

# FIRST EFFECTS: TREM FATALE

**THOUGH IT'S IN COMMON USE TODAY, TREMOLO STARTED OUT AS LITTLE MORE THAN A NOVELTY. THE FIRST PERSON TO SHOW THE WORLD WHAT THE EFFECT COULD DO WAS BO DIDDLEY, THE FIRST TRUE ROCK 'N' ROLL MAVERICK**

Announcing his arrival with the typically modest and restrained debut platter, 'Bo Diddley' (backed by the crunching blues groove of 'I'm A Man'), the man they call **The Originator** changed everyone's perception of what you were allowed to do with an electric guitar. His strumming Afro-beat rhythm on this track took the rhythm guitar shaking and screaming all the way to the forefront of the rock 'n' roll sound, influencing a generation of guitarists and changing the course of rock history in the process.

The pounding rumba rhythm that Bo used on tracks like 'Bo Diddley', 'Mona' and 'Pretty Thing' has come to be known as the Bo Diddley beat. This infectious "shave and a haircut, two bits" rhythm has cropped up on numerous records, such as Buddy Holly's 'Not Fade Away', U2's 'Desire', Guns N' Roses' 'Mr. Brownstone' and The Smiths' 'How Soon is Now?'. Listening to Johnny Marr's tremolo-drenched guitar on this last cut reminds us of how important tremolo was to Diddley's sound, the pulsing effect adding a steamy, swampy quality to that relentless jungle rhythm.

## SHAKING ALL OVER

The trem effect that Bo used back in 1955 was a DeArmond Model 60 Tremolo Control (sometimes abbreviated to 'Trem-Trol'). The device had been around since 1948 and was among the world's first production effects boxes – it just hadn't had time to find its musical niche. You've got to remember that

these were the early years of the electric guitar and any kind of effect would be viewed more as a curiosity than a staple part of a player's setup. In fact, DeArmond did not even market their tremolo unit solely to guitar players. Original adverts for the Trem-Trol stated that the box worked very well with harmonicas and accordions and that, "three trumpets with tremolo make a pleasing novelty"!

Records pre-1955 did of course feature tremolo, but these early records used the tremolo sound in a very mild way. Gibson had been producing amps with tremolo since the GA-50T in 1948, while Danelectro and Premier had also been producing them since the early '50s. Fender would follow suit with the Tremolux amp in 1955.

Tremolo was probably used in blues more than anything else. One notable recording is *Flood* by Muddy Waters from 1953, also recorded at Chess, with Muddy wielding a nice tremolo tone for the track's duration. But Bo Diddley's use of tremolo on those early records is something else altogether.

## HOMEGROWN TONE

What's even more amazing when it comes to Bo Diddley is that he was not only the first to commit tremolo to record in such an extreme way, he also invented his own tremolo box before he knew anything about DeArmond's unit. He just heard sounds in his head that he wanted to replicate.

"I was breaking up the sound before I bought one," Bo tells us,



The DeArmond Tremolo Control, as featured on the 1955 single 'Bo Diddley'

over the phone from his Florida pad, still as passionate about rock 'n' roll at 78 years old as he ever was. "The wobbling whomp, whomp, whomp – I was doing that before. I built my first one in Chicago and didn't know what I'd built. I was looking for something to break up the current to make it go whomp, whomp, whomp, but I didn't know what the hell I was doing!"

And what kind of advanced electronic gadgets did Mr Diddley use to make his dream come to life? "I found some old automobile parts in a garbage can," says Bo, laughing, "and I welded them all to an old wind-up clock. We didn't have electric clocks then. We just had old wind-up clocks – old Big Ben clocks – and I made the thing out of that. It worked. I had to keep stopping to re-wind the clock, because it didn't work too good. But I did succeed!"

As you can imagine, this crazy design also made a hell of a lot of noise when Bo plugged it in between his guitar and amp while busking with his band, the Langley Avenue Jive Cats, on Chicago's street corners. But when Bo's lead guitarist Jody Williams bought a DeArmond Trem-Trol and decided he couldn't do much with it, Bo bought it from him. It was just the sound he'd been trying to get from his own inventions, but it worked a whole lot better, and in a wholly different way. ▶

Tremolo







■ A small motor shakes this tiny canister of Windex to create the tremolo effect

"It had a little jar with some mercury in it," says Bo, "It had mercury in it and a motor shook it around and [the liquid] made contact with one end of the wire and then the other one. That's what gave it the goddamn tremolo!"

In fact, Bo Diddley, like many other DeArmond Tremolo users, has actually got it wrong here (no disrespect meant, Bo!). Over the years, the story somehow evolved that the liquid in the canister was mercury. It wasn't until the 1990's that the myth was dispelled by valve amp enthusiast Dan Formosa. So what was the high-tech liquid shaking all over that current? Believe it or not, it was good-old Windex-brand window cleaner.

### WHEN I'M MAKING TREMOLOS

"I just couldn't see a company in America in the late-1940s producing a non-field glass switch filled with mercury, because mercury is dangerous," Dan tells us. "Also, the tremolo units dry out, so I thought 'where does the Mercury go?' I just couldn't see it. "Then I heard this rumour second-hand from someone who used to



■ Diddley daddy: now 78, Bo shows no signs of slowing down

### FENDER BENDER

#### TREMOLO & VIBRATO: WHICH IS WHICH?

■ There is often confusion among guitar players when it comes to the terms 'tremolo' and 'vibrato', but it's really pretty simple.

Tremolo involves a variation in the volume of the signal while vibrato involves a variation in pitch. The confusion between the two is actually attributable to Mr Leo Fender (although there's a lot we have to thank him for as well), who called the whammy bar on his early guitars a 'tremolo arm' when effectively it produced a vibrato effect, while the tremolo effect he fitted to his amps was labelled 'vibrato'. Nobody really knows exactly why he did this, but perhaps he wanted to differentiate his new fulcrum 'tremolo' bridge from the Bigsby vibrato.

work at DeArmond in Ohio," Dan explains, "and he said that the liquid was Windex. Six months after I bought my DeArmond tremolo, which didn't work, I thought, 'What the hell - I'm going to try Windex!' I did some experiments with a glass of Windex and an oscilloscope and I found that Windex transmitted the signal with zero loss. It took me 15 minutes to restore the unit that first time!"

As Dan explains brilliantly on his website - [www.danformosa.com/dearmond.html](http://www.danformosa.com/dearmond.html) - the sides of the canister are earthed while the signal from the guitar is connected to a contact that sits above the level of the fluid. As a motor shakes the canister, the liquid periodically splashes onto the contact, completing the circuit and lowering the level of the signal: simple. Dan has now made it his mission to share his findings with the world. Many DeArmond units have been ruined and lives put at risk by eager guitar beavers trying to fill them with liquid mercury.

### THE ORIGINATOR

It is this unique liquid-based design that gives the DeArmond tremolo that spacey, underwater sound as typified by the mighty Diddley back in 1955. But it was his imagination and ability to completely ignore convention that should really take the credit. With his debut single and its follow ups, Bo influenced a whole new generation of tremolo-infested guitar music, from surf and rockabilly to psychedelic rock and beyond. Who knows: without Bo Diddley, the humble tremolo might have ended up dumped in the trash can of history. **GB**

■ Our thanks to Dan Formosa for the photographs of his DeArmond Tremolo. Check out Dan's site at [www.danformosa.com/dearmond.html](http://www.danformosa.com/dearmond.html)