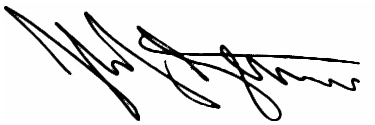
Black EX

INTEGRATED

User's Guide

We are proud to present to you the BLACK EX Integrated by Bel Canto. This product is the result of our passion for the ultimate realism in audio playback. It represents over 20 years of research and development. BLACK is a highly integrated amplifier system containing sophisticated digital and analog circuitry and software control to ensure ease of use and perfect signal transfer. Bel Canto BLACK is a promise to deliver a compelling musical experience from any source. We wish you many years of musical enjoyment.

Sincerely,



John Stronczer
CEO and Chief of Design
Bel Canto Design, Ltd.

INTEGRATED AMPLIFIER

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Important Safety Instructions

Explanation of symbols used in this manual or on the rear/underside of the apparatus:

The Lightning Flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product enclosure that may be of sufficient magnitude to constitute a risk of shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

TO COMPLETELY DISCONNECT THIS APPARATUS FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD PLUG FROM THE AC RECEPTACLE.

THE MAINS PLUG OF THE POWER SUPPLY CORD SHALL REMAIN READILY ACCESSIBLE.

Disconnect supply cord before changing fuse.
Refer servicing to qualified service personnel.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE AND OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THIS APPARATUS.

- Read, keep and follow these instructions.
- Heed all warnings.
- Do not use the apparatus near water, e.g. near a bathtub, kitchen sink, laundry tub, in a wet basement, near a swimming pool etc.
- Clean only with a dry cloth.
- Install in accordance with the Manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus 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 is 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 at the point where they exit from the apparatus.
- 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 has been 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.
- Mains plug: Use the mains plug to disconnect the apparatus from the mains supply. The mains plug must be accessible at all times. Use the mains switch (if applicable) when the apparatus is not in use.
- Do not expose the apparatus to liquids or moisture, dripping or splashing. Do not place a vessel containing liquid on top of the apparatus.
- No naked flame sources, such as lighted candles, should be placed on the apparatus.
- The apparatus has been designed for use in moderate and tropical climates

In the U.K.

Fuse replacement: This appliance is fitted with a non-rewireable 10 amp mains plug. The plug contains a 10 amp fuse. If the fuse has blown it can be replaced as follows: 1) Pull out the black fuse cover/carrier. 2) Remove and dispose of the blown fuse. 3) Fit a new 10 amp BS1362 approved fuse into the carrier and push the carrier back into the plug. Always ensure the fuse cover is fitted. If the fuse cover is missing do not use the plug. Contact your Bel Canto retailer to obtain a replacement fuse cover. Fuses are for fire protection and do not protect against electric shock.

WARNING: THIS APPLIANCE MUST BE GROUNDED

FCC Notice

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warranty Information

Bel Canto products are automatically covered by a 90 day factory warranty that covers all internal parts and labor. Register online (http://www.belcantodesign.com/home/support/warranty-registration/black/) within 30 days of purchase from an authorized dealer to automatically extend your warranty for 5 years starting from the date of purchase. If you do not have web access, please contact your dealer for assistance. Upon fully completing registration, within 5 business days you will receive an email that officially validates your warranty. Your information will be used for internal use only and will not be sold or released outside Bel Canto. Your comments and suggestions are appreciated and help us continually improve our products and services.

The warranty is only valid to the original owner and is non-transferable. Damage caused by unauthorized modification, abuse, or neglect of product will void your warranty. Any cost associated with return of product is the sole responsibility of the owner. All returns require a return authorization number issued after contacting us at info@belcantodesign.com. If you have any questions, please feel free to contact us online at info@belcantodesign.com.

Unpacking the EX INTEGRATED

Carefully inspect each item for any visual damage. If there is any damage, or anything missing from the list below, please contact your dealer or distributor.

The below items are shipped with your system:

1 (one) – EX INTEGRATED Asynchronous Control Integrated
1 (one) – BLACK User's Guide
1 (one) – Remote Control
1 (one) – IEC Power Cable
1 (one) – BNC/RCA Adapter

IMPORTANT: Save all packing materials as they are specially designed to protect the EX INTEGRATED during transportation. If the packing materials are compromised, contact your dealer, distributor, or Bel Canto for proper packaging before attempting to ship your EX INTEGRATED.

