



Behringer Digital Mixer integrated Wifi Module and USB Stereo Recorder User Guide

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Important Safety Instructions



Terminals marked with this symbol carry electrical current of sufficient magnitude to constitute risk of electric shock. Use only high-quality professional speaker cables with 1/4" TS or twist-locking plugs pre-installed. All other installation or modification should be performed only by qualified personnel.



This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure – voltage that may be sufficient to constitute a risk of shock.




This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.



Caution To reduce the risk of electric shock, do not remove the top cover (or the rear section). No user serviceable parts inside. Refer servicing to qualified personnel.




Caution To reduce the risk of fire or electric shock, do not expose this appliance to rain and moisture. The apparatus shall not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, shall be placed on the apparatus. Caution These service instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operation instructions. Repairs have to be performed by qualified service personnel.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with 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. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Use only attachments/accessories specified by the manufacturer.
12.  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.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. 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

15. The apparatus shall be connected to a MAINS socket outlet with a protective earthing connection.
16. Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.



17.  Correct disposal of this product: This symbol indicates that this product must not be disposed of with household waste, according to the WEEE Directive (2012/19/EU) and your national law. This product should be taken to a collection center licensed for the recycling of waste electrical and electronic equipment (EEE). The mishandling of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. At the same time, your cooperation in the correct disposal of this product will contribute to the efficient use of natural resources. For more information about where you can take your waste equipment for recycling, please contact your local city office, or your household waste collection service.
18. Do not install in a confined space, such as a book case or similar unit.
19. Do not place naked flame sources, such as lighted candles, on the apparatus.
20. Please keep the environmental aspects of battery disposal in mind. Batteries must be disposed-of at a battery collection point
21. Use this apparatus in tropical and/or moderate climates.

LEGAL DISCLAIMER

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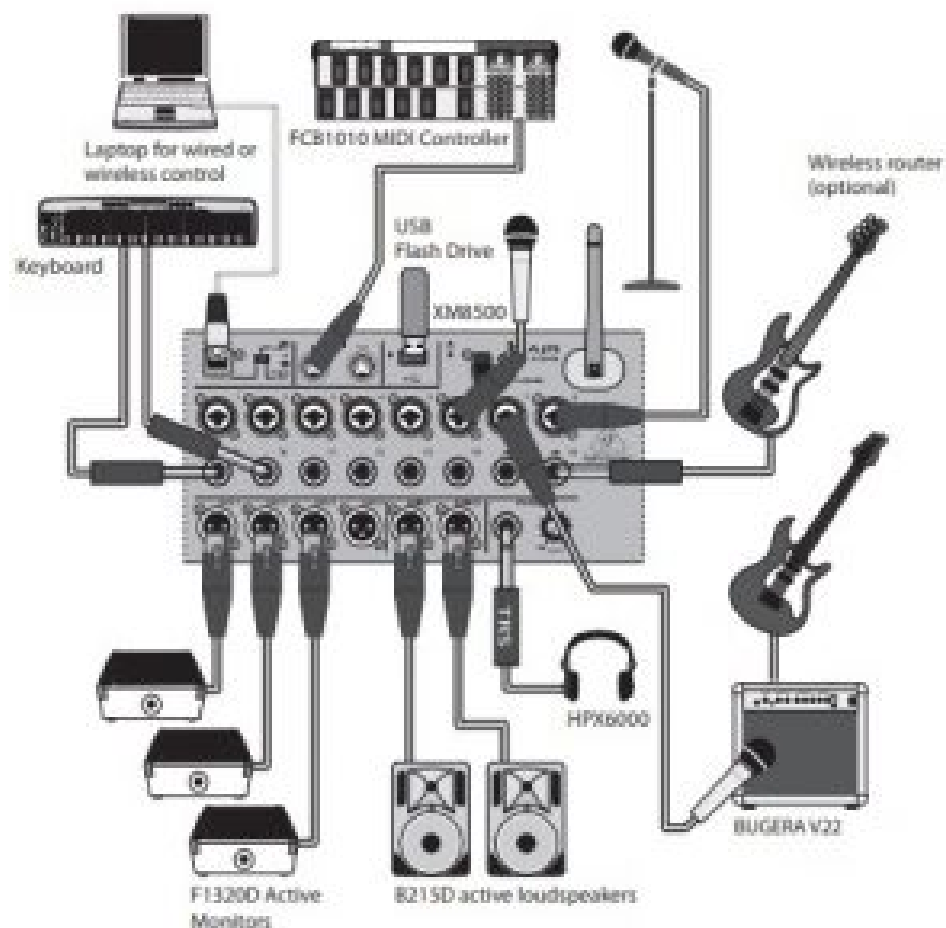
LIMITED WARRANTY

