Manuals+ — User Manuals Simplified.

Calyx FEMTO Digital Analog Instruction Manual

Calyx FEMTO Digital Analog

Contents

ZAMAN

Thank you for purchasing FEMTO

Music is the most important messenger of human emotion as well as a meaning of its expression since human

beings appeared on this earth. Music created by amazing inspiration of many gifted composers makes people moved and our normal lives enriched.

The absolute sound and real music performed in real space like concert halls are the most important experience that makes people get to the musical essence. Besides, audio products reproducing music are a way of modern civilization making our lives better.

Since 1999, the year of establishment, Digital & Analog Co., Ltd. (as known as D&A) has been providing class-D I.C.s to various audio OEM companies. And D&A started to make its own highend audio products since 2008 and as a result, we succeeded to build audio products with excellent measured performance which any other amplifiers were not able to reach so far. Calyx is the by-product of such an effort based on D&A's many experiences like designing, manufacturing and selling of class-D ICs and supporting its customers to make their audio products using D&A's I.C.s. Calyx has been tested subjectively as well as objectively under a lot of test circumstances.

A great Chinese poet 'Bai Ju Yi' of the Tang Dynasty expressed sound as followings in on of his book;

"A poem has passion as its root, words as its buds, sound as its flower and meanings as its fruits" So we named our products as Calyx, in the meaning of corolla of music described as flower by the renowned poet.

Calyx will enrich your life as a strong support of musical flower. This coincides exactly with our slogan;

"Technology making the world affluent."

Calyx is high-end products, which you can be proud of possessing it.

Digital & Analog Co., Ltd. has developed class-D amplification technology with many patents on the technology.

From now on, we provide high-end audio products to music lovers like you Thanks and enjoy the music.

Seungmok Yi
CEO/President

WARNINGS

Please take a moment to read these notes before installing your Calyx Femto, as they will enable you to get the best performance and prolong the life of the unit.

As our engineers are striving for the constant research and development to develop the quality of products, shape or structure of our model can be changed without previous notice.

We advise you follow all instructions, read all warnings and keep the instructions for future reference.

This symbol indicates that dangerous voltage which can cause electric shock is present inside this unit.

Do not overload outlets or extension cords

- This can result in a risk of fire or electric shock. Never touch the power cords or the unit with wet hands.
- This can result electric shock. Never use the frayed or damaged or cracked or broken power cords.
- This can result in a risk of fire or electric shock. Do not expose the unit to rain or moisture.
- This can result in a risk of fire or electric shock.. Do not expose the unit to direct sun radiation or other heat sources.
- This could lead to overheating and malfunction of the unit.
  During thunderstorms, disconnect the power cords from the wall outlet.
- Voltage peaks due to lightning could damage the unit.

Never attempt to repair, disassemble or reconstruct the unit.

- Serious electric shock could result.

⚠ This symbol alerts you to important operating and maintenance instructions accompanying the unit.

Do not put any objects on top of the unit.

- If the objects fall, it may cause harm to the user.

  Please ensure there is ample ventilation
- The unit will become hot when in use To clean the unit, please follow next instructions.
- Wipe its case with a dry, lint-free cloth.

  Do not use any cleaning fluids containing alcohol, ammonia or abrasives.

