

# ROOEXTEND®

EXTENSION BOX FOR ROON

The screenshot shows the Roon music player interface. The top navigation bar includes 'Home', 'Genres', 'Qobuz', 'Live Radio', 'Listen Later', 'Tags', and 'History'. The main content area displays a 'Recent activity' section with five album covers: Michael Jackson's 'Thriller', Al Di Meola and John McLaughlin's 'Friday Night in San Francisco', Ry Cooder's 'Jazz', Queen's 'The Game', and Rickie Lee Jones' 'Rickle Lee Jones'. Below this, there are more album recommendations like 'Moon Safari' by Air, 'Voices' by Roger Eno, 'hexed!' by aya, and 'The Raven That Refused to Sing (and Other Stories)' by Steven Wilson. At the bottom, a playback control bar shows 'Radio Swiss Pop' playing, with a progress bar at 0:00 and volume at -35dB.

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# roon

## Hier spielt die Musik!

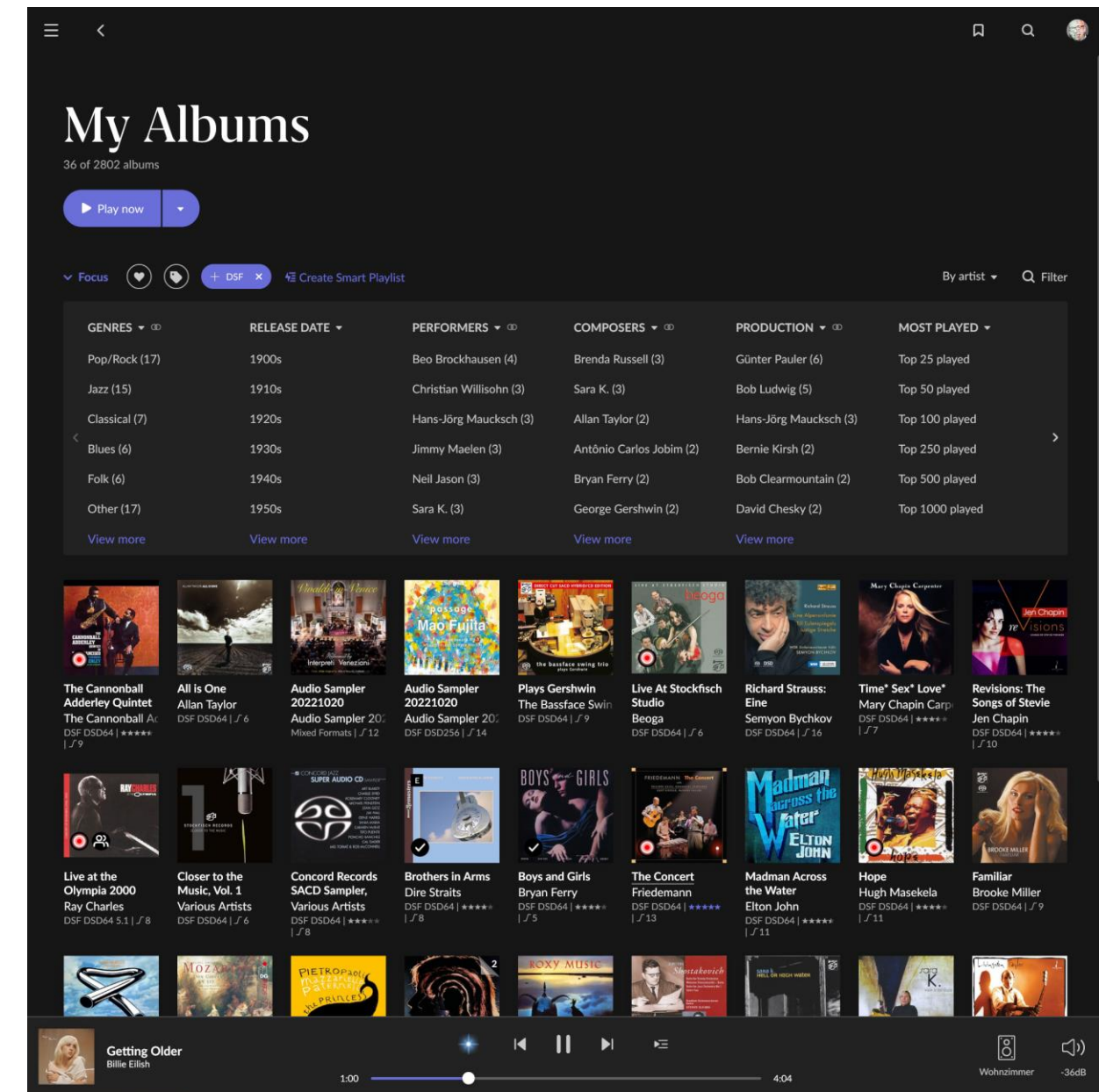
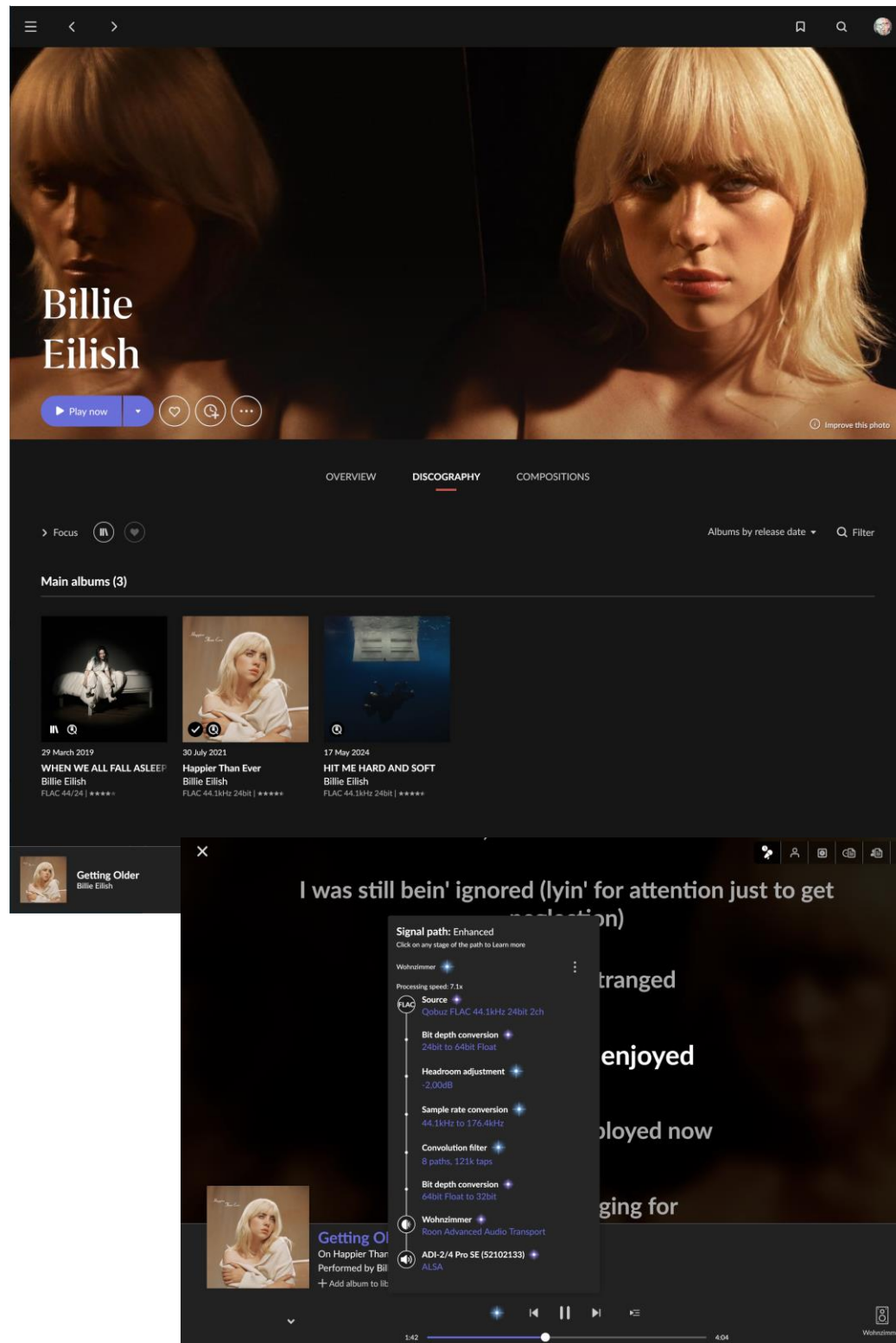
**Dr. Carl-Werner Oehrich**  
© definiteAudio GmbH

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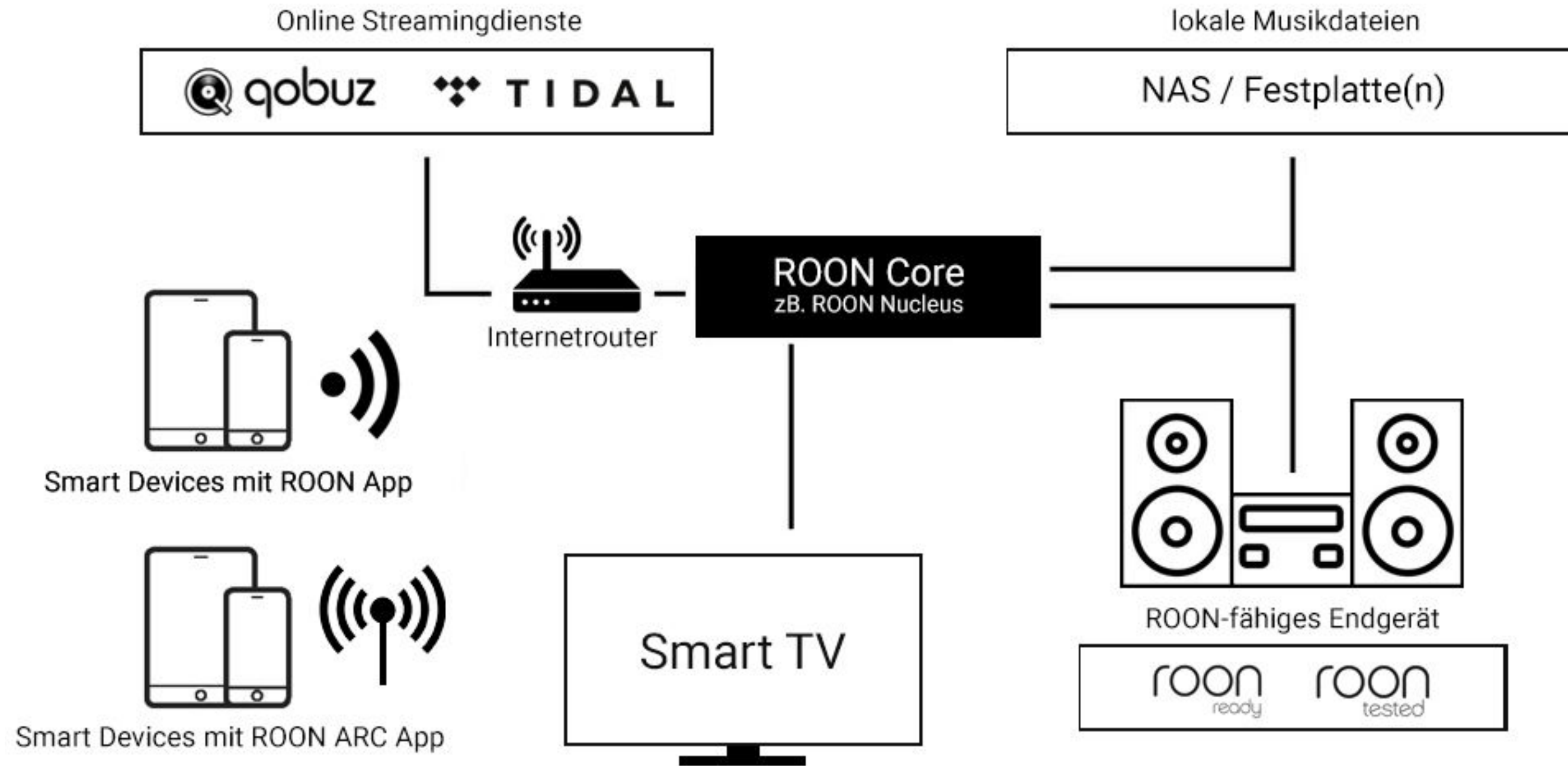
EXTENSION BOX FOR ROON

