



# SFORZATO

Network Audio Components 2018



# Soulful sound become ideal definition

*In September 2009, SFORZATO was founded with the goal of providing playback that brings out heart and soul of music.*

*We have been developing and marketing high-end audio network players that deliver the soul of music to you.*

## Next generation audio for high-resolution and DSD

Audio network player is a new style of audio. So-called “High-Resolution” music sources with sound quality superior to CDs are now being sold via download.

By using network player, you can enjoy sound sources stored on a NAS (Network Attached Storage) or a PC, using a tablet device as a remote control, just like a Juke Box.

You can easily search tracks by genre, artist name, etc. You can also enjoy viewing album art on the screen of your tablet device.

You can check a track title, an album name, and an artist name on your tablet’ s screen and on the display of the network player as well.

Network player is truly the next-generation of audio, with high sound quality, high reliability and easy operation.

The SFORZATO network player plays not only high-resolution PCM, but also DSD. It plays all high quality sources with outstanding sound quality.

All you do is choose the tracks on your tablet. After that, just sit back and enjoy.



Network Music Player

# DSP-050EX

New model



#### ■ ES9038Pro for D/A conversion

Twin left and right ES9038Pro are used for D/A conversion. The ESS DAC no longer relies on internal jitter removal, running in perfect sync with signal input. The high-fidelity clock and scrupulously arranged clock wiring and architecture ensure perfectly synchronized, jitter-free audio.

#### ■ Outstanding low phase noise clock

The unit features an outstanding low phase noise (120dBc/Hz@10Hz) TCXO, with the clock architecture deploying a specialized IC that achieves jitter below 100fs (femtoseconds:1/1000 of a picosecond).In addition, the DAC's master clock is delivered by differential wiring. No effort is spared to stop jitter in its tracks.

#### Supported formats

PMC : 44.1kHz – 384kHz 16/24/32bit (fixed / float)  
AIFF,WAV,FLAC,ALAC  
(352.8kHz, 384kHz non-compression only)

DSD : DSD64/128/256 (2.8MHz,5.6MHz,11.2MHz)  
1bit dsf, diff  
Gapless playback is supported in all format

#### Specification

Output :	RCA, XLR (2-hot, 3-cold) 2Vrms(approx.)
Input :	LAN RJ45
Protocol:	UPnP, Roon
Size:	W435mm × D332mm × H80mm
Weight:	8kg

Master Clock Generator

# PMC-00EX

Dramatically low phase noise



## ■ Dramatically low neighborhood phase noise

The PMC-00EX utilizes very low phase noise OCXO, which reaches neighborhood phase noise of -113dBc/Hz at 1Hz. Generally, rubidium-based generators only reach -70dBc/Hz. Even high-fidelity rubidium generators manufactured by American company used in leading audio makers only hit -100dBc/Hz at best. In short, the PMC-00EX offers nothing less than dramatic performance that leads the pack.

## ■ Internal wire management

We collaborated with Acoustic Revive to use their PC-Triple C elliptical wiring. The 10MHz output uses brass-tube-shielded, non-bendable rigid cables.

## ■ Robust chassis

Milled from ingots of aluminum, the robust chassis eliminates unwanted vibration and external noise to the utmost. Although in a single case, the power supply and OCXO unit are housed in a completely separate internal enclosure with a thickness exceeding 30mm.

## ■ Generous power supply

In order to make full use of the OCXO generator, we built a discrete high capacity analog power supply that uses a high-capacity 250VA toroidal transformer, 330000uF capacitors and high-speed, low noise SiC Schottky diode.

## Specification

Output :	10MHz sinewave
Output terminal:	BNC 50Ω x 1
Output level :	13 dBm
Size :	W390mm x D256mm x H105mm
Weight :	17kg

# *Importance of The Master Clock*

**The master clock is the life of digital Audio.**

All digital audio devices operate using the clock as a standard when they convert digital signal to audio signal, so the quality of the clock greatly affects the quality of the sound. It is the very pulse of digital audio.

Absolute precision is not the performance digital audio demands of the master clock. The clock performance needed by digital audio is phase noise (the frequency components outside of the generating frequency that shouldn't be present, in other words, impurities), which affects jitter. The clock, which governs all operations of digital audio, should not be able to correctly restore audio, if it is contaminated by noise.

SFORZATO' s master clock generator provides a pure clock with miniscule phase noise, dramatically improving all digital audio devices with 10MHz clock input.



