8807

New Hampshi...

CLUB NEWS

by Paul Bendeck, President

>OLD

At the last meeting we discussed the need to have some informal training sessions to help people get more out of their TI-99/4A computers. From this discussion we identified some specific topics which include: TI WRITER basics, loader programs, console cleaning, screen dumping, bring your favorite game night, speech programming, Call 'Sound programming, C99 programming, LOGO, printer control codes, Extended Basic programming, and more.

Starting with the August 1 meeting, we will begin to offer some of these sessions with each meeting, or as often as we can manage. If you have a particular topic you would like to see covered in one of these sessions, please let us know. See accompanying article for details.

>NEW

Some concerns were raised at the end of the last meeting regarding the schedule for our meetings. Our current schedule is to meet the first Monday of each month starting at 7:00 PM. Several members have asked if meetings could be held on other days besides Monday. Additionally, it was asked if we could change the time of the meetings to an earlier time, such as 6:00 or 6:30 PM. With our new meeting location at the SEE Center in Manchester we now have some flexibility to change our schedule to whatever is most advantageous to the majority of the club membership. But we need your input to do this. Please let us know how you feel about changing the schedule, either by mail or in person at the next meeting. If we can get a consensus for an alternate day and/or time we will consider changing the schedule as needed.

NEW AND IMPROVED MEETING FORMAT!!!

One of the benefits of moving to the Science Enrichment Encounter Center is that we can stay as late as we want. With this in mind, a motion was made to reconfigure our meetings as follows:

1) Handle administrative 'stuff' upfront: you know, squeezing money out of people; shanghaiing volunteers, etc.

2) Hardware and software demo's: this is where we all see how to screw up programs ("It ran great on my system at home! Why won't it run on this !+$# machine!") and 'modify' our hardware ("I don't think you were supposed to crack that chip.")

3) Question and answer period: this time is reserved for those questions that are of interest to everyone in the group ("I'm trying to get "Programs 'R' Us" Saltwater Fisheries Manager to print to my Thermal Printer — why won't it?")

4) and then (drum roll, please ...) Class Time! Yes, we will start free classes for neophytes of any age and experience level. These classes will be of the highest quality, prepared by experienced instructors, and delivered with the same professional touch as the rest of the meeting ("Hmmm...").

The first series of classes will be on the TI-WRITER (and clones). These classes will take the casual user and provide him/her with a crash course in the wonders (and pitfalls) of this generally fine word processor. Details of the first class are not available at this time, although the instructor has indicated that use of the Editor will be fully explained before the Formatter is even considered.

These classes will be open enrollment, no-fee offerings for the benefit of club members. Further classes planned include MULTIplan, XBASIC programming, database usage, and 'You-asked-for-it' as appropriate (provided an instructor is available).

Hardware classes will also be held, although these will be more along the lines of everyone bringing in their console for a modification, or whatever.

TI SYSTEM/PARTS FOR SALE

TI-99/4A Console
Speech Synthesizer
Peripheral Expansion Box
32K Memory Expansion
RS232 Card
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Corcomp Micro Expansion Options
Full Height SS/SD Disk Drives — $20
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1/2 Height DS/DD Disk Drive — $50
Extended Basic
Editor Assembler
TI-WRITER
Multiplan
Minimem
Lots of disk software
Lots of techical documentation

For more information, contact Mark
Hoogendoorn, Burlington, Mass,
617-270-9221.

August 1988

SUN	MON	TUE	WED	THU	FRI	SAT
	1 NEXT MEET-ING	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

A FIRST LESSON IN EXTENDED BASIC

PROGRAMMING

by Jim Peterson

Extended Basic is nothing more than BASIC with a lot more words added. If you have learned anything about BASIC programming, it will also apply to Extended Basic.

A PROGRAM is just a numbered series of instructions to the computer, written in more-or-less-plain English, telling the computer to perform a certain task. The computer will follow these instructions in the order they are numbered, except when you tell it to GOTO or GOSUB to another part of the program.

