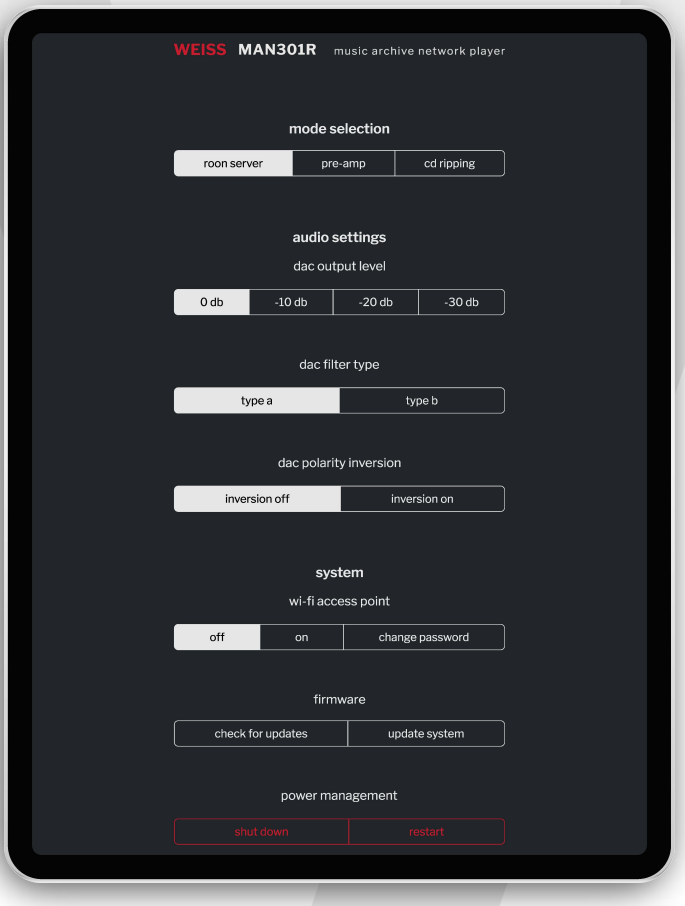




WEISS MAN301R

user manual

3.0.0

Contents

1 Foreword **3**

1.1 A short history of the MAN301R 3

2 First steps **4**

2.1 Set up the MAN301R hardware 4

2.2 Connections 4

2.2.1 Ethernet 4

2.2.2 USB 2.0 5

2.2.3 Digital audio 5

2.2.4 Analogue audio 5

2.3 Mains power on / off switching 5

2.4 Booting, WiFi 5

3 User interface **6**

3.1 Accessing the web interface 6

3.1.1 Pre-requisites 6

3.1.2 Connecting to the web interface 7

3.2 Switching between modes 7

3.2.1 Roon server mode 8

3.2.2 Pre-amp mode 8

3.2.3 CD ripping mode 9

3.2.4 CD playback mode 10

3.3 System section 11

3.3.1 Managing the WiFi access point 11

3.3.2 Updating the firmware 11

3.3.3 Power management 11

4 MAN301R technical data **12**

4.1 Digital inputs 12

4.2 Digital outputs 12
4.3 Main analogue outputs 12
4.3.1 XLR Output 12
4.3.2 RCA Output 12
4.4 Synchronization 12
4.5 Power 13
4.6 Measurements (internal DAC option installed) 13
4.6.1 Frequency response 13
4.6.2 Total Harmonic Distortion plus Noise (THD+N) 13
4.6.3 Linearity 13
4.6.4 Spurious components (including harmonics) 13
4.6.5 Crosstalk 13
4.6.6 Interchannel Phase Response 13

5 Firmware changelog **14**

Foreword

Congratulations on purchasing the MAN301R Music Archive Network Player!

We hope that your unit will provide you with countless hours of music listening.

Please make sure to read this user manual before getting started.

A short history of the MAN301R

Several years ago we introduced the MAN301 music archive network player. It was built around the philosophy of CD ripping, audio file downloads, internet radio streaming and metadata editing. The MAN301 was and is a very valuable device for these purposes.

