AURALiC®
inspire the music

MERAK 400W Power Amplifier Monoblock

USER'S GUIDE

Revision 1.0

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Welcome

MERAK is an amazing monoblock power amplifier born for the 21st century. It is the perfect combination of inspiring artistry and ingenious design. AURALiC create MERAK by merging the sophisticated amplifier design philosophy with modern audio technology, and dressed it up with a compact appearance.

The sound of MERAK is sweet, warm and vivid with great artistic appeal; it fulfills AURALiC's elegant and graceful aesthetic taste. Thanks to the Hybrid Analog Amplify technology and power management circuit, MERAK realizes the perfect balanced between driving capability and energy consumption. Comparing to the other traditional power amplifiers, MERAK is more environmentally friendly by reducing the carbon emission of 1100kg per year, making it to be another nova of 'green' hi-end equipment.

- **Hybrid Analog Amplify Technology**
  AURALiC introduce a cutting edge technology: Hybrid Analog Amplify to MERAK. This technology combines the advantages from linear and switching amplifier circuits. It uses linear components to handle the input signal, to process the voltage amplification so as to achieve very low noise and distortion. Meanwhile, low impedance, high speed switching components was deployed in output stage to maximize the driving capability and reduce heat dissipation. With Hybrid Analog Amplify technology, MERAK owns excellent linearity, great output power as well as high energy efficiency.

- **Purer-Power™ Linear Power Solution**
  To satisfy this, AURALiC tailor made Purer-Power Linear Power Solution for a pure and abundant power supply. The 500VA main transformer used in MERAK is customized with patented low noise, narrow band technology from Plitron, following by a 56000uF capacitors array. Purer-Power Linear Power Solution can store up to 120 Joule energy, keeping the noise and source impedance at lowest level as well as offering excellent current transient performance.

- **Advanced Power Management**
  For better balance between performance and energy saving, MERAK is equipped with AURALiC's advanced power management circuit. MERAK will automatically run at warm-up mode as soon as the mains power is connected. In warm-up mode, MERAK shut down its output stage to save energy while leave the Class-A signal amplify circuit and Purer-Power supply unit in working status. At a little expense of less than 5 watt energy consumption, the signal amplify circuit which usually requires warm-up to achieve the best performance is always in best order. When MERAK wake up for operation, it always present with best sound.

Table of Contents

Warranty **6**

Unpacking **6**

Placement and Cabling **7**

Placement 7

Check Your AC Mains Voltage 7

Cabling 8

Operation **9**

Power On/Off 9

Control Switch 10

LED Indicator 10

Over Temperature Protection 10

Yellow Flash Error 10

Automatic Mode Control 11

Burn-in period and Warm-up 11

Maintenance & Service **12**

Maintenance 12

Service 12

Contact 12

Troubleshooting **13**

No Power 13

No Sound or Low Output 13

Distorted or Partial Sound 13

Noise/Hum 13

Specifications **14**

EC Declaration of Conformity **15**

AURALiC Product Registration Form **17**

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

TO REDUCE THE RISK OF ELECTRIC SHOCK,

DO NOT REMOVE COVER.

NO USER-SERVICEABLE PARTS INSIDE.

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

IMPORTANT SAFETY INSTRUCTIONS

- All safety and operating instructions should be read before the product is operated, and retained for future reference.
- This product should be operated only from the type of power source indicated on the back of the unit. If you are not sure of the type of your mains power supply, consult your dealer or local power company.
- To completely disconnect this product from the AC mains, disconnect the power supply cord plug from the AC receptacle.
- Do not use the product near water, i.e. near a bathtub, kitchen sink, laundry tub, in a wet basement, near a swimming pool etc.
- Do not install the product near heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat. See “Placement and Cabling” on page 7.
- Do not let objects or liquids fall into the product. Do not expose the product to dripping or splashing. Do not place a vessel containing liquid on top of the product.
- Clean only with a soft, dry cloth.
- Do not attempt to service this product yourself. Opening or removing covers may expose you to dangerous voltage. Refer all servicing to authorized service personnel. See “Service” on page 12.