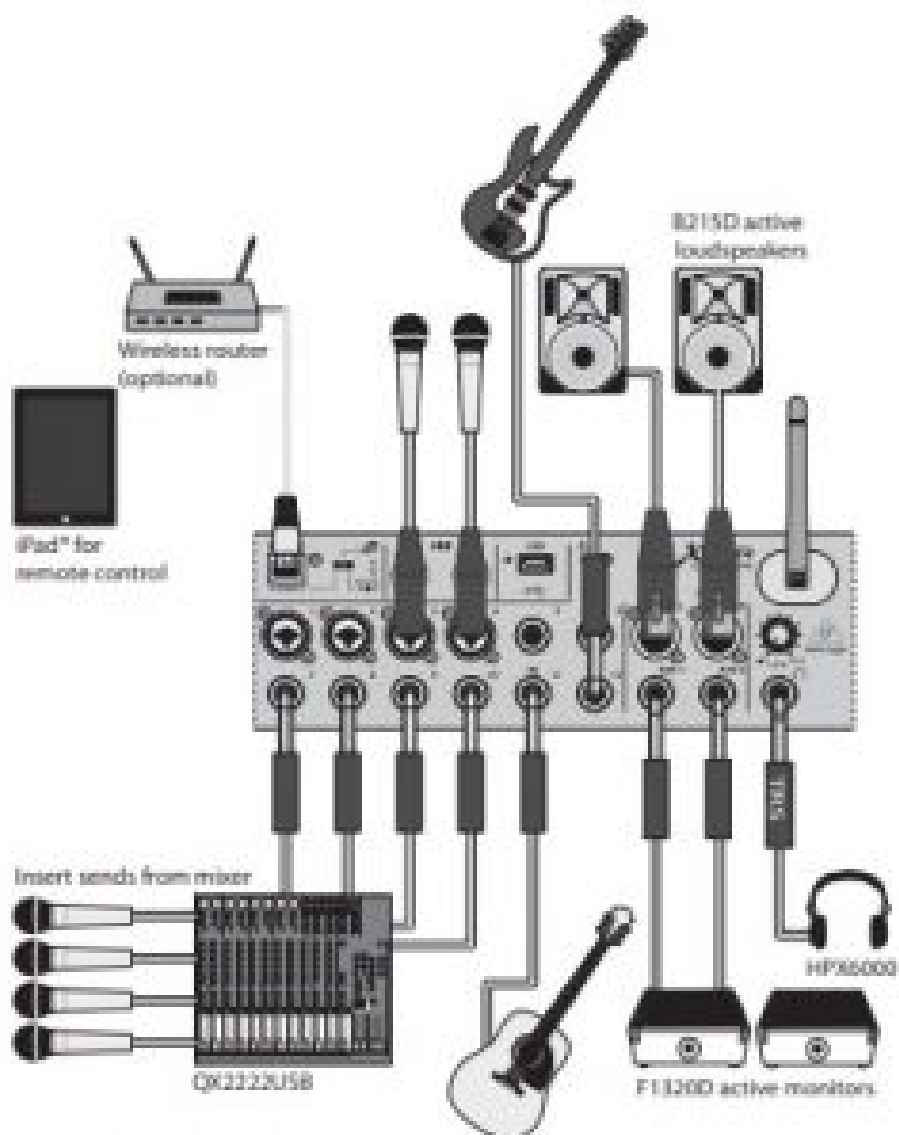
For the applicable warranty terms and conditions and additional information regarding Music Tribe's Limited Warranty, please see complete details online at musictribe.com/warranty.

