

ABI-MM1001S40

Smart Music

Class-D DIN-rail amplifier

Stereo 2x20W RMS

Installation and user guide

1 Contents

- 1 x DIN-rail amplifier ABI-MM1001S40
- 1 x OmniMedia HD patch cord, 45cm
- 1 x Power Supply Jumper cord for Smart Music modules
- 1 x Stereo 3.5mm to 3.5mm jumper cord

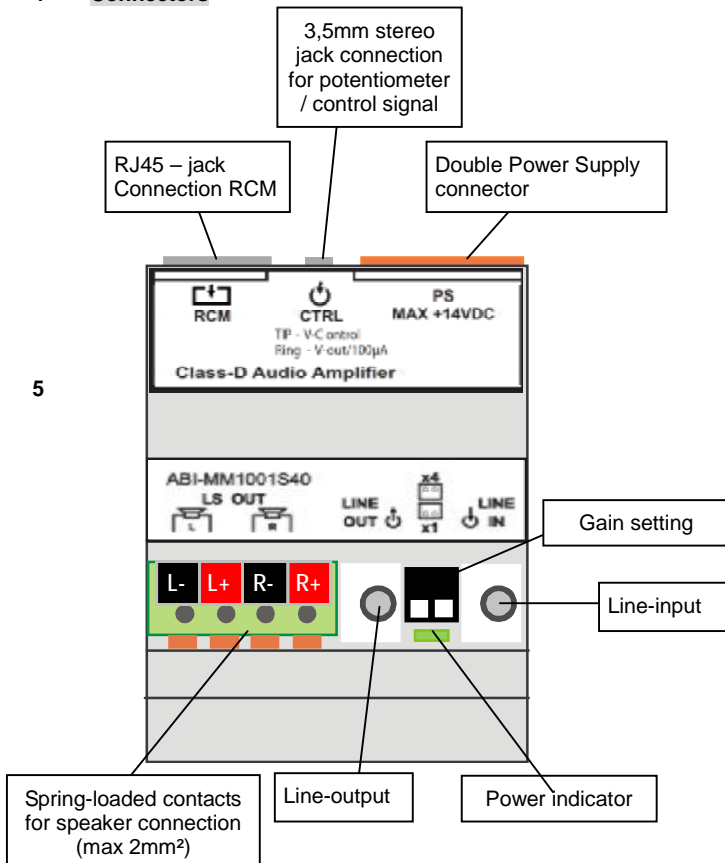
2 Introduction

The ABI-MM1001S40 is a very compact stereo power amplifier. The module is DIN rail mountable and is 3 DIN positions wide. The amplifier is capable of delivering 2x20W RMS into 4Ohm speakers.

3 Specifications

- Power: max 2x20W RMS into 4 Ohm
- Max. Gain approx. 29,5dB (power stage)
- Preamplifier Gain: x1 (0dB) or x4 (+12dB)
- Power Supply: 14VDC
- THD+N @ 5W, 1kHz: 0,04%
- Frequency range (-3dB): 20Hz tot 22kHz
- Channel separation 90dB
- Crosstalk > 68dB (20Hz to 22kHz)
- Efficiency ca. 90%
- Switching frequency (spread spectrum) :300kHz+-6kHz

4 Connectors



Power Supply

The amplifier requires a 14VDC power supply. The maximum current is 3.2A.

The abitana power supply ABI-PS1003S00 has been chosen to meet these requirements.

It is possible to daisy-chain the power supply to a second or eventually third amplifier (maximum 3 amplifiers in one chain), using the supplied jumper cables.

Important remark: The maximum required power should not exceed the power limits of the power supply.

In case more than 3 amplifiers are connected to a power supply with sufficient power capacity, the power supply should have multiple outputs.

6 Installation

REMARK: The Black terminals of the speaker connectors are **NOT** connected to ground and should **NOT** be connected to any other black speaker connector terminal.

6.1 Power supply and speaker connection

Turn off the power supply. Do not switch on the power supply until all connections are made.

Connect the speakers that belong to the zone that this amplifier will service to the corresponding terminals. Strip the wire over a length of 5mm. Press the orange lever of the connector using a small screwdriver and insert the stripped wire in the connector. Release the screwdriver and make sure that the wire is firmly held by the contact.

