WHERE WILL BUGS ATTACK????

AS YOU ALL KNOW, WE NOW HAVE OUR PERMANENT MEETING PLACE, AT THE GREEN OAK TOWNSHIP FIREHALL, 11411 E. GRAND RIVER, IN BRIGHTON, MI

IT REALLY TURNED OUT TO BE A TERRIFIC PLACE TO MEET, WITH MUCH MORE ORGANIZATION & BREATHING ROOM THAN SOME OF OUR PREVIOUS SPOTS.

WE'RE PRINTING THE MAP FOR EVERYONE ONE MORE TIME IN THIS ISSUE, BUT PLEASE BE SURE TO KEEP A COPY ON HAND SO YOU WON'T FORGET YOUR WAY. WE DEFINATELY DO NOT WANT ANYONE TO GET LOST LOOKING FOR THE MEETING.

OUR NEXT MEETING WILL BE HELD ON JANUARY 30, (SUNDAY) 1983 AT 2:00 P.M. SO BE SURE TO MARK YOUR CALENDAR!!!

MASTER PLAN

OUR GENERAL MEETING WILL BEGIN AT 2:00. WE'RE CERTAIN THAT NO ONE WILL WANT TO BE LATE FOR THIS ONE, EITHER. WE SHOULD HAVE LOTS OF NEWS THIS TIME, AS THE MEETING FALLS RIGHT AFTER THE JANUARY CONSUMER ELECTRONICS SHOW THAT WILL BE HELD IN LAS VEGAS. SOMEONE FROM OUR CLUB WILL BE THERE TO GET ALL OF THE LATEST NEWS AND SHARE IT WITH US FIRST-HAND.

BECAUSE OF THIS, WE WILL NOT BE TIME-SCHEDULING THE REST OF OUR MEETING. IT'S KIND OF HARD TO SET ANY KIND OF SCHEDULE WHEN WE ARE NOT SURE HOW MUCH INFORMATION WE WILL HAVE TO GO OVER.

CLASSES:

DON'T FORGET, YOU CAN STILL SIGN UP FOR OUR SPECIAL INTEREST GROUPS. WE HOPE TO BE STARTING THESE SOON AFTER OUR JAN. MEETING, SO WE SHOULD HAVE THE FINAL INFORMATION AT THE MEETING. THERE WILL BE AT LEAST TWO, AND POSSIBLY MORE GROUPS THAT WILL MEET EVERY TWO WEEKS. (BASIC PROGRAMMING AND MACHINE LANGUAGE.)

RUNNING HIGH SCORES FOR 25 CENT GAMES:

SPACE FORTRESS
LEVEL 9-3 BASES

1-GEOFF SIEMBOR	10,200
2-BILLY ZDAN	7,550
3-JAMIE BROWN	7,025

GALACTIC INVASION
LEVEL 9-3 BASES

1-GEORGE MOSES	814
2-RICK MOSES	464
3-DARRELL HAINES	406

THE WIZARD
LEVEL 3-ONE PLAYER

1-BILLY ZDAN	4,340
2-DAVE DEVRIES	2,540
3-SHAWN WILLIAMS	2,400

SPACE INVADERS
LEVEL 4

1-JAMIE BROWN	2,360
2-BILLY ZDAN	1,560
3-RICH YENSON	1,530

PINBALL
GAME ONE

1-DAVE DEVRIES	21,650
2-RICK MOSES	15,030
3-JOE MCMULLEN	13,850

PIRATES CHASE
LEVEL 9-3 TURNS

1-BRETT BILBREY	10,855
2-PEGGY GLADDEN	9,923
3-MIKE TOTH	1,793

VIDEO BUGS

AS YOU CAN SEE, WE'VE GOT A LOT OF NEW HIGH SCORES THIS MONTH. WE ARE KEEPING A RUNNING HIGH SCORE SHEET, SO YOU'LL HAVE A CHANCE AT EVERY MEETING TO GET TO THE TOP. IT'S REALLY NOT ALL THAT HARD TO DO, AND IT IS DEFINATELY A LOT OF FUN TO TRY.

