

THE MSP 99 NEWSLETTER

SEPTEMBER MODULE EXTRAVAGANZA

For the next MSP 99 Users' Group meeting, we will be having a Command Module Extravaganza and a Software Exchange. If you are having a hard time deciding if that command module you have been eyeing is a good one attend this meeting and see it before you buy it. Mike Larson says, "We will have a good selection of modules available but if a member has a special request they should call me at 738-7822." Module owners will be available to answer your questions.

Bring in any programs you have written for The Software Exchange and also bring extra cassettes or disks. You can demonstrate your favorite programs and make copies for those who want them. It's a good way to build up your program library at no charge. You also might be able to get some help with program bugs you've not been able to figure out.

The meeting will be Thursday, Sept. 9, at 7 p.m. at the Printing and Graphic Arts Building, 29th and Como S.E., Minneapolis.

EXPANDING OUR COMMUNICATIONS

As the number of owners of TI Home Computers increase, we need to let them know we are here. We might consider the following ways of being of service to our community. 1) To sponsor free workshops or clinics at community centers or libraries. 2) To work together to produce a Public Access Cable TV program on our use of computers and about our group. 3) To provide information to educators about their students' use of The TI computers at home. Let's do it!

AN OPEN INVITATION

by Paul Weiblen, MSP 99 President

Two things this diverse group of members have in common are a desire to learn and a willingness to share computer knowledge and experience.

On behalf of the group, I extend an open invitation to anyone who is interested in or contemplating the purchase of a personal computer system to attend our monthly meeting. It will be an opportunity for you to benefit from our formal programs, a chance to meet our members and a time to discuss informally interests or needs you may have. We trust you visit our group soon.

EDITOR/ASSEMBLER FEATURED IN OCTOBER

See how to access the speed of the TMS9900 Microprocessor through the use of the Editor/Assembler Command Module. The 99/4 and 99/4A are capable of incredible, exciting, and difficult things when you speak it's native tongue, in 9900 Assembly Code. This is an exciting module and will allow the development of more complex and efficient software.

Dennis Berke will be showing this Editor/Assembler capability of the Module that requires a Disk Drive, 32K RAM Memory Expansion Accessory, or Card. Assembled Programs can run from Extended BASIC or with the Mini Memory Module, as well as, a Editor Assembler Module. Owners of one of these modules will find help here.

As an introduction see the fine article by Dennis in this issue of the Newsletter, then, join us all on October 14, 7 p.m., in the Graphic Arts and Printing Building, 29th and Como S.E., Minneapolis.

IF YOU ARE INTERESTED IN COMPUTERS FOR THE HOME

The MSP 99 USER GROUP meets once a month for a general program. You'll hear discussions and presentations that will enable you to be better informed, whether you own a home computer or are planning to buy one. A User Group is a group of people who freely share and exchange information for the good of all. You'll find our members are helpful and congenial. Some of our members have a broad range of computer expertise and experience which they are willing to share. Others are just beginning. We are not affiliated or sponsored by any other group or company. We are owners of the Texas Instruments TI-99/4 and TI-99/4A Home Computers. We share an enthusiasm for these fine machines. The nominal dues are twelve dollars a year for a family and ten dollars a year for an individual. You are welcome to visit a meeting before you join. For more information call us or write to us.

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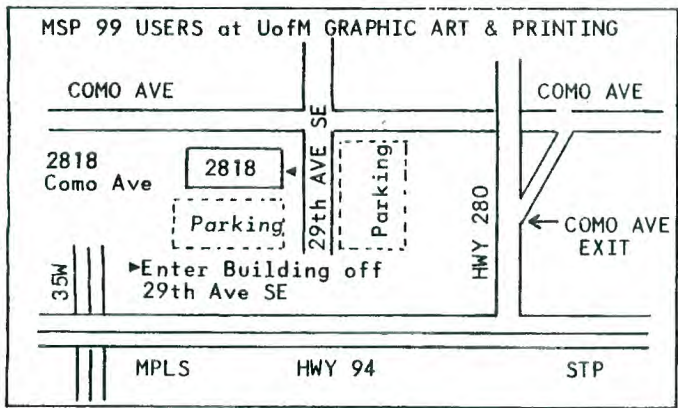
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The MSP 99 NEWSLETTER is published by the MSP 99 USERS GROUP to serve the needs of TI-99/4 and TI-99/4A Home Computer Users in the Minneapolis and Saint Paul Region. This publication is one of the regular benefits of your MSP 99 USER GROUP Membership. Members are encouraged to contribute articles for publication. Opinions expressed are those of the writers and are not necessarily those of the MSP 99 USER GROUP, its officers, editors or members.

