

Encel

Encel Brains

Integrated Amplifier

Important Safety Instructions

WARNING: There are no user serviceable parts inside. Refer all servicing to qualified service personnel.

WARNING: To reduce the risk of fire or electric shock, do not expose the unit to moisture or water. Do not expose the unit to dripping or splashing. Do not place objects filled with liquids, such as vases, on the unit. Do not allow foreign objects to get into the enclosure. If the unit is exposed to moisture, or a foreign object gets into the enclosure, immediately disconnect the power cord from the wall. Take the unit to a qualified service person for inspection and necessary repairs.

Read these instructions.

Keep these instructions.

Heed all warnings.

Follow all instructions.

Do not use this apparatus near water.

Clean only with dry cloth.

Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

Only use attachments/accessories specified by the manufacturer.

Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use with caution when moving the cart/apparatus combination to avoid injury from tip-over.



Unplug this apparatus during lightning storms or when unused for long periods of time.

Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

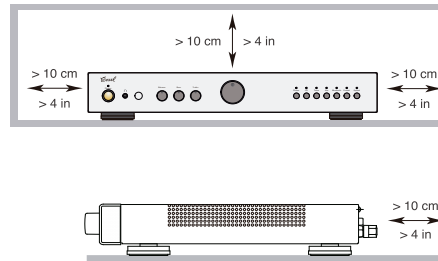
The apparatus should be used in non tropical climate.

The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, table-cloths, curtains, etc.

No naked flame sources, such as lighted candles, should be placed on the apparatus.

Touching uninsulated terminals or wiring may result in an unpleasant sensation.

You must allow a minimum 10 cm or 4 inches of unobstructed clearance around the unit.



WARNING: The rear panel power cord connector is the mains power disconnect device. The device must be located in an open area that allows access to the cord connector.

The unit must be connected to a power supply only of the type and voltage specified on the rear panel. (USA: 120 V/60Hz, EC: 230V/50Hz)

Connect the component to the power outlet only with the supplied power supply cable or an exact equivalent. Do not modify the supplied cable. Do not use extension cords.

The mains plug is the disconnect of the unit. In order to completely disconnect the unit from the supply mains, remove the main plug from the unit and the AC power outlet. This is the only way to completely remove mains power from the unit.

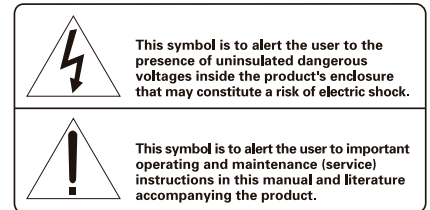
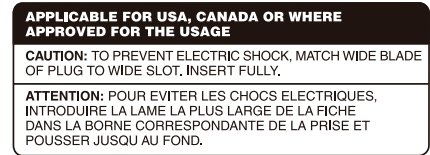
Use Class 2 wiring for speaker connections to ensure proper installation and minimize the risk of electrical shock.

The batteries in the remote control should not be exposed to excessive temperature such as sunshine, fire or other heat sources. Batteries should be recycled or disposed as per state and local guidelines.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This product shall be connected to a MAINS socket outlet with a protective earthing connection.

The MAINS plug or an appliance coupler is used as the disconnect device, the socket-outlet shall be installed near the equipment and shall be easily accessible.



