


User Manual
M30 Multiuser Amplifier

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Introduction

Congratulations on acquiring your new **M30 Multiuser amplifier**. We would like to thank you for the trust you have shown in our company by purchasing this high-quality product. Before commissioning your Revox **M30**, you should pay attention to the following instructions in order to fully benefit from the acoustic qualities of the product.

For **general safety instructions**, **information on how to dispose of your old devices** and the **warranty terms**, please refer to the enclosed leaflet.

Pay attention to the warning labels on the device and/or its external power supply unit:



In order to prevent the risk of electric shock, do not remove any coverings. Maintenance and repairs are only to be performed by qualified specialists!

Unpacking

We recommend keeping the packaging materials in case the product needs to be transported at a later point in time. Please check the **M30 Multiuser Amplifier** and its accessories after unpacking to ensure that it is complete and has not suffered any damage during transport. Before commissioning the device, please read through the operating manual carefully. Keep it as a reference document.

A device which has suffered mechanical damage or which liquids have penetrated into is not to be connected to the mains.

Network requirements for M30

The **Multiuser** amplifier is a network device and requires a network connection for operation. It can be integrated into the network with a cable (LAN) or via a 2.4 GHz or 5 GHz WiFi interface that supports 802.11 g/n/a/ac wireless technology. You can find more about this in the "Integration" chapter. **In a multiuser system, a maximum of 7 M30 amplifiers can be wirelessly connected to a network via WLAN. All other M30 amplifiers must then be connected by cable via LAN.**

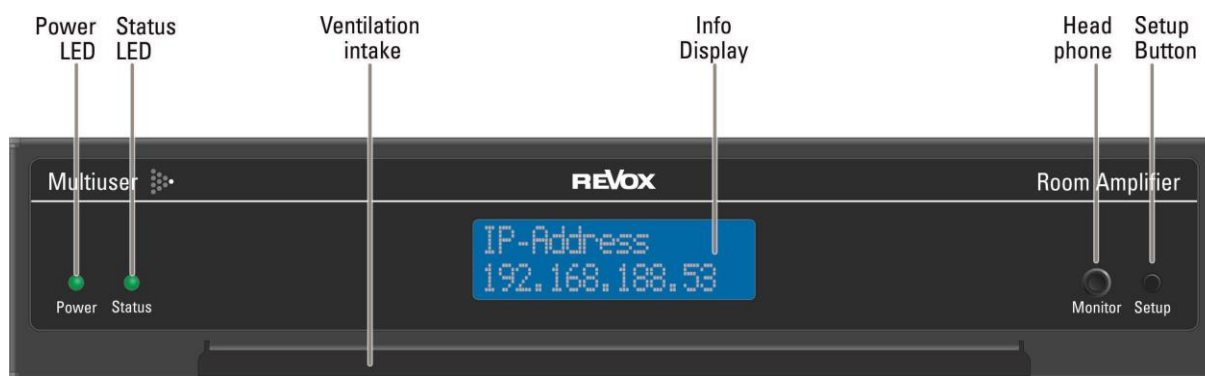
The Revox Multiuser app is available free of charge in the store for Android devices from Android 7.0 and Apple devices from iOS 9.35.

Included in delivery

- **M30** Multiuser amplifier
- WiFi antenna 2,4/ 5 GHz
- Power cable 3-pol
- Network cable
- Feet of unit (self-adhesive)
- Leaflet *Safety instructions & Warranty terms*

Described software version: 0.6.1 (see [Display](#))

Front of M30



Name	Function
Info display	Displays various operating data details. Called through the Setup button
Ventilation intake	Do not cover the opening - required for fresh air intake
Monitor [socket]	Headphone output - 3.5 mm, stereo jack
Power [LED]	Operational state status display
Setup [button]	For calling up various operational data in the info display
Status [LED]	System activity display