  Do not spray an aerosol at or near the amplifier. Do not move the unit, while it is powered on.
- This can cause harm to the unit Do not place the unit on an unstable surface or shelf.
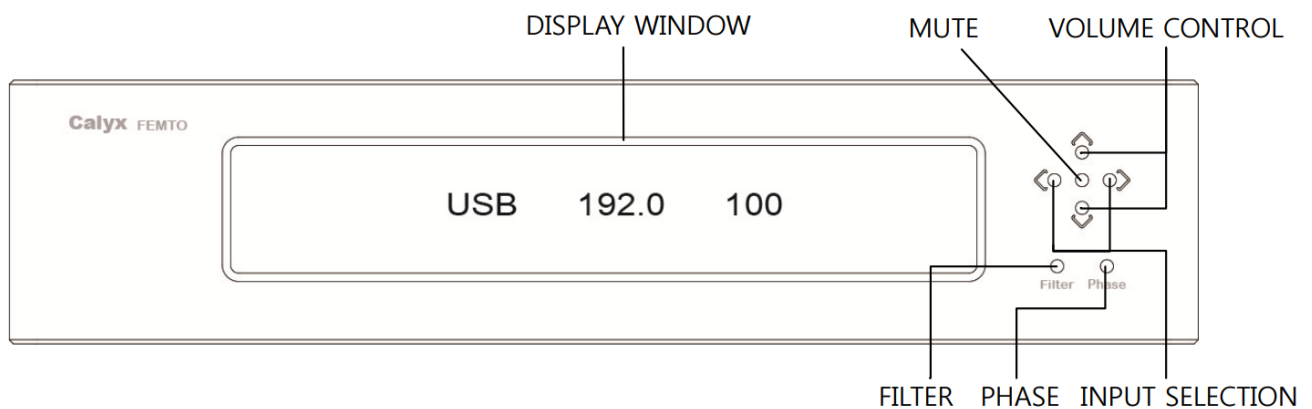- If the unit falls, it may cause harm to the unit or to the user.

  Do not use attachments not recommended by your dealer
- This may cause harm to the unit Do not listen to loud music for a long time.
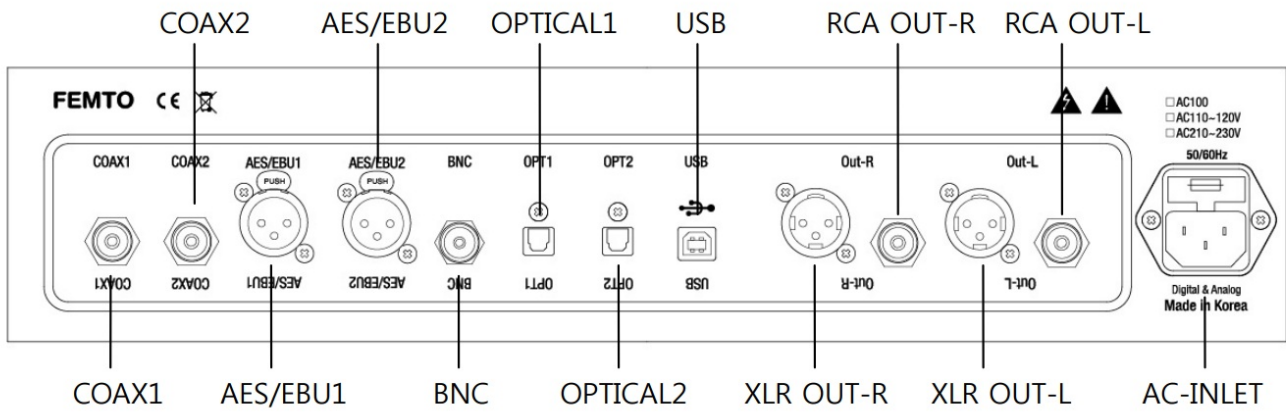- This may cause harm to user's hearing ability

