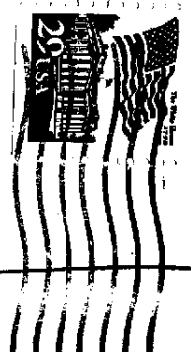


Mid-South 99 Users Group
P. O. Box 36622
Birmingham, TN, 38183-0622

FIRST CLASS MAIL

UG 2/86
DALLAS TI USER GROUP
P.O. BOX 29863
DALLAS, TX 75229

MEMPHIS, TN
P.M.
OCT 12
1992
381



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PRESIDENT'S BIT

-----By Gary W. Cox

The Chicago TI Faire is coming up October 30th in Chicago, Illinois and plans so far are to leave Friday morning October 29th although there may be some who will leave Friday night. If you are interesting in going to the faire please be at this month's meeting to be in on the plans.

We had a discussion of changing the meeting night from the Third Thursday to another Thursday of the month. However, all that was decided was to hold off until next year as if we did change the meeting date we would have to change it again for November and December due to the holidays.

Meeting attendance was the worst ever at last months meeting, please come to the meetings if you want to support the We are continuing to look for a program chairman to come up with subjects for demonstration at the meetings so please volunteer!

C ya at this months meeting....

THE BIRTH OF A COMPUTER

-----by Bill Gaskill, October 1992

In April 1984 Texas Monthly magazine published an article written by Joseph Nocera entitled "The Death of a Computer". It was among the most comprehensive accounts ever written on the events leading to the demise of the TI-99/4A computer. Perhaps because of this, the article became so popular that only 2,000 copies of the April 1984 issue of Texas Monthly were available for sale a scant month after it hit the news stands.

Mr. Nocera's work was the driving force behind this article because reading it made me realize that more effort has gone into writing about the demise of the TI-99 than has ever been invested in writing about its birth and life. The reasons for such universally poor coverage of the TI-99 are a matter of debate, but my research leads me to believe that TI's policy of a closed architecture on the TI-99 may have been carried over to one of closed mouths when it came to talking about the machine. No matter what the reasons, it appears that a negative and non complimentary relationship between TI and the media cast a cloud over the 99/4 even before it's release.

Nevertheless, there are some choice tidbits lurking around in the printed media of the late '70's and early '80's which help to piece together the days before, during and after the 99/4's birth. Because I have access to so many back issues of

Byte, and because it is the oldest computer magazine still in existence, I chose it as the main source of information for this article. The material chosen from the many issues of Byte that I read through is presented in time line format so one can pick up the chronology of events easier. It is the sequence of events like the RF modulator hassle with the FCC and the production problems with the TMS 9900 chip that to some extent explain why Texas Instruments was so late with its entry into the personal computer market.

Lastly, you will notice that I have thrown in a few items not related to the TI-99. Most are what I consider significant developments in the personal computer industry that I thought would add some flavor to the article and perhaps a little perspective for the reader about the world that the TI-99/4 was born into. For other historians of the TI-99 I've also provided notations as to the source/location of the information used in the time line. Although not presented according to Turabian, I think someone might find the references useful. I hope you enjoy the reading.

**** LIFE BEFORE THE TI-99 ****

1974: Jonathan Titus creates the Mark 8 microcomputer and advertises it for sale as a kit in Radio Electronics magazine. This becomes the first programmable microcomputer made available to the general public. (YOUR OWN COMPUTER, Waite/Pardee, p.15).

1975: The MITS Altair 8800 microcomputer is introduced and it becomes the first company or corporate venture into microcomputers for sale to the general public. (YOUR OWN COMPUTER, Waite/Pardee, p.17).

1976: Explosive growth hits the industry when companies like Apple, Cromenco, Insa, Digital and others introduce microcomputers. (YOUR OWN COMPUTER, Waite/Pardee, p.19).

1977: The Radio Shack Division of Tandy Corporation and Commodore Business Machines both join the competition for personal computer dollars with the introduction of the TRS-80 and Pet 2001 respectively. The year 1977 also sees the birth of the computer publications industry when a host of new magazines such as Creative Computing, Kilobaud, Personal Computing, Intelligent Machines Journal (now Infoworld) all appear, trying to break in on some of the profits already being realized by Carl Helmers and Virginia Peschke who had created Byte Magazine back in mid-1975.

Aug 1977: The TRS-80 is released on August 3rd. It comes with 4K Ram and carries a retail price of \$599.95. (Byte, Apr 1978, p.49).