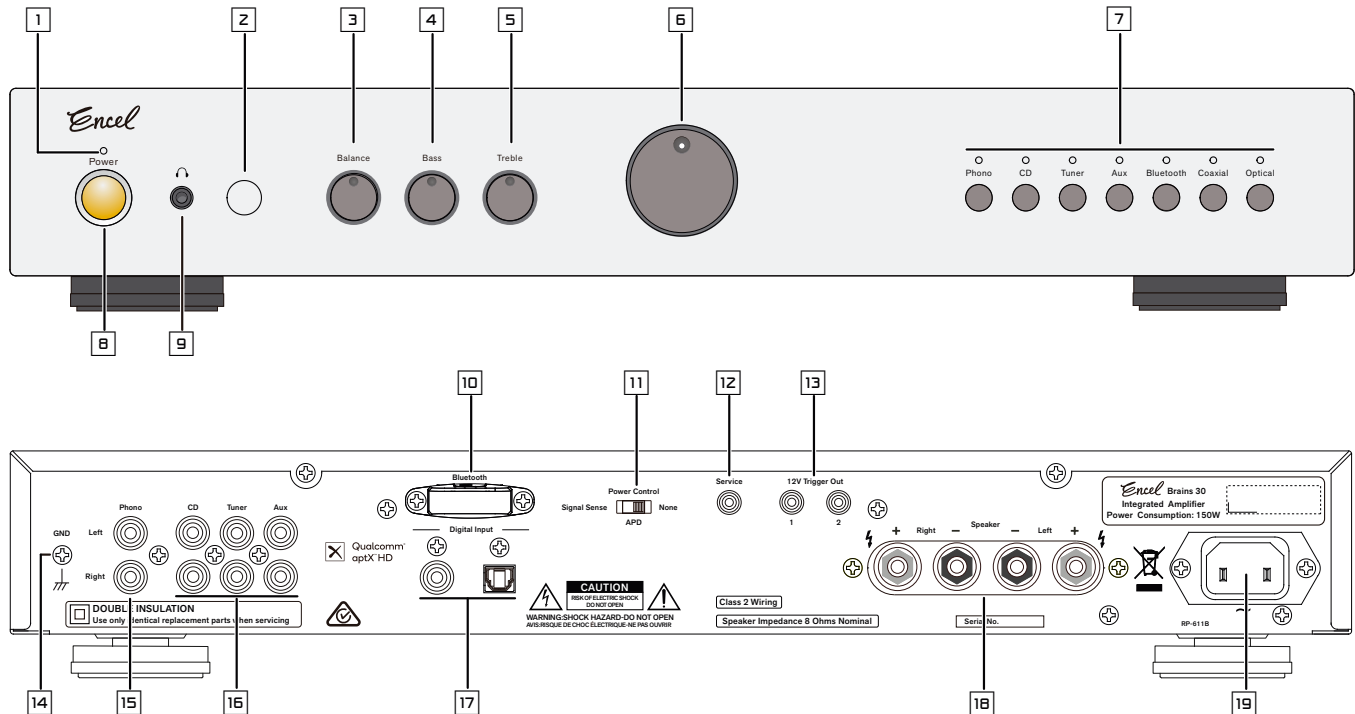
Encel products are designed to comply with international directives on the Restriction of Hazardous Substances (RoHS) in electrical and electronic equipment and the disposal of Waste Electrical and Electronic Equipment (WEEE). The crossed wheeled bin symbol indicates compliance and that the products must be appropriately recycled or processed in accordance with these directives.



This symbol means that this unit is double insulated. An earth connection is not required.



Figure 1: Controls and Connections



1: Power Indicator

2: Remote Sensor

Receives IR commands from the remote control.

3, 4, 5:

Balance / Bass / Treble Knobs
Audio Control Buttons.

6: Volume Knob

Adjust the volume output level.

7: Source Button

Select the input signal source.

8: Power Button

Power ON or Power OFF the unit.

9: Headphone Output

Connect headphones for private listening.

10: Bluetooth Antenna

Use for wireless streaming via Bluetooth

11: Power Control Slider

Make the unit go to standby mode or automatically turn off when there is no signal or operation.

12: Service Port

Authorized service center use only.

13: 12V Trigger Output

Send a 12V trigger signal when powered on.

14: Ground Connector

Connect with a "ground" wire from the turntable.

15: Phono Input

Connect to a turntable.

16: CD / Tuner / Aux Inputs

Analog "line level" inputs

17 Digital Signal Inputs

Connect to coaxial or optical PCM outputs of the source component.