## Roon der Besserköner!

- Benutzeroberfläche
  - moderne Darstellung, einfache Navigation
- Integration von Streaming & lokalen Dateien
  - z. B. TIDAL & Qobuz in einer Oberfläche
- Umfangreiche Metadaten
  - Künstlerinfos, Verknüpfungen, Musik entdecken
- Integrierter DSP für Raumkorrektur
  - weniger Verbindungsprobleme als UPnP...
- Hochwertige Audioübertragung
  - eigenes Protokoll (RAAT), bitperfekt & stabil
- Remote App Roon ARC
  - Zugriff auf den Roon Server von unterwegs
- Zuverlässiges Multiroom
  - perfekte Synchronisation mehrerer Geräte



## Wie geht denn das mit Roon?



## Welchen Roon Core brauche ich?

- **Geräte von Roon mit R.O.C.K (Roon Optimized Core Kit)**



Roon Nucleus  
Nicht mehr aktuell, ebay ca. 1500€



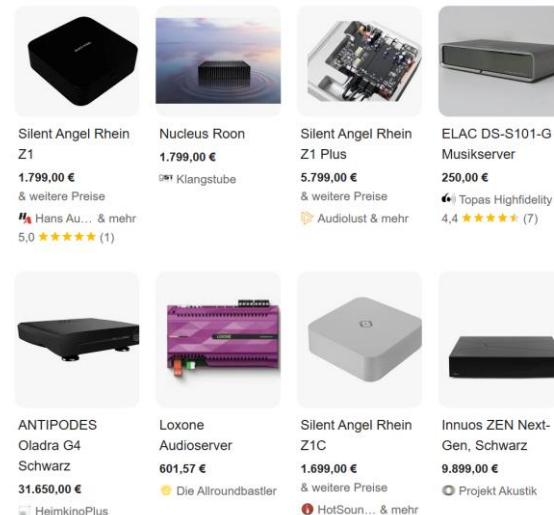
Roon Nucleus One  
ca. 700€



Roon Nucleus Titan  
ca. 4000€

- **Dritthersteller**

– Google: „musikserver roon“



- **Roon Software**

- R.O.C.K. Appliance auf jedem Intel PC  
16GB RAM, kleine interne SSD  
für Linux und Roon, Externe SSD für  
eigene Musik
- Roon Software auf Windows
- Roon Software für Linux
- Einstieg mit Intel N200 CPU  
(wie Nucleus One)
- Große Bibliotheken mit Intel i7



ASUS Mini-PC PN42  
Intel N200 Windows  
11 Mini-PC  
339,00 € & weitere Preise  
CSL Computer & mehr  
4,7 ★★★★★ (119)

## Wer spielt denn mit Roon zusammen?



- **„Roon Ready“ vom HiFi-Hersteller**
  - <https://roon.app/de/partners>



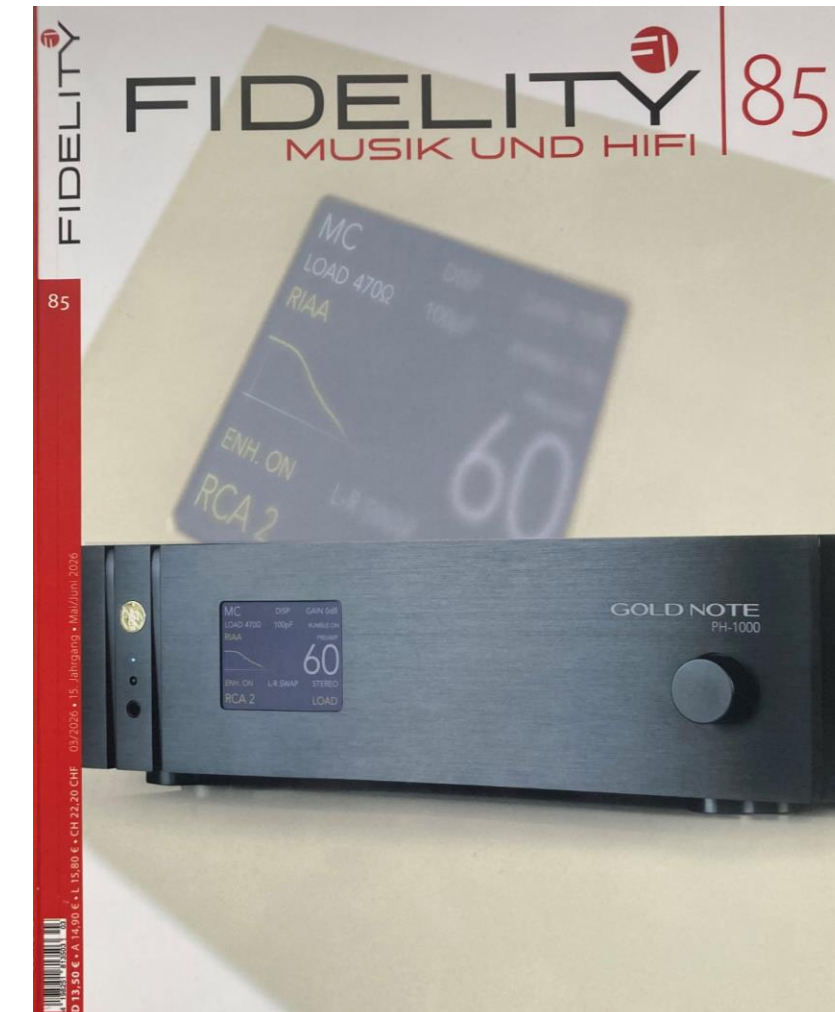
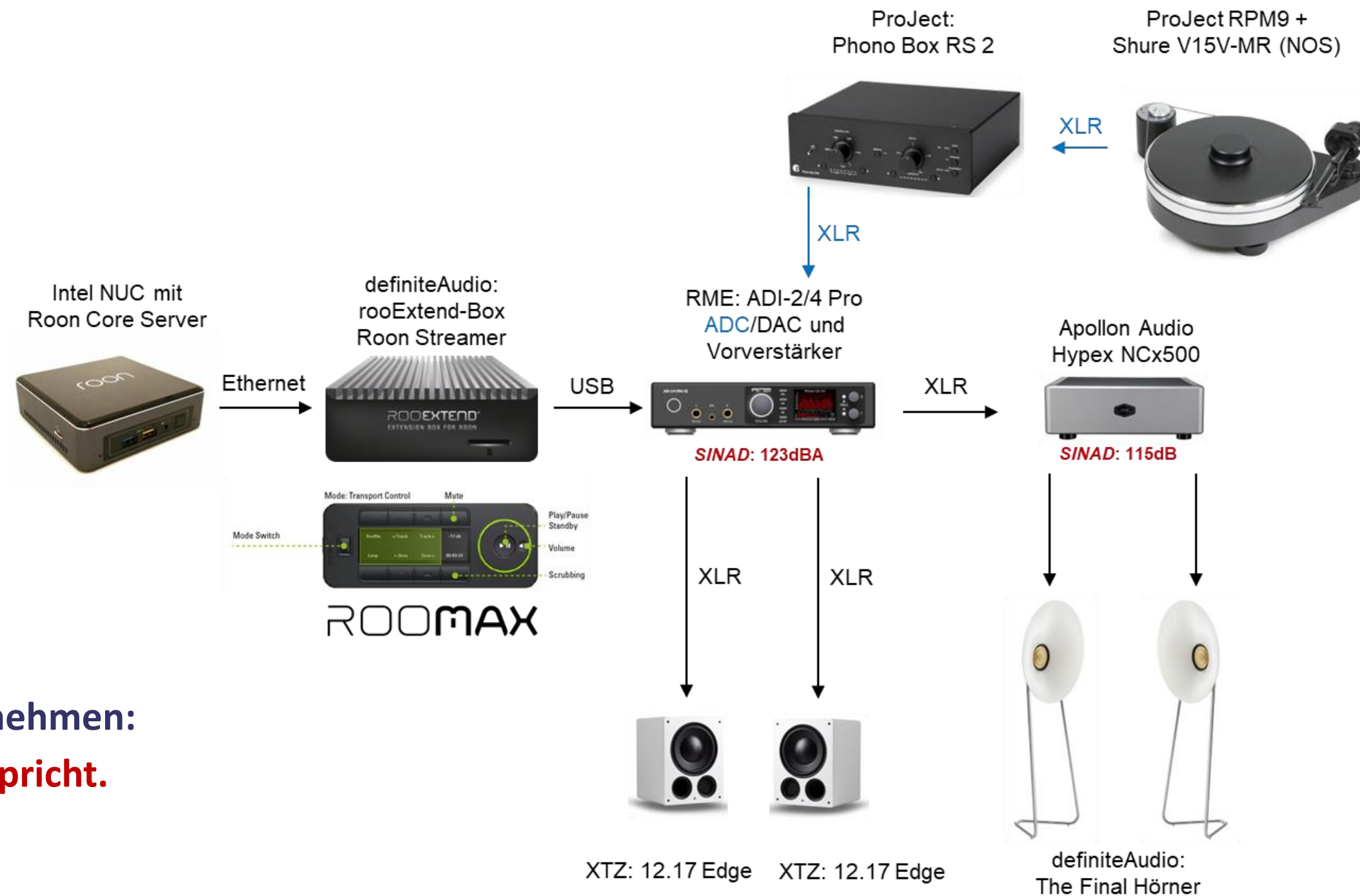
- **„Roon Tested“ vom HiFi-Hersteller**
  - Mit Vorsicht zu genießen (z.B. Linn Majik)
- **USB-DACs direkt am Roon Core**
  - Müssen USB Audio Class 2 anbieten

- **USB-DACs am rooExtend**
  - Kein Lüftergeräusch
  - Keine hochfrequenten Einstreuungen
  - Viele Zusatzfunktionen wie Fernbedienungen, zuspieldung von externen Quellen, KI und viele mehr <https://rooExtend.com>