Oct 1977: Commodore enters the market with the Pet 2001. It retails for \$495 with 4K of Ram or \$795 with 8K of Ram. (Byte, Feb 1978, p.190).

Jan 1978: The PLATO computer aided instruction system is developed at the University of Illinois. (Byte, p.184).

Feb 1978: UCSD Pascal is introduced by the Regents of the University of California at San Diego. Price is \$200. (Byte, p.46).

Mar 1978: Texas Instruments begins recruiting personal computer specialists by running full-page ads entitled "Your experience with personal computers is going to open an unlimited career at TI." in trade magazines. (Byte, p.13).

Mar 1978: RAMBLING RUMORS ABOUT TI letter to the editor appears in Byte Magazine with a Q and A. Question: "What will TI do to enter the personal computer market?" Answer: TI is a very aggressive company with the desire to make lots of money by filling the needs of the marketplace. When the bonafide need for a new product arises, if it is in TI's area of expertise, TI will be there, front and center..." (Webb Simmons in Byte Magazine, Mar 1978, p.133).

Apr 1978: TI releases a recreational Solid State Software Leisure Library module for the TI58 and 59 programmable calculators. The module sells for \$35 and includes such applications as golf handicapping, craps, NIMS, Acey-Duecy and 16 other games or recreational programs. Is this perhaps a predecessor to the Solid State Software Command module that would be touted as a reason for buying the TI-99/4? (Byte, p.194).

May 1978: Texas Instruments introduces the TMS3064 charge coupled device memory chip. (No significance to the TI-99/4, but it shows that TI was still involved in other computer developments besides the 99/4 Home Computer. (Byte, p.180)).

Oct 1978: The Exidy Sorcerer is released with 8K of Ram, a 64 column by 30 row screen and the ability to use plug in modules which are the size of 8-track tapes. Price is \$895. (The significance of this computer's release is that four years later Texas Instruments would use it as one of the home computers which offered cartridge software, that the 99/4A competed against for market share). (Byte, p.81).

Oct 1978: Technico Inc. of Columbia, MD releases the SS-16, which is based on TI's TMS9900 chip. Here again, no direct impact upon the 99/4, but evidence that TI was trying to push the 16 bit chip in places other than their own home computer. Four months later Byte would offer a look at the success of 16 bit chips industry wide and tell us that it was not well accepted by the industry. (Byte, p.200).

Dec 1978: Over 14 million microprocessors are manufactured during the year, with TI's 4 bit TMS-1000 chip leading the way. Most are used in calculators and games, but sales in the game market appear to be slowing down. (Byte, July 1979, p.99).

**** THINGS ARE REALLY HEATING UP ****

Feb 1979: TI'S NEW PERSONAL COMPUTER-Rumors are flying about Texas Instruments' impending entry into the personal computing market. The unit will reportedly use the TMS 9900

processor with 40K of read only memory circuits, will generate 20 lines of 40 characters on a standard television, will have provisions for accomodating video disk players and video tape recorders, and will have sophisticated sound production. Sources predict a mid-1979 unveiling. (Byte, p.63).

Feb 1979: Atari enters the personal computer market by announcing (but not yet delivering) the 400 and 800 model home computers. The 400 is a non-expandable 8K Ram computer which sports a touch audio feedback keyboard, a single cartridge slot and a cassette I/O port. It also has 16 color capability and 8 luminance levels. The suggested retail price is \$500. The Atari 800 is an 8K Ram computer expandable to 48K Ram and it comes with a cassette recorder, it has additional color features, a full keyboard, *K BASIC built in, high resolution graphics, and it supports two cartridge ports. The 800 carries a suggested retail price of \$1000. Both machines will use the 6502 chip. Limited quantities are scheduled to be available in August, with full availability in the Fall. (Byte, p.63).

Feb 1979: The future of the 16-bit microprocessor comes into question when its lack of acceptance by the industry is pointed out in Byte. The 8-bit 6502 chip used by Apple, Commodore and others is fast becoming the most popular microprocessor of the day. (Byte, p.63).

Although this is supposition on my part, it appears that TI was under a great deal of pressure to join in the personal computer fray. They would probably have done so anyway, but the level of "expectation" seems to have been extremely high and may have driven them to produce and release a product before they were actually ready to do so. The lack of availability of the TI-99/4 even after it's official debut in January 1980 seems to add some credence to this.