Master Clock Generator

# PMC-010EX



## ■ Ultra low neighborhood phase noise

The PMC-010EX utilizes very low phase noise OCXO, which reaches neighborhood phase noise of -120dBc/Hz at 1Hz.

## ■ Robust chassis

15mm thickness front panel and 3mm thickness aluminum body, the robust chassis eliminates unwanted vibration and external noise to the utmost. Transformer is shielded and OCXO is floated from chassis to avoid vibration.

## ■ Internal wire management

We collaborated with Acoustic Revive to use their PC-Triple C elliptical wiring. Finemet beads and saturable cores are used in appropriate place.

## ■ Generous power supply

In order to make full use of the OCXO generator, we built a discrete high capacity analog power supply that uses a high-capacity 160VA toroidal transformer, 330000uF capacitors and high-speed, low noise SiC Schottky diode.

## Specification

Output :	10MHz sinewave
Output terminal :	BNC 50Ω x 1
Output level :	13 dBm
Size :	W390mm x D256mm x H105mm
Weight :	8.7kg



Network Music Player / USB DAC

# DSP-010EX



## ■ The ultimate network music player / USB DAC

With both the body and power supply housed in robust aluminum chassis, a outstanding power supply unit, and no internal clock, this exceptional network music player has everything for sound quality. With an almost ominous silence and stillness just before the start of each performance, it conveys only natural tones and sound fields. Adding nothing and taking nothing away. We provide the finest tools for listening to music.

## ■ ES9038Pro for D/A conversion

Twin left and right ES9038Pro are used for D/A conversion. The ESS DAC no longer relies on internal jitter removal, running in perfect sync with signal input. The high-fidelity clock and scrupulously arranged clock wiring and architecture ensure perfectly synchronized, jitter-free audio.

## ■ External clock

The unit features no internal clock generator and is driven by 10MHz external input. PMC-00EX or PMC-010EX give give perfect performance for the DSP-010EX. PMC-02EX or other Rubidium clocks those have 10MHz output also works for the DSP-010EX.

## ■ Robust power supply

With distinct digital and analog power sources, high capacity transformers, and the high-speed, low noise SiC, the devices drive high power for deep, rich music playback. The dedicated DAC' s analog 3.3V sources feature discrete, feedback-based power with a high-speed, low noise error amplifier, while the analog output uses a discrete, feedback-less power source. On the digital side, multiple hi-fi LT1763 LDOs, courtesy of Linear Technology, regulate POL(point of load). Each integrated circuit works in a discrete fashion without interference from the others, utilizing 100% of their capabilities and ensuring jitter-free playback.

## Supported formats

PMC : 44.1kHz – 384kHz 16/24/32bit (fixed / float)  
AIFF,WAV,FLAC,ALAC  
(352.8kHz, 384kHz non-compression only)

DSD : DSD64/128/256 (2.8MHz, 5.6MHz, 11.2MHz) 1bit dsf, diff  
Gapless playback is supported in all format.

## Specification

Output :	RCA, XLR (2-hot,3-cold) 2Vrms(approx.)
Input :	LAN RJ45, USB type B
Clock input :	BNC 50Ω 10MHz
Size/Weight (Main unit):	W390mm × D327mm × H85mm / 6.5kg
(Power unit):	W390mm × D398mm × H106mm / 17kg

Network Music Player / USB DAC

# DSP-030EX



## ■ ES9038Pro for D/A conversion

Twin left and right ES9038Pro are used for D/A conversion. The ESS DAC no longer relies on internal jitter removal, running in perfect sync with signal input. The high-fidelity clock and scrupulously arranged clock wiring and architecture ensure perfectly synchronized, jitter-free audio.

## ■ External power source

DSP-030EX features an external power enclosure, completely shutting out noise and vibrations from the transformers. Designed to efficiently disperse vibration, spiked feet right under the toroidal transformers supports the enclosure.

## ■ Noise suppression

Using a eight-layer circuit board with a wide top/bottom grand plane allows the majority of digital signals to be arrayed within the mid-layers. Heavy shielding reduces noise to the utmost. Non-magnetic noise absorbing sheets and shield casing cover noise generating components like the CPU, which provides network connectivity, and the clock circuit area, achieving robust noise suppression.

## ■ External clock input

DSP-030EX feature a clock generator (TCXO) with outstanding low phase noise (120dBc/Hz @ 10Hz). If you wish to enjoy still further fidelity, the units come equipped with a 10MHz master clock input.

