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HP Forum Archive 13

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HP-41CX to PC connection

*Message #1 Posted by **Jon** on 22 Oct 2003, 5:46 p.m.*

I would like to connect my HP-41CX to the PC (Windows me). I don´t know which is the best option. I have read it is possible to use the HP-IL/RS232+ ext I/O with linux (Is it possible to do it with Windows? Which software is needed?). I could also buy the card made by K. Klug. Both are quite expensive solutions so I would like to know some opinions before.

Thanks in advance

Jon

Re: HP-41CX to PC connection

*Message #2 Posted by **Pavel Korensky** on 22 Oct 2003, 7:08 p.m.,*
in response to message #1 by Jon

Currently, I am trying to use the HP-IL/RS-232 module. Finally, I have the module. Now, I only need to finish the ROMpack, because I do not have the original Ext.I/O module.

I am planning to write my own WinXP software for file transfer.

Maybe, there will a third possibility in the near future. As far as I know, Meindert implemented the USB interface is his MLDL2000. But I do not know, if it will possible to use this interface for program/data transfer between PC and HP-41.

Re: HP-41CX to PC connection

*Message #3 Posted by **Bill Smith** on 22 Oct 2003, 7:16 p.m.,*
in response to message #1 by Jon

there are several ways to get files from a 41 to a PC. see Articles (on this site) 54, 118, 260, 311 and any related for technical info.

i think the 82973A or the Klug IL2000 may be the most versatile to directly transfer PC files because of the several software packages available, and there are calculator emulators and IL system stuff as well. they may also be a bit cheaper than the 82164A and 82183A combo, as these items seem to fetch $80 and higher apiece on ebay. there was some discussion on trying to develop the necessary XIO commands in mcode to obviate the need for the 82183A, but i haven't heard of any success to date.

perhaps the least expensive is the 9114 disk drive, though not as common as they used to be. actually, i paid less for my 82973A (3 years ago) than the 9114 (1 year ago), and i still need a battery pack for the latter. if file transfer is your only objective and you can find a 9114 ready to go, i'd grab it; then the disks can be read in most PCs with the lifutils software.

best of luck finding what you need, bs

Why that archaic (and bad) HP-41CX ? Take the great HP-49G+ !

Message #4 Posted by Dr.J.Kahler on 23 Oct 2003, 12:52 p.m.,
in response to message #1 by Jon

Hi Jon

Why a HP-41CX ? I cannot understand. That is an absolutely archaic machine from 1980. Better buy a HP-49G+, this can be connected to PC easily. And the price is quite OK. I saw price discussions on HP-41CX here at the forum. The people spoke about several hundreds of dollars for one HP-41CX from Ebay. That is crazy if compared to prices for HP-49G or G+. Of course, I really can understand the prices. It is for collectors. For collectors any old HP calculator is a very valuable item, I can understand well. But it is not practical for real use and you seem to be someone who really wants to use it, with a PC.

From technical point-of-view a HP-49G+ is of course much better than HP-41CX because it is newest technology with many add ons that have been engineered in 20 years. For example: A HP-41CX cannot do graphics, it has a ridiculous 12-digit display only. A HP-41CX cannot do symbolic algebra. The memory size is negligible. What can you do with 2 or 3 kByte? To be honest, nothing really advanced. It can only be used for relatively simple programs or routines. And one of the worst things may be that the calculator is very slow. I found ridiculous benchmark values at the museums site. The new HP-49G+ has a 75(?) MHz CPU, that's so great! What does a HP-41CX have? Maybe 50 kHz CPU or something like that, I do not know.

OK, there is one real disadvantage: The HP-49G+ has much worse keyboard than all the old HP calcs. But a keyboard cannot drive a decision - that's my opinion. I found a lot of discussion on HP new and old keyboards here at the forum. I believe that this is the reason why so many peolpe still ask for something like a HP-41CX. Why doesn't HP improve that??? That is the only bad point! Even if price would be higher by 30%, who cares?

Finally: My proposal: Forget about HP-41CX-PC-connection but buy one of those brilliant new HP-49G+. Even if keyboard is not one of the best they are absolutely great for relatively little money and can be connected easily. As HP-49G+ has just been launched this is the hour to buy it!

Best regards, Johann

Edited: 23 Oct 2003, 1:06 p.m.

Re: Why that archaic (and bad) HP-41CX ? Take the great HP-49G+ !

Message #5 Posted by Holger S. on 23 Oct 2003, 2:13 p.m.,
in response to message #4 by Dr.J.Kahler

The point ist not the keyboard and not the superior performance of the 49G+ (or any other modern programmable). The point is that the 41CX is magic, beautiful, unique and the 49G+ is not. It's a piece of engineering that has the power to make us happy just by looking at it. It's like a 1970 Mercedes SL500. Even a modern lowly Ford has superior performance. It's not really comparable.

Regds, Holger S.

Re: Why that archaic (and bad) HP-41CX ? Take the great HP-49G+ !

Message #6 Posted by Keith Gobeski on 23 Oct 2003, 2:36 p.m.,
in response to message #5 by Holger S.

http://news.bbc.co.uk/1/hi/technology/3175506.stm

Re: Why that archaic (and bad) HP-41CX ? Take the great HP-49G+ !

Message #7 Posted by Angel Martin on 23 Oct 2003, 4:46 p.m.,
in response to message #5 by Holger S.

