CMUSIC
BY CELESTION
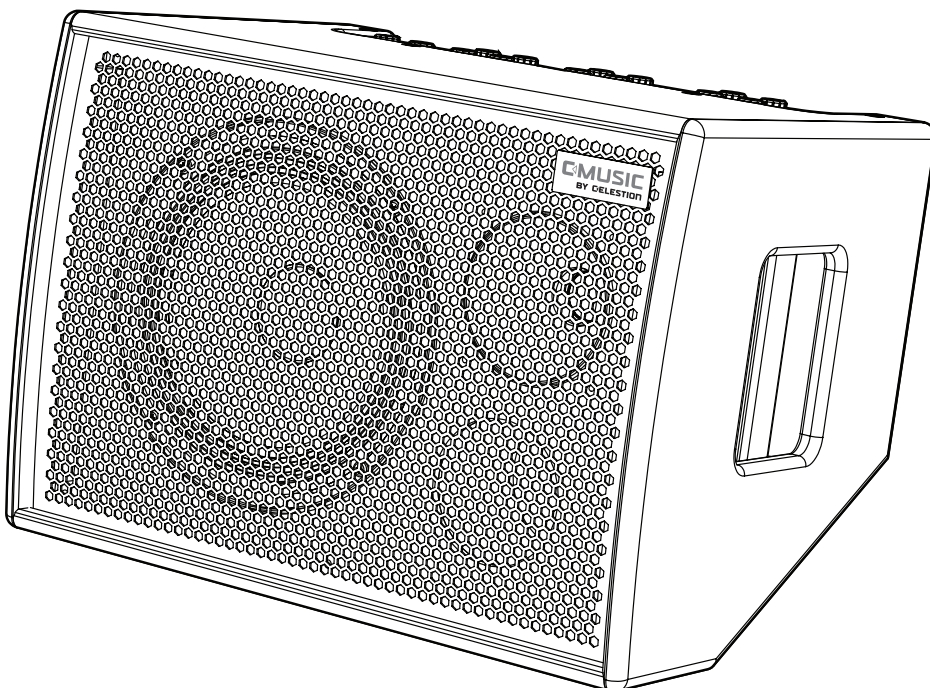
BA28
Portable Busking and Music System

Important Safety Instructions!
Read before connecting!

This product has been built by the manufacturer in accordance with IEC 60065 and left the factory in safe working order. To maintain this condition and ensure non-risk operation, the user must follow the advice and warning comments found in the operating instructions. If this product shall be used in vehicles, ships or aircraft or at altitudes exceeding 2000 m above sea level, take care of the relevant safety regulations which may exceed the IEC 60065 requirements.

WARNING: To prevent the risk of fire and shock hazard, do not expose this appliance to moisture or rain. Do not open case – no user serviceable parts inside. Refer service to qualified service personnel.

This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure – voltage that may be sufficient to constitute a risk of shock.

This symbol, wherever it appears, alerts you to the presence of externally accessible hazardous voltage. External wiring connected to any terminal marked with this symbol must be a "ready made cable" complying with the manufacturers recommendations, or must be a wiring installed by instructed persons only.

This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Read the manual.

This symbol, wherever it appears, tells you: Take care! Hot surface! To prevent burns you must not touch.

All electrical and electronic products including batteries should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.

Read these instructions. Keep these instructions. Follow all warnings and instructions marked on the product and in this manual.

