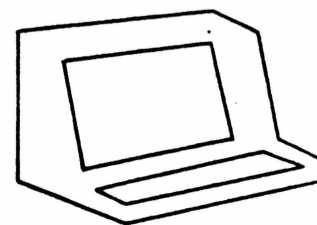


THE INTERFACE

NEWSLETTER OF THE SAN GABRIEL VALLEY
TRS-80 USERS GROUP



Volume 4 Number 7

Price \$1.50

July, 1983

THE LNW-80 MODEL 2

What's Brewing at LNW

The LNW Computer has always been one of the more popular TRS-80 "work-alikes". It has been noted for its very solid construction (a real "cast-iron case"), and for its reliability. In addition, it has wowed us with its high resolution graphics capability. Now the geniuses at LNW have come up with its successor. Come to the July meeting and hear all about it. . . it even runs CPM!

The July meeting will be held on Friday, July 8, at 7:30 PM
in the Arcadia Park Senior Citizen's Center
405 South Santa Anita Avenue, Arcadia

SAGATUG meets the second Friday of every month

JEFF ALWAYS WANTS TO KNOW!

Jeff Lasman never gives up looking for input: what do the members want in the way of presentations? Jeff is at every meeting, eager to hear your suggestions.

Club Officers:

President	-----	Alan Wilson
Vice President	-----	Resigned
Secretary	-----	Resigned
Treasurer	-----	J Gerber
INTERFACE Co-editors	-----	John Phillipp Dan Dresselhaus

No Officers? (see "Resignation")

LNW COMPUTER CORPORATION

PAST, PRESENT, AND FUTURE:

If you think there's nothing NEW at LNW Computer Corp, you are in for a very pleasant surprise!!!! The LNW-80 Model 2 has been greatly enhanced with extended features and capabilities that will impress even past LNW-80 computer owners.

At the July 8th a representative from LNW Computer Corp will discuss:

- 1) LNW early history
- 2) Current LNW-80 Model 2 improvements
- 3) Future Products and Enhancements

And that is not all!! Every TRS-80 Models 1 or 3 or 4 owner present will be given a opportunity to receive a LARGE trade-in allowance on their old computers DEAD OR ALIVE toward the NEW LNW-80 Model 2. In addition, they are including a huge package of Software. This includes:

- a) General Ledger
- b) Accounts Payable
- c) Accounts Receivable
- d) Payroll
- e) Electronic Spreadsheet
- f) Electric Pencil II
- g) Microterm (modem program)
- h) Chart Ex (hi-res business graphics)
- i) CP/M 2.2
- j) DOSPLUS
- k) LNW BASIC
- l) Microsoft BASIC

Sound Interesting? Good, because there's more. You will also learn about adding IBM compatability to the LNW-80 Model 2. Then you can then increase your internal RAM to 512K. . . Learn how the LNW-80 Model 2 can emulate the TRS-80 Model 3 or 4. This means you can run any TRS-80 Model 3 or 4 program that exists now or in the future. And . . . Whew. . . add over 20 other functions modularly to the LNW-80 Model 2. All this and more at the July 8th meeting at 7:30 pm. . . BE THERE.

Re-Review

An Updated Look At Maxprint^{PLUS}

Peggytronics

249 South Highway 101 # Suite 471 # Solana Beach, CA 92075

\$39.50

-- John T. Phillipp --

Maxprint^{PLUS} is a printer driver utility for the TRS-80[®] Models I and III and the MX-80[®] printer. What is a printer driver? A printer driver is a machine language program that tells the printer what to do. In the case of Maxprint^{PLUS}, it allows you to access the full range of capabilities of the MX-80[®] by means of commands embedded in the text from your word processor, or by setting the choices from a menu before printing.

I use Maxprint^{PLUS} with SCRIPSIT[®] but it works equally well with Electric Pencil[®], Lazy Writer[®], Newscript[®], and most others. It will even patch into BASIC, so you can use its formatting abilities in program listings!!

Rather than tell you what Maxprint^{PLUS} can do, it's probably better to show a few examples:

You can change the *density* of the print

Getting lighter and lighter.

and control the *size* of the print as well

Larger getting smaller and smaller.

You can underline letters, words, or words and spaces

One, Two, Three and Four.