ONE DISAPPOINTMENT, HOWEVER. WE ASKED OUR OUT-OF-STATE MEMBERS TO SEND US THEIR CHOICE OF AN EXTRA CARTRIDGE FOR OUR LIST OF CHALLENGES. THE BAD PART IS THAT WE DID NOT EVEN GET ONE RESPONSE! I GUESS NOBODY HAD ANY IDEAS

OUT THERE. BECAUSE OF THIS, WE'VE DE-
CIDED TO LEAVE THE LIST OF GAMES AS IT
IS FOR NOW. SHOULD ANYONE HAVE OTHER
IDEAS, WE'LL TAKE CARE OF IT WHEN IT
IS RECEIVED.

HAVE YOU HEARD???

CLUB TAPE:
OUR APOLOGIES TO EVERYONE FOR THE
DELAY WITH OUR CLUB TAPE. AFTER FIN-
ALLY GETTING THE MASTER TAPE TOGETHER,
WE ENDED UP WITH A TAPE SHORTAGE. HOW-
EVER, A GIANT THANKS TO MIKE PEACE OF
'WAVEMAKERS' FOR GENEROUSLY HELPING US
THROUGH OUR CRISIS. MIKE HAS ALWAYS
BEEN A STRONG BACKER OF THE ASTRO-BUGS
AND AN AVID "ASTROCADER". (AS WELL AS
A GREAT PROGRAMMER). IT'S NOT ENOUGH
THAT HE HAS DONE SO MUCH FOR US AL-
READY, BUT THIS TIME HE REALLY SHINES.
HE NOT ONLY MADE A NEW MASTER FOR OUR
TAPE, BUT ALSO MADE SEVERAL COPIES FOR
US, AND HAD THEM BACK TO US WITHIN A
WEEK. MIKE, YOU ARE A TERRIFIC GUY!!!

CORNER STORE:
IT'S REALLY A SHAME IF YOU DIDN'T
GET IN ON OUR BARGAINS AT THE LAST
MEETING. A LOT OF OUR GUYS GAVE SOME
GREAT PRE-CHRISTMAS DISCOUNTS. NOT
ONLY THAT, BUT ESOTERICA LTD CAME UP
FOR A VISIT, AND GAVE DISCOUNTS ON ALL
THEIR SOFTWARE. NOT ONLY THAT, BUT
THEY ALSO GAVE OUR CLUB A NICE DON-
ATION FROM THEIR SALES. DAN DRESCHER
& JIM CURRAN...THANKS A MILLION!!!

WHAT'S HAPPENING WITH ASTROCADE?
THERE HAVE BEEN A LOT OF RUMORS
FLYING AROUND ABOUT THE COMPANY. SOME
GOOD, MOST BAD. ALL WE CAN SAY IS THAT
WE'LL HAVE TO WAIT AND SEE WHAT IS
GOING TO HAPPEN. THEY SEEM TO BE SOME-
WHAT BACK ON THEIR FEET NOW, SO MOST
THINGS DON'T LOOK TOO BAD. AND REMEM-
BER, WHEN THE BALLY CORP. DEVELOPED
OUR MACHINE, THEY ONLY MARKETED IT
FOR ABOUT SIX MONTHS, THEN GAVE UP,
BUT IT LIVED ON WITH THE HELP OF THE
'ARCADIAN' AND USER GROUPS. (NUTS
LIKE US.) SO I DON'T FEEL THAT THE
ASTROCADE WILL EVER COMPLETELY DIE OUT
TOO MANY PEOPLE ARE SUPPORTING IT!!

UNCLASSIFIED ADS:
WE DID NOT RECEIVE ANY ADS FOR
THIS ISSUE. IF YOU WOULD LIKE ONE FOR
THE NEXT ISSUE, SEND $1.00 ALONG WITH
YOUR AD TO PEGGY. (ADDRESS ON FRONT.)
WE ARE ALSO NOW ACCEPTING HALF AND
FULL PAGE ADS. CALL OR WRITE.