• Do not use this product near water. Do not place the product near water, baths, wash basins, kitchen sinks, wet areas, swimming pools or damp rooms.
• Do not place objects containing liquid on the product – vases, glasses, bottles etc.
• Clean only with dry cloth.
• Do not remove any covers or sections of the housing.
• The set operating voltage of the product must match the local mains supply voltage. If you are not sure of the type of power available consult your dealer or local power company.
• Before connecting the device, please ensure that the mains supply you are using is equipped with adequate protection against short circuiting and grounding faults when the device is plugged in.
• To reduce the risk of electrical shock, the grounding of this product must be maintained. Use only the power supply cord provided with this product, and maintain the function of the center (grounding) pin of the mains connection at any time. Make sure the mains outlet used provides a proper protective ground connection.
• Do not defeat the safety purpose of the polarized or groundingtype 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 obolete outlet.
• Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the device! Power supply cords should always be handled carefully. Periodically check cords for cuts or sign of stress, especially at the plug and the point where the cord exits the device.
• Never use a damaged power cord.
• Unplug this product during lightning storms or when unused for long periods of time.
• This product can be fully disconnected from mains only by pulling the mains plug at the unit or the wall socket. The product must be placed in such a way at any time, that disconnecting from mains is easily possible.
• Fuses: Replace with IEC127 (5x20mm) type and rated fuse for best performance only! It is prohibited to use "patched fuses" or to short the fuse-holder. Replacing any kind of fuses must only be carried out by qualified service personal.
• Refer all servicing to qualified service personnel. Servicing is required when the unit has been damaged in any way, such as:
- When the power cord or plug is damaged or frayed.
- If liquid has been spilled or objects have fallen into the product.
- If the product has been exposed to rain or moisture.
- If the product does not operate normally when the operating instructions are followed.
- If the product has been dropped or the cabinet has been damaged.
• Do not connect external speakers to this product with an impedance lower than the rated impedance given on the product or in this manual. Use only cables with sufficient cross section according to the local safety regulations.
• Keep away from direct sunlight.
• Do not install near heat sources such as radiators, heat registers, stoves or other devices that produce heat.
• This apparatus is for moderate climates areas use, not suitable for use in tropical climates countries.
• Do not block any ventilation openings. Install in accordance with manufacturer's instructions. This product must not be placed in a built-in installation such as a rack unless proper ventilation is provided.
• Always allow a cold device to warm up to ambient temperature, when being moved into a room. Condensation can form inside it and damage the product, when being used without warming up.
• Do not place naked flame sources, such as lighted candles on the product.
• The device must be positioned at least 20 cm/8" away from walls.
• Use only with the cart, stand, tripod, bracket or table specified by the manufacturer or sold with the product. When a cart is used, use caution when moving the cart/product combination to avoid injury from tip-over.
• Use only accessories recommended by the manufacturer, this applies for all kind of accessories, for example protective covers, transport bags, stands, wall or ceiling mounting equipment. In case of attaching any kind of accessories to the product, always follow the instructions for use, provided by the manufacturer. Never use fixing points on the product other than specified by the manufacturer.
• This appliance is NOT suitable to be used by any person or persons (including children) with limited physical, sensorical or mental ability, or by persons with insufficient experience and/or knowledge to operate such an appliance. Children under 4 years of age must be kept away from this appliance at all times.
• Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in risk of fire or electric shock.
• This product is capable of delivering sound pressure levels in excess of 90 dB, which may cause permanent hearing damage! Exposure to extremely high noise levels may cause a permanent hearing loss. Wear hearing protection if continously exposed to such high levels.
• The manufacturer only guarantees the safety, reliability and efficiency of this product if:
- Assembly, extension, re-adjustment, modifications or repairs are carried out by the manufacturer or by persons authorized to do so.
- The electrical installation of the relevant area complies with the requirements of IEC (ANSI) specifications.
- The unit is used in accordance with the operating instructions.
• This product is optimized for use with music and speech signals. Using this product with sine wave, square wave or other kind of measuring signals at higher level may lead to severe damage of the product.

General Notes on Safety for Loudspeaker Systems

Mounting systems may only be used for those loudspeaker systems authorized by the manufacturer and only with the mounting accessories specified by the manufacturer in the installation instructions. Read and heed the manufacturer's installation instructions. The indicated load-bearing capacity cannot be guaranteed and the manufacturer will not be liable for damages in the event of improper installation or the use of unauthorized mounting accessories.

The system's load-bearing capacity cannot be guaranteed and the manufacturer will not be liable for damages in the event that loudspeakers, mounting accessories, and connecting and attaching components are modified in any way.

Components affecting safety may only be repaired by the manufacturer or authorized agents, otherwise the operating permit will be voided.