You can -- center -- text (see???)

You can change the *line spacing* in the body of the text

For example, inserting the proper command in the line results in lines close together while another command results in lines with a spacing

of one and one-half times

normal.

There are *two* kinds of subscripts and superscripts:

This is the Epson subscript and superscript.
This is the Maxprint subscript and superscript.

You can *backspace* to overprint characters

= and / gives ≠, > and < gives ⚡, 0 and / gives Ø

Maxprint^{PLUS} can provide proportional right justification in that it varies the size of the spaces between words to make the right margin even. This is an improvement over the usual Scripsit right justification which pads the space between words with whole spaces. This paragraph is Scripsit-justified. The next ones are Maxprint-justified. Look closely to notice the difference. Which would you prefer in your correspondence?

Finally, the most useful feature of Maxprint^{PLUS}: the Dot Editor. The Dot Editor is a utility that allows you to create a few of your own characters, or an entire character set, and save it to disk so it can be used any time you print. Unlike GEAP, there is no need to save your text in ASCII and then print it out with a separate program to use the special characters. Maxprint^{PLUS} uses commands in the text itself. All kinds of useful characters can be printed:

⌘ ©, %, †, Σ, π, ♀, ♂, μ, Δ, ☉, ≈, ½ ⌘

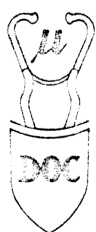
Bet you never thought you'd see *those* in your MX-80 text!!

There are some disadvantages to Maxprint^{PLUS}, though. First, although commands to the printer driver are not printed, they are still counted when the length of the line is figured for justification. This may make a justified line come out longer than expected. This is the fault of the word processor software, since Maxprint ignores its own commands, and can be compensated for by using the word processor line length commands. Second, the Dot Editor characters are printed in the graphics mode. This means that they are not affected by print density or print size commands - they cannot be printed emphasized, double strike, or condensed, for example. Because of this, they sometimes don't match the rest of the text.

If you read my review in the last INTERFACE, I complained of a few bugs in the program. I couldn't get it to properly print more than one sub/superscript in a line, and the line spacing varied when sub/superscripts were used. It also seemed to lose count of its place in the line when more than one sub/superscript was used, so that the sub/superscripts were printed in random spots. I am happy to say that shortly after last month's meeting, I received the latest version of Maxprint^{PLUS}. This version has completely "swatted" the bugs in the previous version and, in addition, has added a few new features. For one thing, commands in the Dot-Editor are now accepted in lower case or uppercase. For another, Maxprint^{PLUS} is now relocatable. It comes with a Configuration program, and it can be moved down below any printer drivers or other programs you may have occupying high memory. This article was printed with Scripsit and Maxprint^{PLUS}, so you can see what a nice job it does.

If you have the hardware to use it (TRS-80 Model I or III, MX-80 printer, and at least one disk drive) Maxprint^{PLUS} is a very useful addition to almost any word processor. I have spoken to its

author, C. E. Krehbiel, and I have had very positive experiences with the customer support provided by Peggytronics in the past. Maxprint Plus is one of the few programs I have that gets used almost every day.



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C.Itoh 8510 printer \$ 425.00

Happy computing,

Kareem, Bill & Richard

BBS Definitions.
John T. Phillipp
July 3, 1983

The SAGATUG Bulletin Board Service (BBS) is up and running, and running very well. Those of us who were lucky enough to hear Vince Oehrlien speak about the SAGATUG BBS at the June meeting certainly came away full of enthusiasm for the project.

For those who found some of the terms thrown around at that meeting a little bit unfamiliar, I have written the following glossary of "terms useful in the world of telecommunications". They are not in alphabetical order, they are in the order I thought of them. If you find a term or two in a definition that you don't understand, look through the others - it may explained a little further on.

I hope that some of you will find this of use.

MODEM

Short for MODulator-DEModulator. This is a device which converts a serial data stream from the computer (1's and 0's) into a series of audio tones which may be transmitted over a telephone line to another computer, and also converts tones received over a telephone line into a serial data stream for use by the computer. The serial data stream for transmission usually comes from an RS232 interface, but may (with some modems and special software) come from the cassette port.