Power Connection

The power supply in the EX INTEGRATED is preset for the proper power voltage. The power cable should have the correct plug for your local power system. If you believe this to not be true, please contact your dealer immediately. This product, like any electrical component, can be dangerous and cause injury unless correct handling procedures are observed and used. Before powering this product, it is necessary to read and follow proper setup and procedures.

Setup & Placement

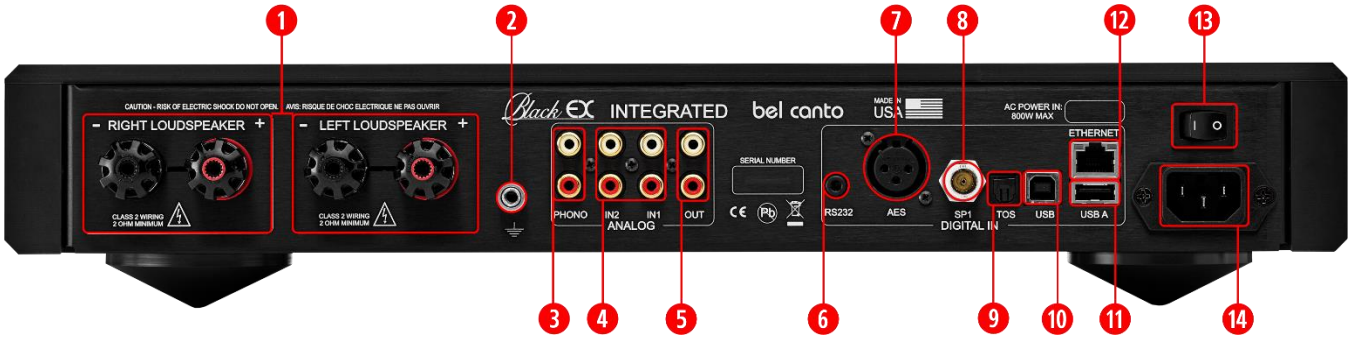
The EX INTEGRATED can be placed in many locations without compromise. We do not recommend placing weights or other objects directly on EX INTEGRATED. This may scratch or mar the chassis finish. Do not use harsh chemicals or abrasives when cleaning the outside of your EX INTEGRATED. Use a clean microfiber cloth to remove fingerprints from the chassis.

Single Ended RCA and Balanced XLR connectors are available. XLR connectors follow the standard AES pin configuration:

Pin 1 Ground
Pin 2 Signal +
Pin 3 Signal -

We recommend placing the EX INTEGRATED in an easily accessible location near your source components.

System Connections



1. **NextGen Loudspeaker Connectors** are optimized for sound quality with any good spade or NextGen banana connector. Note that the NextGen connector is clutched to ensure optimum pressure on the contact. - Do not over tighten- The NextGen connector creates a tight and damped contact preventing chatter and contact noise at the connection to the loudspeaker. Outputs are compatible with any loudspeaker down to 2 ohms.
2. **Ground Lug** is provided to attach ground wire from your turntable.
3. **MM/MC Phono Input** for your phono cartridge. Gain and load settings are available through Program Mode.
4. **Analog Inputs** are 2V line level and support a variety of analog sources. Each of these inputs can be set for HTB (Home Theater Bypass) with a fixed volume setting of 84.0 applied for use with a home theater preamplifier output.
5. **Analog Outputs** can be used to feed a powered subwoofer or other devices, 4.5Vrms Max out.
6. **RS232** allows control from any compatible controllers.
7. **AES XLR Input** accepts digital signal with data rates up to 24 bit 192 KS/s.
8. **SPDIF Input** accepts digital signal with data rates up to 24 bit 192 KS/s.
9. **TOSLINK Input** accepts digital signal with data rates up to 24 bit 192 KS/s.
10. **USB Input** accepts digital signal with data rates up to 24 bit 384 KS/s, MQA, and DSD64/128 in DoP format.
11. **USB A Input** is used to connect to an external FAT32 formatted USB storage device. Use the SEEK app to stream music from the connected drive. The EX INTEGRATED can support Bus Powered USB drives up to 1 amp or any externally powered USB storage device.
12. **Ethernet Input** accepts digital audio data rates up to 24 bit 192 KS/s and DSD64 in DSF format. This input supports MQA, is UPnP/DLNA compatible and a 'Roon Ready' endpoint. Roon is a sophisticated and friendly means to access your music collection and stream Tidal, including Tidal MQA material from the internet. We recommend that you investigate Roon's capabilities with the knowledge that you will be getting the best audio performance possible through our 'Roon Ready' network interface. More info at https://roonlabs.com/
13. **Mains Power Switch** connects AC input to the power board when set to the I position.
14. **IEC Inlet**. Region specific voltage is internally set.