The instructions are numbered by LINE NUMBERS. You can type these in, but it is easier to just start out by typing NUM and Enter. The computer will then automatically give you line numbers starting with 100 and advancing by 10 to 110, 120, etc. This is so that you can later squeeze more instructions in between using 105, etc. If you need to get out of automatic numbering, in order to correct a line or insert a line, just press Enter twice. To start automatic numbering again, just type NUM, space, and the next line number you want, such as NUM 130.

In Extended Basic, you can put several instructions under one line number, by putting a double colon (::) between them. But, while you are still learning, please DON'T! Why not? Well, when you tell the computer to do something it can't do, or can't understand, it will give you an ERROR message, either when you Enter the line or when you run the program, and it will tell you the line number that is causing the problem - but if you have several instructions under that line number, you won't know which one is wrong!

The first instruction we will learn is PRINT. This tells the computer to print something on the bottom line of the screen, and then scroll up one line. Try entering NUM, then -
```
100 PRINT 1
110 PRINT 2
120 PRINT 3
```
- and RUN it.
Now try -
```
100 PRINT A
```

```
110 PRINT B
120 PRINT C
```
- and RUN it. It printed a 0 three times, didn't it? Why? When you tell the printer to print anything other than a numeric digit (or a math symbol or decimal combined with a number) it thinks that you are telling it to print the VALUE of a VARIABLE. And if you haven't previously told it otherwise, that value is zero. Try this
```
100 A=10
110 PRINT A
```
So what is a VARIABLE? If you suffered through high school algebra, you may recall equations such as - S x T = D, where S equals speed and T equals time and D equals distance. You could give S and T any values you wanted to, in order to calculate how far something would go at a certain speed in a certain time. T and S and D are VARIABLES. We use them a great deal in programming and you will soon see why.

Now, suppose you really wanted to print the letter A. That's easy, just put it in quotation marks and the computer will know what to do.
```
100 PRINT "A"
```
In either Basic or Extended Basic, the instruction DISPLAY works just like PRINT.
```
100 DISPLAY 999
110 DISPLAY "HELLO"
```
Text scrolling up from the bottom looks rather "cheap", compared to those computers which display text from the top of the screen downward. In Extended Basic we can put the display wherever we want by using DISPLAY AT followed by a row and column number in parentheses. There are 24 rows on the screen and 28 columns when you are using PRINT or DISPLAY.
```
100 CALL CLEAR
110 DISPLAY AT(1,1):1
120 DISPLAY AT(24,1):24
130 GOTO 130
```
We slipped in a couple of new instructions there. CALL CLEAR just erases everything on the screen (actually it fills the screen with the blank space you get by hitting the space bar). GOTO tells the computer to go to another line number. In this case, it goes back to itself over and over and keeps the program running so it will not print READY and scroll that first line off the screen. Use FCTN 4

to get out of it.

Try experimenting with DISPLAY AT to put different numbers, words or phrases wherever you want them on the screen. You will find that if you specify a row number greater than 24, the computer will just subtract 24 until it gets down to a number within range.

```
100 DISPLAY AT(25,35):"WHERE?"
```

In some programs you may see PRINT folowed by # and a number or variable. This is an instruction to print to a printer, to a disk, a speech synthesizer, or whatever. Actually you can print to the screen by -

```
100 PRINT #0:"SEE?"
```

but there is usually no reason to do so.

Now, a few words about print separators. Try this -

```
100 PRINT 1:2:3
110 PRINT 1,2,3
120 PRINT 1;2;3
130 PRINT "A";"B";"C"
```

See what happens? The colon (:) causes the computer to skip to the beginning of the next line before printing again. The comma (,) causes it to jump half the width of the screen before printing again. And the semicolon causes it to print one item right after another EXCEPT that numbers are always printed with a blank space before and after them (a negative number has a minus sign (-) instead of a blank before it). Now try -

```
100 PRINT 1:2:3:
110 PRINT 1,2,3,
120 PRINT 4
130 PRINT 1;2;3;
140 PRINT 4
```

The colon after the 3 in line 100 was useless because the computer would advance to the next line anyway. The comma after the 3 in line 110 caused line 120 to print half a screen width after the 3. And the semi-colon after the 3 in line 130 caused line 140 to print immediately after the 3.