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## Beispiel einer Roon-Installation



Carsten Barnbeck  
Fidelity-Magzin 85

Um es unverhohlen vorwegzunehmen:  
**Die Anlage leistet, was sie verspricht.**

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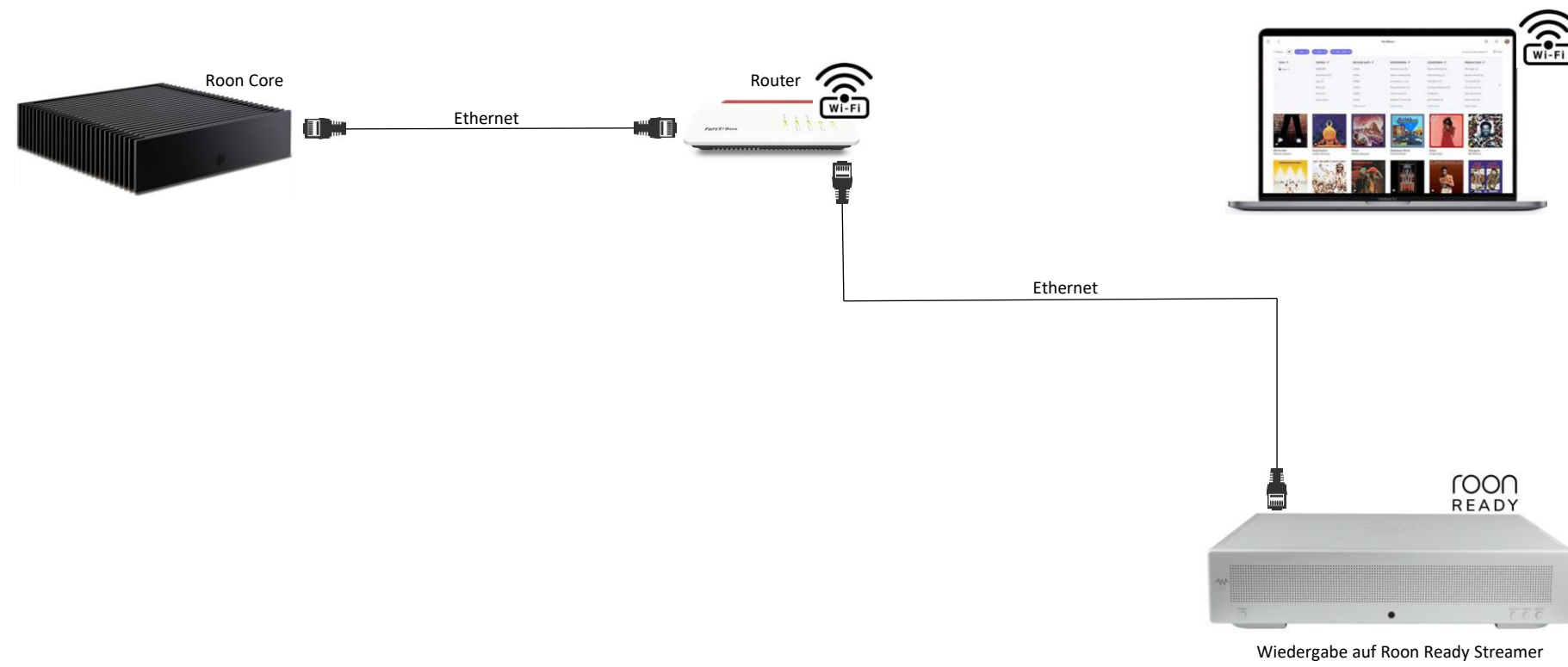
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**SWISS ARMY KNIFE FOR ROON**  
**Extends Roon Capabilities**

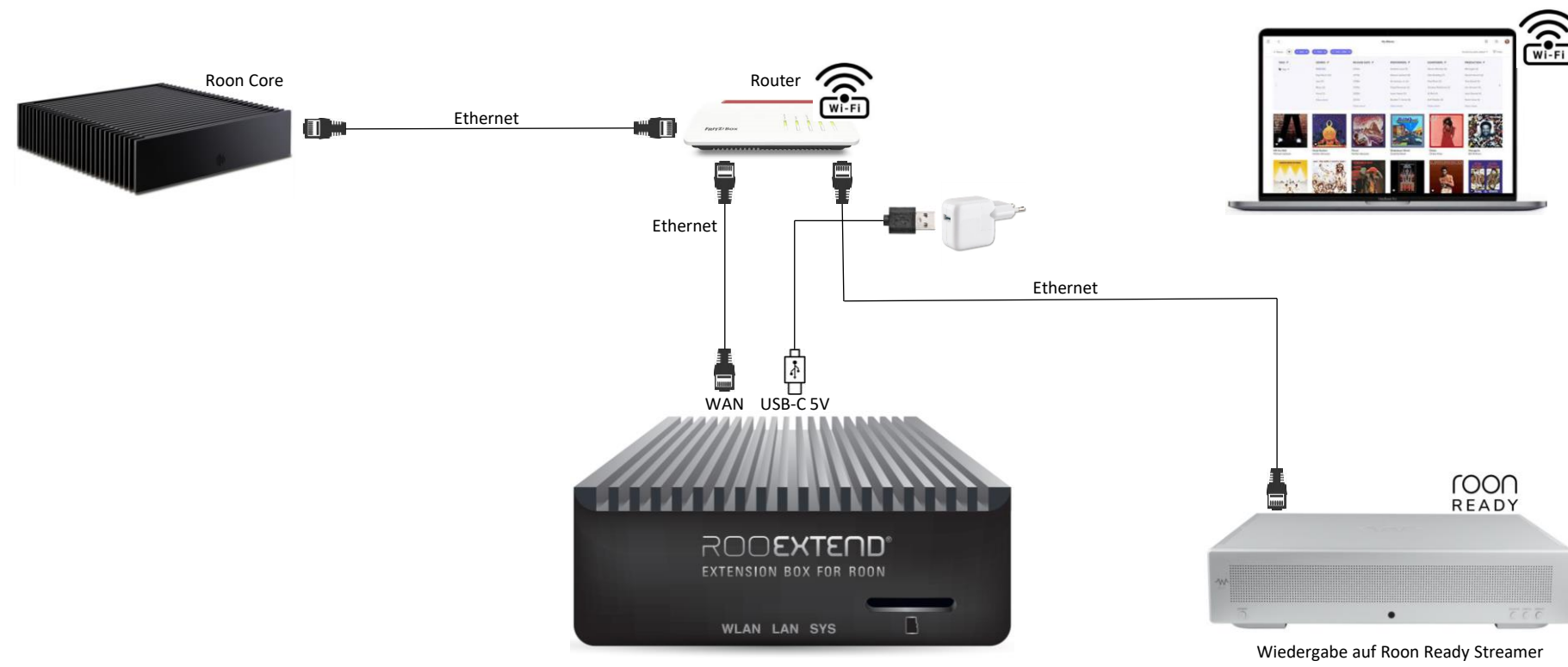
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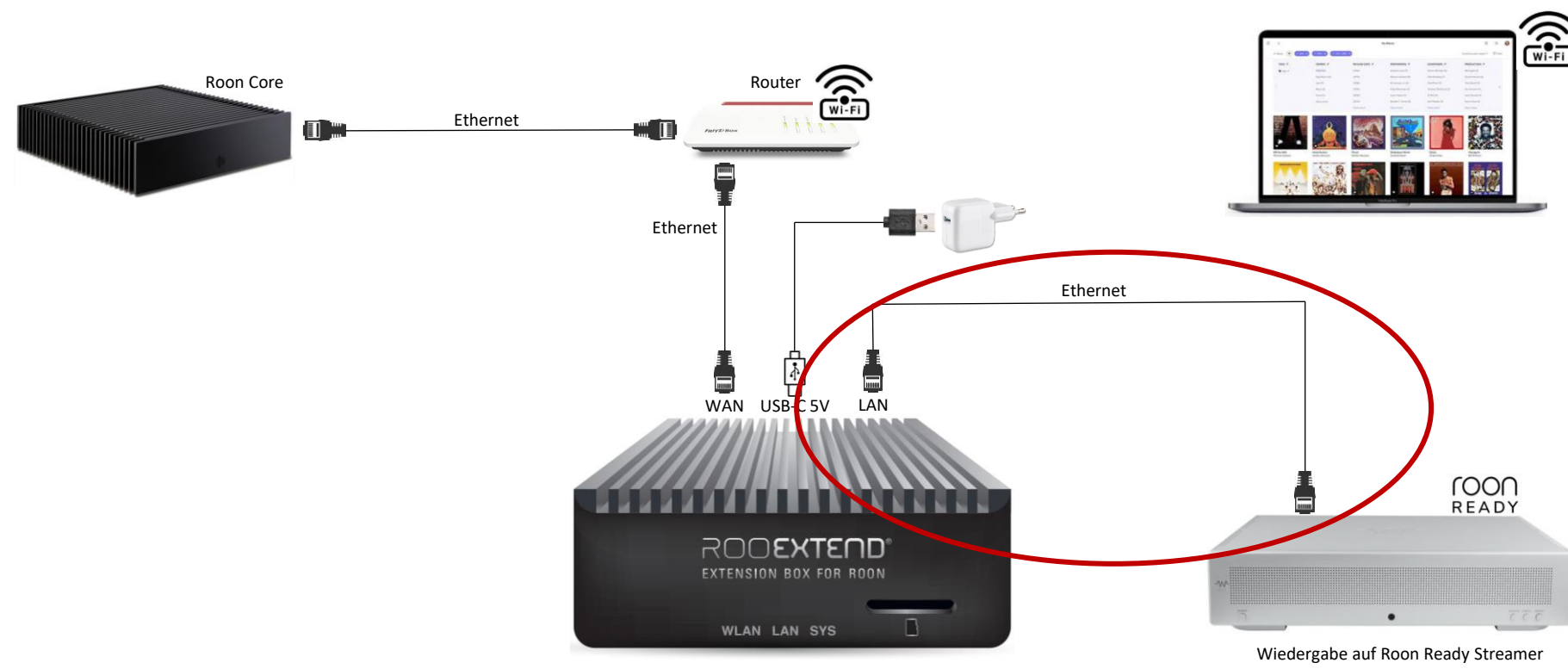
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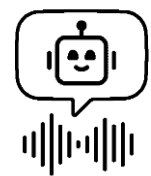


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## ROON EXTENSIONS TO CONTROL ROON



AI Chat  
with Roon



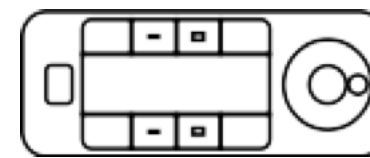
Space Mouse  
Wireless



Microsoft Surface Dial



Apple Watch



Quick Keys

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Safari 16:58 Samstag 30. Sept. 68 %

## ROOAI DJ

Quick Play

Hallo! Wie kann ich dir heute mit Musik helfen?