In the meantime, however, streaming of high quality music sources has mostly taken the place of playing local files. This motivated us to "reconfigure" the MAN301 for streaming purposes by integrating the Roon platform into it.

Roon is one of the best platforms for the music lover, because it gathers streaming functionality along with the management of your local music library.

We have kept alive the CD ripping feature as well as the the pre-amp mode, which converts the MAN301R into a transparent D/A converter.

With all these features in mind, the new MAN301R model is once again at the state of the art for music playback.

First steps

Set up the MAN301R hardware

Carefully unpack the MAN301R unit. The following items should be included:

- The MAN301R unit
- This user manual with a warranty card
- The WiFi antenna



After unpacking the MAN301R, screw on the antenna onto the appropriate socket on the back of the unit. It can be rotated to the position you like best. The antenna does not have to be mounted if you do not need the WiFi access point functionality of the MAN301R.

Connections

The MAN301R has the following wired connectivity:

- RJ45 gigabit Ethernet
- USB 2.0
- Digital audio: XLR input/output, S/PDIF input/output, optical input
- Analogue audio (if DAC board is present): RCA output, XLR output



Ethernet

Please **make sure to connect the Ethernet port to your router.** The MAN301R is operated through a web interface, which requires you to be connected on the same network.

USB 2.0

The USB 2.0 connector can be used for attaching music storage devices like hard disks (HDDs) or solid state disks (SSDs). Supported file systems are FAT32, exFAT, NTFS, and ext2/3/4.

Digital audio

The MAN301R supports up to two channels of 192kHz/24bit digital audio. No more than one of the digital inputs (XLR, S/PDIF, optical) can be active at the same time. The digital outputs (XLR and S/PDIF) are active at the same time and deliver the same audio content.

Analogue audio

For units with a DAC, two channels of analogue audio are available. The RCA and XLR outputs are active at the same time and deliver the same audio content as the digital outputs. The RCA or XLR connectors can be used to drive headphones through an adapter cable (sold separately).

Mains power on / off switching

The MAN301R will automatically accommodate for the mains voltage, so there is no mains voltage selector to set. The fuse rating is the same for all mains voltages.

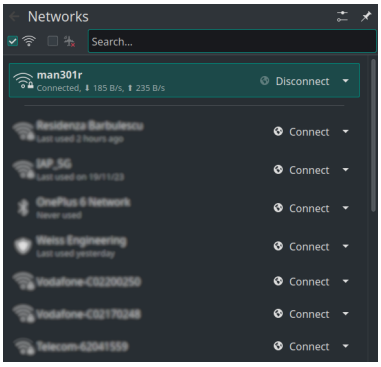


To turn on the MAN301R, press the "on" switch on the front panel. The blue LED will light up. After about a minute or so, the MAN301R has booted and is ready to be accessed through its web interface.

The MAN301R can be switched off from within the web interface or via the power switch on the front panel. If switched off from the front panel, the LED turns green and starts to flash until the MAN301R has shut down. If the green LED does not stop flashing for more than 5 minutes, you may force a power down by pressing and holding the power switch until the LED goes off.

Booting, WiFi

After having connected all necessary devices to the MAN301R (including the power cord), switch on the MAN301R and wait about a minute until it has booted.