Well put!! Here's to the Coconut grove: cheers!

AM.

Re: Why that archaic (and bad) HP-41CX ? Take the great HP-49G+ !

Message #8 Posted by Wayne Brown on 23 Oct 2003, 7:08 p.m.,
in response to message #5 by Holger S.

Exactly! Holger, that is a perfect description of the 41CX. Though I use my 48GX more frequently these days for real work, sometimes I take the 41CX out of its case and just hold it. Feeling the weight and shape, turning it at various angles so that it catches the light, switching it on and watching that crisp display appear, tapping those wonderful keys and feeling the solid "click..." I admire it the way some people admire sculpture or fine jewelry: Not just for what it can *do*, but for what it *is*. It's hard for me to imagine feeling that way about a 49G or 49G+.

Re: Why that archaic (and bad) HP-41CX ? Take the great HP-49G+ !

Message #9 Posted by bill platt (les Estats Unis d'Amerique) on 23 Oct 2003, 2:23 p.m.,
in response to message #4 by Dr.J.Kahler

Hi Dr J.

Well, yes, 'tis true what you say.

But,

Maybe Jon has been using that CX for 20 years and knows it really well. Maybe he realizes that to change to a new machine will take a significant learning curve. Maybe he really knows his field, his stuff, and he is a Well-Oiled Machine. So, the 49 is just a bunch of overhead for him.

Or, maybe he enjoys the old machine--some people actualy like to play with these old machines for no other reason than that they enjoy doing it (I know you know that--I'm just ribbing you).

I fell into the first category for 20 years, but now I find myself falling into the second category.........boyoboy there is no way out now...I'm in way too deep.....

regards,

Bill

Re: Why that archaic (and bad) HP-41CX ? Take the great HP-49G+ !

Message #10 Posted by David Smith on 23 Oct 2003, 2:24 p.m.,
in response to message #4 by Dr.J.Kahler

Becuase the HP49 draws major vacuum and the 41CX does not...

Re: Why that archaic (and bad) HP-41CX ? Take the great HP-49G+ !

Message #11 Posted by Albert on 23 Oct 2003, 2:37 p.m.,
in response to message #4 by Dr.J.Kahler

Hi,

Maybe there are several subjetives (and appreciations) points of view. I understand your "scientific approach". However, I love my HP-25C (27 years old), and even my HP-67 (in the garage, under repair waiting spare parts). The HP-41C (and cousins), are, let's say, wonderful.

Chiao

Re: Why that archaic (and bad) HP-41CX ? Take the great HP-49G+ !

Message #12 Posted by **Raymond Del Tondo** *on 23 Oct 2003, 2:51 p.m.,*
in response to message #4 by Dr.J.Kahler

Hi,

I still vote for the HP-48GX (with b/w display). Ok, it's slower than a 49G(+) but in most cases, that's not the main point. For many people an important point is reliability, at least if they spend that much money for just a calculator. From this point of view the HP-48GX outbeats all of it's 'succesors'.

I don't know if you know that the 49G OS took more than 3 (three) years *after* lauch to get to something that you can call stable.

The 48GX has a reliable keyboard, and an OS which is stable enough that you don't need to fear a memory loss every week.

And yes, IMHO the 128K memory is suitable for most serious cases, and if not, it can be easily expanded.

The SD card feature of the 49G+ is very nice, but seriously, do you have or know an application which needs that much? You could load all programs from hpcalc.org into the machine, and maybe some people try it, but I'm not sure if this makes sense.

Even the RAM and flash of the normal 49G was more than enough, except for people who load all games available, or many GROB animations;-)

For the HP-41: The CPU clock is some hundred KHz, and the small amount of RAM lead to another effect: Highly efficient quality programs.

And no, you could do very advanced programming on the HP-41. Of course not much with graphics, but the HP-41 is still great for numerical calculations. One reason is the *much* better keyboard than that of the machines after the HP-48...

And yes, there were some *very* advanced modules for the HP-41, e.g. the CCD ROM, AECROM, HEPAX, to name only a few.

I must admit that a high quality keyboard is essential for me, and this was never a problem with HP calcs up to and including the HP-48 .

You press a key, and the tactile feedback 'informs' you that the key has registered. In other words: You simply can type without checking every key stroke.

When I read things like: ...after I got used to the stiff keys, and knew I had to press very hard to have the key register... (49G+)

or people filling threads debating about the best value range for >KEYTIME to somehow get rid of immanent key bounces (49G)

or similar then it seems people get what they deserve;-)

Regards,

Raymond

MY REASON

Message #13 Posted by Jon on 23 Oct 2003, 5:28 p.m.,
in response to message #12 by Raymond Del Tondo

Hi everybody:

I have used a Hp-42S since 1989. It is wonderful. But some time ago I bought a HP-41Cx. And, what can I say, I love it. And I am sure I will not buy a 49G+. Because I don´t like it. I don´t really need the calculator to everyday work (who needs if you have excel in the computer?). But I like playing with it. Can you imagine a calculator from 1983 connected to a modern PC?. Please, don´t compare it to the 49G+ or I will feel offended (It is a joke, of course)

Kind Regards from Spain

Jon

Re: MY REASON

Message #14 Posted by Ron Ross on 23 Oct 2003, 5:39 p.m.,
in response to message #13 by Jon

Well said.

"Please, don´t compare it to the 49G+ or I will feel offended (It is a joke, of course)"

The joke, I will infer, is the 49G+. 8o) Did I put words in your mouth??