Do a lot of experimenting with this, until you know just what the print separators will do. Try -

```
100 PRINT "A","BCDEFGHIJKLMNOPQ"
```

See what happens when the item after the comma is more than half a screen in length? Now try this -

```
100 PRINT 1: : : : :2
```

And try this -

```
100 CALL HCHAR(1,1,42,768)
```

```
110 DISPLAY AT(5,1):"TEST"
120 DISPLAY AT(7,1)SIZE(4):"TEST"
130 DISPLAY AT(9,1):"TEST";
```

Line 100 just fills up the screen with something so I could show you that DISPLAY AT erases the remainder of the line unless you specify the length of what you will print with SIZE or, much easier, put a semicolon after the text.

VOCABULARY FOR ENCHANTER

$ve	.	,	"	a	across	advent	again	all	altar
an	ancien	and	answer	apply	arcane	arch	archwa	area	around
ashes	ask	at	attach	attack	avoid	awake	away	b	back
badly	banish	banque	bare	bat	bathe	bats	batter	beach	beauti
beckon	bed	bedpos	bedrag	begone	behind	being	beings	belboz	below
bench	benche	beneat	betwee	bite	black	blade	blind	blinki	block
blorb	blow	bluebo	board	bones	book	box	brambl	branch	brandi
brass	bread	break	brief	bring	brittl	broken	brook	burn	but
button	cabine	call	candle	canvas	carry	carvin	cast	castle	cave
ceilin	cell	chain	chains	chase	chest	chests	chuck	cleesh	climb
close	cobweb	coil	coils	come	compar	concea	connec	consum	contro
corrid	count	couple	courty	crack	crank	crone	cross	crumpl	crysta
curse	cut	cutler	d	dagger	damage	damn	damp	dark	dead
decora	decrep	deflat	delici	descri	destro	diagno	dial	dials	diamon
dig	dimwit	discon	disemb	dispat	displa	dive	dog	donate	door
douse	down	dragon	draw	drink	drippi	drive	dronin	drop	dry
dusty	e	east	eat	egg	elvish	emeral	enamel	enchan	enormo
enter	enthar	entran	erase	eraser	escape	evil	examin	except	exex
~ it	exorci	exting	f	faberg	face	faded	fangs	farm	fasten
the	feed	feel	feral	festiv	fight	figure	filfre	fill	find
st	five-	fix	fixtur	flame	flames	flathe	flip	floati	floor
tsa	fly	follow	foobar	food	for	force	ford	forest	forget
format	founda	fourpo	frayed	free	froboz	frog	frogs	from	frotz
g	gag	garbag	gargoy	gate	gaunt	gaze	gestur	get	give
glass	glitte	globe	glowin	glue	gnusto	go	going	gold	golden
gondar	grab	graffi	grass	grease	great	gropin	gross	ground	group
guard	guarde	guards	guncho	guttur	h	hairy	hammer	hand	handle
hands	hatch	heap	heathe	heavy	hello	her	here	hi	hide
hideou	high	hill	hills	him	hit	hold	hole	hone	hop
house	hovel	huddle	huge	human	hunche	hurl	hurt	i	ignite