***MQA (Master Quality Authenticated) is an award-winning British technology that delivers the sound of the original master recording. The master MQA file is fully authenticated and is small enough to stream or download.**
Visit mqa.co.uk for more information.
The MQA logo is a trade mark of MQA Limited. © MQA Limited 2017

Black includes MQA technology, which enables you to play back MQA audio files and streams, delivering the sound of the original master recording. The display will show "MQA" when playing an MQA stream or file or "MQA." for an MQA Studio file, which has either been approved in the studio by the artist/producer or has been verified by the copyright owner.

EX INTEGRATED Control and Display Options

You can select inputs, adjust volume, and program the EX INTEGRATED by using any of the remote control or the wheel.

Additionally, you can manage your music library, networked or USB A connected devices, and TIDAL using the Bel Canto SEEK app for iOS.

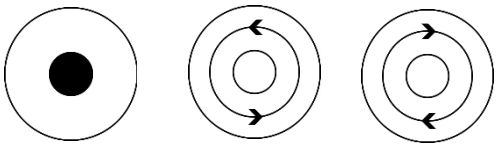
The default display will show the selected input on the left and the volume on the right.

When using the remote:

Select input

Adjust Volume

When using the wheel:



Press wheel to highlight either input or volume. Rotate wheel to desired value.

The EX INTEGRATED has several additional display options. Pressing the 'Display' button on the remote will cycle through the options available for the selected Input. The display may also be turned off by pressing the 'Display' button until the display is no longer illuminated.

EX INTEGRATED Programming

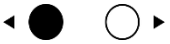
The EX INTEGRATED has an abundance of features that can be accessed in programming mode. To begin programming via the remote: press the 'Program' button in the upper right of the remote.

Press Up or Down to select Menu Option

Press Right to enter Menu Option

Press Right again to select editable field

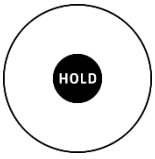
Press Up or Down to select value



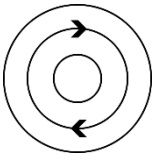
Press Left until you return to main menu

Press 'Program' and then SAVE

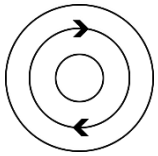
For programming via the wheel:



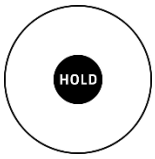
Press and hold wheel for 2 to 3 seconds



Rotate to change value. Press to return to main menu



If editing inputs, press button to cycle through editable fields. Rotate wheel to select value.

