

# Tube-Tech RM8 Signal Processing Rack

**FIELD TEST**

by [Barry Rudolph](#)

[Back To The Home Page](#)

# MIX

Professional Audio and Music Production



November 2008 Issue

This "mirrored" page is published through the kind permission of MIX Magazine and [Penton Media Incorporated](#).

Visit MIX Magazine's WEB Site at: [www.mixonline.com](http://www.mixonline.com)

[E-Mail A Link To This Page.](#)



You Are Here: > [Users](#) > [barryrud](#) > [ADocuments](#) > [barryrudolph.com](#) > [mix](#) > [tubetechrm8.html](#)



[Learn More At Musician's Friend!](#)

[Read Barry's Mix Magazine Feature Article On Compression and Compressors](#)



[Download](#) A Printer-Ready Copy Of This Review. You'll Need A [Free Acrobat PDF Viewer Plug-In](#) For Your Browser.



Most audio pros are familiar with the look of Tube-Tech's blue faceplates and large vintage-style knobs. The company has now released the RM8, a tabletop frame (with optional rack-mounts) that holds up to eight new vertical module versions of its all-tube MP 1A mic preamp, PE 1C program equalizer and CL 1B optical compressor units.

A common power supply, smaller knobs and toggle switches allow these processors to be miniaturized--but not compromised--in features and performance. All modules use the same tubes, circuitry design and input/output transformers as their stand-alone counterparts, but are renamed as the PM 1A preamp, EM 1A equalizer and CM 1A compressor to differentiate them from the originals.

## Built Tough

The RM8's frame is built like a tank of electroplated steel with aluminum top/bottom covers. The RM8 contains a sealed power supply to generate the +270, +48, +15, -15 and +12VDC regulated voltages necessary to run the tube modules. A separate front panel module monitors power supply status. The processor modules' tubes are mounted in ceramic tube sockets; their printed circuit sides are shielded and protected from electrical hazard and mate to the rear backplate via DB25 connectors. Audio I/O connections to the RM8's rear panel use two DB25 jacks wired in parallel with two rows of eight XLRs each.



## Vertical Doppelgängers

The PM 1A mic pre-amp has a 20-60dB coarse gain rotary switch (10dB steps) and +/- 10dB fine stepped rotary (2dB steps) for repeatable setups. Up to 70dB of gain is available to drive 60-ohm loads with up to +26dBu of output level at 1% THD. There is a Lundahl input transformer driving a bridging input with 600, 1200 or 2400 ohms input impedance choices. There is a switchable phase (or polarity) switch, +48V phantom power on/off, and -20dB pad. The front panel ¼-inch DI jack has input impedance of 1 megohm and its circuitry comes directly after the input transformer. Lastly, there is a switchable high pass rumble filter with 20 or 40Hz corner frequency choices.

The EM 1A is a single-channel, passive equalizer followed by a tube makeup amp. It has a low-frequency shelving filter with 20/30/60/100Hz corner frequency choices and simultaneous boost (+14 dB) and cut (-18 dB). Next is a mid/high frequency boost only section (up to +18dB depending on Q setting) with 1, 1.5, 2, 3, 4, 5, 8, 10, 12, and 16kHz frequency points and a variable Q range of 0.5 to 1.8. The EM 1A finishes with a high frequency shelving filter



that attenuates only (up to -18dB) at 5, 10, 20kHz.

The CM 1A compressor module has its optical gain-changing element (LED and light dependent resistor) placed directly after the input transformer thus avoiding the added coloration and distortion typical with an audio input amplifier stage. Two FET time constant circuits--one for Fixed and the other for Manual are used to control the attack and release characteristics of the opto element. An all-tube signal path with up to 30dBu of makeup gain follows. For space consideration, a ten-segment LED meter is employed instead of the large VU meter found on the CL 1B unit.

### Impressive in the Studio

I tested the RM8 with a single PM 1A preamp and two each of the CM 1A and EM 1A modules. I was pleased to discover these modules worked and sounded identical to the larger stand-alone versions. The rear panel XLRs are perfect for wiring up a signal chain with a few short cables. As each module will

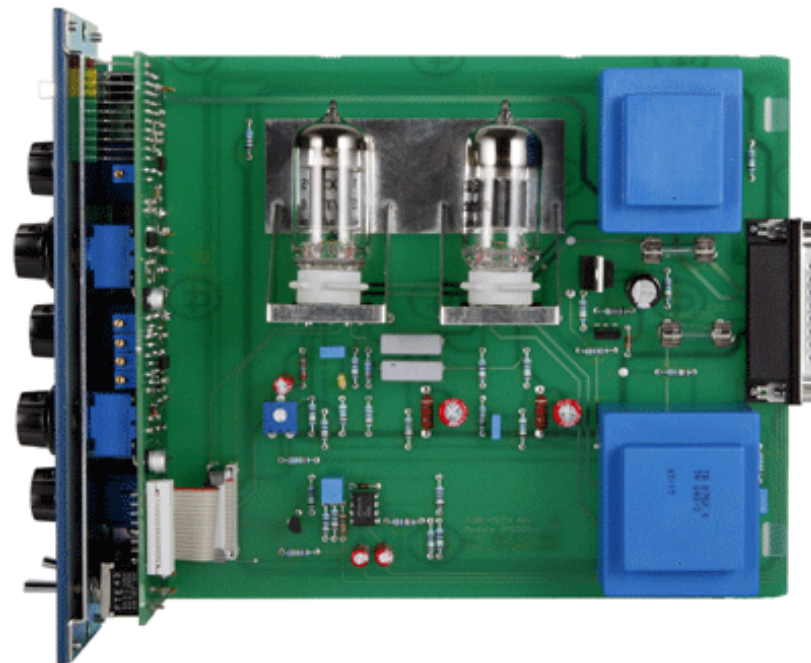
drive levels up to +26 dBu into 600 ohms separately, one "undocumented" feature is that you can use the DB25 connections to "tap" into anywhere along the signal chain. You could devise parallel processing chains or record the same microphone signal before/after the EQ and/or the compressor at the same time.

