

UHF

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TWO LOUDSPEAKERS: A deceptively small high-end speaker from Küdös, and an affordable large speaker from Gershman.

REVIEWS: An inexpensive integrated amplifier from the Netherlands, and new products for computer audio from Japan and Taiwan.

PLUS: A critical look at the Compact Disc for music delivery, where to get a bargain on a home cinema processor, and the making of the greatest film ever about classical music.



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ADL GT40

The acronym stands for Alpha Design Labs, a division of Furutech, the Japanese company known for high-end audio connectors, cables and other gear. Furutech's products are on the luxurious, and therefore expensive, side. The new ADL line, by contrast, aims at value for money.

Not that there's anything obviously cheap about this affordable product. It's billed as an "audio interface," because it defies conventional description. It is a digital-to-analog converter. It is a phono preamplifier, able to accommodate both moving-magnet and moving-coil cartridges. It is a headphone amplifier with a full-sized front-panel jack. And all this for under \$500. Wow!

But, as they say on the shopping channel, *wait, there's more!* It also contains an analog-to-digital converter, which means it can be used to transfer LPs, cassettes or any other analog audio source to your computer hard drive. All it lacks is a turnip twaddler (see *Bloom County*).

Like many small audio products, the GT40 uses a "wall wart" rather than an internal power supply. The blue button is the on/off switch, and it is also the pilot light. The red/green button allows you to choose whether you want to use an analog input (phono/line) or a digital source (USB). Another switch at the rear lets you toggle between a turntable and a high-level source, such as a cassette deck.

You might assume that Furutech has achieved such an attractive price by using cheap parts, as plenty of manufacturers do. If so, it doesn't show. The finish of the chassis speaks of quality, and the jacks at the rear are premium grade, with Teflon insulation.

Since this device can perform so many tasks, we needed to do four separate reviews. We wondered how good a DAC it is, how good a phono preamp it is, whether it is a good choice for headphone listening, and whether it is useful for, say, digitizing your LPs.

The DAC

There are more and more converters coming onto the market, as audiophiles shift their music libraries onto convenient computer hard drives. A substantial number of these DACs are low in cost, and you won't be surprised to learn that you can't make a silk purse from a sow's ear.

How good can a \$500 DAC be? For that matter, how good can it be if it *also* performs three other major functions? But one question at a time.

Plug the GT40 into a computer, and it identifies itself by name and model number. It offers a large number of sampling rates, but most are not useful to anyone but telephone engineers: for instance, 32 kHz down to a mere 8 kHz. The useful rates are 44.1 kHz (standard Red Book CD) and 96 kHz. We wish there were an intermediate rate

of 88.2 kHz, for reasons we'll get to presently.

We selected four recordings, three of them high-resolution, listening to them with our reference setup (a Stello U3 interface and a Moon 300D DAC), and then substituting the GT40.

The first recording was David Chesky's modern orchestral suite *Urbanicity*, available on HDTracks (supposedly off-limits to Canadians, but don't get us started). Like many other HDTracks recordings, it's in 24-bit 96 kHz resolution.

Steve hated the music and couldn't get past that. Albert and Gerard were impressed by the low-frequency impact on the plentiful percussion Chesky clearly loves. The GT40 reproduced a little less of the recording's depth, though it remained more than reasonable. Of course the ADL could not quite keep up with the performance of our reference setup. Some brighter instruments seemed too far forward, and the volume sometimes seemed too loud. Turning it down resulted in lost detail, however.

We continued with the Manouche Swing Quintet, playing *I Fall in Love Too Easily* (on the Fidelio label). This too is a 24/96 recording, and of course the GT40 played it at full resolution. The ADL brought forth a lot of fine detail, and it maintained strong rhythm — important for swing music. There was very good separation of the instrumental timbres, and this time there was no confusion.

There were, of course, significant differences. With the reference the instruments — especially the saxophone — had an appealing warmth. Some of that was lost. "When the instruments play louder, and especially when the trumpet returns, you want to turn down the volume," said Albert. "With the reference you want to turn it *up*."

We wanted to include the Rachmaninov *Symphonic Dances* we had much enjoyed in some of our other reviews. This Reference Recordings HRx release (HR-96) is supplied on a DVD-R as a high-resolution music file, ready to be transferred to your hard drive. However, the sampling rate is 176.4 kHz. Keith O. Johnson selected that rate because it

is exactly four times the sampling rate of the CD, 44.1 kHz. We wished the GT40 could accommodate a rate of 88.2 kHz, half the rate of the original. But it doesn't, and so we had to set it to 96 kHz. Of course, 96 doesn't divide evenly into 176.4.