X AIR XR16/XR12 Hook-up



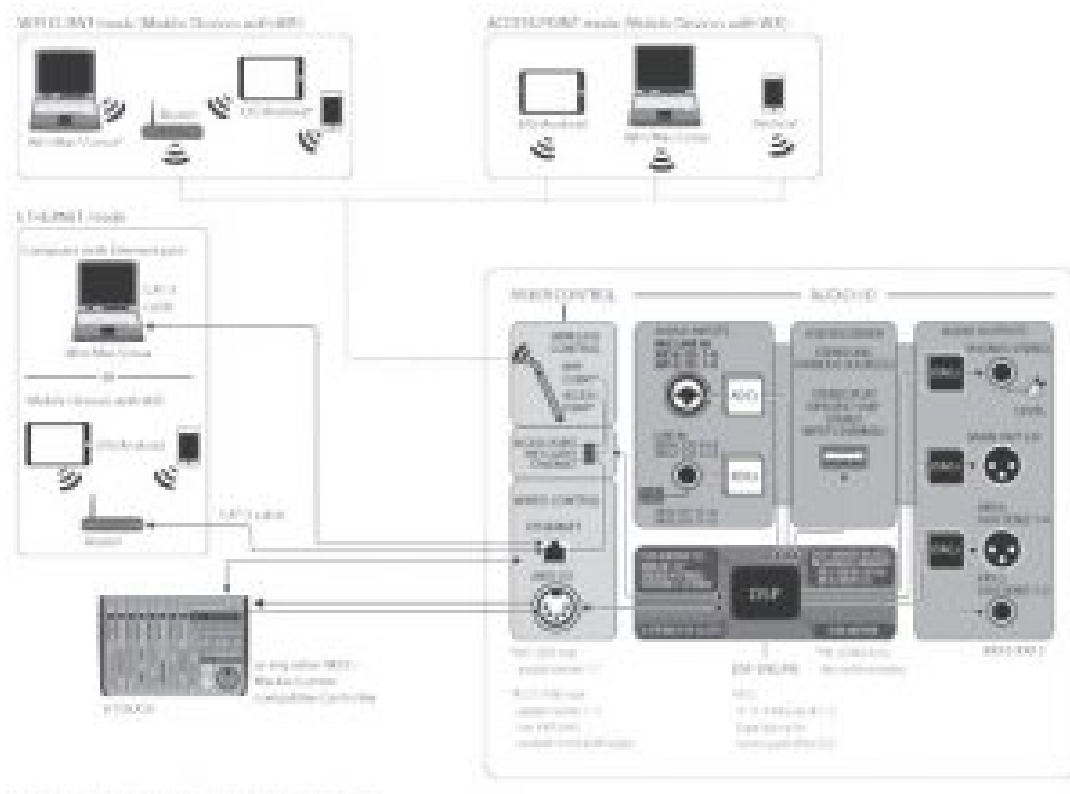
Step 1: Hook-Up



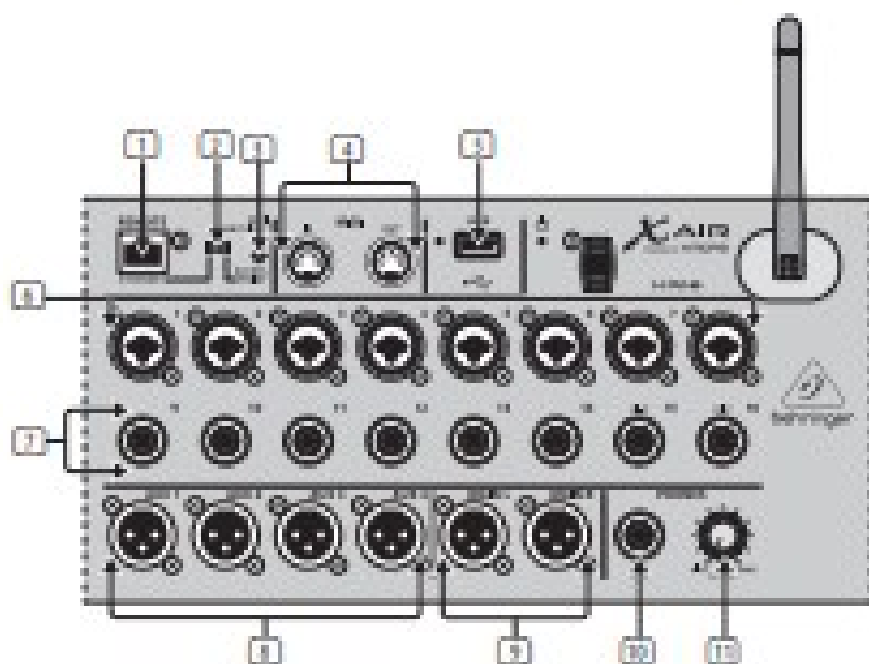


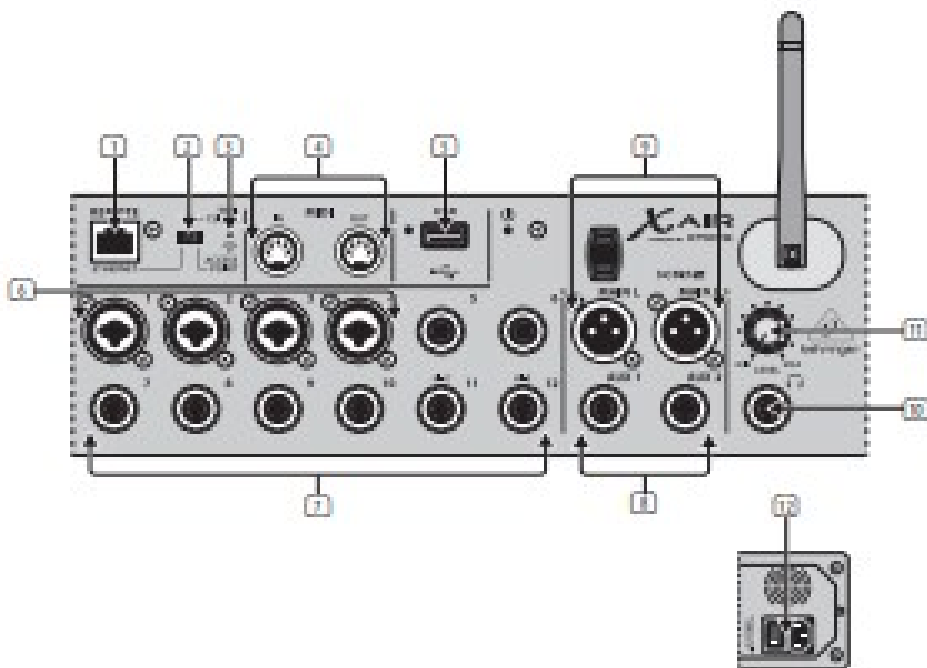
X AIR XR16/XR12 Hook-up

EN Step 1: Hook-Up



X AIR XR16/XR12 Controls





EN Step 2: Controls

1. ETHERNET port allows the mixer to be controlled via LAN or connected Wifi router.
2. REMOTE switch selects between Ethernet, Wifi client, or Access Point. See the Network Connection chapter for details.
3. RESET button resets the console to default network parameters when held for 2 seconds. When held for 10 seconds, all console functions are reset to factory default status.
4. MIDI IN/OUT jacks send and receive MIDI signals to and from external equipment. See the MIDI Implementation chart for details.
5. USB port (type A) accepts a flash drive for file storage, stereo recordings and playback. The red LED next to it indicates file access. Do not remove the USB flash drive while it is lit!
6. XLR COMBO jacks accept balanced and unbalanced XLR and 1/4" plugs.
7. 1/4" inputs accept balanced or unbalanced 1/4" plugs. Channel 15 and 16 on the XR16 (channel 11 and 12 on the XR12) accept high impedance sources for direct connection of guitars and basses.
8. AUX SEND jacks send your monitor mixes to stage monitors or headphone mixers. The XR16 uses XLR connectors while the XR12 uses balanced 1/4" jacks.
9. MAIN L/R jacks send the main mix signal to PA or monitor speakers via XLR cables.
10. HEADPHONE jack accepts a 1/4" TRS plug for connecting a pair of headphones.
11. PHONES LEVEL knob determines the output of the headphones jack.
12. POWER switch turns the mixer on and off. The front panel LED will light when the unit is powered on.

