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><><   TRICKS OF THE TRADE   ><><
><><><><><   TUTORIAL #9   ><><><><><
><><><><><   MIKE WHITE   ><><><><><
><><><><><><   COUNTY LINE #2   ><><><><><
><><><><><><   R.D.#1 BOX 373   ><><><><><
><><><><><><   WAKEMAN , OHIO   ><><><><><
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## NT SHIFT

LAST MONTH I SHOWED YOU THE PROGRAM THAT DEMONSTRATES THE LIMIT OF "NT SHIFT". ADDING ZERO'S TO A PRINTED QUOTE OR 48'S TO "MU'S" ONLY ADDS NT VALUE TO THE TIMER. THE TIMER DOESN'T START OVER, OR RUN FOREVER. THE TIMER APPEARS TO BE AT %(20094) IN AB. IF YOU LOWER &(10), AND START A LONG NOTE PLAYING, THIS ADDRESS GETS VERY BUSY. NT HOWEVER, IS AT %(20058), AND IS TWO BYTES, NOT TO BE CONFUSED WITH THE TIMER WHICH IS ONLY ONE! ADDING "0'S TILL A NT GREATER THAN 255 IS REACHED, ONLY RESULTS IN THE UPPER BYTE BEING IGNORED. THE SECOND NOTE IN LAST MONTH'S DEMONSTRATER YIELDS A NT VALUE OF 44 (50x6-256=44). LASTLY, TRY THESE:

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10 NT=250;MU=66;GOSUB 40           10 NT=250
20 NT=300;MU=77;GOSUB 40           20 &(23)=-1
30 NT=0;STOP                       30 &(21)=-1
40 FOR A=1TO 1000;NEXT A;RETURN     40 IF KP NT=0

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THE FIRST PROGRAM GIVES A LONGER NOTE THE FIRST TIME IN ALL BUT AB. IN AB, THE 8TH BIT TURNS OFF THE SOUND VARIABLES, AND KILLS INDIRECT SOUND PORT ACCESS, AS THE SECOND PROGRAM SHOWS. ALSO, IF YOU WISH A NOTE TO PLAY LONGER THAN 4.3 SECONDS (EQUAL TO NT=255) USE DIRECT SOUND PORT ACCESS. THE CHARTS GIVEN IN THIS COLUMN THIS YEAR (AND IN THE ARCADIAN VOL.1) WILL HELP YOU.

## HIDE AND SURPRISE

THIS IS THE ART OF VIDEO MAGIC! TO BRING GRAPHICS TO THE SCREEN IN AN UNNATURAL OR UNUSUAL MANOR. IN AB + BB WE HAVE THE LINE AND BOX COMMANDS AS WELL AS THE "ON BOARD" CHARACTERS THAT WE CAN GET TO WITH THE PRINT COMMAND OR "TV=?". THESE LAST TWO METHODS HAVE THE PLEASANT FEATURE OF DISPLAYING A FAIRLY COMPLEX CHARACTOR, INSTANTLY! THE LIMIT OF COURSE IS TO THE "ON BOARD" CHARACTOR SET. "UNCONVENTIONAL" CHARACTORS ARE USUALLY BUILT ONE LINE OR BOX AT A TIME, WITH THE BUILDING BEING SHOWN. IN SOME CASES THAT'S DESIRABLE, BUT IN MOST IT ISN'T. FOR INSTANCE, WE HAVE A PROGRAM THAT LAUNCHES SKYROCKETS. EACH ROCKET DISSAPPEARS FOR A SECOND, AND THEN AN EXPLOSION IS SEEN. THE EXPLOSION MUST BE BUILT WITH RANDOM LINE COMMANDS, BUT NEEDS TO APPEAR ALL AT ONCE! IF YOU'VE SEEN FIREWORKS (BY ME) YOU KNOW WHAT I'M TALKING ABOUT. IF YOU HAVEN'T, SIMPLY ASK KEVIN O'NEILL OR MYSELF ABOUT NIAGARA BUGS CLUB TAPE! YOU WON'T BE SORRY!!

