-Schalter Kanal 4
- H. Armonía Rückruffunktion

**Русский****X8 Передняя панель**

1. Кнопка включения/выключения Wi-Fi
2. USB-порт
3. Канал 1 LED-индикатор статуса и MUTE
4. Канал 2 LED-индикатор статуса и MUTE
5. Канал 3 LED-индикатор статуса и MUTE
6. Канал 4 LED-индикатор статуса и MUTE
7. Кнопка вкл./выкл. питания, LED-индикатор статуса и MUTE ALL
8. Канал 5 LED-индикатор статуса и MUTE
9. Канал 6 LED-индикатор статуса и MUTE
10. Канал 7 LED-индикатор статуса и MUTE
11. Канал 8 LED-индикатор статуса и MUTE
12. Соединение с ПО Armonía

**X4 - X4L Передняя панель**

- A. Кнопка включения/выключения Wi-Fi
- B. USB-порт
- C. Канал 1 LED-индикатор статуса и MUTE
- D. Канал 2 LED-индикатор статуса и MUTE
- E. Кнопка вкл./выкл. питания, LED-индикатор статуса и MUTE ALL
- F. Канал 3 LED-индикатор статуса и MUTE
- G. Канал 4 LED-индикатор статуса и MUTE
- H. Соединение с ПО Armonía

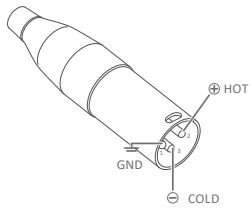
**Português****X8 Painel frontal**

1. Chave liga/desliga Wi-Fi
2. Porta USB
3. CH1 LED de status e MUTE
4. CH2 LED de status e MUTE
5. CH3 LED de status e MUTE
6. CH4 LED de status e MUTE
7. Chave on/off principal, LED de status e MUTE ALL
8. CH5 LED de status e MUTE
9. CH6 LED de status e MUTE
10. CH7 LED de status e MUTE
11. CH8 LED de status e MUTE
12. Armonía callback

**X4 - X4Lh Painel frontal**

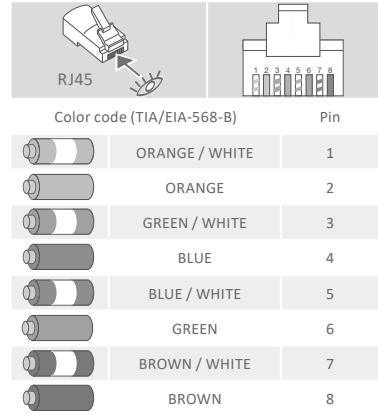
- A. Chave liga/desliga Wi-Fi
- B. Porta USB
- C. CH1 LED de status e MUTE
- D. CH2 LED de status e MUTE
- E. Chave on/off principal, LED de status e MUTE ALL
- F. CH3 LED de status e MUTE
- G. CH4 LED de status e MUTE
- H. Armonía callback

# I



Input XLR-M pinout	
Pin 1	GND
Pin 2	HOT ⊕
Pin 3	COLD ⊖

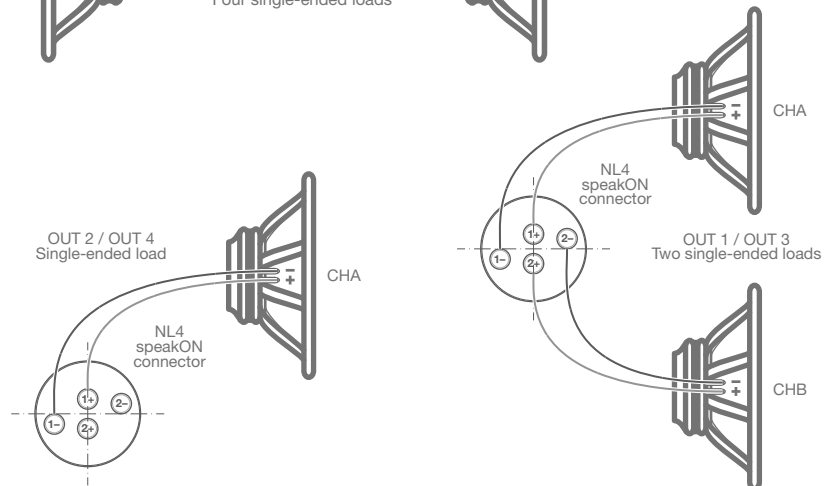
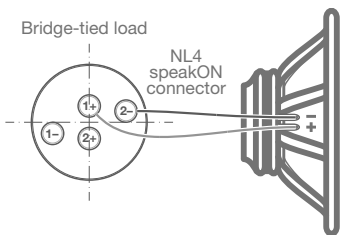
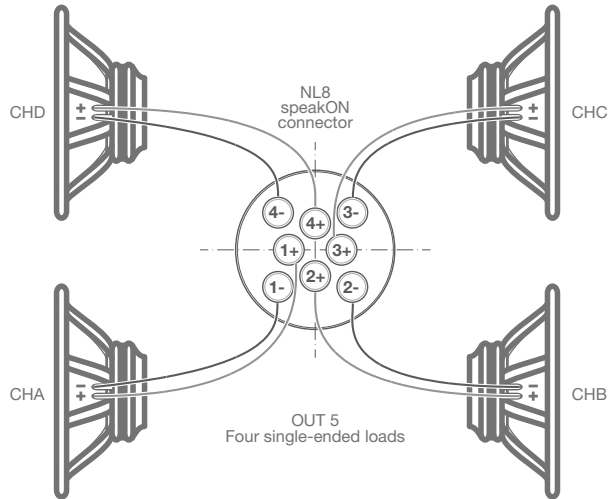
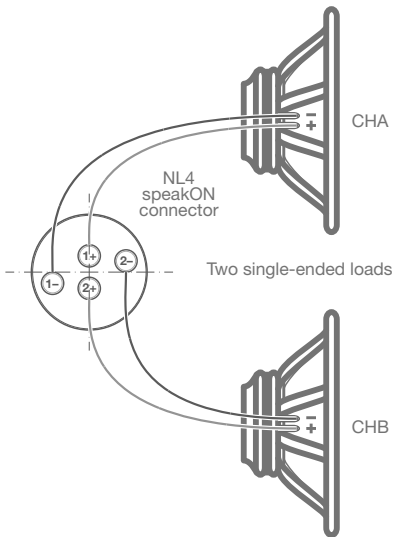
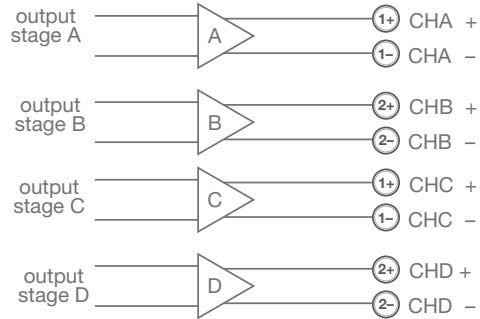
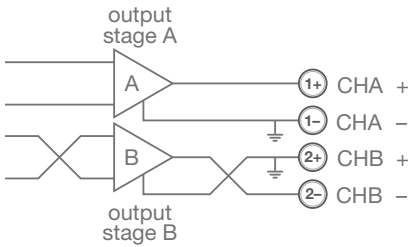
# J



