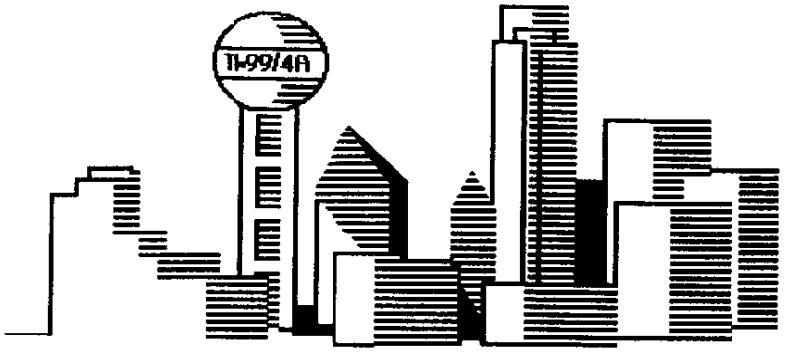


DALLAS 99 INTERFACE

Volume 12, Number 7 July, 1992

This newsletter is the official publication of the DALLAS TI HOME COMPUTER GROUP, a non-profit organization serving our members and other users of the Texas Instruments 99/4A HOME COMPUTER. For more information you are cordially invited to attend our next meeting or send a S.A.S.E. to;

DALLAS TI HOME COMPUTER GROUP
P.O. BOX 29863
DALLAS, TX 75229

Reprints of our articles are allowed, but must give credit to DTIHCG and be complete.

NEXT MEETING
Saturday, July 11th, 1992
at the Dallas INFOMART
I-35 E at the Oak Lawn Exit

DALLAS TI HOME COMPUTER GROUP
P.O. BOX 29863
DALLAS, TX 75229

ADDRESS CORRECTION REQUESTED

FIRST CLASS

PHONE THE 99ER CONNECTION BBS
24 Hours, 300/1200/2400 Baud
(214) 233-1750

Member of the
Computer Council of Dallas

CCD Information line (214) 234-2667

DTIHCG'S JULY EVENTS

3 NEXT-STEP
- JOJO'S On Stemmons at
- 1415 Motor Street, 5:15 pm

4 Sidewalk Sale/Independance Day

11 SUPER SATURDAY AT INFOMART
- Program: Music and Games the TI Plays

18 EXECUTIVE COMMITTEE MEETING
- Mr. Gatti's
- Walnut Hill & Marsh Lane
- Officers: 2:30 pm,
- Chairpersons at 3:30 pm

24 NEWSLETTER DEADLINE

24 NEXT-STEP
- JOJO'S On Stemmons at
- 1415 Motor Street, 5:15 pm

DTIHCG'S AUGUST EVENTS

1 Sidewalk Sale

8 SUPER SATURDAY AT INFOMART
- Oak Lawn @ Stemmons
- Time 9:00 am
- Program: To be announced...

15 EXECUTIVE COMMITTEE MEETING
- Mr. Gatti's
- Walnut Hill & Marsh Lane
- Officers: 2:30 pm,
- Chairpersons at 3:30 pm

21 NEXT-STEP
- JOJO'S On Stemmons at
- 1415 Motor Street, 5:15 pm

28 NEWSLETTER DEADLINE

Notice: There is only a three-week spread between the June 20th and the July 11th Super Saturday meetings!

Shaking the Bushes

This is Shaking The Bushes hoping all had a wonderful 4th of July.I would like to thank Dan Lowe for taking my place while I was out of town.Thank You Dan for a job so very well done.

The attendance was about 35 at this month's meeting. I do hope that all enjoyed the program? This month our program will be MUSIC & GAMES on the TI. Butch Spill our program chairman and others will put on a very interesting music show for us. So mark those calendars and come on out for our JULY 11 meeting at Infomart.

Do you want to hear your 4A sing? Well this is the time and place to listen to it. There are alot of musical Disks around for the 4A and it is nice to know that they have a MIDI interface that lets you do more with music. The sound hardware and software has come a very long way on this little machine. I was amazed at the 4A's extensive sounds,the colors and the graphics capabilities. So get out those modules and lets make music together.