X AIR XR16/XR12 Network Connection

EN Step 3: Network Connection

Network Connection

The X AIR mixers eliminate all hassles by incorporating a wireless network router that gives access to the mixer in three different ways via Ethernet LAN, or wirelessly as a Wifi Client or as an Access Point. Selection is made with

the REMOTE switch [2]. You may view or change the network preferences for these on any of the X AIR remote control applications on the 'Setup/Network' page.

IP Address and DHCP

Depending on the connection scenario, the XR16/XR12 offers up to 3 options for connecting a tablet or PC for software control DHCP Client, DHCP Server, and fixed IP operation. Connection is achieved differently depending on which option you choose: DHCP Client mode is available in Ethernet LAN or Wifi Client operation. The mixer will automatically request an IP lease from the DHCP server that owns the IP addresses in the network to which you are trying to connect.

DHCP Server (DHCPs) is optionally available for Ethernet LAN connections and is standard in Access Point operation. The mixer will own the IP addresses and provide IP leases to devices requesting access to that network. The mixer will always use IP address 192.168.1.1 and assign IP addresses 192.168.1.101 - 192.168.1.132 to its clients. Static IP is available for Ethernet LAN and Wifi Client operation. The mixer will use the fixed (static) IP address, subnet mask and gateway that you specify for registering on the network. Make sure that the addresses you specify manually are not conflicting with any other addresses on the same network. We generally recommend using the DHCP mode, unless you have a very specific reason to set it up manually.

Note: Changing parameters of the currently selected connection mode will disconnect the software from the console. If the console is erroneously configured for a fixed IP address that is incompatible with the network it is connected to, the console will be inaccessible. In this case, one of the other two connection modes can be used to regain access and amend the settings. If that does not work, hold the Reset button for 2 seconds to return to default network settings.



Mixer name and Ethernet setup screen

Ethernet/LAN

This mode supports DHCP Client (default), DHCP Server, and fixed IP operation. Note that if the XR16/XR12 is connected to a network where no DHCP server is present, the mixer will generate an automatic IP address (range 169.254.1.0 169.254.254.255). There are no security options for LAN connections, so any device in that network may take control of connected XR16/XR12 consoles. When connecting via LAN/ Ethernet to a Wifi router, make sure the security settings of that router prevent unauthorized access.

Wifi Client setup screen



Wifi Client

This mode supports DHCP Client (default) and fixed IP operation. The XR16/XR12 can support WEP, WPA and WPA2 security mechanisms in Wifi Client mode and works on Wifi channels 1-11.

Correct SSID (network name) and password need to be supplied to connect to an existing network. WEP passwords have to be either 5 characters or 13 characters long. If the supplied SSID and password are incorrect, the mixer cannot be accessed. In this case the networking parameters have to be reset and another connection mode has to be used to regain access. The Ethernet connection mode may be used for configuration of the Wifi Client mode. While being connected in Ethernet mode, the X AIR mixer can scan the available wireless networks and display their SSID network names, field strength and security method. By selecting the preferred wireless network, this information can be copied to the applications' Wifi Client setup page automatically. You will then be prompted to fill in the security password of that network. After switching from Ethernet to Wifi Client mode, the mixer should connect to the selected wireless network automatically, and will be displayed by remote applications on any device connected to the same network.

Access Point setup screen



Access Point

This mode only supports DHCP Server operation with a maximum of 4 clients, working on Wifi channels 1-11. Security is supported via WEP 40-bit (5 ASCII characters) or WEP 104-bit (13 ASCII characters). By default, the mixer will use a network name consisting of the model name plus the last bits of the mixer's unique MAC address (e.g. XR16-17-BE-C0). The default IP address is 192.168.1.1 and no security is engaged. The control software is available for Android and iPad tablets as well as PC/ Mac/Linux computers. Visit behringer.com to download the PC/Mac/Linux software. The tablet software can be downloaded from the app store on your device. To learn more about operating the control software, visit the product page on behringer.com to download the full manual.

