

## Analog Turntable TN-570 / TN-550



High-grade turntable that combines style with excellent specifications including a dual material chassis and "P.R.S3".

### ■Main functions

- 45 and 33-1/3 rpm 2-speed Cogging-free Belt Drive Turntable
- "P.R.S3" Platter Rotation Sensing Servo System for Precise Rotate Speed
- Sleek Resonance-free Multi Material Compound by Marble Stone and High-density MDF
- Crystal Clear Acrylic Platter with Perimeter Belt Drive
- Anti-skating Adjustment, Weight Control and height Adjustable Feet
- PHONO/Line Outputs with PHONO EQ Amplifier (TN-570)
- Digital Output up to 24-bit/192kHz via Optical, or 16-bit/48kHz via USB (TN-570 only)

	  	
Brand	TEAC	
Series	Turntable	
Model Name	TN-570	TN-550
Color	Black Marble	Black Marble
Main Unit Dimensions Weight	420 x 131.5 x 355mm / 16 5/8 x 5 1/4" x 14" (W x H x D) 9.0 kg / 19 7/8 lbs.	
Package Dimensions GW	545 x 214 x 452mm (W x H x D) 11.3kg	

## ■ Overview

The TN-550 and TN-570 are model designed with the concept of combining high style with excellent basic functionality as an analog turntable. These turntables will allow everyone to appreciate the goodness of analog audio, from those who have loved it for a long time to entry-level users who have just begun to have a real interest. The cabinet combines artificial marble with high-density MDF in a two-layer sandwich structure (dual material chassis).

In addition to assuring a high feedback margin, this design realizes clear sound by abating the inherent resonant frequencies of different materials by combining them. The drive method used combines a belt drive with an automatic rotation adjustment mechanism (PRS3) designed by TEAC. Changes in the platter rotation are detected by a sensor and used as feedback for the motor rotation. This allows high rotation precision that can compete with heavyweight-class belt drive and direct drive systems, while allowing a slim and stylish platter to be used.

For TN-570, with a Phono EQ (MM type) and an A/D converter built-in, the optical digital connector that can output digital audio signals with high resolutions up to 192kHz/24-bit is another major feature. With this turntable, we provide new hybrid ways to enjoy listening to analog audio sources using both analog and digital audio technologies. Possibilities include experiencing how audio qualities differ according to the connected D/A converter and recording music as files on a computer. No compromises, however, have been made in the design of the fundamental performance of the analog components. For example, electronic circuits have been shielded, and the small impact of the noise that they generate on phono signals has been thoroughly minimized.

\*48kHz/16-bit is the maximum for USB output.

## ■ High rotation precision that compares to direct drive (DD)

### ● Platter Rotation Sensing Servo System (P.R.S3)

This drive system detects changes in the platter rotation position and controls motor rotation with a microcomputer, realizing a belt drive mechanism with precision that is not outdone by direct drives (DD). We have achieved both a thin and stylish form and rotation precision that compares to a direct drive.



By applying carbon coating to the spindle bearing, hardness is increased and electrification is controlled, providing excellent static electricity performance.

### ● Motor section with a floating structure

Using a rubber cushion, the motor is made to float when attached to the chassis. This suppresses the transmission of vibrations from the motor to the chassis.

### ● Flat-type Belt

A flat belt is used to reliably transmit energy to the motor drive. A polyurethane flat belt that has little stretch is used to reliably drive the acrylic platter. It is also very quiet and provides excellent durability.

### ● Two-speed Belt Drive

The two-speed adjustment mechanism (45 and 33-1/3 RPM) uses an electronic control switch.

The switch uses an electronically-controlled two-speed adjustment mechanism. Even when playing records with different rotation speeds, there is no need to change the belt.



### ● Clear acrylic platter that merges elegance with silence

The clear acrylic platter, which is about 16 mm thick, suppresses unwanted sympathetic vibrations. The platter, which is made of acrylic resin with high transparency, shines beautifully, reflecting the surroundings according to the light level. Together with the pattern of the artificial marble, it presents a unique elegance.

### ● Chassis with two-layer structure realizes both weight and style

The cabinet uses artificial marble with high-density MDF in a two-layer



sandwich structure (dual material chassis). By using different materials in a two-layer structure, this design abates their inherent resonant frequencies and realizes a clear sound, allowing the artists voices, which are inscribed in the grooves of the record, to come out vividly.

