



TRENDS MINI AMP

How can a power amplifier get this small (we've included a CD in the picture for scale) and offer more than mere milliwatts of output power? The answer is class D operation...or rather class T, as it says on the little amplifier's front panel.

The TA-10.2 is made in China, though that doesn't tell the whole story. It's actually from Hong Kong, which, for historical reasons, has a culture different from that of the rest of China. Trends makes a number of audio components, all of which have in common that they are both small and inexpensive, and yet offer more than you might assume.

We've tested another of Trends' products, the PA-10 headphone amplifier (UHF No. 89), which was the same size as the TA-10.2, but had a hole in the top for the 6DJ8 tube to stick out! How was it? Pretty good!

But let's get back to this "class T" stuff.

Most power amplifiers with hi-fi pretensions operate in class AB, a compromise between class B (where the complementary output devices operate in alternation with no overlap) and class A (where they overlap completely, with, of course, low efficiency). In recent years, more and more amplifiers have used another principle altogether,

class D, or the similar class T.

Class D amps are sometimes referred to as "digital" amps, though a more accurate term is "switching" amp. The output transistors don't operate in the analog realm at all, but act like switches: they're either on or off. The result is a square wave, not something you would want to listen to, but once it's put through a low-pass filter, what you hear is the original signal.

The advantage of class D is extremely high efficiency, and therefore less energy dissipated as heat. Class D amplifiers can be compact, too. Powered subwoofers have used class D for many years, and so have most consumer products, such as TV sets.

"Class T" is a class D variant, developed by a now-defunct company called Tri-Path. The frequency of the square wave varies for optimum performance, going as high as 1.2 MHz. Trends uses Class T under license from the patent holder.

The TA-10.2 could be considered an integrated amp, since it has a volume control, but there is only a single input. That said, it is nicely made, with what seem to be quality inputs jacks and binding posts that look like scaled-down WBT's. The 12-volt power supply is outboard, but it's not a wall wart — it actually includes a standard IEC 320

jack, for use with a proper power cord.

Of course you're not likely to get this amplifier as the heart of a high-end system, but we thought we would throw it off the deep end, and challenge it to do something we don't ask of any but seriously massive amps — drive our Reference 3a Suprema II speakers.

It's not that the Supremas are inefficient. On the contrary, they're rated at 91 dB, a good sensitivity even by current standards. But the bottom pedestal contains a pair of massive *passive* push-pull subwoofers. Need we spell it out?

But we thought we'd have some fun, and actually put the little Trends up against our W-8 amplifier, which sells for about 67 times as much. Fair, right? Since the Trends has its own volume control, we could bypass our preamplifier and plug our phono stage directly into the Trends. Yes, we did the comparison with an LP. The CD is included in the photo is for scale, remember.

And the recording we picked is a challenge: a choral recording called *Laudate!* from Proprius (PROP7800). Could the little amp even survive this recording driving those outsized speakers?

Well, yes in fact. Because our expectations had been so low, we were pleasantly surprised. Of course there wasn't much left of the recording's impressive bottom end, probably because the amplifier couldn't move the massive passive subwoofers. Even so, Steve thought there was way more depth than he had been expecting. "I was surprised by the luminosity of the midrange," said Toby, "and there was some depth too."

Not bad, but — remember — we had really done this for fun. Driving

speakers like those is not what the Trends is made for, and it's not the reason you might buy one. How would it do with speakers that you might *actually* pair with it?

We had just such loudspeakers on hand, KEF C35's. These are bookshelf speakers with 16 cm Uni-Q coaxial drivers. Originally selling for a little over \$600, they might be a reasonable match. We set them atop the Reference 3a subwoofer bases (which, however, were disconnected), and we played the choral recording again.

We weren't surprised to find the Trends much more at ease, not running out of breath as they had with the Supremas. "It's a great big sound!" exclaimed Toby, amazed. "There's a sense of the music in space, of the choral singers in their respective groups, and the soloists stand out too."

There were flaws too, needless to say, and we know that these KEF's (which we have often used to break in equipment we wanted to review) were capable of much more. The bottom end was present but a little muddy. The *forte* passages were somewhat homogenized, with some "glare" in the upper midrange. Some of the recording's legendary depth was reduced. Gerard complained that the stereo image was shifted a bit leftward



had paid for the KEF's...\$2 at a yard sale!

We should add that most users of this amplifier will not be listening the way we were, at considerable volume across a large room. The TA-10.2's natural habitat is a more intimate system.

(he was in fact sitting to the left of the other panelists).

But the music remained enjoyable. "Its performance is a powerful argument for having a quality front end," said Steve. Indeed, there was a lot of money feeding the little amplifier, and we could hear it. "And it's not bad for \$191." That price includes the amount we

What *would* you use it for?

One obvious place for it is next to your computer. Add a pair of decent monitor-style (i.e. small) speakers, and you'll certainly outperform the usual computer speakers. Our KEF's are expensive for the purpose if you pay full price, but several "legitimate" audio companies offer speakers that are a convenient size, and can sound very good under nearfield (close-up) conditions.

It may also be right for a second or third system, which you might want to install in a bedroom, a kitchen or a workshop. We think this amp plus well-chosen speakers will outperform the usual alternatives. We'd be tempted to add an Airport Express to provide a first-class link to the music on our computer.

This isn't the first product we've reviewed from this innovative Hong Kong company. We have a feeling it won't be the last.

SUMMING IT UP...

Brand/model: trends TA-10.2

Price: US\$189

Size (WDH): 7.5 x 13 x 4.5 cm

Rated power output: 15 watts/channel

Most liked: Surprising performance, well built

Least liked: Light weight, easily tipped by speaker cables

Verdict: Built for a purpose to near perfection

CROSSTALK

This little box gasped for breath with the reference speakers, but with the highly-sensitive KEF monitors it was a real surprise, with good clarity and even dynamic expressiveness. The voice sounded a little hard at the top of its range, but when you pay so little you can't ask for the Moon, so to speak.

There are a lot of inexpensive mass-market systems this Trends would improve.

—Toby Earp

No, of course you won't even consider this amp as the heart of even a modest music system...but hold on, here. After having heard how it coped with the KEF speakers,

which cost more than three times its modest price, I can see it in a second music system. The kitchen? The bedroom? Next to your computer?

I like the way it's built, and it's the perfect answer to a whole lot of possible questions. Beyond any one particular purpose, you might want one as a utility amplifier, to press it into service when needed.

I've said in the past that class D (or class T) is a cure for a disease that has yet to be discovered, but I'm coming around. If that high-efficiency mode of operation makes products like this possible, let's go with it.

—Gerard Rejskind

You might have heard the saying that little guys try harder. Napoleon was a short fella, so was Ghandi, and the legendary Winston Churchill was a compact 5'6".

So how high does the TA-10 stand? Alongside other full-sized amps it is too small to even notice. Its price is also tiny next to the cost of many normal-sized amplifiers. But hey, you know what they say about people, and the same can be true about amps: it's what's inside that really counts.

And in this respect the TA-10 is just fine, and a stupendous value. It sits tall in the saddle.

—Steve Bourke