Installation may be performed qualified personnel only, and then only at pick-points with sufficient load-carrying capacity and in compliance with local building regulations. Use only the mounting hardware specified by the manufacturer in the installation instructions (screws, anchors, etc.). Take all the precautions necessary to ensure bolted connections and other threaded locking devices will not loosen.

Fixed and portable installations (in this case, speakers and mounting accessories) must be secured by two independent safeties to prevent them from falling. Safeties must be able to catch accessories or parts that are loose or may become loose. Ensure compliance with the given national regulations when using connecting, attaching, and rigging devices. Factor potential dynamic forces (jerk) into the equation when determining the proper size and load-bearing capacity of safeties.

Be sure to observe speaker stands' maximum load-bearing capacity. Note that for reasons of design and construction, most speaker stands are approved to bear centric loads only; that is, the speakers' mass has to be precisely centered and balanced. Ensure speaker stands are set up stably and securely. Take appropriate added measures to secure speaker stands, for example when:
- the floor or ground surface does not provide a stable, secure base.
- they are extended to heights that impede stability.
- high wind pressure may be expected.
- there is the risk that they may be knocked over by people.

Special measures may become necessary as precautions against unsafe audience behavior. Do not set up speaker stands in evacuation routes and emergency exits. Ensure corridors are wide enough and put proper barriers and markings in place when setting speaker stands up in passageways. Mounting and dismounting are especially hazardous tasks. Use aids suitable for this purpose. Observe the given national regulations when doing so.

Wear proper protection (in particular, a helmet, gloves, and safety shoes) and use only suitable means of ascent (ladders, scaffolds, etc.) during installation. Compliance with this requirement is the sole responsibility of the company performing the installation.

WARNING! After installation, inspect the system comprised of the mounting fixtures and loudspeakers to ensure it is properly secured.

The operator of loudspeaker systems (fixed or portable) must regularly inspect or task a third party to regularly inspect all system components in accordance with the given country's regulations and have possible defects repaired immediately.

We also strongly recommend maintaining a logbook or the like to document all inspections.

When installing speakers for longer lasting or permanent outdoor operation, be sure to take into account the stability and loadbearing capacity of platforms and surfaces; loads and forces exerted by wind, snow, and ice; as well as thermal influences. Also be sure to provide sufficient safety margins for the rigging points used for flown systems. Observe the given national regulations when doing so.

Professional loudspeaker systems can produce harmful volume levels. Even prolonged exposure to seemingly harmless levels (starting at about 95 dBA SPL) can cause permanent hearing damage! Therefore we recommend that everyone who is exposed to high volume levels produced by loudspeaker systems wears professional hearing protection (earplugs or earmuffs).
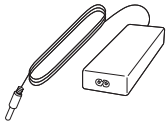
1 General Information

1.1 Unpacking and Inventorying

When you first unpack your BA28, take a quick inventory to make sure the package comes complete with all the contents. A power supply unit, two battery packs are included.
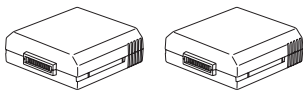
1.2 Powering Up

With the External Power Supply Unit

First connect the external power supply unit to the DC In socket **20** on the rear panel of the BA28, and then connect the power cord to a power outlet.