Mar 1979: Despite its seemingly unpopular position in the market, Byte Magazine runs an extensive article on mapping the instruction space of the TMS 9900 microprocessor. (Byte, p.14).

Mar 1979: FCC serves a cease-and-desist order on all personal computer manufacturers who fail to receive FCC approval on their products prior to making it available for sale. (Byte, p.108).

Mar 1979: Tandy Corporation begins marketing their TRS line of personal computers through their own direct sales stores. Several other makers of personal computers withdraw their products from the shelves of department stores after meeting with poor results. (Byte, p.108).

Mar 1979: Texas Instruments announces the new Speak and Spell learning aid for children. It is based on the TMS 1000 chip and two 128K dynamic read only memory chips, each with the capacity to store over 100 seconds of speech. (Byte, p.246).

Apr 1979: Publishing giant McGraw-Hill purchases Byte and onComputing magazines, adding further credence to the escalation of the personal computer market. (Byte, p.14).

Jun 1979: TI AND HP PC SYSTEMS RUMORS-Texas Instruments and Hewlett Packard continue to maintain tight lips on their rumored personal computer systems. As TI said, "TI will not discuss products that have not yet been announced." However, information has leaked out on these units which are expected to have a tremendous impact on the personal computer market. Several rumors have been reported in previous Byte columns. The latest is that TI will introduce their entry at either the NCC (National Computer Conference) show in June or the Consumer Electronics Show in July. In either event, it is expected to be ready for the 1979 Christmas market.

Both HP and TI are expected to have \$500 list prices for the basic unit. Key retailers have already been approached by both TI and HP to set up for selective distribution. It is rumored that they will favor selected personal computing stores that can do justice to software requirements. (Byte, p.129).

Jul 1979: Milton Bradley begins advertising for "Creative Electronic Engineers, Microcomputer Programmers and Technicians" to accomodate their expansion into the personal computer arena. (Byte, p.51).

Jul 1979: FCC asks Apple, Atari, Commodore, Heath, Southwest Technical Products and Radio Shack to submit their personal computer systems for TV interference testing. (Byte, p.99).

Sep 1979: New England Electronics runs a full page ad in Byte Magazine proudly announcing the "Revolutionary TI-99/4 Personal/Educational Computer" and the fact that they have been selected as one of the distributors. Buyers are cautioned that 99/4 product availability is September/October, but is always subject to TI's dealer allocation.

Oct 1979: Rodney Zaks, the author who would give us the book, YOUR FIRST TI-99/4A PROGRAM in 1983, releases 6502 GAMES through Sybex Publishing. Zaks would ultimately write almost a dozen computer books for 280, 6502 and TMS 9900 machines. (Byte, p.73).

Oct 1979: Atari has received FCC approval for their model 400 and 800 personal computers. This will probably make the FCC less willing to grant the Texas Instruments request for changes in the rules, as the FCC finds that other companies are able to pass the current requirements. (Byte, p.107).

Oct 1979: PERSONAL COMPUTER TIMESHARE NETWORK INAUGURATED-Telecomputing Corporation of America, McLean, VA, has started a Personal Computer Network which may be accessed by home users with terminals or personal computer systems. They have about 2000 programs and data bases on-line for immediate access. Called "The Source", the service will be available in 200 US cities at \$2.75 per hour from 6 PM to 7 AM weekends and holidays. The rate during normal working hours will be higher. (Byte, p.107).

Oct 1979: Texas Instruments releases the TMS 9927 video

controller chip. (Byte, p.253).

Nov 1979: TI MICROCOMPUTER PICTURE IN TRANSITION-Although Texas Instruments finally introduced its 99/4 personal computer system in June, it is expected to be an interim product. TI failed to get FCC approval for the original version (of the computer) and also ran into processor production difficulties which forced the introduction of a high-priced personal computer system (\$1150). TI is still pursuing a rule change request with the FCC and the development of its 9985 stripped down version of its 9940 16-bit processor. TI hopes to then introduce a personal computer system for under \$500 which connects to a standard color-television receiver.

TI has also expanded its small business computer (99/7) marketing efforts. The 99/7, which starts at \$5000, will be marketed by Moore Business Forms, through over 750 sales offices as well as through computer stores and TI's own retail outlets. (Byte, p.81).

