Mapletree Octal 6 Preamp

Reviewed by Charles Hansen and Duncan & Nancy MacArthur

PHOTO 1: Preamplifier front view.

PHOTO 2: Preamplifier rear view.

Octal 6 Duplex Stereo Preamplifier, Mapletree Audio Design (MAD), R.R. 1, Seeley's Bay, Ontario, Canada, K0H 2N0, (613) 387-3830, hollowstate.netfirms.com. Kit: $375 US + S&H; assembled unit: $775 US + S&H, available from FSAudioweb, www.fsaudioweb.com/mapletree.html.

The Mapletree Octal 6 gets its name from the six octal tubes (2—12SN7GT, 2—12J5GT, and 2—0M4/6R7G) it uses. The manufacturer furnishes only North-American- or British-manufactured new old stock (NOS) types. Two complete preamp circuits are incorporated: a classic common cathode-cathode follower cascade (CF) and a shunt-regulated push-pull (SRPP) circuit.

Output and input switching permits any of three sources to be routed to either of these two preamp circuits, or through a passive path that allows use of the volume and balance controls but with no amplification. A separate record output (REC) enables source switching directly to a tape recorder or CD burner. Optionally, you can connect the REC output to a separate headphone amplifier. The manual also suggests using it as a second output for bi-amplification, but this would be difficult to implement since the REC output does not vary with the volume control as the line output does.

PHOTO 3: Preamplifier interior view.

CONSTRUCTION

The preamplifier is extremely rugged, with a bronze-painted heavy gauge steel chassis surrounded by an oak base. The chassis is not fastened directly to this oak base. Four urethane bumpers on the bottom of the chassis sit on brass plates that are screwed to the oak. These plates have 1.25″ round rubber feet that in turn support the oak base. This chassis "float" is noticeable when you tilt the preamp—you can feel it shift slightly in its base.

All controls and connections are on the top of the unit. Brass nameplates with orange letters on a black background provide control, connection, and switch descriptions, while a brass logo plate is located on the transformer case. While there is no finger space under the unit, it is quite light and easy to lift by means of the brass handles on each side of the tubes.

Photo 1 shows the forward part of the panel, which has the power switch, topology selector (SRPP, CF, Passive), balance and volume controls, three-position source selector, and neon indicator lamp. The six tube sockets with two grid cap leads for the output tubes sit just behind the controls. I installed the metallic spray-coated 0M4s in the output tube sockets. I also placed one of the ST-shaped glass 6R7Gs in front of the unit for this particular photo.

The rear panel (*Photo 2*) has ten gold-plated RCA input and output jacks and the IEC power receptacle. The unit is furnished with a heavy power cord, and the third pin of the AC receptacle is connected to the chassis. A switch on the rear of the transformer cover allows you to select either 115V AC or 230V AC mains. The line fuse holder (with a spare fuse) is located under the transformer cover.

Photo 3 shows the amplifier with the bottom cover removed. A metal shield surrounds the input/output jacks. All wiring is point-to-point with shielded cable employed in critical signal paths. High-quality components are used throughout: Philips 1W 5% carbon film resistors, Xicon and Philips polypropylene film capacitors, Alps potentiometers, Cinch terminal strips, and an oversize Hammond power transformer.

MAD also sent the detailed 37-page assembly manual. The kit version includes a different prepunched chassis without the wood base, and with all the jacks on the left side and the switches and controls on the front rather than the top. There is a single brass carry handle and an open power transformer rather than the covered one in the factory-assembled unit. However, the circuitry is identical and the kit includes a detachable line cord, all parts, tubes, hardware, fuses, wire, and solder.

The assembly manual is excellent, with instructions for preparing wire, soldering, information on the fasteners, and so forth. All resistors are color-coded to minimize errors. Each assembly step has a box for checking off the items as you complete them. Detailed wiring diagrams as well as photos are provided for the six phases of assembly. The Checkout chapter includes a troubleshooting section in case of problems, with tech support readily available.