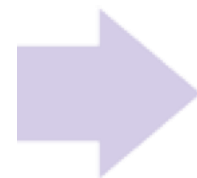
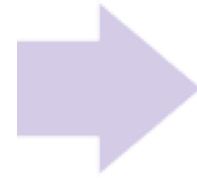
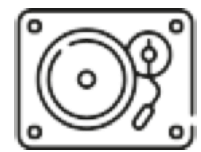
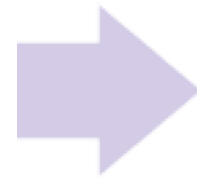
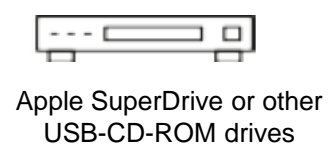
Gib mir die top 10 charts von 1977

Es ist wichtig zu beachten, dass die Charts je nach Land und Musikquelle variieren können. Hier sind jedoch die Top 10 Songs in den USA laut Billboard Hot 100 von 1977:

1. "Tonight's the Night (Gonna Be Alright)" - Rod Stewart
2. "I Just Want to Be Your Everything" - Andy Gibb
3. "Best of My Love" - The Emotions
4. "Love Theme from 'A Star Is Born' (Evergreen)" - Barbra Streisand
5. "Angel in Your Arms" - Hot
6. "I Like Dreamin'" - Kenny Nolan
7. "Don't Leave Me This Way" - Thelma Houston
8. "(Your Love Has Lifted Me) Higher and Higher" - Rita Coolidge
9. "Undercover Angel" - Alan O'Day
10. "Torn Between Two Lovers" - Mary MacGregor

Ask for music

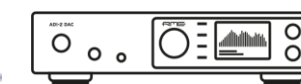
## UNIVERSAL ROON RELAY FOR AUDIO INPUT



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## VARIOUS AUDIO OUTPUT OPTIONS



RME ADI-2 Family  
or other USB DACs



USB Stick to record  
from Turntable



Use optimized  
Headphone Equalizers



Most UPnP Streamers

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## SWISS ARMY KNIFE FOR ROON



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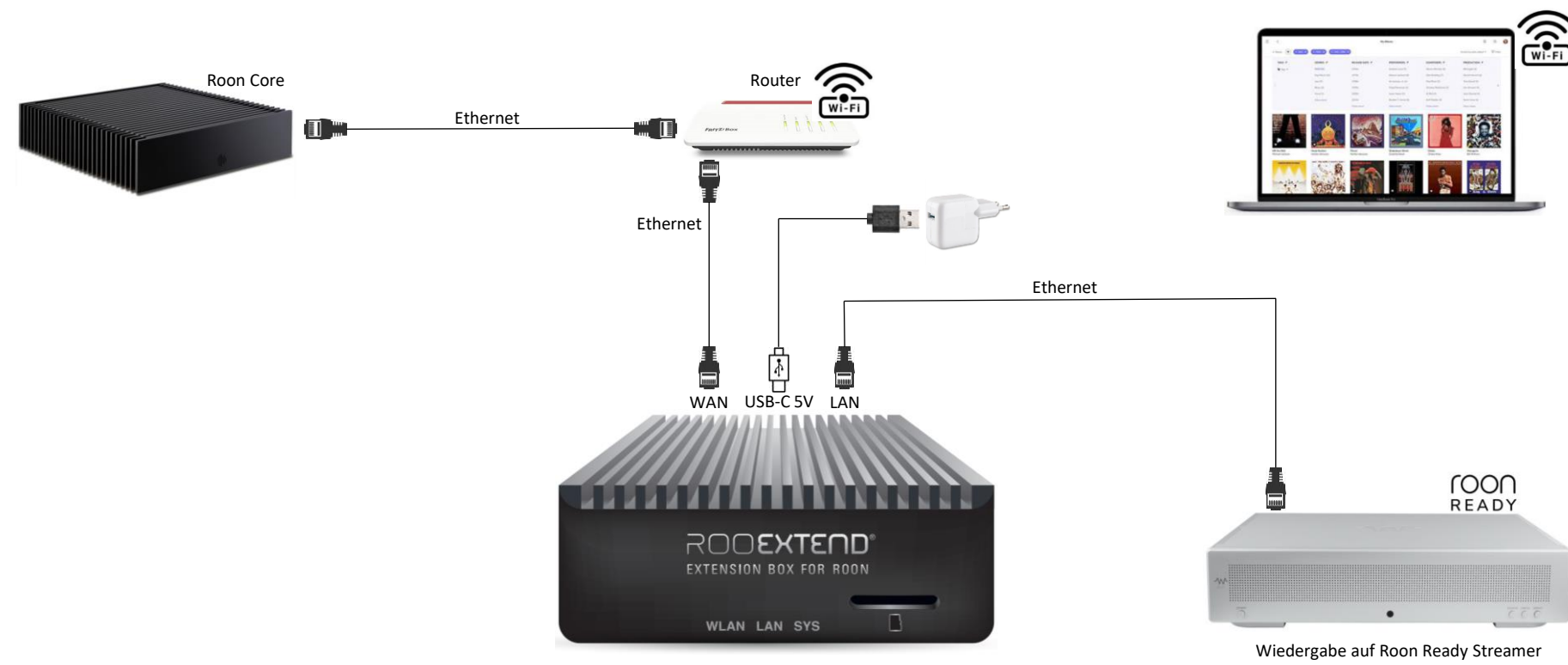
The screenshot displays the Roon web interface's 'Extensions' page. On the left is a sidebar with navigation items: General, Storage, Services, Setup, Roon ARC, Profiles, Play actions, Library, Audio, Displays, Backups, **Extensions**, About, and Keyboard shortcuts. At the bottom of the sidebar, there is a language selector set to 'English' and a link to 'Help translate Roon'. The main content area is titled 'Extensions' and includes an 'Authorizations' section with a 'View' button. Below this is a 'Discovered Roon extensions' section listing several extensions:

- rooExtend**  
[rooWatch](#)  
Version 1.1.1  
Running, wait for connection  
[Settings]
- rooExtend**  
[rooAIDJ](#)  
Version 1.0.0  
Running, wait for connection  
[Settings]
- rooExtend**  
[rooControl](#)  
Version 1.0.1  
selected  
[Settings]
- rooExtend**  
[rooPlay](#)  
Version 1.0.4  
RME ADI-2/4 Pro SE (52102133)  
[Settings]
- rooExtend**  
[rooNuimo](#)  
Version 1.3.1  
Connected, Wohnzimmer, () - Battery: 93%.  
[Settings]
- rooExtend - by definiteAudio GmbH**  
[License Manager](#)  
Version 3.2.0  
Ready, Insert a USB stick to record audio from the audio interface.  
[Settings]

At the bottom of the interface is a player bar showing the track 'The Dicty Glide' by Don Byron. The progress bar is at 0:41 of a 3:18 duration. On the right, there are icons for room selection (Wohnzimmer) and volume level (-40dB).

