



Newsletter

January Newsletter

The Winnipeg 99/4 Users Group is a non-profit organization created for users by users of Texas Instruments 99/4A Home Computers and compatibles. The content of this publication doesn't necessarily represent the view of this user group.

Next General Meeting - Date : Feb 22, 1987
Time : 1:00 p.m.
Place: Newsletter Editor's Place

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Newsletter Contents:

- MISCELLANIA: Tid bits from various TI newsletters.
- OUT AND ABOUT: Feature articles on Peripheral Expansion
Box Woes and Copyright Infringement.
- HELPFUL HINTS AND TIPS: Slow down your TI.

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former member of our users' group) appeared in the October-November 1986 Saskatoon Texas Instruments Computer Club Newsletter.

EDITORIAL:

I hope everyone had a nice holiday season. We are ushering in the new year with a promise of the Geneve (production units this time) to be released, Millers Graphics to halt production on GRAM Krackers and more TI users upgrading to MS-DOS systems. It doesn't look too rosy, does it? Take heart, one area that looks bright is the tremendous TI software support by various fairware authors the likes of John Birdwell, Paul Charlton, Art Green, Clint Pulley, Monty Schmidt and Barry A. Traver.

I want to say thanks to a member of the Edmonton 99'er Computer Users' Society and a employee of Nova Computerware who paid us a vist during the holidays, Tim Marshal. We also like to extend an open invitation to any traveling Tler out this way to drop by and say hello.

I want to welcome a group of individuals over in Koln, West Germany called the TI-99er Workshop Rheinland. Mike Heuser, PR Manager of TI-99er Workshop Rheinland, contacted us a few months ago and mutual friendship developed between our two groups. They have a fairly large TI community in Koln developing hardware and software for their computers. One day I hope to pay a vist to them.

One of our members is on the move again. Rick Saby, our correspondant from the woods near Shoal Lake, is taking a promotion/transfer with his job in the RCMP to go to Churchill. An adventurous dude, isn't he?

MISCELLANIA:

Miscellaneous news and reminders.

A interesting tid bit appeared in the December 1986 issue of the 99'ER ONLINE from the Edmonton 99'er Computer Users' Society that some floppy disk drives will write on floppy diskettes with black write protect tabs. The solution is to use only silver write protect tabs. Some floppy drives depend on reflected light to determine if a write protect tab is present.

A warning appeared in the December 1986 issue of the MAD HUG Newsletter where the Cleaveland 99er UG and North Eastern 99ers say to watch out for alleged trackcopiers called SUPERTRACK, SUPERHACKER and SUPERCOPPIER which instead are known as trojans horses in the MS-DOS world.

OUT AND ABOUT:

Feature articles from the various newsletters we received each month.

The following article written by Steve Zabarylo (a

In my quest to eliminate the octopus of cords that has developed around my expanding system my stumbling has led to some discoveries (for me at least) that I wish to share with you. My first wack at the weeds in this tale was a search for a home for the power supply of the external drive.

The thing I like best about the replacement console power supplies is their incredible low price. They do like to be fed 18 or so volts of AC; but another transformer on a cord? YETCH. Well if I can't get the second drive in the PEB, why not the power supply? First of all, is there anything good in there to feed it? Well we certainly have 18vac. One little problem though. One side is ground and if we feed that through the diode bridge input of the power supply the output ground of the power supply will run at least .35volts above the PEB ground. (voltage drop across two diodes in parallel when forward biased) The next option is to take 18v DC from the PEB power supply unregulated +18v rail and bypass the bridge input of the drive power supply. Well it worked very nicely. I even permanetly installed the small supply in the PEB beside the on/off switch just in front of the transformer by eliminating the small terminal strip and using the bolts to hold a small plastic L bracket to mount the circuit board. Making the wiring connections permanent was the next step, but here is where the trouble began. Drunk with success, I replaced the temporary wiring incorrectly. It all died, the fuse last. Yes, I blew the transformer. The small power supply was dead meat. (actually only the +5v reg went) The transformer primary was open but only between two taps. My attempt to get back in business was short lived. It would have worked if I hadn't blown two diodes on the PEB power supply board. The second section of the primary winding between the 100 and 220 taps went open too. I was sick. Then I was mad. How can a transformer winding open that quickly? After hacking the fine plastic cover off the winding I was amazed to discover fuses inside the transformer winding? Removing a fuse put me back in business. I had to settle for the second choice tap as the 0 to 115 portion of the winding had the fuse installed on the inside of the winding.

