

# Graff of Newark

## Digitiser

by Jay M. Delp

Let's talk audio cassettes. Wait, wait! Don't turn this page. Allow me to explain. Although I'm introducing this column with a decidedly

obsolete, low-tech, analog medium of yesteryear, by the end of this column it will be all "1s and 0s". Trust me. 'Fess up. You are the not-so-proud owner of dozens (hundreds?!) of those what-do-I-do-with-them-now audio cassettes stashed far away in your bedroom closet, basement box, attic cabinet or church office bottom desk drawer. I confess I am. Or perhaps your ministry has innumerable audio cassettes abandoned.....uh, ARCHIVED in some never-to-be-accessed-again storage closet.

Sure any number of people (including you?) have considered and possibly even suggested having all those audio tapes converted to digital audio recordings be it CD or MP3 but even if you have easy access to a stand-alone CD recorder or computer-based analog audio capture device the thought (and expense) of capturing those hundreds of hours of analog recordings in real-time simply became a deal-breaker and 2008 is on course to come and go with those tapes becoming another year older taking yet another step closer towards their inevitable disintegration. In short, you've got a "reel" problem.

Enter the GRAFF Digitiser (cue the trumpets!) high-speed audio cassette digitizer. Yes, you read



correctly...HIGH-SPEED! Now that I have your undivided attention here's the details.

The GRAFF Digitiser comes from our friends at GRAFF OF NEWARK LTD in the United Kingdom and combines hardware with PC software for quick and easy 8x capture (mono or stereo versions available) from standard audio cassettes directly into .wav (wave) files.

Minimum system requirements include: IBM PC or compatible desktop PC, Windows XP, Intel Celeron 2.0GHz, 256MB RAM, Spare full height PCI slots: 1 for mono, 2 for stereo Graff-supplied 192kHz sample rate sound card (2 for stereo), CD-ROM drive, minimum 1GB hard disk space and 1 spare unused COM or USB 2.0 port.

If you wish to use the Digitiser with a laptop you need Windows XP, Spare USB2 ports: 1 for mono, 2 for stereo, Intel celeron© 2.0GHz, 256MB memory, Graff supplied 192kHz sampling rate external sound card (2 for stereo), CD-ROM drive, minimum 1GB hard disk space and 1 spare unused COM port or 1 additional USB 2.0 port.

The primary piece of hardware is the GEM (Graff of Newark) Master unit Digitiser which looks like a converted 1 x 1 high-speed tape duplicator but contains only one

cassette well. This unit feeds either an internally-mounted PC sound card or an external analog-to-serial or USB 2.0 sound "card" (small 6.5" x 5" x 2" box). Approved internal sound cards include: ESI JULI@, ESI Waveterminal 192X, M-AUDIO AUDIOPHILE 192 and for stereo you will need either 2 cards or the LYNXTWO-A. For this review I used the EMU 0202 external sound card/unit. This external sound card can connect to your computer's 9-pin serial COM port or to a USB 2.0 port via the supplied USB-to-serial adaptor.

Setting up the hardware and software is rather straight forward although initially I was a bit confused about what order to install the multiple discs (and which discs were not needed at all), the multiple documents and supplied cables but I believe I made the process more difficult by combining the paperwork and components for both internal and external sound cards (I had requested both but ended up only using the external sound card). Despite my self-sabotage it would be nice to see even better documentation and clearer installation disc labeling/cross-referencing.

Once connected and up and running operation of the GRAFF Digitiser is very straight forward and user friendly. The software

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interface offers four buttons labeled "Rewind", "Stop", "Digitise" and "Auto". "Digitise" begins the audio capture process immediately while "Auto" will rewind the tape automatically prior to beginning the digitizing process. Nice touch.

Audio is captured at a sampling rate of 22050 samples per second but under the "Options" menu you may choose to upsample to 44100 which I selected.

After installation was complete I was ready to begin.

I inserted a 60 minute cassette

tape into the master unit, selected an file output location on my hard drive, assigned a file name for side A and a file name for side B, left clicked "Auto" and immediately the master unit leapt into action and high-speed audio cassette digitizing began.

I liked that there are onscreen audio level meters (left and right) within the software confirming that the audio was indeed

present and being imported to the computer. Both the A and B sides of the tape are captured simultaneously (as two separate .wav files) although the B side can be disabled in software should you desire to capture side A only. I timed the high-speed digitizing process and as the documentation promised, capturing a 90 minute tape took approximately 6 minutes and approximately 4 minutes for a 60 minute tape. Sweet.

But still my inner-cynic whined, "Yea, but wait until you hear the horrible sound quality and inevitable "warbling" which you're bound to get from "ripping" audio at high-speed from those ancient 20th century analog tapes!". So I played my newly-captured (spoken word) 44100 .wav files via Windows Media Player and I was pleasantly surprised to find consistent and very high quality sound files (with "high quality" obviously being relative to the fact that we're still talking audio cassette quality here). I then proceeded to capture some music and singing cassette recordings with similar results. My inner cynic was mute. My "final answer" is simply, "This thing actually does what it says it can do!" I was hooked.

I'm not sure which was faster the GRAFF Digitiser converting my last-century cassette tapes at highspeed or me running to the four corners of my house (world?!) at high-speed snatching up every 1980-something cassette both in and out of sight.

And if you're wondering about tech support from an overseas company, so was I. During my first attempt at setting up the hardware and software I realized I was going to need some help sorting things out. I

thought receiving good tech support was going to be a nightmare. After all the U.K. time zone is about 6 hours ahead (later) than my U.S east coast time zone so there's no way I'm going to be able to receive a prompt phone call (or any phone call at all!) from GRAFF, right? Wrong again. Not once, but twice I received prompt overseas phone support from the very knowledgeable and helpful folks at GRAFF. Impressive.



As our a/v technologies continue to evolve there comes a time when we need what I call "transitional technologies" to help us "bring along" our (previous times) media and technologies. Until now I simply assumed that "high-speed" and "audio cassettes" could not be used in the same sentence when it came to converting their analog content into today's digital formats/mediums. In the realm of audio recordings I believe the GRAFF

Digitiser is one such transitional technology which can effectively and quickly "bring along" all of our 20th century audio cassette recordings. It truly is a real GEM. .Wav good-bye to your cassettes...finally!

Graff Products are stocked in their warehouse in Atlanta GA., and for further information on your local USA Dealer you can contact:

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## BY THE NUMBERS

**4** – minutes to "rip" a 60 minute tape

**6** – minutes to "rip" a 90 minute tape

**8X** – capture speed

**22050** – audio sampling rate per second

**44100** – audio upsampling rate per second

**127** – cassettes you'll digitise your first day