All considered, then, the GT40 did well, giving the orchestra pretty much all of its energy. "The bass slam and the bottom end have great impact," said Steve. "The timbres just shimmer. This converter handles the demands of the full orchestra with aplomb." Of course, it didn't quite match our own DAC's full-resolution performance. Depth was shallower, and Albert missed the sense of the hall space, which we could hear more clearly with our reference. Still, he pronounced the rendition nearly as good.

These days we often end a session with Margie Gibson's gorgeous recording, *Say It With Music*, because...well, it's highly revealing, and besides, we like it. We ended with the romantic ballad, *Soft Lights and Sweet Music*.

The ADL did outstandingly well. Margie's voice had a little less weight and less of a "halo" effect, and the opening piano chords bordered on the strident, but her astonishing presence was intact. "I forgot to compare," said Albert, "because nothing called itself to my attention. It was just super." Gerard commented that this was probably better than you could get from even the finest CD player.

And that was pretty much our conclusion. Strictly as a DAC, the GT40 is a terrific success. But converting digital to analog is only one of the arrows in its quiver.

The phono preamp

Why would you want a DAC and a phono preamp in the same box? The obvious appeal is that it makes it easy to turn analog sources, notably LPs, into digital files, ready for your computer or your iPod. We'll get to that shortly, but first we wanted to see whether the phono section is something you would want to listen to.

Everything we've said about cheap digital-to-analog converters also applies to cheap phono preamps. Typical prob-

lems include noise, opaque sound and shrill and unnatural highs. How much of a phono stage can you include for \$500... when some of that money has to go into a DAC, an ADC (the opposite of a DAC) and a headphone amp? We would soon see.

We selected two very high-quality LPs we knew would present a major challenge. If the GT40 turned out to have one of those simple phono stages like the ones described in experimenters' notebooks...it would take only two LPs to show it up. We used the turntable from our Omega system: a fully tricked-out Linn LP12 with Alphason titanium arm and London Reference cartridge. We listened to the recordings with our Audiomat Phono² preamp, and then substituted the GT40.

Of course, you've noticed that the GT40 includes a volume control. For this purpose, we turned it all the way up. That way, the signal would not actually be travelling through the control at all, and we could expect the best possible quality.

The first recording was a long-discontinued two-disc blockbuster from Reference Recordings, *Beachcomber* (RR-62), from which we selected the spectacular *76 Trombones*.

We were split on the GT40's rendition. Steve and Albert were both impressed. Steve noted a certain "mist" between him and the music, but Albert loved the high energy level. "There's a bit of shrillness in the tuttis, but there was nothing I found irritating. I'm very surprised."

Gerard was more critical, though he

agreed that the ADL exhibited none of the flaws common to low-cost phono preamps. "There's wonderful impact," he said, "but the instruments have rougher textures and the piccolo is too shrill. When the music gets loud, it just seems *too loud*."

The second selection was *No Frontiers*, the title tune from Mary Black's best-known album. The song is luminous even on the difficult-to-find CD, but it is entrancing on the LP.

The volume control on the GT40 is not calibrated, and as we explained we had been running it at full volume to get the potentiometer out of the circuit. We were choosing volume, as usual, by consensus. It *would* be possible to use instruments to get volume exactly the same between two components, and there's a certain contingent of audio critics who believe louder is always better, and therefore if levels are not matched within a tenth of a decibel, a comparison cannot be valid. For reasons we have explained, we consider that argument bogus. We did once, briefly, use a microphone to match levels exactly, but our ears were telling us that the volume *wasn't* right. We went back to following our collective judgement, and we know that you'll do the same. You'll listen at a level that *seems* right to you.

That was what we had done, but on some passages we found our chosen volume not truly comfortable. We reduced it by some 2 dB (our reference preamp is calibrated in tenths of a decibel), and we were happier. Mary Black's remarkably expressive voice still had plenty of power. There was plenty of detail as well, in her voice and in the accompanying instruments. We hung on every word, on every syllable.

But of course the ADL could not match our Audiomat. Instrumental timbres were less attractive. "There were fewer variations, and also less finesse," said Albert.

All three of us had our criticisms, because we are used to such a high level of performance from our own phono preamp. However, this is not the first affordable phono preamplifier we've listened to, and it is difficult not to be impressed. We have minimum demands — proper reproduction of lively

SUMMING IT UP...

Brand/model: ADL GT40

Price: C\$499

Size (WDH): 15 x 11 x 5.5 cm

Most liked: Outstanding performance at a bargain price

Least liked: No setting for 88.2 kHz, no analog volume control for recording.

Verdict: If the Swiss Army came out with a high-end audio product, this would be it.

energy and detail, and not ever annoying us — and the ADL GT40 met those demands easily.

Recording with the GT40

If you're like us, you consider vinyl to be one of the best high-fidelity media ever, and still an attractive choice today. Why would you want to transfer LPs to digital?