TUBE-POLOGY

Mapletree supplied the following NOS tube complement with the review unit:

2—Sylvania 12SN7GT
2—Sylvania 12J5GT
2—Ken-Rad 6R7G
2—Cossor OM4

All the tube boxes except the 6R7Gs were marked for left and right installation.

The user's manual is excellent and includes a complete schematic and parts list along with a detailed two-page circuit description. You can also view the schematic and circuit description at www.fsaudioweb.com/mapletree.html. I will summarize that description here for one channel.

The selected input is connected to the Alps volume and balance control set. The wiper of the volume control is connected through a series 47k5 metal-film resistor to the topology selector switch, which connects the signal to one of two active circuits or the passive path. Tracking resistors (1% metal film) are mounted to taps on the volume controls to minimize tracking errors.

The first active circuit consists

TABLE 1
MEASURED PERFORMANCE

PARAMETER	MANUFACTURER'S RATING	MEASURED RESULTS
Input resistance	50k (max volume)	46k
	100k (min volume)	87k–91k
Output resistance	SRPP: 5.5k (1kHz)	5k7
	CF: 600Ω (1kHz)	540Ω
Voltage gain	SRPP: 13dB (1kHz)	13.2dB, 47k load
	CF: 18dB (1kHz)	19.0dB, 47k load
	Passive: –7dB (1kHz)	–6.9dB
Volume tracking	Within 0.7dB over full range	0.5dB–0.9dB
Frequency response, 2V out, 100kΩ load	SRPP: 20Hz–20kHz (–0.5dB)	15Hz–20kHz (–1dB)
	CF: 15Hz–20kHz (–1dB)	16Hz–17kHz (–1dB) 47k load
Noise (100k load, zero input, volume max)	SRPP: <0.5mV	1.35mV (see text)
	CF: <0.9mV	2.7mV
	Passive: <70µV	80µV
Distortion	<0.1% THD+N, 2V RMS out	0.13% max, 2V RMS
IMD-CCIF (19 + 20kHz)	N/S	0.11% SRPP
		0.063% CF
Maximum output (100k)	SRPP: 25V RMS	26.1V RMS
	CF: 20V RMS	34.5V RMS

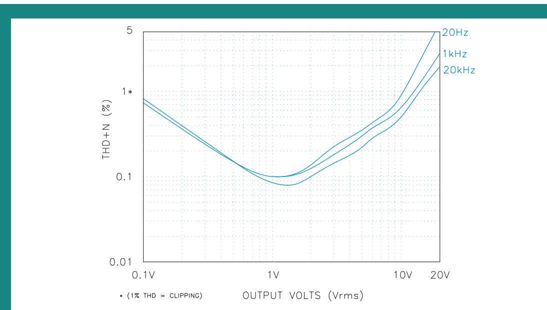


FIGURE 1: THD+N versus output power, CF mode.

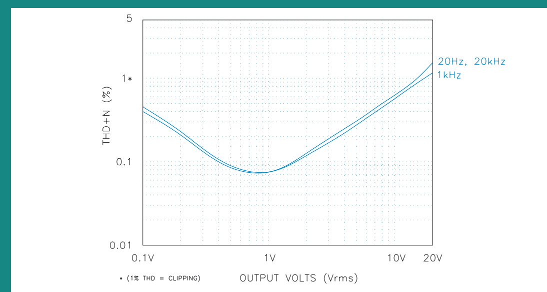


FIGURE 2: THD+N versus output power, SRPP mode.

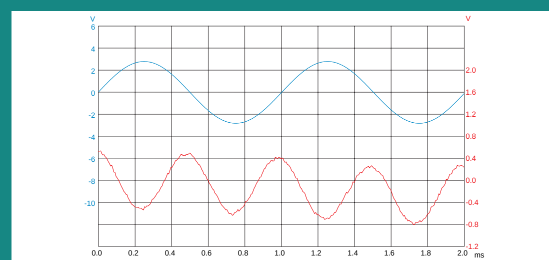


FIGURE 3: Residual distortion, CF mode.