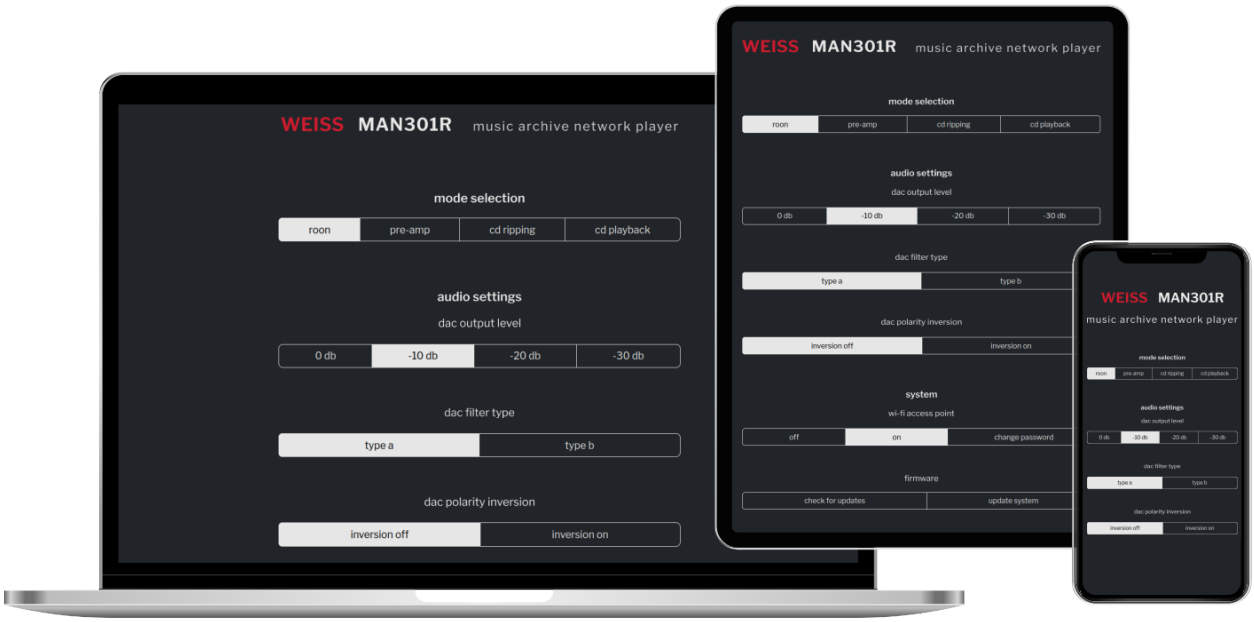


In order to access the web interface, make sure that your phone/tablet/computer is connected either your own local WiFi or the WiFi of the MAN301R:

- The WiFi network is called man301r-XXXX, where XXXX is the serial number printed on the back of your unit
- The default password is WeissMAN301R

Please note: **the MAN301R requires to be connected to an Ethernet router. Without a router, you will not be able to connect to the MAN301R WiFi network.**

User interface



The MAN301R is operated through a web interface, which is optimized for phones, tablets and desktop computers.

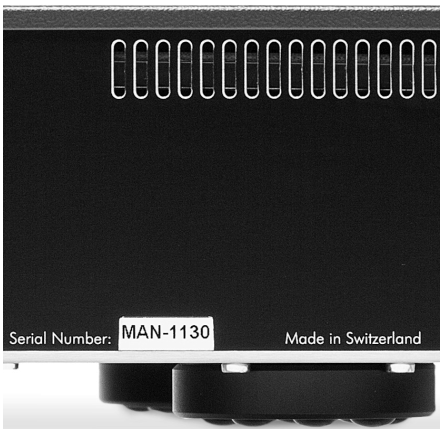
Accessing the web interface

Pre-requisites

In order to operate the web interface, you need a device or a browser which complies with at least one of the following requirements:

Browser/Device	Minimum version
Chrome	60
Firefox	60
Firefox ESR	No minimum version
iOS	12
Safari	12

Connecting to the web interface



First, find out the serial number of your MAN301R.
It is written on the back of your unit.

In your browser, simply type the following link:

```
man301r-XXXX.local
```

where `XXXX` is the four-digit serial number. For the unit depicted above, the link would be:

```
man301r-1130.local
```

Switching between modes

In the top section of the web interface, you can select one of three modes: roon server mode, pre-amp mode, and CD ripping mode.

Roon server mode

When "roon server" mode is selected, the MAN301R hosts a Roon instance that can be accessed by all devices in the same network with the Roon app installed. Compatible USB devices will be automounted and will become automatically accessible to Roon.