illumi	implem	in	incant	inflat	injure	insert	inside	inspec	intnum
into	invent	iron	is	it	izyuk	j	jab	jetsam	jewell
jug	jump	k	kick	kill	kiss	knife	knives	knob	knock
knot	krebf	krill	kulcad	l	labyri	lamp	lanter	lapis	launch
lawn	lawns	lay	leaf	lean	leap	learn	leave	legend	letter
lie	lift	light	lighte	lights	lilies	lily	line	lines	lingol
liquif	listen	lit	loaf	lock	lonely	long	look	loose	low
lower	lubric	lurkin	luscio	m	machin	magic	make	map	maps
mass	massiv	me	meadow	melbor	melt	memori	men	mirror	mist
sty	molest	monste	motion	mounta	move	mumble	murder	myself	n
o	ne	necrom	nest	niche	nitfol	no	noise	noises	north
nw	oak	ocean	of	off	offer	oil	old	on	one
onto	open	orname	ornate	out	outlin	oven	over	ozmoo	p
pad	pads	page	painti	paper	parchm	passag	pat	patch	path
peak	pedest	pencil	person	pet	pick	pierce	place	play	please
plug	plugh	point	poke	pond	portra	post	potter	pour	powerf
pray	presen	press	prison	procee	pry	pull	pump	purple	pursue
push	put	q	quanti	quit	r	rainbo	raise	rap	rape
rat	razor	reach	read	releas	remove	repair	repent	reply	restar
restor	rezrov	road	rock	rocks	rocky	roll	rolled	rollin	room
rope	rotted	rottin	rub	ruined	run	runes	rusted	rusty	s
sacrif	safe	save	say	scale	score	scramb	scratc	scream	screec
scribb	script	scroll	se	sea	search	seawee	secure	see	seek
self	send	set	shack	shake	shape	shapes	shards	sharpe	shell
shells	shifti	short	shout	show	shredd	shut	sigh	sign	silver
simple	sip	sit	six-i	skelet	skim	skip	sky	slay	sleep
slice	slide	slimy	small	smash	smell	smoky	sniff	snooze	soggy
some	south	spear	spears	spell	spells	spill	spin	spiral	spoon
spray	spring	square	squeez	stab	staine	stair	stairs	stairw	stalki
stand	stare	stars	startl	statue	stay	step	steps	stone	strand
strike	strong	stuff	stunte	super	superb	surpri	sw	swallo	swamp
swim	swing	sword	t	table	tables	take	talk	talons	taste
tell	temple	tentac	terror	thank	thanks	that	the	then	thick
thin	thistl	throug	throw	thru	thrust	tie	tight	time	to
tongue	toss	touch	tower	towers	track	tracks	trail	transl	tree
trees	tubes	tug	tunnel	turn	turret	turtle	u	unatta	under
underg	undern	unfast	unhook	unknow	unlear	unlock	unmemo	unscri	unseen
untie	up	using	v	vaxum	vellum	verbos	versio	voices	w
wade	wait	wake	walk	wall	walls	warloc	water	wave	waves
wear	weary	west	what	whats	where	white	who	whole	wind
windin	window	with	wizard	wood	wooden	worn	write	writin	xyzzy
y	yell	yes	you	z	zifmia	zork	zzmgck		

