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PRint SCreen: The newsletter of the Stanford/Palo Alto Users' Group for the IBM PC

Remember to bring this newsletter to the meeting this month.
THERE IS A MAP TO GET TO POLYA 111 INSIDE THIS NEWSLETTER.

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*  Next meeting:      Wednesday, November 30, 1983      *
*                     7:00pm                            *
*                     Rm. 111  Polya Hall               *
*                     Stanford University               *
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AGENDA FOR THE MEETING —

7:00 General Club Business
      Report on the Monday before the Wednesday Meeting
      New Business
      Election of new club officers (start your
      politicking early).

7:50 Report on the creation and use of the club Bulletin Board
      System by Glen Ingram.

8:45 Random Access

9:00 Conclusion of the Official Club Meeting.

The Usual Reminder
Don't forget about the Monday Before the Wednesday Meeting at
Talbott's. Time is 8:30pm until whenever. This is the last
meeting of the year and if you want to get your two cents worth
counted, this is the place to do it.

THE EDITOR'S CORNER

As announced at the last club meeting, this is my last gasp as newsletter editor. And unless anyone else steps forward to replace these well-worn fingers (it's okay, I only use four of them), this could be our last issue. Elsewhere in this issue (column?) is a description of what I do (or did), and if it strikes your fancy to see you name in print, this could be the place for you. Mike Van Waas is also stepping aside from his post as Fearless Librarian. Both he and I have plans to stay involved with the club (starting with a novice diskette), but we both feel that it's time to inject some new blood into the ruling class. This will be topic A at the meeting.

Before I forget, Byron Revegno, ace 1-2-3 instructor, will be leading a special Business SIG on December 7 at 7pm. Same place as our regular meeting—Polya 111. The session will be aimed at novice spreadsheet users.

Starting with this meeting, club membership fees are taking on a new structure. Club membership is now $26 per year. This includes a $2 refundable deposit on the club library listing diskette. So, if you bring back the diskette we give you when you join, the membership will actually be $1 less than the previous arrangement. As discussed in the last meeting, and at the last Monday before the Wednesday, it is now cheaper to buy diskettes ($1.40 each) and give them to new members to print our on their printers (or make copies of the diskette, or keep the diskette) than it is to Xerox, (I mean make hardcopy, sorry Linda) the listings. Yes, you will find copies of back newsletters on their, too.

Do you subscribe to PC World? Did your MS Word diskette which came in the special issue work? So far, it's 2-1 defecto.

RUMORS,....rumors.....

That software for the XT370 will be leased at an incredibly cheap rate....That the other guys are going full force behind the new Sony drives with Verbatim diskettes....That Radio Shack Trash 80 Model 200 with be a CMOS (battery powered, for you non-techies) 8086 with a quarter meg of RAM (wait until June)....That MacIntosh will be announced sometime after the first of the year.

Remember that there will NOT be a December meeting. See you the last Wednesday in January.

The club BBS number is 324-9119. If you're not sure what to do, wait until the meeting on Wednesday.

MORE editorial.

Early on in the column I promised that Mike and I are relinquishing our posts. Wes and Rita Danskin, Mystery Treasurer and accomplice, are moving to San Diego. If you're making notes as you go along, that makes three openings in positions of power. Must be an election year. As follows are positions which will be up for election this meeting. The usual Rules of Order will be in place.

Treasurer—As you might guess, responsible for keeping the books. Deals with the ASSU Financial office for disbursing checks and making deposits. Responsible for group purchases, though this may be a separate task.

Newsletter Editor: Writes newsletter, gets it printed, runs off label program from club member database, stamps and staples newsletter and furiously races to Embarcadero Post Office before 7pm the Friday night before the general meeting. Is responsible for inspiring club members to turn in articles, or you must write them yourself. Helpful if you have a variety of w-p programs, a good spelling checker, and a good coffee pot.

Speakers Coordinator: Arranges speakers for the club, verifies date, and facilitates their engagement. That is, they remember to bring a slide projector or extension cord.

Librarian: Responsible for acquiring club diskettes from the public domain, and making them available to club members. This includes arranging for people to be available for members to copy club diskettes, and updating the library listings.

PERIODICAL REVIEW

A bumper crop of magazine articles this month. PC Mag has a photo-pictorial of how PC's (the machine, not the rag, though I wouldn't put it past them) are assembled. Also an interview with a honcho down in Boca Raton. Not nearly as good as the interview in Byte with another honcho in Boca. PC Mag is going twice-monthly starting soon. If you want to see why I'm stepping down from newsletter editor, it's on page 52 of Byte Magazine (November). Byte this month is chock-full (hopefully tne new editor won't include nearly so many phrases such as

~e) of IBM-PC articles. Included are: a program for
d~signing your own Fonts (467), yet another review of DOS
2.0, and a review of expansion boards. A table of
contents for the IBM PC articles is on p 76.