ASSOCIATE EDITORS • MSP 99 NEWSLETTER

Richard Clemetson Marilyn Mc Partlin

The MSP 99 USERS GROUP MEETINGS are held at The U of M - Graphic Arts and Printing Building at 2818 Como Avenue, just off 29th Avenue SE. See the map for exact location and directions.



Members who have a special interest or an idea for future programs should submit their ideas to the Program Committee, Mike Larson, phone him at 738-7822 or see him at a meeting.

Members are needed to volunteer to help with one of the many committees necessary for the success of the Group. Committees are education, program, software, equipment, recruitment and newsletter. Volunteer to assist, to an officer, today!

SPRITER PROGRAM FINALLY RUNNING
 by Marilyn Mc Partlin

If you were eagerly awaiting the latest issue of the 99'ER Magazine to correct the Spriter Program that locked up most of our computers, you were probably disappointed to find the corrections in Vol. 1, No. 6, 99'ER MAGAZINE had errors too.

Near as we can tell, you will be able to get your Spriter program finally running if you make these corrections:

1. Delete line 980
2. Add line 1035
 $1035 \text{ ZZ} = \text{INT}(\text{NH} / 2^{\wedge} \text{YO}) - 2 * \text{INT}(\text{NH} / (2^{\wedge} (\text{YO} + 1)))$
3. Re-correct line 1040
 $1040 \text{ IF } \text{ZZ} = 0 \text{ AND } \text{N} = 1 \text{ THEN } \text{NH} = \text{NH} + 2^{\wedge} \text{YO}$
4. Re-correct line 1050
 $1050 \text{ IF } \text{ZZ} = 1 \text{ AND } \text{NH} = 0 \text{ THEN } \text{NH} = \text{NH} - 2^{\wedge} \text{YO}$

EDUCATION COMMITTEE

The Education Committee reports its had a wonderful summer vacation and plans to get back to business soon. Plans include offering classes for user group members later on in the fall. A class on the use of the Extended Basic module and classes for TI beginners are possibilities under consideration.

The committee also hopes to be a resource center for users' group members to find out about metro-area computer class offerings. If you hear or read about any such classes, please give complete information to Diane Kavanaugh. If you want to know about classes currently being given in the area, call Diane at 644-5940.

"I wish I could do the computer every day"

TELL SPRITE 1
 TRUCK
 BLACK
 DOING 90
 ED 100

 CALENDAR OF MEETINGS AND EVENTS

Thursday September 9 7 pm

COMMAND MODULE EXTRAVAGANZA
and SOFTWARE EXCHANGE

Thursday October 14 7 pm

INSTRUCTING YOUR COMPUTER
IN ITS NATIVE TONGUE
9900 ASSEMBLY LANGUAGE

Submit your articles for MSP 99
Newsletter by October 14th Meeting.

Thursday November 11 7 pm

PRINTERS: FROM THE HEAT SENSITIVE
INTO THE WORLD OF DOT MATRIX,
DAISIES AND BEYOND.

If you own a printer you would be
willing to show contact Mike Larson
at 738-7822 to volunteer for the
November 11th Meeting.

 HOW STANDARD IS A RS-232C INTERFACE?

At the November meeting we will be hearing about how others have found a printer to be a useful accessory. One of the most direct ways is to use the TI Solid-State™ Thermal Printer. When you decide to connect some other printer you will need an interface device, such as the Serial Interface Accessory or the Serial Card for the Expansion Box. The new card provides both RS232C and the Parallel Port, that is common to many printers. Not all printers are set up for both Serial and Parallel communications. Often times, it's a matter of decision.

