

New Products Information

ReiwaFiveYearTenMonthly auspicious day



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optical cartridge^{*1}Developed in pursuit of the possibilities of

New generation optical cartridge dedicated vacuum tube phono amplifier

U・BROS-220DSR

Uesugi Research Institute Ltd. is Reiwa3Year12Launched in MarchU・BROS-220Rtop model and
We specialize in optical cartridges and utilize new circuits and new functions to maximize their potential.

A stereo phono amplifier developed with the goal of bringing out the best inU・BROS-220DSRWe have released

Masu.

^{*1}Optical cartridge developed and sold by Digital Stream Co., Ltd.

Product name	Product number	Selling price	Release date
For optical cartridge only stereo phono amplifier	U・BROS-220DSR	968,000 yen (tax included) 880,000 yen (excluding tax)	December 2020

<Planning background>

Digital sound sources, the mainstream of audio sources, have become high-resolution, cloud networks
It has become established as a high-quality audio source with a high level of convenience.

On the other hand, analog discs, which are the leading packaged media, have a sonic appeal that digital sound sources do not have.
This has increased its presence and secured a solid position as a high-end audio source.
Masu. This includes the emergence of analog components with innovative structures and the

There is a background in which the significant improvement in sound quality achieved by the optical cartridge developed and sold by the company was widely recognized.

In addition to the conventional MM and MC type cartridges, we also offer the U・BROS-220R, which is compatible with optical cartridges.

It was introduced to the market in 2021 and has been well received, but we have now announced the power generation features of this optical cartridge.

Develop and install new circuit configurations and new functions that maximize the characteristics of the product.

We have developed the U-BROS-220DSR, a phono amplifier exclusively for optical cartridges, which has significantly improved sound quality.

Did.

<Main features>

1. New circuits and new functions compatible with the power generation and transmission characteristics of optical

cartridges (A) Adoption of a current-type equalizer circuit with a current-voltage conversion configuration

Since the power generating element of the optical cartridge has a current output, it is greatly affected by the stray capacitance of the phono cable and the input capacitance of the amplifier. Also, since the internal wiring of the arm is a single wire with a non-shielded structure, it is extremely affected by the capacitance between the lines. High frequency channel separation was getting worse. In this machine, we have newly developed an amplifier with a current-voltage conversion configuration in which the first stage of the amplifier operates as a grid-grounded amplifier, and replaces the conventional high-impedance voltage type. CRAs as a result of changing the equalizer to a low impedance current type equalizer, Significantly suppresses the voltage amplitude of the transmission signal from the optical cartridge (-30dB:50KHz) and greatly improved the above issues. Did.

*2The output of the power generation element of the optical cartridge is current (output resistance: approx.200KΩ) for conventional resistive loads

In standard operation, the effective source resistance is 10KΩ. It will be about.

(b) Equipped with the industry's first guide function that enables highly accurate inside force adjustment.

Since the optical cartridge outputs a current proportional to the sound groove amplitude of the analog disc, the signal output is a signal current superimposed on the direct current corresponding to the needle (shutter) position. By calculating this DC current value using an evaluation function, it is now possible to accurately measure the fluctuation range of the needle (shutter) position.

Display this measurement result to the user (LED by 3 (point display)) individual
It is possible to adjust the inside force cancellation that is optimal for the optical cartridge. have become.

2. New support for optical cartridge requirements Compliant with standards developed jointly with Digital Stream Co., Ltd.

(a) Light source LED Realization of separate power supply of DC current for

Output signal current from the power generating element of the optical cartridge (5μA) plus a light source LED Low noise DC current (80~90mA) teeth L, R This is done by circulating the ground line between each signal line, which makes it susceptible to the effects of ground impedance.

Also L, R This is a disadvantageous situation in terms of sound quality because DC current is superimposed on the ground line (signal reference line) of each signal line and an electromagnetic field loop is created by the current.

With this machine XLR using terminals Four By terminal (Kelvin) connection method (connection method using independent current and voltage terminals, power supply method suitable for low impedance circuits) Light source from signal reference line LED eliminate direct current Did.

A special phono cable is available. *3

*3Please contact us for details.