The best part about this month's PC Mag is the articles
on Wordstar. If you are unavoidably hooked onto this
program, read this article to learn some new tricks.
Mostly you learn of new tricks. The best one is that
Wordstar customization notes, formerly a steal at $500,
are now marked down to $50. Evaluating educational
software is on page 519 (somewhere towards the back of
the issue), a step-by-step article on assigning keyboard
strings under 2.0 (p559, ditto), and a continuation of
last month's guide to printers. Oh yeah, the cover story
is a rather fuzzy review of Local Area Networks.

PC World reviews spelling checkers on page 104. They
forgot to check The Word Plus, my personal fave, or the
new one from IBM, which has a zillion word dictionary for
about $75. Also, a review of dBaseII v2.4, what they did
and didn't fix, an article on an interesting PC
Workstation for $1300, an article on ink-jet printers
(_ and up), an introduction into the p-System, and a
how-to article on using your cassette port (sorry, XT
owners) to turn on the morning coffee.

Softalk for the IBM PC has a how-to on increasing your
keyboard buffer from 15 to 159 characters. Also, a
variety of excellent columns which I won't go into
because you should be getting this mag. for free! If you
don't know how, ask the person next to you at the
meeting.

"Peanut Power (such as it is)"
- A Rundown on the IBM PCjr from The Magic Rabbit -

On November 1st IBM announced the long-awaited downgrade
of the IBM PC for home use. Long known on the rumor mill
as the "Peanut," the actual product name is the "IBM
PCjr". This article will gloss over the basics of the
machine(s) quite quickly on the assumption that if you're
interested enough to read this article, you've already
read the reviews of the JR in the popular press. Instead
I'll concentrate on some of its lesser advertised fea-
tures, bugs, plusses and limitations. My source is a
fairly huge memo sent by the IBM National Accounts Divi-
sion to its sales force about the product. I have not
physically seen or played with the JR (or its keyboard)
but then, few other reviewers have either as far as I can
tell. Also, the source document is a prototypical case of
IBM-ese, a language only vaguely reminiscent of English.
I apologize in advance for any inaccuracies in transla-
tion.

The highlights:

The JR is based on the same 8088 chip as in the IBM PC
and IBM XT. It comes in two varieties - a basic version
(the "Model 4") for $699 and an extended version ("Model
67") for $1269. The basic version has 64K RAM, 2
cartridge slots and that's it. The extended version has a
360K disk drive and a display adapter with an additional
64K RAM. Neither includes any display, and neither in-
cludes a printer. Disk formats are fully compatible
between the PC and XT and the JR. A DOS disk written on
any one of these machines will be readable on the any
other. The physical disk drives themselves, however, are
NOT compatible in either direction. Many - BUT NOT ALL! -
programs which run on the PC or XT will run on the JR. In
the memo, IBM listed compatibility only their own
software, but I'm sure we'll hear about everyone else's
software in very short order.

Generally the restrictions on software compatibility are
how much memory is needed (128K max on the JR); if it
requires a monochrome display (the JR supports only color
- more later on this); and a bunch of systems level
restrictions involving interfaces with ROM BIOS, direct
memory addressing and other such arcane stuff.

The hardware for the JR is three separate pieces: the
system unit, a transformer to power the system unit, and
the keyboard. In an interesting technological move, the
keyboard can operate totally unattached from the system
unit, using infrared light to communicate. In this mode
the keyboard needs 4 AA batteries for power (not
included). For an extra $20 IBM will sell you a cord to
attach keyboard to system unit should you prefer. The

keyboard has already gotten a number of bad reviews as being too small for most fingers and having a bad "feel". At least some of these "reviews" are at best second-hand though, so I consider the matter an open one. It is a different keyboard from the PC, with 62 (vs 87) keys, no 10-key pad and no set of 10 programmable function keys to the side. As recompense, IBM says ALL the keys on the JR keyboard are programmable, though it's not clear how you go about doing this. The JR also comes with 64K ROM beyond the standard 64K of RAM. In addition to a 44K of cassette BASIC, this ROM also contains a short little program to introduce you the the JR and its various features.

The system unit has three internal expansion slots. IBM is very clear that although these slots do indeed exist, they are dedicated to three very specific purposes: an IBM display/memory card; an IBM internal 300 BAUD, full-duplex-only modem; and an IBM diskette driver card. (I'm sure outside vendors will do their best to see if these restrictions do indeed hold.) As IBM configures the system, a maximum of 1 disk drive is supported.

