Mass Users of the Ninety-nine and Computer Hobbyists

AUGUST 1995 Monthly Newsletter Version 14.08

WE'RE STILL ALIVE IN 95

AT OUR NEW HOME IN WORCESTER

T. I. FALL FAIRE SATURDAY SEPTEMBER 30, 1995

M.U.N.C.H.
C/O J. W. COX
905 EGDEBROOK DRIVE
BOYLSTON, MASS. 01505

NEXT MEETING: TUESDAY, AUGUST 8th.

POSTMASTER: Forwarding and Address Correction Requested.
AT OUR NEW HOME:

FIRST CLASS!!

R. A. BISHOP
16 FRENCH AVE.
NORTHCOTE 3070., VICTOR IA
AUSTRALIA CLUB

NEXT MEETING TUESDAY, August 8, 1995 7:00 PM. In our NEW home!

MUNCH OFFICERS AND NUMBERS (all in 508 area unless noted)

PRESIDENT	W. C. Wyman	865-1213		
VICE-PRESIDENT	Open		MUNCH DUES:	
TREAS./EDITOR/CLK.	Jim Cox	869-2704	New Membership	$25.00
DEMO LEADER	Jack Sughrue	476-7630	Renewal	$15.00
Asst. Demo Leader	Lou Holmes	617-965-3584	Newsletter Sub.	$13.00
LIBRARIAN	Walt Nowak	413-436-7675		
Advanced Programmer	Dan Rogers	248-5502		

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JULY MEETING. The June meeting had seven members in attendance. We discussed the upcoming Fall Faire. Jack brought part of the Jim Peterson collection and demoed some of Jim's programs. It was a very interesting evening.

AUGUST MEETING. We will continue to plan for the Faire and hopefully Jack will have continue the Peterson demo. We will also have to get our system up and running.

RAFFLE. Every month we have a raffle to help defer the rental cost of our meeting hall. A typical raffle will have programs, blank disks, books, bumper stickers and all sorts of odds and ends of interest to the T.I. user.

REPRINTS. Reprints are permitted as long as credit is given to M.U.N.C.H.

ARTICLES. I am always looking for articles for this newsletter, anything which interest you will probably interest other members of the T.I. community, so please share your ideas and opinions with all of us.

DISK LIBRARY. The disk library is at all meetings. We have copies of all disks in the library and they are available to members for just $1.00 for each disk unless otherwise specified. You can order them through the mail, please add $1.00 for the first disk and $.40 for each additional disk ordered to cover postage and handling.

DISK OF THE MONTH. I don't know if there will be a D.O.M. this month. I have not had a chance to see what I have available because things are pretty hectic with the Faire and all.

ADVENTURE II. This is our fund-raiser for 1994/95. The cost to members is $4.00 add $2.00 for first class postage. The regular price is $6.95 plus postage. This is a two DSSD disk set, archived. There is also a special on The Adventure Compendium and Adventure II for members it is $8.00 plus $3.00 for first class postage.

HELP WANTED. I need someone with a pickup truck or a van that can take a shelving unit to our new home. The unit is approximately 5' by 3.5' by 2' deep. If you can help, call Jim at the number above.

C = Corcomp disk controller
M = Myarc disk controller

FORMATS:		T	C	M
SSSD:	9 Sectors per track	o	o	o
	40 Tracks			
	360 Sectors total			
SSDD:	16 Sectors per track	-	-	o
	40 Tracks			
	640 Sectors total			
SSDD:	18 Sectors per track	-	o	o
	40 Tracks			
	720 Sectors total			
DSSD:	9 Sectors per track	o	o	o
	40 Tracks			
	720 Sectors total			
DSDD:	16 Sectors per track	-	-	o
	40 Tracks			
	1280 Sectors total			
DSDD:	18 Sectors per track	-	o	o
	40 Tracks			
	1440 Sectors total			
DSQD:	18 Sectors per track	-	-	o
	80 Tracks			
	2880 Sectors total			

This is new for Myarc

XB PROGRAMMING CONTINUED

CALL JOYST

Used to control the joystick.
CALL JOYST(1,X,Y) will return values in X and Y on joystick #1.
The values returned in X and Y relate to the position of the joystick.