VOCABULARY FOR PLANETFALL

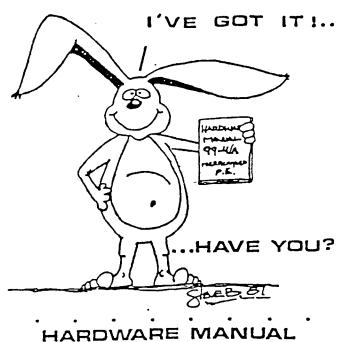|									
$ve	.	'	"	a	access	achill	acme	across	activa
admira	affirm	aft	again	agains	aim	alien	all	alumin	ambass
an	and	answer	ant-1	apply	are	around	ask	at	attack
attrac	awake	b	b-ser	bar	bare	bathe	batter	beans	bed
bedist	beef	behind	beige	bench	benche	bio-1	biped	black	blast
blathe	blinki	blob	blue	board	boards	bocci	booth	both	bottle
boulde	box	brandi	break	breast	brief	bright	brochu	broken	brown
brush	bug	bulkhe	bunk	burn	but	button	cabine	cables	can
cantee	car	card	cardbo	cards	carpet	carry	carton	castle	catwal
ccw	celery	centim	chase	chemic	cherry	chess	chrono	chuck	circul
class	clean	cleft	cliff	climb	close	collap	colore	combin	commun
compan	compar	comple	comput	confer	consol	contro	crack	cracke	creatu
crevic	cryo-	cubbyh	cube	curse	curved	cw	d	damage	damn
dark	darkne	dazzli	dead	deck	deep	deform	depres	descri	desk
destro	device	diagno	diagra	dial	dials	dim	dim-	disemb	dispat
dispen	donate	door	doorwa	down	drawer	drink	drop	dunno	duty
e	earth	east	eat	edge	eggs	elevat	emerge	empty	endles
ensign	enter	enunci	equals	equipm	escala	escape	examin	except	exit
experi	extend	f	fanged	feed	feel	fence	fight	files	find
fire	first	fix	fixtur	flashi	flask	floor	floyd	fluid	flush
fly	fold	follow	foo	food	for	fore	forewa	former	forwar
fourth	fresh	fried	from	fromit	fuck	fungic	funnel	fuse	fused
g	games	gangwa	gaping	gas	gauges	gaze	gestur	get	giant
give	glass	glowin	go	goo	good	graffi	gray	green	grey
grin	ground	growli	grue	gulf	hairy	hand	hands	heavy	heavy
helico	hello	help	hi	hider	high	high-	him	hint	hints
hit	hold	hole	hop	horses	hucka	hungry	hurl	hurt	i
id	identi	import	impuri	in	injure	insert	inside	intnum	into
invent	iron	is	it	jagged	jump	k	k-ser	key	keyboa
kick	kill	kiss	kit	kitche	knock	krip	l	lab	label
ladder	lamp	lanter	large	laser	lay	lazaru	leafle	leap	leave
left	length	lever	lid	lie	light	lights	lima	liquid	listen
lock	logo	long	look	lower	lubric	lurkin	machin	magnet	man-e
man-s	mangle	maps	mask	mass	maybe	me	medica	medici	mega
megafu	megakr	memo	messag	messy	metal	micro	micro	microb	microf
milky	mini	miniat	mobile	molest	monito	monste	mop	move	multi
multip	mural	murder	mutant	myself	n	narrow	ne	near	negati
net	new	niche	ninety	no	north	nosed	nw	object	ocean
octago	of	off	offer	office	ohm	oil	old	on	one
oo	open	opener	openin	orange	our	out	output	over	p
ad	padloc	pair	pale	pamphl	panel	paper	part	partit	pat
patrol	pet	pick	pie	piece	pile	place	plant	plaque	plasti
plate	plates	play	playba	pliers	pocket	pod	point	polish	port
portab	portal	possib	pour	powerf	precip	press	primar	printo	procee
protei	provis	pull	purpos	pursue	push	put	q	quanti	quit
rack	radiat	rankin	rap	rape	rat-a	rat-1	reach	reacto	read
reader	receiv	reclin	red	relay	releas	remove	repair	reply	restar
restor	rift	right	robot	round	rub	rubble	rummag	run	s
safety	salute	save	say	sb	scold	score	scream	screen	script
scrub	scrubb	scrubr	se	search	second	see	seek	self	self-
send	series	set	settin	sevent	shake	shaped	shelf	shelve	shiny
shit	shoot	shorte	shout	show	shuttl	side	sift	silent	silico
simple	sinist	sit	skim	skip	slay	sleep	slide	slime	slot
small	smash	smell	smile	smithe	sneeze	sniff	socket	sort	south
spam	speck	spill	spool	spools	spout	square	stairs	stairw	stalk
stand	starbo	stare	startl	steel	step	steps	stew	strike	strip
struct	stuff	suit	super	superb	suppli	surpri	surviv	sw	swab
swallo	swim	swing	t	table	tables	take	talk	tan	tapes
taste	telepo	tell	termin	that	the	then	third	this	throug
throw	thru	tiered	time	tin	to	toilet	toss	touch	towel
transl	triffi	troll	trot	trotti	tug	turn	type	u	ugly
under	unfold	unifor	unit	unlock	unopen	unscri	up	upper	using
vehicl	verbos	versio	very	viciou	video	view	viewpo	void	w
wade	wait	wake	walk	walkwa	warnin	watch	wave	we	wear
web	webbin	west	what	whats	where	white	wide	wide-	window
with	witted	wooden	worn-	wrinkl	wrist	wristw	y	yell	yellow
yes	z	zap	zork	zzmgck					

THE TI-WRITER CONTROL U CODES

by Jim Peterson

A few newsletters recently have discussed the uses of the TI-Writer special character mode, which the manual did such a poor job of telling us about. Here are some of the things that can be done (on a Gemini 10X Printer). *(most apply to TI Impact and Epson's MX, RX, FX-80's series)*

(CTRL U, FCTN R, CTRL U, SHIFT M, CTRL U, SHIFT H, CTRL U) Set the left hand margin at 8. Using the TI-Writer TAB for left margin creates problems.