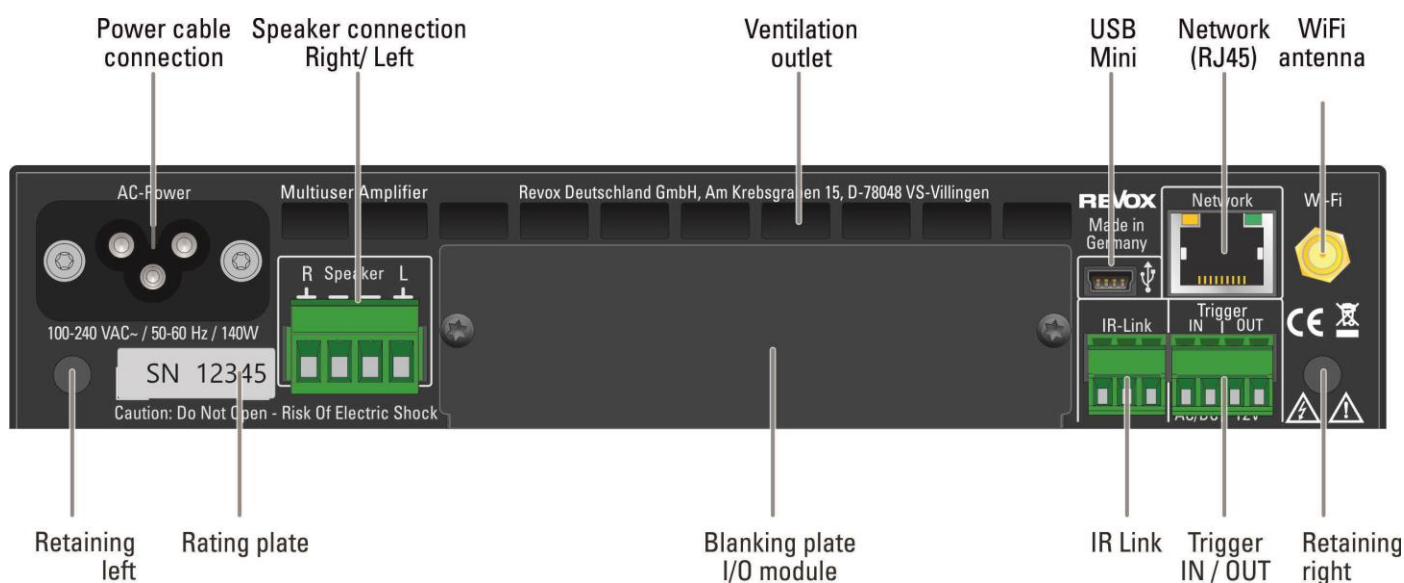
No	Power	Status	Display	Function
1	●	●	LCD: OFF	M30 is starting
2	●	●	LCD: OFF	M30 in standby, but no network connection (status flashing)
3	●	●	LCD: ON	M30 is switched on and connected to the network, playback is running
4	●	●	LCD: OFF	M30 in Standby
5	●	●	LCD: OFF	M30 active in the background: one or more inputs from an optional module are in sensitive mode and/or are being streamed from other amplifiers.
6	●	●	LCD: ON	M30 is switched on but not connected to the network or has been disconnected from the network.

Display

The Setup button can be used to call up the various operating data.

No.	Function	Explanation
1	REVOX Connect Enabled	The REVOX Connect integration routine for integration into the local WLAN is active. Manual activation/deactivation via setup button (press 3 sec).
2	Revox M30-Amp Downloading... Revox M30-Amp Updating: 28%	The M30 automatically receives the current firmware of the Multiuser Server. This can be, for example, a STUDIOMASTER M300 / M500 or a V400 server. After the software package has been downloaded, the new firmware is updated. A % display informs about the update progress.
3	Revox M30-Amp No network	If the M30 does not receive an IP address via WLAN or LAN, it indicates this with the message "No network". At the same time, it activates the Revox Connect interface in the background.
4	RC0EE408C784C0 CO!..... M30-kitchen =====!	In the delivery state, the room is displayed with the corresponding MAC address of the M30. A (0) completes the room identifier. After configuration in the Multiuser Configurator, the display shows the assigned "Room Alias". A level display informs about the volume status of the amplifier/power stage.
5	SC0EE408C784C0 CO!.....	Like the room, the source is specified as a combination with the MAC address. A (0) terminates the source identifier. After configuration in the Multiuser Configurator, the display shows the assigned "Source Alias". A level indicator informs about the input level of the current source, if it is a local source of the optional I/O module. Source index: CO : coaxial OP : optical AN : analogue
6	TC0EE408C784C0 In:Off Out:Off	The trigger (IN/OUT) is also indicated as a combination with the MAC address. An indexing completes the trigger identifier. After configuration in the Multiuser Configurator, the display shows the assigned "Trigger Alias". The display shows the status of the IN or OUT trigger in the bottom line.
7	Infrared Adr:17 Opc:63	Via the infrared display, you can read which RC5 code (address / command) was last received. A current RC5 reception is displayed when [IR] is shown.
8	MU-Version 030-03.00.14	Display of the current version of the Multiuser System.
9	OS-Version v0.5.0	Display of the current version of the M30 operating system.
10	Module 1.563.080.00	If an optional module is installed in the M30, its identity can be determined via the displayed item number, here e.g. 1.563.080.00 of the I/O module.
11	IP-Address 192.168.0.152	The IP address of the M30 is displayed here, which it has obtained from the router via DHCP.
12	MAC-Address C0EE408C784C	Display of the pure MAC address of the M30.
13	System Time Mon 13:54:20	Display of the system time of the Revox Multiuser Server.
14		At the end of the display loop, the M30 switches off if no audio input detects a signal. Otherwise, the next time the Setup button is pressed, the room identifier is displayed again.