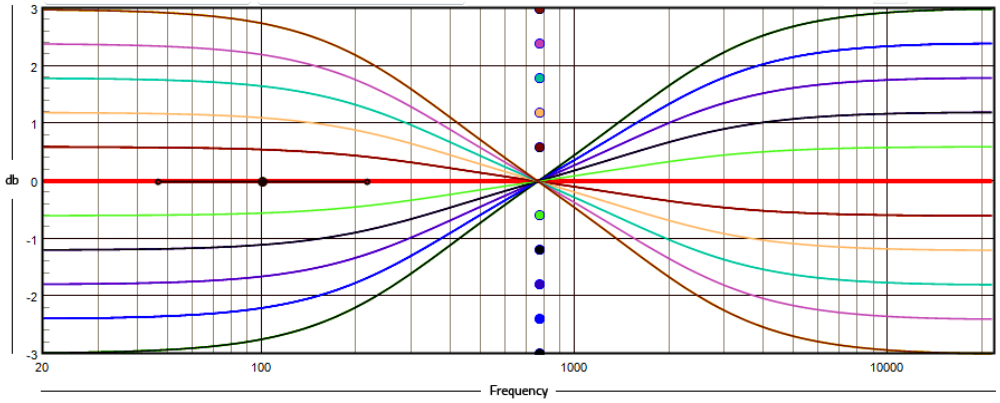


Press and HOLD to SAVE and exit programming

Programming Options

Tilt: OFF

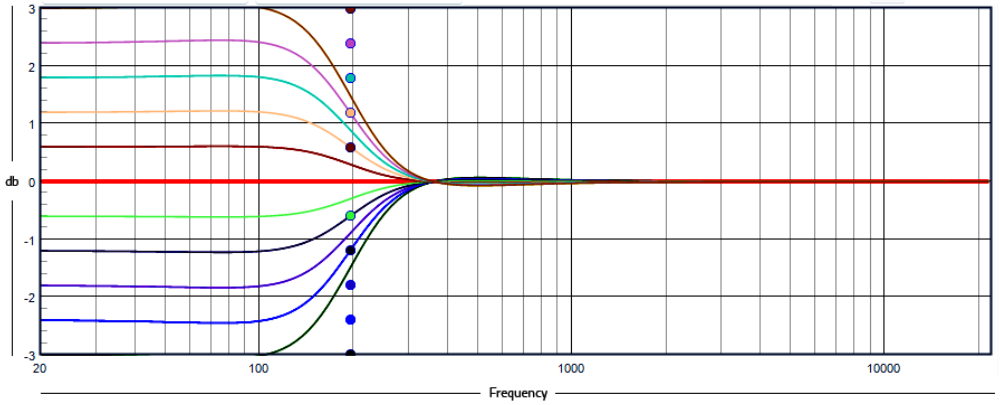
Tilt control centers at 775Hz and tilts the frequency spectrum up or down in 0.6dB increments (-5, OFF, +5), to a maximum of +/-3dB. This control allows you to finely tailor the overall tonal balance of your system to optimally match your room, your loudspeakers and your personal taste without compromising the sonic integrity of the original signal.



This graphical example of our tile control settings shows the frequency tilt spectrum at 775Hz in 0.6dB increments from +3dB to -3dB.

Bass EQ: OFF

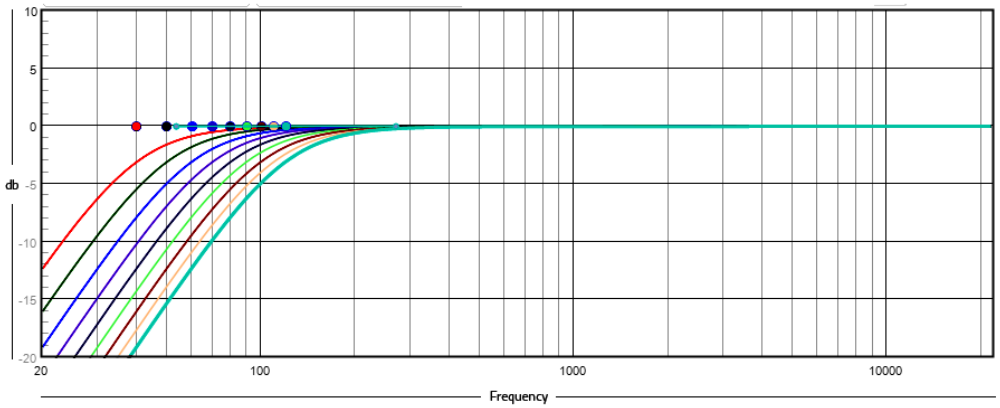
Bass EQ control operates over a +/-3dB range with 0.6dB increments (-5, OFF, +5), providing subtle optimization of your system bass energy.



This graphical example of our bass EQ settings shows the low shelf curve in 0.6dB increments from +3dB to -3dB at 100Hz.