Getting Started

First Wifi remote connection to your X AIR mixer

1. Download and install the remote control app for your device.
 - Android smartphones/tablets: X AIR Android from the Google Play* store
 - iPad: X AIR for iPad from the App Store
 - PC: X AIR EDIT for Windows*, Mac or Linux from behringer.com
2. Set the REMOTE switch on your X AIR mixer to ACCESS POINT mode and power on the mixer.
3. Reset your X AIR mixer's network settings to default values by holding the RESET button for 2 seconds. This is located in the small hole above the Wifi icon and requires a paper clip or similar tool to reach.
4. Switch your remote control device on and open the network settings.

Android smartphones/tablets:

1. Start the Settings/Wireless & Networks dialog on your Android system.
2. Switch `Wifi` on.
3. Click on `Wifi` to select a network. From the list of networks, select your X AIR mixer's name, e.g. "XR16-19-1B-07". After a few seconds, the status should change to `Connected`.
4. Open your X AIR for Android app and it will show similar information:
 - Mix Access = All
 - IP Address = 192.168.1.1
 - Wifi Lock = None
 - Wifi connected to XR16-19-1B-07
5. You may choose to lock the connection to this specific Wifi network if you want to ensure that your device cannot automatically connect to another network while you are controlling your mixer.
6. Click on `Connect` and tap on the mixer's name in order to connect the app with your mixer. Note – if a warning pops up telling you that the mixer firmware is not supported, it is recommended to update the firmware to the latest version (see the XR16/XR12 pages on behringer.com for details). You can, however, choose to connect anyway.
7. Once the app is connected to your mixer, all parameters will be loaded automatically. Enjoy exploring all mixing functions of your X AIR mixer remotely!

iPad:

1. Start the Settings/Wifi dialog on your iOS
2. Switch `Wifi` on.
3. Select your X AIR mixer's name from the list of networks, e.g. "XR16-19-1B-07". After a couple of seconds, the status should change to `Connected`, indicated by a check mark.
4. Open your X AIR for iPad app and it will show any X AIR mixers (`Devices`) found in that network, with their IP address, which in this case is 192.168.1.1.
5. Tap on the mixer's icon to connect the app with your mixer. Note – if a warning pops up telling you that the mixer firmware is not supported, it is recommended to update the firmware to the latest version (see the XR16/XR12 pages on behringer.com for details). You can, however, choose to connect anyway.
6. Once the app is connected to your mixer, all parameters will be loaded automatically. Enjoy exploring all mixing functions of your X AIR mixer remotely!

PC: X AIR EDIT for Windows, Mac or Linux


1. Open the Wireless Network Connections dialog on your operating system.
2. Make sure the `WLAN` or `Wifi` adapter is switched on.
3. View the list of wireless networks and select your X AIR mixer's name, e.g. "XR16-19-1B-07". After a couple of seconds, the status should change to `Connected`, indicated by a check mark.
4. Open your X AIR Editor for Win/ Mac/Linux and click on `Setup`. The list will show any X AIR mixers found in that network, with their name and IP address, which in this case is 192.168.1.1.
5. Click on your mixer's name, e.g. "XR16-19-1B-07", and confirm to synchronize from mixer to PC in order to connect the app with your mixer. If a warning pops up telling you that the mixer firmware is not supported, it is

recommended to update the firmware to the latest version (see the XR16/XR12 pages on behringer.com for details). You can, however, choose to connect anyway.

6. Once the app is connected to your mixer, all parameters will be transferred automatically. Enjoy exploring all mixing functions of your X AIR mixer remotely!

X AIR XR16/XR12 USB Recorder

Step 4: USB Recorder

 The USB port (type A) accepts a flash drive for file storage, stereo recordings and playback. The operation is remote controlled via X AIR apps.

1. Supported file system: FAT32.
2. Supported audio file format: WAV, 16-bit, 44.1 or 48.0 kHz – depending on mixer sample rate.
3. Maximum recording time: approx. 3 hours for each file, with a file size limit of 2 GB. It is recommended to do a test recording after formatting the USB drive.