There are numerous reasons. If you use a portable player, such as an iPod, on the go or in your car, you may want to bring along music you have only on LP, and don't want to buy all over again. And perhaps you have personal archives on cassette or even open-reel tape, and you would like to preserve them digitally and have convenient access to them besides.

It has long surprised us that audio manufacturers don't make the process more convenient. True, for about \$120 you can get a plastic turntable that automatically turns vinyl into MP3 (yes, MP3 — forget any better formats). We probably don't need to explain to *UHF* readers why you should abandon music all ye who enter here. So where are the better solutions?

The key to digitizing your analog media is the ADC...the reverse of the familiar DAC we talk so much about. It stands, of course, for "analog-to-digital converter." We've been using an Edirol UA-25 for some years, but who is Edirol? It's a division of Roland, the people who make those professional synths you see at rock and jazz shows. And there's the problem. You'll see Roland at large music stores catering to professional musicians, not at the electronics or audio stores you're likely to hang around.

What's more, such interface boxes are generally designed for the convenience of pros, not audiophiles. The front panel of our Edirol, for instance, has XLR connectors meant for microphones. The high-level inputs use mono phone plugs, which we bet you don't have in your drawer. There are no real volume controls, either, just "sensitivity" controls.

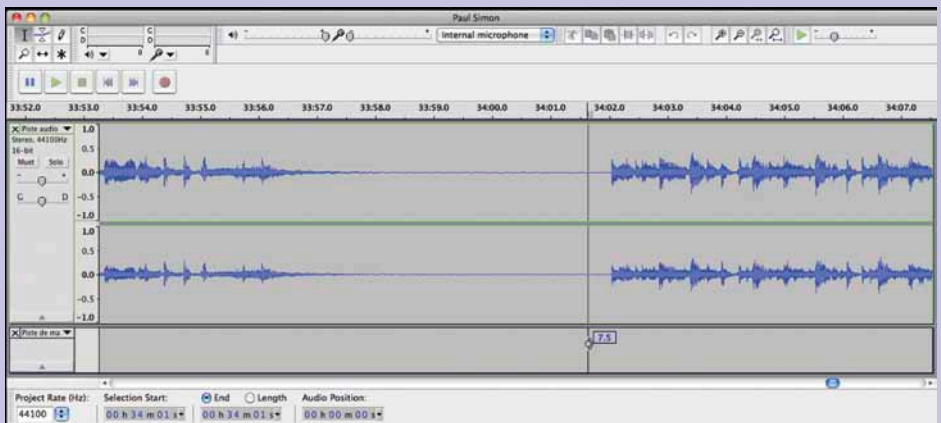
One quick anecdote: a few years back we called Roland asking whether our Audiophile Store could become a dealer for Edirol, explaining we could expose their products to a new customer base. We got blown off.

DIGITIZATION: THE SOFTWARE

Why would you want to turn your analog material into digital? The major reason is convenience. You probably don't keep a cassette deck in your music system, even if you still own one. And much as you may enjoy your LPs, you may want to hear them on your iPod or in the car without buying that music all over again.

Though the physical hookup is quite straightforward, you can't record without recording software. A number of companies make it. We ourselves are fond of Audacity, an open-source multichannel recording package that is free and can be installed on Mac OS X, Windows or Linux. Audacity's advantages (did we mention that it's free?) include astonishing flexibility and excellent performance. It is stable, furthermore, not crashing just as you're trying to save a two-hour recording. We give it a lot of points for that.

Below is the main window of Audacity. Note that you can record many track pairs, and then mix them down, just as music producers in professional studios do.



Audacity does have its quirks. You may tear out your hair because you can't get an input signal, and then you realize that you have to click on the meters before they'll register anything. If you stop the recording (instead of pausing it) and you start recording again, Audacity will put the new recording on new tracks.

Though you'll be recording an LP or other work as a single pair of stereo tracks, you'll want to split them into individual selections before either burning the music to CD or adding it to your playlist. Some recording software can do this automatically by detecting the silence between tracks and adding a marker. We have yet to find one that can do it perfectly. If you need to fix up the markers, you'll probably find it easier to do the job yourself in the first place.

You can tag the markers with the titles of the tracks, but you may find that when you import the tracks into your music management software, such as iTunes, the track titles will appear as if by magic anyway. That's because Gracenote, the same online database that fills in the titles when you rip a CD, can actually *listen* to the opening track and match it up with the correct recording. Of course, that works only if the LP you've digitized is also available on CD or other digital source.

Audacity's export options are numerous, and you may find them bewildering, but once you have the settings right all will be easy from then on.

Incidentally, the GT40 can record in standard CD Red Book format, which is probably what you'll choose for most purposes, but you can also choose to record in 24/96 resolution, and with a good source the difference is clearly audible. For most purposes, CD-resolution is just fine. You can, however, burn a 24/96 file onto a blank DVD, playable on any DVD player ever made. How it will sound depends on the player.