If the product needs repair, please contact your local Calyx dealer.
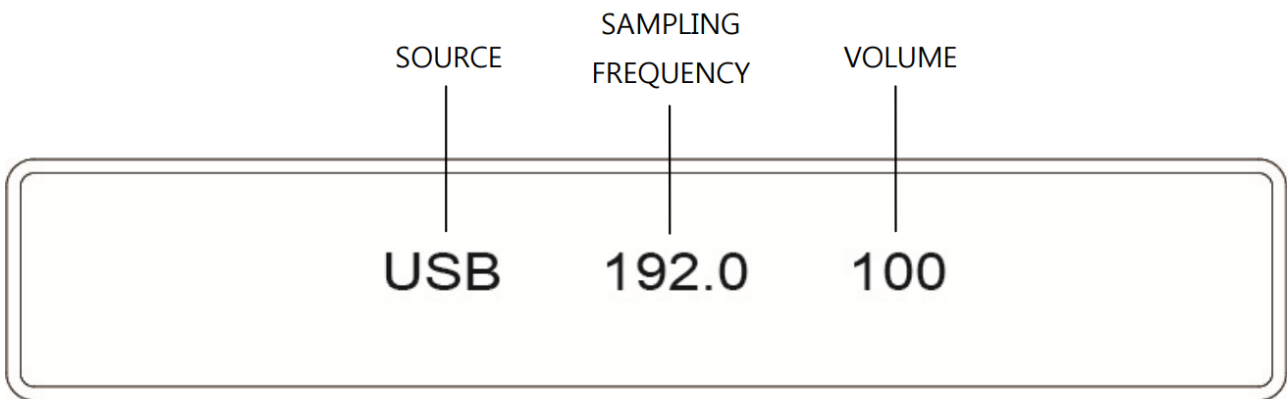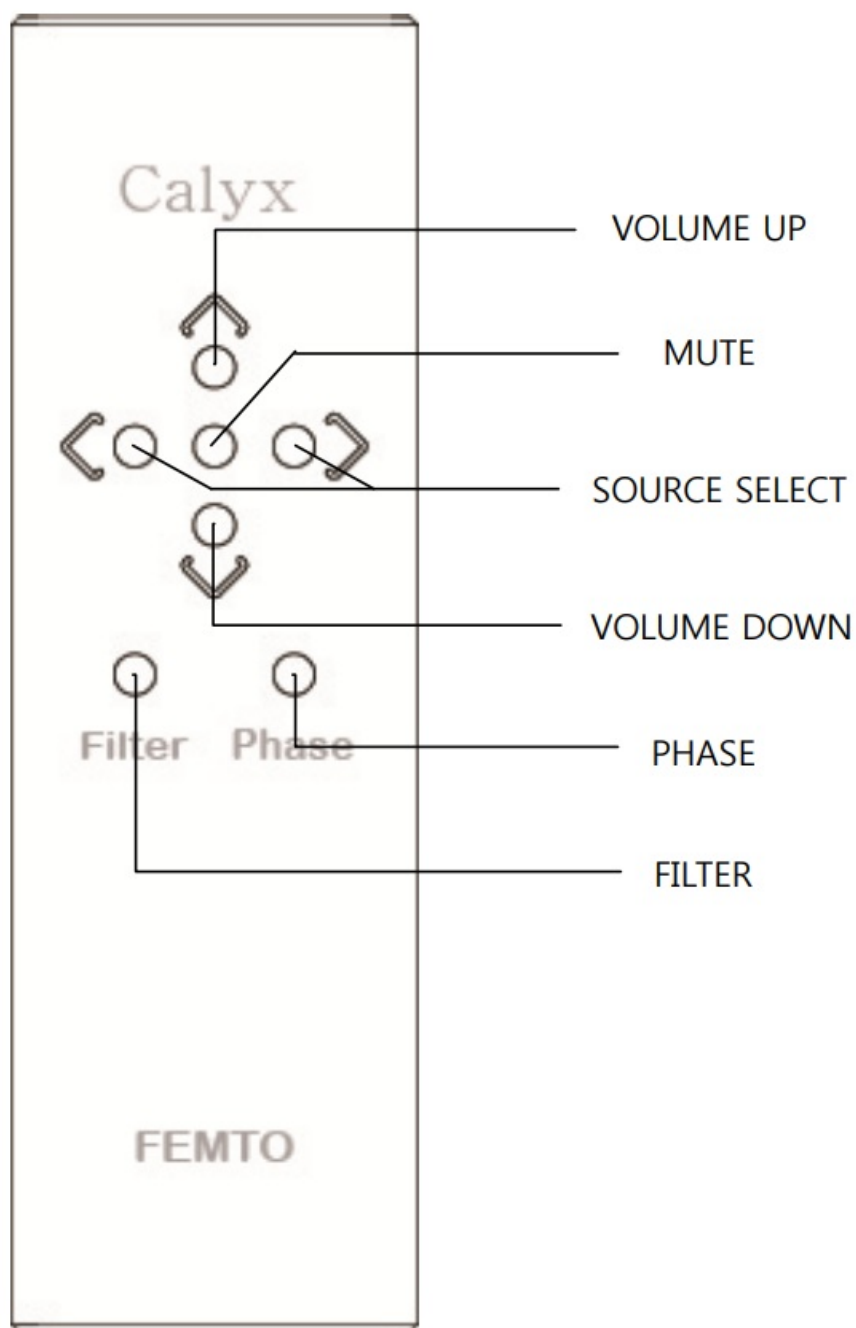
Functions