Nov 1979: FCC COMPLETES RADIO FREQUENCY RADIATION TESTS-The FCC has completed its tests of six personal computer systems and will release the data soon. Reportedly, the FCC has found that all but one exceed interference levels permitted for devices that connect to television receivers (eg. games). The test included Atari, Apple, Commodore, Southwest Technical Products and Radio Shack systems. Only the Atari passed... (Byte, p.82).

Nov 1979: Computer Shopper releases "Issue No. 1" and offers annual subscriptions for \$10/year, or \$5/year to charter subscribers, whatever they are. (Byte, p.189).

Nov 1979: Milton Bradley announces its Microvision handheld mini video game machine with its own screen. Microvision comes with the game Blockbuster, and six other games are available separately. They are: Bowling, Star Trek, Phaser Strike, Connect Four, Vegas Slots and Mindbuster. Price for Microvision is \$51.25. (Byte, p.252).

Dec 1979: Image Computer Products of Northbrook, IL announces that it will produce the TI Six-Pack, which consists of six TI Basic games on cassette. Aside from Milton Bradley and Scott, Foresman, which TI lined up to produce software for the 99/4, Image Computer Products becomes the first third-party software house to support the new TI computer.

Dec 1979: SubLogic releases its first Flight Simulator dubbed FS1. It is available for the Apple II and TRS-80 computers for \$25. (Byte, p.133).

Jan 1980: TI RF MODULATOR FCC WAIVER GRANTED-The Federal Communications Commission (FCC) has granted Texas Instruments a waiver which permits TI to connect its personal computers to home color television receivers using a radio frequency (RF) modulator. TI Originally petitioned the FCC for approval of the RF modulator system in February 1979. The petition was rejected since the regulations require that the complete system be

submitted for approval: TI submitted only the RF modulator for approval. Subsequently, Texas Instruments applied for a waiver, provided that the modulator unit met the standards.

The FCC asked other personal computer system manufacturers to comment on the TI request. Radio Shack, Apple Computer, Commodore, Mattel, and Atari responded negatively to the request. Apple, Atari and Mattel went to great expense to comply with the FCC regulations. The Radio Shack and Commodore systems, which contain integral displays and do not use RF modulators, do not come under the FCC regulations.

The FCC decision further waives testing by FCC and merely requires that the manufacturer provide the FCC with test results showing compliance. In a related action, the FCC relaxed the standards on RF interference generated by commercial and personal computer systems.

Several personal computer manufacturers that compete with TI have already stated that this waiver will give TI a competitive advantage. Furthermore, several firms publicly questioned the FCC's rule-making methods in making this decision. The likelihood now is that the other personal computer makers will offer systems with RF modulators. It will probably take these manufacturers at least a year to bring out such competing systems. (Byte, p.115).

**** A COMPUTER IS BORN ****

Jan 1980: PERSONAL COMPUTER INTRODUCED BY TEXAS INSTRUMENTS-Texas Instruments has introduced a personal computer featuring easy-to-use computing power for personal finance, home management, family entertainment and education. Designated the Model TI-99/4, the system consists of a console with 16K bytes of programmable memory, a wide range of sound effects, sixteen colors for graphic display, a powerful extended BASIC programming language, and a 13-inch color video monitor.

At the heart of the TI-99/4 is a library of Texas Instruments Solid State Software command modules. These command modules allow users instant program accessibility. Solid State Software command module titles include: Demonstration, Diagnostic, Early Learning Fun, Beginning Grammar, Number Magic, Video Graphs, Home Financial Decisions, Household Budget Management, Video Chess, Football, Physical Fitness, Speech Construction, Investment Analysis, Personal Record Keeping, Statistics, Early Reading and Tax and Investment Record Keeping.

Among peripheral accessories offered is a Solid State Speech Synthesizer with a price of \$150. By building a basic vocabulary into the language system, home programmers can place audible messages in their programs. The speech synthesizer module has a 200-word vocabulary and plugs into the console. Speech can be written into programs using BASIC programming language. Future command modules will call up spoken words automatically.

TI BASIC is a full floating point, 13-digit expanded

version of BASIC that is fully compatible with ASCII and the BASIC specifications of the American National Standards Institute. TI BASIC includes a full complement of 24 BASIC statements, 14 commands, color graphics, and sound and music over four full octaves. A Beginner's BASIC Guide for self-teaching comes with the TI-99/4. For users knowledgeable about programming, McGraw-Hill has published Programming Basic With the TI Home Computer, a book by Herbert Peckham.

