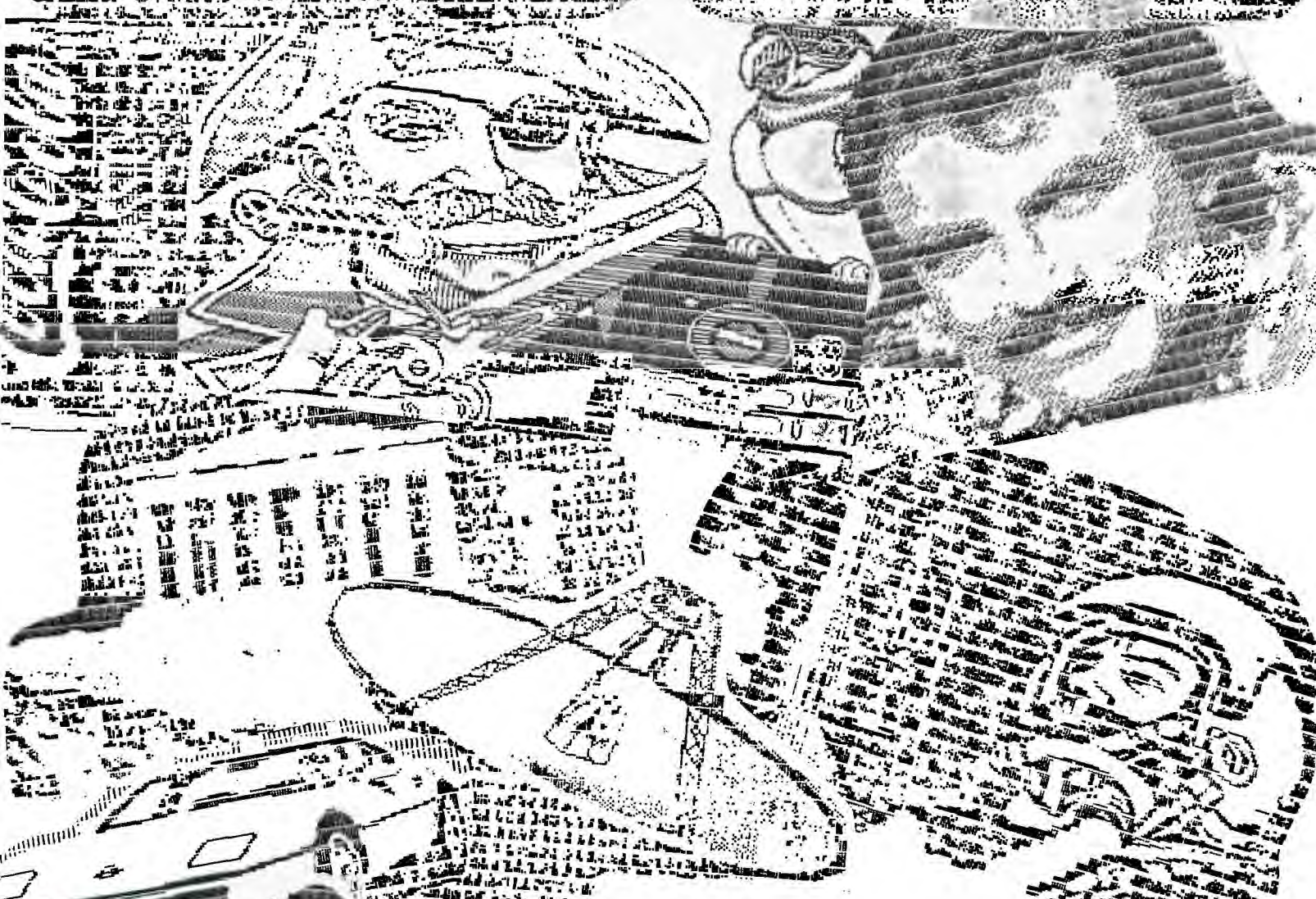


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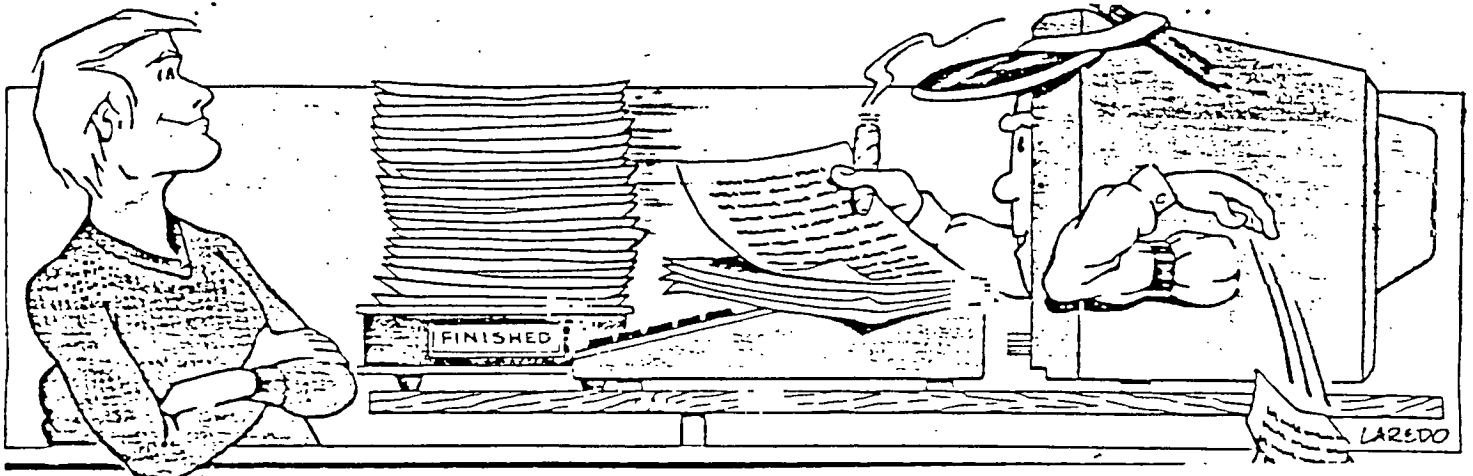
VICTORIA



EXHIBITION

1874

EDITOR BIT



As the color graphic utilities of the home computer is becoming more and more prevalent. Some TI 99/4A programmers are keeping pace, with the ever changing libraries of powerful, yet user friendly program, for creating one's own pie graph or drawing a replica of you favorite movie star.

The graphic programs I speak of are TI ARTIST by Chris Faherty, GRAPHX from Australia and JOY PAINT/JOY PAL by Great Lake Software. Without seeming prejudice to any one single program, I will try to point out some of the great and maybe some of the not so great features of these programs.

First, I would like to say that my experience with Graphx is limited, because I own an OKIDATA printer and Graphx does not want to draw to my printer. However with a new program out called MAXRLEXB you can change from Graphx to TI Artist format and vice versa. The conversion utility of TI Artist II allows Graphx format to be loaded and then saved to Artist format. So printing is no longer a problem with graphx for okidata owners. JoyPaint/Pal also will not print to an Oki but with a little finesse and some juggling you can get a hard copy. With most major computer companies boasting the revolutionizing "Mouse", all three of these program incorporate the use of the joystick. The joystick is used to select different functions from the main menu of the program to create your work of art.