The power supply for the drive did not get mounted back in the PEB but I did bring out the unreg +16v to power my console. The modified supply for the console sits atop the CPU shielding on little rubber standoffs. One less transformer on a cord behind the desk and the PEB power switch turns everything on/off. A console reset switch replaces the console power switch quite nicely.

Before I go away and leave you in peace, here's

another little tip about the replacement console power supplies. It appears the weakest link on these boards is the output transistor for the -5v. This little devil is a 2SA1024. This device sells for more than the whole board in quantities of one. A much cheaper ECG153 does the job quite well. I've used this modified supply to power my Corcomp RS232 standalone. The -5V instead of -12 is more than adequate as long as you keep the length of your serial port cables reasonable.

So now you know why my dad always says when he hears I've aquired something new. Right! "Has he taken it apart yet?" Keep hacking. (carefully)

The following article appeared in the January 1986 MAD HUG Newsletter.

Many software producers spend considerable time and money developing ways to protect their programs from pirates--almost as much time and money as the pirates spend to crack the various encryptions, lock-outs, and other protection schemes. David F. Bischoff, author of the computer novel War Games (based on the original screenplay by Lawrence Lasker and Walter F. Parkes), now tells of a very unique method for protecting all that ingenious software.

Copyright Infringement

By David F. Bischoff

"DON'T KNOW, Jim," Keith said, looking down at the floppy disk. "just seems... wrong! Like stealing!"

"Huh?" Jim took a sip of beer and put the can down by his Atari 800. The disk drive beside the CPU lay naked, its housing pried off like the shell of a dissected turtle. Jim burped and made a small adjustment to a screw within the circuit board guts of the contraption.

"Retail, that's maybe three or four hundred dollars worth of programs there. You got that much to throw away when you can get them for free?"

Keith examined the floppy. It looked like a cheap 45 record in a cardboard sleeve, only instead of music it was full of recorded machine language. On the right side was a notch, clearly factory cut, on the left, below an elephant insignia, was a rough and recent notch.

"How come the extra hole, Jim?"

"So you can use the other side," Jim explained. "Just flip it over and stick it in and boot it up just like normal." The burly man slipped out a disk, stuck it into the drive slot and turned on the 800. "Drive er," he explained to Keith. "Since I stuck this copying board inside here, it's been a bit strange." He turned his attention back to the monitor. Numbers on the screen changed from time to time.

Jim was Keith's computer mentor. They had met at a monthly poker game, and as it was strictly nickel-dime shoot-the-bull, Jim had plenty of time to chat about his home computer. And, though Jim was sarcastic, he was always friendly, and Keith felt he could trust him. Jim had a self-confident solidity.

Just last month, between deals and handfuls of popcorn, he'd said, "You know I saw in the paper the other day that 800s are down to two hundred bucks a pop. Two hundred! And I paid eight! And that includes all 48K of memory. What a world!" Slurp of beer, glance at fresh cards. "Hell, Keith. You ought to go snap one up right now. Keep you out of the singles bars. I'll even help set you up."

Keith thought, Why not? Give it a go. Who knows. I might become a programming genius, make a hell of a lot more money than I do now, teaching at the County Community College.

So Keith had gone to a local computer dealer and bought himself an Atari (plus the much more expensive disk drive... "You can take naps waiting for tapes to cough up a program," Jim had said).

One of Keith's single buddies had gotten a TRS-80, learned to program, and was now a fanatical hacker. "Man, sometimes programming is better than sex!" had been the report from Robert. "It's fascinating!"

So while Keith hung out at bars and bought expensive drinks for women, he thought about his buddy Robert tapping away at his machine, weaving intricate spells of algorithms, enjoying a mistress who never complained.