Remote controls are offered as accessories to the TI-99/4. Two of these controls may be connected to the computer at the same time. Each includes a multiposition (36° degrees) rotary lever with a side-mounted pushbutton. Other accessories offered by Texas Instruments include: a printer, disk storage, and an RS-232 interface for connecting the computer to other electronic devices.

The price for the TI-99/4 system is \$1150. Solid State Software command modules carry prices ranging from \$19.95 to \$69.95 each. For further information contact Texas Instruments Inc. Consumer Relations, Attn TI-99/4, POB 53, Lubbock, TX 79408. (Byte, p.235).

Despite the fact that the TI-99/4 was "officially" available in January 1980, it was in short supply as evidenced by the following ad in the January 1980 Byte Magazine, page 88.

AN OPEN LETTER ON THE TEXAS INSTRUMENTS TI-99/4 HOME COMPUTER

"Its a fact that the new TI-99/4 is the most sought after home computer on the market today. However the demand far exceeds the factory's ability to produce them, so they will be in short supply, for all dealers, for the foreseeable future..."

In between the excitement of TI's much anticipated entry into the personal computer market in 1979 and its decision to abandon that very same market in October 1983, lies the story of a thousand and one mistakes in corporate strategy, the creation and release of hundreds of exciting new products for the TI Home Computer, the appearance of some of the most talented personalities the community would ever produce and ultimately the heart rending disappointment users felt when the bottom dropped out. But that is another story.

-eof-

FROM THE TEACHER'S DESK

by Dave Howell from the ERIE newsletter, Sep., 1992

CORPORATE AMERICA AND THE PUBLIC SCHOOLS

reported in the "Corporate Educational Support", May, 1992.

There is growing evidence that business interests are going to wage war on educational decadence in our public school systems. Business representatives have recently traveled to Washington to express their impatience with attempts by government and education to produce a well-qualified workforce. According to Sue Berryman, University's Teacher College, "the K-12 system is stunningly illequipped and undisposed to understand the skill implications of the economy."

Merill Lambert, president of United Auto Workers Local 787 in Pennsylvania recently said that education funding is inadequate to keep up with the demands of today's labor market. "In our education system, there is not the money to put machines or learning experiences necessary in today's competitive workforce in the classroom. Industry is going to have to start assuming these costs," he said.

Some companies are stepping forward with donations of badly needed computers and supplies while others are offering their services in actually operating schools. Whatever their contributions may be, all businesses have to realize that there is too much at stake to sit back and watch an unskilled workforce arrive on their doorsteps.

SMARTLINE

A new electronic information system is being designed by the U. S. Department of Education to help educators and parents access practical assistance on educational methods and problems. Called "Sources of Materials and Research About Teaching and Learning for Nationwide Education (SMARTLINE)", the system will be able to retrieve information from a variety of sources, then present it in clear concise responses that answers questions posed by the users.

One of SMARTLINE's virtues will be its ability to link up with and scan existing systems for databases containing information needed by the user's request. Ultimately, the Department of Education hopes that individuals can access the system through any one of the 75,000 U. S. schools and 15,000 public libraries, or from their homes, offices, and other selected sites.

"DON'T COPY THAT FLOPY!"

Is the name of a new rap music video being released by the Software Publishers Association (SPA). The video aims its

message to youngsters in grades 4 to 8 and includes actual segments from a number of top-selling computer programs. The message concerns the moral and legal ramifications of stealing intellectual property which the SPA estimates cost the industry \$2.4 billion in retail sales in 1990 (\$10 to \$12 billion worldwide).

Teachers may obtain a free copy of the video for a \$10 shipping and handling fee from SPA Education Dept., 1730 M St. N.W., Suite 700, Washington, DC 20036.

DATE ROUTINE

----- By Martin Zeddies

Hauptstrasse 25
DW-3180 Wolfsburg 22
Germany

(edited)

DATE_YMMD (XB-Subroutine)

=====

The following program is something you might can use in your own programs to change a US-date (in MM/DD/YY format) to a date in the mathematic format (YMMDD). The new date-format has some advantages if you want to calculate with the date in your main EXT-Basic program. Together with the new format of the date the subroutine will return a status variable which can help you to handle dates in your programm more comfortably.