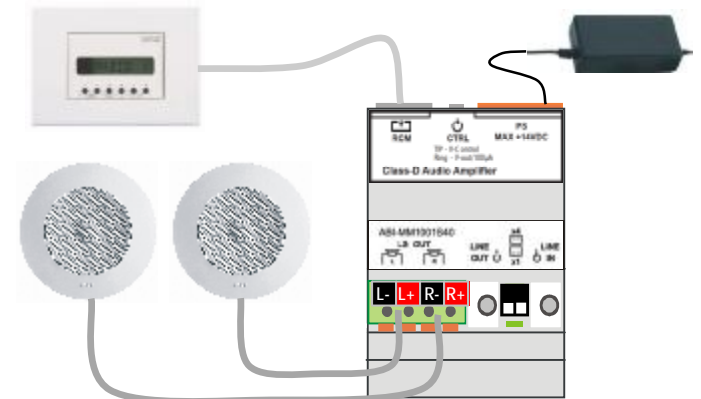
Connect the power supply to the corresponding terminal on top of the device.

6.2 Connection of the Radio and Control Module (RCM) (ABI-MM1000Sxx)

This instruction is only valid for an installation in 1 room without multi-room module.

Connect the RJ45 jack on top of the unit to the RCM connector by means of the supplied patch cord.

When the power supply is turned on, the RCM will start and switch to stand-by. Turn on the RCM and check the functionality.

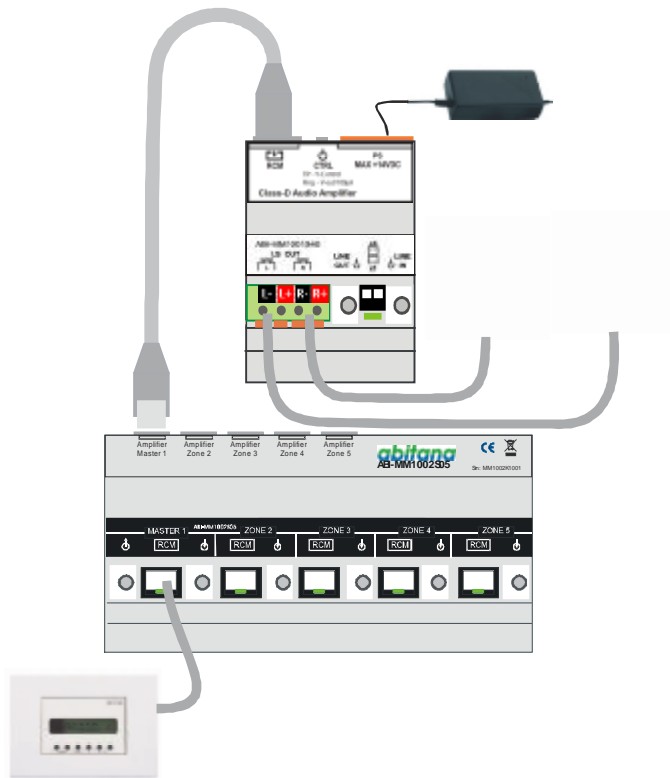


Please consult the Smart-Media system information and the RCM (ABI-MM1000Sxx) manual for further information.

6.3 Connection of the Multiroom module (ABI-MM1002S05)

Connect the amplifier to the corresponding output of the multiroom module by means of supplied patch cord.

Turn on the power supply and check the functionality of the system.



6.4 Volume Control

The amplifier is set to maximum amplification. The output power is controlled by setting the level of the supplied input signal in the audio source (i.e. the volume control of the MP3 player or RCM).

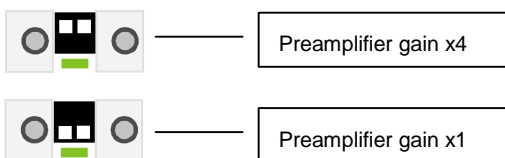
It is possible to control the output power by connecting a potentiometer or external control voltage to the 3.5mm jack on top of the unit (CTRL)

6.5 Preamplifier gain setting

The main amplifier stage is preceded by a preamplifier, which has two preamplifier gain settings: x1 (0dB) or x4 (+12dB). The choice between the two is done by a piano switch on the front panel of the amplifier.

The x1 setting is chosen when the audio source is a high-output level device like CD player, Tuner, Blueray player, Digital Decoder, TV set,... (most of the non-portable mains-powered devices).

The x4 setting is chosen when the audio device is a low-output level device like MP3 player, iPod, mobile phone, tablet,... (most of the battery-powered portable devices).