As far as Dr. J. Kahler's post, "Why not buy a PDA, if you don't mind lousy keyboards?" That is the superiority of the calculator, and if you supply a lousy keyboard, no need to stay with the calculator, but simply buy the PDA. Once your input degrades (keyboard), you really have a fancy overgimmicked gameboy. While I like my 42s best, it suffers from lack of I/O and RAM (well, not really, but with no I/O, no use for my 32K). A 48G overcomes this barrier and I now use a 48GX almost exclusively. But it doesn't fit in a shirt pocket. Still, it has a decent keyboard, but if it didn't have that, I wouldn't use it (I never did get used to my 49, I hope the new 49G+ is better).

Re: MY REASON

Message #15 Posted by hugh on 23 Oct 2003, 6:22 p.m.,

in response to message #14 by Ron Ross

theres a rather nice free version of 48SX/GX or 49G for the palm pilot (and possibly others?).

A reason to reconsider...
Message #16 Posted by Gene on 23 Oct 2003, 7:31 p.m.,
in response to message #12 by Raymond Del Tondo

"The 48GX has a reliable keyboard, and an OS which is stable enough that you don't need to fear a memory loss every week."

Gene: Hi Raymond!

I've had reason to use the 49G+ for the last 2 months VERY intensely, for obvious reasons.

I have not had a single crash, and I've been trying to MAKE it do that.

I think the days of a memory lost are long gone.

The keyboard is fairly reliable and a friend who has a 49G+ that is 2 months "newer" than mine cannot make the keys miss when he is trying.

You can always give it a try and see. I think it is very nice.

And, as fast as it is, even choose boxes are a joy.

Gene

Re: Why that archaic (and bad) HP-41CX ? Take the great HP-49G+ !
Message #17 Posted by Pavel Korensky on 23 Oct 2003, 7:24 p.m.,
in response to message #4 by Dr.J.Kahler

For me, there are several reasons why to use the old calculators like HP-41 or HP-16C.

1. Those old machines always do, what I suppose they should do. They do not bother me with system crashes, short battery life etc.

2. Whatever they are doing, they are doing it fast and simple way. For example, I have one old HP-41 in my workshop. It is loaded with simple programs, which are usefull for everyday life (resistor divider calculations, metric-imperial conversions, some math, resistor color codes, some machinist equations,

ultimate answer to the ultimate question "Should I continue to work and piss my wife, or should I go to the bed ?" and similar). With the user defined keyboard, it is so simple to use it.

3. HP-16C is a separate story. This is the best calculator for the programmer (assembler, microcontrollers etc.) and nobody did not invented nothing better. I am using it approx. 3 hours each day.

4. A bit of nostalgia and the glamour of the old, better times, when men were real men, women was real women and small furry creatures from Alpha Centauri were real small furry creatures from Alpha Centauri. Glamour of the old times, when the things was designed and manufactured to last and work forever.

Of course, I have PDA, I have several PCs. And if I need some graphs or FEM modelling, I am using PC. But when I need to do some simple calculations, I take my old HP in my hand.

(deleted post)

Message #18 Posted by [deleted](#) on 24 Oct 2003, 3:25 a.m.,
in response to message #4 by Dr.J.Kahler

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted.

You compare apples and oranges

Message #19 Posted by [Thibaut.be](#) on 24 Oct 2003, 5:38 a.m.,
in response to message #4 by Dr.J.Kahler

Your arguments are purely rational, and in that sense you are totally right (excepted that keyboard quality IS an essential quality as it is the first human interface with the calculator).

Our beloving of the 41C series is not only rational, though many actual calculators can do a better job, but also emotional. And in htat sense even being archaic it still remains a very much useful calculator.

Nope

Message #20 Posted by [Valentin Albillo](#) on 24 Oct 2003, 6:42 a.m.,
in response to message #19 by Thibaut.be

Thibaut posted:

*"Our beloving of the 41C series is not only rational, **though many actual calculators can do a better job** "*

I don't agree, at all. There aren't MANY actual calculators that can do a better job than the 41C series. Depending on the job, I doubt if there's even *one*. For many jobs, there's simply none.

"And in htat sense even being archaic it still remains a very much useful calculator. "

A fork is also archaic and I'm sure most of us find it incredibly useful and would not consider replacing it with any other gadget, however "modern" or "new".

The question is *not* if the 41C is "archaic", but whether its functionality and ergonomics are suitable for the tasks its user intends. And for many, many, many tasks and users, it certainly does.

Best regards from V.

Not even a Sharp ?
Message #21 Posted by [Thibaut](#) on 24 Oct 2003, 7:10 a.m.,
in response to message #20 by Valentin Albillo

;-)

Anyway we do agree on the main idea that the 41C series are still great calculators and that there are a lot of good reasons for continuing using them !

Not even a Sharp
Message #22 Posted by [Valentin Albillo](#) on 24 Oct 2003, 12:15 p.m.,
in response to message #21 by Thibaut

Not even a Sharp. One of the features I've always liked the most about the HP-41C series was its card reader.

The sheer fact that you could have a very powerful calculator-cum-computer plus a card holder or two with most if not *all* of your programs, all in a small, easily pocketable zip case, was amazing and invaluable to me. Main RAM could be erased accidentally or on purpose and no big deal, just take a small mag card from the holder, stuck it in the card reader slot, and there you are, your program and/or data loaded in seconds ! Your whole program library always with you, at all times, anywhere !