Main HP: OFF

Main HP is used to set a 2nd order High Pass filter for the main loudspeaker output to better integrate a subwoofer. Frequency range is 40Hz to 120Hz in 10Hz increments or OFF for no HP filter.



This graphical example of our Main High Pass Filter function from 40Hz to 120Hz in 10Hz increments.

Programming Options

Sub LP: OFF

Sub LP is used to set a 2nd order Low Pass filter for the Analog Line output to better integrate a subwoofer. Frequency range is 40Hz to 120Hz in 10Hz increments or OFF for no LP filter.

Sub Gain: 0

Sub Gain on the Line output is adjustable from -6dB to +6dB in 1dB steps.

Phono: 5mV

Select the setting that is appropriate for your cartridge.

Setting	Gain
5.0 mv	40dB-MM
2.5 mv	46dB-MM
0.5 mv	60dB-MC
0.25 mv	66dB-MC

Load: 47k

Then select from the following cartridge loads: 47kohm or 1000, 500, 100, or 50ohms.

HPhone: OFF

Turning Headphone ON will cut off audio to the loudspeakers and divert signal to the headphone output.

Max Volume: 85.0

Max volume level limit can be set up to 100.0. Default is 85.0.

Phase: 0

Choose 'Normal' or 'Inverted.' Inverted phase will show a hyphen to the left of the volume.

Edit Input

Each individual input can be turned OFF or back ON. An output that is turned OFF will be hidden when you scroll through selectable input options while playing music. The input name can be customized with up to 4 alphanumeric characters.

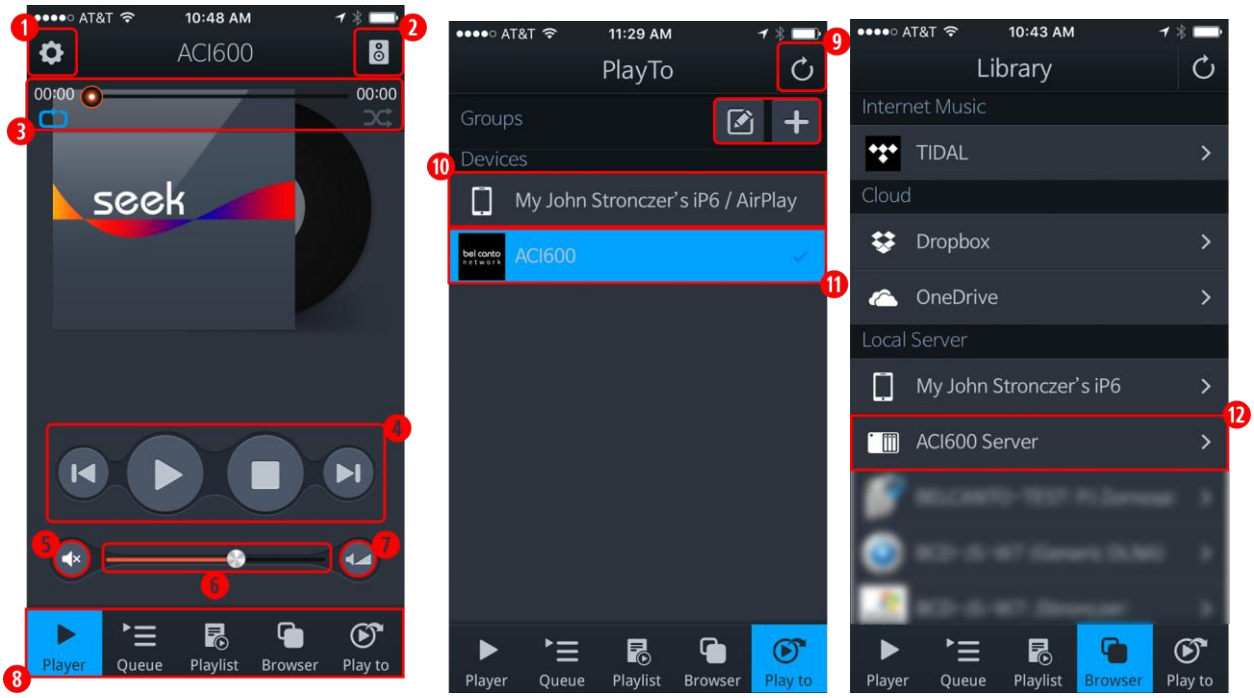
Reset PGM

Reset all settings to factory default.