## Supported formats

PMC : 44.1kHz – 384kHz 16/24/32bit (fixed / float)  
AIFF, WAV, FLAC, ALAC (352.8kHz, 384kHz non-compression only)

DSD : DSD64/128/256 (2.8MHz, 5.6MHz, 11.2MHz) 1bit dsf, diff  
Gapless playback is supported in all format.

## Specification

Output : RCA, XLR (2-hot, 3-cold) 2Vrms (approx.)

Input : LAN RJ45, USB type B

Clock input : BNC 50Ω 10MHz

Size / Weight (Main unit): W390mm × D327mm × H85mm / 6.5kg  
(Power unit): W234mm × D236mm × H92mm / 4kg



Master Clock Generator

# PMC-015EX

## Specification

Output :	10MHz sinewave
Output terminal :	BNC 50Ω x 1
Output level :	7 dBm
Size / Weight :	W390mm x D327mm x H101mm / 7.8kg



### ■ Generous power supply

In order to make full use of the OCXO generator, we built a discrete high capacity analog power supply that uses a high-capacity 160VA toroidal transformer, 330000uF capacitors and high-speed, low noise SiC Schottky diode.

### ■ Internal wire management

We collaborated with Acoustic Revive to use their PC-Triple C elliptical wiring. Finemet beads and saturable cores are used in appropriate place.

### ■ Robust chassis

15mm thickness front panel and 3mm thickness aluminum body, the robust chassis eliminates unwanted vibration and external noise to the utmost. OCXO is floated from chassis to avoid vibration.

Master Clock Generator

# PMC-02EX

## Specification

Output :	10MHz sinewave
Output terminal :	BNC 50Ω x 1
Output level :	7 dBm
Size / Weight :	W234mm x D236mm x H92mm / 4kg

### ■ Generous power supply

In order to make full use of the OCXO generator, we built a discrete high capacity analog power supply that uses a high-capacity 100VA toroidal transformer, 66000uF capacitors and high-speed, low noise SiC Schottky diode.

### ■ Internal wire management

We collaborated with Acoustic Revive to use their PC-Triple C elliptical wiring. Finemet beads and saturable cores are used in appropriate place.



Network Music Player

# PMC-00EX

Dramatically low phase noise



## ■ ES9018S for D/A conversion

ES9018S is used for D/A conversion. The ESS DAC no longer relies on internal jitter removal, running in perfect synch with signal input. The high-fidelity clock and scrupulously arranged clock wiring and architecture ensure perfectly synchronized, jitter-free audio. DSP-00EX boasts two per side for a total of four, achieving massive improvements in dynamic range.

## ■ Noise suppression

Using a eight-layer circuit board with a wide top/bottom grand plane allows the majority of digital signals to be arrayed within the mid-layers. Heavy shielding reduces noise to the utmost. Non-magnetic noise absorbing sheets and shield casing cover noise generating components like the CPU, which provides network connectivity, and the clock circuit area, achieving robust noise suppression.

## ■ External clock

The unit features no internal clock generator and is driven by 10MHz external input. The attached clock generator is a hi-fi OCXO with low phase noise, a top-shelf master clock generator that is a robust standalone product in its own right. Swapping it out for a PMC-00EX or PMC-02EX will yield even greater fidelity.

## ■ Robust power supply

With distinct digital and analog power sources, high capacity transformers, and the high-speed, low noise SiC, the devices drive high power for deep, rich music playback. The dedicated DAC's analog 3.3V and 1.2V sources feature discrete, feedback-based power with a high-speed, low noise error amplifier, while the analog output uses a discrete, feedback-less power source. On the digital side, multiple hi-fi LT1763 LDOs, courtesy of Linear Technology, regulate POL (point of load). Each integrated circuit works in a discrete fashion without interference from the others, utilizing 100% of their capabilities and ensuring jitter-free playback.

## Supported formats

PMC : 44.1kHz – 384kHz 16/24/32bit (fixed / float)  
AIFF, WAV, FLAC, ALAC (352.8kHz, 384kHz non-compression only)  
DSD : DSD64/128/256 (2.8MHz, 5.6MHz, 11.2MHz) 1bit dsf, diff  
Gapless playback is supported in all format

## Specification

Output :	RCA, XLR (2-hot, 3-cold) 2Vrms
DInput :	LAN RJ45
Clock input :	BNC 50Ω 10MHz
Size / Weight (Main unit):	W390mm × D355mm × H79.5mm / 13kg
(Power unit):	W390mm × D455mm × H110mm / 23kg

<https://sfz.world>

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