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**HOT NEWS
FROM VEGAS!**

AMPLIFIERS ON TEST:

KRELL, McINTOSH, NAD
JADIS, MEITNER, VTL
DISCRETE TECHNOLOGY

wants to hear a French horn by sticking his head down the throat of the instrument. If you want *Jazz at the Pawnshop* to sound like jazz, you'll love it. If you want a table under the microphone, this is not the amplifier for you.

Also be aware that you will never really understand this amplifier unless you spend a great deal of time listening to it. Many other amplifiers do initially appear to have more detail or "life." Many other very good amplifiers come very close or can outperform the Krell with a given recording and mix of other components. No amplifier is everything to all audiophiles, and the synergy between speaker and amplifier is so complex that no amplifier will be a universal best. The more recordings and components you listen to, however, the more the KMA-100 Mark II will make you forget "hi-fi" and remember live music.

Summary Assessment

At the risk of creating a minor war, I can't help feel that the designers of some other top amplifiers—the current Mark Levinson and Threshold lines, for example—should listen to this amplifier. I would say the same about the designers of the big Jadis. The former

transistor designs still have too much "transistor," and the latter tube design—when not in the process of a ritual meltdown—has far too much "tube." In their very different ways, they are "hi-fi" to Krell's "music."

Such comparisons are more difficult with the best Audio Research, Conrad-Johnson, Counterpoint, and New York Audio Laboratory designs. All can be amazingly lifelike in the right system, and in that system can outperform the Krell in every area but the bass. There are also a number of lower-priced transistor units (like the Meitners) which can sound as good or better with a specific speaker, set of interconnects, etc. The Krell, however, is the kind of anchor you can build a system around with only limited tuning.

In short, the Krell KMA-100 Mk.II is a superb amplifier. Other amplifiers in this price range may well work better in given systems, or outperform it in individual areas, but no tube or transistor amplifier I have listened to at length does so many things so well into so many different speaker loads with all forms of music. It will be fascinating to see how the Audio Research M-300 rises to the challenge, and how well the next generation of all-out tube designs can compete. **S**

McINTOSH MC-7270 POWER AMPLIFIER

J. Gordon Holt

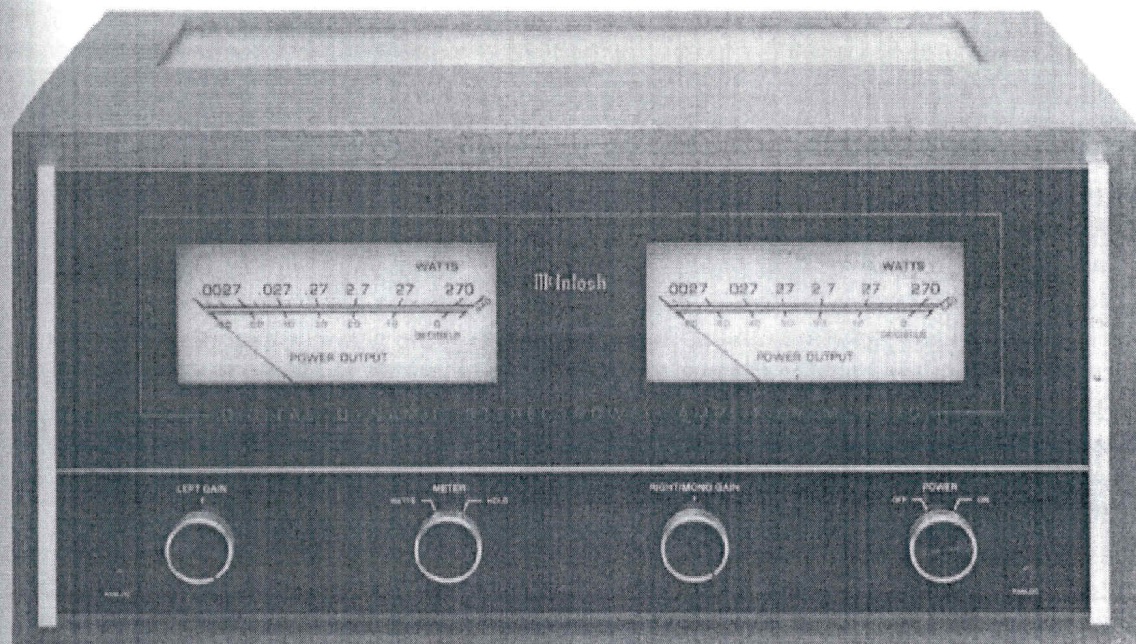
Solid-state stereo power amplifier. Rated power: 270W (both channels driven) into 1-8 ohms; 540W mono (bridged) into from 2-16 ohms. Power bandwidth: 20Hz-20kHz. Frequency response: 20Hz-20kHz, +0,-0.25dB; 10Hz-100kHz, +0,-2dB. Dimensions: 16.125" W by 7.125" H by 14.5" D. Power consumption: 13 amps (1450W) max. Weight: 82 lbs. Price: \$2295. Manufacturer: McIntosh Laboratory, Inc., 2 Chambers St., Binghamton, NY 13903. Tel: (607) 723-3512.