Keith took the machine much less seriously--it hadn't cost him much, it was fun playing games like PacMan and Star Raiders, and he had even started learning BASIC.

Then Jim had called him up, inviting him over to "show him some stuff."

So there he was, holding three disks, their fronts and backs filled with pirated programs. It made him feel nervous as hell.

The only thing he'd ever stolen in his life was a magazine in a bookstore. Then, after he'd read it, he'd smuggled it back in and returned it.

"Don't be a wimp, man!" Jim insisted. "Take 'em. These are just games. Next week I think I'll have a couple word processing programs for you. And maybe even Extracalc."

Keith felt nervous as he drove home. But then, he reasoned, what could happen? Would an FBI agent track him down just because he'd accepted a few silly copied programs? No, of course not!

Inside his underfurnished living room, strewn with books, manuscripts, and old copies of The New Yorker, he put the disks down, and got a soda from the refrigerator.

Popping the top and taking a swig, he thumped down in his chair and booted up the first disk.

TAKE OUT THE BASIC CARTRIDGE, NINNY, the screen read. THIS THING IS IN MACHINE LANGUAGE.

Oh.

Then he laughed. That Jim could be a real card.

He opened the lid of the 800, slipped out the cartridge labeled ATARI BASIC, and rebooted the disk.

THE GAME BOX! proclaimed the top margin of the screen.

The contents were then listed.

INVADERS PLUS
LONGSTOP
MISSION
MONSTER MAGIC
GOBBLE MAZE
LABYRINTH

He selected Gobble Maze, which turned out to be an amusing rip off of PacMan. After a few minutes, though, he was bored. He selected another game.

Monster Magic! Why not? Sounded like a good fantasy game!

As soon as the beeps of program loading had been completed, the screen turned completely white. Slowly, a blood-red substance dripped down from the top, forming grisly letters: MONSTER MAGIC.

Shot with spider web, sticky with pixel gore. What terrific graphics! Keith thought.

Ghostly music issued from the TV speaker: a sweep of organ chords, a soft choral wail, a ghostly shiver of windblown drapes, the tinkling of a chandelier. Wonderful sound!

Jim had said that some of this stuff wasn't even on the market yet. Where the hell had he gotten it? Keith wondered. Jim knew only that it was state-of-the-art programming--and he was glad to be a part of it.

You bet! Keith was suddenly quite happy he'd swallowed his qualms and accepted the disks. This game probably went for forty bucks, easily down at his local computer dealer.

With a rattle and a death-wheeze, the title letters shuddered away. A mouth formed, exposing cracked lips and sharp fangs. The mouth became animated. It laughed.

"Welcome to Monster Magic!" it said with a Boris Karloff-like lisp. "What kind of monster would you like to make tonight? Oh, we have all sorts of lovelies to delight and astound your sense of the macabre."

A list appeared.

VAMPIRE (1)
GOBLIN (2)
BLOB (3)
MUMMY (4)

DRAGON (5)

CHOOSE BY NUMBER. FOR MORE CHOICES, HIT OPTION.

Keith reached with his pinky and tapped option, just below SYSTEM RESET.

FRANKENSTEIN'S MONSTER (6)

HEADLESS HORSEMAN (7)

SELKIE (8)

WEREWOLF (9)

MIX 'N' MATCH (10)

FIRST LIST, HIT OPTION

Yes, thought Keith, I want something from the first list. As he hit OPTION again, he wondered what the game was about. Too bad he didn't have the documentation. That was the nice thing about programs you actually bought--printed instructions came with them. Also artwork, boxes, a separate disk... nice cosmetic stuff like that.

Still, you can't beat FREE, thought Keith, happily mulling his choice.

Just for the hell of it, he chose BLOB. The Steve McQueen movie was one of his favorite old monster movies. What kind of result would he get?

He touched 3.

"Oh my, a very messy choice!" said the lips. The screen went blank for a moment as the voice continued.

"The Monster Magic game allows you to have fun with your imagination! And so, now that you have chosen your monster..."