THE INSIDE CORNER
BY BRETT BILBREY

WELL... NO ONE HAS ANY QUESTIONS?
I SUGGEST THAT UNLESS YOU WANT THE
QUESTION AND ANSWER COLUMN TO BE
DROPPED, THAT YOU SEND IN SOME QUES-
TIONS. THIS MEANS YOU!!! I'M NOT
AFRAID OF TOO MANY QUESTIONS, BUT I
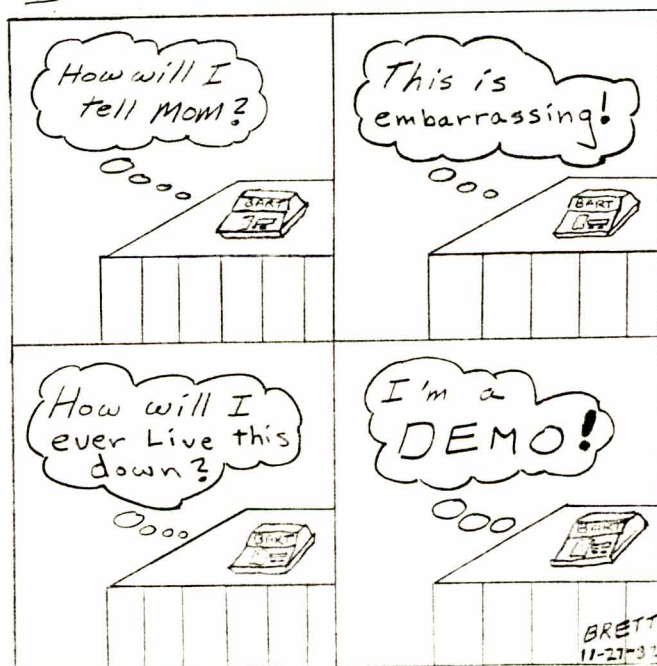AM AFRAID OF NO QUESTIONS BEING ASKED.
SEND ALL QUESTIONS TO:
QUESTIONS
59400 NINE MILE ROAD
SOUTH LYON, MI 48178

AT THE NEXT MEETING, I WILL HAVE A
COMPLETE REPORT ON THE WINTER C.E.S.
FROM LAS VEGAS. SO BE SURE AND BE
THERE TO BE IN ON ALL THE LATEST NEWS.

GENERAL MEETING:
AT OUR GENERAL MEETING IN JAN.
WE WOULD LIKE TO DISCUSS ADDING TO
OUR BOARD. IF YOU WOULD LIKE TO HELP
OUT IN THIS WAY OR IN ANY OTHER WAY,
PLEASE LET US KNOW. THE JOB OF GETTING
MEETINGS AND THIS NEWSLETTER READY
EVERY TWO MONTHS IS GETTING A BIT
MUCH FOR JUST A FEW OF US TO HANDLE.
WE COULD USE HELP IN THE AREAS OF
CLEANING, MAILING, REFRESHMENTS, ETC.
SO PLEASE, IF YOU CAN FIND A LITTLE
TIME, LEND A HAND!!!

BART

How will I tell Mom?

This is embarrassing!

How will I ever Live this down?

I'm a DEMO!

BRETT
11-27-83

ASTRO-BUGGED?
BY BRETT BILBREY

WE HAVE GOOD NEWS TO REPORT! THE PUZZLE CONTEST IS A SUCCESS AND WILL BE CONTINUED!!! THE SOLUTIONS WILL BE JUDGED ON TWO CATEGORIES: EXECUTION SPEED AND SIZE EFFICIENCY. ALL ENTRIES MUST BE RECEIVED BY JANUARY 29, 1983. TO ENTER, SEND A COMPLETE PROGRAM LISTING AND SEPERATE COMMENTS AND DOCUMENTATION TO:

ASTRO BUGGED
14430 BARCLAY
DEARBORN, MICHIGAN 48126

THE WINNER AND SOLUTION WILL BE ANNOUNCED AT THE NEXT MEETING AND IN THE NEXT NEWSLETTER. THE PRIZE WILL BE THE CURRENT ASTRO-BUG CLUB TAPE (OR A REFUND IF YOU ALREADY BOUGHT ONE, SO BUY IT!!!).

