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# The fun of vinyl is here: TEAC TN-5BB vinyl turntable, PE-505 phono amplifier

Ted Chen |September 3, 2020

TEAC recently launched its new flagship vinyl turntable TN-5BB and phono amplifier PE-505. Both new products will be officially launched in Taiwan soon. Prior to this, agents received the only set of sample machines sent by the original factory. Come and have some fun with us. Both



devices are different in terms of functionality. They have moderate playability and good production quality. They are both priced at NT\$57,900. The product quality of TEAC and the after-sales service of the agent Shengqi Audio are quite complete. It is suitable for music lovers who have the budget and want to enter the world of vinyl for the first time.



#### TEAC, a new flagship product,

has launched vinyl turntables for many years. This time, the TN-5BB is considered to be the highest-grade turntable in history. Its specifications are very similar to another flagship turntable, the TN-550. In use, the manual arm lift is changed to The electric arm lift has a speed sensor and will automatically lift the arm and stop the turntable after playing the record. It uses a blade-type tone arm jointly developed with SAEC, and has a new XLR balanced output. The original standard Audio-Technica cartridge Use Ortofon cartridge instead.



It has 1 set of RCA output and 1 set of XLR output.



#### Avoiding vibration is the top priority.

The TN-5BB adopts a three-layer structure. The upper layer of the cabinet is made of artificial synthetic marble, decorated with silver powder. It looks a bit like the starry sky in the dark night when viewed up close. The record turntable and tone arm are installed on the marble. The lower layer of the box is made of MDF material, and contains built-in motors, optical sensors, bearings, circuits and other mechanisms. The high internal resistance and double-layer hybrid design of 12mm thick artificial marble and 36mm MDF can reduce the degree of vibration that affects the needle's ability to capture music information. Different materials can effectively avoid resonance. The weight of artificial marble and MDF alone has reached 8.8 Kilogram. In details, Japanese Japanese paper is added as a contact medium between marble and MDF to achieve the best sound balance. The original manufacturer believes that using Japanese Japanese paper instead of rubber or metal can add liveliness to the sound when playing records.



Put the hammer on.



Install the cartridge cover, which is already locked on the cartridge when shipped from the factory.



Just rotate it and it can be quickly locked, which can be done in three seconds. Even if you are a beginner, it will not be difficult.

#### Complete monitoring and speed support

TN-5BB uses a flat belt drive, which can transmit the motor power to the turntable more evenly. There is an optical sensor at the bottom of the turntable that detects the rotation speed of the

disk and automatically adjusts the motor speed. This rotation induction servo system PRS3 can achieve high rotation accuracy and supports three speeds of 33.3, 45 and 78 rpm. It is no problem to play special 78 rpm records. The 20mm thick translucent acrylic tray weighs 1.7kg, has excellent fluidity and internal resistance, and looks beautiful. Vinyl records are made of polyethylene and are easily negatively charged. Acrylic has the same characteristics. Even if they rub against each other directly, it is difficult to induce electricity. When playing, you can safely place the record directly on the turntable.



Automatic arm raising button. When the light is on, it means that the tone arm has not been lowered. When the tone arm is lowered, the light will go out. Above is the speed adjustment, with a total of 4 levels, static, 33.3, 45, and 78 rpm.



#### The Japanese professional tonearm brand

TN-5BB adopts the blade-type tonearm jointly developed by the Japanese brand SAEC and TEAC. SAEC has 40 years of experience in tonearm design. This tonearm achieves high sensitivity and reliable record groove tracking capabilities. For the laterally movable part, the single-point traditional structure with ball bearings is replaced with two points, and a high-precision ball bearing structure made in Japan is used. The anti-slip adjustment mechanism inherited from the TN-550 is very easy to use, and the TN-5BB also has a tone arm height adjustment (VTA) design with an allowable range of 6mm, which can be adjusted together when using different cartridges.

The anti-slip adjustment mechanism has the same value as the needle pressure of the cartridge. After adjusting the needle pressure, adjust the anti-slip.



Blade-type tonearm jointly developed by SAEC and TEAC.



#### Providing XLR balanced output

The XLR analog output matched with TN-5BB is a highlight this time. It is equipped with Ortofon 2M RED MM phono cartridge from the factory, but users can also use MC phono cartridge on TN-5BB with peace of mind. The best way is to feed the phono stage via the XLR output. For this reason, the agent specially bought an MC cartridge for us to test, so we have the standard MM cartridge and a brand new MC cartridge to listen to. The cartridge cover that can be quickly locked by rotating it is very convenient to replace, but the settings still need to be readjusted, which is an inevitable procedure when playing vinyl records.



The original phono cartridges are already locked on the phono cartridge cover, and are usually set up. After unboxing, you only need to test whether they are accurate, and there is usually no need for adjustment.