One of the oldest names in audio, McIntosh Laboratory, Inc., has been around, continuously, since 1949. McIntosh has never actively courted audiophiles with its products, but found its market in upscale professionals to whom an established and respected brand-name, a reputation for outstanding product reliability, and customer support in time of trouble are more important than state-of-the-art sound reproduction.

Indeed, as far back as the late 1950s, McIntosh's products were judged by many perfectionists to be sonically inferior to some made

by small, lean, hungry companies like Marantz and Dynaco. And as McIntosh grew in marketplace prominence, it was increasingly scorned by perfectionists, who considered it too successful (read "complacent") to be innovative. It is largely for that reason that McIntosh years ago gave up submitting unsolicited samples of their products to the "underground" magazines for testing. The chances of their getting an unbiased review seemed slim.

But the very fact that McIntosh has survived this long, while still maintaining its reputation



McIntosh MC-7270 Power Amplifier

with the general public as the Cadillac of audio electronics, is evidence that it must be doing something right—particularly when we compare its contemporary status with that of brands it used to compete with during the '50s and '60s: Fisher, Marantz, and Scott.

Many readers have written to us in recent years asking why we never review any McIntosh products, so we finally decided the time had come to contact McIntosh and request a sample of what they felt to be one of their best products. The MC-7270 is what came.

The MC-7270 is quite striking in appearance. The chassis and front panel are flat black, with a clear glass panel across the upper half of the front, behind which are two large, illuminated output-level meters with dark-blue scale cards. The meters are calibrated both in watts (with a logarithmic scale, to more accurately reflect perceived volume levels) and in dB relative to 270 watts. The meter scales actually continue up to 540 watts, and McIntosh claims the amps can deliver that much for very brief periods. (Assuming the meters are reasonably accurate, I've seen them kick up to very close to that level on occasion.) Above the meters, back-lit in dark green, is the McIntosh logo.

There are four front-panel control knobs: Left-channel gain, Right-channel and mono gain; AC power; and meter mode. The meter

has two switchable modes: one for continuous monitoring of all program levels, and a so-called hold mode, where the needle stays at the maximum reading it has attained for the past few moments, returning gradually to a lower reading (at a rate of about 6dB/minute) during lower-volume passages.

Normally, electro-mechanical meters like these "round off" signal peaks, because the inertia of their indicator needle and actuating coil prevents them from responding rapidly enough to short-duration impulses. To allow these meters to read signal peaks, McIntosh uses a dedicated high-current amplifier to charge a storage capacitor to the peak voltage; this capacitor holds the charge long enough for the meter movement to swing to the peak value of the signal. What happens after that depends on the meter switch setting. In the normal mode, a resistor is connected across the capacitor, to deplete its stored charge fairly rapidly, allowing the meter reading to drop after the peak signal has passed. In the Hold mode, the bleed resistor is disconnected so that the capacitor discharges only through its own internal leakage, which takes quite a bit longer. (All capacitors leak, in case that statement raised your eyebrows.)

The 7270 is one very hefty stereo amplifier, weighing in at 82 lbs. (If I had read that part of its specs first, I would never have even

tried to lift it up onto the test stand. Now that I know, I'm not going to try lifting it off again, unassisted!) The amplifier has unusual power output specifications: It is rated at 270 watts continuous power rating into 1 ohm (both channels driven), 4 ohms, or 8 ohms; delivered power does not increase at reduced load impedances, as does that of other solid-state power amps. The reason for this is that the 7270 has provision for maintaining optimum output termination over a wide range of loads.

The MC-7270 is unusual—maybe even unique for a solid-state amplifier—in that it has output taps, like a tubed power amplifier. Impedance conversion is done by means of what is called an autotransformer—a single winding with several taps along its length. It is this that allows the 7270 to deliver its rated power into such a wide range of impedances, because matching the amplifier output impedance to that of a very low-value load places no more demand on the output devices than matching an 8-ohm load. But doesn't using an autotransformer cause the same problems as using an output transformer in a tubed amp? No, because the autotransformer has very little impedance ratio, relatively few turns of heavy wire (because of the low impedances), and a whale of a big iron core. (Probably 70% of the amplifier's total weight is in its transformers, and the output ones probably account for a quarter of that, or 15 lbs apiece.)