(CTRL U, FCTN R, CTRL U, 4) Select the italic character set.

(CTRL U, FCTN R, CTRL U, 5) Cancel italics, return to standard character set.

(CTRL U, FCTN R, CTRL U, SHIFT G) Print in double-strike mode.

(CTRL U, FCTN R, CTRL U, 7, CTRL U, SHIFT B, CTRL U) Select the international character set for Germany [\]{|}~ . Instead of SHIFT B, use A for England #, C for Denmark [\]{|}, D for France #@[\]{|}~, E for Sweden @[\]^{|}~, F for Italy @[\]{|}~ and G for Spain [\]{| .

(CTRL U, FCTN R, CTRL U, SHIFT B, CTRL U, SHIFT B, CTRL U) Set the print pitch for elite characters (12 per inch)

(CTRL U, SHIFT R, CTRL U) Restore pitch print to pica (10 cpi).

(CTRL U, SHIFT O, CTRL U) Set print pitch to condensed print.

(CTRL U, SHIFT R, CTRL U) Cancel condensed print.

(CTRL U, SHIFT N, CTRL U) Print in double-width mode (on one line only); to cancel it before end of line, use - DOUBLE (CTRL U, SHIFT T, CTRL U) cancelled.

(CTRL U, FCTN R, CTRL U, SHIFT H) Cancel double-strike.

(CTRL U, FCTN R, CTRL U, SHIFT E) Emphasized mode.

(CTRL U, FCTN R, CTRL U, SHIFT F) Cancel emphasized mode.

(CTRL U, FCTN R, CTRL U, SHIFT -, CTRL U, SHIFT A, CTRL U) Print characters with underline.

(CTRL U, FCTN R, CTRL U, SHIFT -, CTRL U, SHIFT A, CTRL U) Cancel the underlining.

(CTRL U, FCTN R, CTRL U, SHIFT S, CTRL U, SHIFT @, CTRL U) Print in superscript mode, which is always double-struck and unidirectional.

(CTRL U, FCTN R, CTRL U, SHIFT T) Cancels the superscript and unidirectional. Contrary to the manual, it obviously also cancels the double-strike.

(CTRL U, FCTN R, CTRL U, SHIFT S, CTRL U, SHIFT A, CTRL U) Print in subscript mode, unidirectional and double-struck.

(CTRL U, FCTN R, CTRL U, SHIFT T) Cancels subscript, unidirectional and double-struck.

Print italics double-struck and underlined, return to pica without underlining but emphasized, then condensed, then **double-width in pica;** cancel double-width and go to elite type.

Any combination of codes can be used, including those which move the print head or move the paper (line feeds).
(CTRL U, SHIFT H, CTRL U) moves the print head back one space and can be used to overprint characters. (CTRL U, SHIFT M, CTRL U) placed before the end of the line will send the print head back to the beginning of the line and reprint it with the rest of the line.
I have even managed to code in customized download characters, such as my Tigercub emblem, but I cannot find any way to input CHR$(127).

@ J R J @

I'VE GOT IT!..

...HAVE YOU?

HARDWARE MANUAL
FOR THE
TI 99/4A

IT DESCRIBES:

- CONSOLE DESIGN
- CUSTOM CHIP OPERATION
- TMS 9900 H/W ORGANIZATION
- TMS 9900 INSTRUCTION SET
- INTERFACING PITFALLS
- CONSOLE SCHEMATICS
- PEB CARD DESCRIPTION
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  DESCRIPTION & SCHEMATICS

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