Front Panel

Real Panel

COAX2   AES/EBU2   OPTICAL1   USB   RCA OUT-R RCA OUT-L

COAX1   AES/EBU1   BNC   OPTICAL2   XLR OUT-R XLR OUT-L AC-INLET

Display Window

SOURCE   SAMPLING FREQUENCY   VOLUME

USB   192.0   100

Remote Control

Calyx

VOLUME UP

MUTE

SOURCE SELECT

VOLUME DOWN

Filter   Phase

PHASE

FILTER

FEMTO

Description of Functions

Power Switch

This is located on the left side panel when you see from the front. Press once to turn the unit on and once more to turn it off.

Input select

These buttons select the signal from the digital inputs on the rear panel.

Level- Output level control buttons

They adjust the output analog level.
This high quality digital volume control allows you to adjust from 0(mute) to 100 (0dB).

Remote Sensor

The signals from the remote control are received by this sensor. Please point your remote control to the sensor

when using the remote control.

Display

Input Display
This shows you which digital signal is selected.
Sampling Frequency
This indicates the sampling frequency of incoming digital signal.
Level Display
This shows you the output level of analog signal.
Digital Filter
There are 3 different digital filters you can choose. When you press the button of filter, it changes "Filter 1", "Filter 2" and "Filter 3".
Phase of Analog output
Analog out of FEMTO is true-balanced out. You can choose the right configuration of analog phase for your pre-amplifier or power amplifier. "Normal" means pin 2 is hot "Inverse" means pin 3 is hot.

Digital Inputs

The digital signal can be used using various types of cables.
AES-EBU 1, 2————-110 Ohm digital cables. The connectors look same as XLR connectors.
Coaxial 1, 2————-75 Ohm coaxial cables
Optical 1, 2 ————Optical fiber cables
BNC —————— 50 Ohm coaxial cable
USB —————-USB 2.0 compliant cable

Analog Outputs

Connect one of the analog outputs to the input of your pre-amplifier or power amplifier

⚠ CAUTION

Please check the output level as "0" when you connect FEMTO to your amplifier directly.

Unbalanced (or RCA) outputs

These connectors accept standard unbalanced cables with RCA-type plugs.

Balanced outputs

These are balanced connectors which ensure superior signal transmission.

The pin assignment is as followings:

Pin 1: Ground
Pin 2: Non-inverted (or Hot)
Pin 3: Inverted (or Cold)

AC-Inlet

⚠ WARNING

- Do not use the unit with any other than the supplied power cords.
- The shape of the AC inlet and the plug of the supplied power cord depend on the voltage rating and destination country. Using any other type of cable except the supplied power cord poses the risk of fire and damage.
- This product is available in version for 100V, 110~120V, or 210~230V AC. Make sure that the voltage shown on