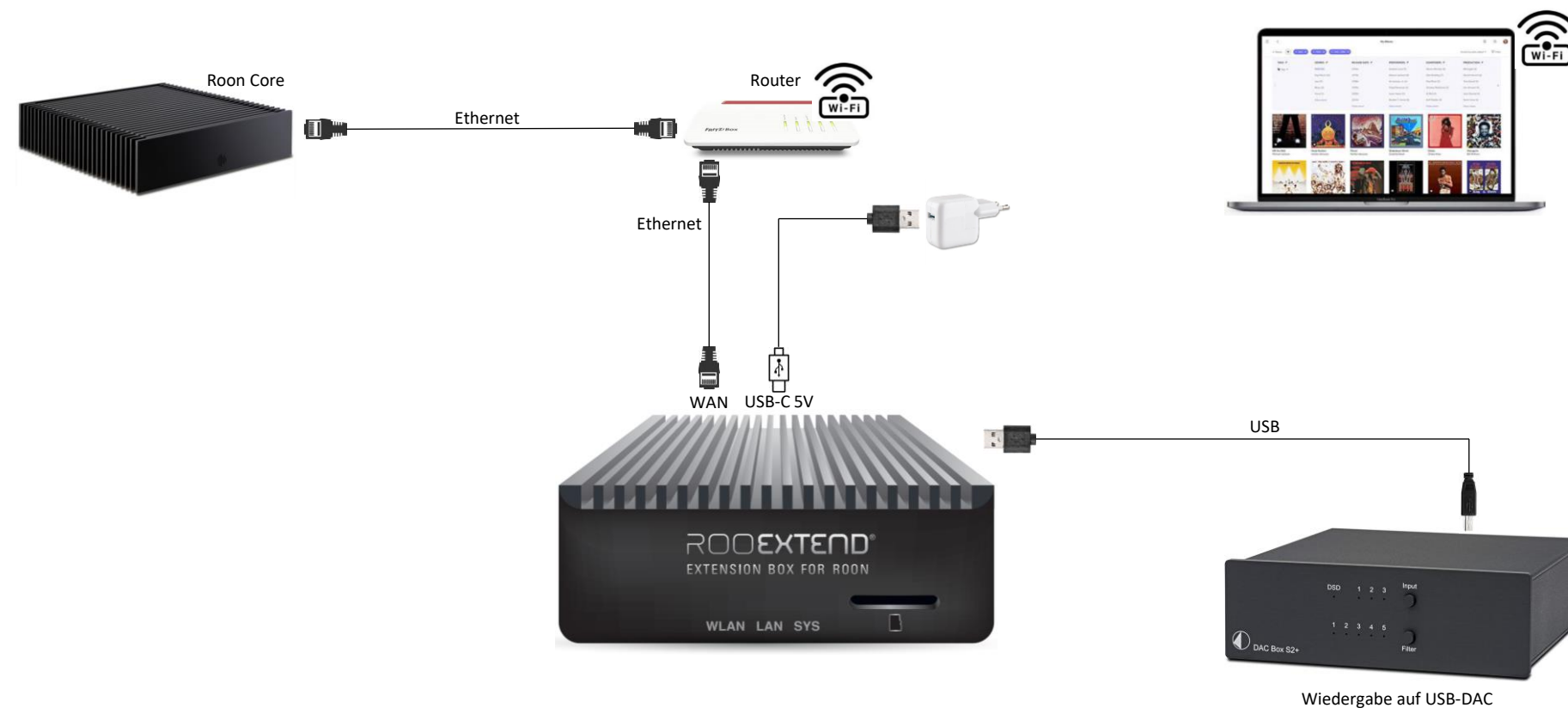
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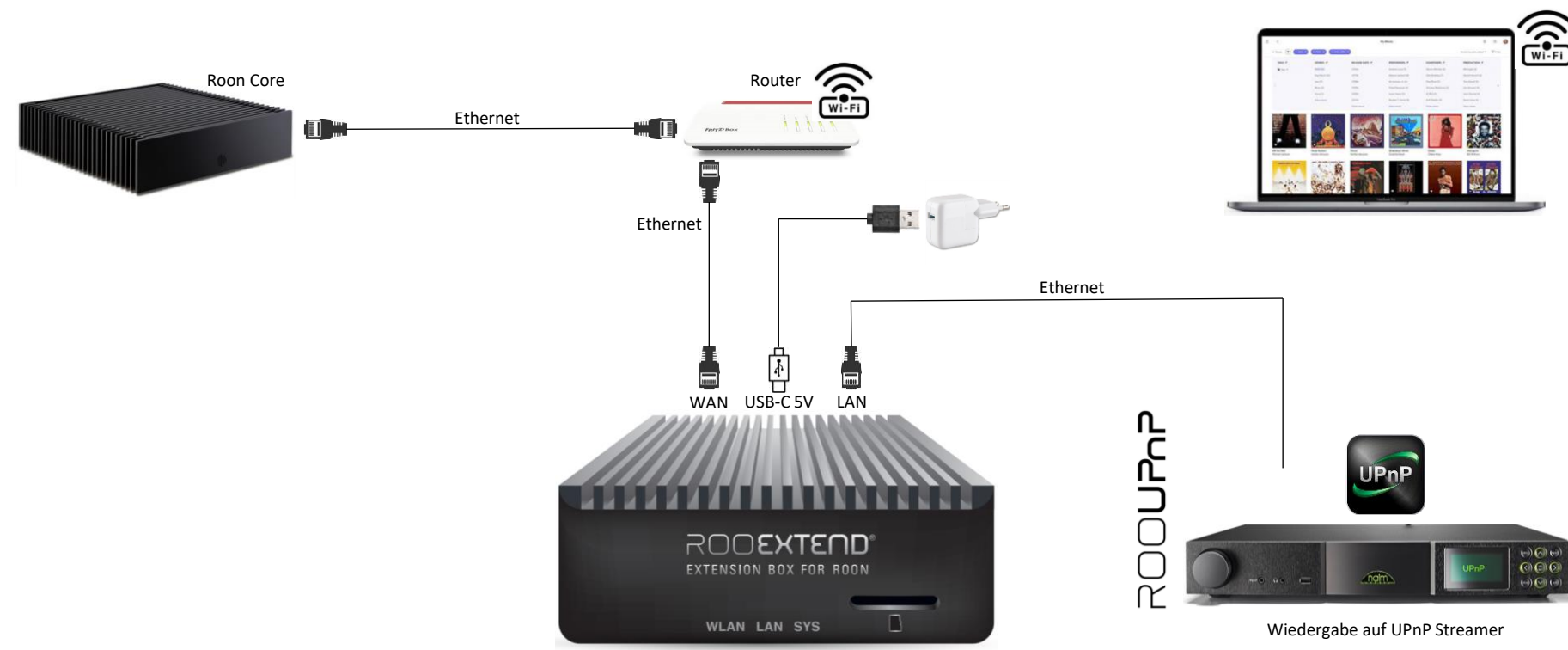
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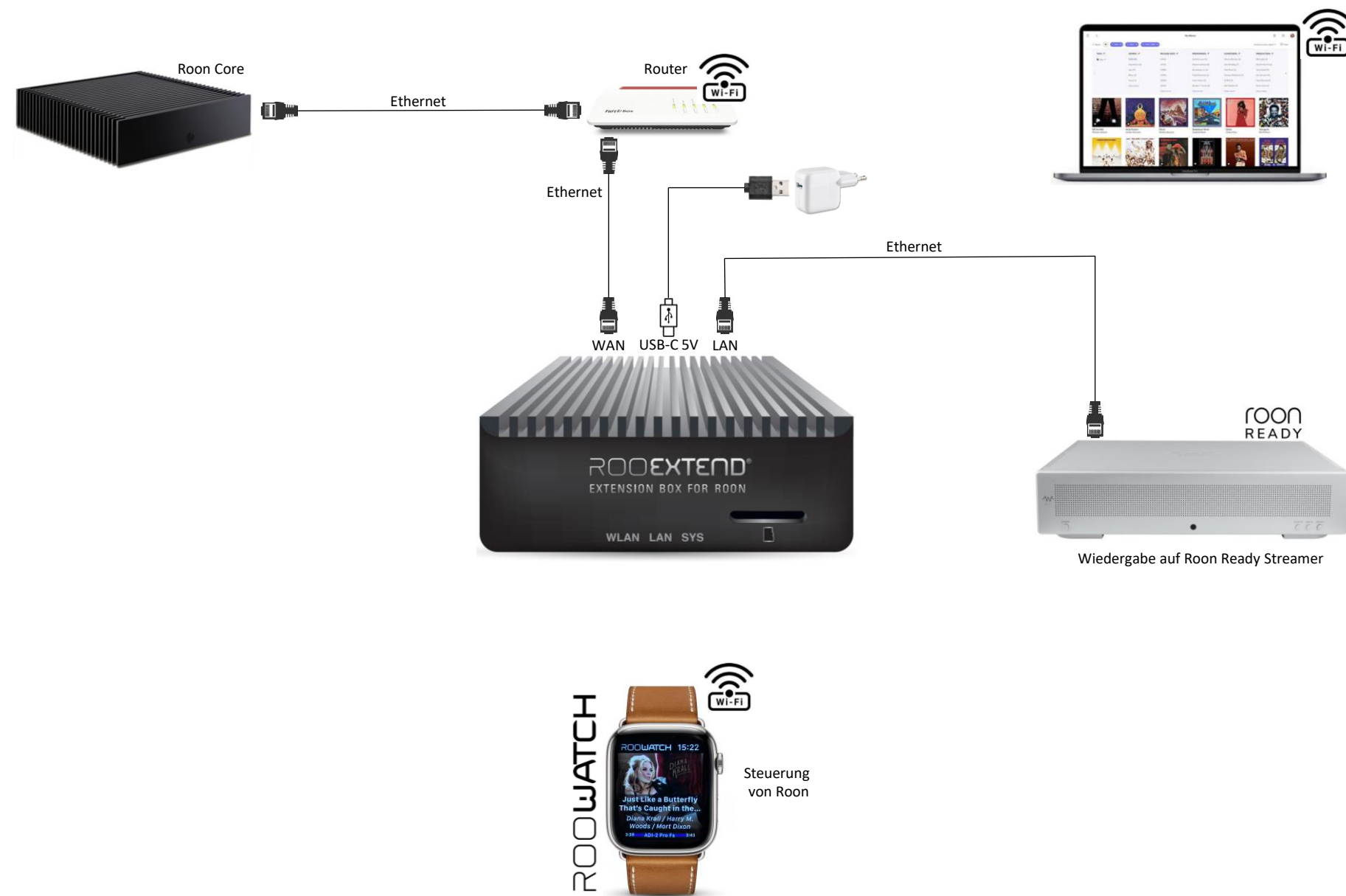
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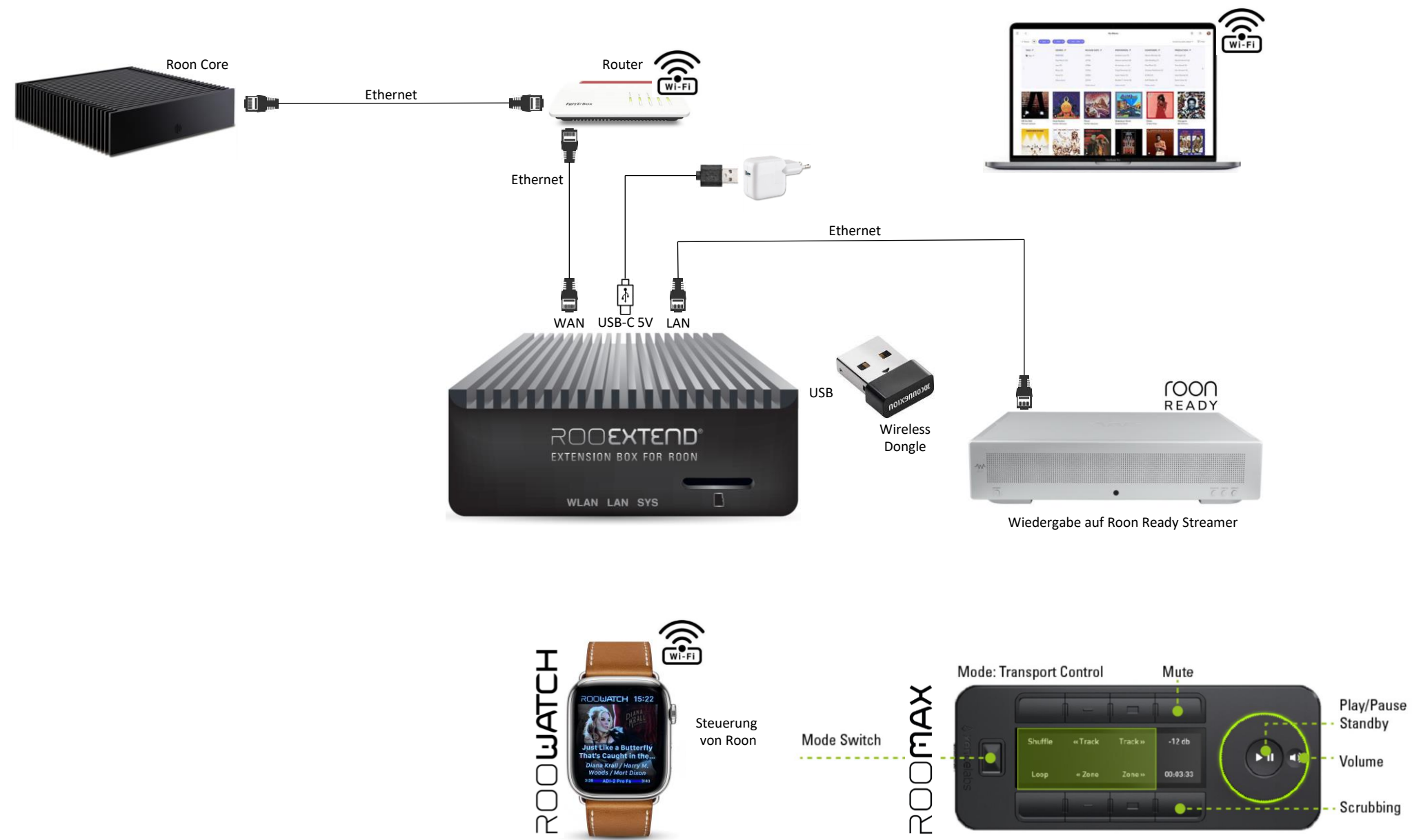
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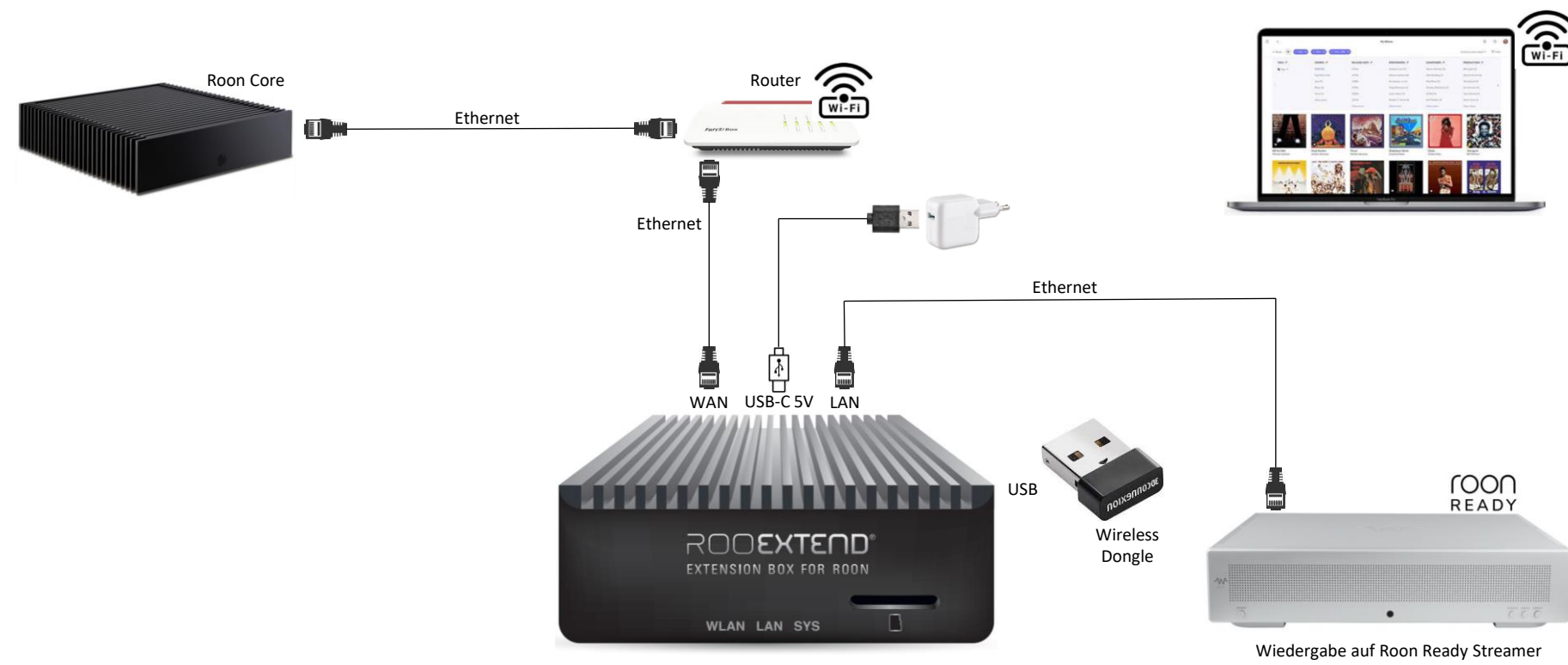