The subroutine call :

```
CALL DATE_YMMD(DATES,YMMD$,STATUS)
```

The variables:

```
-> DATES= Date in the standart US-Format (MM/DD/YY)
<- YMMD$= The return of the subprogram (the "math"-date)
<- STATUS= -1: Date is correct
0: Datum unlogical
1: Year is '00' (Overflow to next decade)
2: Datesyntax is incorrect
3: Illegal char in Datestring
```

The new date which is returned from the subroutine to the main program is only valid when STATUS indicate a value of -1 or 1.

```
-> indicate CALL variable from main to subprogram
<- indicate RETURN variable from sub to mainprogram
<-> indicate a variable which changed it value in the subroutine
```

The following is a listing of the program using the above

methods:

```
100 CALL CLEAR :: INPUT "DATE (MM/DD/YY): ":DATE$
110 CALL DATE_YMMD(DATE$,YMMDD$,STATUS)
120 PRINT "The Return-Value of the subroutine is: ";YMMDD$
130 PRINT "Status has a value of: ";STATUS
140 IF STATUS=-1 THEN PRINT "NO error appears !"
150 IF STATUS=0 THEN PRINT "Unlogical date !"
160 IF STATUS=1 THEN PRINT "Year is '00' !"
170 IF STATUS=2 THEN PRINT "Syntax of date is incorrect !"
180 IF STATUS=3 THEN PRINT "Illegal char in Date !"
190 END
20000 SUB DATE_YMMD(D$,R$,S)
20010 IF LEN(D$)<>8 THEN S=2 :: SUBEXIT
20020 P=0
20030 FOR I=1 TO LEN(D$):: B=ASC(SEG$(D$,I,1))
20040 IF (B<46)OR(B>57)THEN S=3 :: SUBEXIT
20050 IF (B=47 AND I=3)OR(B=47 AND I=6)THEN P=P+1
20060 NEXT I
20070 IF P<>2 THEN S=2 :: SUBEXIT
20080 R$=SEG$(D$,7,2)&SEG$(D$,1,2)&SEG$(D$,4,2):: S=-1
20090 T=VAL(3*SEG$(R$,5,2)):: IF T<1 OR T>31 THEN S=0 ::
SUBEXIT
20100 M=VAL(SEG$(R$,3,2)):: IF M<1 OR M>12 THEN S=0 ::
SUBEXIT
20110 IF VAL(SEG$(R$,1,2))=0 THEN S=1
20120 SUBEND
```

HISTORY OF ELECTRICAL

ENGINEERING

Battery of Baghdad:
First Ironclad?

Reprinted from an early 1960's Exide Corporation publication.

The well-known physicist, Professor George Gamow, reports that a strange clay vessel was recently dug up by archaeologists at Khujut-Fabua, a suburb of the ancient city of Baghdad. The archaeologists date this vessel as belonging to the First Century B. C. They do this even though it is one the strangest vessels ever found, not at all like the objects they usually find during their scientific snoopings in ancient bedrooms, graveyards, and midden heaps.

Inside the clay vessel there is an upright cylinder of pure copper. The cylinder is covered with a thick layer of asphalt. Some ancient genius, or one of his pupils perhaps, then hammered a heavy rod of solid iron through the asphalt, making it concentric with the copper cylinder. When found, the iron rod was still projecting above the asphalt layer, but the lower end of this rod, inside the copper cylinder, was badly corroded, as if by acid.

Now this is obviously no haphazard combination of materials! This is an electric battery, and the severe selective corrosion of the iron rod indicates that it evidently had been

used to deliver current. Here the iron would be the positive pole, copper the negative pole, and asphalt the insulator. Disregarding for the moment the horrid thought that this vessel may be another hoary deception, like the twice-planted Piltdown Man, for instance, it leads one to do a bit of thinking. Did they really have electric batteries way back there in the First Century B. C.?

Professor Gamow thinks it probable that they did, that ancient Arabian jewelers used this battery to electroplate thin coatings of gold and silver on their wares. They easily could have used it for this purpose. The electromotive force of the copper-iron couple, supplied with the right acid or alkali solution to carry the current, and properly insulated by clay and asphalt as this one was, would yield about one-third of a volt. That's enough to deliver a serciceable amount of current for small plating jobs.