When you start talking to printer salespeople, especially technicians, you find that you may need a special cable or card in the printer to have a working communication with a RS232 Device. Not all manufacturers use the same pins for the same purpose. These and other facets of printing will be discussed at the November meeting on Printers.

 A.I. FEATURES SOFTWARE THAT LEARNS

Members were treated to a demo of Artificial Intelligence by MSP 99er Gerald Lockhart at the August User Group meeting. For almost a year he has been experimenting with programs that can operate, make decisions, without human intervention.

One of the programs demonstrated called for True or False Input and allowed the computer to predict the response, based on previous input. Two of the most interesting programs were capable of writing stories and Haiku poetry. Essentially, these programs construct sentences from a list of words, in data statements, which are chosen at random. The list contains nouns, verbs, articles and other parts of speech. Another type program demonstrated was "Doctor" a program that "responds" to "remarks" that are entered from the keyboard by a human-type. In this program, certain key words are looked for and appropriate responses are generated by the program. The program was on a large computer originally and was shortened for the microcomputer. The program was originally developed at M.I.T.

Much of the work to get this type program operating on the TI-99/4A involved translating programs from one BASIC dialect to another. The ideas for the programs came from the book, "Experiments in Artificial Intelligence for Small Computers", by John Krutch (1981). The programs were more easily translated using TI-Extended BASIC than TI-BASIC.

Our thanks to Gerald Lockhart for this interesting and stimulating presentation of a timely subject.

**"It's a whole
new way to learn."**

**Texas Instruments
TI-99/ Home Computer**

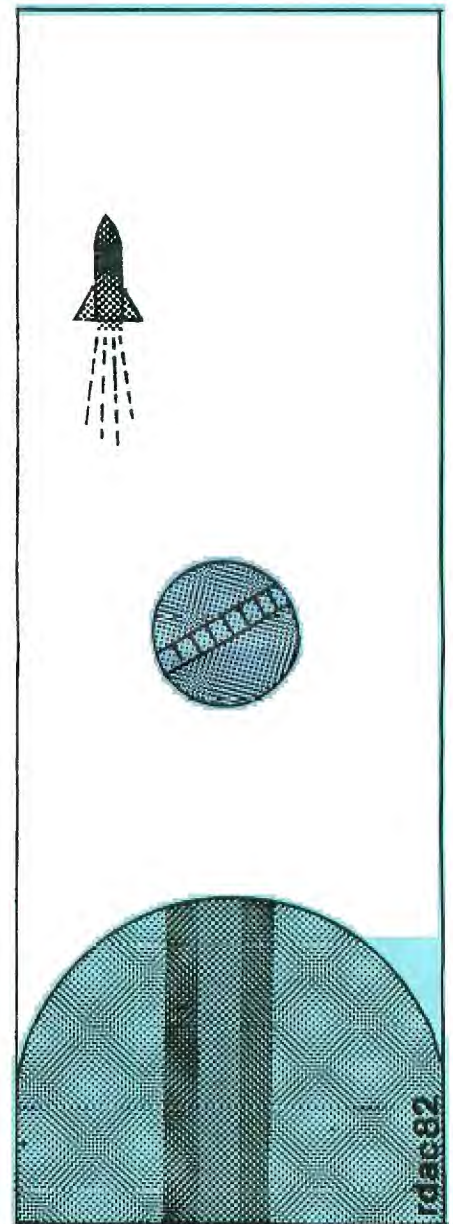
And it talks,too.

AUTOWRITER PROGRAM DEMONSTRATED AT AUGUST MEETING CATCHES FANCY OF MEMBERS

One of the "Artificial Intelligence" programs which caught the fancy of members who write this newsletter was a program called "AUTOWRITER". It is one of the programs which MSP 99 MEMBER Gerald Lockhart translated for the TI-99/4A from the book "EXPERIMENTS IN ARTIFICIAL INTELLIGENCE FOR SMALL COMPUTERS", by John Krutch, published by Howard W. Sams & Company of Indianapolis, 1981.

Each story is generated from a list of words, preprogrammed, then randomly selected by the computer. "Working with a program like this you become very aware of sentence structure," Lockhart said. "Very proper English syntax," he continued, "must be programmed into the computer." Words are stored in Data statements according to their parts of speech. The computer selects words randomly for each "proper part of speech", in the sentence structure and assembles them into a sentence. Each sentence will be different and each story will be different according to the word and sentence combinations randomly generated by the program. We hope you enjoy the story "GALACTIC PATROL 82.8.13" by Program ▶ Computer ▶ Printer.