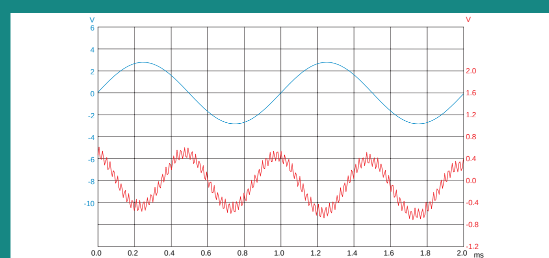


FIGURE 4: Residual distortion, SRPP mode.

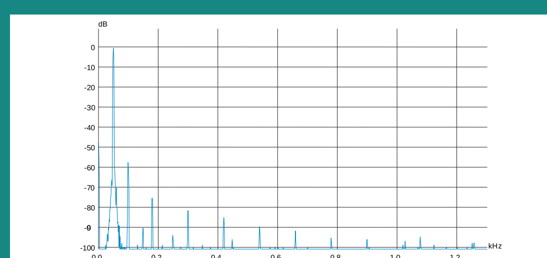


FIGURE 5: Spectrum of 50Hz sine wave, CF mode.

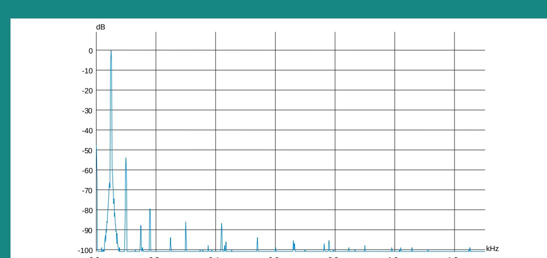


FIGURE 6: Spectrum of 50Hz sine wave, SRPP mode.

Reviewed by Duncan and Nancy MacArthur

The Octal 6 consists of two entirely separate active preamplifiers (common cathode/cathode follower, or CF, and shunt regulated push-pull, or SRPP). A three-position switch selects either of these circuits or a passive mode with no gain. In addition, the manufacturer supplied alternate tubes (ceramic packaged OM4s) for the CF stage; thus we listened to four different configurations.

METHODOLOGY

While a passive option can be added to any preamplifier for the cost of a switch, placing two entirely separate active circuits in a single enclosure is less cost-effective. Regardless of which active option you eventually choose, you may end up paying for a preamplifier circuit not used past the auditioning stage. You might prefer to put the money into a single preamplifier that will be used consistently.

Since our system is optimized for operation with no preamplifier, testing a preamplifier such as the Octal 6 required special care. Our DAC (a modified Philips DAC-960) has a 2V maximum output, and the amplifier used for this review (a Manley Stingray) has an input sensitivity of 185mV (maximum). Thus, an added preamplifier gain stage is not required. In addition, the combination of the grounded AC plugs of the amplifier and Octal 6 caused a minor ground loop.

We listened to the Octal 6 in the following manner:

1. Our "reference" consisted of two pairs of RCA cables joined by a pair of Radio Shack gold-plated adapters.

2. For listening tests, the Octal 6 replaced the gold-plated adapters.

3. When listening to the passive "preamplifier," we turned the volume control on the amplifier fully up.

4. For listening to both active preamplifiers, we set the volume control on the amplifier to the "12 o'-clock" position. This reduced the ground loop hum and helped match the voltage levels.

FIRST EXPERIENCE

Our first sample of the Octal 6 preamplifier had suffered shipping damage and was not operational. The transformer PC boards were not adequately secured in this version. Also, the first sample used partially insulated grid caps that in our opinion presented an unacceptable risk to the consumer.

We returned this sample to the manufacturer, who immediately fixed both problems. All other commentary in this review refers to the revamped version. If you own the previous version with the partially insulated grid caps, we recommend that you consider replacing these with the fully insulated variety.

