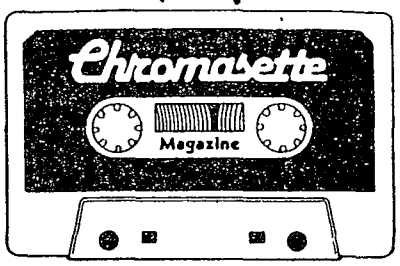

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OCTOBER 1981

Boo, boo, boo, boo, boo...

Appropriate words for Halloween - also for our continuing battle with cassette labels. Another funny looking batch coming up! Enough of that. Maybe we should just turn the shop into a costume gallery. Already the frames of soon-to-be papier-mache toucan and horse heads have appeared. Plans for a Statue of Liberty outfit are on one of the desks. And Tom just walked in with a green streak in his bright red hair...

Filename	English Translation	PMODE	PCLEAR	Locations
COVER124	1, 2, 4 Cover	3	4	8 & 132
MAGICSQR	Magic Square	(2)	(4)	26 & 149
MCJUMP	Motorcycle Jump	4	4	48 & 165
COEFF	Coefficient	Ø	1	7Ø & 183
TOWERINS	Tower Instructions	(2)	(4)	89 & 198
TOWER	Tower	3	4	1Ø1 & 2Ø8
PHONEWRD	Phone Words	(2)	(4)	12Ø & 224

Locations are for the R/S CTR-8Ø. If the first copy of a program won't load, try the second. If neither copy loads, return the tape for disciplining and a prompt replacement. PMODE and PCLEAR values in parentheses are not explicitly set in the programs and may have to be entered before loading or running the programs. Otherwise, an OM, FC, or SN error may occur. * These programs may use high speed. Be sure the computer is slowed down again before doing I/O to tape (POKE 65494,Ø). FIXES, ETC COVER 40595

First one symmetrical pattern appears. Then two identical symmetrical patterns show up. Since the title of this month's cover program is 1, 2, 4 Cover, can you guess what happens next?

Blue to red, red to blue. What's the difference? For one thing, you won't win Magic Square with blue squares showing. This program is a simple (but often frustrating) exercise in logic where you try to change all of the squares from blue to red by flipping a pre-defined set of the squares. There are nine different pre-defined sets, and by using a combination of these sets you can get all red squares. You should be able to, anyway.

Rev up the engine... back off Evil Knievel - let someone else break a few bones this time! You're about to try your hand at jumping 2Ø barrels! Don't accelerate too fast or you won't even make it to the ramp. Now you're flying over the barrels... now you're flying over the landing ramp... now you've passed the landing ramp - and you're still in the air! Happy - CRASH - landing!!! Let yourself heal, then try Motorcycle Jump again (consider starting with just one barrel).

Chomp, chomp, chomp. The sound of a number-crunching computer. And that's just what your computer will be when you run Coefficient. This program uses Cramer's rule to take any number of equations (up to 12) with the same

number of unknown variables and gives you the value of the unknowns. Cramer's rule is not one of the most efficient methods, but it is effective. Doing 3, 4, and 5 variable systems of equations are easily and relatively quickly done. However, even your CoCo will take about 12 HOURS to do a 7 variable system (by comparison, it would probably only take a couple of years to learn enough math to do the same system in a shorter period of time, and CoCo doesn't make mistakes). Anyone want to dedicate their machine for a few years to do 12 equations?

Tower takes incredible reflexes and a lot of luck. The object is to spin the gun in the center of the screen (using the left and right arrow keys) and blast the targets that flash around the screen (using the spacebar). Tower Instructions are separate because there wasn't enough room for them in the game without running out of memory in a 16K machine.

Do you have trouble remembering phone numbers? Let Phone Words show you all of the possible "words" that can be made from a phone number using the letters on the dial that are associated with each number. Let's see, our number is 963-1066. That works out to WOE-Battle of Hastings. I think it's easier to remember the number...

It's getting on my Nerves...

There were a few questions about the way the arrow keys moved the ball in last month's Nerves program. And this caused a few of you to think that your machine would not work in Vitamin E (high speed) mode. So let me try and clear up the arrow key functions a bit.