Connection panel



Name	Function
AC Power	Power cable connection (class 1 with ground cable) Please take note of the connection specifications: 100-240 VAC~ / 50-60 Hz / 140 W max.
[Retaining]	M4 threaded hole for locking the unit in place on the rack-assembly shelf or on the wall-mounted bracket.
[Blanking plate]	Opening for the installation of optional Multiuser modules, e.g. I/O module
IR Link*	Connection for Voxnet 218 wall-mounted keypad or various other Revox IR receivers.
[Ventilation outlet]	Do not cover the opening - required for expelling heated air
Network	RJ45 socket for LAN cabling in the network (100 Mbit)
R Speaker L	Speaker connection / Impedance: at least 4 Ω DSP correction profiles available for all Revox speakers in the Configurator
Trigger IN	Voltage trigger input: 5 - 48 VAC/VDC. Potential-free. Ri: approx. 1000 Ω
Trigger OUT*	Voltage trigger output 12 VDC (configurable)
[Rating plate]	Unit-specific information
USB mini	USB mini socket for update (only manufacturer)
WLAN antenna	Antenna for WLAN connection. Network integration of the M30 via wireless WLAN connection or initial start-up with the help of REVOX Connect via BLE (Bluetooth Low Energy) connection.

Detailed description /Connection panel

IR Link

Various Revox products can be connected to the IR Link:

- C18 wall remote control (I = 23mA)
- M204 IR Receiver (I = 7mA)
- M204 IR Receiver flange (I = 7mA)
- M204 IR Receiver aluminum housing (I = 7mA)

All products have one thing in common, that they send and/or forward RC5 commands to the M30.

If the M30's Trigger OUT is not being used, devices with an overall current of up to 80 mA may be connected to the IR Link. The individual current requirements in [mA] are listed above.

Please note that cables with small cross-sections or long cable lengths can impact both qualitatively and quantitatively on the data signal to such an extent, that it is no longer recognized by the M30.

Max, lengths: 100 m at $\geq 0.25\text{mm}^2$ / cable strand (\leq AWG 23)

* Overall current

[IR-Link + Trigger Out): max. 80 mA

Network

Network connection: If the Revox Multiuser Amplifier M30 is connected to the network via cable, a multicast-capable network is required (information on this can be found in the Multiuser Network Knowledge documentation). Minimum requirements: 100 Mbit; better 1 Gbit network, IGMP Querrier and IGMP Snooping V2 activated.

Trigger IN

Voltage-controlled input trigger (room trigger) that is given its function through the Multiuser Configurator. It can be used both for the ON and the OFF state of different actions.

Input voltage can be between 5 and 48 volts, DC or AC. The IN trigger applies a load of approx. 1000 Ω to the supplying source.

Trigger OUT

The output trigger supplies 12 VDC. Its function can be defined through the Configurator or by using Multiuser text. The OUT trigger can deliver an overall current* of up to 80 mA, assuming that the IR Link is not being used.

USB

USB mini-port for installing the Multiuser M30 software (as a fallback solution) if the firmware is no longer functional.

WiFi antenna

Connect the supplied antenna here, which covers the WLAN range of 2.4 and 5 GHz. If you want to use a different antenna, make sure that both frequencies (2.4 and 5 GHz) are supported.