That you can't do so conveniently with most any modern calculators. Yes, the 42S is faster, larger RAM, but that's no big deal if you have to enter all your programs using the keyboard. You are so aware of just how boring and painful entering programs is that you'll usually enter the ones most useful to you, then find yourself reluctant to enter any other, lest you would have to purge some to make room. Yes, the 48/49 can hold tons of

programs in their largish RAM but then it may get corrupted, or erased, or whatever, then what ? Linking to a PC ? Is then a PC a 'required', vital "accessory" for the calculator ?

On the other hand, with the 41C/Card Reader you wouldn't give a second thought to purging some program to make room for another, nor would care if MEMORY LOST would appear while sleuthing synthetics. Loading an status card with the precious synthetic assignments was easy as pie. Deleting that 3-module Checkers program to load a 3-module Othello program for a quick game was done almost without thinking. Just imagine a 42S user considering doing the same !

Which is more, with the 41C/Card reader, you could even afford to lose not just the RAM, but the entire machine (say it dropped from your hand to that ravine below) and you could borrow another from your pal out there in the field, feed the card with your program and continue working, within seconds. And don't even get me started on plug-in ROM modules !!

Most Sharp models can be connected to a normal audio tape recorder via a small 'docking station' or else there are small docking stations including printer and mini-tape where the unit can be docked, but locating/loading/saving programs is far, far slower than using magnetic cards, and the docking stations themselves, though small, are many times bigger than a 41C/Card reader, and not pocketable at all.

That being so, I rest my case. There's nothing as convenient as a 41C for many taks, nor a best combination of features, excellent engineering, and usability will be achieved any time soon.

Best regards from V.

---

mag cards and nostaliga
Message #23 Posted by bill platt on 24 Oct 2003, 12:52 p.m.,
in response to message #22 by Valentin Albillo

Hi Valentin,

My father's friend was an aerospace engineer, and we used to stop by on out way through Connecticut when I was a kid. I distinctly remember playing moon-lander on an HP when I was, oh maybe 9. Boy was that a cool machine! I remember it had a card reader--and that was how he loaded the game. It was probably a 65 or a 67--may be even older?

That magnetic card thing really did work well, huh? I never owned one :(

On the topic of audio tape storage: In 1985, when I was in design school, we had the very beginnings of CAD for ship design---a TRS80 model II (III?) which read 5" FD's, a Timex Sinclair (1000?) and a commodore vic 16 and some other little tiny Timex. All of these (little) machines were quite clever, and could be programmed in BASIC and were good for doing things like propeller and propulsion calculations (way more than my HP 11C could handle on account of the regression tables).

BUT the audio tape thing S**KED!!! It was so unreliable. The tapes really did not safely store digital data. Stuff would just get corrupted with no warning--or worse the confuser would crash while saving down--and you'd have 3 hours of work lost!

Amazingly, the 5" floppies on the trash80 seemed so stable by comparison (but once the 3-1/2" came along, that perception changed--and now even the latter are terrible! compared to flash or CD...)

SO, How did the mag cards really compare? Were they better made (than analog audio tape)? Do they really still stack up against a storage technique such as USB Flash (Sony Microvault et al)?

Best regards,

Bill

PS, (Off Topic) you must see this video--it gives you a sense of the sheer joy of sailing--and imagine the sense of accomplishment from the designer----THAT is what I do--design things that go on the water (but not the one in the link!)--and THAT is what my HP's are really for :^)

http://www.bayer-voile.com/fr/media/index.php?id=54#54

Edited: 24 Oct 2003, 12:53 p.m.

Re: mag cards and nostalgia and lunar lander
Message #24 Posted by Renato on 24 Oct 2003, 1:05 p.m.,
in response to message #23 by bill platt

I just got my recently acquired 67 to read magnetic cards. You ask about reliability ? Well, I just read all the cards in a HP original standard pac - perfectly, not a single error.

I felt like a 9 year old kid playing lunar lander in the 67 - it is much better than others because it does not require you to press R/S after each entry.

Re: mag cards and nostaliga
Message #25 Posted by Valentin Albillo on 24 Oct 2003, 1:55 p.m.,
in response to message #23 by bill platt

Bill asked:

"How did the mag cards really compare? Were they better made (than analog audio tape)?"

Yes, certainly. To prove the point, my card reader can still read perfectly all my 24+ year-old mag cards, no errors whatsoever. For comparison purposes, most of my audio tapes that old have degraded noticeably (despite them being top-class TDK Super Avilyn tapes), not to mention my 15 year-old VHS tapes.

Which is more, though I've used mag cards thousands and thousands of times, I've never seen more than two or three bad cards in all. Same for the long, HP-71B magnetic cards. A set of then still keeps my EXTENLEX lex file after 15+ years.

"Do they really still stack up against a storage technique such as USB Flash (Sony Microvault et al)?"

Not at all. Magnetic cards were among the costlier media, being expensive and having very little capacity. An HP-41C card would hold just 224 bytes, 112 per side. The longer HP-71B ones stored something like 600+ bytes per card, IIRC. It goes without saying that this can't compare with the typical 128 or 256 *mega*byte USB flash "hard disk" for US $25. Storing and retrieving information would be many orders of magnitude slower, too.