The ball starts out moving left-right. If it is moving left, hitting the right arrow STOPS the ball (does not move it right). Hitting the right arrow again moves the ball right (AHA!). Let's say that the ball is still moving left-right. If you hit the up arrow, the ball still moves left-right, but it is now also moving up. So it appears that the ball is moving at an angle. If the ball is moving left and up, then hitting the right arrow stops the left motion, but the upward motion is not affected and the ball goes straight up. Ok, now you find the ball stopped against a block that is at 2 o'clock from the ball. That means that the ball was moving right-up when it stopped. So to free the ball, you must either hit the left arrow (and the ball goes up) or the down arrow (and the ball goes right). Kinda like turning in the direction of a skid (or something else that doesn't relate).

If the high speed of Nerves didn't work on your machine, I told you to delete line 5. But I forgot to mention that you also had to change line 20000 to '20000 PMODE 1 : PCLEAR 2 : GOTO 6' or else you will get a UL error.

Speeding through another month...

Robert Prescott (La Puente, California), March 1981's Byte Magazine, and a local R/S Computer Center all gave me a bit more info on speeding your computer up (POKE 65495,0). For one thing, that POKE does not speed up addresses 0000-7FFF and FF00-FF1F, so that is probably why the 6821 chip that the keyboard uses wasn't affected (it is located between FF00-FF1F). Second, the 6821s are not the only chips that may not work in high speed. Also, the 6809 (the heart and soul of CoCo) itself may not like the speed-up. This ould mean that the computer would not work at all in the Vitamin E mode. Third, the newer Color Computers have both 68B21s and 68B09s, so they will work in high speed. Fourth, Radio Shack will NOT retrofit the faster chips on your older model without lots of money (if at all).

Fix it (get a hammer)...

The filename for last month's cover program should have been SEEKCOVR (not SEEKCOV as listed).

Base Guess gives an error to the 'Same Players?' question if you answer 'Y' unless you change line 1810 to: '1810 IF LEFT$(AG$,1)<>"Y" THEN 120 ELSE 580'.

Manual errors: On page 78 of the Extended manual, it is stated that 'G' is the highest note in octave 2. Actually, 'B' is the highest note in any octave. Also, the CSAVEM function on page 192 is described incorrectly. It must be in this form:

CSAVEM "filename",beginning address,ending address,entry point

The filename can be a string variable and the addresses MUST be in decimal form. OR HEX.

In July, 1981s issue, I described how to pack strings with graphic information and/or machine language routines. I warned against putting a '0' in the string. But I didn't say anything about packing a 34 (") in the string. Don't do it!

PMODE and PCLEAR runaround...

The PMODE and PCLEAR commands in Extended BASIC cause more than a few problems. Sometimes you get an FC error, sometimes you have to type 'RUN' twice, and other times the program won't even load do to the PMODE or PCLEAR that has already been set in the machine being incompatible with the PMODE or PCLEAR used by the program. The Sept/Oct issue of Color Computer News gave a method of writing programs so that these problems are minimized (but not obliterated):

First, I always turn the computer off and then on before loading in a new program. In this mode the computer is its most forgiving and nearly everything will run. Programs are often written expecting this configuration at first.

Second, if you are going to PCLEAR less than 4 pages, then have your program do the PMODE first. Otherwise, do the PCLEAR first.

Now comes the fun part. After PCLEARing the right amount of pages, you want your BASIC program to start right after the last PCLEARed page in memory. The computer will move your BASIC program to the right spot, but it won't change the pointer to the beginning of the program. But if you follow the PCLEAR in your program with a reverse referencing GOTO (DON'T use GOSUB - the stack is wiped out), that flaky pointer will be set. If you look at lines 1 to 5 in Motorcycle Jump, you'll see what I mean:

```
1 GOTO 3 : REM SETTING UP A REVERSE REFERENCE
2 GOTO 5 : REM TO START THE PROGRAM AFTER THE PCLEAR
3 PCLEAR 4 : PMODE 4 : GOTO 2 : REM PCLEAR THEN A REVERSE GOTO TO 2
5 REM : etc., etc., etc..... rest of program
```

Last month's Nerves also used this technique, but since less than four pages were PCLEARed, the PMODE and PCLEAR commands were put at the end of the program:

```
1 GOTO 20000 : REM SET UP THE REVERSE REFERENCE
5 REM : rest of program
.
.
20000 PMODE 1 : PCLEAR 2 : GOTO 5 : REM PCLEAR AND A REVERSE GOTO
```

As you may have gathered, if you plan to PCLEAR less than 4 pages, put the PMODE and PCLEAR at the end of the program so you won't overwrite part of your program. Otherwise, put it at the beginning.

