



## Reflectone part 2

Introducing the "Reflectone" pickup development story—a breakthrough in achieving crystal-clear sound with exceptional note separation. By minimizing unwanted distortion to the extreme, it greatly expands the possibilities of tone shaping with amps and effects. Born from countless prototypes, this is Yamaha's original pickup co-developed with Rupert Neve Designs. Now, we take you behind the scenes of its development.

Models: Pacifica Professional/Standard Plus

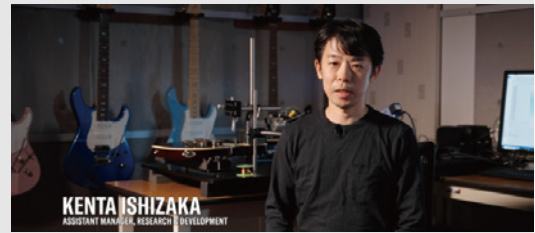


## Behind-the-scene Development Stories

### Deeper stories with the developer

#### —Kenta Ishizaka Biography —

- 12 years researching electric guitars at Yamaha.
- While focusing on the design of guitar bodies and studying their acoustic properties, he also attended workshops to learn guitar-crafting techniques.
- In addition to enjoying guitar performance as a hobby, he has experience as a performing musician.

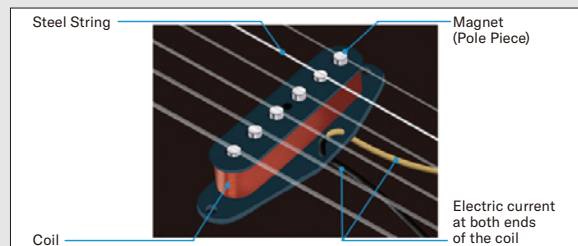


#### —What key pickup features would you confidently highlight from a developer's perspective?

I am confident in highlighting two key features of Reflectone. First, we have successfully **amplified high-frequency signals** without degradation. Second, we have **minimized the distortion** inherently produced by pickups to an extreme degree, achieving an exceptionally clear sound. This allows musicians to add their preferred level of distortion later through amplifiers and effects, giving them **full control over the finer details of their tone**.

With conventional magnetization methods, excessive distortion is often unavoidable. However, by thoroughly analyzing and optimizing both the materials and the magnetization process, we have achieved an ideal sound with minimal distortion.

As a result, when playing chords, **the fundamental tone remains distinct, and each note is clearly separated**. We take pride in having developed a **highly versatile pickup** that is easy to use across a wide range of genres and playing styles.



#### \*The process of magnetizing the magnets inside the pickup.

A pickup works by using magnetism to convert string vibrations into an electrical signal. The strength and direction of the magnetization have a big impact on the volume and tonal characteristics of the pickup. By adjusting the magnetization so that the magnets accurately capture the string vibrations, **the sound quality can be fine-tuned to match the player's intended tone**.

#### —What aspects did you focus on the most during the pickup development?

We paid meticulous attention not only to the coil shape and winding method of the pickup but also, in particular, to the **magnetization process\***. Over four years of development using electromagnetic field analysis technology, we produced **more than 200 prototypes**.

The way sound distortion is perceived varies significantly depending on the magnetization method and procedure. Dennis, chief engineer with extensive expertise in electromagnetism and transformer technology, from Rupert Neve Designs meticulously performed this process by hand, incorporating a wealth of artisan expertise. **Yamaha scientifically analyzed** this know-how, **translating it into numerical data** to discover a magnetization method that minimizes distortion. It is this dedication to detail that underpins the exceptional sound quality of our pickups.



Photo of manual magnetization process by Dennis