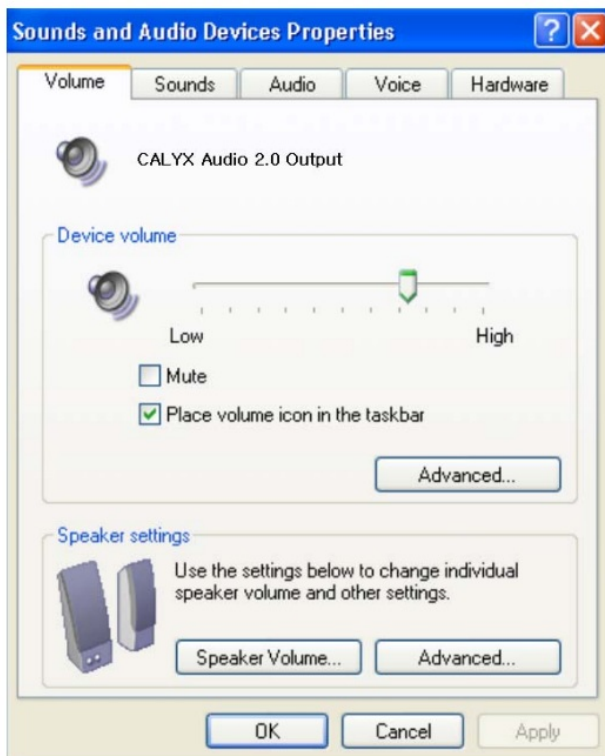the rear panel matches the AC line voltage in your area.

⚠ WARNING

- Do not open the unit, as this involves a severe risk of electric shock.
- If the unit does not operate, the internal fuse may have blown. Never attempt to replace the fuse yourself. Be sure to contact your Calyx dealer or an authorized service station.
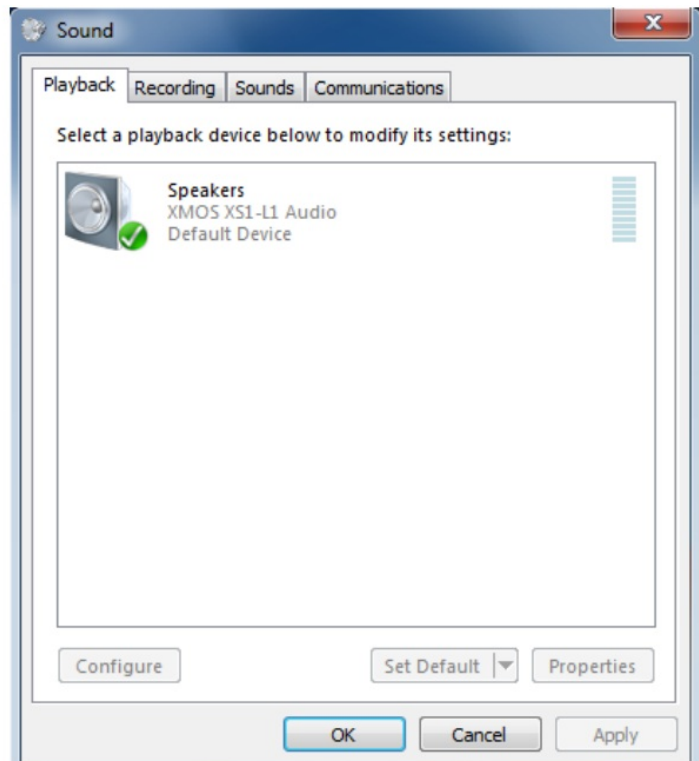
Software Installation for USB

Window

Download and install the latest driver in the calyx audio website (**www.calyxaudio.com**) If the internet is not available, install the CD.

Open Control Panel and check Sounds and Audio Devices (or Sound) to make sure that under Sound Playback in the Audio tab, "CALYX Audio 2.0 Output (or XMOS XS1-L1 Audio)" is selected.