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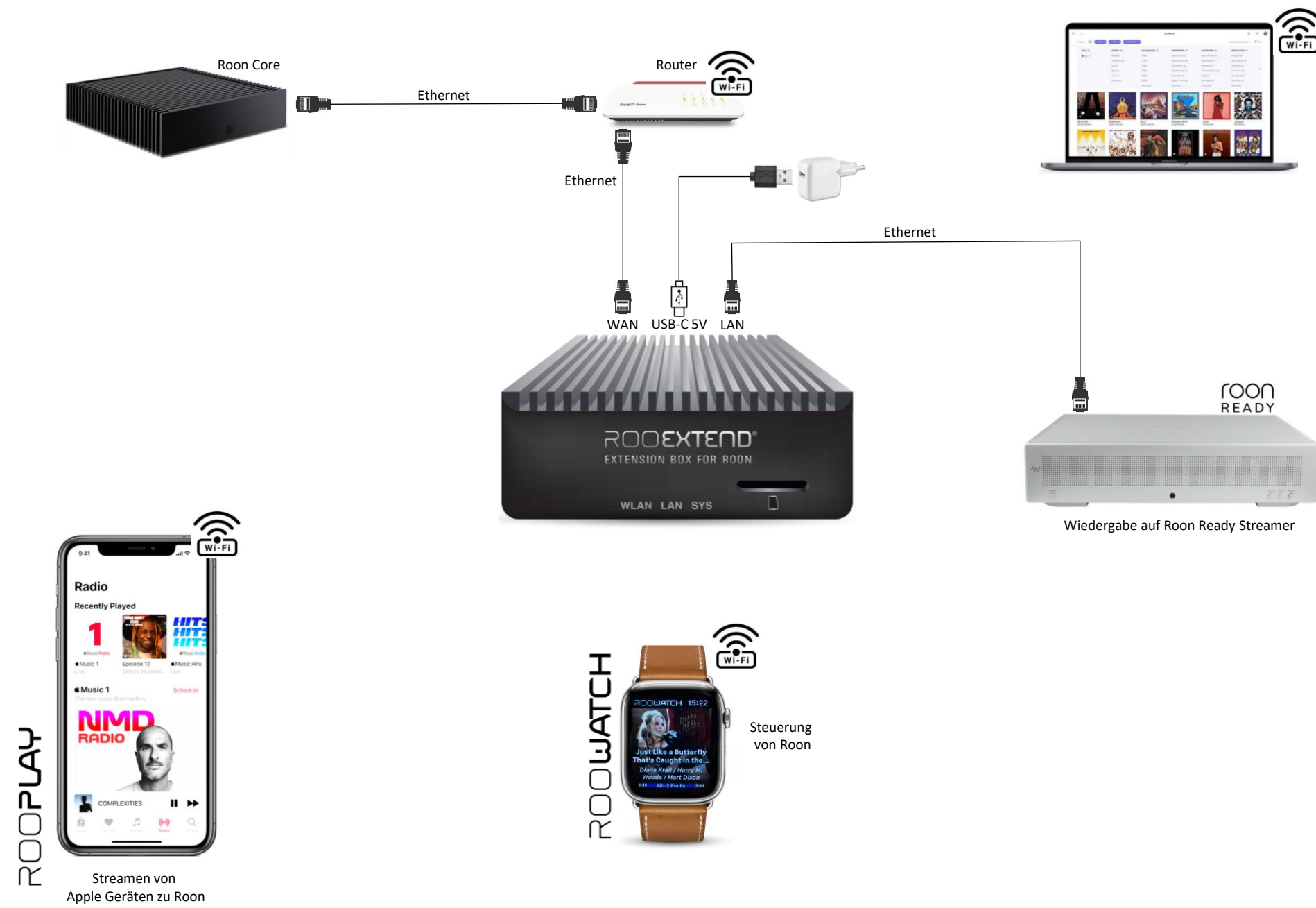
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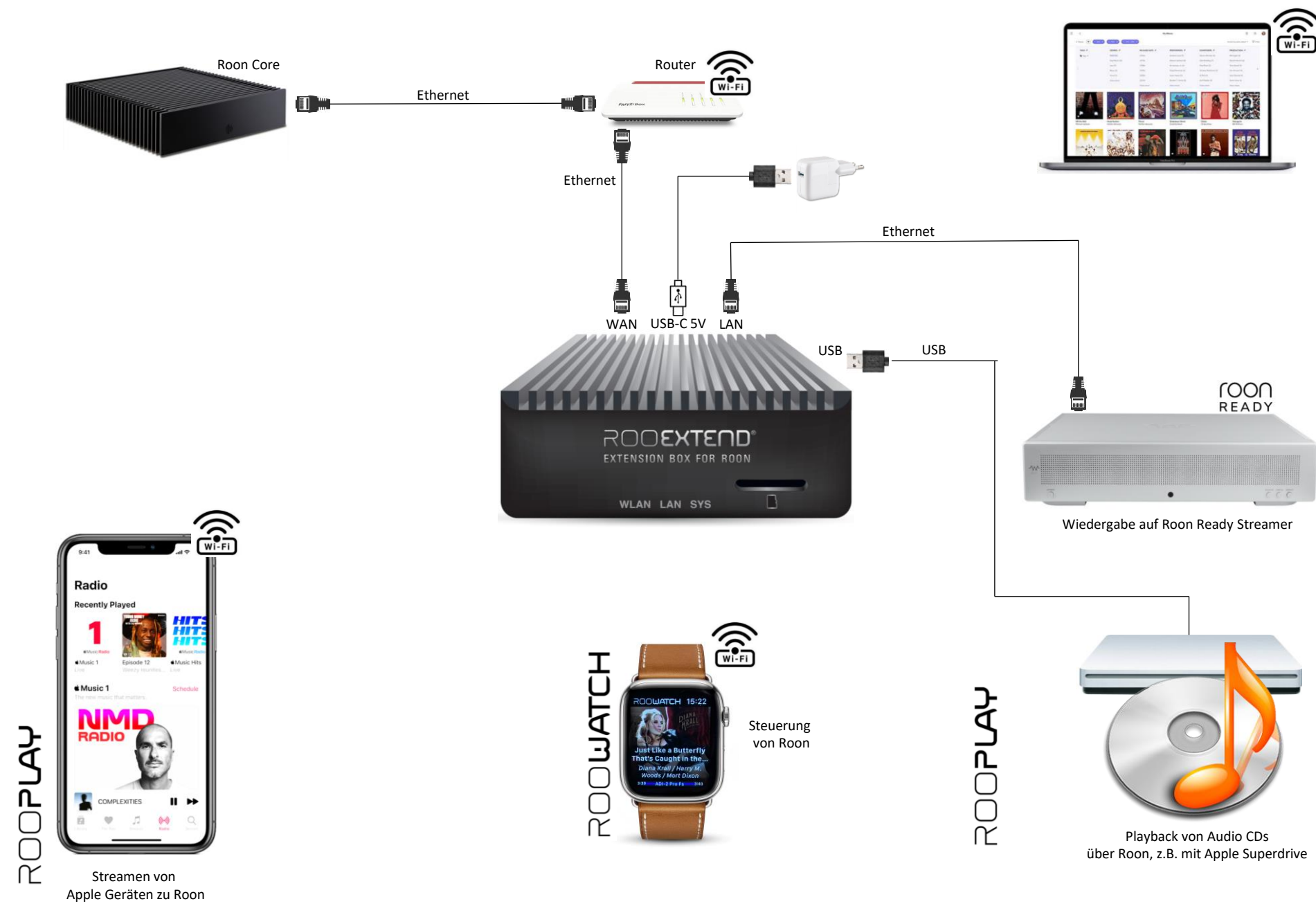
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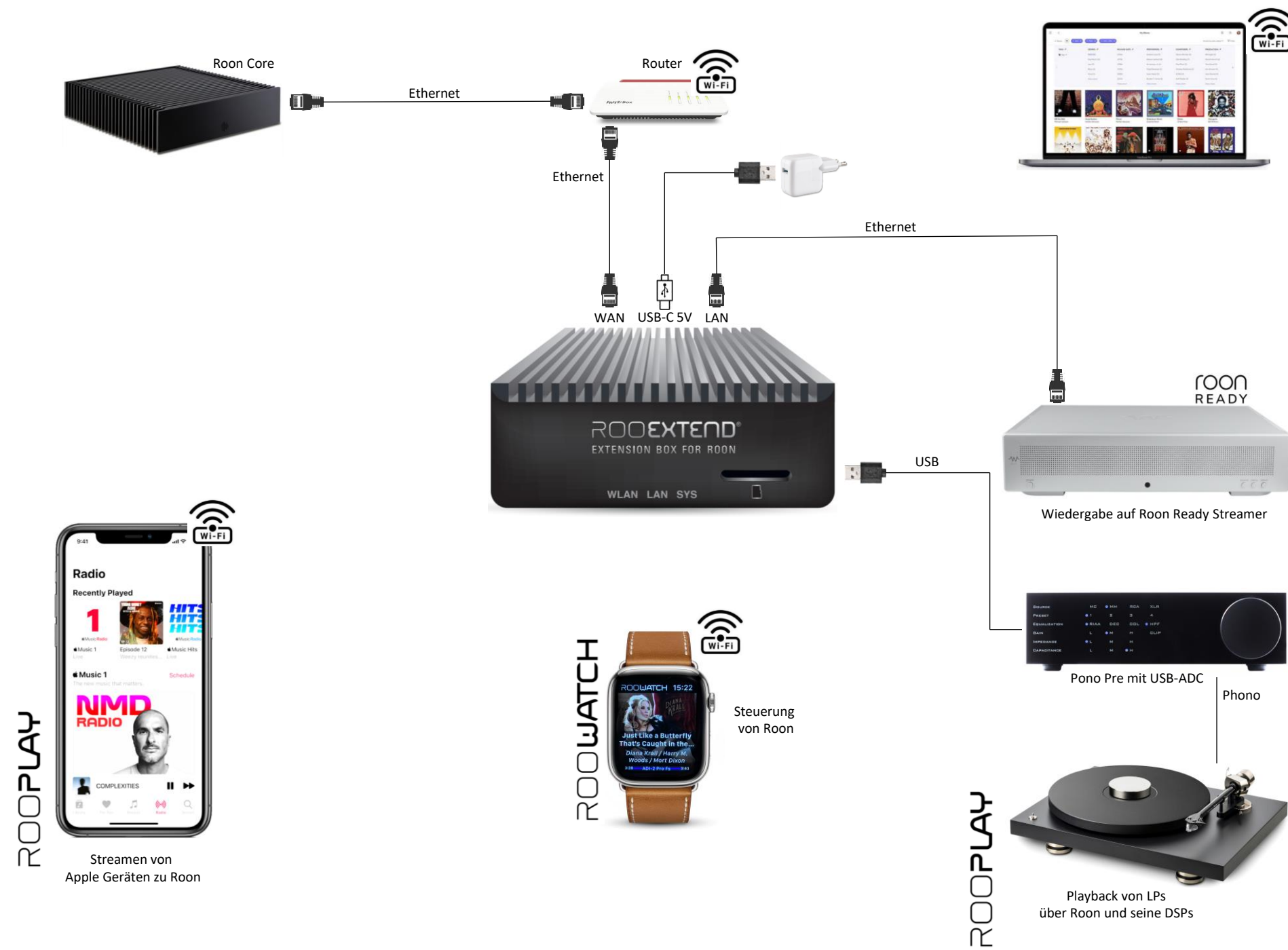
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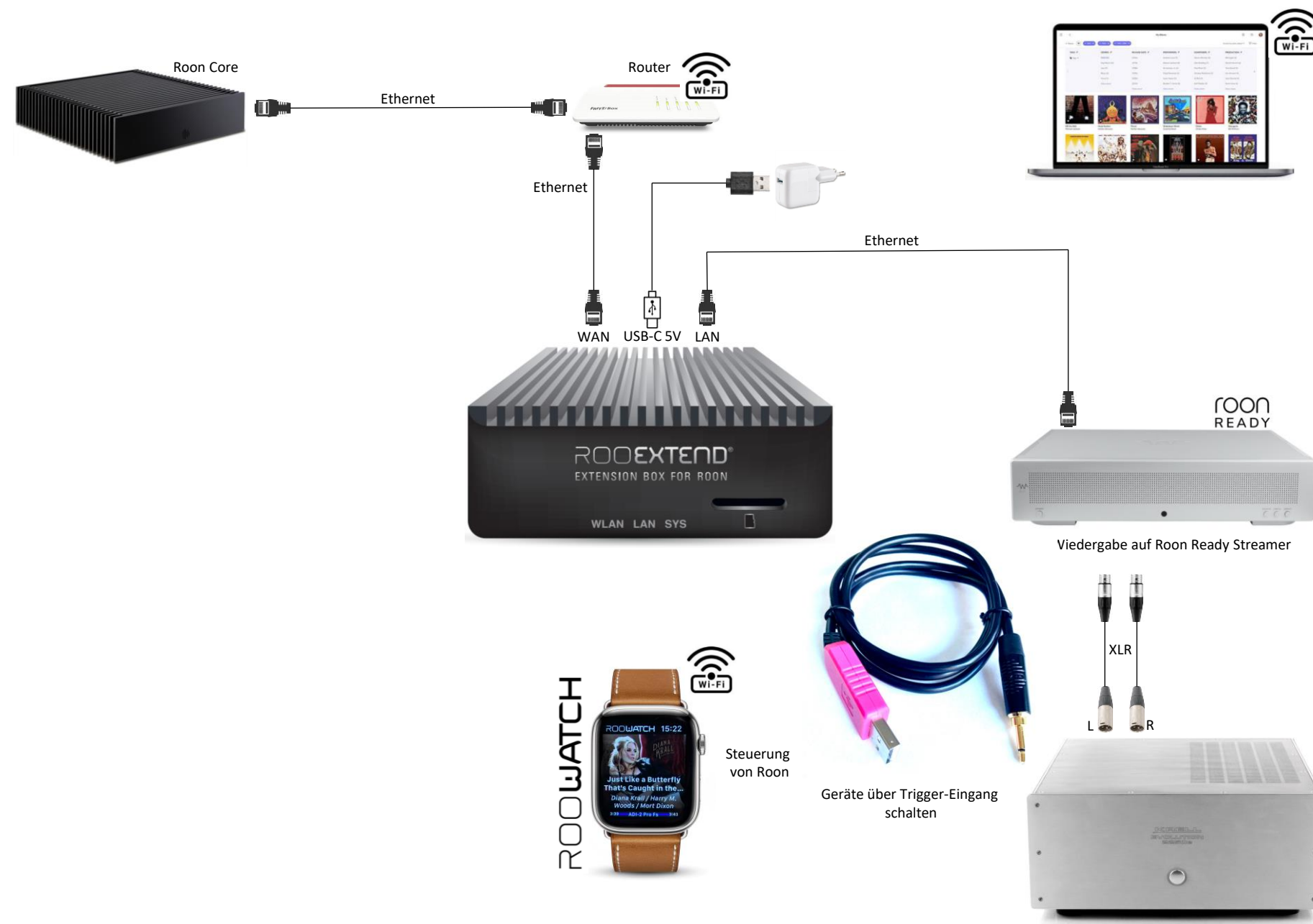
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## SWISS ARMY KNIFE FOR ROON