18: Speaker Connectors

19: AC Power Input

Figure 2: Remote Control

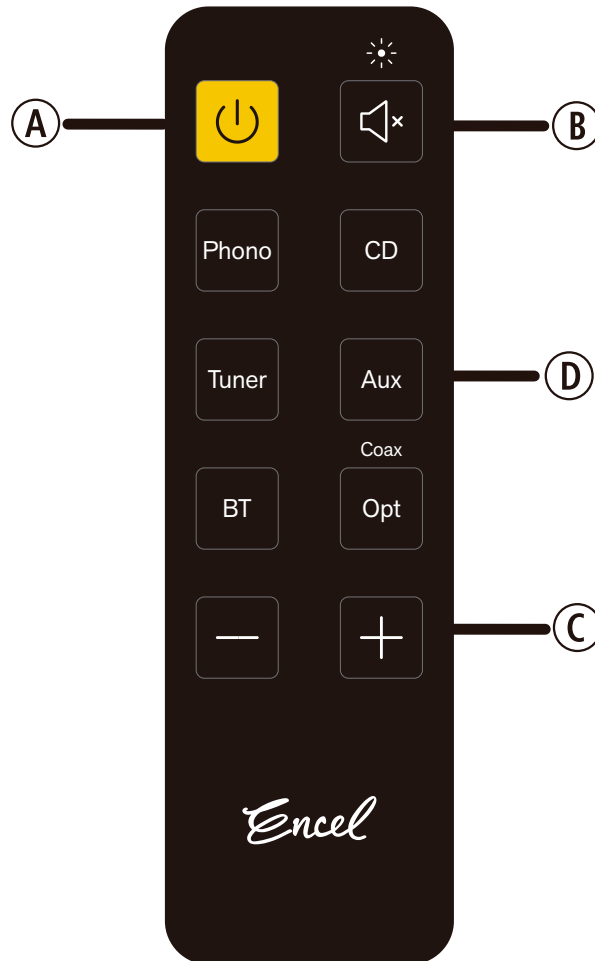
A: Power Button
Activate or deactivate the unit.

B: Mute Button
Mute the audio.

Dim Button [HOLD]
Dim the front Display.

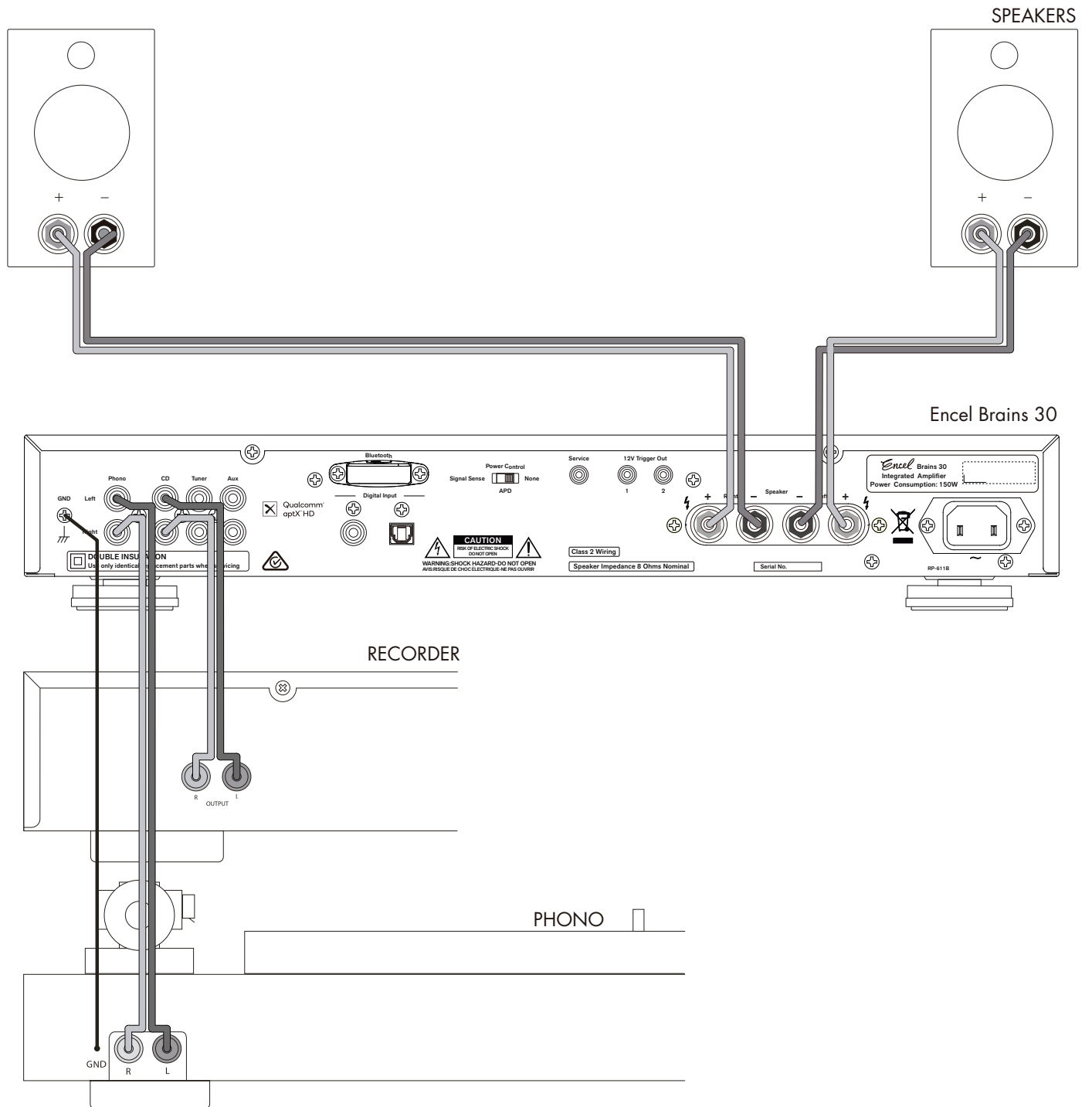
C: Volume Buttons
Adjust the volume output level.