(b) Light source LED DC current external output terminal (mini XLR) equipped with

We are preparing for future development.

3. Enhanced analog disc playback functions

(a) LP Analog disc playback equalizers are mainstream. RIAA In addition to AES, NAB, frr, Columbia/LP Now supports equalizer characteristics. The capacitor for setting the time constant has a proven track record. 630V We select and use Matsushita's high-voltage metallized polyester film capacitors.

in current mode, ideal for summing signals (STEREO ↔ MONO). By combining with the switching function, early days LP established analog disc playback environment can.

(stomach) 3 Equipped with a system optical cartridge input terminal

1 The system corresponds to the above Kelvin connection. XLR This is a terminal input.

(c) Left and right independent power transformers

An optimal independent local power supply is configured for each amplification stage, creating a dual monaural construction.

(d) Balanced output equipment

Equipped with Uesugi's first newly developed vacuum tube type low impedance balanced output circuit. input impedance 3KΩ Compatible with the above balanced input terminals.

Four. Continuation of universal value by inheriting proven design and production methods

(A) High quality machined aluminum knobs and high quality wooden cabinet with walnut oil finish.

This ensures a high quality of texture and sensual value.

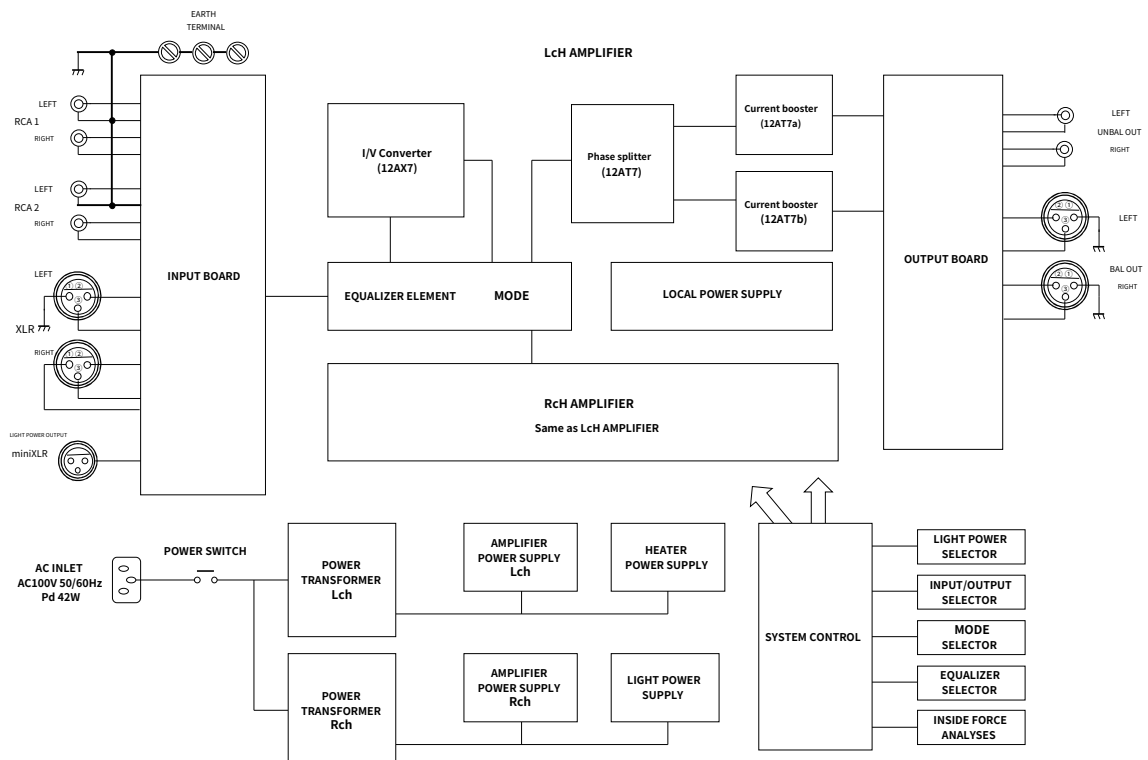
(stomach) 1.6mm Highly rigid chassis made of thick galvanized steel plate prevents interference from other sources

Inheriting the no-resonance, no-vibration, and no-interference structure.