Apple OS-X

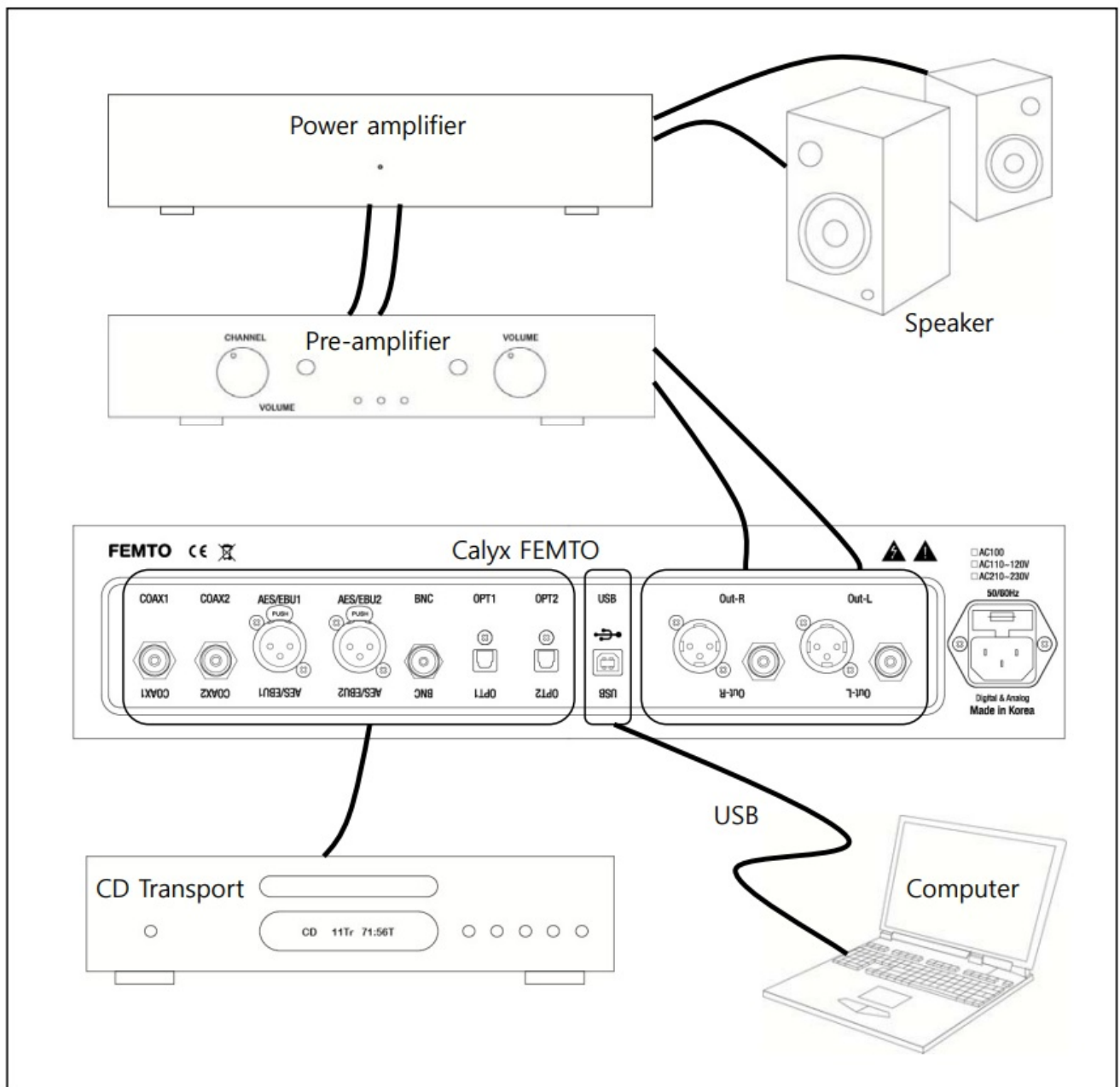Calyx FEMTO is natively supported by Apple OS X™ version 10.6.3 and above.

