MUSICAL FIDELITY

Technical Information



MX-Stream Control Options

Official MX-Stream App, 3rd Party Apps, Webbrowsers on mobile devices and PCs/Laptops, Bluetooth/Airplay, UPNP, Roon

The MX-Stream has a wide variety of control options. This doesn't only make it incredibly versatile but also extremely future proof and able to withstand technical difficulties or the constant changes in the IT landscape (downtime of Apple or Android App stores, no Internet connection, etc...). In fact, the MX-Stream can be entirely controlled without any internet access and without any App downloads! So, if you just want to play some local music from a USB Stick or hard drive or stream via Bluetooth, we will explain everything in this guide! Here is a **quick overview** about all the control options:

- 1) Webbrowsers mobile devices, tablets and PCs/Laptops (any operating system) (page 1 2)
- 2) Bluetooth/Airplay (page 2)
- 3) Official Musical Fidelity MX-Stream App (page 3)
- 4) 3rd Party Apps (page 4)
- 5) UPNP Apps (page 5)
- **6)** Roon (page 6)
- 7) Offline Control (page 7 8)

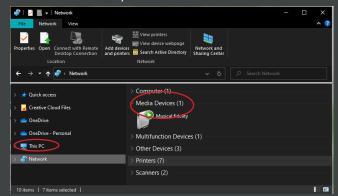
Before you start, you need to either connect your MX-Stream to your home network via WiFi or cabled ethernet. You do this without the need of any app or any extra downloads! Please refer to the quick start manual.

And still very important to stress is that cabled ethernet is still vastly superior to WiFi connections even in the year 2022! Realtime audio applications, such as the MX-Stream with high-resolution audio, benefit from stable cabled ethernet connections like you wouldn't believe. For regular HTTP web applications, like the internet, Web2.0 or 3.0, the quality of your connection rarely matters. Your phone may show you full bars for your WiFi quality, but this does not say anything about packet loss and drop-outs caused by WiFi all the time. Don't worry, all of that is insignificant for websites or social media. You are not relying on data reaching its destination within the correct timeframe and without and degradation or loss. Modern web protocols will just request missing or faulty packets again or in some cases it even doesn't matter if all packets are transmitted. Websites, social media or video streaming will work even under all those circumstances! Quality is not their concern! The protocols for streaming realtime audio in an audiophile lossless way are completely different to the modern YouTubes, Facebooks and Instagrams of our time! With this in mind, enjoy music streaming on your MX-Stream on the highest level possible!

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1) Webbrowsers

Probably the most useful and flexible way to control your MX-Stream. Absolutely platform agnostic, you can access your MX-Stream from your favorite webbrowser on any device which has a webbrowser. On Windows this is very easy. Once your MX-Stream is on the same network as your computer, it will automatically show up in your Windows Explorer (make sure network detection is ON).

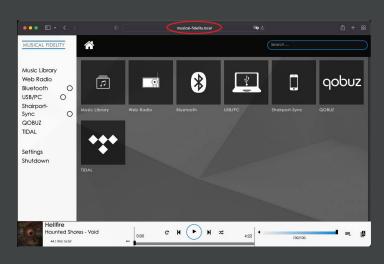


Double click on the Musical Fidelity Icon in your network view, to open the MX-Stream web-interface. By right clicking and properties, you can see other useful information like the MX-Stream's IP address and MAC address.

The web-interface gives you the exact same options, features and controls like our Android/iOS App. In fact the App does just the same thing: open the MX-Stream's web-interface. This means all actions and playback commands are executed on the MX-Stream hardware, meaning it is totally independent on the Apps or different methods of interacting with it. This makes it very easy to mix and match webbrowser, App or other control options and your MX-Stream will keep playing uninterruptedly, even if your phone (and certainly as a further consequence you yourself) is struck by lightning!

For webbrowsers on iOS devices and MAC computers just type "musical-fidelity.local" into the address bar of the webbrowser:





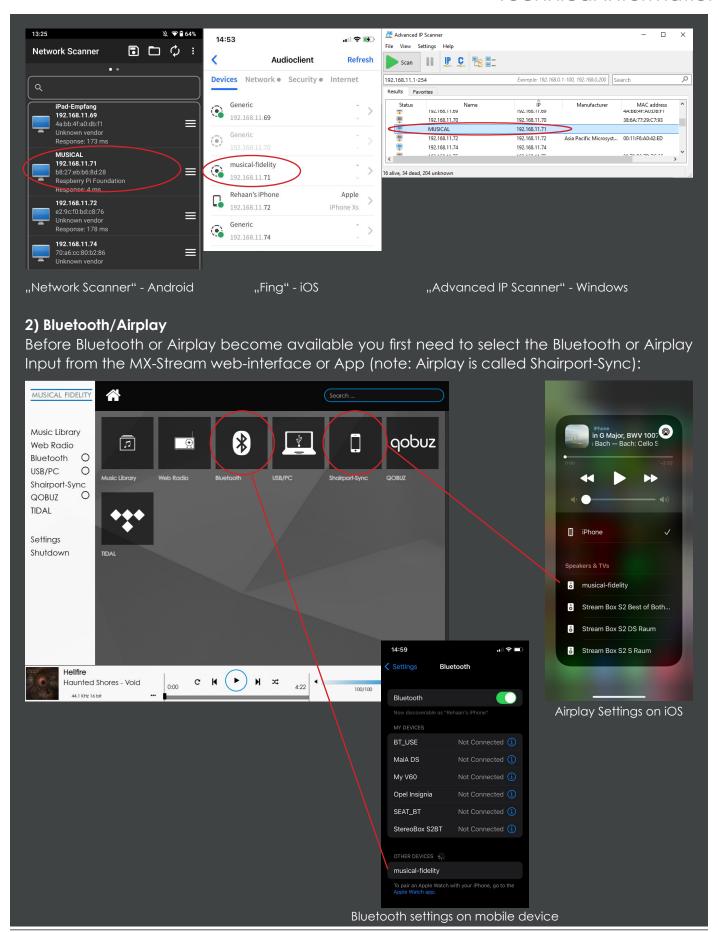
Safari on iOS

Safari on MAC

Android phones and other PC operating systems will require you to enter the IP address of the MX-Stream into the address bar directly. The IP address can easily be found out with network scanning apps, of which there are plenty on the Google Play store or available for free on the internet. Below are a few example apps.

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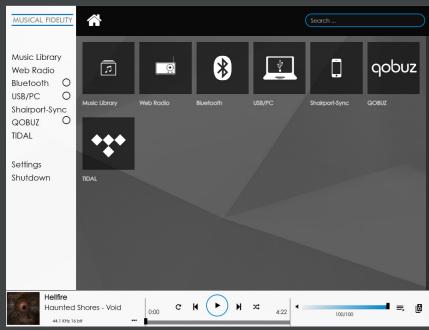
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3) Official Musical Fidelity MX-Stream App

Our official App "MX-Stream" is available for Android and iOS. Should you live in a country or region where you don't have access to these stores or have trouble finding the app, there are plenty of other options for accessing your MX-Stream (for example the "Volumio" App). Important: all the streaming services and platforms as they are implemented in our own app, are the preferred way to listen when it comes to quality, as we have direct access and control over our implementations. This means we can program the Tidal or Qobuz access on our own and make sure the quality is top of the line as it should be. If you use services like TIDAL Connect, you obviously introduce yet another middle man (or middle software) and therefore we cannot guarantee best playback quality as this responsibility is in those cases handed off to the streaming platform providers themselves.



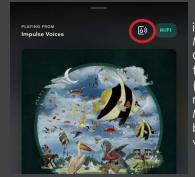


mobile phone UI

iPAD/Tablet UI

4) 3rd Party Apps

You can play music on your MX-Stream with a wealth of different playback apps. One of the more important features is to use the MX-Stream with the native Apps for Music Streaming Platform providers (for example TIDAL Connect). The services provided in this way is obviously subject of change, as services and their implementations come and go. At the time of writing, TIDAL Connect is probably the most important of those, as this offers lossless music streaming, but with a little caveat (see above) in the native Tidal App. Spotify Connect works similarly.



in Tidal, choose your MX-Stream as Tidal Connect device with this speaker symbol (* TIDAL Connect will not be available at MX-Stream launch, but at a later date via free update)



choose your Spotify Connect device here within the Spotify App

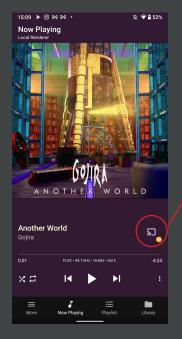
5) UPNP Apps

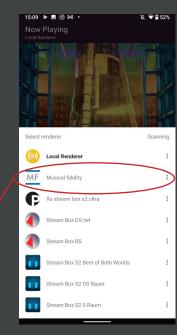
UPNP Apps are a great way of adding functionalities and services to your MX-Stream. UPNP is a completely lossless way of transmitting audio data via your LAN network (in fact Apple based their Airplay protocol on the free alternative UPNP). However, UPNP is in many aspects superior to Airplay as with UPNP you can freely transmit any sample rate and avoid resampling (note: Airplay resamples everything to 48kHz!).