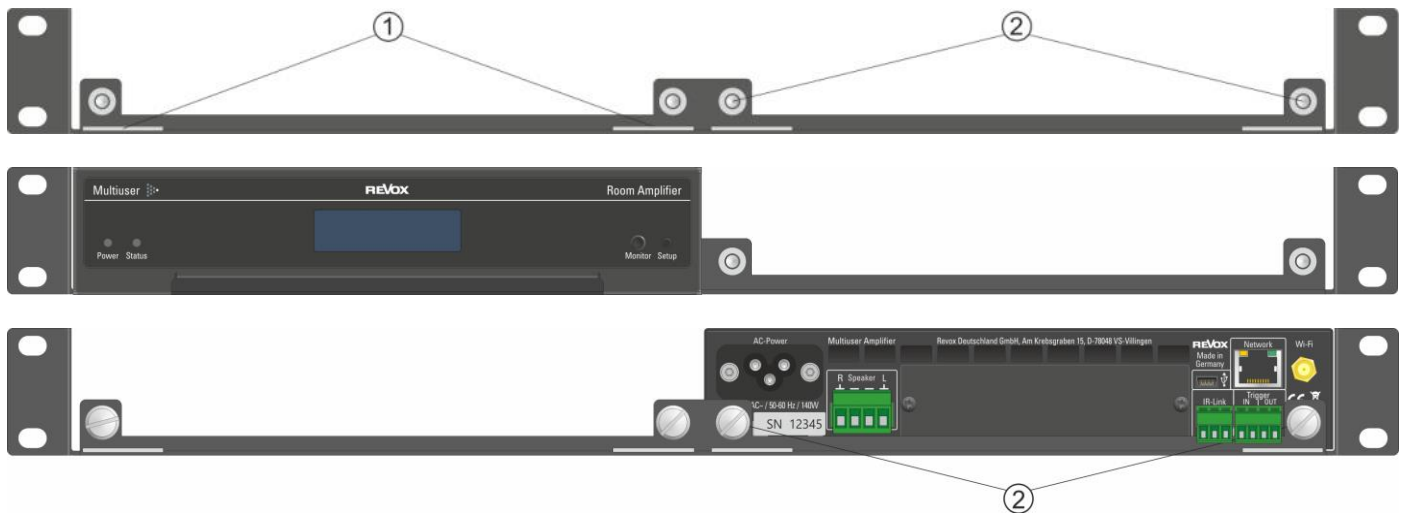
Rack installation

The M30 is designed for installation in a 19" rack. A shelf / tray (Revox Article no.: 1.563.090.00) is available as an accessory, which can take two M30 amplifiers. The height of the shelf is 1 U.

The tray can be built into the rack with and without M30 amplifiers. Both options are possible depending on the installation environment.

The M30 has a recess to the left and right of the front edge which the metal lugs of the tray (upper picture / ①) fit into. Locate the amplifier, lined up with the right or the left of the tray and push it backwards until it reaches the back wall of the tray. The amplifier is now fixed in place horizontally at the front and vertically.

Now turn your attention to the rear of the tray. Two knurled thumb screws are provided with each amplifier for fixing it into place (lower picture / ②). Screw the amplifier into place with these until they are hand-tight. This completes the installation of the M30.



Environmental conditions in the rack

In the case of a rack installation, you must ensure that the inside temperature of the rack does not exceed +40°C / +104°F. If necessary, the rack must be actively cooled using a fan.

The M30 amplifier itself is fitted with an active fan control and controls its own inner temperature. Cool air is sucked in at the front of the amplifier, drawn through the unit and blown out of the slots at the back. For this reason, cool air must be able to get to the front of the amplifier to be drawn in, even if the rack door is closed. Multiple trays can be mounted underneath each other in the rack, without having to leave any gaps between them.



Heat dissipation M30

Typically: 13 W / 44 BTU/hr

Use an inrush current limiter

When installing more than 4 pieces of M30 Multituser Amplifiers per fused circuit (16 A), Revox recommends using an inrush current limiter. This effectively prevents the fuse from blowing when the system is switched on again, e.g. in the event of a power failure or night shutdown.

Installation with wall-mounting bracket

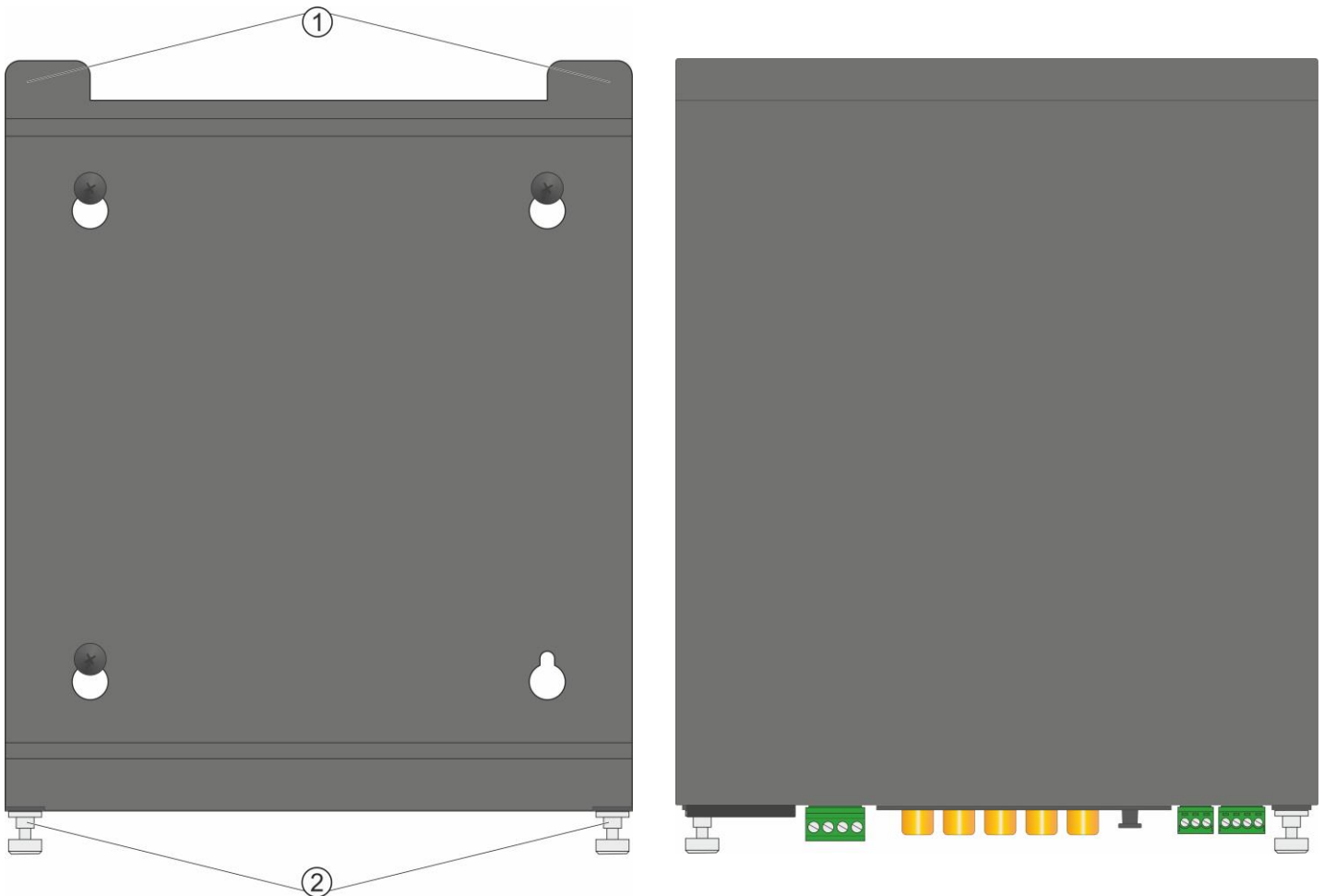
An optional wall-mounting bracket is available (Revox Article no.: 1.563.091.00), which can take one M30 amplifier. In this case, the M30 connections are directed downwards.