Warranty

AURALiC offers a 90-day factory warranty from the date of purchase that can be extended to a 3-Year limited warranty. This non-transferable warranty is available to the original owner by completing the product registration form including the original sales information from your authorized AURALiC dealer within 30 days of purchase. You could either use the online registration form on our website (www.auralic.com) or fill 'AURALiC Product Registration Form' on page 17 and send it back to your dealer to finish the registration.

Warranty coverage includes all parts and labors. Warranty is void if damage is due to abuse, neglect or unauthorized modification. Cost associated with the return of this product is the sole responsibility of the owner. All repair work must be done by AURALiC or by an authorized AURALiC repair agency. Work done by unauthorized persons will void any and all warranty coverage.

AURALiC products are uniquely identified with a serial number (S/N) on the back of the unit. This number is required to validate your warranty. Please reference your serial number if service is required.

Before the product can be returned for service, an RMA (Return Material Authorization) number must be issued by AURALiC. Contact your dealer or AURALiC for further information. Units without an RMA number will not be accepted for service.

Unpacking

Please confirm that the following items are in the box:

- MERAK
- AC Power Cord
- User's Guide

Carefully unpack each piece, if there is any damage, or if anything is missing, please contact your dealer or AURALiC.

ONLY SHIP THIS PRODUCT IN ITS ORIGINAL PACKING!

Please be sure to retain the original shipping carton and all packing materials as they are specially designed to protect the unit during transportation or shipping.

Placement and Cabling

Placement

MERAK should be placed on a solid and stable surface with good ventilation. Do not install this product near any heat sources such as radiators or other product (such as amplifiers) that produce heat. Site the product so that its location or position does not interfere with its proper ventilation. For example, it should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings, or placed in a built in installation such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

Ventilation Requirement

MERAK dissipates 15 Watts of power during play back mode without signal input; this number will rise to about 70Watt at peak output. It should be installed in a space with at least five inches of clearance behind; two inches both sides of its enclosure to provide adequate ventilation. Avoid placing it directly above other equipment that produces heat.

Check Your AC Mains Voltage

MERAK is shipped with its mains voltage preset for operation in the destination country. The mains voltage setting is written on the back of the unit, left besides power cord socket. Mains voltage setting is not intended to be changed by the user. If it needs to be changed, contact your dealer or AURALiC.

The power cord has a three-wire grounding type plug (a plug having a third pin for grounding). It will only fit into a grounding type power outlet. If you are unable to insert the plug fully into the outlet, contact your dealer or AURALiC. Do not defeat the safety purpose of the grounded type plug.

MERAK MUST BE USED WITH CORRECT MAINS VOLTAGE AND PROPERLY EARTHED!

Cabling

The I/O ports on the back of the unit are shown as following:

1	Power Switch	4	BTL Invert Output
2	Power Cord Socket	5	Balanced Analog Input
3	Loudspeaker Binding Post		

Please be sure to power off all units in your system before any cabling job, failed to follow this instruction may result in permanent damage to the device and void any warranty.

ALWAYS POWER OFF MERAK BEFORE CABLING!

- **Power Cord Socket**

Connect heavy gauge power cord from wall power supply to this socket, please double check the AC mains voltage on the back of the panel before connecting the power.

- **Balanced Analog Input**

Analog input using XLR balanced connector with PIN2 as positive. The input sensitivity of MERAK is set at 2.0Vrms with impedance at 10Kohm. For single-ended input, a proper adapter is required with its PIN3 connect to GND.

- **BTL Invert Output**

This port is used for bridge two set of MERAK to drive very large loudspeakers, please refer to BTL KIT's manual for detail information. This port should not connect to any device during normal use.