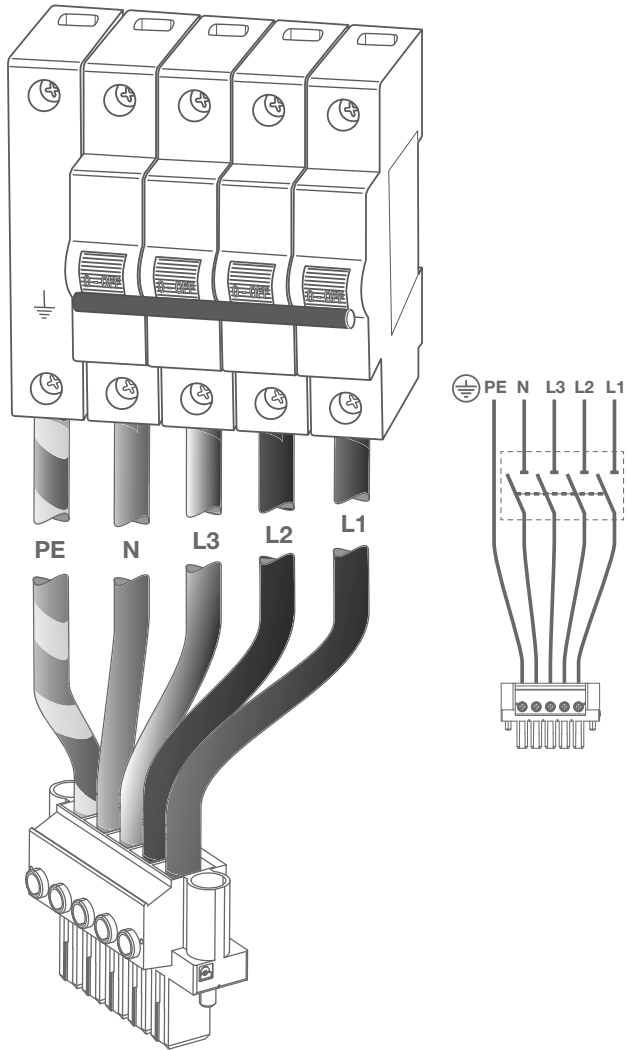
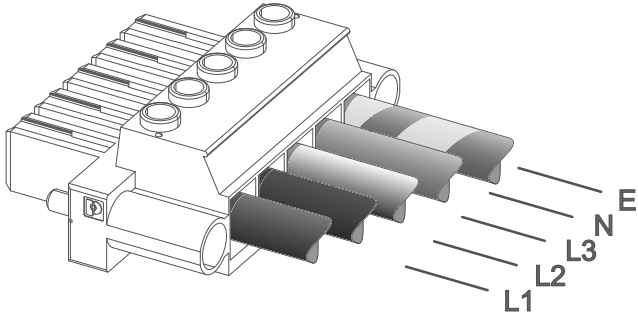
## X8, X4

# K

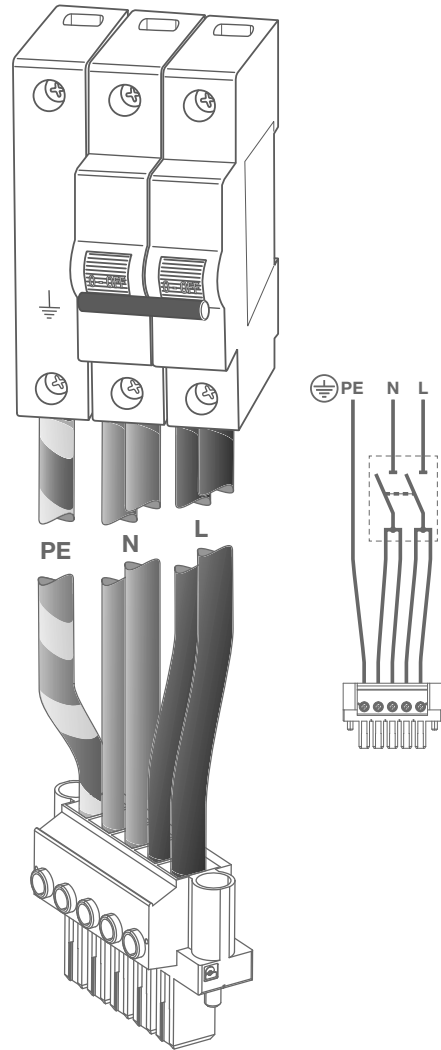
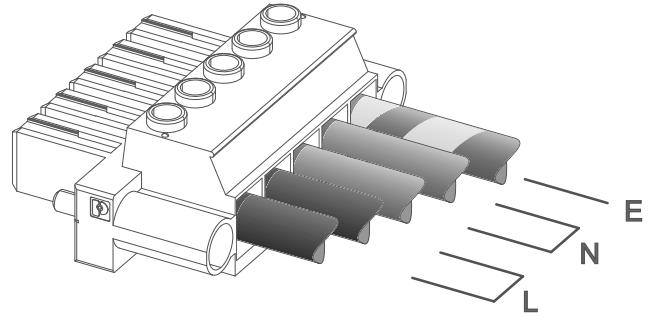
## X4L