Special features that TI Artist utilizes is the ability to expand a single type font into 81 different type sizes, different brush strokes and fill patterns. Graphx features a clip-board format which enables animation and the use of virtually unlimited character fonts. JoyPaint/pal has a reduction and expansion feature. Which allows one to make blow-ups of a certain section of a picture. JoyPaint also has an eraser that allows you to make on screen corrections without wiping out your entire drawing.

TI ARTIST II saves its screens into two files, both in "program format". It stores the actual screen designs in a file annotated with "_P" (when you save the file with Artist, you are allowed to enter up to an 8-character filename, not 10; the program then annotates the suffix on), and the color scheme of the graphics is saved as a file

annotated with "_C". Both files are 25 sectors long.

GRAPHX, saves it's screen files in a single file, again (luckily) in "program" format, and 54 sectors long.

JOYPAINT, saves it's files in Int/Var 128 format. JOYPAL will save the file in Int-Var 128 or "Program" format, and 25 sectors long.

By the use of the program MAXRLEXB, or the Conversion utility of TI Artist II, pictures from TI Artist can be saved in Graphx format or vice versa. With these marvelous utilities, animation can be brought to the brush strokes, lines, rays and character fonts drawn by TI Artist. JoyPal can be loaded to TI Artist by saving your drawing in the "program" format (select "save any") and loading them to TI Artist by the number 4 option of the conversion utility, then doing your final work with TI Artist. JoyPaint must be save to JoyPal then follow the JoyPal transfer to swing the drawing into TI Artist format to complete final touches.

