

# pillowspeaker

ピロースピーカー

July 2020

Updated

More advanced  
speaker drivers

Registered as a  
hometown tax return  
item for Hamamatsu  
City in July 2019

Place it under your pillow. Then  
connect it to your music player.



## Pleasant Sound Quality

The sound is clean and relaxing.  
Very low sound leakage  
and does not interfere  
with your partner's sleep.

Just connect it to  
your music player  
or Bluetooth  
receiver.

No batteries or AC  
adapter is needed.  
Just plug it in  
instead of  
earphones.



Pattern variations are subject to change without notice.  
There is also a plain white one, etc.

33 cm



Warm cover, soft to the touch,  
the "Enshu-Mentsumugi"  
cotton pongee.

We made the best product with  
the traditional fabric from Enshu  
and the latest technology.

Newly developed ultra-thin,  
high quality speaker drivers.

The thickness of the speaker  
driver is just 5.2mm.  
No discomfort even if you put it  
under your pillow.

Our unique WSDD speaker  
technology ensures that the  
speaker's distortion-free, clear  
sound will not fatigue the listener.

5.2mm

## Two choices of specifications



Updated

### 1) PS-21-E (high-efficiency version using a neodymium rubber magnet)

We recommend this one for CD players, some music players and some smart phones with low output. It uses a neodymium magnet with strong magnetic force.

### 2) PS-21-L (using a ferrite rubber magnet)

The sound is a bit quieter than the PS-21-E, but it's loud enough for iOS devices and Bluetooth receivers to get you to sleep.

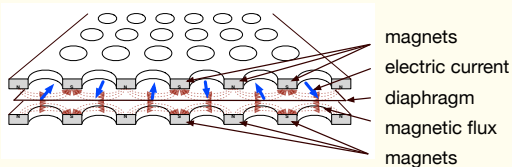
### A CRISP SOUND WITH GOOD RISE IS ACHIEVED.

Driven by a desire to rethink the concept of speakers, our persistence in this area led us to develop a unique technology called the "ultra-thin, Whole Surface Direct Drive (WSDD) Speaker Driver" for high quality sound.

In contrast to popular cone speakers, which convert voice coil vibrations into air vibrations via cone paper, the WSDD system uses a structure that converts vibrations directly from the circuit pattern that generates them into air vibrations, without using cone paper, which causes distortion. As a result, distortion is minimal and transient audio signals are faithfully responded to.

The WSDD speaker drivers are specially constructed to achieve direct air vibration. The magnet is a multi-pole magnetization system with N and S poles arranged at fine intervals. In addition, the magnet itself has holes in it to allow sound to pass through.

### PROTRO's patented technology



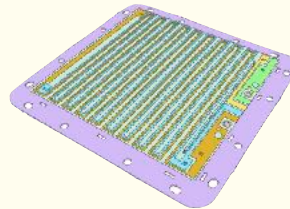
In the figure, the diaphragm vibrates up and down as a result of the vertical force generated by Fleming's left-hand rule when a current flows back and forth through the circuit attached to the diaphragm in the horizontal magnetic flux generated by the magnets above and below.

### Typical cone speaker driver



It is difficult to faithfully transmit the vibrations of the central voice coil to the edges of the cone paper.

### WSDD speaker driver



Vibrate air directly from the entire pattern distributed throughout the diaphragm.

The circuit is integrated with the diaphragm. In order to make it lighter, we use aluminum, which has the smallest product of electrical resistance and specific gravity. As a result, a clear and crisp sound can be reproduced without habits. The base material of the diaphragm itself is also required to be light and rigid.

In order to solve this problem, we have manufactured and used a unique diaphragm material made by laminating aluminum foil to the plastic film of the base material. In particular, the distribution of driving points throughout the diaphragm is the reason for the excellent sound quality in the high frequency range.

The DR-7070 drives at 3mm intervals, a level of fineness not found in any other system.

Newly developed ultra-thin, high-quality sounding speaker drivers are used.

WSDD Speaker Driver  
DR-7070-2



## Main specifications

Code	PS-21-L	PS-21-E
Driver	DR-70702-2 D5212F	DR-7070-2 D5210N
Magnet	Ferrite 1.2mm	Neodymium 1.0mm
Dimensions	33 cm (w) x 19 cm (h) x approx. 1 cm (thickness)	
Material	Cotton (cover), Polyester (inner cotton), Linen (inner bag)	
Cord	1.2m (length), 3.5mm stereo mini (plug)	
Impedance	16 ohms	
Maximum power input	1W (continuous)	

### How to buy

It is only available for sale directly and can be purchased from Amazon Japan.



Pillowspeaker's webpage  
Check it out now!

<https://right-ear.com/ps/buy.html>

Top page : <https://right-ear.com/>

### Recommended Bluetooth receiver



<http://amzn.asia/d/dDIhs32>

If you find the sound too quiet, this portable amplifier is a great choice. You can also buy it from Amazon.

<http://amzn.asia/d/9j6Nae1>

### Users' reviews



Users' reviews on Amazon

<http://amzn.asia/d/8DbRtxK>

This is a listening session with pillow speakers set up on a chair. (Language is Japanese)

[https://www.youtube.com/watch?v=\\_oo-Lq2fAf0](https://www.youtube.com/watch?v=_oo-Lq2fAf0)