ASCII

Pronounced ASS-KEY. This is short for the American Standard Code for Information Interchange. Information in the computer is stored as bytes, each consisting of 8 bits (1's and 0's). 8 bits can make 256 different patterns of 1's and 0's. All the characters on the keyboard (upper and lower case letters, numbers, punctuation marks) can be represented by 128 patterns (7 bits). ASCII is a widely accepted "standard" assigning each letter, etc. a different pattern of 1's and 0's, so that each character has a 7 bit code. This has the advantage of allowing one computer to read another's data, if both computers use the same ASCII codes. The unused 8th bit is sometimes used to denote graphics symbols, and sometimes used for parity checking.

ACOUSTIC MODEM

This is a modem that places a telephone headset over a small speaker and microphone, and sends its audio output to the phone line through them. There is no electrical connection to the phone line. Its advantage is that it's a little cheaper than a direct connect modem. Its disadvantages are that it is sensitive to noises in the immediate environment (since they are picked up by the speaker and microphone), and it can only be used with a standard headset - no Princess phones or other odd-shaped ones.

DIRECT CONNECT MODEM

This is a modem which is electrically connected to the phone line. The audio output of the modem is sent directly to the phone line as electrical impulses. It is more expensive but more reliable than an acoustic modem. Since it is directly connected to the phone line, direct connect modems may have additional features such as auto-answer and auto-dial, but you will pay more money for extra functions.

SERIAL DATA

Data processed by the computer generally consists of eight bit bytes. Each of the bits has its own data line or wire, so each bit is sent at the same time over one of the 8 data lines. This parallel data transfer is fast, but needs 8 wires. To send information over one wire (like a telephone line) the 8 bits of the byte must be sent one after the other. This is serial data transfer. It takes longer, but only one wire is needed.

RS232 INTERFACE

This is a hardware addition to the TRS-80 which converts the normal parallel data in the computer to serial data which can be converted into audio tones by a modem and sent over a telephone line. It can also convert serial data from a modem into parallel data which the computer can process. The RS232C protocol also specifies the voltages and currents on a standard multi-wire connecting cable, and the functions (such as "CLEAR-TO-SEND", "REQUEST-TO-SEND", etc.) that each of these signals perform. In theory, any two devices adhering to the RS232 standard should be able to be connected together without modification. In practice. . . well, . . .

BAUD RATE

This is short for "bits per second". It is roughly equivalent to the number of standard (5 characters followed by one space) words sent per minute. The SAGATUG board uses a rate of 300 baud. Other systems may use 1200 baud which is much faster, but the modems needed to transmit and receive that fast are much more expensive.

ORIGINATE AND ANSWER MODES

The modem converts the 1's and 0's of the serial data it receives into audio tones. The frequencies of the tones it uses for the 1's and 0's depends on whether it is the transmitting computer (originate mode) or the receiving computer (answer mode). Originate mode uses 1270 Hz. for 1 and 1070 Hz. for 0. Answer mode uses 2250 Hz. for 1 and 2025 Hz. for 0. For the SAGATUG board, your computer is "originate", and the BBS computer is "answer".

DUMB TERMINAL SOFTWARE

After the modem receives the audio tones, and converts them to serial data, and after the RS232 board converts the serial data to parallel data, the computer still needs a program to tell it what to do with the data! Dumb terminal software is a program that accepts data from the RS232 board and displays it on the screen, and accepts data from the keyboard and sends it to the RS232 board for transmission.

SMART TERMINAL SOFTWARE

This is a program that does what the dumb terminal software does and adds other capabilities. The most common additions are the ability to transmit a disk file, the ability to capture incoming data and store it in a disk file, the ability to use the DOS commands, and the ability to interface with a printer. Smart terminal software is necessary to upload and download files. MODEM, the public domain communications program available for downloading on the SAGATUG BBS, is smart enough!

X-ON X-OFF PROTOCOL

This is a means of insuring the most efficient transfer of data between the transmitting computer and the host computer. Under this system, the host computer sends a special command (usually a control-S character) when it has all the data it can handle, and another command (usually control-Q) when it is ready to accept more data. In order to work, the transmitting computer must have software that can recognize those commands, and must also be able to

receive at the same time it is transmitting.