Adjust the needle pressure. The standard of Ortofon 2M RED MM is 1.8 grams. It is ideal to set a close value first and then make adjustments after actual listening.



Re-adjust the MC cartridge after replacing it.



It provides XLR balanced output and corresponds to the MC phono cartridge. After completing the basic adjustment of the turntable, fine-tuning must be done through actual listening, so the next step is to unbox the matching phono stage TEAC PE-505. PE-505 is closely matched with TN-5BB in design. TN-5BB has XLR balanced output, while PE-505 has XLR balanced input and can be used with MC cartridges. If these two pieces of equipment are used together, all Basically no functionality is wasted.



On the rear panel of PE-505, you can see 1 set of XLR and 1 set of RCA inputs, 1 set of XLR and 1 set of RCA outputs. Generally speaking, rap head amplifiers are relatively simple, and it is relatively rare to have more than 2 sets of inputs and outputs. The ground terminal is very important for vinyl turntables. Compared with digital products, vinyl turntables are more prone to hum, so using grounding is usually very effective. There is a USB input in the lower left corner for firmware upgrades.



#### Best for use with

PE-505, which has the most abundant functions among phono amplifiers. In addition to XLR and RCA inputs, it can be used with MC and MM phono cartridges. It can also directly and automatically measure when using an MC phono cartridge, and it will emit a 1kHz sine wave. The wave signal measures the impedance of the transmission path from the vinyl turntable to the interior of PE-505, and selects the corresponding impedance value to listen to music. Switching the impedance can only be operated through the knob on the front panel, and it also has the ability to degauss the MC cartridge. function, so the original manufacturer highly recommends using PE-505 with MC cartridges.

#### Three equalization curves are available.

PE-505 also provides three equalization curves for users to choose from, which can be used with different brands of vinyl records, including the common RIAA, DECCA, and COLUMBIA. The latter two are clear record brands. , while other two-channel records can choose the RIAA curve, the deviation is less than  $\pm 0.05$ dB (20Hz to 20kHz), the XLR input reaches a high signal-to-noise ratio of 86dB, the voltage reaches  $10\mu$ V on MM, and  $85\mu$ V on MC, which is among products of the same price range. Among them, TEAC PE-505 can be said to perform very well. If you use a mono stylus, you can also press the MONO button on the front panel to listen to the music. There is also a special SUBSONIC function. Pressing it will turn on the filter with a cutoff of 17Hz and -24dB/oct, which can reduce unnecessary low frequencies when playing deformed records.



#### Measure impedance and choose the correct sound.

The actual operation of impedance measurement is very simple and fast. After turning on the equipment without playing the record, directly press the MEASURE button on the lower right side of the meter. At this time, the light will light up and the meter will remain on for about two seconds. The pointer will display the measured impedance value. At this time, turn the impedance knob on the left to double the measured value (can be slightly larger), but this function is only applicable to MC cartridges. After we replaced the MC cartridge, the measured

value was close to 50 ohms, so we directly selected 100 ohms in the impedance selection. Again, we remind you that the measurement function is only applicable to MC cartridges. When using MM cartridges, please use the reference capacitance value of the cartridge itself as allow. In addition to displaying the impedance value during measurement, the meter will also display the sound pressure of extremely low-frequency signals below 6Hz when playing music. If the sound pressure here is found to be very high, it can be removed by turning on the SUBSONIC function.



#### Degaussing the MC cartridge at any time

is different from measuring impedance, which cannot play records. During the degaussing operation, it must be operated on vinyl records. There is a DEMAG gear on the left knob. When degaussing, first switch to this gear, and then directly Put a vinyl record on it and let it work for 30 seconds to achieve the demagnetization effect. During the demagnetization process, the stylus will be short-circuited and no music will play. PE-505 has two levels of gain selection: high and low. When using it for the first time, you can select low gain and adjust the volume with an amplifier. If the volume is really insufficient, adjust to high gain.



Degaussing is only applicable to MC cartridges. If you are using the original standard MM cartridge, it is not required.

Balanced output is one of the unique configurations of TN-5BB.



The space between the input and output of the PE-505 is quite large, so it is no problem to use fever wires with larger terminal diameters.



#### Japanese traditional craft record mat.

Unpack the brand new Japanese cloud flow washi paper record mat and put it on it and make some adjustments. Washi paper has a three-layer structure. The upper and lower layers are

WASHI paper, which can reduce vibration and static electricity. The center is Stone-paper, 80% of which is made of limestone, which enhances the overall weight and quality. And it can also reduce static electricity. The colors of the upper and lower layers are not the same. One side is darker with obvious patterns, while the other side is almost pure white. In the photo, it is the dark end. The packaging does not specifically say which side is up, and the material is the same, so I chose the pattern. The more obvious dark colors that look nice are facing up.