BUG PUZZLE #1 SOLUTION:
THE FIRST PUZZLE WAS:
YOU ARE SITTING IN THE MIDDLE OF A CIRCLE OF 1000 PEOPLE, WITH A GUN THAT HAS 1000 BULLETS. STARTING WITH PERSON NUMBER ONE, YOU SHOOT THAT PERSON, THEN START SHOOTING EVERY OTHER LIVE PERSON (3,5,7..) CONTINUOUSLY AROUND THE CIRCLE UNTIL EVERY PERSON IS DEAD. BY NUMBER, WHO IS THE LAST ONE TO DIE?
THE WINNER IS... CRAIG ANDERSON. WE HAD A LOT OF GOOD ENTRIES, ONE SO GOOD THAT I HAVE DECIDED TO GIVE BOB WEBER AN HONORABLE MENTION. WHAT FOLLOWS ARE THEIR SOLUTIONS. I THINK YOU WILL FIND THEM INTERESTING.

CRAIG ANDERSON'S SOLUTION:
PRIOR TO WRITING A COMPUTER PROGRAM TO SOLVE A PROBLEM, ONE MUST DEFINE THE ALGORITHM UPON WHICH THE PROGRAM IS TO BE BASED. TO DEFINE THE ALGORITHM ONE MUST FIRST ANALYZE THE PROBLEM.
AN ANALYSIS OF THIS PROBLEM REVEALS AN INTERESTING TRAP. THAT EVERY OTHER LIVING PERSON IS SHOT SUGGESTS THAT IT IS A BINARY PROGRESSION. THE TRICK OCCURS WHEN WE SEE THAT THE UPPER LIMIT OF THE PROGRESSION, 1000, IS NOT A BINARY NUMBER. AN ALGORITHM BASED ON A SIMPLE BINARY SERIES BREAKS DOWN ON THE FOURTH ITERATION WHEN 1000 IS NOT EVENLY DIVISIBLE BY 16 WHERE IT WAS BY 2, 4 AND 8. (ED. NOTE-MR. F. TOMJACK WAS ON TO THIS SAME SOLUTION BUT GOT STUCK AT THIS POINT.) TAKING THIS INTO ACCOUNT, THE LAST SURVIVOR OCCURS AT THE POINT WHERE THE DIFFERENCE BETWEEN THE UPPER LIMIT OF THE

SERIES EQUALS THE DIFFERENCE BETWEEN THE UPPER LIMIT AND THE NEXT HIGHEST NUMBER IN THE BINARY SEQUENCE. THE NEXT BINARY ABOVE 1000 IS 1024. SUBTRACTING 24 FROM 1000 GIVES US 976, THE LUCKY NUMBER OF THE LAST POOR FOOL TO BUY A BULLET.
HERE IS THE PROGRAM, WHICH WILL FIND THE SURVIVOR IN ANY CIRCLE OF PEOPLE BEING SHOT IN A RECURSIVE BINARY SEQUENCE, WHERE X EQUALS THE NUMBER OF PEOPLE IN THE CIRCLE. CARRY IT IN YOUR BILLFOLD; IT COULD SAVE YOUR LIFE SOMEDAY IF YOU REMEMBER TO GO HOME FOR A SANDWICH WHILE THE LUNATIC WITH THE GUN IS RELOADING.

```
10 A=1;INPUT X
20 GOTO (A>X-1)+30
30 A=A+A;GOTO 20
31 PRINT X-(A-X)
```

THAT'S ALL THERE IS TO IT. SINCE THE PROGRAM WAS TO BE JUDGED ON SIZE AND SPEED OF EXECUTION I OPTIMIZED THE Z-80 FUNCTIONS BY AVOIDING THE OBVIOUS MULTIPLICATION IN LINE 30 (Z-80'S CAN'T MULTIPLY BUT THEY CAN ADD LIKE BANDITS!) AND BY USING A BOOLEAN AND JUMP IN LINE 20 INSTEAD OF AN IF STATEMENT. (ED. NOTE- THE ASTROCADE MULTIPLIES NUMBERS BY CALLING A MACHINE LANGUAGE MULTIPLY ROUTINE THAT REALLY ADDS THE NUMBERS A WHOLE BUNCH OF TIMES. BUT FOR MOST BASIC PROGRAMS DON'T WORRY ABOUT IT.)
LINE 10 INITIALIZES THE BINARY SERIES (A) AT 1 AND CALLS FOR THE NUMBER OF PEOPLE IN THE CIRCLE. LINE 20 CHECKS TO SEE IF THAT NUMBER (A) IS GREATER THAN OR EQUAL TO THE NUMBER OF PEOPLE IN THE CIRCLE. IF SO, IT JUMPS TO LINE 31 WHERE WE SUBTRACT THE DIFFERENCE BETWEEN THE NUMBER OF PEOPLE IN THE CIRCLE AND THE NEXT HIGHEST BINARY FROM THE NUMBER OF PEOPLE IN THE CIRCLE THEN PRINT THE ANSWER AND STOP. IF A IS NOT EQUAL TO OR GREATER THAN THE NUMBER OF PEOPLE IN THE CIRCLE, THE PROGRAM JUMPS TO LINE 30 WHERE A IS DOUBLED (BINARY SEQUENCE) THEN SENT BACK TO BE TESTED IN THE NEXT ITERATION (NEXT CYCLE OF THE GUN AROUND THE CIRCLE).

