

## Atmosfeel Part 2

In this article, we'll explore how the Atmosfeel pickup system preserves an acoustic guitar's natural tone, even through amplification.

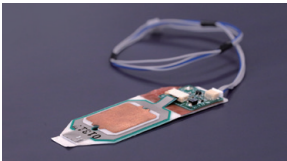
### Preserving natural acoustic tone, even through amplification

#### Each Pickup Captures Every Subtle Nuance

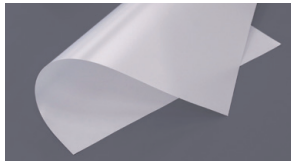
Atmosfeel is more than just a system of three pickups. **Each pickup is meticulously designed to reproduce the guitar's natural acoustic tone.**

##### Contact Sensor

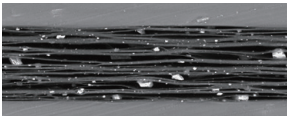
The newly developed contact sensor (Image 1) captures high frequencies that traditional pickups often miss, **preserving the instrument's authentic sustain.** The secret at its core is **Yupo® paper**, a lightweight and flexible material with a multi-layered structure reminiscent of a puff pastry (Image 2, 3). Acting like a spring, it expands and contracts in response to the subtle vibrations of the guitar's top. These movements generate electrical signals that are then converted into sound. This allows Atmosfeel to **detect even the most delicate vibrations** to produce shimmering highs with remarkable clarity.



Contact Sensor (Image 1)



Yupo Paper (Image 2)



Cross-Section of Yupo Paper (Image 3)



Find more details

##### Under-saddle Pickup and Microphone

The under-saddle pickup, built upon a refined proprietary design, delivers powerful and resonant midrange tones.

The microphone uses a MEMS device, the same technology found in smartphones, known for its precision and durability.

Atmosfeel doesn't rely on standard components. **Every element is meticulously crafted with care**, allowing players to experience the same authentic sound as if played unplugged.

#### Bringing Out the Full Character of Each Model

Most pickups are designed with a one-size-fits-all approach, overlooking the unique tonal qualities of each guitar. Atmosfeel takes a different path **by carefully balancing volume and EQ to match the character of every model.**

##### FG9 RX: Bright, Resonant Highs

For example, the FG9 RX features Indian rosewood, prized for its bright and resonant highs. **The contact sensor is designed to capture those bright overtones, while cutting harsh frequencies to produce a smooth timbre.** As a result, the wood's natural radiance is fully preserved, even when amplified.

##### FG9 MX: Rich, Powerful Mid-range

By contrast, the FG9 MX features African mahogany, celebrated for its rich, powerful midrange. Here, **the under-saddle pickup takes the lead, emphasizing warmth and depth. Muddy frequencies are greatly reduced while those that add clarity and attack are enhanced,** delivering a bold, well-defined sound that stands out when amplified.

	FG9 RX	FG9 MX
Characteristics when unplugged	Brilliant, shimmering highs	Powerful, resonant midrange and low-end
Tone Shaping and EQ	<ul style="list-style-type: none"> <li>- Enhances the role of the contact sensor for high frequencies</li> <li>- Cuts harsh high-frequency tones</li> </ul>	<ul style="list-style-type: none"> <li>- Enhances the role of the under-saddle pickup for mid and low frequencies</li> <li>- Emphasizes frequencies that improve attack and clarity</li> <li>- Cuts frequencies that cause muddiness</li> </ul>

Atmosfeel goes beyond simple amplification. **Using precise calibration for each model**, it ensures that the guitar's performance retains its authentic feel and sound, fully capturing the instrument's natural character when plugged in.

### Innovation Only Yamaha Can Achieve

The ability of Atmosfeel to preserve natural tone even through amplification comes from the unique capability of Yamaha as a company. For more than five decades, Yamaha has been developing pickups, **building upon a wealth of expertise.** Beyond guitars, Yamaha designs electronic devices and professional audio equipment, **bringing fresh ideas from a wide range of disciplines.** In fact, the contact sensor incorporates technology originally developed for other Yamaha products. Atmosfeel is an innovation only Yamaha could achieve, **combining decades of development experience, advanced engineering, and a mindset unbound by convention.**