The artificial marble not only contributes to the elegant appearance, it is also excellent in terms of weight, allowing the turntable to realize a heaviness of about 9 kg while retaining a slim and stylish form. While it has a rigid structure, it is also able to assure a high feedback margin.

- **Honeycomb-shaped Bottom Case**

The bottom cover uses a honeycomb structure that prevents unwanted sympathetic vibrations.

The thin bottom cover, which melds into the stylish design, uses a honeycomb structure for the interior to prevent unwanted sympathetic vibrations.



- **Height Adjustable Feet**

The four cut aluminum feet can have their heights adjusted independently. This allows the turntable to be set up on surfaces that are not flat. In addition, rubber with excellent cushioning is used between where the feet are installed and the body of the unit to suppress the feedback of sound to the cabinet.

- **Newly-designed tone arm section with Anti-skating mechanism**

The static-balanced S-shaped tone arm features height adjustability. You can adjust the tone arm optimally for the shell and cartridge you are using. Also, a high-quality PC-Triple C\* conductor is used for the tone arm cable, so that the phono signal captured by the needle from the delicate record is transmitted with pure quality.

- **MM type Cartridge Installed**

An Audio-Technica AT100E (MM type) cartridge, which is widely regarded for its audio quality, comes pre-installed in the included headshell. At the point where the tone arm and headshell connect, a gold-plated connector is used to prevent oxidation, which can degrade audio quality.

- **Universal type headshell**

Universal type headshell enables easy cartridge exchange

\*PC-Triple C stands for "Pure Copper-Continuous Crvstal Construction" and allows signals to flow smoothly by eliminating signal obstructions. With high conductivity and excellent sound characteristics, this new material is expected to become a replacement for PCOCC. (It is made in Japan by FCM, a subsidiary of Furukawa Electric Co., Ltd.)

## ■ Extra Features of the TN-570

- **Phono equalizer amp compatible with MM cartridges built-in**

Since a phono equalizer is built-in, records can be enjoyed by connecting this turntable directly to amplifiers that do not have phono inputs. In addition, the phono equalizer uses an NJM8080 op amp made by the New Japan Radio Company. This op amp is designed to provide high audio quality. The detailed analog signal transmitted from the cartridge is restored to the original signal with low distortion and without loss.



- **USB digital output (48kHz/16-bit maximum)**

An A/D converter made by Texas Instruments is used. CD-quality PCM digital audio data (48kHz/16-bit maximum) can be sent through the USB port to a computer where it can be saved. Preserving your precious record collection by creating digital archives also allows you to enjoy your music in a variety of places. You can, for example, transfer recordings to your digital audio players or put them on CD-R discs that can be played back on car stereos.

- **Optical digital output (switchable to 192, 96 and 48 kHz/24-bit)**

With a high precision A/D converter made by Texas Instruments, optical digital output at 192kHz, 96kHz or 48kHz and 24-bit is possible. In addition to being able to connect your own D/A converter to enjoy the change in sound, by connecting the digital outputs, which are superior in resisting signal degradation compared to analog connections, you can enjoy clearer audio.

## ■ Comparisons with competing turntables

### ● P.R.S3 belt drive

The AC synchronous motors used by the Pro-Ject Debut Carbon Esprit and music hall mmf-5.1, which are in the same price range, seek to make the rotation precision of the motor itself accurate. However, the moment of inertia of the platter and the bearing precision have a great effect on the rotation of the platter itself. In comparison, the TN-570 constantly checks the status of the rotation of the platter itself using an optical sensor. This provides feedback to the rotation of the motor so that it can maintain an accurate rotation speed in response to its status (servomotor). In summary, we have been able to realize rotation precision with a belt drive that is almost the same as with a direct drive.

### ● Height-adjustable tone arm and detachable headshell

Models from other companies in the same price range do not include height-adjustable tone arms. The headshell of the TN-570 can be replaced, so you can enjoy differences in sound by actively using multiple cartridges. It has been designed with a height adjustment function to allow it to handle cartridges with different heights at these times.

### ● Electronically-controlled speed switch

The platter must be removed and the belt replaced in order to change the rotation speed when using models in the same price range made by other companies. With the TN-570, you can easily change the rotation speed just by using the switch. This allows you to play records of different rotation speeds with ease.

### ● Dual material chassis combines different materials

The dual chassis made of artificial marble and high-density MDF simultaneously achieves both stylish looks and improved vibration resistance. By using two materials with different resonance frequencies, unwanted sympathetic vibrations are greatly abated.