WELL, AS YOU CAN SEE, CRAIG CAME UP WITH A SMART SOLUTION. BUT NOW WE COME TO BOB WEBER'S SOLUTION. IT IS NOT AS FAST, OR AS SHORT, BUT IT HAS A VERY, VERY UNIQUE SOLUTION; GRAPHICAL! BOB USES THE PX FUNCTION TO CHECK A BOX OF 1000 PIXELS (PEOPLE)

AND THE PIXELS DISAPPEAR AS THE PEOPLE
GET SHOT.

```
>1 CLEAR ;BOX 1,5,100,10,1;B=1000;
X=-49;Y=0;GOTO 20
>2 X=X+1;IF X=51X=-49;Y=Y+1;IF Y=10Y=0
>3 RETURN
>20 BOX X,Y,1,1,2;B=B-1;IF B=0GOTO 60
>30 GOSUB 2;IF PX(X,Y)=0GOTO 30
>40 GOSUB 2;IF PX(X,Y)GOTO 20
>50 GOTO 40
>60 PRINT Yb100+X+50
```

(b=MULTIPLICATION SIGN).

I USED A BOX CONTAINING 1000 PIX-
ELS TO REPRESENT THE 1000 PERSONS, AND
THE PX(X,Y) FUNCTION TO CHECK TO SEE
IF THEY WERE DEAD OR NOT. LINE #20
KILLS A PIXEL AND CHECKS TO SEE IF
THEY ARE ALL DEAD. LINE #30 CHECKS TO
SEE IF THE NEXT ONE IS DEAD, AND IF IT
IS GOES ON TO THE NEXT ONE. IF IT IS
NOT, LINE #40 CHECKS TO SEE IF THE
NEXT ONE IS ALIVE. IF IT IS IT GOES
TO LINE #20, AND IF IT ISN'T GOES ON
TO THE NEXT ONE. LINE #2 IS THE SUB-
ROUTINE THAT ADDS ONE TO THE STRING,
AND CHECKS TO SEE IF IT HAS PASSED
1000. IF YOU WATCH CLOSELY, YOU CAN
SEE THAT IT IS ONLY KILLING EVERY
OTHER LIVE PIXEL.

SO THERE WE HAVE THE WINNER AND A
UNIQUE SOLUTION TO THE FIRST PUZZLE.
NOW WE TURN OUR ATTENTION TO THE PUZ-
ZLE AT HAND, PUZZLE NUMBER #2. I WOULD
LIKE TO SEE MORE OF YOU TRY IT. THE
IDEA OF THE CONTEST IS TO GET YOU TO
TRY TO SOLVE PROBLEMS USING THE COM-
PUTER. IF YOU DON'T AT LEAST TRY THE
PUZZLES, YOU WON'T LEARN ANYTHING FROM
THE SOLUTIONS OF OTHERS. SO, EVEN IF
YOU DON'T THINK YOU CAN WIN, I WANT TO
SEE YOUR SOLUTIONS. YOU MIGHT BE SUR-
PRISED AND FIND THAT YOUR SOLUTION IS
THE BEST! ENOUGH OF THE PEP TALK,LET'S
GET ON TO THE PUZZLE.