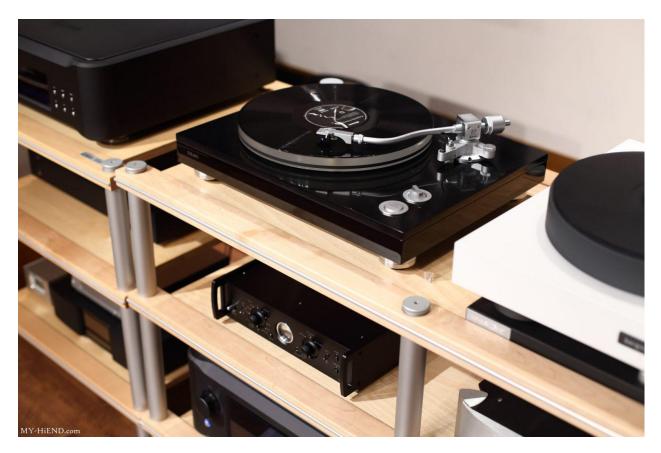
Washi is a traditional Japanese paper made from Mulberry fiber. It has good durability and is widely used in Ukiyo-e prints and currency printing. Yunliu paper is paper pulp made using special technology, and the craftsmanship can be seen from the fiber distribution on it. When the agent originally brought this record, I was worried that I wouldn't be able to feel the change in the sound, but after putting it on, I found that the cohesion and audio-visual outline of the



vocal record I was listening to immediately improved by one level, opening up the gap between the vocals and the background. The distance and the three-dimensional sound and contrast are also more obvious. The agency price is 1,600 yuan. I think it is worth trying.



The whole set is really fun to put together, looks good, sounds good, and is worth it.



#### Rich dynamics and dense sound (Ted Chen)

Listening to Hugh Masekela's "Hope" with excellent dynamic details, everyone may jump to the last song "The Coal Train", but in fact the whole record is very good, even if I play it on vinyl I still keep turning over and changing records to listen to all the tracks. Of course, it is really convenient to have the automatic arm lift. You don't have to rush to the turntable after the



music is played, and you don't have to worry about damage to the stylus. This record is very dynamic. The singer's voice is wild and uninhibited, the bass is detailed, the mids and highs are penetrating, and the various instruments are passionate and unrestrained. It is very comfortable to listen to. It is also the best film for testing equipment. The entire TEAC system is paired with the Esoteric F-03A comprehensive amplifier. The tone is basically neutral to warm. The directness and realism of the analog sound are freely revealed in the dense and continuous sound quality. There is no shortage of low

frequencies, and the penetration of the trumpet is direct. Internally, the beats and taps of the various drum sets are very thick and have a great sense of presence.

#### The rhythm is fast and full of tension.



Let's listen to Rihanna and Jay-Z's collaborative single <UNBRELLA>. The sound effect is actually quite good. I think the sound quality has reached the level of audiophiles. The genre of music is of course another matter, and not everyone can enjoy it. Acceptable, but for young people, this is a good opportunity to try out the difference between listening to such popular music with good speakers and ordinary headphones or what is played in external stores. For audio stores, in fact, they should also look for the following. A new

generation of good records (actually this was also released in 2007) to attract new music lovers. When the TEAC system played this exciting record, it showed the speed, dynamics, and rhythm that the arrangement wanted to convey. I enjoyed listening to it very much. It proved that the TEAC system is capable of both civil and military skills and is not just a small bridge player. Running water. Moreover, Rihanna's voice is actually very good. It can be clear and highpitched, or it can be deep and meandering. Her voice is actually cleaner than many people's, and she is very explosive. She has sang many golden songs, and it is not just her ostentatious style that makes her win. human eyeball.

#### Immerse yourself in a gentle world.



I have listened to this Norah Jones record again and again, through digital streaming files, online streaming, CDs, and vinyl. I still feel that the vinyl record has the most flavor, the most natural voice, and the human atmosphere. Best of all, compared to high-priced digital sources, this set of TEAC vinyl turntables and phono amplifiers are quite cheap, but the atmosphere of this analog sound is the most adequate. The sound has almost no edges and corners, and no carved lines. Norah Jones' tenderness and laziness are naturally formed, and the loose feeling is really hard to find in

digital sources. In fact, for enthusiasts, whether they are senior players with pockets or young players with limited budgets, It's a heavy burden, and what you pay for is a professional and reputable product, not a lost product. TEAC TN-5BB also has room for play. It is not a set that is set in stone. It is actually quite worth investing in.