Roon is a software for managing local music libraries, lossless streaming from certain platforms (e.g. Tidal, Qobuz, KKBox), and web radio. The Roon app is available for phones, tablets and desktop computers. It requires a monthly subscription or a one-time purchase. For more information, please visit the Roon website:

`https://roon.app`

If your MAN301R has a DAC installed, you will have three audio settings at your disposal in the web interface:

- DAC output level selection, in 10dB steps
- DAC filter type
- DAC polarity

Pre-amp mode

In pre-amp mode, Roon will be turned off and the MAN301R will relay the audio from a digital input to all of its outputs. The unit will automatically lock onto the clock that comes from the selected input source. Supported clock rates are 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, and 192kHz. Supported word-lengths are 16 bits up to 24 bits.



In addition to the three physical inputs (XLR, RCA and optical) you can enable UPnP or AirPlay 2 streaming to the device.

In the audio settings, a digital volume control will appear. Its setting will affect both the digital and the analogue outputs. When the volume control is set to maximum (right-hand side), the digital output will be bit-transparent. The volume control is not available with UPnP and AirPlay inputs.

If your unit does not have a DAC installed, the DAC settings (output level, filter type, and polarity inversion) will be absent.

CD ripping mode

In CD ripping mode, Roon will continue to run in the background and the MAN301R will enable you to rip CDs from the internal CD drive onto an external USB storage device. To rip a CD, follow these steps:

1. Connect a USB storage device and tap the "check" button in the USB drive section. If the device is recognized correctly, the status will change from "not detected" to "mounted"
2. Insert a CD into the CD drive. If the disc is recognized correctly, the status will change from "not detected" to "detected" and the track list will be printed out in the status window below. **Please note:** the CD drive may need a while to access the discs. If the disc is not recognized immediately, wait for a couple of seconds and tap "check" again
3. Start the ripping process by tapping the "start ripping" button. If you wish to abort, tap the "abort ripping" button. This will stop the ripping, but it will not eject the disc. To eject the disc, tap the "eject" button in the CD media section



To rip a new CD, simply eject the current disc and insert a new one: unmounting the USB storage is not necessary.

The files on the USB storage device may be directly accessed via Roon, even while the CD is being ripped, or they may be copied to another storage device for further use.

There are two options available for CD ripping: output format selection ("wave" or "flac") and metadata lookup ("off" or "on").

Output format The available formats are "wave" and "flac". When "wave" is selected, the tracks will be left unaltered after ripping. When "flac" is selected, all tracks will be compressed to FLAC, a lossless audio format that usually achieves 40%-50% compression when compared to WAV. The result of the decompression is bit-perfect.

Metadata lookup When metadata lookup is set to "off", each ripped CD will be placed in its own folder with the following naming scheme:

```
CD-RIP-YYYY.MM.DD-HH.MM
```

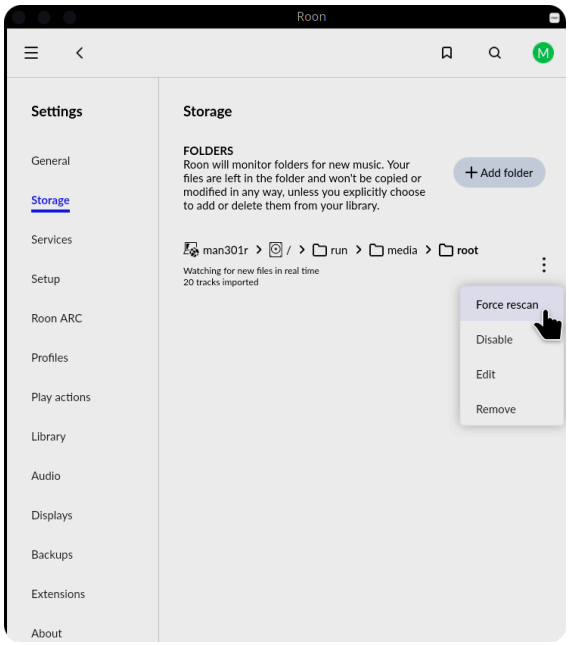
where `YYYY`, `MM` and `DD` are the current year, month and day, while `HH` and `MM` are current hour and minute. Each track inside the folder will be named with the following naming scheme:

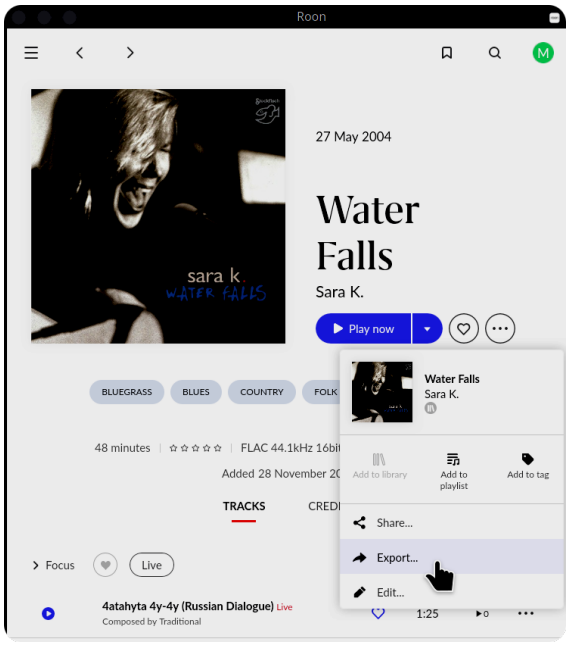
```
track01.cdda.wav
track02.cdda.wav
track03.cdda.wav
...
```

When metadata lookup is set to "on", the MAN301R will attempt to correctly name the folder and the tracks based on the artist, release and track names. You will see a short metadata report in the status window once the process is complete.

Roon metadata lookup If the integrated metadata lookup fails, or if you prefer to use Roon for this purpose, follow these steps:

1. Install the Roon desktop app (available for macOS and Windows)
2. Make sure that the USB drive is added to your Roon library
3. Use the export function to save the ripped CD to your favorite location. This function will cause Roon to look up the release in the Roon database. If a match is found, the exported release will be renamed and metadata will be inserted in each track

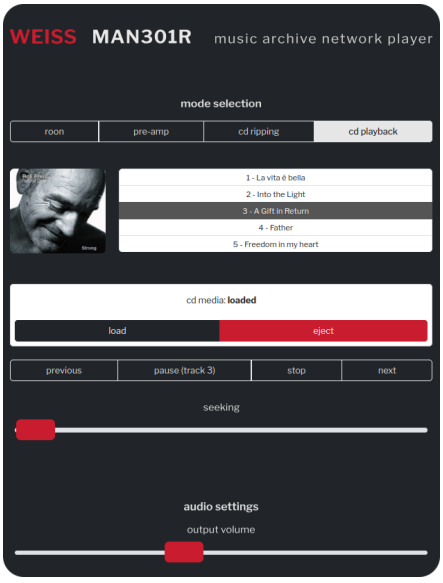




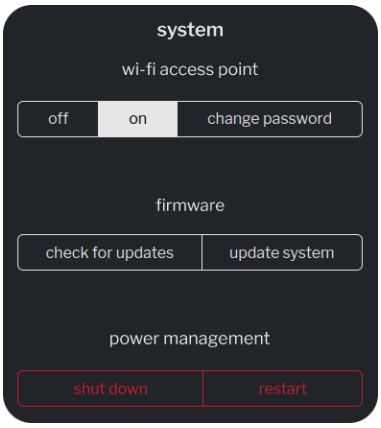
CD playback mode

In CD playback mode, Roon will be stopped, and the MAN301R will enable you to listen to audio CDs without ripping them:

- when a CD is inserted, a popup window will appear. You can then decide whether to load the CD by tapping the "load" button
- while the CD is loading, its metadata will be fetched from the internet (track list and cover art)
- to start playback, it is possible to tap onto a track from the track list, or to press "play"
- the currently played track will be always highlighted in the track list, and it will be also showed inside the "play" button
- the "seeking" slider will be updated as the track playback progresses. It can be also dragged to seek within the track