CALL KEY

This command is used to scan the keyboard for input.
CALL KEY(key,return,status) The key can be 0 for the whole keyboard, 1 for the left side and 2 for the right side.
Return is the ascii code for the key pressed and -1 if no key pressed
Status is 0, 1 or -1 meaning 0 no key pressed, 1 means a new key was pressed since the last key press and -1 means the same key was pressed from the last key press.

LEN

Used to count the characters in a string.

DISK CONTROLLERS AND COMPATIBILITY

by: Paul E. Scheidemantle

One of the common questions that I'm always asked is - If I get this particular disk controller will it be compatible with one or the other of the others??? Well hopefully this article will help remove those doubts and be of help in clearing up alot of misinformation.
All of the disk controllers listed below will initialize single or double sided diskettes provided you have a drive or drives with these features. Next the problem is compatibility between the different densities. Shown below is the basic information on each of the major controllers so that you can see what is compatible with what. One quick note on the Ryte Data chips is that to my knowledge they are not compatible with any of the controllers listed below because they require 80 track drives. You get 1440 sectors with these chips installed in your Texas Instruments disk controller by initializing double sided single density on 80 tracks.

Texas Instrument:
Initializes Single Density only. 9 sectors per track (40 Track). This diskette can be read and written to by both Corcomp and Myarc Control cards.

Corcomp:
Initializes Single or Double Density. 9 sectors per track (40 Track) in single density format and 18 sectors per track in double density format. This diskette can be read and written to by both Corcomp and Myarc Control cards, or the TI control card providing that the disk is single density format and either single or double sided (again you must have a drive to match).

Myarc:
Initializes Single or Double Density. 9 sectors per track (40 Track) in single density format and 16 or 18 sectors per track in double density format. This diskette can be read and written to by both Corcomp and Myarc Control cards, or the TI control card providing that the disk is single density format and either single or double sided (again you must have a drive to match).
* Note that if the diskette has been initialized as double density in the 16 sectors per track mode it is compatible ONLY with the MYARC controller!

Editors note: Since this article appeared there is an 80 track Eprom available for the Myarc card which will allow DSQD 2880 sectors per disk as long as the drive is capable of 80 track operation. 3.5 inch 720k drives work very well for this option.
Myarc also has a Hard floppy disk controller which controls hard drives and floppy drives together.

DEFINITIONS:

SSSD = Single Sided Single Density
SSDD = Single Sided Double Density
DSSD = Double Sided Single Density
DSDD = Double Sided Double Density
DSQD = Double Sided Quad Density
T = Texas Instr. disk controller

ROLLING REPS OF RECIPROCAL 7:

Reduction of factors to common divisors:
142857=3x3x3x11x13x37
:.....=27x11x13x37=13x(11x27x37)
:.....=13x(11x999)=13x10989

142857=1x13x10989
428571=3x13x10989
285714=2x13x10989
857142=6x13x10989
571428=4x13x10989
714285=5x13x10989

REVERSE ROLLING REPS:

758241=3x23x10989
582417=1x53x10989
824175=3x25x10989
241758=2x11x10989
417582=2x19x10989
175824=1x16x10989

The product of all the factors given above will confirm the exact value of the single rolling reps as given. In order to generate the infinite periodic decimal fractions of their origin you must discover that 10989, the common divisor of both sets above, is the reciprocal repetend of 91=7x13. Substitute 1/91 for 10989 in the products that generate the above two sets of rolling reps, and you will be dividing the remaining two-numeral products by 91. This will generate the endless repetitions from which the single repetends above were derived.

This was one of the "surprises" of our little explorational test. Since 1/91=1/(7x13), the "13"s cancel out in the first (left to right) table above. This leaves us only the fractions used in the first table below for generating the infinite periodic decimal fractions which provide the rolling reps of the first table above. The second table below generates the repetends of the second table above.

1/7=142857142857142857....
3/7=428571428571428571....
2/7=285714285714285714....
6/7=857142857142857142....
4/7=571428571428571428....
5/7=714285714285714285....