Note - I just looked at this month's Coefficient again, and I violated two of the above rules. 1) The PCLEAR is before the PMODE and only one page is being PCLEARed. 2) The PCLEAR and PMODE are in the beginning of the program and less than 4 pages are being PCLEARed. You will probably get an FC error when you try to RUN this program unless you set the PMODEs and PCLEARs explicitly or (better yet) you turn the computer off and on before loading in the program.

More wishes granted....

A few of you have asked for some method of taking drawings created with August 1981's Drawer program and loading them into other programs. Below you will find a little subroutine that will load a graphic saved from Drawer into some other program. A couple of things to mention first, however. Be sure that your drawing was created in the same PMODE as the PMODE used by your own program and that your program starts at graphics page 1 or wierd things could happen. Also, your drawing will be redrawn at the position on the screen that it was originally drawn. If you want it moved, you should change the value of SB or go back into Drawer, move the drawing, and save it to tape again.

```
???? GOSUB 10000 : REM DO THIS SOMEWHERE IN THE PROGRAM
.
.
10000 SCREEN 1,0 : REM OR DO A 'SCREEN 1,1'
10010 PM=(PEEK(65314) AND 112)/16-3 : REM GET PMODE
10020 IF PM=0 OR PM=2 THEN BA=16 ELSE BA=32 : REM BYTES PER LINE
10030 SB=1536 : REM START OF GRAPHIC SCREEN MEMORY
10040 OPEN "I",-1,"GDAT" : REM OPEN THE FILE SAVED BY 'DRAWER'
10050 INPUT#-1, XU, XD, YU, YD : REM GET THE GRAPHIC BOUNDRIES
10060 PL=YU*BA+SB : REM START OF GRAPHIC ON SCREEN
10070 FOR I = YU TO YD : REM NUMBER OF GRAPHIC LINES
10080 FOR J = XU TO XD : REM NUMBER OF GRAPHIC BYTES ACROSS
10090 INPUT#-1, Q : REM GET A GRAPHIC BYTE
10099 REM CHECK FOR GRAPHIC BEING WITHIN PCLEARED PAGES
10100 IF PL+J<1536 OR PL+J>=256*PEEK(25) THEN 10120
10110 POKE PL+J, Q : REM PUT THE GRAPHIC BYTE ON THE SCREEN
10120 NEXT J : REM GET ANOTHER BYTE ACROSS
10130 PL=PL+BA : REM MOVE DOWN A LINE
10140 NEXT I : REM GO DO THE NEXT LINE
10150 CLOSE : REM SHUT THE FILE DOWN
10160 RETURN : REM BACK TO THE PROGRAM
```

The computer has snapped...

To see little CoCo's video go berserk, just enter and run the next few lines. The routine tends to scramble the computer's current graphic display mode.

```
10 CLS
20 FOR K = 0 TO 1
30 FOR I = 1 TO 255
40 POKE 65314,I : REM SCRAMBLIN'
50 FOR J = 1 TO 100 : NEXT J
60 POKE I+1024+(256*K),I : REM WRITE SOMETHING TO SCRAMBLE
70 NEXT I : NEXT K : GOTO 20
```

Just a minute there, buddy...

Are you one of those COMPUTER FREAKS that likes to have full control of your machine when you diddle with it? If so, the auto-execute built into those R/S cartridges probably tweeks your nose a bit. Well, Ron Garrett of Henderson, Texas discovered that if you 'POKE 65315,184' and then 'POKE 65314,6' you can disable that auto-execute. Then to execute the cartridge, just type 'EXEC 49152'<enter>. There are problems, however. The cartridges I tried to execute after disabling the auto-irritation came up with funny colors and graphic modes upon execution. So this technique may only be good for those times when you want to diddle rather than actually run the cartridge program.

Now if I can get my broomstick started, I'm gonna fly outa here 'till next month.

Trick or Tweek,

Dave

ed.