99'er ON LINE... is the newsletter of the Edmonton 99'er Computer User's Society published ten times a year. Unless otherwise stated, all articles may be republished in other Newsletters provided that source and author are identified. We will in turn credit authors quoted in 99'er ON LINE.

NEWSLETTER CORRESPONDENCE: Editor: John Harbour, 13857-114st. Edmonton, Alberta, Canada. T5X 4A1 (403) 456-0862.

OFFICERS: President Yves Chevalier; Vice President Bill Ince; Treasurer Dennis Miller; Secretary Andrew Webster.

OFFICERS AT LARGE: Paul Helwig Newsletter Library; Gordon Bradlee Book Library; Win Appelt Disk Library; Ron Hohmann Module & Cassette Library: Jim Mullinan Susan T I Bullings Constitution Mulligan Sysop, T.I. Bulletin Board 464-4167, 100/1200/2400Baud.

DISCLAIMER: Information published in this Newsletter is created by and for amateurs, therefore, we cannot guarantee the accuracy or use of presented information.

REGULAR MEETINGS: of the Edmonton 97'er Computer User's Society are held on the second Tuesday of each worth in room 849 of the General Service Building of the University of Alberta from: 7:00 till 10:00PM, and are open to all members in good standing. Non-members may attend their first meeting free of charge.

ADVERTISEMENTS: Commercial space is available in this Newsletter at the following rates: Full page \$20.00, Half page \$15.00, 1/4 page \$10.00. Discuss your needs with John, at (403) 456-0862, or the next meeting, alternatively send "photo ready" copies to him. Members may advertise their personal computer related items for free but are asked to limit their ads to about 50 words. Mail your ads., to the Editors address or hand it to him at the General Meeting; Newsletter deadline 3'rd Monday of the month.

MEMBERSHIP FEES: Family; 12 months \$20.00, 6 months \$15.00. Students; 12 months \$15.00, 6 months \$10.00. New member initiation; \$20.00.

|------|

NEXT HEETING.

The next meeting will be April 11th. At 7:00PM. General Service Building U of A Campus room 849.

JUST_A WORD.

by: Yves Chevalier (President).

The March general meeting went pretty well thanks to John and Jamie's excellent demonstrations. Now all my ASCII transfers to the BBS are done in the line by line fashion demonstrated by John. Also I had a chance to try out the transliterate file put together by Jamie and I can assure you that I am glad he put it together for us. It required some experimenting to get things the way I wanted them on paper. Obviously I need more practice to master its use. Good Show, John and Jamie

It was nice again to see new faces join the ENNERCUS. (Edmonton Ninety NinERs Computer User Group.) We can always use some new blood. Welcome again and feel free to call if you need assistance or for that matter, want to offer either, your assistance or relate to the club in any way. Newsletter imput, a demo, or maybe just a talk that you think would be of interest to your fellow members. If you have a friend or know of someone with a 99er, do yourself a favour and bring them in contact with the ENNERCUS.

Speaking of volunteering assistance, I willingly accept the help offered by Suren to operate the BBS for us. He is more than qualified to handle the task and I hear that he is quite proficient in assembly language programming. The club is still short of a fast automatic modem to place on line, but we hope to be able to rectify this, and all the remaining transfers (phone line, hardware, and software...) by the time you read this. At first the BBS will run on the club system with a SSSD Drive and the Horizon 256k Ramdisk. Anyone with extra hardware to upgrade this system (long term loan or gifts accepted) please contact Suren at 465-1395. We will try to retain the present phone number, if not possible, we will requisition a new one as soon as possible.

At the April meeting we will hold a question and answer period to cover all subjects that you hold at heart, be it hardware, software, elected officials, the Club administration, meetings, or projects, etc. here's your chance to be heard. Win has taken over from Jim for the co-ordination of this year's meet in Innisfail. Contact him if you can help with Carpooling or would like to present a demo, or have some equipment to trade, buy/sell.

The elections are coming in June. Jamie has been appointed the Election committee chairman and will keep you informed of the proceedings. For my part I will not be seeking re-election due to my move to Kingston, Ontario this summer. Shane Aucoin has made it known that he would accept this post if elected. I might miss some of the coming meetings due to travel outside of the Province during the next few months. I intend to keep my membership to the ENNERCUS even after I leave the Provence and encourage you to support your club and executive by taking a greater part in the activities.

GENERAL MEETING (March).
by: Andrew Webster.
No information received as yet.

BITMAP MODE IN c99.

: TIBBS Download.

If any of you have attempted to use Jay Holavac's BITMAP routines, you'll be unpleasantly surprised if you attempt to perform any file I/O while the bitmap environment is active; CONSOLE LOCKUP! Don't despair, there is a work-around for this dilemma.