Thus the streets of ancient Baghdad, gorgeous city of Arabian Nights, could have easily been thronged with comely damsels wearing electro-plated ware. The fact that, unlike solid gold ornaments, such ancient plated ware is not found today does not mean it never existed. The precious metal coating was too thin to save the base metal, and it probably succumbed to corrosion like much of the iron and copper ornaments of olden times. So the wily Queen Scheherazade may have bedazzled the greedy eyes of her very peculiar Sultan with attractive junk jewelry that would be promptly rejected by the modern pawn broker.

But that electric battery certainly was genuine enough. The archaeologists affirm that someone made it and used it during the days of Julius Caesar. What effect does this news have on the great electrical discoveries credited to Galvani, Volta, Davy and Faraday about 2000 years later? All these men and many others painfully contributed to the discovery of the electric battery during the 19th Century. Or should one say "rediscovery"? Surely no single Baghdadian genius evolved the first practical electric battery all alone, in the hair-raising scientific isolation of the time of Julius Caesar?

On the other hand, if it was the work of a number of able men, why did they all stop after such a brilliant beginning in electro-chemistry? Why didn't they move on to the obvious next link in the chain and study the gases produced at the poles, the charged particles that move through the electrolyte, and all the subsequent links that have brought us to our present knowledge and power? Why didn't they go on and produce an electric motor, for example? Evidently they stopped, and the city fell before its enemies. One can hardly imagine the revolution in archeological thinking that would ensue if a full-fledged electro-chemical plant were to turn up in some ancient Baghdad excavation.

IEEE Power Engineering Review, November 1991

PRINTING CIRCLES

Intro by Marshal Ellis; XB program by Morton Dworshak

Once again we have an article by Morton. He is a more prolific writer (programmer) than was thought.

This month an Extended Basic program is presented. This is to drive a printer in the description of a circle. If you have ever tried this, you know the difficulty. The listing below shows the implementation of the required formulas and the printout following shows that a circle can be formed.

```

10 REM DRAW A CIRCLE WITH PRINTER.

20 REM EQN FOR ANY CIRCLE: XSQUARE + YSQUARE = RSQUARE.R IS
   THE RADIUS.

100 OPEN #1:"PIO"

110 PRINT #1:TAB(14);"THIS PROGRAM IS CALLED CIRCLEO, AND
   MAKES CIRCLES OF"

111 PRINT #1:

112 PRINT #1:TAB(14);"ANY DESIRED RADIUS FROM ABOUT 5 TO
   40."

120 PRINT #1:

160 INPUT "RADIUS,-NOT OVER 40? ":R

170 PRINT #1:CHR$(27);CHR$(65);CHR$(6)

180 REM LINE 210 PRINTS THE UPPER HALF OF THE CIRCLE AND
   THE Y COORDINATE. LINE

230 PRINTS THE X COORDINATE.

181 REM LINE 250 PRINTS THE LOWER HALF OF THE CIRCLE.

200 FOR Y=R TO 0 STEP -1

210 PRINT #1:TAB (40-.86 * SQR (R^2- Y^2)); CHR$(42);
   TAB(40); CHR$(245); TAB (40+ .86* SQR (R^2- Y^2));
   CHR$(42) :: NEXT Y

230 FOR N=(40-R)TO (40+R) :: PRINT #1: TAB(N); CHR$(241);
   :: NEXT N

240 FOR Y=0 TO -R STEP -1

242 REM MAKING THE STEPS LESS THAN -1 DISTORTS THE CIRCLES.

250 PRINT #1: TAB (40-.86* SQR(R^2- Y^2)); CHR$(42);

```



```
TAB(40); CHR$(245); TAB(40+ .86* SQR( R^2- Y^2));
CHR$(42)
```

```
260 NEXT Y
```

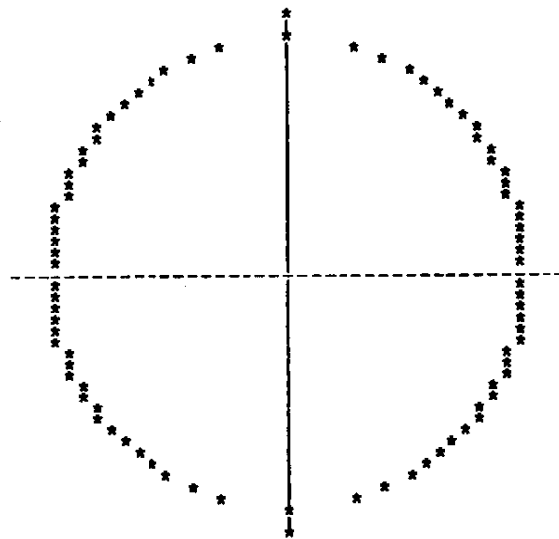
```
270 REM LINE 271 CAUSES THE PRINTER TO RETURN TO THE POWER
"ON" CONDITION, AND CANCELS LINE 170 WHICH SETS THE
LINE FEED.
```

```
271 PRINT #1:CHR$(27);CHR$(64)
```

```
290 PRINT #1:
```

```
300 PRINT #1:TAB(34);"THE RADIUS IS";R
```