# L

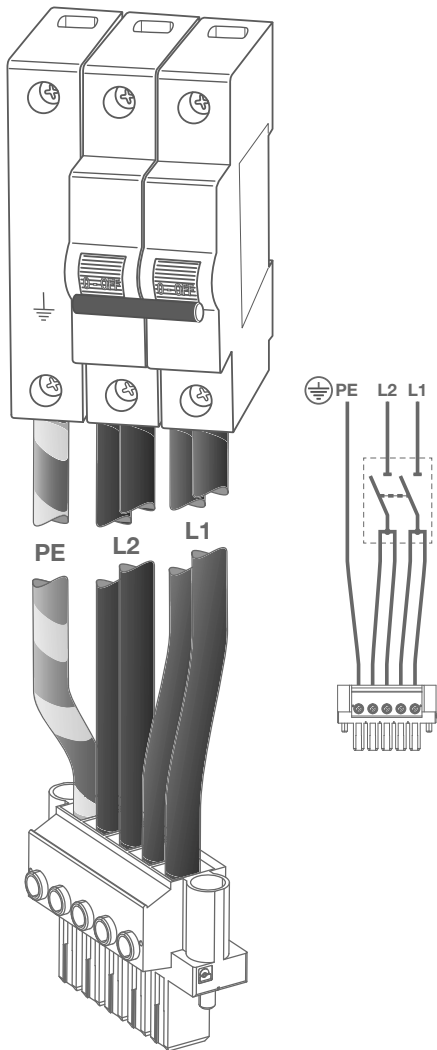
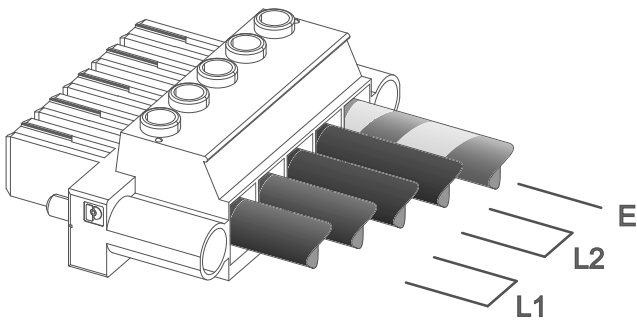


# M

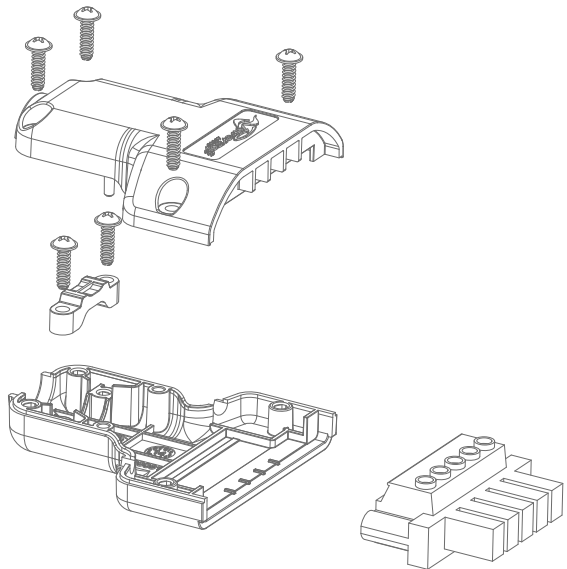




# N



# O



Once properly wired, insert and lock the flying connector into the shell provided by Powersoft.



Une fois correctement câblé, insérer et verrouiller le connecteur volant dans l'enveloppe fournie par Powersoft.



Una vez cableado apropiadamente, inserte y asegure el conector volante dentro de las cubiertas proveídas por Powersoft.



Dopo essere stato correttamente cablato, inserire e serrare il connettore volante nel guscio fornito da Powersoft.



警告一旦正确完成接线, 请将飞行接头插入 Powersoft 提供的外壳中并固紧。空开断路器必须放在随时可取用的地方



Nach korrekter Verdrahtung montieren Sie bitte den Kabelstecker in die beiden mitgelieferten Powersoft Steckergehäuseschalen und verschliessen diese.



Правильно соединив провода, вставьте штекер в защитный корпус и защелкните его.



Uma vez corretamente instaladas, inserir e travar o conector voando para o shell fornecido pela Powersoft.



## Regulatory information

### FCC COMPLIANCE NOTICE

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.**

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ▶ Reorient or relocate the receiving antenna.
- ▶ Increase the separation between the equipment and receiver.
- ▶ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ▶ Consult the dealer or an experienced radio/TV technician for help.

### WEEE DIRECTIVE

If the time arises to throw away your product, please recycle all the components possible.



This symbol indicates that when the end-user wishes to discard this product, it must be sent to separate collection facilities for recovery and recycling. By separating this product from other household-type waste, the volume of waste sent to incinerators or land-fills will be reduced and natural resources will thus be conserved.

The Waste Electrical and Electronic Equipment Directive (WEEE Directive) aims to minimise the impact of electrical and electronic goods on the environment. Powersoft S.p.A. comply with the Directive 2002/96/EC and 2003/108/EC of the European Parliament on waste electrical and electronic equipment (WEEE) in order to reduce the amount of WEEE that is being disposed of in land-fill site.