The 4 x 30 mm pan head screws supplied are used for mounting the bracket on the wall, as shown in the assembly instructions. Then, you can simply hang the bracket on the screws.

It is advisable to complete the cabling of the M30 before mounting it on the wall-mounted bracket as the connections are very close to the wall.

The amplifier can now be placed on the bracket. It must be ensured that the M30 lies flush against the bracket and that its two lugs are located in the recesses beneath the front of the M30 (lower picture / ①).

Finally, the two knurled thumb screws (lower picture / ②) are screwed into the amplifier's locking threads and hand-tightened. The picture shows the positioning of the M30 (transparent) on the wall-mounted bracket (dark in the background).



Integration

First steps

A network connection is required for the operation of the M30 Multuser Amplifier in a Multiuser system. If the connection to your own network is not wired via LAN using a network cable, you will need a mobile device (Revox C200, smartphone or tablet) with Bluetooth and WLAN function. First of all, please download the Revox **Multiuser App** from the Apple App Store or the Google Play Store and install it on your device.

You can obtain a direct link via the QR code. Simply photograph the QR code with the QR scanner of your handset and follow the corresponding link. The link is equally valid for iOS and Android devices.



Note on the number of WLAN amplifiers

In a Multiuser system, a maximum of 7 M30 amplifiers may be wirelessly connected to a network via WLAN. All other M30 Amplifiers must then be connected by cable via LAN.

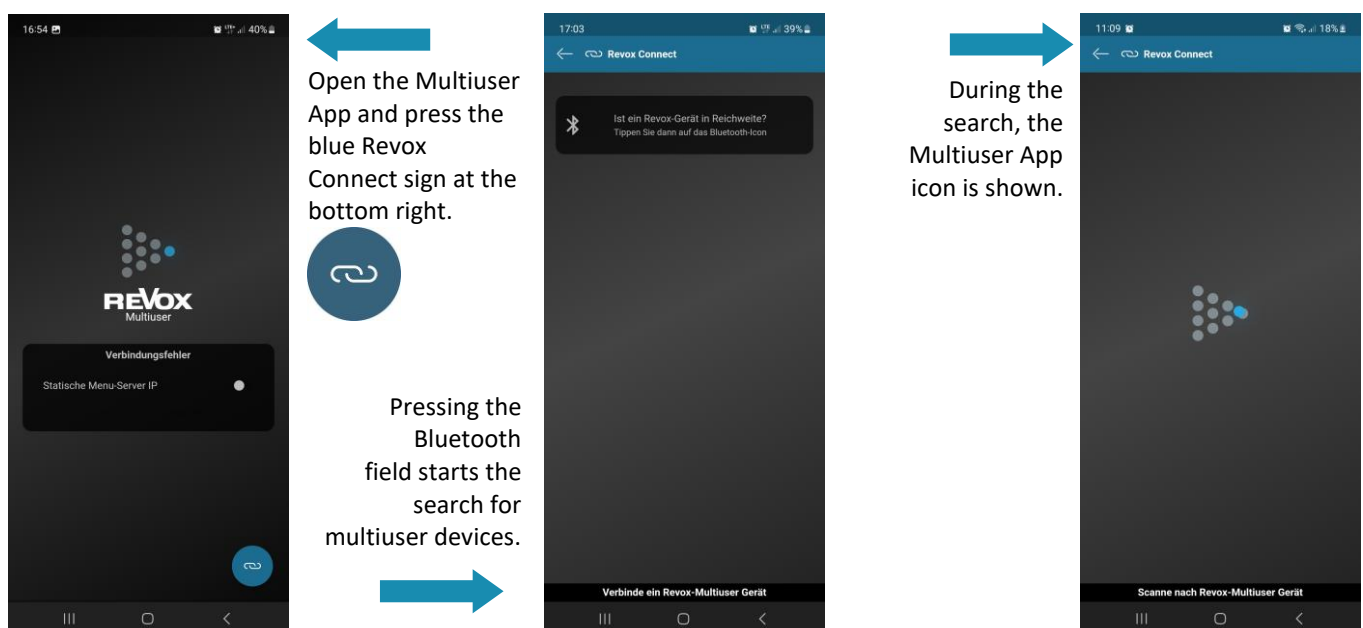
WLAN integration into the network with Revox Connect