3x23/91=758241758241758241....
1x53/91=582417582417582417....
3x25/91=824175824175824175....
2x11/91=241758241758241758....
2x19/91=417582417582417582....
1x16/91=175824175824175824....

We close this session with a comparison of the growing reps and the growing reverse reps of 1/7.

Note the following observations: (a) The one-cycle repetends of both the left to right and right to left growing reps share a common major divisor. The minor divisors differ.

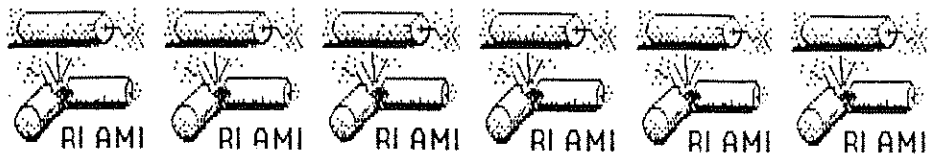
(b) The same factors reappear among the divisors of two, three and four cycle growing reps, but the new factors added to these by growth of the repetend are the same in both tables below:

THE GROWING REPS OF 1/7:

ONE CYCLE:
142857=13x10989=C1
TWO CYCLES:
142857142857=C1x101x9901
THREE CYCLES:
C3=C1x3x19x52579x333667
FOUR CYCLES:
C4=C1x73x101x137x9901x99990001

GROWING REVERSE REPS OF 1/7:
ONE CYCLE:
758241=3x23x10989=C1
TWO CYCLES:
758241758241=C1x101x9901

THREE CYCLES:
C3=C1x3x19x52579x333667
FOUR CYCLES:
C4=C1x73x101x137x9901x99990001



```
111234567890098765432111
1                       1
1 PLAYING WITH NUMBERS  1
0         No 18         0
9  By Meredith Beyers   9
9                       9
999876543210012345678999
```

THE FOUNDATIONS OF SMALL NUMBERS:

Last month we discussed examples of repunit number probes on various routes toward "infinity". Now we are back working on our explorational foundations of small numbers.

The numeral "7" represents the only one-digit number with a reciprocal repetend that provides a foundation for demonstrating all the operations of repetend analysis.

In this connection we introduce two new phases of our "game": "Growing Reps" and "Rolling Reps". In this context "Reps" is short for Repetends. Growing Reps apply to series of one-digit repetends (period 1).

Example: 111111..., the endless strings of ones called repunit numbers. In order to penetrate this universal series we factor systematically, the repetends 11, 111, 1111... a repetend that grows at the rate of one digit per cycle. By exploring series with reps that grow at the rate of two and three digits per cycle we discover the differences between reps that contain an odd or even number of digits.

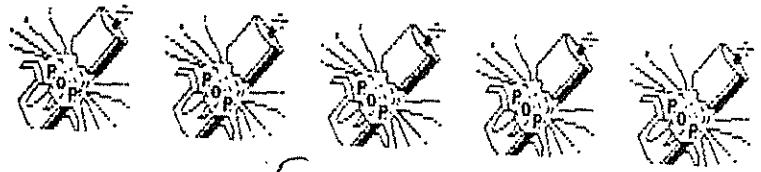
The reciprocal of 7 is an infinite periodic decimal fraction with a period of six digits per cycle. Here we use cycles instead of digits as the rate of growth for an explorational number probe. It is this probe that also provides the best illustration of what makes a Rolling Rep: 1/7= 142857142857142857.... Sliding along the positional power scale of the decimal notation system, we begin the cycle successively with each of the 6 digits of the original repetend: 142857, 428571, 285714, 857142, 571428, and 714285.

All of the six repetends contain the same digits, but in different order, and they roll through a descending scale of power positions.

One significant realization has come out of playing with rolling and growing reps. All counting numbers are generated, from right to left, through an ascending order of power positions. We read, write, factor, name, categorize and think of them from left to right. We need to explore the results of reading, writing, thinking and experimenting with the same numbers read from right to left, in the order of the generation of all counting numbers.