All of our products are marked with the WEEE symbol; this indicates that this product must NOT be disposed of with other waste. Instead it is the user's responsibility to dispose of their waste electrical and electronic equipment by handing it over to an approved reprocessor, or by returning it to Powersoft S.p.A. for reprocessing. For more information about where you can send your waste equipment for recycling, please contact Powersoft S.p.A. or one of your local distributors.

### EC DECLARATION OF CONFORMITY

Manufacturer:  
Powersoft S.p.A.  
via E. Conti 5  
50018 Scandicci (Fi)  
Italy



We declare that under our sole responsibility the products:

Model Names: X8, X4, X4L

Intended use: Professional Audio Amplifier

Are in conformity with the provisions of the following EC Directives, including all amendments, and with national legislation implementing these directives:

- ▶ 2006/95/EC Low Voltage Directive
- ▶ 2004/108/EC Electromagnetic Compatibility Directive
- ▶ 2002/95/CE RoHS Directive

The following armonized standards are applied:

- ▷ EN 55103-1
- ▷ EN 61000-3-2
- ▷ EN 61000-3-3
- ▷ EN 55103-2
- ▷ EN 61000-4-2
- ▷ EN 61000-4-3
- ▷ EN 61000-4-4
- ▷ EN 61000-4-5
- ▷ EN 61000-4-6
- ▷ EN 61000-4-11
- ▷ EN 60065

Scandicci,  
July 2014
















Luca Lastrucci  
Managing Director

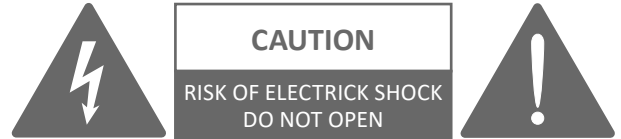
For compliance questions only: [compliance@powersoft.it](mailto:compliance@powersoft.it)

# Important safety instructions

# 1

## EXPLANATIONS OF GRAPHICAL SYMBOLS


-  The triangle with the lightning bolt is used to alert the user to the risk of electric shock.
-  The triangle with the exclamation point is used to alert the user to important operating or maintenance instructions.
-  The CE-mark indicates the compliance with the low voltage and electromagnetic compatibility.
-  Symbol for earth/ground connection.
-  Symbol indicating that the equipment is for indoor use only.
-  Symbol for conformity with Directive 2002/96/EC and Directive 2003/108/EC of the European Parliament on waste electrical and electronic equipment (WEEE).
-  Do not use the unit at altitudes above 2000 m.
-  Do not use the unit in tropical environment.
-  **WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT ATTEMPT TO OPEN ANY PART OF THE UNIT. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**
-  **DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE, DRIPPING OR SPLASHING LIQUIDS. OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THIS APPARATUS.**
-  **THE UNIT MUST BE INSTALLED IN RACK CABINETS ONLY: PLUG THE AMPLIFIER'S MAINS CONNECTIONS VIA A SECTIONING BREAKER TO A POWER DISTRIBUTION PANEL INSIDE THE RACK CABINET.**
-  **THE SECTIONING BREAKER MUST REMAIN READILY ACCESSIBLE.**
-  **WHEN THE UNIT IS INSTALLED IN A RACK CABINET, MAKE SURE THAT IT HAS SUFFICIENT SPACE ON ALL SIDES TO ALLOW FOR PROPER VENTILATION (50 CM FROM THE FRONT AND REAR VENTILATION OPENINGS).**
-  **CONNECTION TO THE MAINS SHALL BE DONE ONLY BY A ELECTROTECHNICAL SKILLED PERSON ACCORDING THE NATIONAL REQUIREMENTS OF THE COUNTRIES WHERE THE UNIT IS SOLD.**
-  **WARNING: FUSE ON NEUTRAL**



Electrical energy can perform many useful functions. This unit has been engineered and manufactured to ensure your personal safety. But **IMPROPER USE CAN RESULT IN POTENTIAL ELECTRICAL SHOCK OR FIRE HAZARD.**

In order not to defeat the safeguards incorporated into this product, observe the following basic rules for its installation, use and service. Please read these "Important Safeguards" carefully before use.

### Important safety instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this equipment near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
10. Only use attachments/accessories specified by the manufacturer.
11. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over. 
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

## 2:1.Welcome

---

Congratulations on buying a Powersoft X Series amplifier!

We know you are eager to use the X Series amplifier platform, but please take a moment to read this quick guide and the safety instructions. In case you have any questions, please do not hesitate to contact your dealer or Powersoft.

Powersoft X Series innovates the concept of amplifier platform: it implements a new system of channel routing, new power supply and a revolutionary full featured DSP. Powersoft X Series natively supports AES3, two redundant Dante™ by Audinate® digital streams (optional) and analog inputs, providing up to 4 different selectable input sources per channel.

For system configuration and fine tuning, ArmoníaPlus™ offers an intuitive interface, a comprehensive control over the digital audio processing and complete real-time monitoring of the system performance. The integrated Wi-Fi connection allows the Powersoft X Series to be accessed and managed via any mobile device through a user interface specifically developed for local monitoring.

Powersoft X Series raises power amplification to a new standard of quality and usability: they suit any configuration, save space and weight and offer you the legendary Powersoft efficiency with new worldwide compatible multi-phase power supplies.

## 2:2.Unpacking & checking for shipping damage

---

Your Powersoft product has been completely tested and inspected before leaving the factory. Carefully inspect the shipping package before opening it, and then immediately inspect your new product. If you find any damage, notify the shipping company or reseller immediately.

The box contains the following:

- ▶ 1x X Series amplifier.
- ▶ 1x AC mains PC 5/5-STF1-7,62 Phoenix plug
- ▶ 1x shell for the AC mains plug
- ▶ 1x quick guide

## 2:3.Disposal of the packaging material

---

The protective transport packaging has been selected from materials which are environmentally friendly for disposal and can normally be recycled.