### ● Clear acrylic platter

In models by competitor companies, using a completely pure clear acrylic would allow the pulley and rotation base, which are unattractive, beneath the platter to be clearly seen. In contrast, the TN-570 uses a belt around the platter itself to turn it, so using a completely clear platter only allows the bearing to be seen. For this reason, you can enjoy the attractive appearance of the cabinet base made of artificial marble.

### ● Why a belt drive rather than a direct drive?

#### Reason 1

The impact of cogging with a direct drive is extremely large. Cogging is a phenomenon in which the periodic attraction of the armature and rotor inside the motor is dependent on the rotation angle, resulting in a fine pulsing. For example, if you turn the axle of a motor with your hand, you should be able to feel the rotation occurring in steps. This phenomenon is cogging. Downsides of direct drives are that they require special circuits to achieve smooth rotation and their structures are complex.

Since rotation can be started and stopped quickly, however, direct drive turntables are always used for DJ applications.

#### Reason 2

A motor with a large number of poles is necessary to achieve smooth rotation of a direct drive (by suppressing the impact of cogging). As a result, the motor itself must be huge, and this prevents making the cabinet thin. (This is far from a stylish appearance.)

Considering these points, the turntable with a Platter Rotation Sensing Servo System used in the TN-570 can be said to be the ideal type because it achieves both high revolution precision that is close to that of a direct drive and the smoothness of a belt drive.

## ■ Features at-a-glance

- 45 and 33-1/3 rpm 2-speed Cogging-free Belt Drive Turntable
- "P.R.S3" Platter Rotation Sensing Servo System for Precise Rotate Speed
- Sleek Resonance-free Multi Material Compound by Marble Stone and High-density MDF
- "Onyx Emperador" Black Marble on Piano Black Cabinet
- Honeycomb-shaped Bottom Case
- Crystal Clear Acrylic Platter with Perimeter Belt Drive
- Anti-skating Adjustment and Weight Control
- Chrome Finished Tone Arm Lifter
- Static Balanced S-shape Tone Arm with Height Adjustment
- Height Adjustable Feet with Machined Aluminum Fascia
- MM Cartridge, Head shell
- PHONO/Line Outputs with PHONO EQ Amplifier (TN-570 only)
- Digital Output up to 24-bit/192kHz via Optical, or 16-bit/48kHz via USB (TN-570 only)

## ■ Specifications

### Turntable section

Type	Belt-drive
Motor	DC Servo Motor with "P.R.S3" technology
Rotation Speed	33-1/3, 45 RPM
Rotation Detection Precision	< +/-0.05% (33-1/3 rpm)
Wow and Flutters	< 0.1%
Signal-to-Noise Ration	> 67dB

### Outputs (TN-570)

<u>Analog Output</u>	
PHONO	RCA Pin x 1 pair
Line	RCA Pin x 1 pair (compatible with PHONO out)
<u>Digital Output</u>	
Optical	TOS-link x 1 (24-bit/192kHz)
USB	USB B-type x 1 (16-bit/48kHz)

### Outputs (TN-550)

<u>Analog Output</u>	
PHONO	RCA Pin x 1 pair

### PHONO EQ Amplifier (TN-570 only)

Type	MM-type PHONO EQ Amplifier
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### Cartridge (TN-570/550 US version only)

Cartridge	MM-type Installed (audio-technica AT100E equivalent)
Head Shell	Universal-type Installed

### General

<u>Operating Power</u>	
UK/Europe model	AC 220–240V, 50Hz
US/Canada model	AC 120V, 60Hz
<u>Power Consumption</u>	
Standby	0.2W or less
On	0
	33
	45
Overall Dimensions (W x H x D)	16.5" x 4.7" x 13.4" / 420 x 120 x 340 mm
Weight	19 7/8 lbs. / 9.0 kg
Operating temperature	+5° C to +35° C
Operating humidity	5% to 85% (no condensation)

Storage temperature	-20° C to +55° C
Included Accessories	Dust Cover, AC Adapter, Power Cord, RCA Audio Cable, Felt mat, Head shell, Cartridge Owner's manual × 1 (incl. Warranty Card)

Specifications and appearance are subject to change without notice.  
Weight and dimensions are approximate.

## ■ Rear Panel

TN-570 (top). TN-550 (bottom)