A GALACTIC PATROL SLOWED DOWN EXPERTLY BEHIND A CRUISER.
A HORRIFYING IMMENSE BLACK HOLE CLIMBED EASILY.
A HORRIFYING MOON SWERVED QUICKLY NEAR A YELLOW TINY METEOR.
THE YELLOW PLANET ROCKETED. TY EDGED PAST. THE TINY MOON STOPPED QUICKLY.
A BRIGHT FALCON EDGED PAST QUICKLY UNDER A BLUE-WHITE MONSTROUS PLANET NEAR A LONELY ALIEN INVADER UNDER THE BRIGHT LANDSPEEDER WITH A MAGNIFICENT FALCON OVER A DARK IMMENSE BLACK HOLE NEAR A MAGNIFICENT ALIEN INVADER.
VOSH'KAN EDGED PAST INSTANTLY.
THE GALACTIC FEDERATION FELL SKYWARD EVENLY NEAR A LOVELY BRIGHT GALACTIC FEDERATION NEAR A YELLOW DARK SUN. VINTOR CONTINUED INSTANTLY OVER THE LANDSPEEDER.
A MAGNIFICENT ENORMOUS BLACK HOLE CLIMBED RAPIDLY FAR FROM THE LOVELY DARK SUN FAR FROM A SPACESHIP. A HORRIFYING PLANET STOPPED BEHIND AN AWESOME COMET.
AN IMMENSE SUN EDGED PAST INSTANTLY.
REX FLEW EXPERTLY UNDER A BLACK HOLE OVER A LOVELY ENORMOUS ASTEROID OVER A STRANGE COMET.
A TINY IMMENSE METEOR VAULTED EASILY OVER A FALCON UNDER THE TINY YELLOW BLACK HOLE.
THE MAGNIFICENT LONELY CRUISER STOPPED EXPERTLY NEAR A DARK YELLOW ASTEROID CLOSE TO A RED TINY GALACTIC PATROL.
THE FALCON STOPPED QUICKLY WITH THE STRANGE RED BLACK HOLE.
A BLUE-WHITE MAGNIFICENT SPACESHIP WENT SLOWLY WITH A PLANET BEHIND THE PULSING BLUE-WHITE PLANET CLOSE TO A MOON OVER A DULL GALAXY OVER THE STARSHIP UNDER A GALACTIC FEDERATION. A LANDSPEEDER CLIMBED INSTANTLY.
A COMET ROCKETED OVER THE MONSTROUS HORRIFYING SPACESHIP.
A LANDSPEEDER SLOWED DOWN EVENLY BEHIND AN ENORMOUS DULL SPACESHIP.
A LONELY SUN SLOWED DOWN SUDDENLY NEAR A SUN OVER A LOVELY MONSTROUS COMET OVER A PLANET NEAR A LOVELY LONELY ALIEN INVADER.
A SPACESHIP EXPLODED UNDER A HORRIFYING CRUISER OVER A LONELY GALAXY.
A MAGNIFICENT AWESOME FALCON STREAKED EXPERTLY.
A SPACESHIP EDGED PAST SUDDENLY OVER A LONELY FALCON.
THE BLACK HOLE CONTINUED OVER A STRANGE TINY SPACESHIP.
THE AWESOME LOVELY PLANET EXPLODED EVENLY NEAR AN AWESOME HORRIFYING STAR.
EON ROCKETED SLOWLY OVER A RED CRUISER.
MIA SOARED SUDDENLY CLOSE TO A LONELY YELLOW COMET.
A MAGNIFICENT IMMENSE ASTEROID ROCKETED EVENLY.
A HORRIFYING PLANET FLEW NEAR A PULSING LOVELY FALCON OVER A COMET.
A GALAXY ROCKETED EASILY NEAR A BRIGHT COMET.
SD4 EDGED PAST WITH A PULSING DULL PLANET NEAR A TINY BLACK HOLE CLOSE TO A HORRIFYING BLACK HOLE. TY FLEW EVENLY CLOSE TO THE PLANET.
THE PULSING BRIGHT MOON STREAKED.
TELIA SLOWED DOWN EXPERTLY CLOSE TO A LOVELY GALACTIC PATROL.
JASON LASER SWERVED SUDDENLY.
THE BLUE-WHITE STAR CONTINUED SILENTLY BEHIND A PLANET.
TREG SOARED TOWARD OVER THE MONSTROUS BLUE-WHITE GALACTIC FEDERATION OVER A PLANET. TY SOARED EXPERTLY BEHIND A RED LOVELY MOON.
TY CLIMBED INSTANTLY UNDER THE HORRIFYING LOVELY COMET UNDER A BRIGHT GALACTIC FEDERATION FAR FROM THE ALIEN INVADER.
THE DULL BLACK HOLE ROCKETED SLOWLY NEAR A BLUE-WHITE STARSHIP.
A YELLOW COMET VAULTED SLOWLY OVER THE DULL GALAXY OVER A MONSTROUS AWESOME STARSHIP. SUSAN STREAKED EASILY CLOSE TO A PLANET.
A PLANET STOPPED UNDER A GALACTIC PATROL OVER A HORRIFYING BLUE-WHITE COMET CLOSE TO A BLUE-WHITE IMMENSE ALIEN INVADER NEAR A GALAXY BEHIND A LONELY YELLOW COMET NEAR A LOVELY STRANGE FALCON.
JASON LASER WENT CLOSE TO A YELLOW MONSTROUS METEOR.
A STARSHIP ROCKETED INSTANTLY WITH A GALACTIC FEDERATION NEAR A TINY ASTEROID NEAR A RED SUN.
THE LONELY MOON WENT AROUND QUICKLY NEAR A HORRIFYING LONELY STARSHIP OVER A LONELY ENORMOUS STAR. TREG CLIMBED SUDDENLY OVER A STAR.
A PULSING CRUISER FLEW CLOSELY.
AN ENORMOUS LOVELY ASTEROID STOPPED SLOWLY UNDER A SUN. A PLANET WENT.
TELIA SWERVED EXPERTLY.
TELIA EDGED PAST TOWARD BEHIND THE LANDSPEEDER NEAR AN ALIEN INVADER UNDER A STRANGE LONELY LANDSPEEDER. MIA FLEW EVENLY BEHIND A TINY MOON.
A STAR STOPPED EXPERTLY. THE DARK STARSHIP CONTINUED.