First, let's elaborate on why we have a problem. While Bitmap mode appears to provide enhanced graphics capabilities, they don't come cheap. Bitmap mode requires a pattern descriptor table of 1800 hex bytes a color table of 1800 hex bytes and a screen image table of 300 hex bytes. This represents a total of 3300 hex bytes out of a total of 3FFF hex bytes available. You might say, what's the problem? I still have CFF bytes free. Well, that's not quite true. When Texas Instruments set up the bitmap environment for the 4A, they did not permit all these tables to fit in one contiguous area. For example, the pattern descriptor table can reside at either VDP address >0000->17FF or >2000->37FF. The same holds true for the color table. The VDP area >37DB->3FFF is used by the disk controller Rom, therefore memory contention exists. One way to get around this contention is to save the areas of the VDP chip that you'll need later. I have written a public domain TI Artist file viewer which saves the entire VDP chip, but that is you'll need later. I have written a public domain TI Artist file viewer which saves the entire VDP chip, but that is really squeezed for space, you can cutdown the first VDP area to >0800->1000. Before doing any bitmap functions, save the select areas of the VDP chip to memory, perform all your I/O, switch over to bitmap mode (set up the 1st 6 VDP registers), perform the bitmap functions of your choice. To return back to text mode, reload the VDP chip with the areas you had saved, switch over to text mode (setup the 1st 6 VDP registers) and you're back again.

Bitmap mode gets its enhanced graphic capabilities by treating the screen as 3 different screens. Each screen consists of 8 rows of characters and 32 characters across the row. Surprisingly, this just happens to equal 256 characters. Since we have 3 screens, you could think of bitmap mode to have 768 unique character patterns. The pattern descriptor table contains 6144 bytes and when you divide that by the 768 unique character patterns available, you'll notice that each character is defined by 8 bytes. These 8 bytes represent a character of 8x8 pixels. If I wanted to place 4 horizontal parallel lines on the screen, I'd probably define the characters with a pattern of "FF00FF00FF00FF00". The fact that the character is defined in the pattern descriptor table, does not mean it will be visible on the screen. Each eight pixels of the character is capable of both a foreground color and a background color. Each character could have all 16 colors in each character. To make a character visible, a color pattern should be enabled for the 8 byte character pattern. If we wanted to define the previously mentioned parallel lines as dark blue lines on a white background, then the color entry would be "4F4F4F4F4F4F4F4F4F4F".

Now that we've gone over bitmap mode, let's describe how to load some of the popular bitmap pictures available to the 4A community. One of the first type of files available were the TI-Artist files. Il-Artist files are 25 sectors in size, memory image files, and end in either P or C. Surprisingly, these files are 6144 bytes (>1800) in length. Knowing this, it's easy to determine exactly what P (Pattern Descriptor Table) and C (Color Table) signify. To load a TI-Artist file load the pattern descriptor table. If a color table file exists, load that one next. It will most likely be necessary to load the color file in a VDP area >1800->3000 rather then >2000-37FF to avoid memory contention. Once loaded, just relocate the VDP memory to where it belongs via VMBR and VMBW routines. Below are some basic assembly instructions to do that for you.

```
/## move color table for TI art
## move VDF >1F00->36FF to
           VDP >2000->37FF
łł
##/
         #ase
         LI 3,>3600
         LI 4,>3700
HLOOP HOV 3,0
         LI 1,BUFF1
LI 2,>0100
         BLWP EVMBR
         MOV 4,0
         LI 1,BUFF1
LI 2,>0100
         BLWP EVMBN
         $ 5,4
$ 5,3
CI 4,>1E00
         JNE MLOOP
         #endas#
```

If a C (Color file) doesn't exist, you'll have to select a foreground and a background color and set up the entire color table using those two colors. Lastly, you'll need to set up the screen image table. This area of VDP is 768 bytes in length. Each sector should contain values between 0 and 255. Remember, no two bytes can be redundant in a sector.

The next format available to us is GRAPHX format. This format is a bit more encompassing because all three tables are included in the memory image file. The first 24 sectors (6144 bytes) are the pattern descriptor table. The next 3 sectors contain the screen image table. The next 26 sectors are sorta packed to avoid problems with the VDP memory used by the DSR routines for the disk controller. Sectors 28 through 30 are actually the last 3 sectors of the color table. The only thing you'll have to do is move VDP area >1800->18FF to >3500->37FF and the color picture

should be distinguishable once you set up the VDP registers for bitmap mode. In case you are curious, sectors 31 and 32 are of no consequence. The author wanted to make load/save function use only one file, therefore 2 unused sectors got saved; a relatively small price to pay.