The word BLOB appeared on the screen in queasy green.

"Please write a short story about your creepy-crawly using the following randomly chosen words from our DICTIONARY OF FEAR! And then watch what happens."

Letters flashed across the screen, all green:

MORTUARY

EYEBALL

OOZED

SPASM

BLOOD

Kind of a weird, interactive adventure!

Keith began typing:

The corpse lay on the slab in the mortuary, stiff and green with death. The mortician bent over it with a scalpel. The body was ridden with a strange cancer. It had to be filled with formaldehyde for burial.

Suddenly, the body spasmed. The mortician thought it might be rigor mortis. He reached to hold the pale head down.

The dead man's eyes shot open. An eyeball popped

out, rolling away. Something long and milky, like a string of phlegm, oozed from the skull's socket.

The mortician screamed as the thing wrapped around his arm. With incredible speed it shot up his arm like a white python of pus, to curl around the man's neck.

The mortician's scream was cut off in a gurgle. Blood exploded from his mouth.

Snap! The man's neck broke!

The baby Blob extended its tendrils into the body and began to feast.

Keith chuckled. Pretty bad, but fun.

He hit the START button. The screen cleared. A slab appeared. Upon the slab was a body; over the body stood a man with a scalpel.

The pixels animated, illustrating Keith's story. The popping eye, the streaking white, the strangled mortician, everything. Complete with sound effects.

Wow! Keith thought, fascinated.

The synthesized voice spoke. "Your blob is very small now." The screen revealed an amorphous white mass, dead center, motley, with pseudopodlike streamers waving as though in some phantom breeze. "Would you care to feed it?"

The cursor appeared below the blob--an invitation for another episode!

"Certainly!" Keith replied and immediately began to write YES!

"Use the following words," the voice requested.

DERELECT
POLICEMAN
ALLEY
GUN
SCREECH
VISCERA

Keith began to write:

The alley was dark and cold. The derelict lay in the doorway, sipping mindlessly at a bottle of Thunderbird.

He did not see the Blob rolling along the cement pavement like a giant's gob of spit.

Until it was too late!

Although the Blob had just dined at the Mortuary and even now was streaked red with digesting human blood, still it was ravenous. It followed the foul human smell of the derelict to its source.

The derelict was so drunk he did not realize anything was wrong until the Blob had eaten half his foot. He looked down to see the growing opalescence duluting up his legs.

He screeched and suddenly found his mouth full of foul, acidy gunk.

A policeman two blocks away heard the scream. He raced down the street and turned into the alley.

All he saw was a mass on the ground, covered by an old overcoat. He drew his gun and went to investigate.

"Hey man, you okay?" he asked.

No response.

He bent over and lifted the coat.

Below the cloth, by the dim light of the streetlamp, he could see a halfeaten man, covered with boiling white and red protoplasm.

Streaming out a pseudopod, using a broken length of bone, the Blob cut into the cop's abdomen.

Viscera spilled into its hungry mass.

Yeuch! Keith thought happily as the computer graphics translated his bloody scene into visuals. Man, kids are going to love this!

And the pictures were getting better too! The colors were deeper, and the lines looked less like connected dots.

Incredible!

As the blob consumed the policeman, Keith watched it grow. The graphics were so good now that he could even see the body slowly being scoured of flesh inside the Blob. Amazing.

"Wonderful!" the voice said. "See how your monster grows when it is well fed. Do you care to go on to the advanced game?"

Absolutely! Keith typed YES and waited for the words.

"Excellent. This time, the story is entirely yours!" the lisping voice constructed.

Keith thought for a moment, and then began to write:

As the monster fed, it became more powerful, more cunning, more cruel. And still the fiery hunger filled it. It knew it must have more flesh! More human flesh to suck, savor, devour!

As it rolled amongst the night shadows, it sensed life in the building before it. An apartment house, full of tender, succulent, human meat. And up there! An open window!

Slowly it extended a pseudopod up the pipe and began moving upward, leaving behind a slimy trail. It

Suddenly, the phone rang. Keith rose to answer the call.

"Hello?"

"Keith?"

