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Radial Engineering Gold Digger and Cherry Picker

Choosing between multiple signal-capturing options is often our favorite job responsibility, though sometimes our bane, too. Trying to decipher the intricacies and nuances of mic and mic preamp choices with fidgety musicians, nosy (and often noisy) onlookers and slightly-too-opinionated novices can be quite challenging.



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Two years ago, I reviewed the Manley MicMAID, a four-mic by four-preamp switching matrix that I found to be indispensable in making detailed signal path decisions with ease. Too bad the \$3,150 street price prohibited me from buying what I considered a "luxury turned necessity."

Meanwhile, Radial Engineering has stepped up with a dual component system—the Gold Digger and Cherry Picker—to help with my signal selection dilemmas. In Radial's characteristic well-built, properly featured and affordable fashion, both units get the job done as promised.

Features

The Gold Digger is a sturdy steel, four input/one output mic switcher with a passive, relay switched but not straight wire, signal path. [According to Radial, "The signal is completely 'straight wire' when the trim controls are set to 100 percent, unless the phantom power is on, in which DC blocking capacitors are inserted in the straight path."—Ed.] It features XLR I/O with radio-button style component selection (selecting one mic switches off the previous selection), output level trims, "on" LEDs per channel, a recessed phantom power switch per channel, and an external 15 VDC power supply. The specs: 20 Hz to 20 kHz bandwidth, 0.0003% THD + N, -140 dBu dynamic range and -92 dB crosstalk. ["The Gold Digger merely passes through the load impedance it sees up to 5500 ohms and it remains at 5500, no matter the load impedance above that level," explains Radial Senior Engineer Dan Fraser.]

The Cherry Picker is a similarly sturdy one input/four output, relay switched, passive audio path, mic preamp selector; one mic input feeds any of four XLR-M outputs for routing to four mic preamps. Each channel also features radio-button selection, an "on" LED and ground lift. Switched phantom

power is provided. A global mute switch is wisely provided, too. The Picker's specs are equally impressive: DC to 80 MHz bandwidth, -115 dB dynamic range, -97 dB crosstalk and 10K Ohms input impedance.

Both the Digger and Picker come with three-year warranties.

In Use

The advantages of using this Radial Engineering system become apparent even before the client arrives. For example, when setting up for a session with a new vocalist, users can eliminate the stress of guesswork by putting up four different mics to audition.

Soundchecks become easy, too—follow the singer, switching as they move from mic to mic. If one mic is louder than another, set the trim for the quietest mic to full level and then attenuate the louder mics until all are equal. [Tech Editor Lynn Fuston adds: "Using a tone generator and speaker simplifies this level-matching step. Even a Cricket Phase Popper can be used to match levels. I typically use a 400-700 Hz tone originating from a speaker that positioned an identical distance from the center of each mic. Levels should be matched within .25 dB."] This step is crucial, as matching levels is mandatory for comparing any audio gear. However, you might be stuck with a high noise floor from your preamp during the comparison if one mic has much lower output (like a vintage ribbon—in such a case you might consider a pre-preamp like Cloud Microphones' Cloudlifter).

Impedance is a more important factor. Your mics will "see" the Gold Digger's 600 ohm input impedance (a by-product of the passive level control) and perform differently than when patched directly to your preamp. This can make a huge difference with passive ribbons, seemingly no difference with active ones, and barely significant with most condensers. This means you must keep the Gold Digger patched in-line during tracking and accept any character it may lend, or un-patch it to possibly find your mics sound different than they did when comparing them through the Gold Digger, which sort of defeats the purpose.

The Gold Digger does not add noise (it is passive, after all). One other drawback to all this convenience: there is a brief buzz,



a signal dropout and click when switching between mics—not speaker damaging or “annoy the client” loud, but it is a momentary distraction. [From Radial: “This momentary mute is there to prevent a speaker-shattering thump when switching between phantom-powered mics and especially between phantom- and non-phantom microphones.”—Ed.]

With the Cherry Picker, operation and results are comparable to the Gold Digger. Now with four mic amps patched, users can take the selected mic, route it to any of the mic pres and not worry about phantom power or pops when switching. There is only a quick and quiet tick when switching. Again, I must stress that setting equal levels is crucial; there aren't level trims on the Cherry Picker's channels, so you'll have to match levels at the preamp which can be tricky with preamps offering only coarse adjustments (5 dB steps); your gain matching will have to be accomplished elsewhere. With four signals routed to the mixer/DAW, users can make the small monitoring adjustments needed there for equal perceived loudness and good decisions.

I also tried connecting a mic to the Cherry Picker (using its phantom), patching it out to four mic amps and then returning those four outputs to the GD used in reverse (now routing the selected preamp output to the DAW/recorder, much like the return loops and “mon/recorder” output features found on Manley's MicMAID). Perhaps a third unit

for switching four preamp returns to a single out, featuring higher impedance, should join this Radial signal-switching matrix party? Just a thought.

Summary

Oh, how I wish the Gold Digger had perfectly silent mic switching, precise numerical values on the trims and programmable repeatability. And I wish the Cherry Picker had four return loops and a “record out,” though those “would require active circuitry and are not suitable to supply at balanced microphone levels,” explains Radial. Yes, those features and more are available on the Manley MicMAID, but at a cost of over \$3,000. If the Gold Digger and Cherry Picker incorporated all those features, they wouldn't be \$350 street, each—\$700 street for the system! That's hard to beat, regardless of what features I may want.

Honestly, Radial's Gold Digger is a very useful and illuminating tool, one that must be used carefully with some restrictions—due to the complications of impedance loading, levels and microphones—to gain its full benefit. The Cherry Picker does a superlative job of highlighting the oft-overlooked minute differences between mic preamps—or even compressors, for that matter—that professionals will find revelatory.

Prices: \$400 list, each

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