My first session with the RM8 involved recording a bass guitar direct for a rock band. I tried both a Tobias bass with Bartolini pickups (active pickups requiring 30dB gain) and an old Music Man Sting Ray (hot passive pickups requiring 24dB gain) plugged into the PM 1A's DI input. Using XLR patch cables, I connected the output of the PM 1A to the input of the EM 1A EQ--its output then fed the CM 1A compressor.

Both instruments that were sent through the RM8 chain produced a fat, direct-recorded bass sound. A lot of rock bassists play very hard, causing the midrange and highs of the instrument to overwhelm whatever low-frequency content is present. And just like an old Pultec, the EM 1A's ability to boost and cut low frequencies lets you create unique and great-sounding equalization scenarios. I boosted as much as +12 dB at 100 Hz and cut at the same time up to -18 dB. This contorted EQ curve probably looked technically terrible, but it sounded massive.

The CM 1A put a lid on the craziness, with compression as strict (or not) as I wanted. Because my bass player was very steady with his nondynamic technique--just flat-out loud all the time--he sounded best when I used a 3:1 ratio, the fastest attack, medium release and about 2 to 4dB maximum gain reduction.

I used the same signal chain for acoustic guitar and lead vocals. Recording a mahogany Martin D-15 acoustic, I used a Heil PR40 dynamic mic. The PR40 has 600-ohm impedance, so I selected that input impedance on the PM 1A. It's interesting to hear the different tonality changes available by changing the input impedance--the guitar sounded brighter at 2,400 ohms. At 600 ohms, I used 50 dB of gain and added +3 dB at 3 kHz; broad Q; and +2 dB at 100 Hz.



Tube-Tech CM 1A Module Interior

The PM 1A's low roll-off setting took some of the subsonic body "bump" out. The CM 1A was set to 0dB threshold and 3:1 ratio. For a dynamic mic, this setup produced a very present acoustic guitar sound that worked great for hard rhythm playing.

For fingerpicking I went with a Pearlman TM-1 tube, large-diaphragm condenser mic. This required only 25dB of gain and nearly a flat equalizer setting--just +2dB @ 10kHz for air. The clear sound of this chain framed every phrase the guitarist played in a brilliant space.

For vocals, it is very easy to get a great sound with these modules. When dialed in correctly, I got a vocal sound that sounded better than my singer had ever heard--clear and upfront with clean treble and no distortion or sibilance. I used the Pearlman mic with 36dB of gain, +2 @ 10kHz broad EQ, 4:1 ratio, medium attack and release, and about 2 to 6dB of compression on peaks.

Next I tried using the two EM 1As followed by the two CM 1As as a stereo mix processor. As a program equalizer, the EM 1A is very gentle and subtle--a tone control that works well for warming up mastering recordings that don't require intense EQ surgery. You cannot make an awful sound with it, but the overload LED immediately lets you know you've exceeded the +26dBu output. Boosting and cutting at the same bass frequency can bring the kick out over the bass instrument or vice versa; on a particularly strident-sounding demo mix, I did miss the ability to cut the midrange frequencies.

For bus compression, the CM 1A is so smooth that, on first listen, it is hard to hear it working. I found moderate control with super-high fidelity using the CM 1A at up to 4:1 ratios. Pumping tracks for maximum loudness isn't the CM 1A's forte: The CM 1A will bring up the average level and curb slight peaks, but you'll need to follow it with a peak limiter if you're looking for Major Squeeze and his faithful companion, Captain Hard Clamp.

You can stereo-intercouple two CM 1As by switching them both to sidechain bus. The CM 1A module that's compressing the most drives the other, but the ratio, attack and release must be set identically on each compressor. I would like to see a recessed front panel trim pot for zeroing the GR meters together, especially for stereo operation. They are adjustable, but the trim pots are internal on the circuit boards.

## Svelte and Solid

The RM8 is a great way to get into the polished, all-tube sound of the Tube-Tech line in a compact and modern way. Just like the stand-alone units, all the modules performed superbly and produced dependable results. The PM 1A preamp is very quiet and clean: I could hear down to the noise floor of my room--A/C, computer fans across the room, etc. The EM 1A can provide the right touch while recording--just enough EQ to get the vocals and instruments shaped to fit the track. The CM 1A at the end of the chain controls level without being too noticeable, except when controlling an occasional errant loud peak. All this plus considerable cost savings over the original units make the RM8 and accompanying modules a winning proposition.

Barry Rudolph is an L.A.-based recording engineer. Visit his Web site at: [WWW.BARRYRUDOLPH.COM](http://WWW.BARRYRUDOLPH.COM)



---

[Click Here To Return To The Mix Directory](#)

This Review Is Copyright © 1995 Through 2008 By [Penton Media Inc.](#) All Rights Reserved.



[Back To Home Page](#)

[Back Up To The Top](#) 

[All Web Page Design Is Copyright © 1995 through 2008 By Barry Rudolph](#)