I want to WELCOME our NEW MEMBERS, Walter Jones and Phil Myro, to the DTIHCG Clan. It's great to have you. Also for the guests, we had a former member, Tom D'Amura, then there was Jessica White, and David Warnock. Again, thank you for being interested in coming. I do hope you liked it ever so much.

Shaking the Bushes, continued.....

Well there isn't much to say this month. We do have out a New Video by Ken Gilliland. TI-ARTIST VIDEO. He is with Notung Software, so check it out. I haven't heard of any other new things this month, so I guess I'll cut it short for this time. This is Shaking The Bushes saying I'll see you at the Next-Step's and the Infomart meetings and also the EC Meetings.

Shaking the Bushes signing off until the next month. May God Bless each of our Computer Groups and keep them Computin as always. BYE!

President Mattie Bush

RULES OF MEMBERSHIP

The following is reprinted from the PUNN NEWSLETTER and I think it certainly applies to the DTIHCG USER Group.

BIG MIKE SPEAKES OUT

I wonder how many of you really know what being a member means. I would like to give you four or five rules of membership. And the reason I do this is because we are at a very critical point in the clubs history. This is a case where if "YOU JUST USE IT. YOU WILL LOSE IT". We need people who are willing to serve and not just sit back and reap the benefits of others who do the work. So here are Big Mike's "Five Rules of Membership".

Membership rules, continued.....

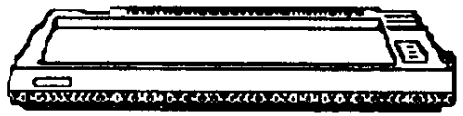
1.. Volunteer your ideas at the meetings. 2. Volunteer a portion of your time. 3. Volunteer to hold office. 4. Don't be modest with your talent. 5. Don't run around saying, This is a dying machine, a dying concept with only a year or two to live.

What I'm trying to say is get off your duff. Don't just read the BBS; talk to the rest of us. Tell us what you're doing. Criticize, suggest and take part.Be a member even if it means you must inconvenience yourself a bit.

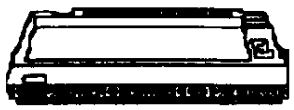
(Big) Mike Calkins

PUNN Editor's Note: I couldn't have said it better myself.

Beginner
Printer
By Jim Lesher



These programs are written on a Star Gemini printer and may or may not work on another brand. These are about the most basic programs for a printer. The printer must first be addressed with the OPEN #1 "PIO". You can use OPEN#2 OR 3 OR 99 as long as you use the same number in the PRINT # line. Notice the character to be printed is in quotes.



Beginner Printer, continued.....

This is a demo in "TABS". Notice the "TAB" command is on the same line as the "PRINT #1:" line. After you see what this program does, let's use our imagination and make other designs, maybe even some pictures. Here the TABS are used to place the design in the center of the page. In this one we use the repeat command (RPT$), AS YOU CAN SEE THE CHARacter to be printed is again in quotes, then a comma and then the number of times you want it repeated. If you type in 24 at the HEIGHT prompt, the figure will be pretty much a square but, if you use smaller numbers, the rectangle will become flatter. If you want a narrower rectangle change the 24 in line 70 to a smaller number. Check it out. The creative mind will be able to make some interesting designs with this program.

```
10 REM TAB F
20 CALL CLEAR
30 PRINT "PRINT A SQUARE"
40 INPUT "HEIGHT 1 TO 100":H
50 OPEN #1:"PIO"
60 PRINT #1:CHR$(27);"3";CHR$(H)
70 PRINT #1:TAB(28);RPT$("-",24)
80 FOR K=1 TO 12
90 PRINT #1:TAB(28);"|                    |"
100 NEXT K
110 PRINT #1:TAB(28);RPT$("-",24)
```

Send your programs to:
Jim Lesher
722 Huntley
Dallas Tx 75214

What goes on at Infomart :

MARTNET DEMONSTRATES MULTIVENDOR CONNECTIVITY

Integrating networks is still a problem for most companies. Even simple file transfers from one system to another can be impossible because of a lack of standards. INFOMART resident companies and MartNet, a building-wide fiber optic network managed by Access Communication, are working to solve these connectivity problems.