To use UPNP: open your favorite UPNP capable App or software on your phone/tablet/PC/laptop, make sure your device is on the same network as the MX-Stream and select the MX-Stream as the output renderer:



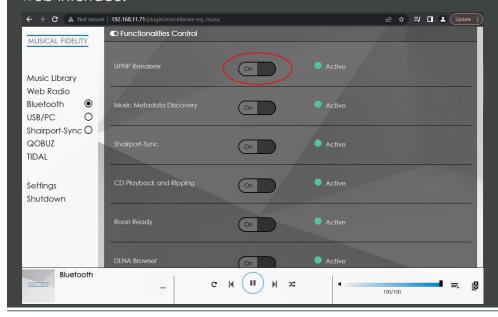






Bubble UPNP - Android

*If you cannot find the MX-Stream as a UPNP renderer, then check if UPNP Render is enabled or turn UPNP Renderer off and on again under Settings -> Sources -> Functionalities Control in the web-interface.



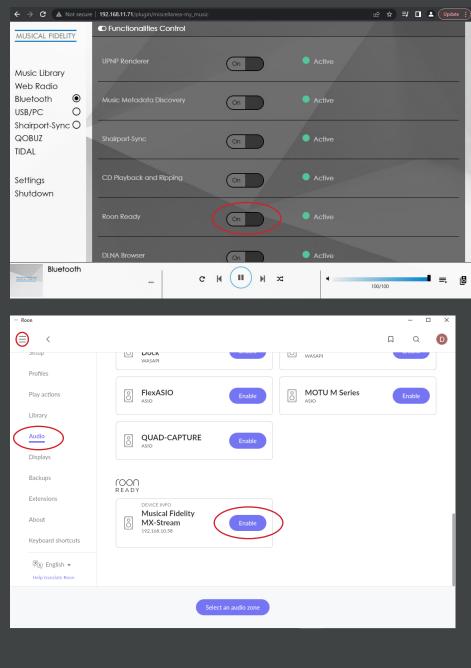


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6) Roon

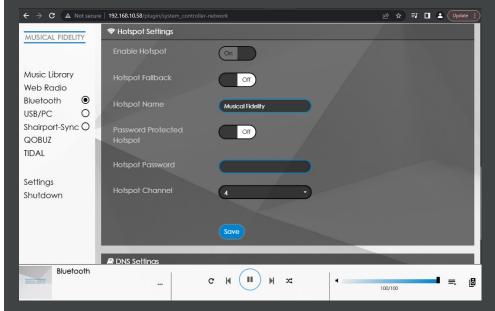
Roon is one of the most advanced music playback software solutions out there. It handles big music libraries extremely well, organizes your music collections across different streaming providers and your own local or network music storage. It is extremely transparent in showing you all details about your playback chain and is definitely something to try out for any serious music listener.

For the MX-Stream, make sure that Roon is active in the Functionalities Control settings (if necessary try turning it off and on again) and that a DAC is connected. If there is no DAC connected, the MX-Stream won't show up in Roon!



7) Offline Control: App and Webinterface

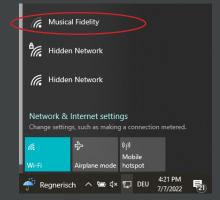
Controlling the MX-Stream without any network or internet access is actually doable! This is done by simply connecting your phone or laptop to the built in Hotspot of the MX-Stream. The Hotspot is enabled by default after first unpacking, and can also be enabled any time after first setup from the network settings menu:



On your phone or laptop go to your WiFi settings menu and connect to the MX-Stream Hotspot:



Phone WiFi settings



Laptop WiFi settings

After connecting the first setup assistance will open, you can simply press "Close" on the first screen to leave the first setup and control the MX-Stream. You can then play local music or files from a connected USB or HDD drive.

Alternatively, once you are connected to the MX-Stream Hotspot simply use our APP or Webbrowser control options (see option 1 and 3 of this guide) to access your MX-Stream.

*In some situations it can help to disable your phone's mobile internet. This is because the MX-Stream Hotspot does not provide Internet access to your phone. Some phones then simply ignore this WiFi option and use your mobile internet instead to search for your MX-Stream, because the purpose of your phone in our modern times is to access the internet. Disabling mobile internet will force your phone to look for the MX-Stream identifier or IP address on the local WiFi connection.



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7) Offline Control: HDMI output, touchscreen, USB mouse + keyboard

The MX-Stream by default outputs its control interface (video only, no audio) via HDMI. You can simply connect any HDMI monitor, TV or screen to integrate it into your living room or other places.

By using a HDMI monitor that is also capable of touch-input via USB, you are able to build your-self a seamless touch integration for your MX-Stream. In addition to the HDMI connection, simply connect the touch capable monitor to any of the available USB inputs on the MX-Stream.

Another option is to connect a USB mouse and keyboard to the available USB inputs of the MX-Stream.

*Should you ever encounter difficulties of setting up WiFi or lose access to your configured WiFi, this is a great method of troubleshooting the MX-Stream.