System section

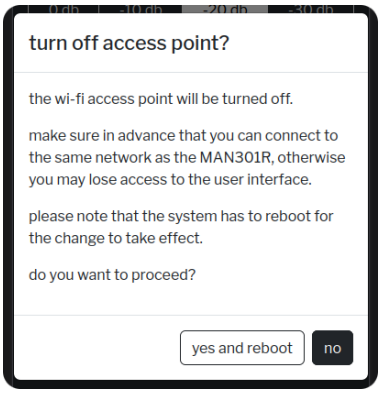


At the bottom of the user interface, there is a system section which allows you to do the following:

- turn off/on the WiFi access point
- change the password of the WiFi access point
- update the MAN301R firmware
- shut down/reboot your unit

Managing the WiFi access point

The WiFi access point is turned on by default. This is done to guarantee that you can reach the web interface if you are not in range of the WiFi network of your router, or if your router does not have WiFi capabilities. **Please note:** it is highly recommended to change the default access point password by the tapping the "change password" button.

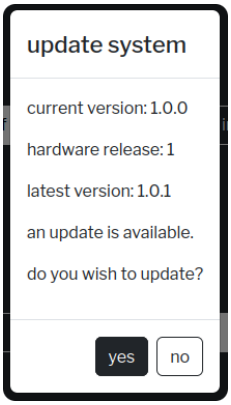


If you want to turn off the access point, simply select the "off" toggle. The user interface will ask you for confirmation, since this action requires a system reboot.

The access point can be turned on again with the "on" toggle. Once again, a reboot will be required.

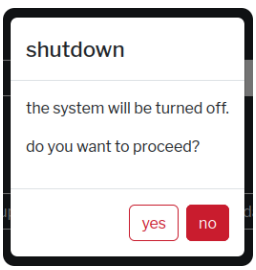
Updating the firmware

If you simply wish to check whether a new firmware version is available, select the "check for updates" toggle. A window will appear, showing the installed firmware version, latest firmware version, and hardware revision number.



If you are ready to update your system, select the "update system" toggle. Once again, version information will be shown. If the latest firmware is newer than the installed one, you can start the update process. **Please note:** follow the update instructions carefully and keep your MAN301R both powered up and connected to the internet during the entire process.

Power management



The MAN301R can be shut down and rebooted from the web interface instead of using the physical power button. A confirmation for completing the action will be required.

MAN301R technical data

Digital inputs

(1) XLR connector, (1) RCA connector, (1) Toslink connector (optical). All inputs accept professional or consumer standard, i.e. accept AES/EBU or S/PDIF signals.

Supported sampling frequencies are 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4 kHz or 192 kHz on any of the inputs, except Toslink which handles 96 kHz maximum. Maximum input wordlength is 24 bit.

Digital outputs

(1) XLR connector, (1) RCA connector, (1) USB 2.0 connector. Professional channel status data on the XLR and RCA outputs.

Main analogue outputs

(2) XLR connectors (hot on pin 2), DC coupled, short circuit proof output circuitry, output impedance 44 Ω, (2) RCA connectors, DC coupled, short circuit proof output circuitry, output impedance 22 Ω. The output level is selectable via the web interface; 4 settings are provided as shown below.

XLR Output

7.5 Vrms, +19.7 dBu, with a 0 dBFS sinewave input
2.3 Vrms, +9.7 dBu, with a 0 dBFS sinewave input
0.75 Vrms, −0.3 dBu, with a 0 dBFS sinewave input
0.23 Vrms, −10.3 dBu, with a 0 dBFS sinewave input
These levels are achieved with all faders / gain trims set to maximum level.

RCA Output

3.75 Vrms, +13.7dBu, with a 0 dBFS sinewave input
1.15 Vrms, +3.7dBu, with a 0 dBFS sinewave input
0.375 Vrms, −6.3dBu, with a 0 dBFS sinewave input
0.115 Vrms, −16.3dBu, with a 0 dBFS sinewave input
These levels are achieved with all faders / gain trims set to maximum level.

Synchronization

Synchronized via the input signal or the internal oscillator. Sampling frequencies: 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz and 192 kHz. The external clock input on the BNC connector is not supported.

Power

Mains voltage: 100–240 V, the mains voltage is automatically switched.
Fuse rating: 4 A slow blow for all mains voltages.
Power consumption: 50 W max.
Power consumption in standby: 0.5 W max.