Thus we come to "mirror numbers" from a need to know, and find that we have inherited them among a collection of various special kinds of numbers that have become numerical "curiosities" out of the past. Mirror numbers came in pairs and rated little attention unless the numbers and their reflections were both prime, in which case they were called "mirror primes".

The following examples tabulate the factors of the six rolling reps of reciprocal 7 as we normally read them. This is followed by a tabulation of the factors of the same rolling reps read from right to left. We are looking for factor-divisors in common with all the rotations, and also those that differ. In order to simplify this comparison we reduce the sets of factors to common divisors as illustrated in the case of the first repetend below:



Sweatshop Labor Practices Revealed!!!

Workers forced to make their own coffee!! *Workers subjected to verbal abuse by coworkers!!*

Inspector #17 disappears amidst rumors of FOUL PLAY!

by Mike Doane

Yes, these and many other topics will be covered in this thrilling and mind boggleing expose' of a look into the manufacturing of the AMS 256K memory card.

The story began innocently enough. The idea of the SouthWest 99ers building this memory expansion card was first proposed to the group by those prime evil-doers and scoff-laws of the labor rules, David Ormand and Mike Doane. Beguiled by their glib manner and persuasive attitudes the SouthWest 99ers agreed to take on the project.

Arrangements were made, money was coerced from innocent members and the parts were ordered. The stage is now set for one of the cruelest scenes in this on-going drama.

Unsuspecting members were coerced into appearing at the scene of the crime, a residence occupied by an INNOCENT CLAIMING family named the Mathis's. The unaware member was greeted warmly by BJ Mathis and guided to a large table filled with a plethora of electronic components and a vast array of tools. Jack Mathis was seated at the table doing suspicious things with molten metal and hot smoking instruments. He seemed innocent enough but if you looked deep into his clear eyes you could detect a hint of the deviousness within him.

I arrived, fashionably late of course, and found Ron Vaughn seated at the table. Ron was already perspiring from the inhuman stresses he had been subjected to. He could be heard mumbling,"These damn pins won't fit into the holes". Ron had brought his own tools of destruction as he had been instructed. He had with him a soldering iron which the priests of the Spanish Inquisition would have worshipped.

I was guided to a seat and was placed directly beneath a hot glaring light. I was given a circuit board and parts and was told to solder. I soldered the parts and sat back with an immense feeling of pride and accomplishment. This did not seem so bad to me. A menacing growl from Jack and a worried look from Ron soon made me aware that there was something wrong. BJ handed me ANOTHER board to do! NOW the trouble was apparent. They were not content with me doing just one component on one board, they wanted me to do more! I did a few more and then on the pretense of getting some fresh coffee (you notice that I had to get my OWN coffee), I attempted to sneak out the front door. The exit was guarded by two of the most menacing canines I have ever approached! The larger of the two, Freddie, deterred me from leaving by blocking the path with his body and emitting deep snarls which he attempted to disguise as snores. I was not going to be fooled by his acting and I decided to wait for a better moment. The leader of this vicious pack, a ruffian looking villain with the apt name of "Tuffy", had dogged my heels since the moment I headed for the kitchen and was showing me no mercy. He trailed me back to my chair and lay across my feet to forestall any further excursions on my part.

Ed McCullough arrived and was immediately identified as the dreaded Inspector #17! This foul villain actually examined the work we had done and then passed judgement on the quality of workmanship. Amidst comments of, "I have seen bow-legged, one armed, blind spider monkeys solder better than this", he would occasionally accept, against his better judgement, a board as correctly done.

David Ormand arrived armed with a testing program. Jack left the table and the two of them dissappeared into the testing room. They took the completed boards and began the memory testing process. The maniacal sounds emitting from that remote room were too bone chilling to describe in a magazine which might be read by children!

Rod Stallard arrived and was subjected to two days of tedious and intensive work. I did my best to not appear as a reporter and took part in some verbal give and take with the other workers around the table. I became quite adept at slipping my unfinished boards into Rod's pile and sneaking his finished boards into mine. Rod wore a magnifying visor which really added to the atmosphere of this labor. Everytime Rod looked up he appeared to be some mad scientist's failure of gene splicing. Looking into a pair of eyes the size of goose eggs can be quite un-nerving!