X AIR XR16/XR12 MIDI Implementation

XR16/XR12 MIDI Implementation Chart

MIDI RX / TX	Channel	Command	CC No.	Value	Comment
Snapshot					
Snapshots	1	Prg Chg	1-64		Program Changes 1-64 on Channel 1 can be used to recall snapshots 1-64 stored inside X AIR mixers.
Fader					
CH Faders	1	CC	0-15	0/127	Input Channels
CH Faders	1	CC	16	0/127	USB Recorder Playback (stereo)

CH Faders	1	CC	17-20	0/127	FX1-4 Return (stereo)
Send Faders	1	CC	21-26	0/127	Aux Sends / Subgroups
Send Faders	1	CC	27-30	0/127	FX 1-4 Send
Main Fader	1	CC	31	0/127	Main LR (stereo)
Mute					
CH Mutes	2	CC	0-15	0/127	Input Channels
CH Mutes	2	CC	16	0/127	USB Recorder Playback (stereo)
CH Mutes	2	CC	17-20	0/127	FX 1-4 Return (stereo)
Send Mutes	2	CC	21-26	0/127	Aux Sends / Subgroups
Send Mutes	2	CC	27-30	0/127	FX 1-4 Send
Main Mute	2	CC	31	0/127	Main LR (stereo)
Panorama/Balance					
CH PAN	3	CC	0-15	1...127	Panorama Input Channels; value 64 = center

CH PAN	3	CC	16	1...127	Balance USB Recorder Playback (stereo); value 64 = center
CH PAN	3	CC	17-20	1...127	Balance FX 1-4 Return (stereo); value 64 = center
Aux / Sub Pan	3	CC	21-26	1...127	Panorama Aux Sends / Subgroups; value 64 = center
Main Bal	3	CC	31	1...127	Balance Main LR (stereo); value 64 = stereo
X OSC					
Text based OSC		SYX			Open Sound Control via Sysex F0 00 20 32 32 TEXT F7 With 'TEXT' being OSC strings in hex format, up to 39 kB in length

Specifications

X AIR Mixer Series Specifications	XR16	XR12
Processing		
Number of processing channels	16 input channels, 1 stereo USB return channel, 4 stereo FX return channels, 6 aux buses, main LR	16 input channels, 1 stereo USB return channel, 4 stereo FX return channels, 6 aux buses, main LR

Internal effects engines	4 true stereo	4 true stereo
Signal processing	40-bit floating point	40-bit floating point
A/D-D/A conversion (Cirrus Logic A/D CS5368, D/A CS 4385)	24-bit @ 44.1 / 48 kHz, 114 dB dynamic range	24-bit @ 44.1 / 48 kHz, 114 dB A/D dynamic range
Analog I/O latency*	0.8 ms	0.8 ms
Connectors		
Programmable mic preamps, designed by MIDAS	8 XLR/TRS combo jacks, balanced	4 XLR/TRS combo jacks, balanced
Line inputs	8 TRS, balanced	8 TRS, balanced
Main outputs	2 XLR, balanced	2 XLR, balanced
Aux outputs	4 XLR, balanced	2 TRS, balanced
Phones outputs	1 TRS	1 TRS
MIDI inputs / outputs	1/1 DIN	1/1 DIN
Ethernet	1 RJ45	1 RJ45
USB port	Type A	Type A

Mic Input Characteristics		
Preamp design	MIDAS	MIDAS
THD + noise, 20 dB gain, 0 dBu out	< 0.005%, A-weighted	< 0.005%, A-weighted
Phantom power, switchable per input	48 V	48 V
Equivalent input noise level, XLR (input shorted)	-128 dBu, A-weighted	-128 dBu, A-weighted
CMRR, XLR, @ 20 dB gain (typical)	>60 dB	>60 dB
CMRR, XLR, @ 40 dB gain	>65 dB	>65 dB
Input/Output Characteristics		
Frequency range, @ 48 kHz sample rate, 0 dB to -1 dB	10 Hz – 22 kHz	10 Hz – 22 kHz
Dynamic range, analog mic in to analog out (typical)	105 dB	104 dB
A/D dynamic range, mic preamp to converter (typical)	109 dB	109 dB
D/A dynamic range, converter and output	108 dB	108 dB