(C) The signal amplification circuit is not wired using a printed circuit board, but is installed by a skilled craftsman.

We adhere to Esugi's traditional artistic hand wiring.

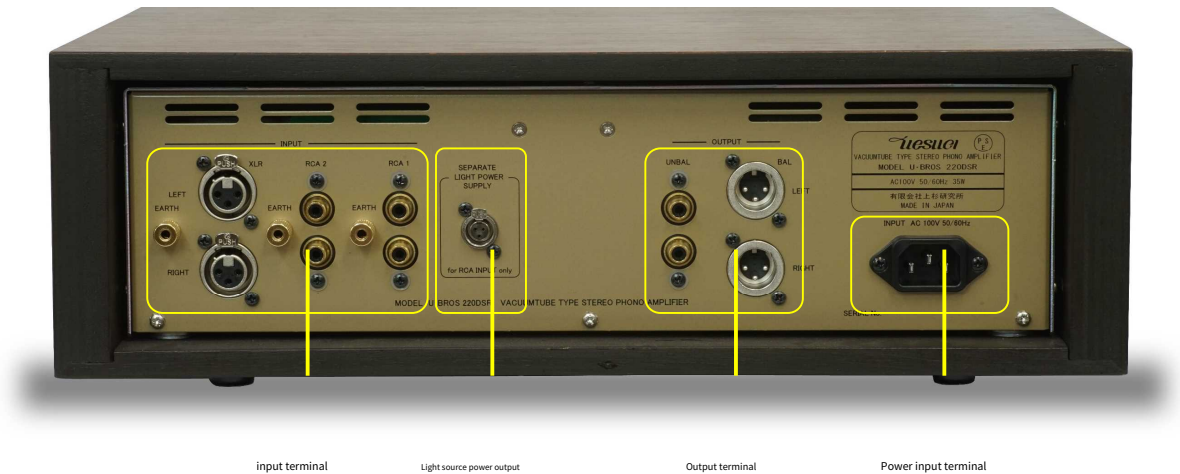
Five. block diagram



6.Product Specifications

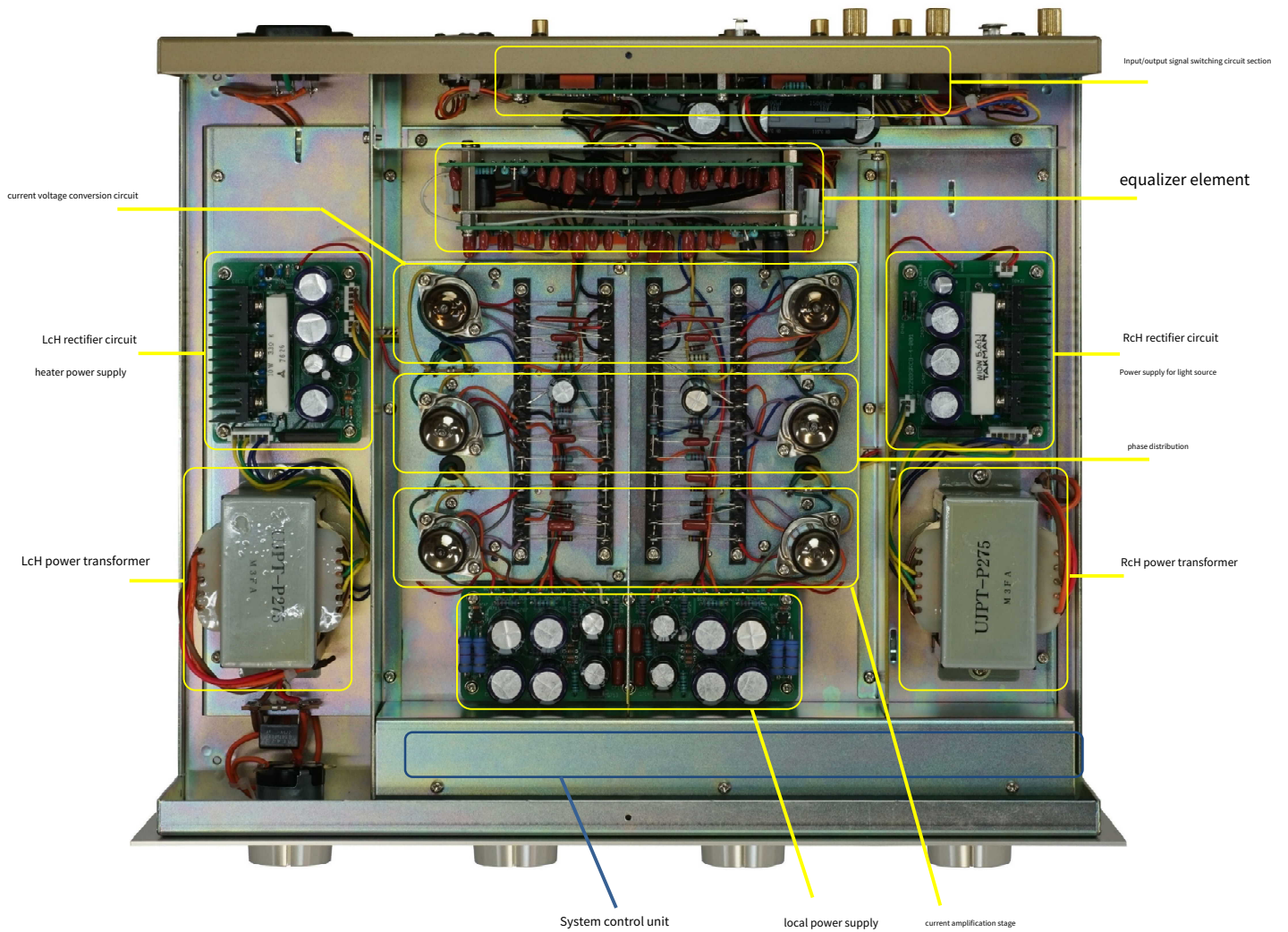
Model number	U • BROS-220DSR	
format	For DS cartridge only	
	Vacuum tube stereo phono amplifier	
input	RCA PIN terminal: 2 systems	
For DS cartridge only	XLR terminal: 1 system	
output	RCA PIN terminal: 1 system	
	XLR terminal: 1 system +2,3 selectable	
DC current external output for light source LED	mini XLR terminal: 5V 90mA floating	
Input sensitivity	5μA	
Current voltage conversion impedance	140KΩ (1KHz)	
voltage gain	23dB Compliant with conventional standards	