IT SEEMS OUR SOLUTION TO PUZZLE #1
BEAT ATARI'S 400/800 SOLUTION! I THINK
WE CAN DO IT AGAIN, SO I AM BORROWING
THEIR PUZZLE #2 (PLUS IT MAKES MY JOB
EASIER). TO GIVE CREDIT WHERE CREDIT
IS DUE: PUZZLE #2 TAKEN FROM M.A.C.E.
BY CHARLES GODFREY. SO NOW THAT YOU
KNOW WHERE IT IS FROM, LET'S TRY TWICE
AS HARD FOR A SOLUTION THAT WILL BEAT
THEM!!!

✳✳✳✳✳✳✳✳✳✳✳✳✳
BUG PUZZLE #2
✳✳✳✳✳✳✳✳✳✳✳✳✳

SHIPWRECKED IN A HURRICANE, FIVE
SAILORS IN A ROWBOAT LANDED ON A SMALL
ISLAND INHABITED BY ONE MONKEY AND
NUMEROUS COCONUT TREES (NO, IT WAS NOT
DONKEY KONG!). THE TREES HAD JUST FIN-
ISHED BEARING A BUMPER CROP OF COCO-
NUTS, ALL OF WHICH HAD BLOWN TO THE
GROUND IN THE HURRICANE.
HAVING NOTHING BETTER TO DO, THE
SAILORS DECIDED TO GATHER ALL THE
COCONUTS ON THE ISLAND INTO A SINGLE
PILE. THEY FINISHED THE JOB BY NIGHT-
FALL, AND THEN FELL SOUNDLY ASLEEP.
BUT ONE SAILOR AWOKE IN THE MIDDLE OF
THE NIGHT AND BECAME WORRIED THAT HE
WOULD NOT RECEIVE HIS FAIR SHARE OF
THE MILKY PALM FRUIT. HE STOLE AWAY
TO THE PILE AND REMOVED EXACTLY HIS
FAIR SHARE OF THE COCONUTS,
BURIED THEM, AND WENT BACK TO SLEEP.
ANOTHER SAILOR AWOKE A SHORT TIME
LATER AND DID THE SAME (DO YOU SEE A
PATTERN STARTING?), BURIED HIS FAIR
SHARE OF THE COCONUTS AND RETURNED TO
SLEEP. EACH OF THE THREE REMAINING
SAILORS, IN TURN, DID LIKEWISE. (MORAL
OF THE STORY-DON'T TRUST SAILORS!)
THE NEXT MORNING, NOT SUSPECTING
WHAT EACH OF THE OTHERS HAD DONE (THEY
DIDN'T NOTICE THE PILE WAS SMALLER?),
THE SAILORS DIVIDED THE REMAINING
COCONUTS, AND EACH RECEIVED HIS EQUAL
SHARE. ONE COCONUT REMAINED, WHICH
THEY GAVE TO THE MONKEY. (DON'T WORRY,
HE KNEW WHERE SOME BANANA TREES WERE
ON THE OTHER SIDE OF THE ISLAND, SO HE
DIDN'T STARVE. AND NO, HE DID NOT TELL
THE GREEDY SAILORS!)
THE PUZZLE? WRITE A PROGRAM TO
DETERMINE THE TOTAL NUMBER OF COCONUTS
IN THE ORIGINAL PILE. SINCE THERE CAN
BE MORE THAN ONE CORRECT ANSWER, ALL I
AM LOOKING FOR IS THE LOWEST CORRECT
ANSWER. THE PUZZLE ITSELF IS NOT TOO
HARD, YOU SHOULD FOLLOW MR. ANDERSON'S
ADVICE ABOUT ANALYZING THE PROBLEM
BEFORE YOU START. PLEASE TRY TO GET
YOUR SOLUTIONS TO ME AS QUICKLY AS
POSSIBLE. IF ENOUGH PEOPLE ENTER,
THERE WILL BE SECOND AND THIRD PLACE
PRIZES! HERE'S YOUR CHANCE TO PAR-
TICIPATE IN ASTROBUGS AND HAVE FUN!!!
GOOD LUCK TO ALL...