But the comparison isn't fair, of course. Back then, 24 years ago, there were no such devices to compete. Just very expensive floppy disk drives, bar code, digital tapes, and audio tapes, to name a few. None of them could provide the convenience and portability of mag cards, by far.

Best regards from V.

Re: mag cards and nostaliga

Message #26 Posted by Mike - Leavenworth KS on 26 Oct 2003, 12:10 a.m.,
in response to message #23 by bill platt

A little bit of apples and oranges comparison.

I have magnetic tapes that were made in the early 60's (and have had some even earlier), and can attest that they are a very stable medium, even under less than optimum storage conditions. They play music and/or voice fine each and every time I take them out, and amaze (and confuse) the children and others who see this in my office and in two rooms in my house.

HOWEVER - in the quest for the best fidelity and high frequency response in studio environments, the extremely high end tapes are another story. As the crescendo of audiophile and production interest peaked in the 1970's and 1980's, new formulas were adopted that served the SHORT TERM advertising/production/ needs, but were (still under discussion as to if known or unknown) not stable for long term storage. Good to excellant storage would protect the tapes for a few years, but over time they absorb moisture, and the "binder" (that holds the magnetic particles to the mylar tape base) turns to GOO. This is known in the industry as "Sticky Shed" or similar, and can make a MESS of recording heads and your evening of listening to old master tapes for enjoyment.

IMPORTANT - Tape is formulated differently for digital applications than for analog ones. Digital seeks a tape that will securely hold a +/- state and can consistently be changed when needed. Analog applications (like music and voice) require a tape that retains more subtle variations, and is therfor more easily "modified" by external forces from + to - or similar . Early attempts to use analog tape in a digital environment compensated for this by slowing down the data transfer rate (more tape per bit, etc.) to reduce errors rather than making their customers seek (more costly) digital quality tape.

Digital data tapes can be used for analog applications, and vice-versa. The results may be satisfactory for your needs, but most likley you will be somewhat disapointed.

SO - the HP magnetic strips were formulated differently than high end magnetic tapes for different reasons. The strips that have been reasonably protected from heat and colld, and from excess humidity can be used, almost without worry, and so can most CONSUMER tapes.

The high end tapes are another story. They are a problem, and it gets worse over time. Their musical history can be salvaged by heating the tapes in ovens (fairly low tech approach) and recorded to another medium (possibly new and "improved" tapes, most likley digital of some sort) and then saved some more or tossed out or even (WATCH OUT) sold on Ebay.

My $0.02 worth in an effort to avoid unncecessary defamation of recording tapes. As in any hobby - knowledge is power, and I hope this helps

Best in HP's and Reel Tapes

Mike Leavenworth, KS

Edited: 26 Oct 2003, 12:15 a.m.

Re: mag cards and nostaliga--Knowledge IS power

Message #27 Posted by bill platt on 27 Oct 2003, 9:52 a.m.,
in response to message #26 by Mike - Leavenworth KS

Mike,

Thank you very much for your post. Wow, I am ashamed to say that it never occurred to me that the expensive audio tapes may in fact be lower quality for archiving---

And as you say, knowledge is power---and I will add, that understanding the principles is more valuable than merely memorizing the results. (E.G. understanding that the binders have properties which may or may not be conducive to archiving).

On the topic of old audio tapes---I helped my father move to a new place recently, and we found a box of audio tapes he made of us when we were little (4 ears old)---WOW! was that a mind-bender! And they were pretty regular tapes, and they played just perfectly, even being 30+ years old! But I have Super Wiz-Bang HIFI MAXELL or TDK fancy sshmancy tapes that I made back in the 80's, of my favorite albums (Specials, English Beat, Peter Gabriel, Herbie Hancock, Grand Master Flash etc) and they are GARBAGE. And I KNOW they were not that bad the last time I heard them (15 years ago). This anecdotally supports the information you provided.

Best regards,

Bill Platt

A bit OT - - Knowledge IS power

Message #28 Posted by Mike McDonald on 27 Oct 2003, 9:49 p.m.,
in response to message #27 by bill platt

Bill -

Analog Tapes are great fun, and it is a shame for them get goo'ed up. Here are some differing perspectives on recovering those sounds from TapeOp Magazine (a FREE paper magazine)at www.tapeop.com

======================================

Analog Tape Baking: instead of sending your old analog master tapes to New Jersey to be baked in the famous Ampex ovens, read 3 different articles on how to bring yr analog tapes back to life by baking them using a hairdryer and some cardboard...

by Eddie Ciletti: http://www.tangible-technology.com/tape/baking1.html

by Mike Rivers: http://www.josephson.com/bake_tape.html

author unknown: http://members.aol.com/sparecord/tapebaking.html

REEL TO REEL IS COOL.... dolby sucks

Message #29 Posted by Norm on 29 Oct 2003, 5:18 a.m.,
in response to message #28 by Mike McDonald

THAT'S COOL that you keep a reel-to-reel running.

I still use the occasional cassette. (Cassette tape is poor man's reel-to-reel.... has small tape and small reels).

REEL TO REEL incredibly cool even during its golden era of the 1970's and 1980's.

BE IT DOLBY OR CASSETTE..... one thing I can assure you, straight from the Analog Electrical Engineering department......DOLBY SUCKS!!!!!!!!!!

It's a masterful marketing coup, a tax on every cassette deck ever sold, and its LOUSY! Want to make your tape deck sound TEN TIMES better than it ever sounded before ??? TURN OFF THE DOLBY SWITCH!!!!!!