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## *Hörraum der definiteAudio GmbH*

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## MUSE – Der Roon DSP

**MUSE**  
Precision Audio Control

Presets  
No preset set ▾

**Hi-Fi Cable**

**Headroom management**  
Disabled

**Sample rate conversion**  
Disabled

**Filters** Bypass all filters

**+** Add filter

**Precision audio control**

MUSE algorithmically alters the audio signal, using tools like EQ, upsampling, and more.

**Signal path: High quality**  
Click on any stage of the path to Learn more

- Hi-Fi Cable
- Source**  
Qobuz FLAC 44.1kHz 24bit 2ch
- This PC**  
Roon Advanced Audio Transport
- VB-Audio Hi-Fi Cable**  
OS Mixer

**Add filter**

- Procedural EQ
- Parametric EQ
- Convolution
- Crossfeed
- Audeze presets
- Speaker setup
- Headphone EQ

100

0 100

2:53

Hi-Fi Cable 100

# Headroom Management

The screenshot shows the MUSE Precision Audio Control interface. On the left sidebar, the 'Headroom management' option is highlighted with a red circle and has a blue toggle switch set to 'Enabled'. Below it, 'Sample rate conversion' is disabled. The main content area is titled 'Headroom management' and contains the following text:

Digital signal processing can result in audio samples that exceed the allowed range.

When this happens, Roon clips outgoing samples to the allowed range before sending them to your playback device, which introduces distortion.

If you find that your MUSE settings are causing clipping, try creating some headroom by applying a small negative gain to the signal. Another way to combat clipping is to turn on volume leveling.

For more information, [see here](#).

Headroom adjustment (dB)  
If you're not sure, start with -3dB.

Headroom adjustment (dB) is set to -6, which is circled in red.

Show clipping indicator  
The Signal path light will turn red when samples are clipped.

Show clipping indicator is set to Yes, which is circled in red.

# Sample Rate Converter

The screenshot shows the MUSE Precision Audio Control interface. On the left, a sidebar contains several settings: 'Hi-Fi Cable', 'Headroom management' (disabled), 'Sample rate conversion' (enabled), and 'Filters'. The 'Sample rate conversion' option is circled in red. The main panel is titled 'Sample rate conversion' and includes a description: 'Sample rate conversion Configure how Roon manages output sample rate.' Below this, there is a dropdown menu set to 'Custom' and a list of sample rate options. The '96kHz' option is selected and highlighted with a blue background, and this selection is also circled in red.

Input Sample Rate	Output Sample Rate
44.1kHz	96kHz
48kHz	Default
88.2kHz	44.1kHz
96kHz	48kHz
176.4kHz	88.2kHz
192kHz	96kHz
352.8kHz	176.4kHz
384kHz	192kHz
705.6kHz	352.8kHz
768kHz	384kHz

# Parametrischer Equalizer

The screenshot displays the MUSE Precision Audio Control interface. On the left, a sidebar contains settings for 'Hi-Fi Cable', 'Headroom management' (Disabled), and 'Sample rate conversion' (Disabled). The 'Filters' section shows 'Parametric EQ' is enabled. The main area features a 'Parametric EQ' graph with a frequency axis from 32 Hz to 16 kHz and a gain axis from -24 dB to +12 dB. A yellow band is selected, with its frequency set to 2076 Hz and gain to 3.2 dB. The graph shows a peak at 2076 Hz and a dip at 1038 Hz. A vertical slider on the right allows for overall gain adjustment.

**MUSE** Precision Audio Control  
Presets: No preset set

**Hi-Fi Cable**

Headroom management: Disabled

Sample rate conversion: Disabled

**Filters** Bypass all filters

**Parametric EQ** Enabled

**Parametric EQ** Save/load EQ Remove filter

Band 4 Enabled

Frequency: 2076 Hz

Gain (dB): 3.2 dB

# FIR Convolution Raumkorrektur-Filter

The screenshot shows the MUSE Precision Audio Control interface. On the left, there is a sidebar with various settings: Hi-Fi Cable, Headroom management (Enabled), Sample rate conversion (Enabled), and Filters. The Filters section is expanded, showing a list of filters with 'Convolution' selected and circled in red. Below the list is an 'Add filter' button. The main content area is titled 'Convolution' and contains the following text:

Convolution is a powerful signal processing method that is commonly used for things like room correction, headphone listening, or surround processing.

Roon does not generate Convolution filters--this is done using an external piece of software.

Roon supports Convolution filters in several forms:

- An impulse response file, usually in .wav format, that describes the filter
- A .zip file containing one or more impulse response files
- A .zip file containing one or more convolver-style .cfg files and their associated impulse response files

In cases where a .zip file with multiple filters is provided, Roon will choose the best match filter by considering the sample rate and channel configuration of the source material.