"It's just like the evolution of the automobile," says Rich Park, advisory systems engineer for Apple Market Center at INFOMART. "The controls and operations were not necessarily consistent. The brake wasn't always on the left and accelerator on the right. Time and need will force the market to comply with a set of standards for networks."

According to Park, a critical mass of the computer industry exists at INFOMART enabling vendors such as Apple, AT&T/NCR, Banyan, Compaq, IBM, Novell and Xerox to demonstrate diverse applications of connectivity.

Working with Anthony Grissett at INFOMART, Allstate Insurance Co. recently brought its IS team to INFOMART for a strategic planning meeting and to see several INFOMART vendors for product demonstrations, one of which included a multivendor connectivity demonstration using MartNet. Grissett facilitated the meeting by assembling the appropriate vendors Allstate was interested in visiting, including EDS, NCR/AT&T and Texas Instruments.

What goes on at Infomart. . . . . .

Apple, IBM and Xerox, participating in the MartNet demonstration, created a document on an IBM PS/2 with OS/2 in the IBM demonstration center. An Apple Macintosh with TCP/IP protocol linked to the PS/2 received the document in the Apple Market Center with the file transfer protocol. There, the document was modified using a suite of Apple software tools and then transmitted to Xerox's center and printed on a color printer/copier.

Bill Sitter, senior vice president of information technology and chief information officer for Allstate, inquired about the technology enabling multiple platform connectivity. "Is there any magic involved in linking these systems together?" Sitter asked, referring to possible custom software or special cable connections.

No magic was involved, explained Patrick Henry, a systems engineer for IBM at INFOMART. He replied that the ability to transfer information through MartNet over a variety of platforms, including PCs, Apples and UNIX-based workstations, is performed using off-the-shelf software.

"We're bringing IBM's hardware product line and their associated protocols to the table and linking ourselves to the different vendors at INFOMART," Henry says. "These networking protocols such as Token-ring/Ethernet, OS/2 LAN Server, Netware, SNA and TCP/IP, are all players in the networking arena and open systems environments. MartNet facilitates the connectivity of these systems and helps offer solutions to our clients."

What goes on at Infomart. . . . . .

MIS departments are looking to INFOMART to see demonstrations of connectivity and how a variety of applications can be supported on multiple networks. "The more services we can deliver to the network, the better our presentations can be," says Apple's Park. "That means we're supporting business interests through a standard environment enabling interconnectivity between multiple platforms. MartNet provides us the highway on which to test our vehicles."

Novell's Netware 3.11 operating system provides MartNet with the ability to transparently support multiple protocols for different types of platforms. "It's Novell's intent to be the back-end engine and allow anybody to use any kind of platform they want," says Dave Smith, technical Netware specialist for Novell at INFOMART. "We're like a chameleon. We look like whatever we need to look like. And, in part, that's why MartNet is successful."

Modem Basics :

Here's an excerpt from The Modem Reference, written by Michael A. Banks and recommended by Jerry Pournelle in Byte, The Smithsonian Magazine, et al. The right to reproduce this article is granted on the condition that all text, including this notice and the notice at the end of the article, remain unchanged, and that no text is added to the body of the article. Thanks! --MB

BITS, BAUD RATE, AND BPS

Taking the Mystery Out of Modem Speeds
by Michael A. Banks

Modem transmission speed is the source of a lot of confusion, even among otherwise informed computer and modem users. The root of the problem is the fact that the terms "baud" and "bits per second" are used interchangeably and indiscriminately. I strongly suspect this is a result of the fact that it's easier to say "baud" than "bits per second," though misinformation has a hand in it, too. If you've ever found yourself confused by the relationship between bits and baud rate, or if you think that a modem's baud rate is the same as the number of bits or characters it transmits per second, please read this article carefully; I guarantee to clear up the confusion and disabuse you of any false concepts ...