Update FW

Connect the EX INTEGRATED to the internet via Ethernet and check for firmware updates. Press right and then up to select UPDATE: YES. Then press right again to start the process. If there is an update available, the EX INTEGRATED will then begin downloading. The display will show the progress of the downloads. Once the updates are complete, the EX INTEGRATED will reset itself and begin its startup sequence. The new firmware rev will then be displayed.

Download the SEEK app onto your iOS device to control your networked music library, Dropbox files, or stream TIDAL.



1. Network interface device setup and firmware update for renderer
2. Device information
3. Timeline and repeat, shuffle options
4. Transport
5. Mute
6. Master volume
7. Micro-volume toggle
8. Main menu options
9. Refresh the connection to the network
10. Available network devices
11. Connected device
12. USB-A connection

Specifications

Maximum Data Input Rates:

24bit Data to 192ks/s:	AES, SPDIF, TOSLINK
24bit Data to 192ks/s, MQA, and DSD 64:	10/100 Ethernet
24bits at 384KS/s, MQA, and DSD64/128 (DoP):	USB2 Audio

Low Level Outputs:

Line Level Analog:	4.5Vrms with Bass Management
Headphone:	4.5Vrms maximum, 32ohm minimum load

MM/MC Input:

Input Sensitivity:	MM: 2.5mV to 5mV; MC: 0.25mV to 0.5mV
Input Load:	MM: 47K ohms; MC: 50, 100, 500, 1000
RIAA Accuracy:	+/- 0.25dB, 50Hz – 15kHz
THD+N:	<0.01% 1kHz A-weighted
SNR:	>70dB A-weighted

Line Inputs:

Maximum Input:	2.2 Vrms RCA
Input Impedance:	10K ohms RCA
THD+N:	0.003%, 1kHz
Dynamic Range:	110dB, A-weighted 20Hz-20kHz

Loudspeaker Output:

Maximum Power Output:	500W – 4 ohm, 250W – 8 ohm
Minimum Load:	2 ohms
Peak Output Current:	25 amperes
Frequency Response:	-3 dB 0Hz – 50kHz, all loads
Output Connections:	2 pair WBT Nextgen binding posts

Performance:

Dynamic Range:	126dB A-weighted
THD+N:	<0.001% 1W, 1kHz, 4 ohms
IMD (CCIF):	<0.001% 1W, 18.5:19.5kHz 1:1, 4 ohms

General:

Power Usage On:	40W
Power Usage Off:	0W
Power Requirement:	100-120VAC or 230-240VAC 50/60Hz Internally Set
Dimensions:	17.75 W x 15.5 D x 3.5 H inches – 451 x 394 x 89mm
Weight:	25lbs (12 kg)

CE

Declaration of Conformity

We, the offerer,
Bel Canto Design, Ltd., Minneapolis, Minnesota 55401 USA
acknowledge our sole responsibility, that the product:

Kind of equipment: Black Series
Type designation: EX INTEGRATED

in accordance with EMC Directive 2004/108/EC,
is in compliance with the following norm(s) or documents(s):

Technical regulations: EN 55013:2001 + A1:2003 + A2:2006

EN 55020:2007 + A11:2011

EN 61000-3-2:2006 + A2:2009

EN 61000-3-3:2008

in accordance with Low Voltage Directive 2006/95/EC,
is in compliance with the following norm(s) or documents(s):

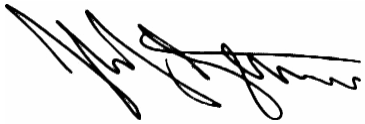
Technical regulations: EN 60065

IEC 60065

in accordance with Ecodesign Requirements for Energy Related Products Directive 2009/125/EC,
is in compliance with the following norm(s) or documents(s):

Technical regulations: EC No. 1275/2008, EN 62301

is in conformity with Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment, and it has been demonstrated that the requirements specified in Article 4 of such Directive have been met.



November 22, 2017

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