D: Source Buttons
Select the input signal source.



ENC-RM22 9330716000546

Figure 3: Analog Inputs and Speaker Output Connections



Important Notes

When making connections be sure to:

- Turn off **all** the components in the system **before** hooking up **any** components, including loudspeakers.
- Turn off **all** components in the system **before** changing **any** of the connections to the system.

It is also recommended that you:

- Turn the volume control of the amplifier all the way down **before** the amplifier is turned **on or off**.

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Getting Started

The Encel Brains is a full featured, high performance Integrated Amplifier. All aspects of the design have been optimized to deliver dynamic range and subtle nuances of your music. The main functions of the Brains are easy to install and use. If you have experience with other stereo systems, you shouldn't find anything perplexing. Simply plug in the associated components and enjoy.

A Few Precautions

WARNING: To avoid potential damage to your system, turn off ALL the components in the system when connecting or disconnecting the loudspeakers or any associated components. Do not turn the system components back on until you are sure all the connections are correct and secure. Pay particular attention to the speaker wires. There must be no loose strands that could contact the other speaker wires, or the chassis of the amplifier.

Please read this manual carefully. It provides information on how to incorporate the unit into your system as well as information that will help you get optimum sound performance. Please contact your authorized Encel dealer for answers to any questions you might have.

Save the unit shipping carton and all enclosed packing material for future use. Shipping or moving the unit in anything other than the original packing material may result in severe damage to your amplifier.

Placement

Like all audio components that handle low level signals, the amplifier can be affected by its environment. Avoid placing the unit on top of other components. Also avoid routing audio signal cables near power cords. This will minimize the chance it will pick up hum or interference.

The unit generates heat as part of its normal operation. The heat sinks and ventilation openings in the amplifier are designed to dissipate this heat. The ventilation slots in the top cover must be open. There should be 10 cm (4 inches) of clearance around the chassis, and reasonable airflow through the installation location, to prevent the amplifier from overheating.

Remember the weight of the amplifier when you select an installation location. Make sure that the shelf or cabinet can support it. We recommend installing the unit in furniture designed to house audio components. Such furniture is designed to reduce or suppress vibration which can adversely affect sound quality. Ask your authorized Encel dealer for advice about component furniture and proper installation of audio components.

The Brains remote control must be used where the infrared signal from the remote can reach the front panel Remote Sensor.

Cables

Be sure to keep the power cords, digital signal cables and regular audio signal cables in your installation away from each other. This will minimize the chance of the regular audio signal cables picking up noise or interference from the power cords or digital cables. Using only high quality, shielded cables will also help to prevent noise or interference from degrading the sound quality of your system. If you have any questions see your authorized Encel dealer for advice about the best cable to use with your system.

Remote Control

Some functions can be done with either the front panel controls, or the available remote control. When these operations are described, the square call out numbers refer to the main unit, while the encircled letters refer to the remote control.

Remote Control Batteries

Batteries must be installed before the remote control can be used. To install the batteries, remove the cover on the back of the Remote. Install the batteries in the battery well ensuring the POSITIVE and NEGATIVE polarity is correct. Test the control for proper operation, then replace the cover. When the batteries become weak the remote control won't operate the Brains consistently. Installing fresh batteries should eliminate the problem.