THE SECRET IN FIREWORKS IS THAT THE EXPLOSION GETS HIDDEN WHILE IT'S BEING BUILT! THE COLOR PORTS COME IN HANDY FOR THIS. BC=0 IN LINE #50 AND FC=0 AT THE START OF OUR DRAWING ROUTINE IN LINE #90. THE EXPLOSION BECOMES VISIBLE IN LINE #120. &(10) WILL DO THE TRICK ALSO, BUT TAKES A FEW MORE BYTES. IF THE BOTTOM OF THE SCREEN ONLY, NEEDS HIDDEN, YOU CAN'T DO BETTER. COUPLE ALL THAT WITH HIDING STUFF BEHIND &(9), EITHER BY FC=BC OR SETTING PORTS 0-3 ALL THE SAME, AND YOU HAVE THE TITLE CARTOON TO QUADRA (AFTER THE TAPE GETS STOPPED - 16K VERSION ONLY). THE TITLE DOES NOT GET REDRAWN, AS YOU MAY THINK! THE COLOR PORTS CAN ALSO DO "FADING". CHECK THIS OUT! (FROM STARBASE I):

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7 &(21)=0;FOR A=7TO 0STEP -1;FC=A;FOR B=1TO 15;NEXT B;NEXT A;
RETURN
8 FOR A=0TO 7;FC=A;FOR B=1TO 15;NEXT B;NEXT A;FC=F;RETURN
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THESE ARE THE TWO "MAGICAL" SUBROUTINES THAT CAUSE ONE SCENE TO FADE OUT, AND THE NEXT ONE TO FADE IN. CAN YOU REWRITE THESE SUBROUTINES TO BE MORE EFFICIENT? YOU SHOULD BE ABLE TO. SEE PAST ISSUES OF THIS COLUMN. ALSO, CAN YOU SEE A WAY OF FADING ONLY THE LEFT OR RIGHT HALF OF THE SCREEN? OR OF FADING TO WHITE?

THE "Q" CARTOON, (16K QUADRA) THAT RUNS AS THE TAPE IS STILL MOVING, CONTAINS THIS:

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260 GOSUB M;GOSUB 8;FOR F=0TO 7;FOR G=31TO 0STEP -1;FA=Gx8+F;
NEXT G;NEXT F;DATA CX,-9,8,5;TV=85;CX=3;TV=68;FOR F=7TO 0STEP -1
;FOR G=1TO 32;FA=Gx8+F;NEXT G;NEXT F;GOSUB 2
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THE FA COLOR IS FADED "SIDEWAYS" TO WHITE THROUGH ALL 256 COLORS. THE SPELLING GETS CORRECTED WHILE FA IS HIDDEN, (TV=85; TV=68 GIVES "UD"), THEN FA IS FADED "SIDEWAYS" IN TO BLACK. THIS ONLY LOOKS HARDER THAN THE SIMPLE FADE THAT GREG MIEJSKI DID IN STARBASE I, (AVAILABLE ON ASTRO BUGS CLUB TAPE #2 BY THE WAY). THE ONLY REAL DIFFERENCE WAS IN THE USE OF A 4 COLOR SCREEN (EB) AND THE "SIDEWAYS" LOOP THROUGH ALL 256 COLORS.

MOSTLY THOUGH, WHEN THE "Q" CARTOON GETS DEMONSTRATED, I AM ASKED ABOUT THE "SHRINKING" "Q". AN 8x SIZE "Q" DESCENDS TO THE CENTER OF THE SCREEN, WHERE IT IS LITERALLY BURIED IN CIRCLES OF 4 RANDOM COLORS. THE CIRCLES DISSAPPEAR, LEAVING A "Q" 4x SIZE!! A TEMPORARY BURIAL BY BOXES IN SIMILAR FASHION RESULTS IN A "Q" 2x SIZE. THEN, RANDOM LINES IN AN EXPLOSION LIKE PATTERN, REPEAT THE "SHRINKING" PROCESS AND A NORMAL SIZE "Q" IS THE END RESULT.

HOW? YOU MAY ASK? THE SECRET IS IN THE CIRCLES, BOXES, AND LINES, NOT WITH THE "SHRINKING" "Q". NEXT MONTH I'LL EXPLAIN IT. UNTILL THEN, REREAD PG.42 VOL.2 NIAGARA BUG BULLETIN!

ANOTHER THING I'M CONSTANTLY ASKED ABOUT IS THE "FLASHLIGHT EFFECT" IN SAFE CRACKER (16K QUADRA ONLY)! THE ROOM IS TOTALLY DARK EXCEPT FOR THE "FUSE TIMER" AND A FLASHLIGHT SPOT WHICH YOU MOVE AROUND WITH JOYSTICK + KNOB. IT REVEALS THE OBJECTS IN THE ROOM AS IT STRIKES THEM. HOW? NEXT MONTH ALSO! KEEP BUGGIN'!!!