The PCjr runs under DOS 2.10 – a new version of the DOS operating system. It will NOT run any earlier version of DOS. DOS 2.10 will also operate on the IBM PC and XT, although it isn't clear what the differences between DOS 2.10 and 2.00 are. (There's no lack of opportunities for improvement, however).

Performance data is very unclear from their documentation, particularly as the JR compares to the IBM PC. It uses the same 8088 chip (forget the 8087); the clock time is 4.77 megahertz; and the cycle time is 210 ns – all the same as the PC. The RAM chips IBM uses in the JR are 150 ns chips; access time is 250 ns; cycle time is 375 ns. These numbers aside, the rumor mill has the JR "crippled" by operating only 25% as fast as the PC. Exactly where this performance lag comes in (if at all) I'm not sure.

So much for the overall stuff, let's get into some nitty gritty:

You want to actually see what's going when you tap the keyboard or run a program perhaps, say, through a monitor? For that IBM makes you pay extra! The JR does NOT support the IBM PC monochrome monitor at all. It can support the IBM PC color monitor with an optional adapter ($20). To use a TV you need another adapter ($30) but note "A user-supplied 75-ohm to 300-ohm converter may also be required". This converter is apparently a fairly standard piece of electronics hardware and you should be able to pick one up at any electronics part store; it will run you $10-15. If you're getting the impression IBM has forgotten to include a lot of fundamental features in their $699 list price, you've only begun the appreciate

their marketing strategy. Interface for a parallel printer goes for $99; adapter cable for serial devices for $25. The newly-announced IBM printer for the JR is $175 (and is it a S-L-O-W 50 cps one); the connector to attach the printer to the JR costs an extra $40 you thought it was included?!!) DOS 2.10 costs $65.

You want to buy the PCjr itself! Sorry, not until January 1984 at the earliest. The big build-up was for the product announcement only. IBM's first round of shipments will be in the first quarter of 1984 to any authorized dealer (e.g. Computerland, Businessland, Macy's...) who ordered before 30 November. Any orders placed by retailers after 30 November won't be shipped until the second quarter of 1984.

On the plus side (yes, there is one), IBM also announced a super-fancy color printer for $1995 at the same time as the PCjr. That's right, a COLOR printer. It's dot-matrix, zips along at 200 cps (draft mode), and uses a 4-color ribbon. Eight colors can actually be printed by a mix of the basic 4 colors, and you can probably expect outside vendors to offer you amazing rainbow effects quite shortly. It has three resident fonts, an internal 6K RAM print buffer, dual aspect ratios (5:6 and 1:1) and is all points addressable. To stun you yet further, it's maximum resolution looks to be 36x18 "NLQ", or 8x9 draft mode; 24x9 text mode, and 24x14 for line graphics. Also in the print resolution number bucket: 82.5 dots per inch. IBM buried this gem in the guts of their press relea as well they might since it costs 3 times as much as the JR) but it does interface with the IBM PC and XT through a serial port, so I'm sure we'll hear more about it in the future.

Also on the plus side for the PCjr, while the maximum color resolution they support is the same old 640x200 as on the PC, you now get 4 colors in highest resolution mode rather than just the 2 colors you now get on the PC or XT. IBM's memo is very indirect about their new display adapter on the JR. It MAY be the long-awaited replacement for the color adapter card for the PC and XT, which IBM stopped producing several months ago.

The BASIC interpreter cartridge available for the JR ($75) is a superset of PC BASICA, with some of the difference being better graphic abilities and a whole "Music Macro" language for you budding composers (uses the speaker on the TV set or a stereo system apparently). It also does terminal emulation in asynch communications, though the documentation is frustratingly vague about details here. Please note this BASIC comes on a cartridge! The JR has 2 cartridge slots, and IBM clearly expects a lot of software will be made available on cartridges rather than diskettes. Outside supplier port for cartridges, and estimated price levels are

anybody's guess at this point.

But more on the bad stuff (where else will you hear it?)

The minimum RAM memory is 64K, the maximum memory is 128K.

Memory use: 16K for video buffer
4K for cassette BASIC (on top of the 44K in ROM)
20K for DOS 2.10
6K for the cartridge BASIC interpreter

If you're counting 18K of unallocated RAM left on your 64K system (or 82K on the 128K variety) you agree with IBM's documentation. Feeling a little claustrophobic? On compatibility with PC software, the JR will not operate "Programs that depend on the timing of the machine" - arguing there might indeed be some crippling done somewhere, despite the same clock speed as the PC. On the same subject, "The PCjr uses system unit main memory to refresh the display screen. This sharing of memory make the PCjr operate slower than other members of the PC family."