**Rather than just throwing these materials away, please ensure they are offered for recycling.**

## 2:4.List of image panels

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- A. X8/X4L mechanical drawings: all dimensions in millimeters
- B. X4 mechanical drawings: all dimensions in millimeters
- C. X8 rear panel
- D. X4L rear panel
- E. X4 rear panel
- F. X8 and X4L/X4 front panels
- G. Mounting brackets and air flow direction
- H. Rule for stacking amplifiers in closed racks
- I. Input connector pinout
- J. RJ45 Ethernet pinout
- K. Loudspeakers wirings
- L. Three-phase electric power: AC mains plug wiring
- M. Single-phase electric power: AC mains plug wiring
- N. Two-phase electric power: AC mains plug wiring
- O. AC mains plug shield
- P. Regulatory information

# Installation

# 3

## 3 : 1. Location

The intended use of X Series amplifiers is in a rack only. The AC mains wirings of the units must be connected to a terminal box provided with a properly breaker (refer to §3:4. Alimentazione elettrica for more details). It is not allowed to connect the X Series AC mains connection directly to the power distribution system. For North America market we recommend to use an approved UL/CSA cable (i.e. ST 600Vac 105°C 5x13AWG).

In order to limit the risk of mechanical damages, the amplifiers must be fixed to the rack using both frontal and rear mounting brackets. We recommends to use eight M6 or 12-24 UNC-2B screws for threaded holes or cage nuts.

Install this amplifier as far as possible from radio tuners and TV sets. An amplifier installed in close proximity of such equipment may experience noise or generic performance degradation. Placing and using the amplifier for long periods of time on heat generating sources will affect its performance. Avoid placing the amplifier on heat generating sources.

## 3 : 2. Cooling

Install the amplifier in a well-ventilated location: the ventilation openings must not be impeded by any item such as newspapers, tablecloths, curtains, etc; keep a distance of at least 50 cm from the front and rear ventilation openings of the amplifier.

All Powersoft amplifiers implement a forced-air cooling system to maintain low and constant operating temperatures. Drawn by the internal fans, air enters from the front panel and is forced over all components, exiting at the back of the amplifier.

The amplifier's cooling system features "intelligent" variable-speed DC fans which are controlled by the heatsink temperature sensing circuits: the fans speed will increase only when the temperature detected by the sensors rises over carefully pre-determined values. This ensures that fan noise and internal dust accumulation are kept to a strict minimum.

Should however the amplifier be subject to an extreme thermal load, the fan will force a very large volume of air through the heat sink. In the extremely rare event that the amplifier should dangerously overheat, sensing circuits shut down all channels until the amplifier cools down to a safe operating temperature. Normal operation is resumed automatically without the need for user intervention.

X Series amplifiers can be stacked one on top of the other due to the efficient cooling system they are equipped with.

There is however a safety limit to be observed: in case a rack with closed back panels is used, leave one rack unit empty every four installed amplifiers to guarantee adequate air flow (see [Panel G](#), p. 10).

## 3 : 3. Cleaning

Always use a dry cloth for cleaning the chassis and the front panel. Air filter cleaning should be scheduled according to the dust levels in the amplifier's operating environment.



**Disconnect the AC mains source before attempting to clean any part of the amplifier**



In order to clean the vent filters you need to remove the front cover: never attempt to open any other part of the unit.

By means of a metric hex key #6, unscrew the two screws located on the left and right sides of the front panel, (see [FIG. 1](#)) gently lift the cover and remove the filter. You may use compressed air to remove the dust from filters, or wash it with clean water: in the latter case ensure that the filter is dry before reassembly.

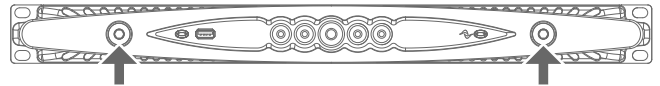


FIG. 1: Use a #6 hex key to remove the front cover.

## 3 : 4. AC mains supply

X Series amplifiers offers worldwide AC acceptance and direct connection to any regional power line configuration. Powersoft's legendarily reliable power supply is now suitable to single-phase, two-phase or three-phase operation from 90 V<sub>AC</sub> up to 464 V<sub>AC</sub> without need of manual selection: true three-phase load balancing is directly achievable by the unit without any complex load assignment in the power distribution system design.

AC mains connection is provided by means of the euroblock Phoenix PC 5/5-STF1-7,62 flying plug (Phoenix product ID 1777862). Proper assembly of the AC mains conductors to the flying plug must respect the power line configuration.

Take care to connect any and all the five contacts of the flying plug to the power cords according to the configuration showed in [Panel K](#), [L](#), [M](#) at p. 13 and p. 14. In order to guarantee the proper connection we recommend to use an approved UL/CSA cable (i.e. ST 600Vac 105°C 5x13AWG).



**This device must be powered exclusively by earth connected mains sockets in electrical networks compliant to the IEC 364 or similar rules.**



Since the main power switch on this unit does not provide a complete insulation of the equipment from the main power, you must disconnect the main power source to turn off all power.



**Provide a sectioning breaker between the mains connections and the amplifier.**








The proper device to use depends on mains configuration; for X8 Powersoft suggests:

- ▷ single-phase AC (P+N+E): 32 A rating, C or D curve, 10 kA;
- ▷ three-phase AC (3P+N+E): 4 x 16 A rating, C or D curve, 10 kA.

For X4 Powersoft suggests:

- ▷ single-phase AC (P+N+E): 16 A rating, C or D curve, 10 kA;
- ▷ three-phase AC (3P+N+E): 4 x 10 A rating, C or D curve, 10 kA.

NOTE: The pictures and instructions about AC wiring refer to the European CENELEC standards April 2004 (IEC 60446) color code for conductor identification (see [TAB. 1](#)).

Conductor		Color	
Neutral or mid-point conductor	N	blue	
AC phase conductors	L1	brown	
	L2	black	
	L3	grey	
Protective conductor (earth)	E	green/yellow	

TAB. 1: Color code for conductor identification.