Bits per second (bps)

Bits per second is a measure of the number of data bits (digital 0's and 1's) transmitted each second in a communications channel. This is sometimes referred to as "bit rate." Individual characters (letters, numbers, etc.), also referred to as bytes, are composed of several bits. While a modem's bit rate is tied to its baud rate, the two are not the same, as explained below.

Baud rate

Baud rate is a measure of the number of times per second a signal in a communications channel varies,

or makes a transition between states (states being frequencies, voltage levels, or phase angles). One baud is one such change. Thus, a 300-baud modem's signal changes state 300 times each second, while a 600-baud modem's signal changes state 600 times per second. This does not necessarily mean that a 300-baud and a 600-baud modem transmit 300 and 600 bits per second, as you'll learn in a few lines.

Determining bits per second

Depending on the modulation technique used, a modem can transmit one bit--or more or less than one bit--with each baud, or change in state. Or, to put it another way, one change of state can transmit one bit--or more or less than one bit. As I mentioned earlier, the number of bits a modem transmits per second is directly related to the number of bauds that occur each second, but the numbers are not necessarily the same. To illustrate this, first consider a modem with a baud rate of 300, using a transmission technique called FSK (Frequency Shift Keying, in which four different frequencies are turned on and off to represent digital 0 and 1 signals from both modems). When FSK is used, each baud (which is, a gain, a change in state) transmits one bit; only one change in state is required to send a bit. Thus, the modem's bps rate is also 300:

300 bauds per second X 1 bit per baud = 300 bps

Similarly, if a modem operating at 1200 baud were to use one change in state to send each bit, that modem's bps rate would be 1200. (There are no 1200

baud modems, by the way; remember that. This is only a demonstrative and hypothetical example.) Now, consider a hypothetical 300-baud modem using a modulation technique that requires two changes in state to send one bit, which can also be viewed as 1/2 bit per baud. Such a modem's bps rate would be 150 bps:

300 bauds per second X 1/2 baud per bit = 150 bps

To look at it another way, bits per second can also be obtained by dividing the modem's baud rate by the number of changes in state, or bauds, required to send one bit:

$$\frac{300 \text{ baud}}{2 \text{ bauds per bit}} = 150 \text{ bps}$$

Now let's move away from the hypothetical and into reality, as it exists in the world of modulation. First, lest you be misled into thinking that "any 1200 baud modem" should be able to operate at 2400 bps with a two-bits-per-baud modulation technique, remember that I said there are no 1200 baud modems. Medium- and high-speed modems use baud rates that are lower than their bps rates. Along with this, however, they use multiple-state modulation to send more than one bit per baud. For example, 1200 bps modems that conform to the Bell 212A standard (which includes most 1200 bps modems used in the U.S.) operate at 300 baud and use a modulation technique called phase modulation that transmits

four bits per baud. Such modems are capable of 1200 bps operation, but not 2400 bps because they are not 1200 baud modems; they use a baud rate of 300. So:

300 baud X 4 bits per baud = 1200 bps

or

$$\frac{300 \text{ baud}}{1/4 \text{ baud per bit}} = 1200 \text{ bps}$$

Similarly, 2400 bps modems that conform to the CCITT V.22 recommendation (virtually all of them) actually use a baud rate of 600 when they operate at 2400 bps. However, they also use a modulation technique that transmits four bits per baud:

600 baud X 4 bits per baud = 2400 bps

or

$$\frac{600 \text{ baud}}{1/4 \text{ baud per bit}} = 2400 \text{ bps}$$

Thus, a 1200-bps modem is not a 1200-baud modem, nor is a 2400-bps modem a 2400-baud modem. Now let's take a look at 9600-bps modems. Most of these operate at 2400 baud, but (again) use a modulation technique that yields four bits per baud. Thus:

2400 baud X 4 bits per baud = 9600 bps

or

$$\frac{\text{2400 baud}}{\text{1/4 baud per bit}} = \text{9600 bps}$$

Characters per second (cps)