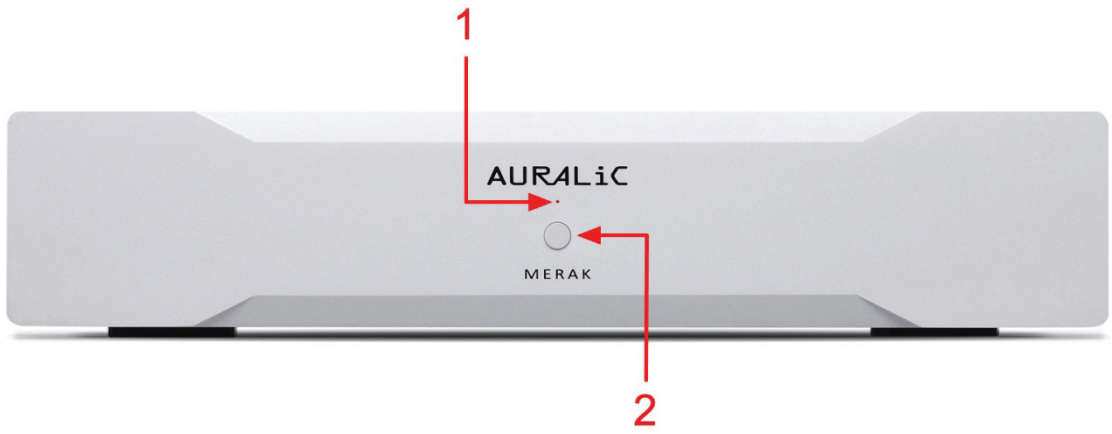
- **Loudspeaker Binding Post**

The binding post is Cardas Audio's patented CE type which is very easy to use. This binding post requests Y-type connector for a solid connection. Be sure that the polarity of each loudspeaker is correct.

NEVER CONNECT EITHER POSITIVE OR NEGATIVE BINGDING POST TO ANY GROUND CONTACT!

Operation

The front panel of MERAK is shown as following:



1	LED Indicator	2	Control Switch

Power On/Off

MERAK will start up when the power switch on the back is toggled to 'I' position and will turn off when the power switch is at 'O' position.

For better balance between performance and energy saving, MERAK is equipped with AURALiC's advanced power management circuit. MERAK will automatically run at warm-up mode as soon as the power switch is on. The power consumption is about 5Watt in warm-up mode.

Control Switch

Control Switch on the front panel is used to manual wake up / shut down MERAK and setting the automatic mode control function. If automatic mode control set to enable(by default), control switch is not suppose to operate by user. For automatic mode control function, please refer to page 11 for detailed info.

LED Indicator

The LED on the front panel indicates the working status of your MERAK which is explained as following:

Lighten in red	Wake-up for playback
Flash in red	Over temperature protection
Lighten in yellow	Clip detected
Flash in yellow	Error

Over Temperature Protection

When internal temperature of MERAK exceeds 85 centigrade (185 Fahrenheit), unit will shut down automatically for safety consideration. It will go back to operation when temperature is down to 60 centigrade (140 Fahrenheit).

If you encounter this problem, please read the "**ventilation requirement**" on page 7.

Yellow Flash Error

The yellow flash error can be either one of the following problems:

1. AC mains voltage too high.
2. Binding post short to ground.
3. Continuous overload for a long period.
4. Internal error.

MERAK has over-voltage protection which will be toggled at 125V (115V voltage setting) or 250V (230V voltage setting).

Automatic Mode Control

MERAK will run at **WARM-UP** mode as soon as the mains power is connected and mains switch set to 'I' position. If automatic mode control is enabled, MERAK will monitor the input, waking up by any valid music signal above about 5mV and after going back to warm-up mode if music signal disappeared for a continuous 5 minutes long.

WARM-UP MODE: MERAK shut down its output stage to save energy while leave the Class-A signal amplify circuit and Purer-Power supply unit in working status. At a little expense of less than 5 watt energy consumption, the signal amplify circuit which usually requires warm-up to achieve the best performance is always in best order.

Any manual operation of the control switch will temporarily disable the automatic mode:

- If you wake up MERAK by manual, it will never back to warm-up mode automatically.

- If you shut MERAK down to warm-up mode by manual, the mode control is temporarily disabled and will not enable again unless the music signal on the input disappear for a continuous 5 minutes.

The automatic mode control function is enabled by default to maximum the energy saving but can be set by user:

- **DISABLE**: when unit is wake up, press the control switch on the front panel and hold for 3 seconds, as long as you see the LED start to flash, release the button, the automatic mode control is disabled.

- **ENABLE**: when unit is in warm-up mode, press the control switch on the front panel and hold for 3 seconds, as long as you see the LED start to flash, release the button, the automatic mode control is enabled.