On the very bad side, the RAM in the PCjr is not, repeat NOT, parity checked. While Apple computers, among others, also don't provide parity checking in RAM, this is inherently a dangerous strategy. You simply won't be able to catch a number of systems errors (the old "PARITY CHECK 1" or "PARITY CHECK 2" - however awkward to handle - do provide critical information) and you might well miss some errors in data files, program functions and execution, and many other memory-related operations. It seems like IBM may have shot itself in the foot - or maybe head - on this one. It's an especially odd lack since parity checking is very cheap to implement and has a negligible effect on speed of operation. On the devious side, this lack of parity checking alone seems to guarantee the JR will never be serious competition for the PC).

If you use the parallel printer attachment, "print output is directed only to this attachment" - eliminating multiple printers on the JR, e.g. a draft and a letter quality.

Software that runs on the PC that will NOT run on the JR includes:

- IBM FORTRAN, COBOL, or PASCAL compilers (though programs compiled on these might)

- Any UCSD p-system software
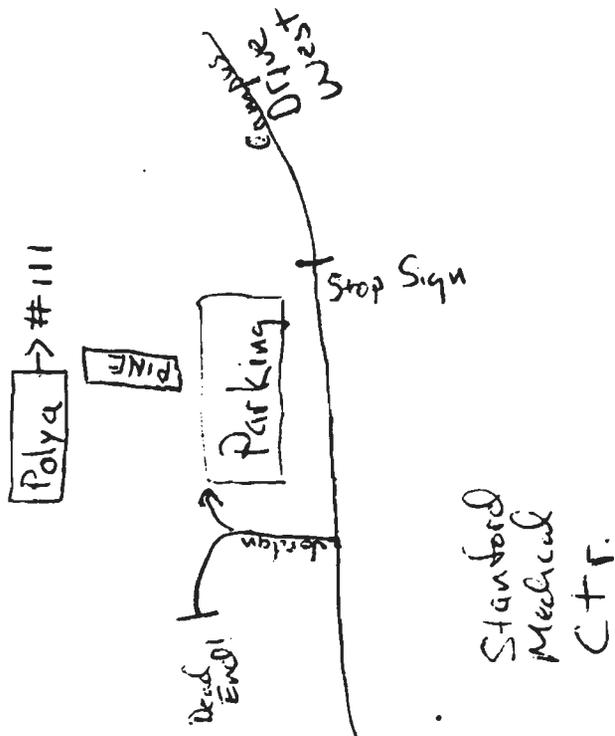
- Peachtree Accounting Software

- Lotus 1-2-3

Amen. Again, I'm sure you'll read more about the PCjr in the popular press (e.g. this month's cover story in

FORTUNE magazine) and this article may well be obsolete before you read it. In general, though, it looks like IBM made one of their classic, very conservative business decisions and provided a personal computer with explicitly limited power and performance, clear upward compatibility with the rest of their product line, and for a good deal less money than their most stripped-down PC. It's far too early to say how JR will place itself in the market place for it's clearly far beyond a games-oriented machine but also weaker than a true personal computer. Perhaps the most interesting thing to watch for is the reaction outside vendors who could supply add-ons which eliminate or ameliorate some of the restrictions IBM has built into the PCjr. With three expansion slots and 2 cartridge slots, there are certainly ample opportunities.

(Editor's note—I was at the last SVCS meeting and someone from the IBM Product Center in Sunnyvale gave basically the same spiel as Mike has written. The only things I can add are an explanation of the differences between DOS 2.1 and 2.0 and a comment about the internal construction. As was explained at the meeting, DOS 2.1 is a superset of 2.0, and will be available after January 15. IBM plans to sell its remaining stock of 2.0 first. DOS 2.1 recognizes two hard disk drives, while 2.0 does not. And, 2.1 asks the system board "Are you a PCjr?" If the response is yes, the track-to-track time on the floppy disk drive is set to 6 ms, slowed from 2ms. This is probably because the early Qume half-heights, and Qume sells a few things to IBM, was only capable of a 6ms track-to-track time. As you might imagine, this will slow down the performance. The bus in the PCjr is different than the rest of the PCs. It has only 60 pins, down from 62 that the junior's big brother's have. (This may be the other way around.) Thus, none of the currently available boards will work in the PCjr.)

Take any freeway to the Bayshore to Embarcadero or University. Turn North. Turn into parking lot off Jordan. Traveling North on Campus Drive, if you get to the point where the road narrows from 4 to 2 lanes, you've passed Jordan. Turn around!

Polya → #111

PINE

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Jordan

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University

Campus Drive

El Camino N →

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E →