SPEAK OUT!!!
BY GEORGE MOSES

ARCADE HAND CONTROLS...IS A RE-DESIGN A GOOD IDEA? THERE HAS BEEN A GOOD DEAL OF TALK ABOUT THE WONDERFUL DESIGN OF THE PISTOL GRIP CONTROLS WE ARE BLESSED WITH. WE ALL KNOW THEY DO MORE THAN COMPETITIVE HAND CONTROLS WHEN YOU CONSIDER THEY HAVE FOUR DIRECTIONAL SWITCHES, A TRIGGER SWITCH AND A POTENTIOMETER (KNOB).

SO, WHAT'S THE GRIPE? THE BIGGEST PROBLEM IS WIRE BREAKAGE CAUSED BY THE USER BENDING THE WIRE DURING GAME PLAY BY LEANING ON THE BOTTOM OF THE PISTOL GRIP. WHOEVER DESIGNED THESE HANDLES WITH THE WIRES COMING OUT THE BOTTOM SHOULD HAVE CHILD-TESTED THEM BEFORE RELEASING THEM FOR PRODUCTION.
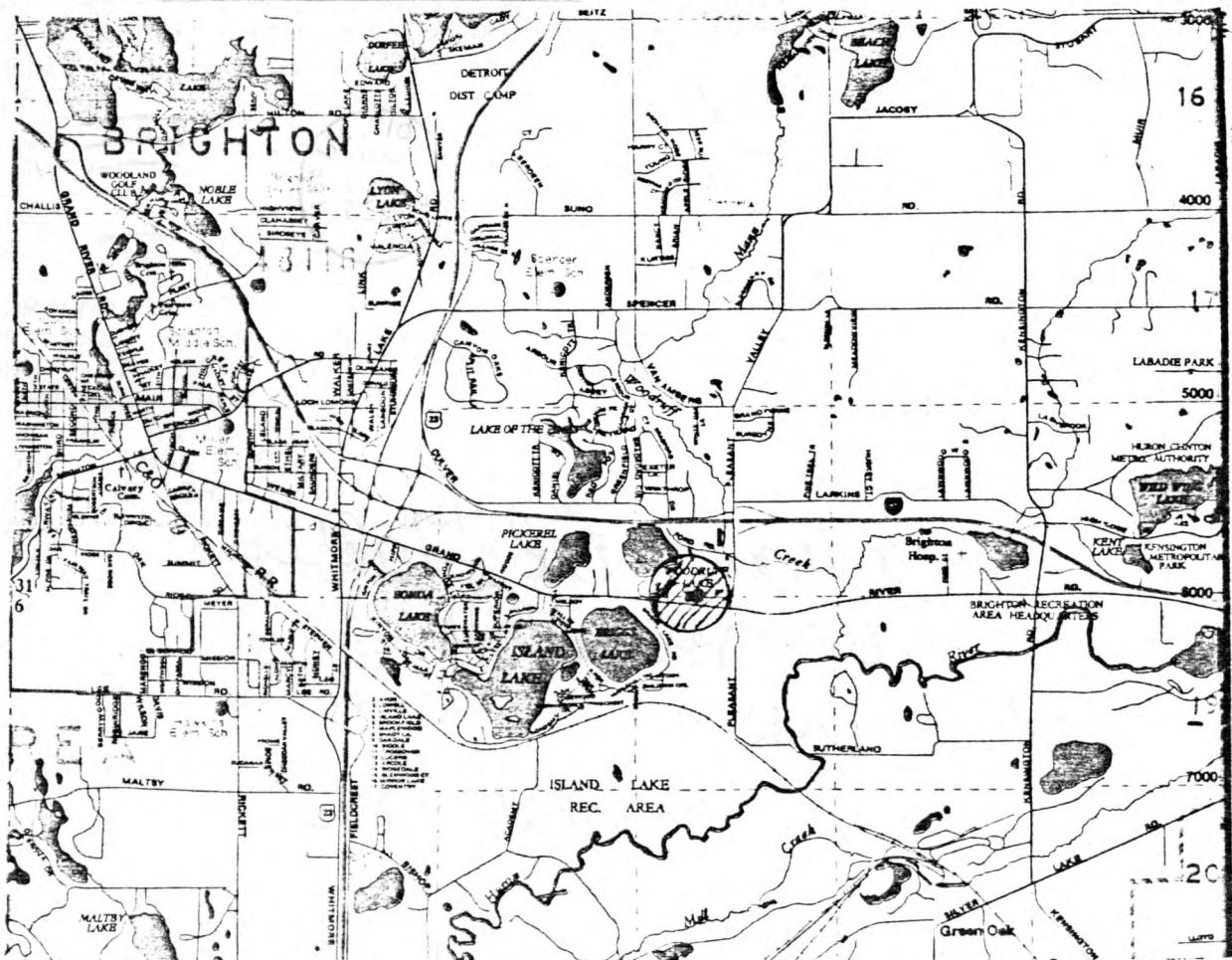
WHEN I FIRST PURCHASED MY ARCADE I NOTICED THE POUNDING THE LITTLE URCHINS GAVE MY WIRES. IT WASN'T LONG BEFORE I LAID DOWN THE LAW. IF THEY COULDN'T HOLD THE HANDLES UP OFF THE FLOOR, OR OFF THE TABLE, THEY WOULD LOSE THE PRIVELEGE OF PLAYING WITH MY COMPUTER!!!