THIS PROGRAM IS CALLED CIRCLEO, AND MAKES CIRCLES OF ANY DESIRED RADIUS FROM ABOUT 5 TO 40.



THE RADIUS IS 20

QUOTES FROM THE PAST

from the pages of the Milwaukee newsletter, Feb, 1992

[Ed: Just one of the goodies on the disk sent me by Gene. I remember reading these quotes in the Pomona Newsletter, and thinking, "How in the world did Gene get the time to do all this reading?" , , , , ,

"The popular mind often pictures gigantic flying machines speeding across the Atlantic and carrying innumerable passengers passengers, the expense would be prohibitive ... It is clear that with our present devices there is no hope of competing for racing speed with either our locomotives or automobiles."

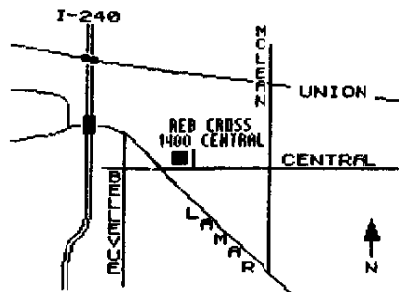
W. H. Pickering, U.S. Astronomer, 1939

"That Professor Goddard and his 'chair' in Clark College and the countenancing of the Smithsonian Institution does not know the relation of action and reaction and of the need of something better than a vacuum against which to react -- to say that would be absurd. Of course he only seems to lack the knowledge that is ladled out daily in the high schools ..."

The New York Times, Jan. 13, 1929

"Lee DeForest has said in many newspapers and over his signature that it would be possible to transmit the human voice across the Atlantic before many years. Based on these absurd and deliberately misleading statements, the misguided public ... has been persuaded to buy stock in his company."

U. S. District Attorney, at the mail fraud trial of Lee De Forest, "Father of the Radio." 1913



LOCATION MAP

WORKSHOP : to be announced.

PROGRAM BIT - third Thursday

OCTOBER 15th , 1992

MEETING: 7:00pm - Red Cross Building - 1400 Central.

6:45pm - Doors Open

7:00pm - Meeting begins, library open.

7:30pm - Demonstration of various products.

9:30pm - Meeting ends.

9:45pm - Late dinner at Shoney's on Union Ave.

NOTICE

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Visitors and potential members may receive 2 free issues of Tidbits while they decide if they wish to join (no obligation) On the top of your label is a code. A Y means you are a member, N means 2 free list, UG means user group and S means a business. Beside the Y is a date, one year from that date your dues are due. A dollar sign (\$) on the label will indicate that your dues are due. The library is open only to members. Library list is \$1. Mail order disk library access is \$2 for the first disk and \$1 for each additional disk - max of 5 disks per month. Order by disk number only. At meetings, library access is FREE if you exchange your disk for ours or \$1 per disk for our disks. Send all mail order library requests to librarian's address! Send dues and correspondence to group address.

CALENDAR

MEETINGS: OCT 15 NOV. 19, (3rd Thursday!)

WORKSHOPS: TO BE ANNOUNCED

24HR TI BULLETIN BOARD

The 964# NEWS BBS 300/1200/2400/4800/7200/9600/12000/14400
Hayes. 901-368-0112

GROUP MAILING ADDRESS

Mid-South 99 Users Group
P.O. Box 38522
Germantown, Tn. 38183-0522

LIBRARY ADDRESS

Jim Sasmenes
46 Higgins Road
Brighton, Tn., 38011

MEMBERSHIP APPLICATION

NAME _____ \$18.00 FAMILY
 ADDRESS _____
 CITY _____ ST _____ ZIP _____
 PHONE(____) _____ : INTERESTS _____
 EQUIPMENT, ETC. _____

Detach and mail with check payable to: Mid-South 99 Users Group,
P.O. Box 38522, Germantown, Tn, 38183-0522.