For the First Time with Battery Packs

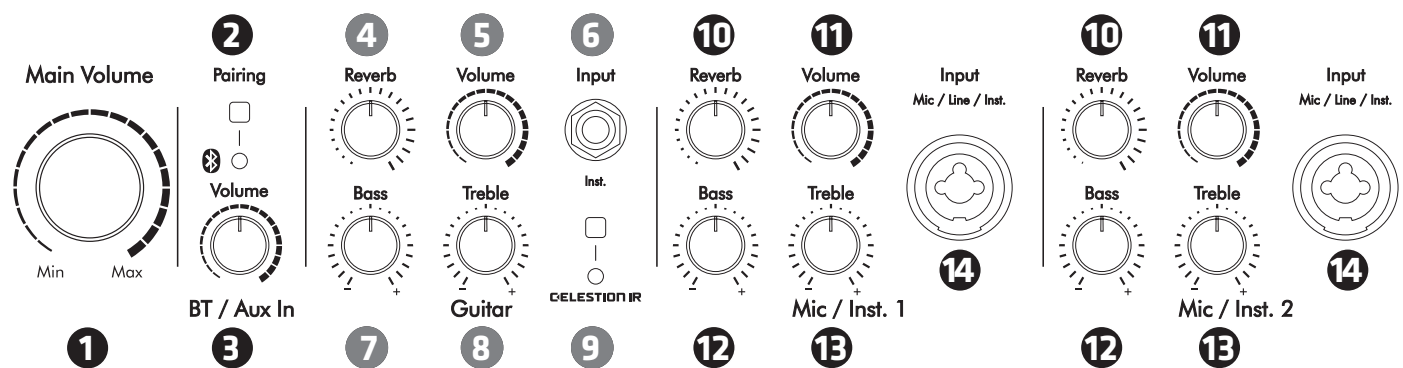Remark: Make sure to charge both battery packs fully before using for the first time.

Unfasten the wing screw on the rear battery compartment by turning it counterclockwise. Remove the cover. Slide the two included battery packs into the compartment until you feel them click firmly into place. Put the battery compartment cover back and fasten the wing screw by turning it clockwise.

The two batteries will start charging successively as soon as you connect BA28 to a power supply. The battery in slot A is charged first; the battery in slot B comes second. (Refer to section 3 - Operating BA28 on Battery Power, for more information.)

BA28 immediately switches over to battery-operated mode when the power supply unit is disconnected. One of the two control LEDs on the battery compartment will flash slowly to indicate which battery is currently in use. **BA28 switches over to another battery pack seamlessly (hot-swappable).**

Remarks: Charging the battery packs in BA28 takes up to 5 hours, which is shortened to 2 hours with external fast charger (sold separately)

2 Connections and Control Features

2.1 Control Panel

❶ Master

This knob determines BA28's overall level. We recommend making a habit of turning it all the way down to the far left before powering up the device.

• BT (Bluetooth) / Aux In

❷ Pairing

This button activates the pairing process that connects BA28 to Bluetooth-enabled devices so you can stream audio. The blue LED indicator alongside the button lights up continuously when a Bluetooth connection is active. See section 4 - Bluetooth, for more details.

❸ Volume

This knob adjusts the level of the BT signal or the signal from AUX Input. The BT and Aux input share the same channel in the mixer section of BA28 and both inputs are stereo summed to the build-in mixer , AUX input will have the priority if both channels are activated at the same time.

Remark: BA28 Remote app also provides 2-band EQ , Vocal Remover and Pitch control for BT/Aux In

• Guitar

❹ Reverb

The Reverb knob controls the amount of signal sent to the internal reverb effect.

❺ Volume

The Volume control adjusts the level of the signal sent to Guitar input.

❻ Input

Use this unbalanced 1/4" (6.3 mm) jack to connect an instrument with a high-impedance (Hi-Z) output such as a guitar or guitar effects device. This input also accepts line level input.

Remark: You can also select input source from Electric Guitar or Instrument (Electric Acoustic Guitar) via BA28 Remote APP.

❼ Bass

Use this rotary knob to adjust the input signal's low frequencies.

❽ Treble

Use this rotary knob to adjust the input signal's high frequencies.

❾ 🔲 Celestion IR

This button activates the Celestion Impulse Response (IR) guitar cabinet simulator. Its LED lights up green when the cabinet simulator is on. Press once more to deactivate.

The free BA28 Remote app offers three types of signature Celestion speaker drivers simulation:
• Celestion Greenback
• Celestion Blue
• Celestion Vintage 30
The factory default is the Celestion Greenback.

• Mic / Inst. 1 and 2

❿ Reverb

The Reverb knob controls the amount of signal sent to the internal reverb effect.

⓫ Volume

The Volume control adjusts the level of the signal sent to Mic/Inst. 1 and Mic/Inst. 2. Please note that you will have to adjust the level when switching from microphone to line signals.