"Yes?"

"This is Jim. Something weird is going on."

"Huh?"

"Listen, maybe you better not fool with those programs I gave you until I can..." A pause.

"Well, Jim, actually I'm already--"

"Oh Jesus!" There was a scream. The line was cut off.

Keith tried to call the police, but his phone line was cut off, too.

He had tried to do something to help Jim. Something was terribly wrong!

As he raced for the door, the computer screen caught his eye. Words were still being written.

The Blob slowly slid up the pipe, sensing the human inside. This one would be special. This one it would savor slowly, for hours and hours and hours sucking out the life force, relishing the victim's agony as his flesh slowly dissolved--

To hell with this! Keith flicked the OFF switch.

The computer did not turn off. It started to hum ominously.

Keith turned the TV knob. The screen remained lit, colors intensifying.

He hit the SYSTEM RESET button.

"To terminate this program," said the Karloff-like voice, "Please type in the cancellation code indicated in your game documentation."

Documentation? He didn't have any documentation!

"Unless, of course, you have pirated this program, which is expressly against the copyright rules of Cthulhu Microsystems."

Desperately, Keith pulled the electrical connections.

The computer and monitor stayed on, glowing with an unearthly shimmer.

The words continued flashing onto the screen.

Suddenly, the Blob had a mission. Vengeance upon the desecrator of Yog Suggoth Copyright! It remembered the old rites of Sarnathian Torture! It salivated in anticipation!

Wild-eyed, Keith looked to the window. Panicking, he ran the opposite way. He had to get out. This couldn't be happening to him. It was some insane nightmare!

He flung open the door.

A terrible stench flowed in.

Bits and pieces of what was once human beings floated in the slimy mass like flies in amber. A human hand stuck up out of the milky protoplasm, quivering spastically.

The Blob sloped forward.

On the monitor, like blood from a cut artery, words gushed forward into reality.

HELPFUL HINTS AND TIPS!
(FOR THE USERS, BY THE USERS!)

This column features tips brought to my attention from members of this group. WARNING: These hints and tips are to be used at your own risk!

The following appeared in the December issue of MICROpendium.

Slow down your TI

by Mack McCormick

I can hear everyone now! Why in the world would anyone want to slow down his computer? I couldn't agree more and therefore usually spend a substantial amount of time trying to speed things up. In fact, that was one of my main reasons for learning assembly language.

And so begins our first in a series of hardware articles. I assure you they will get much more involved after this one, but this is intended to ease you into reading circuit diagrams and understanding basic electronics.

The circuit described here slows down everything the computer does as long as interrupts are enabled by the running program (such as in BASIC or Extended BASIC). Using this circuit, you may watch your title screen or program screens being built in slow motion. The beep as the computer powers up can be excruciatingly long. All this is controlled by a simple circuit in which the time delay can be varied or even frozen with the press of a button. Examine Figure 1, and I'll briefly describe what is going on in our one chip circuit.

This is your basic NE555 timer chip which is set up to periodically provide a zero logic pulse to the external interrupt pin of the TMS9900 microprocessor (CPU) chip of the TI-99/4A. This effectively suspends processing as long as it is at logic zero. These periodic interrupts serve to really slow down the executing program, in effect providing slow effect.

All of this is made possible with a mere eight parts. Capacitor C1 simply filters the incoming +5 volt power to reduce any unwanted signals from the rest of the computer. R1 establishes the minimum delay time and in conjunction with VR1 and C2 comprises a RC timing circuit to determine the delay prior to the 555 flip-flopping. Capacitor C3 provides a reference voltage for the control gate. Switch S1 places the reset pin low when pressed and causes the output to go low thereby generating an interrupt. Switch S2 connects the timer to the interrupt pin of the computer. The timer circuit operates whether or not it is connected.

I built the entire circuit on a piece of perforated circuit board about an inch square and housed it in my speech synthesizer. It took less than an hour.