We finally managed to finish ALL of the 100 boards we had ordered. We found a memory chip problem with the 128K chips we had. Jack talked to the supplier and he is replacing those chips and hoped to be shipping them to us on May 30th. This obviously is going to stop us from shipping out the boards before the end of May. I am truly sorry we can not fulfill this goal which I had set. We WILL be shipping boards the FIRST week of June. We have enough good chips on hand to supply all of you great people who believed in the TI-99/4A enough to order these boards sight unseen at the Lima Faire. My hat is off to you for the faith you have shown and I ensure you that you will have nothing but good to say about this product. Any sloppy soldering you find can be traced back to one of the following people:

Slave Labor

BJ Mathis	Jack Mathis
Ron Vaughn	David Ormand
Rod Stallard	Tim Mathis
Ed McCullough	Mike Doane

I would also like to thank the following people for without whom this project would never have happened:

Head Instigator

Jim Krych - Former Asgard Project Manager

Financial & Moral supporters

Ron Vaughn	David Ormand
Rolf Kradenpoth	Jack & BJ Mathis
Harriet Kradenpoth	Tom Wills
Matt Matthews	Rod Stallard
Ed McCullough	Mike Doane
Jim McCullough	

I would also like to thank EVERY member of the SouthWest 99ers who volunteered their time, effort, and abilities to this project. YOU are the reason this project has succeeded. YOU are why this project was even attempted. YOU are why the TI-99/4A is still one of the best home computers! We now have the tool which can carry our computer into the next century. Let's make use of it.

FAIRE FACTS-JULY 28th

by

Jim Cox

MOUSEWORKS Mickey Cendrowski of the West Penn 99ers' hopes to release Version 1.0 of her new fairware program Mouseworks at the Faire. This is a disk utility package for the 99 4/A that is "Mouse Driven" and "Window Sensitive". We look forward to seeing this new program.

FAIRE GUIDE ADS Thanks to Mike Wright for reminding me that I forgot to put the size requirements for ads in the Faire Guide. If you purchase a table the ad is free. The size is 5.5" by 8" i.e. one half of a standard page.

NEW DATE We got off to a bit of a rocky start with the news that the original date was not available at the church after all. I think moving the date to September 30th might be a blessing in disguise. Our first date was just two weeks from the Chicago Fair and it might have cut the number of vendors we might attract from out of the area.

FIRST ACCEPTANCE Mike Wright of CaDD Electronics was the first vendor to respond to our notice about the Faire. Mike will also do a demo of his PC emulation software.