⓬ Bass

This rotary knob adjusts the input signal's low frequencies.

⓭ Treble

This rotary knob adjusts the input signal's high frequencies.

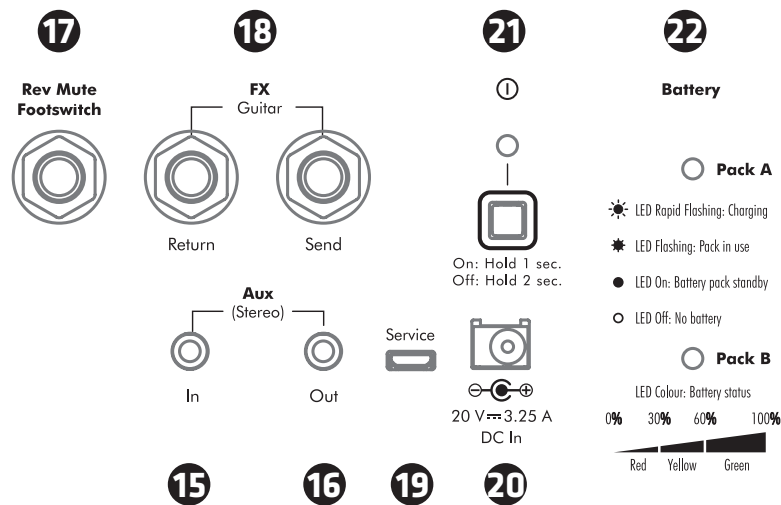**⓮ Input Mic/Line/Inst.**

This is a balanced combo input.

• For microphone signal, please use XLR (Cannon) input. If you connect microphone with jack input , the level may be low.
• For line-input level, use 1/4" (6.3 mm) TRS or TS jack input . If you connect line-level input with XLR (Cannon) cable, the level may be too high and signal may be distorted.
• For Hi-Z Musical Instrument signal   (Electric Acoustic Guitar) use 1/4" (6.3 mm) TS jack.

Remark: You can also select input source from Mic/Line or Instrument (Electric Acoustic Guitar) via BA28 Remote APP.

2.2 Rear Panel

15 Aux In

Use this stereo 1/8" (3.5mm) mini jack to patch in a stereo line signal, for instance, from a tablet / phone, mixing console or keyboard (with an appropriate cable). The BT / Aux In Volume knob adjusts this input's level.

16 Aux Out

Use this stereo 1/8" (3.5mm) mini jack to patch out the mixed unbalanced stereo signal.
The Master Volume knob controls this signal's level by default.

It is suggested to use a cable shorter then 20 feet length, because unbalanced cables can pick up noise along the cable. This minimizes the risk of unwanted noise.

17 Rev Mute Footswitch

This 1/4" (6.3 mm) jack accepts a standard one-way footswitch serving to switch the internal Reverb on and off. It is a very convenient tool for muting the effect, for instance, for announcements.

18 FX Guitar (Send/Return)

These unbalanced 1/4" (6.3 mm) jacks connects to an effect unit / effect chain.
For the "Send" output the signals from Guitar channel to an external effect device.
For the "Return" input, connect the output of effect unit / effect chain back to the BA28.

19 Service

This USB interface is used for service purposes. For updating the firmware of BA28, connect PC or Mac Computer to this port with USB to micro USB cable. Please refer to www.c-music.com for more information.

Caution: Do not use this port to charge mobile devices, smartphones or tablets.

20 DC In

Connect the included external power supply to this socket.

21 Power

This button switches BA28 on and off. To switch BA28 on, press and hold the button for 1 second. The Power LED lights up green when the device is on. To switch BA28 off, press and hold the button for two seconds.

22 Battery Pack A / B Indicators

This LED indicates the two battery packs charging status. See the next section - Operating BA28 on Battery Power, for more information.

3 Operating BA28 on Battery Power

BA28 can operate for 12 hours on two fully charged battery packs and 6 hours on one battery pack.

The battery pack in slot A always has higher priority than slot B. The battery pack in slot A is always used or charged first when the device is connected to power supply with two battery packs installed.