AESTHETICS AND PACKAGING

Both samples of the Octal 6 came packed in Styrofoam "peanuts"; this type of packing is not as trouble-free as custom foam inserts, but the peanuts are acceptable if used correctly.

If aesthetics are important, then the Octal 6 is probably not the preamplifier for you. Although the Octal 6 appears to be adequately constructed, the level of "fit and finish" of this preamplifier is more typical of a "home-brew" project than of a commercial product. But if sound is more important to you than aesthetics, read on.

The Octal 6 is packaged in a four-sided wooden enclosure surrounding a metal chassis on all sides (but leaving the top and bottom exposed). This type of packaging can be quite effective for power amplifiers with few connectors and no switches, but packaging the Octal 6 in this manner forces all the input and output jacks and all four controls onto the top surface along with the hot tubes. In particular, the volume control is located close enough to the tubes that you can feel significant heat while operating the control. This construction technique does not add to the aesthetic appeal of the preamplifier.

The volume and balance controls on the Octal 6 work smoothly and quietly. The "feel" of these controls is much better than you would expect from looking at the unit's exterior. Our only caveat is that the balance potentiometer does not have a center detent; we spent some time searching for a truly balanced condition.

We ended up with the balance control noticeably off-center in order to achieve proper left/right balance. Although the "topology" selector switch would seem to allow "hot" switching, which, the manual implies, is permissible, we always turned the volume all the way down before switching topologies.

LISTENING EXPERIENCE

The Octal 6 requires a moderate amount of burn-in. As our sample had been used previously, the manufacturer recommended a burn-in period of "a couple of days;" therefore, we used the Octal 6 with a variety of recordings for about 20 hours before doing any serious listening. The sound of the Octal 6 changed markedly during this burn-in period. Out of the box, the SRPP stage sounded unbearably bright and the bass response of the CF stage was muddy and excessive. The burn-in process reduced both of these characteristics significantly.

As in earlier reviews, we listened carefully to several tracks from the *Hi-Fi News and Record Review* disk III. These included track 2: Parry's "Jerusalem," track 4: Vivaldi's "Trumpet Concerto in C," tracks 5 and 6: excerpts from Prokofiev's "Peter and the Wolf," track 7: Purcell's "Welcome, Welcome Glorious Morn," track 10: a Corkhill percussion piece, and track 14: a Rio Napo RSS demonstration. We also listened to favorite tracks from a wide variety of musical genres, ranging from classical to rock 'n' roll. In all cases the Octal 6, as well as the amplifier, was turned on at least 30 minutes before serious listening.

To put the following comments in perspective, during casual listening we could not easily determine which (if any) of the preamplifier circuits was playing. For this type of use, both the CF and SRPP stages simply provided gain. During careful listening, differences became apparent.

In a nutshell, the passive "preamplifier" is the best-sounding mode of the Octal 6 in every area. The CF preamplifier sounds like a classic tube circuit in that the midrange response is very good, the bass is slightly muddy and not terribly deep, and the highs are clean but slightly rolled-off. The SRPP has more of a "hi-fi" sound with an improved but still a little fuzzy bass response and extended, but slightly bright, high-frequency response. The midrange response of the SRPP is good but not as engaging as in the CF and passive modes.

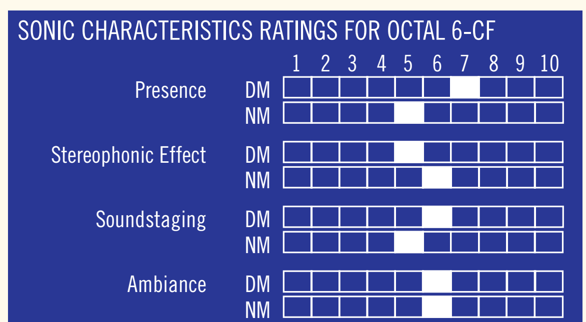
The passive stage doesn't add much to the sound of the amplifier to which it's connected. The sound in this mode was the all-around winner in the Octal 6; however, the potential buyer isn't spending $775 for the passive stage. Thus, in the remainder of this review, including the sonic characteristic charts, we have concentrated on the active modes.