Connection Diagram

⚠ **Caution** Turn off the power to all components before making connections.
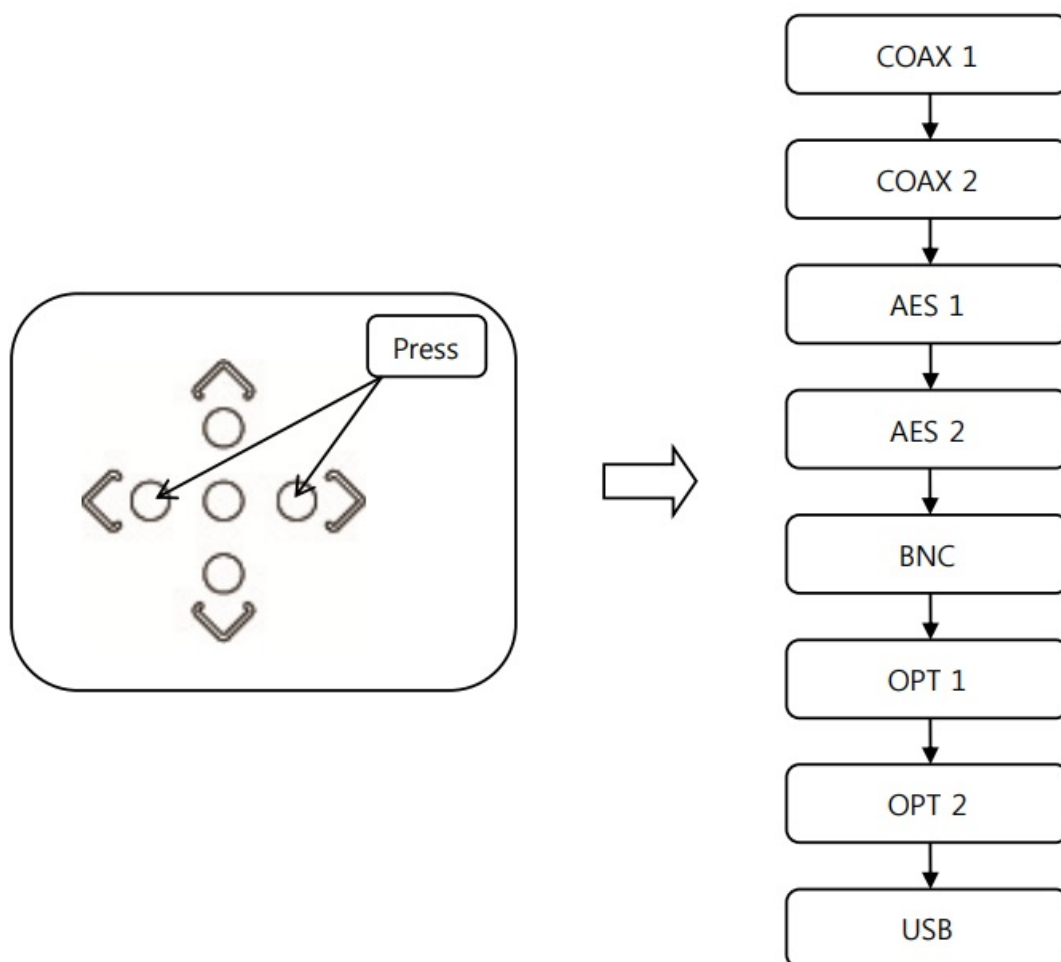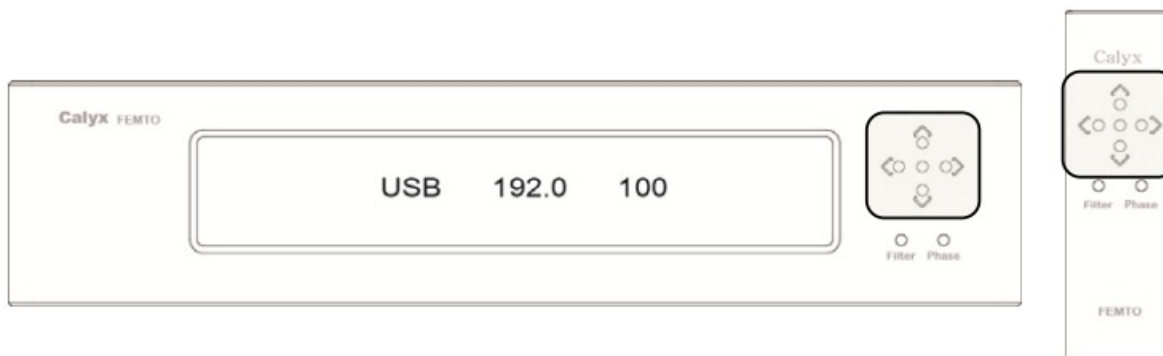
- For connection of digital cables, please use the right cables for each signal.
- For "Coax 1, 2", use the RCA type coaxial cables of characteristic impedance 75 Ohm.
- For AES/EBU, use the cables of characteristic impedance 110 Ohm
- For USB, use a "USB 2.0 compliant" cable.