You can use the GT40 as a complete path from your turntable to your computer. Or, if you prefer to use your own phono preamp, or if your analog source is a tape deck, say, you use the GT40's line input. You then connect it to the "record out" jacks on your preamplifier or integrated amplifier (most still have them, even if they don't have a tape circuit). On your computer's audio control panel, choose the GT40 as a source. You can also choose to record in normal CD resolution (16/44.1) or higher resolution (24/96).

In our tests we used Audacity, open-source multitrack recording software (see *Digitization* on the previous page), but you may choose pretty much any audio recording software, free or paid. What we discovered when we fired up the software is that in recording mode, the volume knob controls output, not input. The recording volume must therefore be controlled through the computer's control panel. This is a lossy system, and ADL's very short manual tells you to set the software volume control to maximum. We found that, by happenstance, that worked well for the recordings we tried, but we wish

there were some other sort of sensitivity control.

That said, we very much liked the results we got recording with the GT40. You might think that the recording function is a mere accessory, and in fact most reviews we've read don't mention it. It is, however, a terrific thing to have.

The headphone amplifier

You can spend thousands of dollars on a dedicated amplifier to drive headphones, but even a lot of receivers come with headphone jacks. Is this more than an afterthought?

For this test we plugged the "record out" circuit of our Moon P-8 preamplifier into the GT40's line input, as we would if we wanted to digitize an LP, and then we tried two favorite LPs, Mary Black's *No Frontiers* and The Dallas Wind Symphony's *A Chorus Line* (from Reference Recordings' *Beachcomber* album). We listened with our reference headphones, the professional-level Koss PRO/4AAA (unrelated to later Koss phones of the same name). The first thing we noticed is that the phone amp has all the gain you could possibly want, and then some.

We had reservations about the Mary Black song. Though this amplifier digs out the fine details, rendering transients with speed and punch, the song grew tiring to listen to well before the end.

But that may not be the way you would listen. We suspect we were actually hearing the ADC and the DAC back-to-back. We plugged the GT40 into our computer via USB and listened to Margie Gibson's *Soft Lights and Sweet Music*. It was glorious, with neither harshness nor shrillness, but plenty of detail and emotion. We then bumped it up to 24/96 and listened to the Manouche Swing Quintet's *I Fall in Love Too Easily*. It was about as good as we could have asked for, with smoothness and gorgeous instrumental timbres.

Not bad for a headphone amplifier that is only a small part of a \$500 product!

Conclusion

This is a beautifully designed and well-built product, offered at a most attractive price. It can do a lot, and it does it well. Its functions and performance are totally out of synch with its low price.



CROSSTALK

Considering what it was up against in our reference system, this unit is a wonder. Actually it's a wonder strictly by being a phono preamp, and the fact that it's *also* a USB-connected DAC is a tremendous bonus. It would be very good if it fulfilled its different roles merely adequately, but I was grinning widely when I realized it was *more* than adequate. Way, *way* more than adequate.

I suspect that some of our readers, sadly, have never listened to a decently played LP. This unit can smooth the way to the vinyl playground. Granted, you'll need some more coin for a decent turntable and cartridge, but you can certainly afford to wait and save, while enjoying a substantial upgrade for your computer-generated music.

—Albert Simon

Most everybody might agree that a device purporting to perform many different

audio functions well is a device that tries too hard. Is this tiny box of nicely polished metal really as capable as it claims? And at a little under \$500, how could it do four crucial audio jobs well at such a totally modest price?

I was skeptical going into the test, but amazed coming out of it. Bass slammed and roared, timbres were very believable, and complex orchestral passages were handled with ease. Yes, the reference was better in most respects, but not better by a gigantic margin. This dandy little fistful of audio dynamite must be on steroids, because it hit a whole bunch of musical phrases right out of the park. Impressed? You bet I am. High-end performance at a low-end price is what you're going to get.

—Steve Bourke

If you've been following our recent articles, you know that, difficult as it is to make a great DAC of any sort, making a great

USB DAC is even less common. The GT40 *is* a USB DAC — indeed, it can't connect to a digital source by any means but USB — and it gets fantastic results. I don't mean that it is anywhere close to the state of the art, because at this price that would be fantasy, but it gets the basics right. There are so many products at much higher prices that don't.

Of course, that's not all. The GT40 is also a phono preamp that is way better than average, an ideal match for all but the very top turntables. And it can even let you turn your analog media into digital. Oh, I have criticisms there too, but it puts a lot of power into your hands.

Notice something. We called it an excellent DAC with a good phono preamp thrown in, *or* a very good phono preamp that also comes with a DAC. And a headphone amp.

Where *is* this thing made? Japan? China? Taiwan? Who knows? *Who cares?*

—Gerard Rejskind