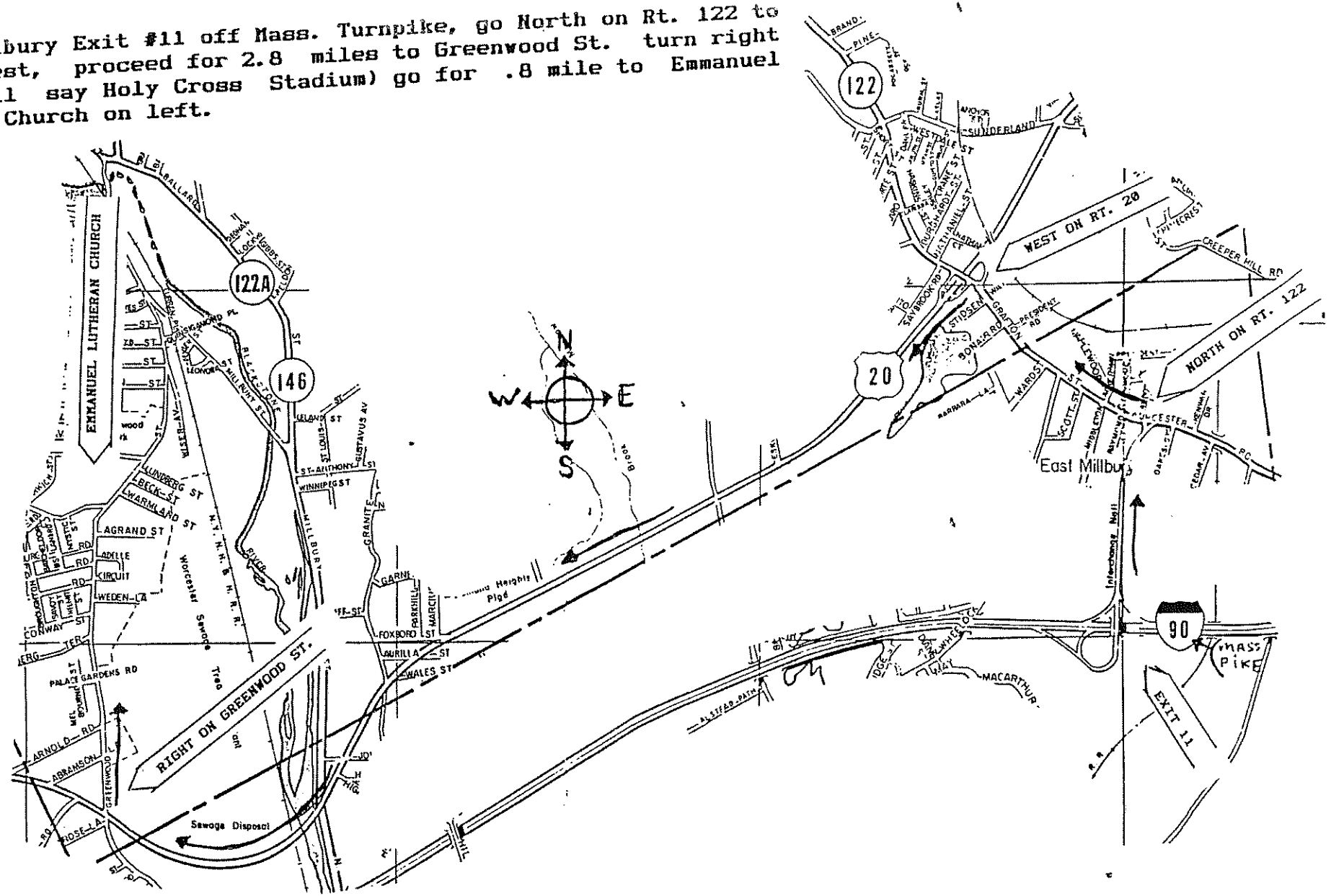
EXCITING ADDITION Charles Good of the Lima Users' Group will send us the complete Tigercub Library. We will have it available at the Faire for anyone to copy. Jack Sughrue will co-ordinate this project.

HELP WANTED We will need people to help set up, cover the MUNCH table, cover the Tigercub table and clean up. There will be plenty of work for everyone to do and I know, from previous fairs, that it is a lot of fun. So lets get all of our members to attend.

DEMOS As noted above, Mike Wright will do a demo of his software. Jack Sughrue will also do a demo of Tigercub Jim Peterson's Nuts-N-Bolts disk. I have seen this presentation, and Jack does a great job. I am sure he is everyone's favorite teacher at school.

Well that's all the news for today. Its hard to believe but it is just 61 days to September 30th. See you at the FAIRE.

Take Millbury Exit #11 off Mass. Turnpike, go North on Rt. 122 to Rt. 20 West, proceed for 2.8 miles to Greenwood St. turn right (sign will say Holy Cross Stadium) go for .8 mile to Emmanuel Lutheran Church on left.



SATURDAY, SEPT. 30, 1995, 10 AM - 4 PM

M.U.N.C.H. PRESENTS THE T.I. NEW ENGLAND FALL FAIRE

FREE
ADMISSION !

FREE
PARKING !

REFRESHMENTS!

FUN & GAMES
FOR ALL !

Emanuel
Lutheran Church

200 Greenwood St

Worcester, Mass.

Featuring 99/4a & Geneve & compatibles.
Information: Jim Cox (508) 869-2704 after 6 ET

FOR DIRECTIONS SEE MAP ON BACK