Measurements (internal DAC option installed)

The measurements below have been taken at the following conditions (unless noted otherwise): 1 kHz measurement frequency, maximum selectable output level, 192kHz sampling frequency (Fs), 22kHz measurement bandwidth, unweighted, 0 dBr equals the output level at 0 dBFS input.

Frequency response

Fs = 44.1 kHz, Filter A, 0Hz-20kHz: within ± 0.25dB
Fs = 44.1 kHz, Filter B, 0Hz-20kHz: within ± 1.3dB
Fs = 88.2 kHz, Filter A, 0Hz-20kHz: within ± 0.25dB
Fs = 88.2 kHz, Filter A, 0Hz-40kHz: within ± 0.8dB
Fs = 88.2 kHz, Filter B, 0Hz-20kHz: within ± 0.25dB
Fs = 88.2 kHz, Filter B, 0Hz-40kHz: within ± 1.5dB
Fs = 176.4 kHz, Filter A, 0Hz-20kHz: within ± 0.25dB
Fs = 176.4 kHz, Filter A, 0Hz-40kHz: within ± 0.8dB
Fs = 176.4 kHz, Filter A, 0Hz-80kHz: within ± 2.5dB
Fs = 176.4 kHz, Filter B, 0Hz-20kHz: within ± 0.25dB
Fs = 176.4 kHz, Filter B, 0Hz-40kHz: within ± 0.8dB
Fs = 176.4 kHz, Filter B, 0Hz-80kHz: within ± 3.5dB

Total Harmonic Distortion plus Noise (THD+N)

−116 dBr (0.00016 %) at −3 dBFS input level
−125 dBr (0.000056 %) at −40 dBFS input level
−125 dBr (0.000056 %) at −70 dBFS input level

Linearity

At 0 dBFS to −120 dBFS input level: less than ±0.4 dB deviation from ideal

Spurious components (including harmonics)

At 0 dBFS input level, maximum output level, 1 kHz, all components at less than −120 dBr
At 0 dBFS input level, maximum output level, 4 kHz, all components at less than −115 dBr

Crosstalk

Better than 120 dB, 20 Hz–20 kHz

Interchannel Phase Response

± 0.05° 20 Hz–20 kHz
± 0.30° 20 Hz–80 kHz

Firmware changelog

3.0.0

- Introduction of the CD playback feature
- Roon mode / CD ripping:
  - notify with a popup window when a USB drive is detected
- System:
  - improve network stability
  - fix issues with multiple MAN301R units running on the same network

2.1.0

- Roon mode / CD ripping:
  - the USB storage is now accessible as a network share
  - fix network issue with Roon not listing all MAN301R units on the same network
- System:
  - fix potential network issue with duplicate IPv4/IPv6 addresses
  - system security updates

2.0.0

- Preamp mode:
  - add support for AirPlay 2 with instantaneous play/pause and volume control
  - hide empty "audio settings" for AirPlay/UPnP inputs when the unit does not have a DAC
- CD ripping:
  - keep Roon server running in the background when switching to CD ripping mode. The user can now play CDs while Roon while they are being ripped
  - if there is a CD ripping in progress, inform the user that they have to abort the ripping before detaching the USB drive, ejecting the CD, or before switching to preamp mode
  - warn user about stopping Roon when switching from CD ripping to preamp mode
  - if metadata retrieval is active, print a short metadata report once CD ripping is complete
  - fix some metadata retrieval issues
- System:
  - firmware updates: reduce download size by 75% and update time by 50%
  - reduce boot time by at least 5 seconds
  - improve overall network setup stability
  - system stability and security updates

1.1.0

- Preamp mode: implement UPnP, UPnP-AV and AirPlay inputs
- CD ripping:
  - Ask user for confirmation before aborting a CD rip
  - Fix a bug that could lead to the same CD being ripped multiple times
  - Fix a bug that could make the web interface crash during CD ripping when no user was connected

1.0.2

- Roon mode: automount all USB drives

1.0.1

- Initial public release