Input Source Selection

1. Connect the digital output of the source component to one of the digital inputs of FEMTO
2. Turn power to all components on.
3. Use the input select buttons on the FEMTO or remote controller.
4. Operate the source component for playback.

USB   192.0   100

Press

COAX 1
COAX 2
AES 1
AES 2
BNC
OPT 1
OPT 2
USB

Guaranteed Specifications

Digital Inputs: Two Coaxial, Two Optical, Two AES-EBU, BNC, USB
Digital Input Resolution and Sampling Rate:
SPDIF: Up to 32bit, 44.1, 48, 88.2, 96, 176.4, 192 kHz
USB: Up to 24bit, 44.1, 48, 88.2, 96, 176.4, 192 kHz
OS (Operating System) Requirement for USB:
Windows XP, Windows Vista, Windows 7
Mac OS X,
Frequency Response:
20Hz ~ 32kHz @ – 0.5dB – Balanced Output / 20Hz ~ 38kHz @ – 0.25dB – Unbalanced Output
Total Harmonic Response:
Less than 0.0003% @ 1KHz, 0dB – Balanced Output & Unbalanced Output
Signal-To-Noise Ratio:
130 dB, A-weighted – Balanced Output / 124 dB, A-weighted – Unbalanced Output
Dynamic Range:
130 dB, A-weighted – Balanced Output / 124 dB, A-weighted – Unbalanced Output

Channel Separation:
144 dB @ 1KHz, 126 dB @ 20KHz – Balanced Output,
140 dB @ 1KHz, 124 dB @ 20KHz – Unbalanced Output
Output Voltage:
6.8 Vrms – Balanced Output / 2 Vrms – Unbalanced Output
Output Level Control:
– ∞ ~ 0 dB, 0.5 dB Step
Power requirements:
AC110V / AC110~120V / AC220~240V (The voltage is fixed when factory out.)
Maximum Dimensions:
Width : 430mm , Height : 102mm , Depth : 403.8mm
Mass:
18.5kg in Net
20kg in Gross
*Specifications and design subject to change without notice for improvements

Measured Performances

- < Frequency vs. THD – Balanced Output (XLR) >
- < Frequency vs. THD – Unbalanced Output (RCA) >
- < Frequency Response – Balanced Output (XLR) >
- < Frequency Response – Unbalanced Output (RCA) >
- < FFT 0dB – Balanced Output (XLR) >
- < FFT 0dB – Unbalanced Output (RCA) >
- < Noise Floor – Balanced Output (XLR) >
- < Noise Floor – Unbalanced Output (RCA) >
- < Dynamic Range – Balanced Output (XLR) >
- < Dynamic Range – Unbalanced Output (RCA) >
- < Crosstalk – Balanced Output (XLR) >
- < Crosstalk – Unbalanced Output (RCA) >
- < SNR – Balanced Output (XLR) >
- < SNR – Unbalanced Output (RCA) >
-

⚠

Documents / Resources

Calyx FEMTO Digital Analog [pdf] Instruction Manual
FEMTO Digital Analog, FEMTO, Digital Analog, Analog

References

- **User Manual**