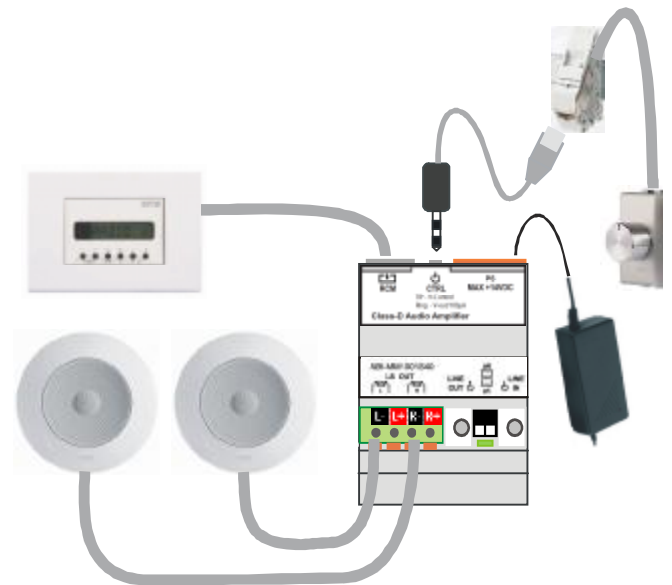
6.5.1 Volume control using an external potentiometer (ABI-MM1005Sxx)

It is possible to connect a potentiometer to the amplifier to control the volume.

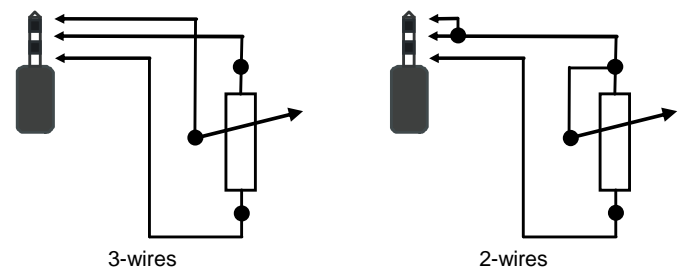
The volume control (potentiometer) is connected to a connector in the wiring cabinet using the abitana cabling.

This potentiometer is supplied with a RJ45 to 3.5mm patch cord. Use this cable to connect the potentiometer connection to the 3.5mm

volume control jack on top of the amplifier.



When another then the ABI-MM1005Sxx potentiometer is used, it must be linear and have a value of 100K. This potentiometer can be connected using 2 or 3 wires.



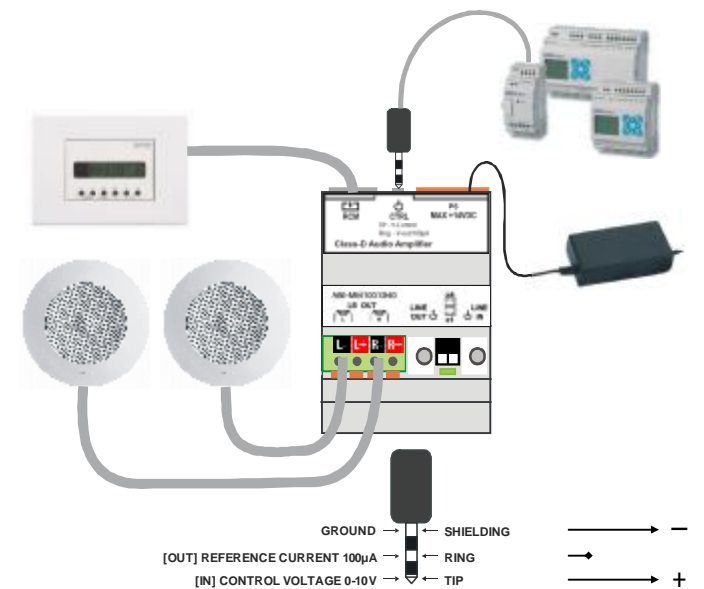
6.5.2 Volume control using an active control voltage or Home Control system.

It is possible to control the output power of the amplifier by applying a 0 to 10V control voltage to the 3.5mm stereo jack on top of the amplifier.

The amplifier will be muted when a voltage between 0V and 1V is applied.

The volume will be controlled in 64 (logarithmic) steps by changing the control voltage from 1V to 10V. The maximum gain will be reached at 10V.