Noise performance (A-NET)	80μV residual noise output value	
	- 110dBV input equivalent noise value	
Rated output voltage	700mV	
Frequency characteristics (equalizer deviation)	10~50KHz (within ±0.2dB)	
playback equalizer curve	NAB	2240μ, 318μ, 100μ
	ffrr	1270μ, 318μ, 50μ
	RIAA	3180μ, 318μ, 75μ
	Columbia/LP	1590μ, 318μ, 100μ
	AES	5310μ, 398μ, 63.5μ
function	Light source LED active monitor	
Power consumption (AC100V 50/60Hz)	42W	
External dimensions Width x Height x Depth (mm)	435×146×365	
mass	15.2kg	
accessories	ac power cable	

U • BROS-220DSR back

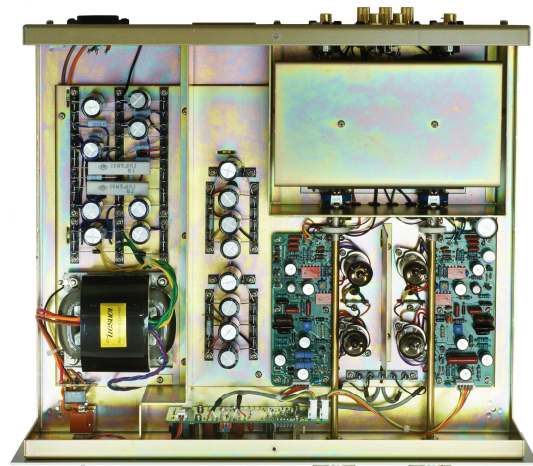


U • BROS-220DSR interior view

Dual mono construction



Reference U • BROS-220DR interior view



[Product inquiries]

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