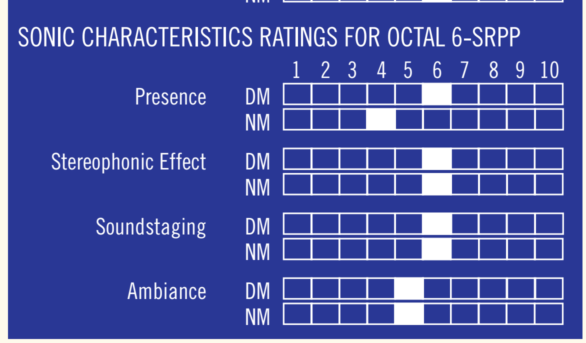
Both active stages reproduced instruments in the midrange (such as strings and winds on the Prokofiev pieces) well. The dynamics and transients in both the Corkhill piece and the Rio Napo demonstration were fairly realistic: the drums sounded like drums.

The CF stage reproduced instrumental sounds naturally as evidenced by the trumpets in the "Trumpet Concerto" and had the ability to separate the tenor and bass voices in the Purcell piece. On the other hand, Nancy noticed a subtly harsh sound with "Honey Baby Blues" (Doc and Merle Watson, *Pickin' the Blues*, Analogue Productions compact disk, CAPFG 026.) The ambience recovery on "Jerusalem" and the "Trumpet Concerto" was fair, providing some sense of the space surrounding the instruments.

Although the CF stage presented a wide sound stage, the placement of the instruments within this stage was not terribly precise. The bass was ample but a bit muddy or muffled, and the highs were smooth to the point of being slightly recessed. The OM4 tube option provided very similar sound to the standard 6R7 tubes; if anything, the sound was more euphonic with the optional tubes.

The bass response of the SRPP stage was better than the CF. The tympani and drums on "Peter and the Wolf"





were deep, realistic, and well defined. The highs were much "flatter," to the extent that they occasionally verged on harshness.

The SRPP stage provided very little sense of space on either "Jerusalem" or the "Trumpet Concerto." With the SRPP the images appeared to be "tied" to the speaker positions. The SRPP was not as natural as either of the other modes—the voices and harpsichord on "Welcome, Welcome Glorious Morn" were more mixed together and less readily identifiable.

FINAL THOUGHTS

NM: Should you buy this preamp? It depends. First, ask yourself honestly what sort of listener you are. Do you love to fiddle with different components, listening carefully to the subtle differences that each one produces? If so, the Octal 6, which provides several preamps in one box, is a good buy at $775 for the assembled version and a complete steal at $375 for the kit. (Caveat emptor: we have neither built the kit nor seen the instructions. We're assuming the completed kit will sound much like the assembled version.)

Or do you prefer to choose one component carefully for optimum sound and stick with that component for years? In this case the answer is less clear. A number of good preamplifiers are available in the under-$1000 price range, and you should audition several of these before you buy. If, on the other hand, you're willing to build the Octal 6 kit, this preamplifier will provide good sound for this price range.

DM: If "fit and finish" or construction quality is an important consideration, the Octal 6 is probably not the preamplifier for you. However, the sound quality belies the construction quality of this product. If you need the extra gain of an active preamplifier, the Octal 6 provides good sound for the money, especially as a kit. If you don't need the gain, use the passive stage or buy a good potentiometer and a few jacks and install them in the enclosure of your choice.

of a 12J5GT common-cathode gain stage that is direct-coupled to a self-biased OM4/6R7G cathode-follower (CF) output stage. This tube was originally designed as a detector/first audio tube back in my grandfather's time, and includes two diode plates (grounded in this application). The output is taken from the cathode and capacitively coupled to the load through two 220nF polypropylene caps in parallel (440nF total).