Cross talk rejection @ 1 kHz, adjacent channels	90 dB	90 dB
Mic input impedance XLR jack, unbal. / bal.	5 k Ω / 10 k Ω	5 k Ω / 10 k Ω
Non clip maximum input level, XLR	+23 dBu	+23 dBu
Hi-Z input impedance TRS jack, unbal. / bal.	1 M Ω / 2 M Ω	1 M Ω / 2 M Ω
Line input impedance TRS jack, unbal. / bal.	20 k Ω / 40 k Ω	20 k Ω / 40 k Ω
Non clip maximum input level, TRS	+21 dBu	+21 dBu

X AIR Mixer Series Specifications	XR16	XR12
Output Characteristics		
Output impedance, XLR, unbal. / bal.	50 Ω / 50 Ω	50 Ω / 50 Ω
Output level, XLR, nom./max.	+4 dBu / +16 dBu	+4 dBu / +16 dBu
Output impedance, TRS, unbal. / bal.	50 Ω / 50 Ω	50 Ω / 50 Ω
Output level, TRS, nom./max.	+4 dBu / +16 dBu	+4 dBu / +16 dBu
Phones output impedance / level	40 Ω / +35 dBm (stereo)	40 Ω / +35 dBm (stereo)

Residual noise level, XLR and TRS	-92 dBu, A-weighted	-92 dBu, A-weighted
WLAN Module		
Antenna	External, SMA connector, 50 Ω	External, SMA connector, 50 Ω
Access Point, number of clients	Max. 4	Max. 4
IEEE 802.11 b/g standard	2.4 GHz	2.4 GHz
Frequency Range	2,412-2,462 MHz	2,412-2,462 MHz
WLAN channels (Wifi Client, Access Point)	1-11 / 1-11	1-11 / 1-11
Max Output Power	19 dBm (802.11b) / 18 dBm (802.11g)	19 dBm (802.11b) / 18 dBm (802.11g)
Power		
Switch-mode power supply	Autorange 100-240 V, (50/60 Hz)	Autorange 100-240 V, (50/60 Hz)
Power consumption	30 W	30 W
Physical		
Standard operating temperature range	5°C – 40°C (41°F – 104°F)	5°C – 40°C (41°F – 104°F)
Dimensions	333 x 149 x 140 mm (13.1 x 5.9 x 5.5 in)	333 x 149 x 95 mm (13.1 x 5.9 x 3.7 in)
Weight	3.0 kg (6.6 lb)	2.4 kg (5.3 lb)

Other important information



Important information

1. Register online. Please register your new MUSIC Tribe equipment right after you purchase it by visiting behringer.com. Registering your purchase using our simple online form helps us to process your repair claims more quickly and efficiently. Also, read the terms and conditions of our warranty, if applicable.
2. Malfunction. Should your MUSIC Tribe Authorized Reseller not be located in your vicinity, you may contact the MUSIC Tribe Authorized Fulfiller for your country listed under "Support" at behringer.com. Should your country not be listed, please check if your problem can be dealt with by our "Online Support" which may also be found under "Support" at behringer.com. Alternatively, please submit an online warranty claim at behringer.com BEFORE returning the product
3. Power Connections. Before plugging the unit into a power socket, please make sure you are using the correct mains voltage for your particular model. Faulty fuses must be replaced with fuses of the same type and rating without exception.

FEDERAL COMMUNICATIONS COMMISSION COMPLIANCE INFORMATION



Responsible Party Name	Music Tribe Commercial NV Inc .
Address	901 Grier Drive Las Vegas, NV 89118 USA
Phone Number	+1 702 800 8290

X AIR XR16/XR12

complies with the FCC rules as mentioned in the following paragraph:

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 when the equipment is operated in a commercial environment. 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. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment 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!

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user authority to operate the equipment.

FCC RF Radiation Exposure Statement:

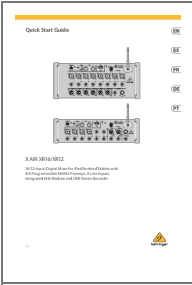
1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator

and your body.

 This product complies with the requirement of the 1999/5/EC directive.

Hereby, Music Tribe, declares that this Radio LAN device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Documents / Resources

	behringer Digital Mixer integrated Wifi Module and USB Stereo Recorder [pdf] User Guide Digital Mixer integrated Wifi Module and USB Stereo Recorder, X AIR XR16, XR12
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References

-  [Behringer | Home](#)