BITS AND PIECES

by Dennis Berke, MSP 99 V. Pres.

This is the first of hopefully many articles written about the uses of Assembly Language on the 99/4 and 4A. Since Jill is now a PSR-Product Support Representative for T.I. she, and I, have the use of an Expansion Box and all the Peripheral Cards needed for Assembly Language. This has allowed us the opportunity of starting to learn Assembly Language together. At work, I have used an Assembly Language enough, on a 6502 CPU based system, to have a basic knowledge of Assembly Language. Not so much that I don't enjoy working with the TI when I get home. Since I have not used the system much, I am sure I will make some mistakes which someone out there may catch. In any case, inform me so any mistakes can be corrected. Well here goes!

Do not touch that keyboard, donot attempt to adjust your monitor, we have taken complete control of your microprocessor. No, it is not the Twilight Zone, often close, only the Editor / Assembler and 9900 Assembly Language. There are two very basic advantages that Assembly Language has over other computer languages. 1. You are working at the computer's level so you gain complete control of it's operation. You have the key to full communication with every memory mapped component of the 9900 computer. 2. The language is very fast. For these reasons I find it more challenging, more frustrating, more difficult, more fun, but most of all more rewarding once the program works.

An Assembly Language program is created with The EDITOR in the form of a "Source Code" that is like a BASIC program in that it is a list of statements which define a series of events which are to happen. Each statement is on a single line of up to eighty characters. Many lines contain from one to four main fields as follows:

-(A)- -(B)- -(C)-, -(C)-, -(C)- -(D)--
 [▲] [▲] [▲]
 space space space

Spaces are used as separators, many times several spaces are used in

order to keep the fields in line for ease of reading.