Burn-in period and Warm-up

As the same with the other audio components, MERAK requests at least 100 hours music signal burn-in to achieve its designed performance; the sonic will be in best after 500 hours music signal burn-in.

MERAK will not request any warm-up if power switch is keep at on position during daily use. However, the warm-up time from power off to best operation status will be about 60 minutes in long.

Maintenance & Service

Maintenance

MERAK does not require regular maintenance in normal use. However, there are a few things that will help to keep it in good operating and cosmetic condition:

Cleaning
Only clean the enclosure with a soft, dry cloth.

Extended Nonuse
Disconnect MERAK from mains power when it will be left unattended or unused for an extended period of time.

Service

If your MERAK encounters a problem, contact your dealer or AURALiC. Do not void the warranty by allowing unauthorized personnel to attempt repairs. Do not attempt to service the product yourself. Opening the cover may expose you to dangerous voltage, as well as void the warranty.

Before MERAK can be returned for service, an RMA (Return Material Authorization) number must be issued by AURALiC. Contact your dealer or AURALiC for further information.

Contact

If you have any question, please feel free to contact our technical support department:

AURALIC LIMITED
B406, No.11 East Shixing Street
Shijingshan District, Beijing, 100041
China

support@auralic.com
www.auralic.com

Troubleshooting

No Power

- Examine the power cord to be sure that it is connected to both the AC mains connector and an AC wall outlet.
- Try substituting another power cord.
- Check the AC mains voltage setting on the back of the unit and see if it is according to your local power voltage.

No Sound or Low Output

- Examine all cables to ensure a solid connection between the MERAK and associated components.
- Make sure all associated components are powered on and not muted.
- Make sure all associated component connected to MERAK is producing an audible input signal.

Distorted or Partial Sound

- Check the cables between the MERAK and associated components, making sure all connections are good and sound.
- Check out the output level of your source component and make sure it will not overdrive MERAK's input.

Noise/Hum

- Check the input cables between MERAK and associated components, making sure all connections are good and sound.
- Make sure the input cables between the MERAK and sources component are not routed near AC cables, power transformers, or other EMI inducing devices.
- Try to use high quality interconnect cable with full ground shield.
- Try to plug MERAK and associated components with different AC main socket to avoid ground loop induced hum noise.

Specifications

Continuous Output Power	200W/400W (8ohm/4ohm)
Peak Current Output	>16 amp (40 ms)
Frequency Response	20Hz - 20KHz, +/- 0.5dB
THD+N	< 0.01%, 20Hz-20KHz at 1Watt
IMD	< 0.01%, 20Hz-20KHz at 1Watt
Residual Noise	< 50uV, 20Hz-20KHz, A-weighted
Input Port	1 x XLR, Sensitivity: 2.2Vrms (RCA input requires adapter)
Input Impedance	10K ohm
Output Ports	● 1 x XLR invert output (for BTL mode) ● 1 x Cardas patented CE binding post
Damping Factors	> 800, 8ohm@1Khz
Optimized Loads	2 ohm to 16 ohm
Power dissipation	● warm-up mode: 5W ● playback mode: 15W/450W (idle/max. output)
Dimension	11”W x 11”D x 2.75”H(33cm x 33cm x 7.0cm)
Weight	19 lbs (8.5kg)

All specifications are subject to change without notice.

EC Declaration of Conformity

AURALIC LIMITED declares this product is in conformity with the Low Voltage Directive 73/23/EEC and Electromagnetic Compatibility 89/336/EEC as amended by 92/31/EEC and 93/68/EEC.

The conformity of the designated product with the provisions of Directive number 73/23/EEC (LVD) is proved by full compliance with the following standards:

EN60065 2002 General requirements

The conformity of the designated product with the provisions of Directive number 89/336/EEC (EMC) is proved by full compliance with the following standards:

EN55013 2001 Conducted emissions
EN55013 2001 Absorbed emissions
EN55020 2002 Immunity

AURALiC Product Registration Form

Owner Information	
Your Name	
Street Address	
City	
Zip Code	
Country	
Email	
Telephone	
Product Information	
Product Type	
Serial Number	
Dealer Name	
Purchase Date	
Purchase Price	
Currency	