After switching on for the first time, the M30 display shows the following content if no network cable is connected:



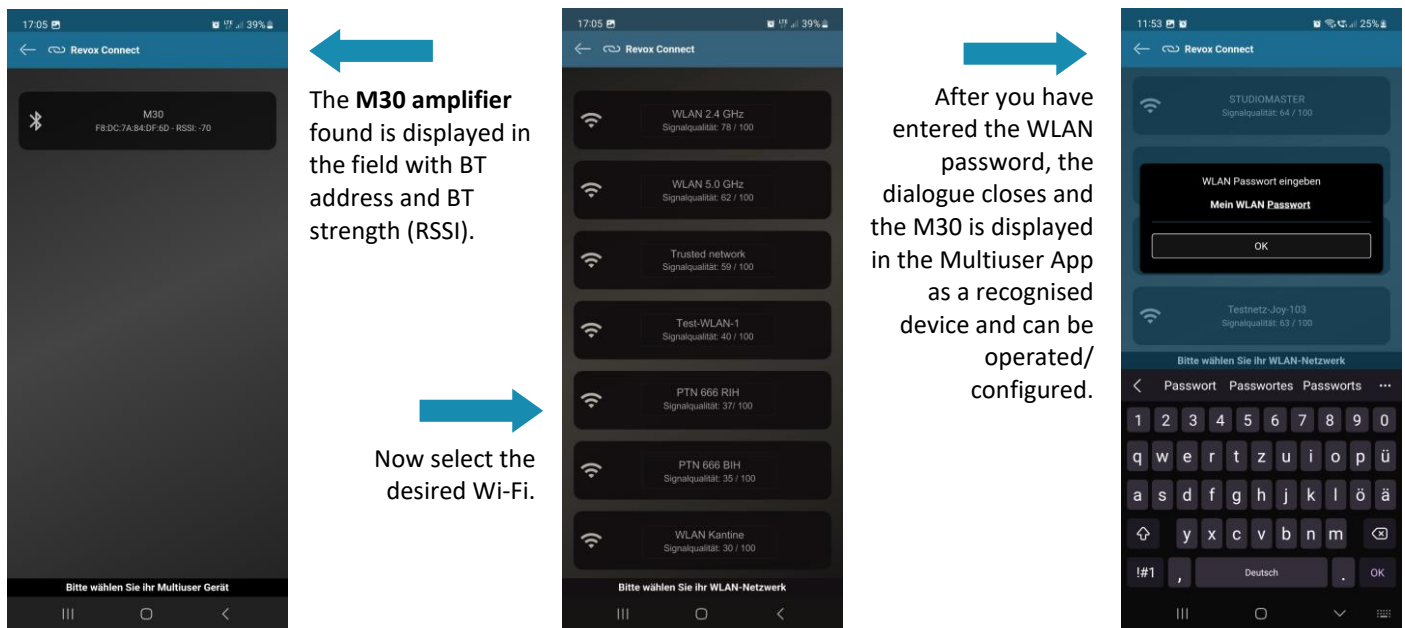
The M30 is now ready to be set up via the Multiuser App. Now open the Multiuser App.

Revox Connect is a connection routine that uses Bluetooth to establish an initial connection between the M30 and your mobile phone. Using the Multiuser App from Revox, the amplifier can now be informed of the WLAN network with its key (password) via a Bluetooth connection.



Note: Bluetooth & location

In order to be able to use the Revox Connect function, the location function must usually also be activated on the mobile device.



Establishing a new WLAN connection (manually activating REVOX Connect)

If the M30 Multuser Amplifier is to be integrated into a new WLAN network and was previously registered in another network, the Revox Connect function can be reactivated with the routine shown.

- Press the Setup button on the M30 for more than 3 seconds. This activates the Revox Connect function. This is indicated in the display by **REVOX Connect - Enabled**.
- Now the M30 is ready to establish a new WLAN connection via the Bluetooth interface in combination with the Multiuser App, as described in the previous chapter.
- After the new WLAN connection has been set up, the Revox Connect function can be deactivated again via the Setup button (press for 3 seconds). This is confirmed in the display by **REVOX Connect - Disabled**.