**AC mains connections must be performed only by professional or qualified personnel according to local electrical authorities guidelines.**



### 3 : 4.1. Three-phase electric power

Each single conductor must be secured to the PC 5/5-STF1-7,62 flying plug as shown in [Panel K, p. 13](#). In some instances neutral connection may lack: on three-phase systems neutral connection is not even necessary given the capability of the X Series to work in delta connection.

### 3 : 4.2. Two-phase electric power

Balanced two-phase AC mains in the configurations 2P+E without neutral must be secured to the PC 5/5-STF1-7,62 flying plug as shown in [Panel M, p. 14](#). Take care to double the phase wires at the connecting terminals of the sectioning breaker in order to guarantee the proper conduction gauge.

### 3 : 4.3. Single-phase electric power

P+N+E, unbalanced single-phase with neutral is the usual configuration for single-phase AC mains; wiring must be configured as shown in [Panel L, p. 13](#). Take care to double the phase and neutral wires at the connecting terminals of the sectioning breaker in order to guarantee the proper conduction gauge.

## 3 : 5. Precautions regarding installation

### WARNING: TO PREVENT FIRE OR ELECTRIC SHOCK

- ④ This device must be powered exclusively by earth connected mains sockets in electrical networks compliant to the IEC 364 or similar rules.
- ④ Install the unit into rack cabinet only.
- ④ A sectioning breaker between the mains connections and the amplifier must be installed inside the rack cabinet.
- ④ Take care to properly lock each power cord wire to the flying connector Phoenix PC 5/5-STF1-7,62.
- ④ Once properly wired, insert and lock the flying connector into the shell provided by Powersoft.
- ④ Lock the flying connector to the amplifier inlet.
- ④ Before powering this amplifier, verify that the correct voltage rating is being used.
- ④ Verify that your mains connection is capable of satisfying the power ratings of the device.
- ④ Do not use this amplifier if the electrical power cord is frayed or broken.
- ④ Output terminals are hazardous: wiring connection to these terminals require installation by an instructed person and the use of ready-made leads.
- ④ Take care to lock the output terminal before switching the device on.
- ④ To avoid electrical shock, do not touch any exposed speaker wiring while the amplifier is operating.
- ④ Do not spill water or other liquids into or on the amplifier.
- ④ No naked flame sources such as lighted candles should be placed on the amplifier.
- ④ Do not remove the cover. Failing to do so will expose you to potentially dangerous voltage.
- ④ The manufacturer cannot be held responsible for damages caused to persons, things or data due to an improper or missing ground connection.
- ④ Contact the authorized service center for ordinary and extraordinary maintenance.

**It is absolutely necessary to verify these fundamental requirement of safety and, in case of doubt, require an accurate check by qualified personnel.**

### 3 : 6. Switch on

As soon as you connect the amplifier to the power grid, the amplifier's power supply will start supplying power to the auxiliary systems. The border of the central button starts blinking white: the amplifier is in standby mode.

A pressure on the central button will wake up the amplifier.



### 3 : 7. Switch off

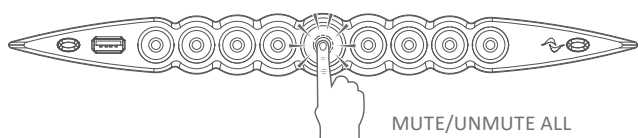
Keep pressed the central button for 3 seconds to switch the amplifier off. The amplifier platform passes to the standby mode and the border of the central button blinks white.

The amplifier platform turns completely off only when the mains connector is unplugged.

### 3 : 8. Mute

A short pressure on the central button toggles MUTE/UNMUTE to all active channels: any previously muted channel will remain in mute status.

All other circular buttons (except the central one) toggle the MUTE/UNMUTE to the specified output channel.



NOTE: Please note that when the amplifier platform is linked and controlled by ArmoníaPlus™ all MUTE switches are locally disabled.

### 3 : 9. Wi-Fi switch

Press the leftmost button: the button will light up and the system will establish a new local Wi-Fi network whose SSID is in the form: **Powersoft-MODELNAME-SERIAL** (e.g. Powersoft-X8-70133) and default password: **0123456789**.

Press again the leftmost button to switch the Wi-Fi off.

### 3 : 10. Armonía callback

In order to identify the unit into the Armonía Workspace, push on the rightmost button. On the other hand, if you click on Un/Blink from the contextual menu of the amplifier into the Armonía Workspace, all the front LEDs of the amplifier will blink for a while.

## Wi-Fi

# 4

The factory default frequency setting on an X Series amplifier is 5GHz, but it's possible to change it to 2.4 GHz via ArmoníaPlus.

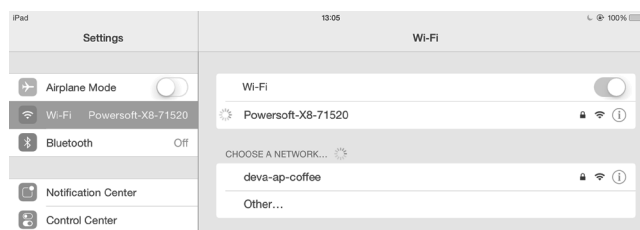
Follow this procedure to activate the Wi-Fi connection and remotely access your Powersoft X Series amplifier platform.

1. Switch on the amplifier by holding down the central button on the front panel;
2. Press the leftmost button in the front panel: the button will light up and the system will establish a new local Wi-Fi network whose SSID is in the form:

**Powersoft-MODELNAME-SERIAL** (e.g. Powersoft-X8-71520)

3. Access your mobile device and edit the Wi-Fi configuration;
4. Hang the Wi-Fi network with the right SSID;
5. Insert the following default Wi-Fi encryption password:

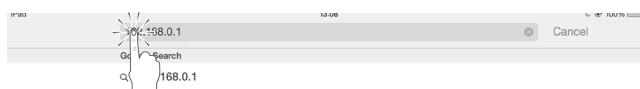
**0123456789**



6. Open the web browser and type the following IP address in the address bar:

**192.168.0.1**

7. The system will push the user interface to the browser: now you can start managing your X Series amplifier platform.



8. For simple recall and operation with the interface, we suggest to bookmark the page on the home screen of your mobile device; for example, in iOS device click on the share icon and select "Add to Home Screen" when the interface has been completely loaded.
9. Remember to switch the local Wi-Fi network off when monitoring and basic setup are no more necessary: press the leftmost button in the front panel in order to switch off the Wi-Fi.