Field (A) is the Label. It is much like a line number in BASIC program, in that it is a "reference point". The "Label" can have up to six alpha numeric characters. The first one must be alphabetic. ie: NEXT1,CHECK2

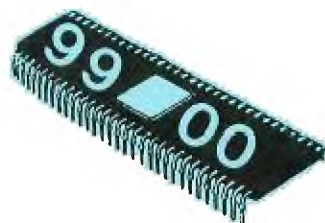
Field (B) is the "Operation Code", "OP-CODE". It takes one of three forms: 1) "Mnemonic Operation Code", ie: DIV for Divide. 2) "Assembler Directives", ie: EVEN at end of even address. 3) "Pseudo-Operation", ie: NOP meaning no operation. The "OP-CODE" is an instruction much like commands in BASIC programs, in that it tells the computer what is to happen.

Field (C) is an Operand. This field provides information as to where or on what an "OP-CODE" is to act. ie: @D32,r7. which means divide dot row of block by 32.

Field (D) contains comments. This is the field that documents the program so later you know what was intended. ie: Scan Left Keyboard, Return to Master Screen, etc.

After a full "Source Code" is put together with the EDITOR, it must be saved in order to proceed. Then, the ASSEMBLER is loaded in the computer and told to Assemble the "Source Code". The Assembly process generate a pile of numbers, known as "The OBJECT CODE", which the computer understands. This "Object Code File" is saved so that you can load it and run as your program on the computer.

I have explained the procedures used to generate an "Object Code File" which the computer will be able to act on. Next time, I will explain several of the instructions recognized by the 9900 and give you a sample program.



Assembly Language

TIs style

TI FEATURES IN BYTE MAGAZINES
by Richard Clemetson, MSP 99 Editor

The August 1982 edition of BYTE Magazine features a number of fine articles of interest to owners of TI-99/4A Computers. The principle topic of discussion this month was LOGO. You will find a wealth of very interesting information. Included is a comparison of Terrapin LOGO, Apple LOGO and TI-LOGO by Gregg Williams. You will also find lots of articles on the installations and the use of LOGO both in educational and other settings as well.

Steve Ciarcia has a fascinating article on the "High Resolution Sprite Oriented Color Graphics". It features extensive illustrations and descriptions of the TMS 9918 A Video Display Processor/Texas Instruments. Described are many features which are well known to those who have explored the Graphic capabilities of the TI machines and some which may not be so well known.

BYTE which is a McGraw-Hill Co. publication has had a number of articles of interest to TI owners this year. In the March 1982 issue there was a routine in TI-BASIC that allows formatted numeric printing similar to FORTRAN statements:

FORMAT(F FL,FD) for "real" numbers
FORMAT(I IL) for integer numbers
I recently adapted this program for DISPLAY use and can't wait to have

some real fine COLLUMNAR printing of my numeric data. The article was written by Dr. Malladi Subbiah of Cal Tech. The routine can be placed in your programs and is a wonderful introduction to real uses for the DEF Statement, defined functions.

MEMBER UNCLASSIFIED ADS

Bring your unclassified ads to the October 1982 Meeting for the November-December Issue. Members may use this column to buy, sell or trade their used modules and equipment, FREE.

WANT-TI THERMAL PRINTER-Call Len-(612)224-9527

DISCS FOR SALE-Top Quality Blank Discs for your Data or Program Storage at User Group Rates on a special purchase by group. Call Bill Lovegren at 784-5918 eve or sat for more information.

GET PUBLISHED-Write an article for the MSP group about a program you find useful, game strategy, how you use your computer or a module. Also need a photographer to document group activities and to provide B&W prints for newsletter. Need your insights on PRINTERS for the Nov-Dec issue. Call Dick Clemetson 926-8083 or Marilyn Mc Partlin at 636-5663 to volunteer or for more discussion.

NEWSLETTER SENT TO OTHER USER GROUPS

We are beginning to receive an occasional Newsletter from other User Groups in the country. We want them to know that we appreciate the sharing that invariably occurs. We are sending our Newsletter to all the groups that we have information on and look forward to hearing from them. If you are traveling and your destination is MSP give our officers a call and tell us about your group.

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