BA28 promptly switches to the battery pack in slot B when the battery pack in slot A is depleted.

Charging Batteries

Battery packs may be charged in the slot on BA28 or in an optional quick charger. It takes around 5 hours to fully charge one completely empty battery in the BA28 slot and around 10 for both, regardless of whether BA28 is on or off. In other words, you can operate BA28 at full power using the mains adapter and charge the battery pack at the same time.

The optional quick charger charges the battery pack in around 2 hours.

Hot Swap Option

You can change batteries seamlessly while BA28 is operating. If BA28 switches to battery pack B because battery pack A is depleted, you can remove battery pack A without turning off the unit and insert a third battery pack (optional), into slot A. If necessary, you can also change battery B once the device detects battery A. You can hot-swap the battery pack without disturbing the audio input and output, including the BT streaming signal.

Remarks: You can hot-swap battery packs even if you only have 2 battery packs.

If the device indicates the charge is running low while you are operating it with just one battery:

1. Insert the second fully charged battery pack into the free slot, wait until it is detected.
2. Remove the drained battery pack.
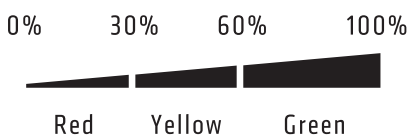3. Charge it at the nearest power outlet using the external quick charger.

Remark : Hot-swap function can only be applied when the battery pack's power is over 30%.

LED Indicators

The two LEDs on the battery slot serve two purposes:

When operating BA28 on battery power: When batteries are inserted and BA28 is switched on, the LEDs indicate which battery is currently supplying voltage and is being drained. Just one LED flashes as just one battery provides power at any one time. The other LED for the battery that is on standby lights up continuously to indicate it is ready to operate. The LED does not light up if the slot is empty or a battery has not been detected.

When operating BA28 on mains power: A flashing LED indicates which battery is currently being charged. The flashing stops and the LED lights up continuously when the battery is fully charged.

0%	30%	60%	100%
Red	Yellow	Green	

The LEDs' color indicates the charging status.
Green: 100 – 60% • Yellow: 60 – 30% • Red: 30 – 0%

4 Bluetooth

Pairing a Bluetooth-Enabled Device
- Press the Pairing button for 2 seconds
- The blue Bluetooth LED flashes slowly and BA28 shows up in the Bluetooth-enabled device's selection list for 60 seconds
- Select "C-Music BA28 XXXX" on the Bluetooth device to pair the devices

Remark : XXXX is the ID number (a combination of alphabet and numbers) randomly generated for each BA28 unit, you can change the Bluetooth name of BA28 via the setting page in our free BA28 Remote APP.

- After 60 seconds, the LED will turn off, you have to restart the pairing process if the connection failed.

The BT / Aux In Bluetooth LED on BA28 lights up blue as soon as the devices are paired and remains solid blue.

Pairing a Bluetooth Device Automatically

The next time you power up BA28, the system will search for the most recently paired device for 10 seconds and connect to it automatically.

If BA28 cannot discover the device in 10 seconds, you have to pair the Bluetooth-enabled device manually.

Switching to Another Bluetooth Device

You cannot switch to another Bluetooth device while a Bluetooth device is connected or the BA28 is searching for the most recently connected device.

You will have to repeat the pairing steps, unpair the current device, then connect the other device.

Remarks: BA28 will only reconnect to the most recently paired device, previously paired device will not be reconnected automatically.

Range

BA28 supports Bluetooth 5.0 . Bluetooth 5.0-enabled devices' range can extend up to 40 meters. Devices that do not support Bluetooth 5.0 typically run up to 10 meters, but it depends on factors such as the given device's quality, transmission power and current environment. For example, walls obstructing the transmission path or a protective cover on the Bluetooth device impede radio communication. The streaming signal drops out if the device moves out of range or behind walls that block the path. The connection re-establishes automatically if you bring the Bluetooth device back in range within 60 seconds, in which case the Bluetooth LED will become solid blue again.