# Connections

Make sure the power switch is off before attempting to make any input or output connections.

By using good quality input and speaker cables, the likelihood of erratic signal behavior is reduced to a minimum. Whether you make them or buy them, look for good quality wires, connectors and soldering techniques.

## 5 : 1. Signal grounding

There is no ground switch or terminal on the X Series amplifiers. All shield terminals of input connections are directly connected to the chassis. This means that the unit's signal grounding system is automatic. In order to limit hum and/or interference entering the signal path, use balanced input connections.

In the interests of safety, the unit **MUST** always operate with electrical safety earth connected to the chassis via the dedicated Protective Earth  $\oplus$  wire.

## 5 : 2. Analog audio input connections

Analog input is provided by means of Neutrik XLR female connectors, one per channel input. Signal polarity of analog input connections is shown in [Panel H, p. 12](#).

## 5 : 3. Digital audio input connections

Digital input is supported via AES3 (AES/EBU) and Dante™ standard protocols in Dante equipped devices.

AES3 connectors are Neutrik XLR female, one per channel pair. The AES3 connection carries a channel pair through a 110  $\Omega$  nominal impedance wire in the form of a balanced (differential) digital signal: in AES3 XLR connectors the identification of hot and cold pins is not an issue; take care to never tie pin 2 or pin 3 (balanced signals) to pin 1 (ground). Avoid the use of microphone cables in AES connections: impedance mismatch can result in signal reflections and jitter, causing bit errors at the receiver.

In Dante equipped devices, Dante connectivity is supported via two Neutrik etherCON ports located on the rightmost side of the X8 and X4 rear panels. Fast Ethernet (IEEE 802.3u, 100 Mbit/s) and Gigabit Ethernet (IEEE 802.3ab, 1 Gbit/s) network protocols are supported; Cat5e or Cat6 standard UTP twisted pair cables shall be used for connections up to 100 meters (328 ft).

Ethernet cabling must comply to TIA/EIA-568-B and adopt the T568B scheme pinout, as shown in [Panel I, p. 12](#).

## 5 : 4. Output connections



### CLASS 3 WIRING

Output terminals are hazardous: wiring connection to these terminals require installation by an instructed person and the use of ready made leads. Take care to secure the output terminals before switching the device on.

Single-ended and bridge-tied loudspeakers connection are supported as shown in [Panel J, p. 12](#).

## 5 : 5. Ethernet connections

X Series amplifier platforms can be remotely controlled via an Ethernet connection through a personal computer and Powersoft ArmoniaPlus software.

Powersoft recommends the use of Ethernet Cat5 straight through – *patch* – cables with pin/pair assignments TIA/EIA-568-B, i.e. T568B, as shown in [Panel I, p. 12](#).

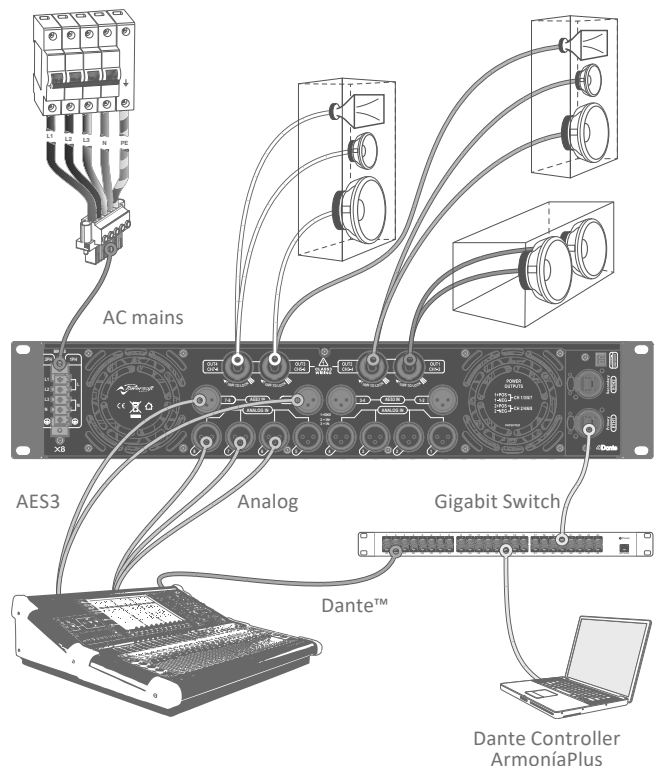


FIG. 2: Example of X8 connections.



# Software update

# 6 LED chart

# 7

Powersoft X Series amplifier platforms embed a complete digital audio signal management system based on ARM Cortex A-8 processor and TI C6000 DSP platform. This impressive on-board computing capacity is driven by a dedicated software environment.

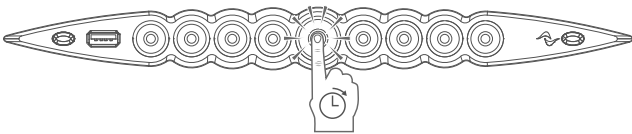
Updated releases of the X Series software are available on the Armonía forum (<https://armonia.powersoft.it/>).