It's just a scam from marketeer wacko's like who get rid of our RPN calculator. I looked at Dolby circuits and they sound as rotten as their schematics. Use a lousy stinkin' JFET to set a variable rolloff point for turning the treble up and down according to the musical content (cute on paper, lousy in practice). True to form, its a terrible amplifier of "tape dropouts". When a bit of dirt glides over the heads, it makes it sound 10 times worse than it actually sounded in truth. Also, cannot respond quickly during transients, Dolby ruins cymbal crashes, piano notes, and other quick-attack sounds.

If you don't believe me, then you can believe Professor Emeritus Ward Helms at University of Washington, and from the master himself I do quote:

"when recording with cassette tapes, the correct position for the Dolby switch is OFF".

Re: REEL TO REEL IS COOL.... dolby sucks

Message #30 Posted by Ed Look on 29 Oct 2003, 11:16 p.m.,
in response to message #29 by Norm

Norm, what about tape hiss. It BUGS me. I know that the digital of a CD can't compare to the warm analog of a vinyl disc, but the CD does not have hiss! (I can live with the occasional snap, crackle, and pop of a vinyl record, though... just prejudiced, I guess.) Oh, it may not count, but my 90's tape deck has blue-green LEDs (I can swear that there was no blue in those days, however!).

tape hiss is better than dolby

Message #31 Posted by Norm on 30 Oct 2003, 1:40 a.m.,
in response to message #30 by Ed Look

You say 'dont like tape hiss'.

Well, tape hiss is better than the artifacts of Dolby.

Listen, if you set the gain properly and as high as is fair, so that the signal comes close to saturation during the loud spots, the music is plenty louder than the tape hiss. And the tape hiss is smooth & even but the dolby artifacts are nasty and make the tape pretty much unlistenable.

Just make sure you set the record level high enough up. It's always bad if you dont use the full dynamic range of an audio recording system because then the S/N ratio is worse than it could otherwise be.

- Norm

Re: tape hiss is better than dolby
Message #32 Posted by jimc on 30 Oct 2003, 9:58 a.m.,
in response to message #31 by Norm

I'd like to interject a comment that some music sounds better with hiss, pops, or lp crackles. I can't imagine Barbeque Bob's voice without the crackles of the original 78's. How about Memphis Minnie? Or even Enrico Caruso or Edith Piaf. Cleaning these up might make 'em sound better to my kids, but it would lose some of the originality.

Just figgered out that there is a connection between my HP41 and my musical tastes. (to the Vapours tune: "I'm turning Luddite, I really think so...")

12345

The worst of both worlds
Message #33 Posted by james (UK) on 30 Oct 2003, 6:01 p.m.,
in response to message #30 by Ed Look

Unfortunately, if you have my taste in music - early jazz - a lot of stuff is only available on CD but has been copied from LP so not only do you get the inherent coldness of CD but it comes with hiss, crackle and pop as well.

Unfortunately, very few cassette deck manufacturers, other than Nakamichi, could be bothered taking compact cassette to its limit so Joe Sixpack never realised how good it could get and was easily persuaded that the new fangled silver disc was the answer to everything ....hmmm.. now what does that remind me of?

Re: The worst of both worlds

*Message #34 Posted by **unspellable** on 31 Oct 2003, 1:50 p.m.,*
in response to message #33 by james (UK)

Used to buy an LP then copy it onto a tape cassette. The results were much better than buying the pre-recorded cassette, particularly with regard to tape noise since I used decent tape. Now if I could do this at home, it dosn't say much for the quality of the commercial pre-recorded cassette.

Re: The worst of both worlds - Check This

*Message #35 Posted by **Juan J** on 2 Nov 2003, 10:27 a.m.,*
in response to message #34 by unspellable

A few years ago Thomas (was it? I am possibly wrong with the name) Dolby was interviewed in Scientific American's "Profile" section. Back then he praised how signal analysis, for some a very cryptic subject, had improved sound quality since its invention.

Back then, emphasis was also made on how scratches had been eliminated "forever" from recording and how digital processing could make sounds and music cleaner and better. Sounds convincing, doesn't it? Take a look at

http://www.vttoth.com/addnoise.htm

It turns out that some noise can improve a "pure and pristine" digital sound quality. Adding complexity or improving the format does not necessarily makes for better result or improved efficiency. What ever happened to "Practical"?

Re: The worst of both worlds - NOISE in the audio signal

*Message #36 Posted by **Norm** on 4 Nov 2003, 12:13 a.m.,*
in response to message #35 by Juan J

Many have wondered why the high-noise, high-THD environment of vinyl records, tapes, etc., sounds so much better and more natural.

Here is a pet theory. The addition of hiss is like "dither". It means there is noise in the signal that makes it wander in amplitude beyond the true signal itself.

I suspect that the total audio experience may be enhanced by the deliberate inclusion of noise. It may help the eardrum to 'rattle back & forth' as well as the speakers, not to mention all the neurons inside of your brain.

Though never tried this experiment, I would suggest that a summing circuit which deliberately injects white noise (or what the heck... pink noise) into an otherwise pristine digital signal, would find on A/B comparisons that the inclusion of the noise makes for a radically more delightful listening experience.