AC Power and Control

AC Power Input 19

Your unit is configured at the factory for the proper AC line voltage in the country where you purchased it. The AC line configuration is noted on a decal on the back panel.

NOTE: *Should you move your amplifier to another country, it is possible to reconfigure it for use on a different line voltage. Do not attempt to perform this conversion yourself. Opening the enclosure of the unit exposes you to dangerous voltages. Consult a qualified service person or the Encel factory service department for information.*

The unit does not draw high levels of current from the power outlet. However, it should be plugged directly into a polarized wall outlet using the supplied cable or other compatible cable as recommended by your authorized Encel dealer. Do not use an extension cord. A heavy duty multi-tap power outlet strip may be used if it (and the wall outlet) can handle the current demanded by the unit and all the other components connected to it.

If you are going to be away from home for an extended period of time, it is a sensible precaution to unplug your amplifier (as well as other audio and video components) while you are away.

Power Switch 5 A and Power Indicator 1

Press the front panel Power Switch button, to turn the unit on. The Power Indicator light is illuminated when the unit is on. Press Power Switch button again to turn the unit off.

When the power switch is in the ON position, the remote control power button A may be used to activate the Brains. In Standby mode the Indicator light is red.

See the "12V Trigger Outlet" section for more information on ways you may be able to turn on and off other components in your system along with the unit.

12V Trigger Out 13

Some audio components can be turned on automatically when they receive a 12V turn on "signal". The two 12V Trigger Outputs of the amplifier provide the required signal. Connect compatible components to the amplifier with a conventional 3.5mm mini plug cable. When the unit is turned off, the trigger signal is interrupted, and the components controlled by it are turned off.

Input Signal Connections

See Figure 3

NOTE: *To prevent loud noises that neither you nor your speakers will appreciate, make sure the system is turned off when you make any signal connections.*

Phono Input 15 and Ground Connection 14

Plug the cable from the turntable into the appropriate left and right phono inputs. If the turntable has a "ground" wire, connect it to the screw terminal to the left of the Phono inputs. It will help prevent hum and noise.

Line Level Inputs 16

The CD, Tuner, and Aux inputs of the amplifier are "line level" inputs. These are for connecting components such as CD players or other audio playback devices with an analog audio output.

The Left and Right channels are labeled and should be connected to the corresponding channels of the source component. The Left connectors are white, the Right connectors are red. Use high quality RCA cables for connecting input source components to the unit. Ask your authorized Encel dealer for advice about cables.

Digital Signal Inputs 17

There are digital inputs to connect the COAXIAL or OPTICAL outputs of your source component. The digital signals will be decoded and played by the amplifier. The unit is capable of decoding PCM signals up to 24 bit, 192kHz.

Speaker Outputs 18

See Figure 2

Speaker Selection

The speakers may have an impedance as low as 4 ohms. Speaker impedance ratings are less than precise. In practice, very few loudspeakers will present any problems for the unit. See your authorized Encel dealer if you have any questions.

Speaker Wire Selection

Use insulated two-conductor stranded wire to connect the unit to the speakers. The size and quality of the wire can have an audible effect on the performance of the system. Standard speaker wire will work, but can result in lower output or diminished bass response, particularly over longer distances. In general, heavier wire will improve the sound. For best performance, you may want to consider special high-quality speaker cables. Your authorized Encel dealer can help in the selection of cables for your system.

Polarity and Phasing

The polarity – the positive/negative orientation of the connections – for every speaker and amplifier connection must be consistent so all the speakers will be in phase. If the polarity of one connection is reversed, bass output will be very weak and stereo imaging degraded. All wire is marked so you can identify the two conductors. There may be ribs or a stripe on the insulation of one conductor. The wire may have clear insulation with different color conductors (copper and silver). There may be polarity indications printed on the insulation. Identify the positive and negative conductors and be consistent with every speaker and amplifier connection.

Speaker Connection

Turn off all the components in the system before connecting the speakers. The unit has color-coded binding post type speaker connectors on the back panel (except in European Community countries where their use is not permitted). These connectors accept bare wire, connector lugs, or dual banana type connectors.