The last format for bitmap viewer s are encoded graphics often referred to as RLE (Run Length Encoded) files. There are two types of files commonly used for this format. The first is Display/Fixed 128 files which are quite common on PC boards. The other format is Display/Variable 80 format, most likely a product of Travis Watford and his ONEGA emulator. In any case, both files use the same encoding scheme and are only to be used to set up the Pattern Descriptor table. I've appended a file on RLE pictures to the end of this document since it did such a good in the product of the produc job of describing the encoding scheme. This file was extracted from one of the services without an author's name attached to it.

Hopefully, this document will pro vide other c99 enthusiasts and graphics lovers with enough info to write their own creations using the bitmap environment.

EXECUTIVE MEETING (March).

by: Andrew Webster.

	received as	s yet.

ADVERTISEMENTS.

PROFESSIONAL REPRODUCTION PROFESSIONAL COPYING & DUPLICATING Specifications Reports Price Lists Briefs Proposals Directories Manuals Address Labels Newsletters Flyers Transparencies Resumes Prices .09/Copy 11-24..... .07/Copy .06/Copy 25-49..... 50-99..... .05/Copy 100-249..... .045/Copy 250-499..... .038/Copy 500-999..... .038/Copy 1000-2499..... .032/Copy 2500-4999..... .03/Copy .028/Copy 5000-Up..... PRICES PER ONE ORIGINAL ALL ORDERS SUBJECT TO FEDERAL SALES TAX -Services - Print Shop Retail Office Suggles MONE DUSTONING te Retai tationerrum

THIS SPOT COULD BE YOURS {FOR A \$10.00 BILL} WE TRAVEL THE

WORLD

TRAVEL

WITH *** US!

PLEASE CHECK

DUR

OTHER RATES.

* (ON PAGE ONE)*

Control Keys.

by: Download.

This list of Control keys can be used as single key-stroke inputs into programs. But, only one can be used per program line and they cannot be used in conjunction with any other keystroke. This is not a big advantage but they may cut down some key-in time for large programs.

ELSE	(control A)	
11	(control B)	DISK CATALGGUE.
!	(control C)	
İF	(control D)	by: Win Appelt.
60	(control E)	
<u>e</u> GTO	(control F)	Units formula . Home's white age in the Nightiberry for April.
SÖSÜB Return	(control 6)	Hello Everyone. Here's what's new in the Disk Library for April:
ne.unn DEF	(control H) (control I)	C99WINDOWS - This program is a 'C' 99 Library designed to allow
DIM	(control J)	programmers to use Windows within their programs.
END	(control K)	htadiamens to ase williams within their brodiams.
FCR	(control L)	CAT-COM - Cataloging Library Companion V 1.0 - This is the
LET	(control M)	companion disk for Catlib. This program will allow you to enter a
BREAK	(control N)	4 letter extension to each filename, add a 4 letter Key word,
UNBREAK	(control 0)	comment each file using up to 56 characters, do string searches
TRACE	(control P)	and also print out customized disk jackets. This program utilizes
UNTRACE	(control Q)	files already created by the Catlib program
INPUT	(control R)	The second of the second program
DATA	(control S)	COPY-UTILS - There are all kinds of goodies on this disk.
RESTORE	(control T)	Archiver V3.02 - Backup - A CHARA1 file that shows control
RANDOMIZE	(control U)	characters in inverse video - DM1000 GK3 a Gramkracker/Ramdisk
NEXT	(control V)	Version of Disk Manager 1000 - Super Duplicator - Mass Copy -
READ	(control #)	MCopy - Track Hack.
STOP	(control %)	
DELETE	(control Y)	E.D.P. - Enhanced Display Package V2.1 - The Author of this
REM	(control I)	program has redefined many of Extended Basics screen commands, and
TO	(control 1)	also added quite a few new ones. These sub-routines are
STEP		accessable from X/B via CALL LINK and can be used in either GRAPH
•	(control 3)	(32 column) or TEXT (40 column) mode. The docs are quite
;	(control 4)	extensive.
	(control 5)	MURTOR TITLE IN THE STATE OF TH
)	(control 6)	MUSIC3 - This disk contains the four parts to Chopin's Polonaise
ODTION	(control 7)	lous \$53.
OPTION OPEN	(control 8) (control 9)	CUDED_MAIL . This process is a good early to use Mail List
THEN	(control 0)	SUPER-MAIL - This program is a good easy to use Mail List Latabase. It will let you print out your Mail List labels 1,2 or
CALL	(control =)	3 across.
AND	(control /)	3 dt1055.
PRINT	(control :)	TIARTPIC11 - Included on this disk are pictures of Helecopters and
02*+	(control ,)	Figure Jets, some of them drawn by Trevor Smith of our group.
ÖÑ	(control .)	it if the press some of them distant by the tar on our distant

=+=+=+=+=+=+=+=+= PAGE 5 =+=+=+=+=+=+=+=+=