Characters per second is the number of characters (letters, numbers, spaces, and symbols) transmitted over a communications channel in one second. Cps is often the bottom line in rating data transmission speed, and a more convenient way of thinking about data transfer than baud- or bit-rate. Determining the number of characters transmitted per second is easy: simply divide the bps rate by the number of bits per character. You must of course take into account the fact that more than just the bits that make up the binary digit representing a character are transmitted when a character is sent from one system to another. In fact, up to 10 bits may be transmitted for each character during ASCII transfer, whether 7 or 8 data bits are used. This is because what are called start- and stop-bits are added to characters by a sending system to enable the receiving system to determine which groups of bits make up a character. In addition, a system usually adds a parity bit during 7-bit ASCII transmission. (The computer's serial port handles the addition of the extra bits, and all extra bits are stripped out at the receiving end.) So, in asynchronous data communication, the number of bits per character is usually 10 (either 7 data bits, plus a parity bit, plus a start bit and a stop bit, or 8 data bits plus a start bit and a stop bit). Thus:

Modem Basics.....

$$\frac{\text{300 bps}}{\text{10 bits per character}} = \text{30 characters per second}$$

$$\frac{\text{1200 bps}}{\text{10 bits per character}} = \text{120 characters per second}$$

$$\frac{\text{2400 bps}}{\text{10 bits per character}} = \text{240 characters per second}$$

Common speeds

The most commonly-used communications rates for dial-up systems (BBSs and online services like CompuServe, DELPHI, and GEnie) are 300, 1200, and 2400 bps. A few older systems--especially Telex systems--communicate at 110 bps, but these are gradually going the way of the dinosaur. 4800 and 9600 bps modems are generally available, but few online services or BBSs accommodate them. This will be changing in the near future, however, with the cost of high-speed modem technology decreasing as the demand for it increases. Modems with even higher bps rates are manufactured (19,200 and up) but these are not used with dial-up systems; the upper limit on asynchronous data transmission via voice-grade telephone lines appears to be 9600 bps. The use of higher transmission rates requires special dedicated lines that are "conditioned" (i.e., shielded from outside interference) as well as expensive modulation and transmission equipment.

#

If you found this article useful, you may want to

Modem Basics.....

pick up a copy of the book from which it was excerpted:

THE MODEM REFERENCE
by Michael A. Banks
Published by Brady Books/Simon & Schuster
ISBN # 0-13-586646-4 $19.95

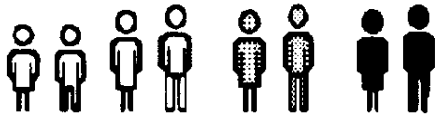
In addition to explaining the technical aspects of modem operation, communications software, data links, and other elements of computer communications, the book provides detailed, illustrated "tours" of major online services such as UNISON,CompuServe, DELPHI, BIX, Dow Jones News/Retrieval, MCI Mail, and others. It also contains information on using packet switching networks and BBSs, as well as dial-up numbers for various networks and BBSs.

You'll also find hands-on guides to buying, setting up,using, and troubleshooting computer communications hardware and software. (And the book "supports" all major microcomputer brands.)

For more information, contact:

Michael A. Banks
P.O. Box 312
Milford, OH 45150

Needs you !



Updating the Database

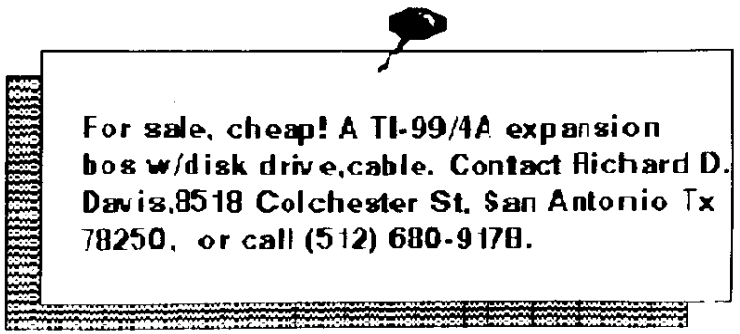
By Charlice Althar

TWO NEW MEMBERS! Welcome to PHIL MYRO, who visited us first in May, then returned in June to join DTIHCG. WALTER JONES also joined us at our June INFOMART meeting. We're very glad to have both of you!