I suppose this is a good place to ask for your

assistance. I need a source of perforated circuit boards with edge connectors suitable for the Peripheral Expansion Box (30 contacts per side at 0.10 inch spacing for an Attleboro connector.) We'll need these for future projects. I've been using my speech synthesizer and my single step card for everything I've built so far. Without your help in locating a source I'll either have to stop the hardware series soon or contract to have some boards etched and sell them. I'd prefer to buy ones which are already available.

There are only three wires to connect to your speech synthesizer, plus three holes to drill for mounting the two switches and the potentiometer. Take your time when connecting the wires and remember that the odd numbers are on the underside and the even numbers are on the top.

After everything is assembled ensure you have made all the connections properly and have no solder bridges (short circuits). If you use a 7555 CMOS IC instead of the NE555 be especially cautious to avoid static damage to the chip while handling. Ensure you are well-grounded when installing the chip.

The parts used in this circuit project should be available from your local Radio Shack or electronic supply store.

Load your favorite BASIC program with graphics and turn on the slow motion circuit. Immediately you should see the cursor slow down. You can vary the speed with the potentiometer and freeze it with the push button. RUN the program and you should be able to see your graphics built in slow motion. If it doesn't work check your wiring and, with a voltmeter, check your supply voltages at pin 8 for +5 volts. If all else fails, there's usually at least one member of a local user group who is into electronics who may be able to offer help.

I've purposely not gone too much into detail on how the circuit works to keep things simple for this first time out. Also, because the circuit is so simple, I have not described in great detail how to connect the wires together. Remember, only make a connection where there is a dot when wires cross one another.

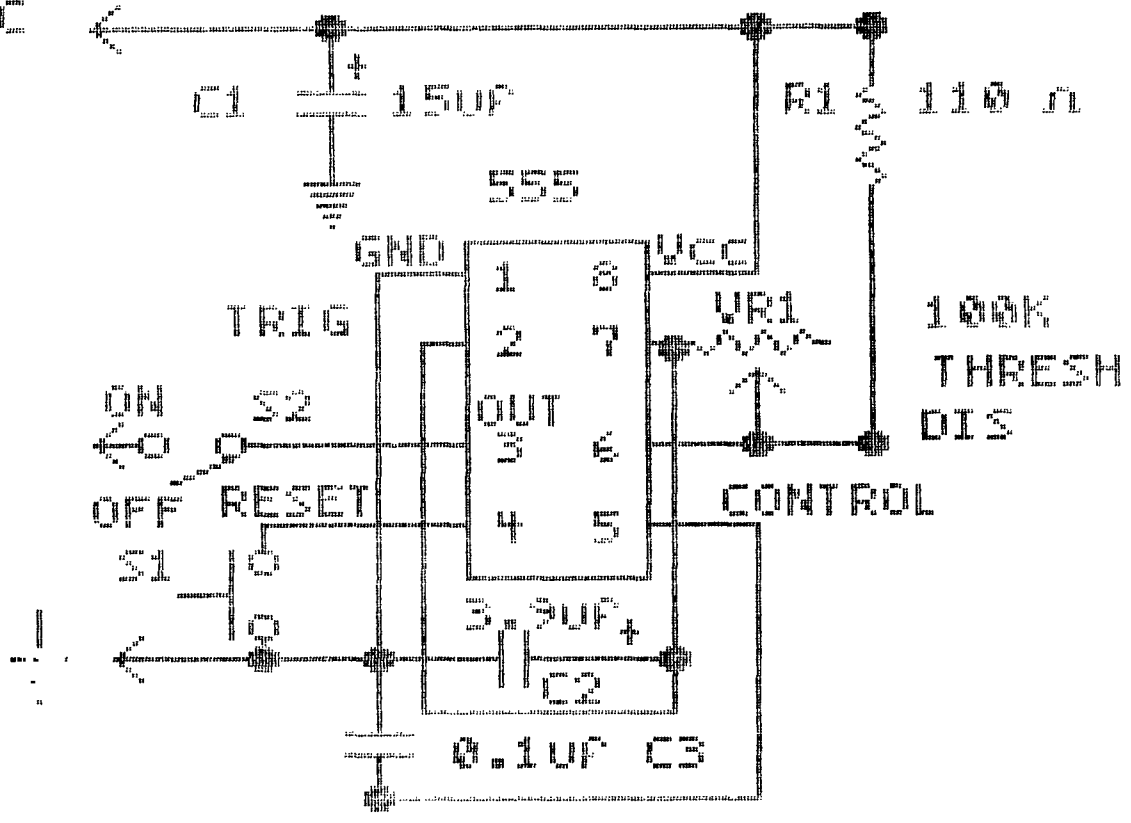
I would appreciate a brief note from those of you who would like more hardware articles and let me know if you had difficulty understanding this article.