If you select the SRPP mode, the volume control is connected to the grid of the first half of the 12SN7GT. The second half of this tube is in series and carries the same bias current. The output of the lower triode is directly coupled to the grid of the upper triode, which operates 180° out of phase with the lower half (hence the term push-pull).

The upper triode serves as the load for the lower triode and is configured as a cathode follower. Its high load resistance maximizes the gain of the lower triode. The cathode of the upper 12SN7GT is capacitively coupled to the output, again with two parallel 220nF caps.

While the CF output impedance is 600Ω, the SRPP output impedance is 5k5. The passive output impedance varies with the volume/balance controls, but is never less than 23k. The manual recommends a power amplifier input resistance of 50k or greater.

As I mentioned earlier, the record output jacks are connected to the selected input signal and do not vary with the volume control setting.

The power supply uses a full-wave fast-recovery solid-state diode bridge and a capacitor input filter to generate +337V DC. This high voltage is split in two paths, one for each channel, and stepped down through R-C filters to +200V DC for the tubes. A separate filament transformer with two series 6.3V AC windings is rectified and filtered to 11.6V DC for the 12V tube heaters. The two OM4/6R7G output tube heaters are connected in series and grounded at their common connection.

MEASUREMENTS

I chose the OM4 output tubes, then ran both channels in CF mode at 2V RMS for one hour into 47kΩ. The Octal 6 inverts polarity in CF and SRPP modes, but preserves polarity in passive mode. The unit was still quite cool after this run-in period.

The input impedance measured 87k left channel and 91k right channel at minimum volume. At maximum volume, both these numbers dropped to 46k. The CF output impedance measured 540Ω at 1kHz, while the SRPP output impedance was 5k7 at the same frequency.

At 20Hz the output impedance was about 10k, reflecting the increased low-frequency impedance of the 440nF output capacitor. In passive mode, the output impedance varied from 23k5 to 37k with the volume setting. The connection from any selected input to REC output was 0Ω.

The Octal 6 showed unity CF gain when the volume control was set at approximately 12 o'clock, and 1 o'clock for the SRPP mode. I made all the measurements at a volume setting corresponding to 2V RMS output with a 1V RMS test signal (6dB gain). There was a low-level hum with my ear against the speaker, but the Octal 6 was quiet from my listening position. There was no sound during power-up or shutdown.

I recorded the frequency response in both CF and SRPP mode with a 47k load. The 440nF output coupling cap will roll the low frequency off –3dB at $f = 1/(2\pi RC)$. In CF mode the frequency response was within ±3dB from 8Hz–35kHz, with 0dBr defined as 2V RMS at 1kHz into 47k. It was –0.5dB at 20Hz and –1.2dB at 20kHz.

You must be aware of input impedance when using the Octal 6 with a solid-state power amp, as Mapletree recommends 50k or more. With a 10k load, the low-frequency response was down –3dB at 37Hz.

In SRPP mode the frequency response stayed within ±3dB from 9Hz to 42kHz, with 0dBr again defined as 2V RMS at 1kHz into 47k. It was –0.6dB at 20Hz and –1dB at 20kHz. In both modes, HF response rolled off gradually above 20kHz with no additional gain peaking.

The Octal 6 provides a maximum of 19.1dB gain in CF mode, and a lower 13.2dB in SRPP at 1kHz into 47k. The CF mode gain varied only 0.2dB for loads of 10k–100k, but the SRPP gain spread was 3.6dB for this same load range, reflecting its higher output impedance. The passive mode showed an insertion loss of –6.9dB with a 47k load. Volume control tracking was good, with only 0.5dB difference between channels at 2V RMS output, increasing to 0.9dB at low levels.