Note

The M30 stores all WLAN connections. If a WLAN network fails or is very weak, it can reconnect to the already saved WLAN without having to re-connect.

Optional Plug-in modules

With the plug-in modules for the M30 Multiuser Amplifier, classical music sources can be integrated into the Multiuser System in both analogue and digital ways. The latter in HD quality with data rates of up to 192 kHz/24 bit. For added convenience, all three inputs are equipped with freely definable detector circuits or CEC control (HDMI ARC) that allow automatic switching on as soon as an audio signal is present at the respective input. However, the audio trigger can not only be used to switch on the corresponding audio input, but is freely configurable to perform any other actions. You can define which actions these are in the Multiuser Configurator or via multiuser text commands.

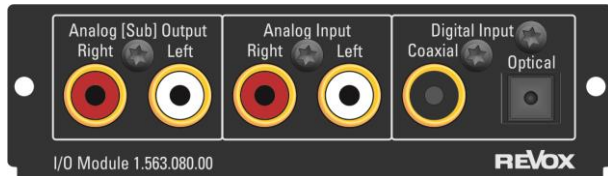


Fig.: I/O module

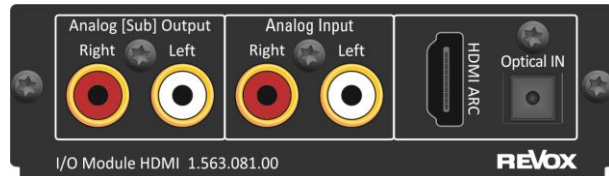


Fig.: I/O-HDMI module

The analogue output works as a pre-amplifier (PreOut) and has its own configurable DSP in the M30 Multiuser Amplifier, which works independently of the power amplifier. In addition, in the Multiuser Configurator, you can select whether the analogue output signal is output with (a) variable or (b) fixed output level. In mode (c) Headphone, the analogue output signal is variable, but mute independent.

Installing module

The plug-in modules are equipped with state-of-the-art electronics and should be handled with care. Before installing the module, the M30 Multiuser Amplifier must be switched off and disconnected from the mains by pulling the mains plug.

Use a TX-10 TORX screwdriver to loosen the two screws (orange marking) of the blind cover and remove it.

Before removing the module from the packaging, make sure that you are not electrically charged. This could lead to a damaging voltage discharge when touching the module. It is therefore best to discharge yourself by making contact with a radiator or similar.



Fig.: M30 with blind cover

Remove the module from the packaging and insert it into the slot; the two rails inside the M30 Multiuser Amplifier form the mechanical guide.

Shortly before the plug-in card is completely locked in the slot, you will feel a mechanical resistance caused by the contact strip to the internal module socket. Push the module in completely in the area of the two screw holes and fix the module with the two screws including the toothed lock washers. All further steps of the internal registration of the new module are automatically taken over at the next switch-on.

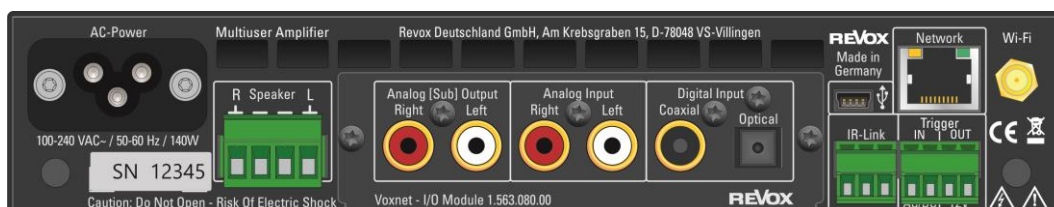
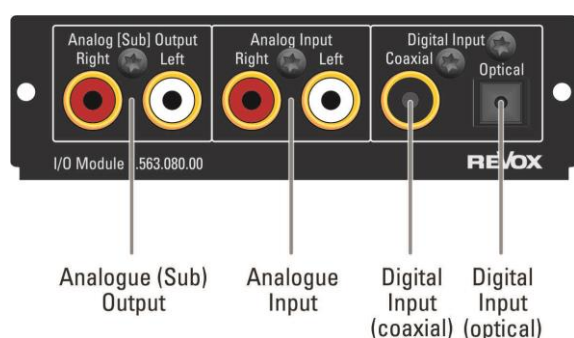
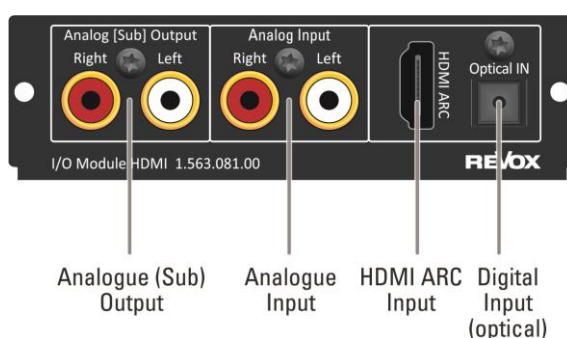