Re: The worst of both worlds - NOISE in the audio signal
Message #37 Posted by Ed Look on 4 Nov 2003, 1:20 a.m.,
in response to message #36 by Norm

Are you saying that a summer's day with the window open sounds better than with the (soundproof) windows closed and and nobody home, no neighbors around, and all machines unplugged?

A silence can be deafening, especially right after somewhat loud sound. A silence can be deafening, even when your blood vessels and nerves are quiet.

Sugar is good, but when some lemon, dash of orange, ice, etc., is thrown in, it's better?

I think you have something there! The THD and background (not environmental; I think you know what I mean) noise may make a sound more "expected" and not so "die-cut" or "laser-printed", so as not to sound artificial or sterile. Hmmmm... I have thought about this a long time ago...

you pegged the meter
Message #38 Posted by Norm on 4 Nov 2003, 1:58 a.m.,
in response to message #37 by Ed Look

you pegged the sarcasm-detector. Now, now, there is no need to play devil's advocate on this stuff.

No, we didn't say to add the sound of a fire engine passing by, nor the sound of a hubcap being tossed onto a scrap metal heap. We said "dither"........ "white noise" .... "pink noise" .... does not equate to the sound of throwing a cherry bomb into a toilet, etc. or whatever other noises you were thinking of adding.

See the thing is, with a vinyl record, its already in there. You get it included for free. But with digital sources, you are going to have to pay extra if you want noise added.

Frankly I'm surprised there haven't been pre-amps marketed which include a "analog enhancer" button that simply adds a noise source.

There are mechanical equivalents to this problem. Suppose you have a mechanical actuator (rudder controller on an airplane) but there is a little bit of slop in the linkage. And the whole thing is run by an autopilot, or some other feedback loop.

If the system is run under pristine laboratory conditions, you will get a "limit cycle" where it slowly oscillates and keeps bumping into its own slop-limits. HOWEVER put it into the real world, with it being rapidly buffeted by wind, control stimuli, turbulence, etc., and guess what, it doesn't make a bit of difference.

So, in all seriousness, Ed, my own belief is that a noise source added (which would sound like the hiss of a leaky tire) helps overcome nonlinearities of

(a) the speaker drivers, which are hanging on cloth, resin & plastic

(b) your eardrum, which is just a bunch of ground beef hanging on some bones & tendons.

(c) the funny little hairs in your cochlea, which bend in the breeze but perhaps nonlinearly (esp. if half of 'em are busted off from that AC/DC concert)

(d) the neurons in your head, which absolutely nobody on earth has any idea how they are wired, much less work, but they might benefit from some ongoing stimuli that exists in parallel to the signal to be decoded (i.e. the music).

KNOW HOW MAGIC it sounds when you visit a big waterfall? Kind of like you got a sensation of awe and grandeur ? Same topic. Just one more demonstration of the appeal of white noise energy to the auditory system.

Re: you pegged the meter
Message #39 Posted by Wayne Brown on 4 Nov 2003, 7:40 a.m.,
in response to message #38 by Norm

Perhaps my sarcasm meter is broken, but I didn't detect any sarcasm in Ed's message. I thought he was completely serious.

Re: you pegged the meter

Message #40 Posted by [Ed Look](#) on 4 Nov 2003, 1:21 p.m.,
in response to message #39 by Wayne Brown

Wayne, you are precisely right.

Norm, there was no sarcasm; your (very good) post brought back a flood of feelings and memories from the days way back when I still cared much about the crossover dB of my speakers and the timbres from the cone materials, etc. Heck, I even used tons of Discwasher and worried about the (-70 dB!) rumble of a turntable.

Then CDs came around and when you're calm and even just sort of listening, you can hear a kind of nebulous quality difference between the old vinyls (and I include their homemade cassette recordings) and the CDs. Initially I really scratched my head, for heck, it's digital, right? Digital allows for much control in editing and recording and NOISE CONTROL, right? Well, son of a gun, it turns out that normal background noise is a PLEASANT thing after all! And here all us college kids were doing our best to scrub all noise out of tapes of our records. But what's Thelonius Monk (or Keith Jarrett for that matter) without the occasional mumble of satisfaction or impassioned grunt?

No, my friend, the SU meter needle (sarcasm unit... just in case; litigous society today...) stays at 0 dB. But it's funny that you said I "pegged the meter" rather than "maxed the red LEDs"! ;)

Compression on CDs?

Message #41 Posted by [Jim Chumbley](#) on 4 Nov 2003, 9:22 p.m.,
in response to message #40 by Ed Look

Just one thought. I have been a singer in symphony choruses for quite some time. Recorded music, vinyl and open-reel tape, never sounded real to me because they never were able to sound like putting me right inside the tenor section of a great chorus. Cassette tape was much better, and CDs were astounding, except for one

flaw. The dynamic range on a CD always sounds to me as if it has been "enhanced" by the mixer. What I mean is that, on CDs, from most quiet to most loud is a range that is much greater than reality.

I bought a Lexus back in 1993, and its stereo had an option on it that I have never before seen on any other playback unit. It had a "CD Compression" button on it, which amazingly lowered the dynamic range so that from max. quiet to max. loud sounded exactly like it does while singing in the middle of the tenor section. Unfortunately I wrecked the Lexus and have never been able to find another CD playback deck with a "CD Compression" button on it. Is there one? Can you tell me where to buy it?

I'm sorry not to be talking about HP Calculators, the love of my life, but I would really appreciate your help and thoughts about this audio topic.