The package contains the software update file whose name is in the form:

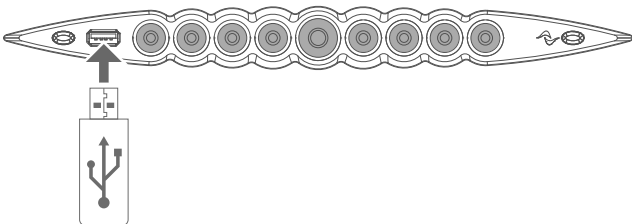
**update-version#-model.bin**

(e.g. update-v1.5.0.6-x4.bin); in order to update the software of your X Series amplifier platform you must store the software update file into a USB key and follow these instructions:

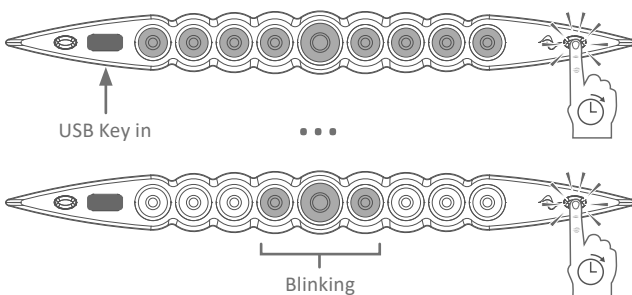
1. Switch the amplifier on and wait for the completion of the boot sequence.



2. Plug the USB key with the software update file to the USB port in the front panel of the amplifier.







3. Keep pressed the rightmost pushbutton (Armonía callback) until the second beep is emitted and the LEDs start blinking.





4. Wait until the amplifier restarts and all front LEDs turn solid blue.



All circular back illuminated buttons provide status information. The CENTER of each channel button provides status information about the OUTPUT signal.

Center color OUTPUT indicators		Center color OUTPUT indicators	
color	status	color	status
 blue	Channel ready	 orange	MUTE OUTPUT
 yellow	Limiter active	 orange blinking	MUTE INPUT



The RING of each channel button provides status information about the INPUT signal.



Ring color INPUT indicators		
color	status	
 white blinking (center blue)	Input signal presence	
 red	Input signal clipping	

Channel fault and Armonía callback are associated to the following LED signals.

color	status
 red blinking (center and ring)	Channel fault
 blinking / all channels (center and ring)	Unit answering to Armonía callback

The central button light on when the system is in standby mode or in case of failure in the power supply unit:

Ring color CENTRAL button		
color	status	
 white pulsing (all LEDs off)	System powered Standby mode	
 red pulsing (normal operating)	fan fault detected (output stage side fan)	

Center color CENTRAL button		
color	status	
 red blinking	power supply or PSU fan fault detected	
 yellow blinking	power supply temperature protection active	

# Networking

X Series amplifier platforms support linear daisy-chain, star and loop network topologies; in a daisy-chained network the PC with ArmoníaPlus must always be at one end of the chain.

Be aware that daisy-chaining does not guarantee reliability in production environment, since any fault may yield to network sectioning and loss of system control.

When efficiency and reliability are paramount, a redundant network topology is advisable. In order to exploit the Dante features, only star and open daisy-chain network topology are allowed.

## 8:1.IP addressing

Factory default network settings are DHCP/AutoIP, in order for the amplifier platform to self-configure when connected to an existing LAN or PC. Fixed IP policy can also be adopted and configured through ArmoníaPlus.

If a DHCP server is not active within the network, the amplifier platform initiates a stateless address auto-configuration (i.e. Zero-configuration networking methodology – Zeroconf): it self assigns a local numeric network address (of the type 169.254.x.y – 172.31.\*.\* for the secondary network if present – with a subnet mask 255.255.0.0) and automatically distributes and resolves the hostnames of networked devices. For setting a static IP address, please refer to the ArmoníaPlus user guide.

### 8:1.1. IP Addressing troubleshooting

When connecting the X Series to a network environment it may happen that ArmoníaPlus does not discover or import the amplifier.

Usually this is a problem of IP addressing: both Armonía and the X Series must belong to the same subnet. If a DHCP server is present on the network and a X Series amplifier platform is in AUTO IP, networking may become unstable.

**As a rule of thumb, turn the DHCP server on before connecting the amplifiers.**

IP addressing of a X Series amplifier is established during the bootstrap: when the X Series amplifier platform discovers a DHCP server on the network during the startup, it negotiates the networking parameters. If the X Series amplifier platform does not reveal a DHCP server on the network during the startup, it set itself in AUTO IP mode.

## 8:2.Dante™ networking

The Dante equipped models of the X Series amplifier platforms support Dante redundant networking via the two etherCON ports on the rear panel:

- ▶ Primary/ETH1 is the Primary network port;
- ▶ Secondary/ETH2 is the Secondary network port.

Dante connectivity is always supported on the Primary/ETH1 Gigabit Ethernet port; the Secondary/ETH2 Gigabit Ethernet port offers continuity of operation when a parallel redundant network is established.

In order to implement a Dante network, a computer running Dante Controller have to be used. Dante Controller is a software application that manages devices on the network. X series amplifier platforms are automatically discovered and displayed in Dante Controller with the default identifier *MODELNAME-SERIAL* (e.g. X8-71520).

Dante networks will almost always require at least one network switch. Redundant infrastructures may require multiple switches. For maximum reliability, network switch shall:

- ④ be Rated for Gigabit Ethernet;
- ④ be Non-blocking;
- ④ have Quality of Service (QoS) with at least four queues;
- ④ have Diffserv (DSCP) QoS with strict priority;
- ④ have EEE (Energy efficient ethernet) switched off.

For detailed information on setting up a switch, please refer to the manufacturer's documentation.

### 8:2.1.Redundant network configuration

Dante Redundancy can be set-up and used between any supporting Dante-enabled audio equipment: it works by using two completely independent and separate networks, the Primary Network and the Secondary Network.

To setup and use Dante Redundancy, connect the X Series amplifier platform and other redundant Dante-enabled audio equipment using duplicate Gigabit switches and Ethernet cables. Connect your computer running Dante Virtual Soundcard and Dante Controller, and other non-redundant Dante-enabled audio equipment to the Primary Network.

The primary and secondary networks MUST NOT be interconnected at any point. Make sure any computer is set to automatically configure its IP address.