The following drawing shows the different signals on the control connector:



6.5.3 Volume control using a passive Home control system.

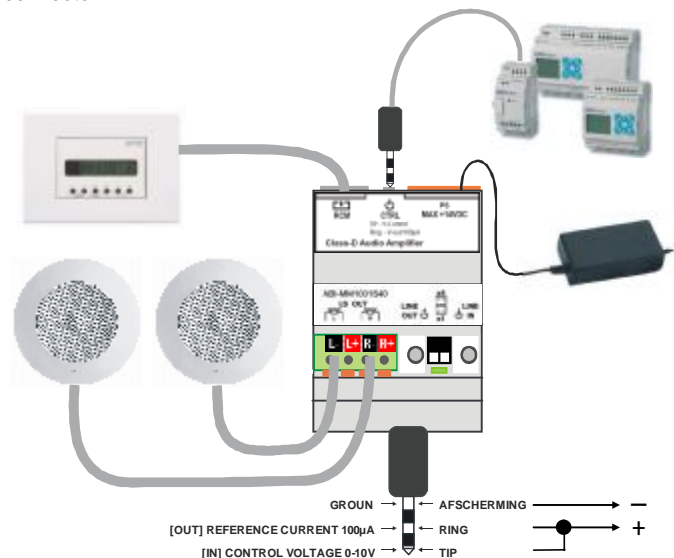
The output power of the amplifier can also be set by a passive dimmer control which is connected to the 3.5mm volume control jack on top of the amplifier.

In this configuration the abitana amplifier provides a fixed current of 100µA on the ring of the 3,5mm connector. As soon as this current is provided to the dimmer control module, this one can vary the control voltage according to the user's commands (usually between 1 and 10V). The tip of the 3,5mm plug has to be connected to the ring to provide the control voltage to the volume control of the amplifier.

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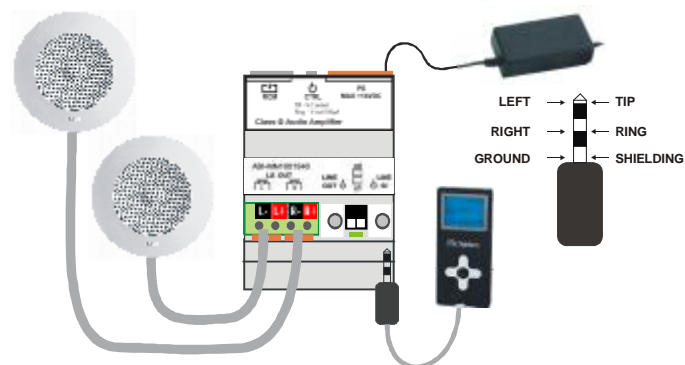
6.6 Line input

It is possible to connect the amplifier to any audio source with a line level output. This source can be attached directly to the amplifier when the source is located near the amplifier. In case the source is located elsewhere in house, it can be connected to the amplifier using the abitana cabling and the audio adapters (ABI-MM1009S00).

Connect the audio source to the line input connector of the amplifier



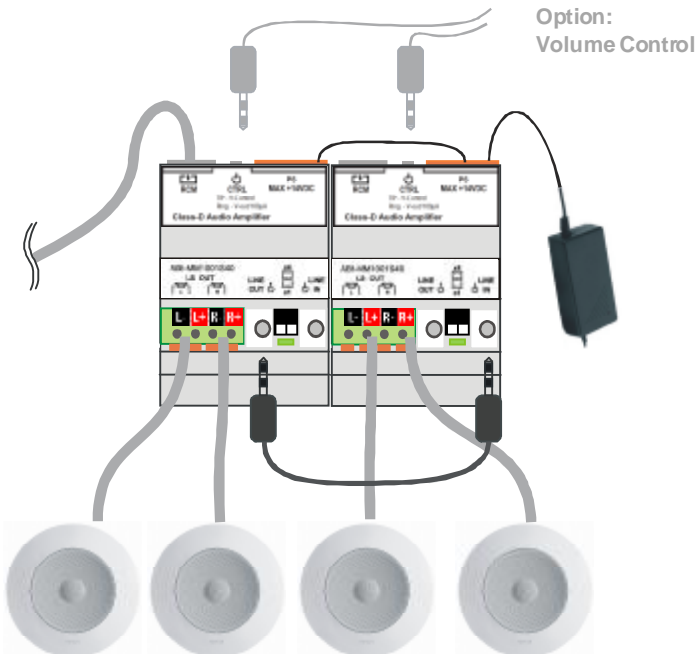
Turn on the power supply and check the functionality.



6.7 Usage of the line output / Daisy chaining two amplifiers

It is possible to daisy chain 2 or more amplifiers for larger rooms where more power is required and/or more speakers are required. This can easily be achieved by connecting the line output of one amplifier to the line input of a second amplifier, using the supplied 3.5mm stereo cable.

Remark: Only the line inputs and outputs should be connected together! Every amplifier should be directly connected to its corresponding speakers.



7 Installation of the ABI-MM1001S40

Open the patch cabinet and click the module ABI-MM1001S40 onto the DIN-rail.