Hum and noise (maximum volume, input shorted) measured 2.7mV in CF mode, 1.35mV in SRPP mode, and 80µV in passive mode, power on. Viewing the noise content on an oscilloscope showed a 60Hz waveform with noticeable spikes near each power-line zero crossing.

Right-channel crosstalk from the left output in both modes was much higher than the other direction, being only –28dB at 20kHz. This may be because the right input jack is adjacent to the left output jack. In SRPP mode only, the left-channel crosstalk from the right output actually decreased a bit with increasing frequency, from –50dB at 1kHz to –52dB at 20kHz. I never saw that before.

DISTORTION

Distortion performance was essentially identical for both channels, so I will present the right-channel data. *Figure 1* shows THD+N versus output voltage into 47k at 20Hz, 1kHz, and 20kHz, in CF mode. I engaged the test-set 80kHz low-pass filter to limit the out-of-band noise. The same data for SRPP mode is shown in *Fig. 2*.

The distortion waveform for 2V RMS into 47k at 1kHz, CF mode, is shown in *Fig. 3*. The upper waveform is the amplifier output signal, and the lower waveform is the monitor output (after the THD test-set notch filter), not to scale. The distortion residual signal shows mainly the second harmonic, with just a bit of high-frequency noise at the peaks.

You can also see from the difference in height of the peaks that the residual signal is being modulated by a lower frequency. When I increased the horizontal time base from 200µs/div to 2ms/div (not shown) the modulating waveform was the same 60Hz with spikes at zero crossing as I saw in the hum and noise signal. THD+N at this point is 0.12%.

Figure 4 shows the same data for SRPP mode. This distortion residual signal again shows mainly the second harmonic, but with a high-frequency signal riding on the sine

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waveform. The duration between HF peaks is about 18µs, or 55kHz. There was no evidence of HF peaking at this frequency during the frequency-response measurements, so I repeated them again with the same result.

The THD+N performance of the Octal 6 did not vary noticeably with either frequency or load. The distortion level was essentially the same at 2V RMS output from 20Hz–20kHz and with loads from 10k–100k.

The output voltage at 1% distortion (clipping) is 12.5V RMS in CF mode and 17.7V RMS for SRPP. The Octal 6 never really goes into hard "brick wall" clipping. The peaks of the waveform are softly compressed with increasing output voltage. At 2V RMS output, 20Hz–20kHz, the THD+N spans only 0.10%–0.15% in either mode.

Maximum output voltage is over 35V RMS in CF mode and over 26V RMS in SRPP, at all frequencies from 20Hz–20kHz. Distortion is only 3.2% for maximum SRPP output, but over 10% for CF mode maximum output. I reduced the CF mode output to 16V RMS, the maximum output of the SRPP mode, but distortion was still above 7%. The SRPP mode thus delivers lower distortion across the entire output voltage range of the amplifier. The only exception I found was the 20Hz distortion with a low 10k load (0.46% SRPP versus 0.20% CF), but this is well below the recommended 50k load.

In a reversal of the above results, the SRPP mode produced higher intermodulation distortion (IMD) than the CF mode. The CCIF IMD (19 + 20kHz) at 12V p-p into 10k (the input impedance of my IM Distortion Tester) was 0.063% CF and 0.11% SRPP. Multi-tone IMD (9kHz + 10.05kHz + 20kHz) was 0.029% CF and 0.052% SRPP.

The spectrum of a 50Hz sine wave at 2V RMS into 47k, CF mode, is shown in *Fig. 5*, from 0–1.3kHz. The THD+N measured 0.14%, with the dominant second harmonic at −58dB. Notice the series of odd 60Hz power-line harmonics at 180Hz, 300Hz, 420Hz, and so on. This is consistent with the power-line spikes noted in the residual distortion and hum and noise waveforms, and is produced by the full-wave rectification.

It has been my experience that a fast recovery diode will sometimes adversely interact with parasitic reactances in the amplifier to produce higher rectification spikes than if a standard recovery diode had been used. This is probably academic in the case of the Octal 6, since the THD+N is low for a tube amplifier design.