Until next time, don't sniff too many solder fumes.

MICROpendium is a monthly magazine devoted to the TI-99/4A. Subscription from Canada costs \$20.50 US. Mail to: MICROpendium, P.O. Box 1343, Round Rock, TX 78680.



{PIN1} +5VDC



{PIN4} EXT INT

{PIN21} GND

Parts List

- IC Ne555 or 7555 chip
 - R1 110 ohm 1/4 watt resistor
 - VR1 100K ohm potentiometer
 - C1 15uF 10 volt electrolytic capacitor
 - C2 3.3uF 10 volt electrolytic capacitor
 - C3 0.1uF 10 volt capacitor
 - S1 Single Pole Momentary contact mini-switch
 - S2 Single Pole single throw mini-switch
- Suitable knob, perf circuit board, socket if desired

Readers may write Mack at NHC, 1ST INF DIV(FND), APO NY 09137. Anyone with information on a source for the circuit boards described by Mack may contact MICROpendium. We will publish this information and forward it to Mack.

Artwork by Paul Deener.

Where's the Data?

FIND OUT FAST WITH FIRST BASE

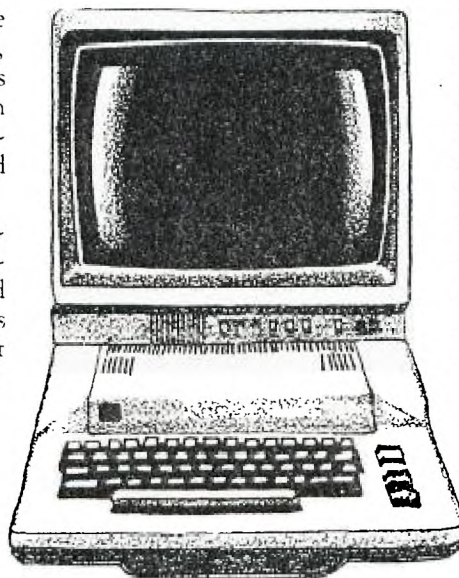
You can now browse from one Manitoba data base to another, quickly and easily. All you need is your computer terminal, a modem that lets your computer communicate over your phone line...and First Base.

First Base is a new access-to-information service from MTS. You simply enter an identification code and a password, and a list of data bases appears on your screen. You select the one you want to access, with only the touch of a key. There's no complex log-on procedure.

REASONABLE RATES

First Base is a pay-as-you-use service. Rates in Winnipeg are 2.5 cents per minute between 8:00 a.m. and 6:00 p.m., Monday to Saturday. After 6:00 and all day Sunday, the charge is just 1.5 cents per minute. Outside of Winnipeg, the daytime charge is 6.5 cents per minute, and 4 cents after 6:00 p.m. and all day Sunday (regular long distance rates do not apply).

There is a one-time-only service fee of \$19.55, to enter your security codes into the system.



TELL US WHAT YOU WANT TO KNOW

There are several Manitoba data bases now available on First Base that offer a variety of information, such as: postal codes, road and weather conditions, stocks and bonds prices and much more.

Some of the data bases are available on a subscription basis only; you must have a subscription before you can access them from First Base.

First Base is a new and growing service, so tell us what data bases you would like to access. Your suggestions for additions to First Base are welcome.

CALL 941-5735

For more information on First Base, the data bases and their subscription rates, please call Bob Thomas at 941-5735. If you're calling from outside Winnipeg, please call collect.

You may even have a data base of your own that you wish to offer through First Base.

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