Fig.: M30 with installed I/O module

Connections I/O module



Connections I/O-HDMI module



Description of connection

Description	Function
Analog [Sub] Output	<p>Analogue audio output (e.g. for external power amplifier). Can be programmed with different modes in the Multiuser Configurator:</p> <ul style="list-style-type: none"> - Fixed output (line level) - Variable output (level/ tone control in parallel with power amplifier) - Headphone output (variable, but mute independent) <p>The analogue output of the M30 can be configured with its own DSP, independent of the power amp.</p>
Analog Input*	Analogue audio input, max. input voltage: 2.0 V eff.
Digital Input Coaxial*	Digital audio input through coaxial cable (SPDIF max. 192 kHz)
Digital Input Optical*	Digital audio input through fibre optic - TOSLink (SPDIF, max. 96 kHz)
HDMI ARC**	Digital audio input [PCM] for devices with HDMI output

* with detector function

** with CEC protocol support

Technical data of plug-in modules I/O and I/O-HDMI module

Inputs	Measured value	Measuring conditions
Optical input		
Data format	16, 20, 24 Bit PCM - SPDIF bis 96 kHz ¹	
Frequency response	20 Hz – 20 kHz	-1 dB
THD	< 0,02% / typ 0,01%	1 kHz / -12 dBFS
SNR	> 75 dB / typ. 78 dB	1 kHz / -12 dBFS
Channel separation	> -90 dB / typ. -97 dB	10 kHz / -12 dBFS
Coaxial input		
Data format	16, 20, 24 Bit PCM - SPDIF bis 192 kHz ²	
Frequency response	20 Hz – 20 kHz	-1 dB
THD	< 0,02% / typ 0,006%	1 kHz / -12 dBFS
SNR	> 75 dB / typ. 80 dB	1 kHz / -12 dBFS
Channel separation	> -90 dB / typ. -98 dB	10 kHz / -12 dBFS
Analogue input		
Max. input voltage	700 mV ³	For full power
Input impedance	25 kOhm	
HDMI ARC Input		
Data format	16, 20, 24 Bit PCM - SPDIF bis 192 kHz ²	
Outputs		
Analogue output	1 x Analog Output	Max. 2.0v / Stereo

¹ Supported sampling rates: 22.05, 24, 32, 44.1, 48, 88.2, 96 [kHz]

² Supported sampling rates: 22.05, 24, 32, 44.1, 48, 88.2, 96, 176.4, 192 [kHz]

³ With the Configurator setting [- 6dB]

Technical data M30 Multiuser Amplifier

Output	Measured value	Measuring conditions
Max. output performance	2 x 50 W	1 kHz – 4 Ohm
Frequency range	20 Hz – 20 kHz	-3 dB
Signal-to-Noise Ration SNR	> 80 dB / typ. 85 dB	1 kHz, -8 dBFS coaxial
Channel separation	> - 68 dB / typ. -80 dB	5 kHz, -8 dBFS coaxial
THD	< 0,04 % / typ. 0,025%	1 kHz, -8 dBFS coaxial
Headphones		
Frequency range	20 Hz – 20 kHz	-1dB
Signal-to-Noise Ration SNR	> 78dB	1 kHz at 650 mV Aux-IN
Channel separation	> - 62 dB	10 kHz at 650 mV Aux-IN
THD	< 0,015 % / typ.: 0,008%	1 kHz at 650 mV Aux-IN
Triggers		
Input voltage Trigger IN	5-48 V / AC oder DC	
Trigger input impedance IN	Ca. 1000 Ω	
Output voltage Trigger OUT	12 V / DC	Configurable through <i>Text-Protokoll</i>
Max, output voltage OUT	80 mA ¹	
Device		
Dimensions	44 x 218 x 255	H x W x D ²
Weight	1,9 kg	Without packaging
Temperature range	+10°...40°C	DIN 40040
Heat dissipation	44 BTU/hr	Pink noise, linear, Vol 30, 4ohm speakers
WiFi standards	802.11 g/n/a/ac	2.4 – 5 GHz
Voltages supply	100-240 VAC / 50-60 Hz	
Power consumption ³	2.3 W 6.8 W Approx. 9 W 140 W	OFF Sleep mode ⁴ Normal mode Theoretical max. performance

¹ Overall current [Trigger Out] + [IR-Link] = max. 80 mA

² A further 50 - 60 mm have to be calculated in for cable and plugs

³ Measured without any speakers or external devices (e.g C18 Multiuser Wall Control)

⁴ M30 is active in the background: Inputs of the optional I/O module are in sensitive mode or are streamed to other amplifiers.



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