A repeat of the above data for the SRPP mode is shown in *Fig. 6*. THD+N here is 0.21%, with the second harmonic at −54dB.

SQUARE WAVE TESTS
I viewed the response of the Octal 6 to three square-wave test frequencies on an analog scope using a 47k load. The response at 40Hz showed a moderate and acceptable amount of tilt, with less tilt in CF mode than SRPP. The 1kHz square wave was just about perfect. The 10kHz square wave showed moderate leading-edge rounding, with no hint of peaking or the 55kHz ringing on the SRPP waveform in *Fig. 4*. I can't really explain the presence of that HF signal in both SRPP channels.

Manufacturer's Response:

I welcome the opportunity to respond to the technical and listening reviews of the MAD Octal 6 Preamplifier. I am also appreciative of the effort required to evaluate the technical, aesthetic, and aural properties of a new audio component with no prior exposure to it. The reviewers have done an excellent job.

First, I should point out that the Octal 6 was first developed as a kit with construction methods and components chosen to maximize the performance/cost ratio. The assembled unit, which is the subject of the review, employs essentially the same circuitry but has slightly different styling including a solid oak base and an enclosure for the separate heater and plate power transformers (these permit switching to 230VAC/50Hz operation if required).

I personally wire and test each unit on a customer-by-customer basis. Thus, a customer can specify if outputs are to be wired for bi-amplification or for recording. In the kit version, there are instructions for wiring each option. The kit also offers the choice of side or rear panel mounting of the input/output RCA jacks.

As an engineer, I am pleased that Charles Hansen's performance measurements largely verify the published specs based on my own tests. I am unable to test for IM distortion so it is reassuring that the figures are of the same order as those for THD. The primarily second-order content of the harmonic distortion is not surprising given the tube characteristics.

I measured lower residual noise levels for the two active modes than Charles found. This may have something to so with the measurement conditions. I disconnected all inputs and measured the output voltage at full volume. I have noticed that noise increases somewhat when inputs of any kind are connected. I will be investigating the power supply switching transients. Perhaps these can be minimized by the use of small capacitors across the diodes or the transformer secondary.

Turning to the listening tests carried out by Nancy and Duncan MacArthur, I was disappointed that the system into which the Octal 6 was inserted was not well suited to the use of such a preamplifier. As they point out, with a 2V output from the DAC and a power amp sensitivity of 0.185V, severe attenuation of the signal is required somewhere along the line. They chose to make use of the level control on the Manley Stingray power amplifier. It would have been preferable to audition the Octal 6 with a power amplifier such as the AE-25 Super Amp reviewed in Glass Audio *5/00 with a sensitivity in the 1V to 2V range.*

I have found that with many amplifiers, the low-pass filter action produced by a level control set to a low volume causes enough reduction of high frequency response to change the aural impression independent of the nature of the input signal. Thus, it may have been preferable to change the volume control setting on the preamp rather than the power amp when comparing the passive and active modes so as to eliminate this possibility. Nevertheless, I think the MacArthurs did a thorough job in presenting the subtle differences between the two active modes.

I, too, find that on casual listening, taking into account the differences in gain, all three modes sound quite similar, with differences showing up only after repeated listening to a range of program material. Their ratings of the aural characteristics naturally reflect sonic preferences or expectations that may not always be consistent with the sonic signature of the Octal 6. To help me interpret their findings, it would have been useful to publish the ratings of the passive mode along with the two active modes. It doesn't seem reasonable that passive mode rated ten in every category.

Lastly, I should comment on the aesthetic issues raised by the MacArthurs. Since many customers have been enthusiastic about the styling, I can only conclude that, as one might expect, aesthetics are subjective. The "look" is certainly not one of mass production, since each unit is indeed prepared much as a "home-brew" component would be. It could be argued that there is an intangible quality inherent in a "hands-on" approach that may be appreciated by some but not by others. ❖

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