Incidentally, both sides of each speaker output "float" above chassis ground potential. There is no voltage difference between the outputs and the chassis, but connecting either Cold (Ground) output to the system ground will completely mess up the operation of the amplifier (it bypasses the pull of the push-pull output and scrambles the output impedance values), while connecting the channel grounds together will kill the stereo separation. This is why I was unable to run Hafler's SWDT null test on the 7270. Bear this in mind when considering the addition of a headphone controller box (most of which use a common ground), or a loudspeaker switcher to the amplifier.

The 7270 incorporates a form of overload protection which monitors the output signal for distortion content, and limits the input signal level whenever it detects more than

0.3%. Thus, the Mac goes one better than the usual "soft clipping" feature designed into some other amps; it is virtually impossible to clip this one at all. Anyone who has fried his tweeters from overload clipping will appreciate the value of this. Another safety feature is provided by the autotransformers, which, in the event of an output transistor failure, will shunt the resulting DC to ground (thus popping the power supply fuse) rather than allow it to go through the woofer voice-coils.

I have to admit that, even before I got around to listening to the MC-7270, I was prepared to be unimpressed. Okay, I confess: I sometimes negatively prejudge high-priced equipment when it seems not to have been designed with the perfectionist user in mind. An example of what I'm talking about is the preamp or CD player which comes with its output cables hard-wired to the interior circuitry, thus frustrating the cable-conscious audiophile's insistence on using the interconnects he *knows* sound best. Okay, so it saves a couple of bucks on gold-plated RCA receptacles, but to me, this kind of design indicates a certain unresponsiveness to the needs of the kind of person who reads *Stereophile*.

In the case of the 7270 amplifier, the thing that turned me off was its output connectors. Even though the accompanying blurb sheet recommends using 10-gauge wire under certain circumstances, the speaker connections on the Mac are on a small-sized barrier strip, which accommodates only a ¼"-wide spade-lug connector. This would seem to preclude the use of most of the heavy premium-grade "perfectionist" cables, which come with ⅜"-wide spade lugs attached to them. These will simply not fit the 7270's output terminal strip, and an adaptor has to be made up, with the potential for sonic degradation that extra connections introduce.

As is now my custom when testing *any* electronic product, I plugged the 7270 into the AC, turned it on, and let it cook for 24 hours before starting my tests on it. (And I trust that all my colleagues who review for this magazine do likewise.) Out of perverse curiosity, though, I took a brief listen to it right after I had turned it on. Ecch! It was grainy, dry, and harsh—about as inviting as yesterday's fried eggs. I wondered, then, how

many audiophiles have taken a new amplifier, preamplifier, or CD player home on approval, listened to it right out of the box, and decided it was unacceptable when in fact all it needed was a decent warmup.

We've made this point many times before in these pages, but it cannot be reiterated too often: A new product *must* be left turned on for at least 24 hours before you make any attempt to evaluate its sound. And if it hasn't been used within the last 24 hours, it should be given at least an hour of warmup before it can sound its best. (My current reference amplifiers, the Threshold SA-1s, took 3 months of use before their sound ceased to improve!) In fact, most high-end dealers do themselves and their products a disservice by leaving all their demo equipment turned off until a customer wants to hear something. While, admittedly, a Krell dealer with his eye on the electric bill might think twice about doing this, most other power amps consume little current when not reproducing a signal.

My first impression of the McIntosh MC-7270 was that its sound is just completely, totally effortless, and very *right*-sounding. Then I began to notice other nice things.

Overall, its sound is a little on the warm side—a quality which I find much more gratifying than the coldness I hear from some amps. In fact, if I had to compare this with anything generic, it would be a topnotch tube amplifier, although the 7270 has only the positive attributes of tube sound: the richness, aliveness, and exquisite delicacy at the extreme high end. It has the typical high-powered solid-state amplifier's low-end range, control, and impact. Its major deficiencies, in comparison with the price-no-object competition, are in soundstaging. Imaging is precise and stable, depth and perspectives are very well presented, but the amp has a tendency to compress somewhat the spaciousness of the sound.¹

The high end on this amplifier must be heard to be believed! Only one other solid-state amp I have heard—the \$3500 Rowland 7—had a comparable degree of sweetness, openness, and delicacy. (And I was less than

ecstatic about some other aspects of the Rowland's sound.) Even my Threshold SA-1s require that I operate the Sound Labs A-3s with their HF rolloff control cut back a little bit (two-thirds of the way up). With the Mac, wide open on those controls gives exactly the right amount of extreme top with the best program material.