#### The sound is clean and the rhythm is stable (Emma Lin)

The D side of the album "Kissed By A Song" has a total of four songs, both ballads and light songs. This time, TEAC's newly launched TN-5BB vinyl turntable is used. Played with the phono stage amplifier PE-505, which was launched at the same time. Among the four songs, what impressed me most were the vocals and instrumental music. The vocals were clear and concentrated, and because the background was dark enough, it was more able to bring out the



The small details of the sound and the clean sound quality are more audible. The focus of the second and third instrumental sounds is clear. The beat points and the rhythm of the music are stable. When the percussion instruments play strong and powerful rhythms, the dynamic atmosphere is enough to impress. The whole space reminds me that in the past, when listening to vinyl records, I played softer movies, so my impression of vinyl records always remains a more retro and nostalgic feeling. This time, through the TEAC system, I can Vinyl records have added to my different listening sense, and this time the original factory has a

new thing that I have never seen before, that is Japanese Yunliu and paper record pads. The appearance and pattern are very beautiful, so beautiful. People have been staring at it for a long time, and can still see slight fiber lines. Its function is to reduce vibration and static electricity, but at first I was quite confused that such a thin thing can really change the sound? So I tested it. The difference between playing with and without playing is actually very obvious, especially the change in the vocals. The vocals are more condensed and calmer.

#### **TEAC TN-5BB vinyl turntable focus**

- TEAC's new flagship grade vinyl turntable
- Three-layer solid structure box, reducing the impact of vibration and static electricity, natural sound
- Jointly developed with SAEC blade-type tonearm, the head cover is quick and easy to install
- PC Triple C conductor tone arm cable
- Double-point tone arm bearing mechanism
- Quick anti-slip adjustment mechanism
- Acrylic material turntable, not prone to static electricity
- Real-time speed monitoring and adjustment motor design, corresponding to 33.3/45/78rpm
- XLR balance and RCA Unbalanced analog output
- Suitable for MM and MC cartridges
- VTA and arm lift heights are adjustable

#### TEAC PE-505 fully balanced phono amplifier focus

- Fully balanced circuit design
- Suitable for MM and MC phono cartridges
- Equipped with XLR balanced input and output, RCA unbalanced input and output
- Automatic detection of phono cartridge and transmission path impedance
- Front panel knob Impedance and capacitive reactance settings can be switched
- MC cartridge degaussing function
- SUBSONIC low-frequency noise filter
- Three record equalization curves available

#### **TEAC TN-5BB vinyl turntable specifications**

- Drive system: High-precision detection and control belt drive
- Motor: DC motor
- Speed: 33.3rpm, 45rpm, 78prm
- Noise (Wow and flutter): 0.1% or less
- Bearing: Acrylic, diameter 30cm
- Tone arm form: static balanced S type
- Effective arm length: 223mm
- Available cartridge weight: 4.0 to 13 g
- Overhang: 18mm
- Adjustable tone arm height: about 6mm

- Standard Equipped with cartridge: MM
- Output voltage: 5.5 mV (1kHz, 5cm/s)
- Needle pressure: 1.8g
- Cartridge weight: 7.2g
- Weight including cartridge cover: 10g
- Needle model: Ortofon 2M Red
- Output: Balanced XLR x 1 pair, single-ended RCA x 1 pair
- Power requirements: AC 100 to 240V, 50/60Hz
- Power consumption: 2.0W or less (standby 0.3W)
- Dimensions (W×H×D): 450 × 148 × 351 mm (when the dust cover is closed)
- Weight: about 10.5kg
- Pricing: NTD 57,900 (please contact the agent for the latest price)

#### TEAC PE-505 fully balanced phono amplifier specifications

• Total harmonic distortion (rated output, 1kHz, low gain) RCA input (MM): 0.002%

RCA input (MC): 0.02%

XLR input (MC): 0.02%

• Residual Noise voltage (Input short, low gain, IHF-A)

RCA input (MM):  $10\mu V$ 

RCA input (MC): 65µV

XLR input (MC): 85µV

• Signal-to-noise ratio (Input short, rated input, low gain, IHF- A)

RCA input (MM): 106 db

XLR input (MC): 86db

- RIAA deviation (20Hz to 20kHz): ±0.05 db
- Unbalanced input: RCA (MC/MM compatible) × 1 pair
- Balanced input: XLR( MC) × 1 pair
- Power supply: 120V, 50/60Hz, 230V, 50/60Hz
- Dimensions (W × H × D): 290 × 84.5 × 252.5 mm
- Weight: 4.5kg
- Price: NTD 57,900 yuan (please check the latest price (Contact agent)

#### General agent Winkey Audio: <u>http://www.winkey-audio.com.tw</u> / TEAC: <u>https://teac.jp/</u> For more TEAC reports, please click here