HOST COMPUTER

This is the computer you are talking to, the computer running the BBS program. The host computer running the BBS software for the SAGATUG Bulletin Board is Vince Oehrlein's computer.

FULL DUPLEX (ECHO PLEX)

In this mode, the receiving (host) computer sends each character back to the transmitting computer the instant it is received, and the transmitting computer "echoes" it on the CRT screen. To the user, it seems that each character appears on the screen as the key is pressed, but in reality, the character appearing on the screen is one sent by the host computer. This provides a positive check on the host system, the modem, and the data communications line.

NULLS AFTER CARRIAGE RETURN

Some systems, especially those using teletypes rather than CRT screens, need time for the display to scroll to a new line. Any characters sent by the host during the scroll would be lost. Extra nulls after each carriage return character allow time for the display to scroll before the next line of characters is sent. At 300 baud, there is plenty of time for our displays to scroll, so the number of extra nulls should be 0.

PROTOCOL FILE TRANSMISSION (PFT)

This is a method of verifying the accuracy of received files. The transmitting computer bunches the data into 256 byte "packages" and performs a calculation (checksum) based on the number of binary 1's in the package. This checksum is included with the package when it is sent over the phone line. The receiving computer performs the same calculation on the package after it is received. If the checksums do not match, the receiving computer requests that the package be sent again. This is repeated until the checksums match, or some pre-set number of tries has been made and the file transfer is aborted with a error message. If the checksums do match, there is a high degree of probability that the received file is an accurate copy of the one sent. In order for the system to work, both computers must be using the same PFT.

XMODEM

Originally written for, and used by, the CP/M crowd, it is the most widely used of the file transfer protocols. This is the one used by the SAGATUG BBS.

UPLOAD and DOWNLOAD

Sending disk files to and receiving files from the host computer. Sending disk files to the host computer is called "uploading", receiving files from the host computer is called "downloading". Disk files transferred may be a program in any language, a /CMD file, a page of text, data, or anything else.

ASYNCHRONOUS DATA TRANSMISSION

A method of serial data transmission which uses a start bit, and a stop bit (or several stop bits) for each character with the binary data (pattern of 1's and 0's that represents the character) sent between them. The advantage to this system is that each character is self contained, and so characters can be sent at random intervals - as when someone is typing at the keyboard. The disadvantage is that all those start and stop bits carry no "character information", and limit the speed of transmission. This is of no consequence at low speeds like 300 baud, and the SAGATUG BBS uses asynchronous data transmission.

PARITY

In systems that use parity checking, each character is sent with a one bit checksum. For even parity, this single bit is a 1 if the number of binary 1's in the character is even, 0 if it is odd. For odd parity, it is the opposite. The SAGATUG BBS does not use parity checking, so the proper setting for parity is "none".

<F>orward <R>everse <S>ingle ==> S <==
Which Number? 3

Message #: 3
Subject: RESIGNATION
From: VINCE DEHRLEIN
Date Time: 06/28/83 23:16:37

Effective immediately I am resigning from the post of Vice-President of the club. The current situation is untenable and I cannot continue in such an environment. I will continue to operate this system and be a member of the club. Thanks to those who have offered their help and understanding. Vince

Subject: INTERFACE
From: JOHN PHILLIPP
Date Time: 07/01/83 22:36:49

The INTERFACE will be late this month. Unfortunately, as Editor, I don't write the INTERFACE, I only put it together, have it printed, and mail it out.

Since as of this date - July 1 - I have received from the members NO articles, NO columns, NO programs, and not even the mailing labels, the INTERFACE has NOT gone to the printer.

This is the 4th of July weekend, so the earliest I can get the INTERFACE to the printer is next Tuesday, and the earliest it can be mailed is next Wednesday - not in time for the Friday, July 8, meeting.

I am sorry that the INTERFACE is not out on time, but I cannot get it out when submissions are very late (they must be in my hand at least 2 weeks before the meeting) or like this month, have not come in at all.

The INTERFACE is the CLUB newsletter, but very few members of the club have shown any interest in it. To those few I give my heartfelt thanks. To the others I can only say "Please don't complain about a newsletter you haven't contributed to."

-----John T. Phillipp, Editor, INTERFACE

ROLPH ALBERT

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SAGATUG
7129 Hillrose Avenue
Tujunga, CA 91042