Bluetooth Audio Stream Stutters or Drops Out

A cable is less susceptible to interference than Bluetooth, which has to send a constant stream of audio data via a radio frequency. To get a good audio stream without any glitches, it is best to align BA28 and the source device in line of sight of one another.

Remark: Your source device may be set up to issue ringtones, notifications and system sounds. The speakers will render these sounds along with the audio stream if they arrive via Bluetooth, so be sure to disable these functions on your Bluetooth device.

To learn more about Bluetooth, visit www.bluetooth.org.

5 BA28 Remote App

C-Music by Celestion offers a free app for iOS (iPad version coming soon) and Android that lets you control BA28 remotely from your smartphone or tablet.

(Apple app store)   (Google app store)

The app supports full feature of BA28:

*Three original Celestion Impulse Responses (IR) Cabinet simulation for Guitar channel –
- Celestion Greenback,
- Celestion Blue,
- Celestion Vintage 30

*Automatic Feedback Eliminator (AFE) (16-band notch filter) and Compressor for Mic/Inst. Channel 1 & 2
*2 band EQ for ALL input channels
*2 Speaker Voicing (Wedge & Sit) for different scenario
*Aux output Pre/Post Mode
*Save and recall up to 9 scene memory
*4 Standby Time : 20 mins /1 hr/2 hrs and Off (always on), [default setting is 20 mins.]
and more.

Remark : Please wait for around 20 seconds when connecting the BA28 to mobile device for the first time, this is because the surrounding devices need to be searched.

After the BA28 remote app is successfully connected to the machine, it will take around 3 seconds to connect from the next connection.

Please visit www.c-music.com for more information.

6 Factory reset

If factory reset is needed, press and hold both Celestion IR and BT Pairing button for at least two seconds. Both LEDs will flash to indicate the factory reset and BA28 will switch off automatically. Note that all scene memory and settings will be cleared to default settings.

7 Firmware Update

This product enables you to update the unit firmware to improve the operation, add functions, and correct possible malfunctions.

Details on updating the firmware are available on the following website:
http://www.c-music.com/

For information about updating the unit,
please refer to the firmware update guide available on the website.

8 Technical Specifications

C-Music By Celestion - BA28	
Max. SPL peak @ 10% THD	123 dB half-space
Frequency response	+/- 3 dB, 65 Hz – 18 kHz
Frequency response	-10 dB, 55 Hz – 20 kHz
Power output	60 W Class D
Total battery operating time	Up to 12 h (with two fully charged battery packs)
Active protective circuits	Peak and RMS level limiter (one for HF and LMF each)
LMF woofer	1x 8", 1" voice coil
HF driver	1", 1" voice coil
Dispersion	70° x 70°
Active Crossover Frequency	2.5 kHz
Audio Input	2x combo XLR/ 1/4" (6.3 mm) TRS jack (Mic/Line/Inst.) 1x 1/4" (6.3 mm) TS jack (Guitar) 1x stereo 1/8" (3.5mm) mini jack (Aux)
Audio Output	1x unbalance stereo 1/8" (3.5mm) mini jack (Aux)
EQ Controls	2-band EQ for all input channels
Celestion Impulse Response (IR)	- Celestion Greenback - Celestion Blue - Celestion Vintage 30
Bluetooth	5.0
Angles up	33°
Handles	Metal Grip
Housing	MDF
Finish	Grey acrylic enamel
Front grille	1.5 mm metal grille
Dimensions (WxHxD)	26.9 x 42.2 x 28.9 cm
Weight	8.5 kg / 18.7 lbs
Power consumption	18W

Battery	
Battery capacity	5,200 mAh
Dimensions (WxHxD)	8 x 3 x 8.3 cm
Weight	0.25 kg / 0.6 lbs
Charging time in BA28	Around 5 hours
Charging time in optional Quick Battery Charger	Around 2 hours

CMBAFC Quick Battery Charger (optional)	
Input voltage	20VDC
Output voltage	8.4VDC
Charge current	2.6A
Dimensions (WxHxD)	10 x 7.1 x 4 cm
Weight	0.11 kg / 0.24 lbs