



ACME GUITAR WORKS ToneShaper

BY KENNY RARDIN

ToneShaper loaded pickguard with Grosh pickups.

When I received a black Stratocaster with a maple neck for review, I wondered at first why it had come to me. Then I turned it over to the back of the guitar. It looked like a miniature alien colony had moved into the rear-routed cavity of this Strat. A red plate inside boasted numerous DIP switches and connection blocks. It was fastened to the guitar by the usual pots in the pickguard, as well as the five-position switch. Also included was an eight-page manual. It looked like I was going to be in for some work this time.

What Is It?

Perusing the manual, I discovered that this was a revolutionary new type of switching system for the Stratocaster. Its design and purpose was to allow every possible switching scenario to be accomplished merely by switching the various DIP switches to their proper positions. I have been modifying Strat-type guitars for many years and have done all of the wiring schematics covered by this unit. How many times, though, did a client and I wonder whether we'd really chosen the right one for their needs? Often I re-opened their guitars and changed the circuit only to

discover that the way it had formerly been wired was the one they really liked best.

Then there's the subject of the tone capacitors. This also has been of great interest to me through the years. I noticed that certain caps in some older guitars had drifted from their original specs when they were installed. I charted the new changed values and over the years came up with some capacitor values that my clients and I found pleasing. I even created a box with all of these values and made them selectable. In this box I had switches for the capacitor and resistor networks that solved the problem of treble loss when turning down. Finally, in my box I had selectable pot values. I could fully design the electronics package for any guitar with this little box. Unfortunately there was a downside to my box: I had wires hanging out of it and it was a hassle to use it. My cap values were somewhat limited as well. Now we have the Acme Guitar Works ToneShaper.

How Does It Work?

The unit contains DIP switches that allow for various ways of assigning tone controls to the

pickups. Using one Volume and two Tone controls, they are as follows: Volume, Neck Tone, Middle Tone (stock); Volume, Neck tone Middle + Bridge Tone; Volume, Neck Tone, Bridge Tone; Volume, Neck + Middle tone, Bridge Tone; and Volume, Middle Tone, Bridge Tone.

Blender wiring (Volume, Master Tone, Blender knob) allows the extra combinations of the neck and bridge pickup together (great middle position Tele tone) and all three pickups on. In the past, I have used both a knob to blend the pickups and push/pull switch.

There's also series/parallel and SSH wiring. Strat and Telecaster pickups are normally wired in parallel when both on. This yields the clear and beautiful but spanky tones we're familiar with. Humbucker pickups are wired in series, adding the output of the two coils together for more power and output. This increases the punch and midrange for more rock and power blues tones. Now, with the ToneShaper's series/parallel wiring, both sounds are available with the turn of a knob. If you have an actual humbucker pickup in your bridge position, the SSH wiring provides three ►►

ToneShaper

wiring scheme options, all of which auto-tap the humbucker in position two of the switch.

The Capacitor Thing

The ToneShaper has DIP switches to assign any cap value to each of the two Tone controls. It can also be set for no capacitor. What this means is that you can still have the bright, spanky tone on the bridge or bridge/middle pickup settings, but huge SRV-type tones on the neck pickup. Some players don't use the tone controls on their Strats very much, and always leave them full up. The fact is that the tone circuit is a tone modifier even when it's

all the way up. The capacitor value coupled with the resistance of the tone pot makes a filter network that radically affects the highs and mids. Try disconnecting the tone circuit from your guitar and check out the increase in treble and harshness. Some companies have a no-load tone control, which does this at the full end of the pot using a little detent or notch that effectively cuts out the tone control. The function of having no tone control is also available on the ToneShaper, if desired.

The ToneShaper provided the following cap values: .015, .022, .033, .047, and .1 μ f.

These may be selected, or the values used together, producing many more cool and very useable values. It's all about what you want to hear with your gear and your fingers.

Treble Loss Network

In the past, guitars of all makes lost a bit of the high end when their Volume controls were rolled off from the fully on setting. Lowering the Volume control decreased the treble even more. As guitar was recorded, musicians took advantage of this phenomena. Many great blues and rock tones were produced this way; it was used both on the rhythm and lead tones of Les Paul players like Jimmy Page, Billy Gibbons and Duane Allman, as well as Strat Players like SRV and Hendrix. In the late '60s, a capacitor was added across the volume control of the Telecaster to give that bright tone all the way down. This can easily be heard listening to Don Rich, who was Buck Owens' guitarist at the time. Unfortunately, this also dropped the low end, so soon afterward a bleeder resistor was added with the capacitor, and the "network" was born.

The ToneShaper has two such networks available. One is called the "Volume Kit" and the other is called the "Billy Mod." The Volume Kit provides the usual high-end loss solution using the resistor cap mod. The Billy Mod is another version of the solution using a different wiring scheme with a different connection to the volume pot. It can only be used with a single Tone control configuration, and it makes the Volume and Tone controls interactive.

Is It Hard to Install?

The answer is definitely, NO. Installation is extremely easy; no soldering is required. Connections are all made by simple press-in connectors—just press a little button and slide the wires in. It's made for Stratocaster pickguards, so if you're building your own guitar just make sure that the Fender knob and switch spacing is correct. Different brands may have to be re-drilled for installation of this unit. It is usually pickguard mounted, however, I see no reason why it couldn't be placed into rear-routed guitars with some modification of the guitar.

So How Does It Sound?

The Stratocaster I received with the unit installed was fitted with Don Grosh pickups. It was a tremolo model with a maple fingerboard. I started out with the stock Strat settings to determine what the guitar itself was like. It was a good sounding Strat to begin with, and