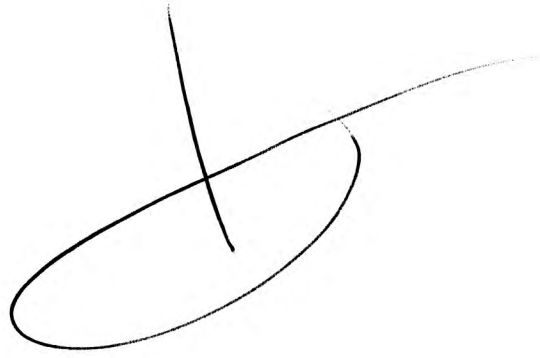A BETTER SOLUTION IS TO DRILL A HOLE IN THE SIDE OR THE BACK OF THE HAND CONTROL AND REROUTE THE WIRE THRU THE NEW OPENING, ELIMINATING THE POSSIBILITY OF STRAIN DAMAGE ON THE WIRE COMPLETELY. AT LEAST ONE OF OUR MEMBERS, DAVE IBACH, HAS DONE JUST THAT. IT SEEMS TO HAVE SOLVED HIS PROBLEMS. OF COURSE, DAVE HAS GONE ALL OUT WITH HIS ARCADE, INSTALLING A FAN, A HINGED LID, A :INPUT AND :PRINT SWITCH TO ELIMINATE SWITCHING WIRES WHEN TAPING, AND EVEN A SET OF HOLSTERS ON HIS CART TO STOW HIS HANDLES IN!!!

WHEN THE WIRES FAIL, ALL YOU CAN DO IS ORDER A NEW SET OF WIRES AND GET YOUR SOLDERING IRON AND PUT THEM IN. OR YOU CAN SPEND $50 AND BUY A NEW SET OF HANDLES, IF YOU HAVE MONEY TO BURN.

OH WELL. NO GREAT PRODUCT IS WITHOUT A FEW DESIGN FLAWS, I GUESS. LIVE AND LEARN AND WORK AROUND THE PROBLEMS HOW ABOUT A HAND CONTROL CLINIC AT ONE OF OUR FUTURE MEETINGS? IF THE CLUB IS INTERESTED, WE COULD GET A SUPPLY OF NEW REPLACEMENT CABLES AND SOME TUNER CLEANER FOR THE KNOBS AND EITHER TUNE UP THE HANDLES DURING THE MEETING OR TAKE THEM IN FOR REPAIR AT THAT TIME AND SEND THEM BACK WITHIN A FEW DAYS. THERE ARE SEVERAL OF US THAT ARE GOOD AT REPAIRING THEM AND IT COULD BE DONE VERY INEXPENSIVELY. LET US HAVE YOUR IDEAS, MY DEAR READERS!!!

GREEN OAKS TOWNSHIP FIREHALL, 11411 EAST GRANDRIVER, NEAR PLEASANT VALLEY ROAD.

MICHIGAN ASTRO-BUGS
59400 NINE MILE RD.
SOUTH LYON, MICH
                    48178

DETROIT, MI 481
P M
6
1983

Arcadian -Bob Fabris
3626 Morrie Dr.
San Jose, CA
                95127-9990