Route the wire from the unit to the speakers. Give yourself enough slack so you can move the components to allow access to the speaker connectors. If you are using dual banana plugs, connect them to the wires and then plug into the backs of the binding posts. The thumbscrews of the binding posts should be screwed in all the way (clockwise).

If you are using terminal lugs, connect them to the wires. If you are attaching bare wires directly to the binding posts, separate the wire conductors and strip the insulation from the end of each conductor. Be careful not to cut into the wire strands. Unscrew (turn counterclockwise) the binding post thumbscrews. Place the connector lug or wire around the binding post shaft. Turn the thumbscrews clockwise to clamp the connector lug or wire firmly in place.

NOTE: Be sure there are no loose wire strands that could touch adjacent wires or connectors.

IR Remote Sensor 2

This remote sensor window receives IR commands from the remote control. Please do not block this sensor.

Headphone Output 9

The headphone output allows you to connect headphones for private listening. This output accepts a standard 3.5 mm (1/8") mini stereo headphone connector. Plugging in a set of headphones cuts off the signal to the speaker outputs.

NOTE: Because the sensitivity of speakers and headphones can vary widely, always reduce the volume level before connecting or disconnecting headphones.

aptX™ HD Bluetooth Connection 10

The Bluetooth Antenna 10 on the back panel is for wireless streaming via Bluetooth, from your device (i.e. mobile phones, tablets or computers). From your device, look for "Encel Bluetooth" and connect to it. Connection is normally automatic, but if prompted for a password, please enter "0000" on your device. The amplifier supports both traditional Bluetooth and aptX™ HD Bluetooth audio streaming.

Power Control 11

Power Control allows the Brains go to standby mode or automatically turn off when there is no signal or operation to the Brains.

When the slider is in the Signal Sense position, the Brains will check if an audio signal is present on the Coax, Optical or Bluetooth input. The unit monitors the data stream to determine if there is audio. If there is no audio detected for 10 minutes, the unit will enter Signal Sense Power Mode. When in Signal Sense Power Mode and the unit detects audio on Signal Sense input, the unit will automatically power on.

When the slider is in the APD (Auto Power Down) position, the Brains will be configured to automatically power off if unused for 20 minutes. If no changes are made to the unit within 20 minutes, the unit will automatically go to STANDBY mode. The auto power off timer will be restarted if changes are made to the volume, source or playback. When APD is selected the unit will not automatically Power On when a signal is detected. To Power On the unit press the Power button on the remote control or power on the unit from the front panel.

To disable above functions, push the slider to the None position.

NOTE: When the Brains enters standby mode via the remote control, the Signal Sense function will not operate until the unit detects the audio has stopped for the minimum 10 minute time-out period. This prevents the unit from immediately powering back on if there is still active audio playing.

NOTE: When the SIGNAL SENSE function is activated the Brains will consume additional power in Signal Sense Power mode.

NOTE: Due to local power consumption regulations the SIGNAL SENSE function is not available in all markets.

Service Connector 12

The Service connector is only for qualified technicians use. For more information please contact your authorized Encel dealer.

Audio Controls

Volume Control 6 C

Turn the knob clockwise to increase the volume, or counter clockwise to decrease the volume. From the remote control press the volume + or - button C to turn the volume up or down. Press the button B to completely mute the volume.

Balance Control 3

The Balance Control adjusts the left-to-right balance of the sound output. Normally the control should be left in the center position. In some situations, typically when the main listening position is not ideally centered between the speakers, it may be necessary to adjust the control to achieve proper left-to-right balance. Turning the Balance knob 3 counter-clockwise shifts the sound balance to the left. Turning the Balance knob 3 clockwise shifts the sound balance to the right

Bass and Treble Controls 4 5

Turn the Bass / Treble knobs 4 5 clockwise to increase the bass or treble output. Turn the Bass / Treble knobs 4 5 counterclockwise to decrease the bass or treble output.

A properly setup high-performance audio system produces the most natural sound with little or no adjustment of the tone controls. Use these controls sparingly. Be particularly careful when turning the controls up (clockwise). This increases the power output in the bass or treble range, increasing the load on the amplifier and speakers.

Source Input Selector 7 D

Press the corresponding input button on the front panel 7 or remote control D to select the desired listening source.