Re: Compression on CDs?
Message #42 Posted by Ed Look on 4 Nov 2003, 10:30 p.m.,
in response to message #41 by Jim Chumbley

Sorry, I can't help on the CD player (nor the car, either!), but I was just wondering if the differences in sonic spatial imaging among these various media isn't like the difference between an image from a conventional projector and a holographic image. Given the physical limitations of most recording media materials, there must be some loss of information and in my opinion, the first aspect to be affected is the information that would help recreate a sense of three dimensionality. It's probably impossible with the old monaural techniques to do this, but stereo was a step in the right direction. But I fear that the acoustics of the playback room must also be tailored to make faithful reproduction of the original sound.

Now calculators- even 2D (graphing) is on the edge; I can sometimes see its utility... if you're a student. But after one masters basic function plotting, most often, a more "one dimensional" approach, like just dealing with digits or even symbolic manipulations and programming may be enough (and lessens the cost of the calculator, hopefully).

even the 12AX7's Re: you pegged the meter
Message #43 Posted by Norm on 5 Nov 2003, 1:11 a.m.,

in response to message #40 by Ed Look

yah, pegged that meter movement,

and even the 12AX7's seemed to glow just a little brighter!

easy on the Discwasher fluid.. ever try brushing, with a
drycarbon fibre brush. In hindsight what should
be the best........ HEPA FILTER, and a nozzle with dry-filtered compressed air back
to an oil-less compressor! No dust ! PSSSHHHT!

Re: even the 12AX7's Re: you pegged the meter

Message #44 Posted by Ed Look on 5 Nov 2003, 10:27 p.m.,
in response to message #43 by Norm

Now you're gettin' facetious: who has dry compressed air in the living room? Maybe a
HEPA filter for the real bad allergy sufferers or in your Hoover, but I don't think I've
ever heard, "PSSSHHHT!" in anyone's living room.

Microdust is hard to remove, though. If there is static attraction, even air may have a
hard time. This is the only advantage of the 3X distilled H20. Yeah, easy on it; I don't
think I can buy it anymore and I don't want to set up a still in my living room! Anyhow,
I play vinyls these days just to get a howl out of the little ones... and then I try to
explain my they've got a rainbow on the bottom of the (music AND PC games) CD
they rather play.

Now this reminds me of a back on topic question- what would happen to a keyboard,
and not necessarily on a HP RPN beauty, in a high grit environment, like by a
chalkboard or a very dusty place? I wonder if any of the surveyor guys here have any
experience with grit under the keys and etc.

Norm is Analog

Message #45 Posted by bill platt on 5 Nov 2003, 10:46 a.m.,
in response to message #40 by Ed Look

Yes, but Norm likes RED LED's because they feel closer to his analog roots than the LCD's---if he had his druthers, he would have a calculator with dial read-out ;^0

Re: Norm is Analog

Message #46 Posted by [Ed Look](#) on 5 Nov 2003, 10:19 p.m.,
in response to message #45 by bill platt

Ha ha ha!

But Norm, take heart- one of the best golden oldies of the past, one of the best sci fi digests, was named, "Analog". Notice they didn't call it "Digital". We know what happened to THEM! I wonder... is there any Digital (as in DEC) left in HP since they ate Compaq, who ate DEC?

Re: Why that archaic 41..

Message #47 Posted by [jimc](#) on 24 Oct 2003, 1:34 p.m.,
in response to message #4 by Dr.J.Kahler

Again, at the risk of entering a discussion with no conclusion (and perhaps a flamebait response); I think that a couple of questions need to be asked before one suggests a product to someone.

If you need graphs, plots, built in rudimentary equation libraries, then a 49+ will probably work quite nicely. I expect a steep learning curve, though.

For pure unadulaterated (guilty?) pleasure, the 41 is a dream to work with. Does a Bugatti Royale lack because it is several years old? Hardly. When I look at the Chrysler Building, I don't think about how old it is. The Chrysler Building probably will not hold as many people as other, newer buildings, but the newer buildings lack for identity or personality. The product represents an era - and does it quite nicely, thank you - even with it's shortcomings.

Philosophically, My HP-41 is an extension of my problem solving technique and thought patterns. It has been a formative tool in my educational process. Hence, my lifelong love. Also, this explains in part, why it is so difficult for me to get along with a newer HP calculator.

Will the 49G+ have a life long partnership the way the forums' 41C have? Only time will tell, but the 49 won't with me.

12345 to delete

Re: Why that archaic (and bad) HP-41CX ? Take the great HP-49G+ !

Message #48 Posted by Wouter Peters on 24 Oct 2003, 2:14 p.m.,
in response to message #4 by Dr.J.Kahler

With an HP41C alone you can't do graphics. But if you have a printer connected you can and your display would be much wider.

A limited amount of memory forces you to economise and optimise your programming. And even then with a 41CX you've lot's of memory compared with a 25C and even that one was capable of highly complex calculations.

Bill Gates started his DOS with a limit of 640k "Most likely one never would use software that needed more". And he was the one that lets us stuff Gigs of harddisk- and Megs of RAM into our PCs. But most of those Gigs and Megs of programs go to OS and hardly ever used features of applications and of data to big graphic or audio files. The core of calculations still use only peanuts compared to the shell around it.

Still using my 41CX but on the other hand I must say that I am very interested in the new 49g+

Wouter

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