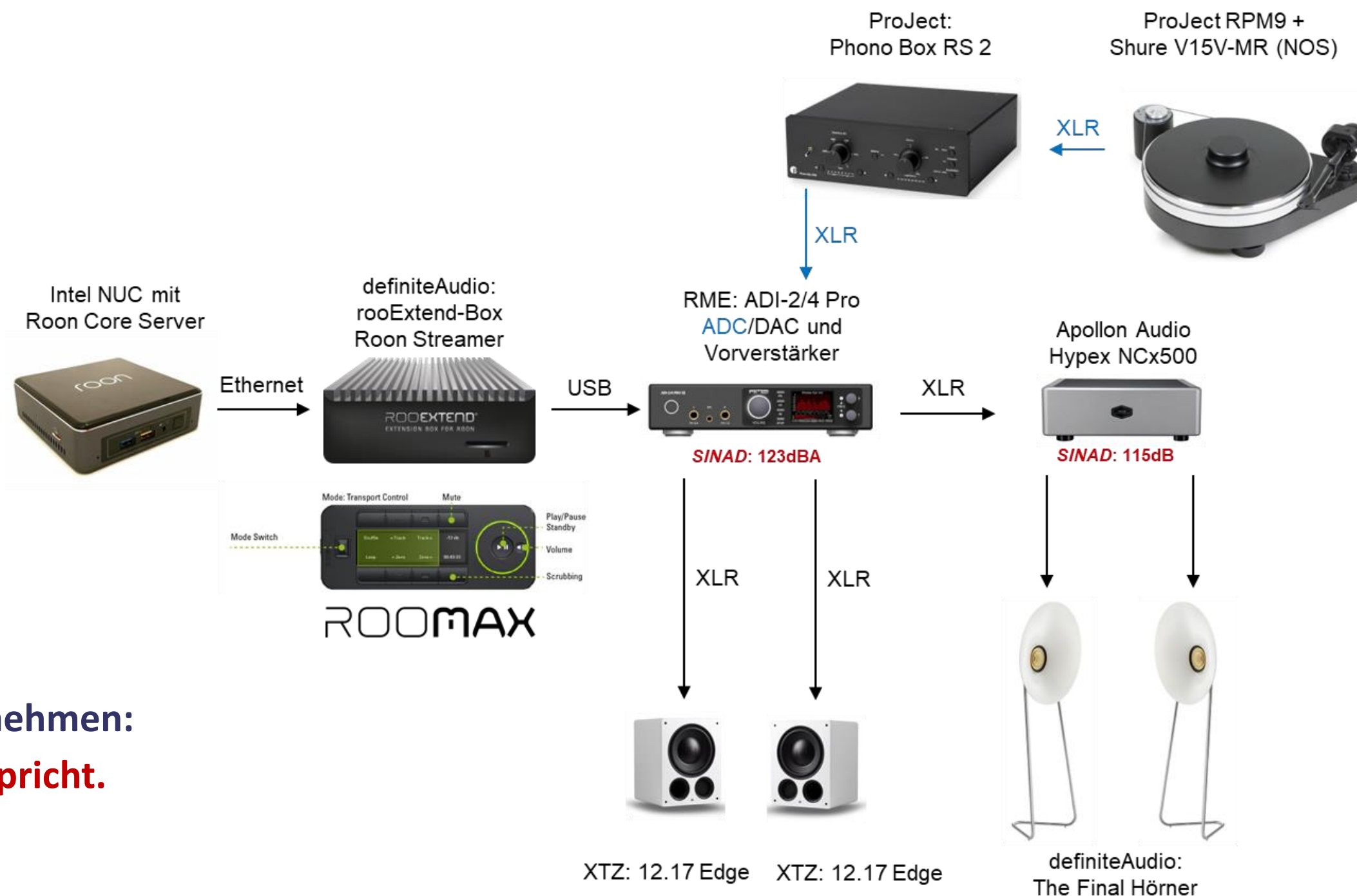
For more detailed documentation on Roon's convolution feature, [see here](#).

Currently selected filter: Roon Filter (circled in red), Browse... (circled in red), Clear

The screenshot shows the signal path in the MUSE Precision Audio Control interface. The signal path is titled 'Signal path: High quality' and includes the following stages:

- Hi-Fi Cable
- Processing speed: 34.6x
- Source: Qobuz FLAC 44.1kHz 24bit 2ch
- Bit depth conversion: 24bit to 64bit Float
- Headroom adjustment: -6,00dB
- Sample rate conversion: 44.1kHz to 96kHz
- Convolution filter: 2 paths, 66k taps
- Bit depth conversion: 64bit Float to 24bit
- This PC: Roon Advanced Audio Transport
- VB-Audio Hi-Fi Cable: OS Mixer

## Vollaktives System in Roon



**Signal path: Enhanced**  
Click on any stage of the path to Learn more

Wohnzimmer

Processing speed: 16.6x

- FLAC Source: Qobuz FLAC 44.1kHz 24bit 2ch
- Bit depth conversion: 24bit to 64bit Float
- Headroom adjustment: -2,00dB
- Sample rate conversion: 44.1kHz to 96kHz
- Convolution filter: 8 paths, 66k taps**
- Bit depth conversion: 64bit Float to 32bit

Wohnzimmer: Roon Advanced Audio Transport

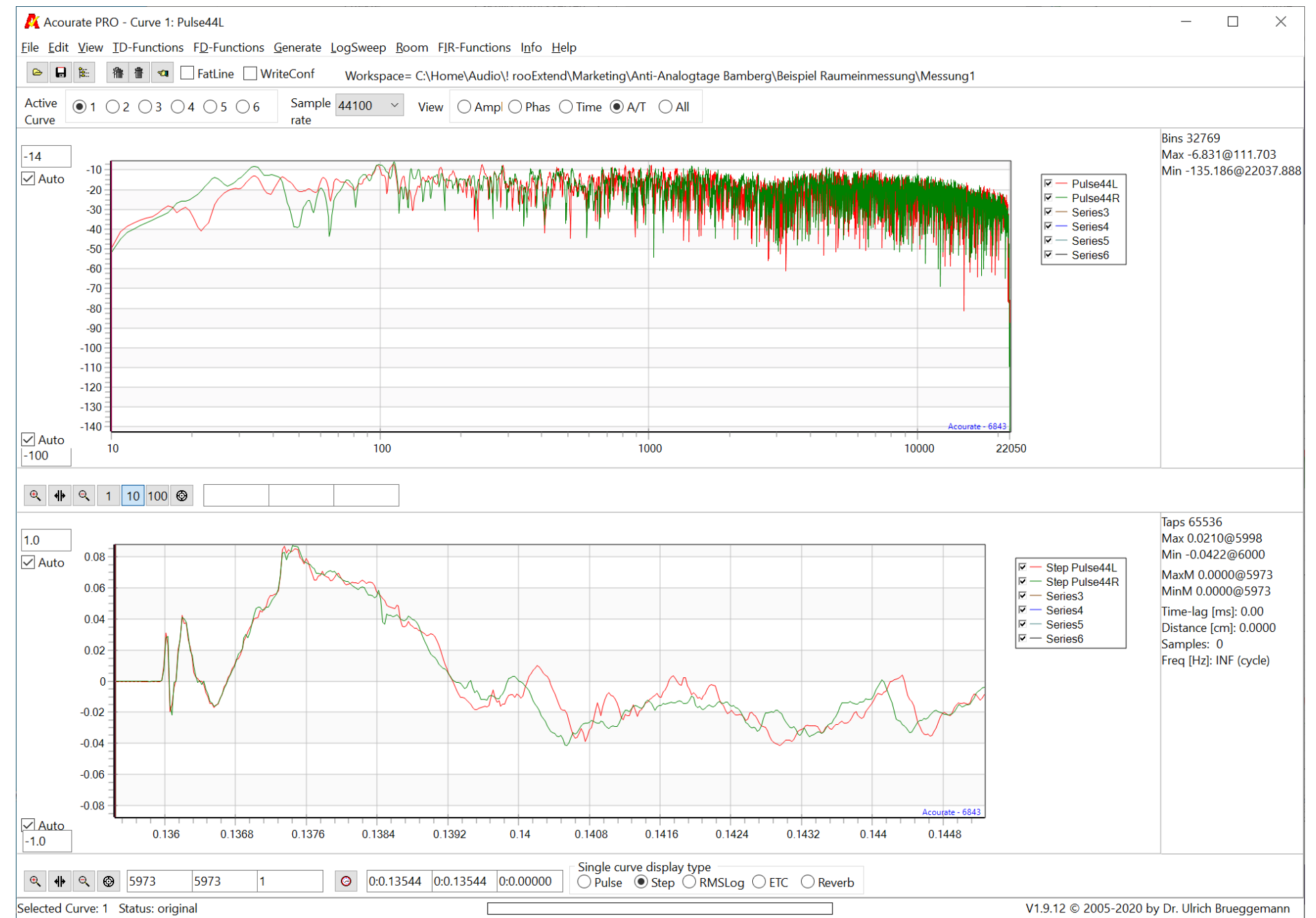
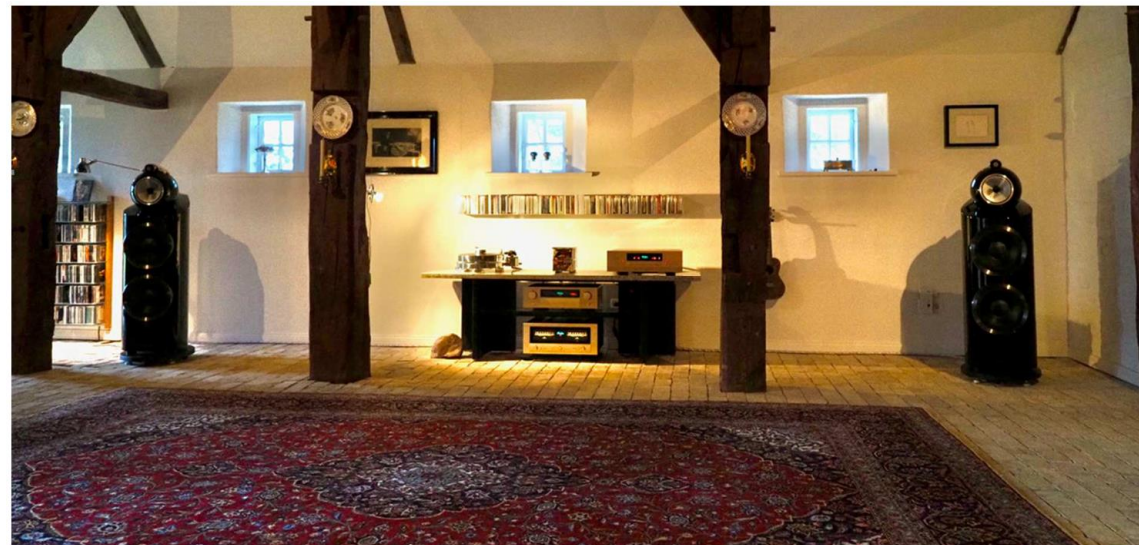
ADI-2/4 Pro SE (52102133): ALSA



Carsten Barnbeck  
Fidelity-Magzin 85

Um es unverhohlen vorwegzunehmen:  
**Die Anlage leistet, was sie verspricht.**

## Live Demo „Raumkorrektur mit Acourate und Roon“



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