We received renewals this month from GLYNN & HOLLY HARRIS, IMOGENE & CARL OSBORN, and KIM WHITE of Florida. Thank you, and we're glad to have you taking an active part in DTIHCG for another year.

GUESTS at INFOMART in June included former member TOM D'AMURA, now living in Lawton, Oklahoma, JESSICA WHITE, and DAVID WARNOCK. We're glad to have had you all with us, and hope you'll return in July.

Thank you to all who've given me updates on addresses, zip codes, and phone numbers. Our roster has been updated accordingly; please keep me posted on any other changes!



For sale, cheap! A TI-99/4A expansion box w/disk drive,cable. Contact Richard D. Davis,8518 Colchester St. San Antonio Tx 78250, or call (512) 680-9178.

Club Hardware Inventory....

The following is a list of hardware items that are in the DTIHCG inventory. Interested people can contact Mary Leard.

ITEM	QUANTITY	PRICE(EA)
Black/silver consoles (2309577,40133052)	2	25.00
Keyboards for consoles	6	5.00
Transformers	5	5.00
RF Modulators	4	5.00
Slo-blo fuses	8/5ea	1.00
Ray Vac Lithium 3V	4	2.00
Fan for PEB	2	5.00
Power supply for console	1	5.00
Disk drive head cleaning kit	1	5.00
Hayes modem(300 baud)	1	20.00
Modem cables	9	10.00
RS232 y-cables	2	10.00
Parallel cable extension(6ft)	5	10.00
External disk drive cable	3	5.00
Short external drive cable	7	5.00
M.O.V.	10	1.00
Mini Memory Command Module	1	10.00
Speech Synthesizer	1	10.00
Tunnels of Doom C. M. & booklet	1	10.00
RS232 Printer cable	1	10.00

OFFICERS FOR 1992

PRESIDENT	MATTIE BUSH	214-637-4937
VICE-PRESIDENT	DAN LOWE	214-276-0240
TREASURER	Vacant	
SECRETARY	CHARLICE ALTHAR	214-337-4840
MEMBER-AT-LARGE	WILLIE GUPTON	214-375-9575

CHAIRPERSONS FOR 1992

PROGRAM CHAIRMAN	BUTCH SPILL	817-461-6217
MINI-SIG CHAIRMAN	Vacant	
NEWSLETTER EDITOR	LISA SHAFFER	817-265-2032
MEMBERSHIP CHAIRMAN	MARY LEARD	214-524-8057
CCD REPRESENTATIVES	LOUIS & JACKIE GUION	214-239-6829
MERCHANDISE/HARDWARE	MARY LEARD	214-524-8057
BBS SYSOPS	LOUIS & JACKIE GUION	214-239-6829
DISKETTE SALES	GUY HUNTER	214-375-5424
D-O-M CHAIRMAN	Vacant	
TELEPHONE COMMITTEE	GUY HUNTER	214-375-5424
HISTORIAN	DAN LOWE	214-276-0240
LOBBY KIOSK	TIM ALTHAR	214-337-4840
NEXT STEP CHAIRMAN	DAN LOWE	214-276-0240
SOCIAL CHAIRMAN	SHARON CREVISTON	214-594-0721

LIBRARIANS

CART/TAPE LIBRARIAN	JOHN DIPRIMA (after 5 pm)	214-293-1410
NEWSLETTER LIBRARIAN	DOUGLAS BEIGHTOL	903-454-7330
SOFTWARE LIBRARIAN	JOHN DIPRIMA (after 5 pm)	214-293-1410
VIDEO LIBRARIAN	ROBERT SMITH	903-693-5568
ADVENTURE LIBRARIAN	CHARLES BROCK	214-276-3822

These people are DTIHCG officers and chairpersons. They help themselves and you, by giving much of their time in working to make this a better club for all of us. Most attend the Executive Committee Meeting the Saturday afternoon following the INFOMART meeting. Any interested member is invited to join us for the next Chairperson's portion of the meeting.

Please take the time to thank these people individually for their efforts. It makes their job easier.