LED Dimmer Control B

To change the brightness of the Power indicator above the Power button, the LEDs above the Source selectors and the Volume rotary knob LED on the front panel, press and hold the DIM button B on the remote control.

Protection Circuit

The unit has both thermal and over-current protection circuitry that protects the amplifier against damage in the event of extreme or faulty operating conditions. The protection circuits are independent of the audio signal and have no impact on sonic performance. The protection circuits monitor the internal temperatures and the unit will automatically reduce the volume and flash the volume LED if the temperature is too high. The amplifier will shut down if even after lowering the volume temperatures exceed safe limits.

Most likely, you will never see this protection circuitry in action. However, should a faulty condition arise, the amplifier will stop playing and the POWER indicator 1 on the front panel will turn red.

If this happens, turn the amplifier off. Let it cool down for several minutes, and attempt to identify and correct the problem that caused the protection circuitry to engage. When you turn the amplifier back on, the protection circuit will automatically reset and the POWER indicator 1 should be white, indicating that the amplifier is operating normally.

In most cases, the protection circuitry activates because of a fault condition such as shorted speaker wires, or inadequate ventilation leading to an overheating condition. In very rare cases, highly reactive or extremely low impedance speaker loads could cause the protection circuit to engage.

If the protection circuitry triggers repeatedly and you are unable to isolate and correct the faulty condition, contact your authorized Encel dealer for assistance in troubleshooting.

Troubleshooting

Most difficulties in audio systems are the result of incorrect connections, or improper control settings. If you encounter problems, isolate the area of the difficulty, check the control settings, determine the cause of the fault and make the necessary changes. If you are unable to get sound from the unit, refer to the suggestions for the following conditions:

Power Indicator Is Not Illuminated

The Power Indicator should be illuminated whenever the unit is plugged into the wall power outlet and the Power button is pushed in. If it does not light, test the power outlet with another electrical device, such as a lamp. Be sure the power outlet being used is not controlled by a switch that has been turned off.

Fuse Replacement

If another electrical device works when plugged into the power outlet, but the Power Indicator of the unit does not light when plugged into the same outlet and the Power Switch is pushed in, it indicates that the internal power fuse may have blown. If you believe this has happened, contact your authorized Encel dealer to get the fuse replaced.

No Sound

Check the signal source to see if it is functioning properly. Make sure the cables from the signal source to the unit inputs are connected properly. Be sure the Listening Selector is set to the proper input. Check the wiring between the unit and the speakers.

Cannot Connect via Bluetooth

If you cannot pair your Bluetooth enabled device to the unit, delete the memory of the previous connection on your device. On your device this is often listed as "Forget this Device". Then try to make the connection again.

Specifications

Power Output (20 - 20k Hz, < 0.03%, 8 ohms)	40 watts/ch
Total Harmonic Distortion (20 Hz - 20k Hz)	< 0.03% at rated power, 1/2 power or 1 watt
Intermodulation Distortion (60 Hz : 7k Hz, 4:1)	< 0.03% at rated power, 1/2 power or 1 watt
Frequency Response	
Phono input	20 Hz-15k Hz, ± 0.3 dB
Line Level Inputs	10 Hz - 40k Hz, ± 1 dB
Damping Factor (20 - 20,000 Hz, 8 ohms)	180
Input Sensitivity / Impedance	
Phono input	2.5 mV / 47 k Ohms
Line Level Inputs	150 mV / 24 k Ohms
Input Overload	
Phono input	180 mV
Line Level Inputs	5 V
Preamp Output / Impedance	1 V / 470 Ohms
Tone Controls - Bass / Treble	± 6 dB at 100 Hz / 10k Hz
Signal to Noise Ratio (IHF "A" weighted)	
Phono input	80 dB
Line Level Inputs	100 dB
Power Requirements	120 V, 60 Hz (USA) 230 V, 50 Hz (Europe)
Power Consumption	150 Watts
Dimensions (W, H, D)	430 x 73 x 347 mm 17" x 2 ⁷ / ₈ " x 13 ⁵ / ₈ "
Panel Height	60 mm / 2 ³ / ₈ ".
Weight (net)	5.9 kg, 13 lbs.

All specifications are accurate at the time of printing.

Encel reserves the right to make improvements without notice.

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