But while this is clearly an ideal driving amp for electrostatic speakers (which don't need any spurious edginess from the signal to help them sound detailed), I would not recommend it for most dynamic speaker systems, which *do* require that little HF assist. On most, it would sound anywhere from closed-in at the top to downright dull.

The low-end performance of this amplifier is excellent: very deep and gutsy, with outstanding detail, impact, and control. The bass is in some ways even more satisfying and impressive than that of my Threshold SA-1s, but doesn't have quite their tautness and control.

The 7270 also has the slight forwardness and aliveness of a topnotch tube amp, but without the upper-midrange glare common to many of them. Well-made recordings give a very convincing feeling of you-are-there realism.

The "power guard" overload protection works like a charm. Not only does it seem to have no audible effect at all at levels below overload, it isn't even audible when it kicks in! (Overload is indicated by a flashing yellow light on the front panel.) If I listened very hard, I thought I could hear some curtailment of sharp attacks when the sound was cranked 'way up (with the meters frequently exceeding the 270-watt mark), but I am not at all confident that I wasn't deceiving myself, or even that the speakers weren't starting to run out of juice. After all, those Sound Labs are very insensitive, and no speakers will deliver much more than their rated SPL without compressing dynamic range or going up in flames.

The only other thing I found to question about the 7270 is a tendency for the meter lights to dim momentarily on loud peaks, which would seem to suggest that maybe the power supply isn't all that hefty after all, despite the large power transformer. (I checked for power-line depletion, and was reading no more than 500mV fluctuation on loud pas-

¹ I, too, noticed this effect with the Mac driving Apogee Calpers. The left-to-right spread of the sound was reduced compared with that produced by a Krell KSA-50, almost as if excessive crosstalk were present. Odd indeed. —JA

sages.) I must add, though, that apart from the slight warmth, I found no *audible* evidence of any power supply shortfall.

In terms of price, the \$2895 BEL 2002 is the closest competition for the Mac of any amp I've heard recently, but they are quite different in sound. The BEL has a distinctly cooler "flavor," with a tighter, leaner low end and a slightly less forward midrange (it's actually pretty neutral there), and it provides a rather deeper, broader soundstage, without imaging quite as well. Highs are similar in quality, although the Mac's are sweeter and a little more delicate. One thing is certain: A speaker that would sound great on one of these would not sound so hot on the other. Whether the 7270 sounds magnificent or merely very good in your system is going to depend largely on how it interfaces with the rest of your components—the speakers in particular. (It goes very well with the Sound Lab A-3s, by the way.)

So, the 7270 isn't perfect. It isn't even as nearly perfect as the Threshold SA-1s, which still produce a bit more detail across the board and a more spacious soundstage, and have slightly more low-end impact (as well as a somewhat leaner sound, which may or may not be more "correct" than the relative warmth of the Mac.) And the SA-1s are, by comparison, perceptibly more suave in quality. The Mac sounds imperturbable, but the SA-1s sound just a little bit more so. So I'm not go-

ing to replace my SA-1s with the Mac. But I now know of another high-powered amplifier that I can recommend with few reservations to anyone who doesn't care to spring more than seven G-notes for a pair of the SA-1s.

Interestingly, the Mac boasts a full hundred-plus watts more of power than the SA-1s; the difference was rarely perceptible! (The Thresholds overload very politely, too.)²

The Mac 7270 is no worldbeater—what is, for \$2295? But I found it one of the most ingratiating-sounding amplifiers I've heard for some time. I still can't get over its extreme highs and low end. Double bass from this amp is an experience! (As I write this, I am listening to the plucked bass on "The Colorado Trail," from Dave Grusin's *Discovered Again* Sheffield album. It's gorgeous! So is band eight of the James Newton Howard.)

In short, I like the sound of this amplifier. But I suspect that, in view of JA's feelings about the importance of soundstaging, he might not share my enthusiasm. Review your own stand on the matter before you consider the McIntosh MC-7270 for purchase. But take a listen to this amp anyway—after suitable warmup. It does an awful lot of things awfully well.

Now, I wonder what Mac's C-34 preamp sounds like . . .

S

² Driving Calipers, the 7270 produced very little more level before audible unpleasantness set in than did a Krell KSA-50.

—JA