TI Artist II allows you to create and save slide graphics of character fonts. This option allows a person to reuse portions of a picture, save them and recall them back to the screen to be placed anywhere that the artist desires.

The three graphic programs that I have tried to discribe are interchangeable with each other. Though these program were written seperately and mile apart, when interchanged with each other they will give your 32k homeless kid one of the most powerful graphic creating program in this ascii world of ours.

The limitation of using your TI 99/4A to draw and create pictures will only be limited by your own imagination.

TEXAS INSTRUMENTS PHONE NUMBERS

I WOULD LIKE TO PASS ON TO OUR READER SOME PHONE NUMBERS THAT WERE SENT TO ME THROUGH A NEWS LETTER CALLED "HUG"(HOUSTON USER GROUP). THESE HAVE NOT BEEN CHECKED OUT BY THEIR MEMBERS BUT THEY SAY, AND I QUOTE, I SUSPECT THEY STILL ARE, AS TI HAS BEEN VERY GOOD ABOUT STAYING WITH THEIR COMMITMENT TO SUPPORT THE 99/4A.

TI CARES.....1-800-842-2737
TI RESPONSE.....1-800-232-3200
TI SUPPORT.....1-800-858-4565
BUSINESS COMPUTERS..1-800-847-2787
SOFTWARE.....1-800-858-4075
TECHNICAL.....1-800-741-2663
MANUALS AND PARTS...1-800-741-3064

And speaking of TI, the date for the Fest West '87 in LA has been changed to the 16th and 17th. This editor is going to try and make this one.

TI HOME SECURITY
from WINNIPEG 99/4A U.G.NOV/85
Author: Rick Lunsden

The program listed allows you to use your spare TI console as a burglar alarm with very little investment except for a bit of time.

The actual program is very simple and can be modified to suit your own particular needs. This particular version is a lot of statements to allow you to see what is going on in the program while running a demonstration. These, however, can be removed quite easily with no effect on the operation of the program. Just a few cautions though. Understand the program first before making any drastic changes joystick "direction" as the entry keyswitch (e.g. If you use the up position for the keyswitch do not use this direction for the perimeter loop even if it is on opposite joysticks). the program is set to use the up position of joystick 2 for the entry keyswitch and the down position of joystick 1 for the perimeter loop. Remember, this program will run as a stand-alone routine but is intended to be modified or totally re-written by yourself to suit your particular job. The intention of this program was to be as simple as possible and not require any peripherals or modules. most of us have a second console so here is a good use for it other than as a paper weight.

COMPONENTS:

To set the alarm you will need the following:

1. TI console
2. Normally open magnetic switches for each door on the particular loop. (Radio Shack #49-495 or #49-497) NOTE: With changes to the program (using the fire buttons and other joystick positions) you may add other protection loops but you must ensure that you have one switch per loop with the normally closed switches. Of the normally open switches you may use as many of them, on a loop, as you wish.
3. Entry keyswitch (radio Shack #49-515) or a hidden SPST toggle switch.
4. An audio amplifier and speaker(s). -Your stereo amplifier will work just fine, but the alarm will only be sounded in your house.
5. A cable to hook the audio-out port from the console to the amp. (If you have a monitor cable these will work fine. Some are available for the TI from Super Valu stores for \$10.95).
6. Joystick connector. (Radio Shack #276-1538).
7. Hook-up wire.

To run a simple demonstration of the program, you will need two joysticks and your TV or monitor.

RUNNING THE PROGRAM

First, you may want to set the delay variable in line 150 and 160. Line 150 is the exit delay variable.. This allows you time to leave the house after you turn on the keyswitch (arm the system). If you mount the keyswitch outdoors, then set this variable to 1.

The variable in line 160 sets the entry delay. This one allows you time to enter the house and disarm the system with the keyswitch before the alarm sounds. Remember to set this one on the fast side, because it also delays in the event of a break-in.

When you type "RUN", the words "PLEASE REMOVE ALPHA LOCK" and "PRESS 'C' TO CONTINUE" appear. Follow the instructions, and next comes "PERIMETER CHECK (Y/N)?". If you press "Y" the program jumps to line 700 and checks joystick 1 for any openings in the protection loop (i.e Not in the DOWN position). If an opening is found the program sounds a

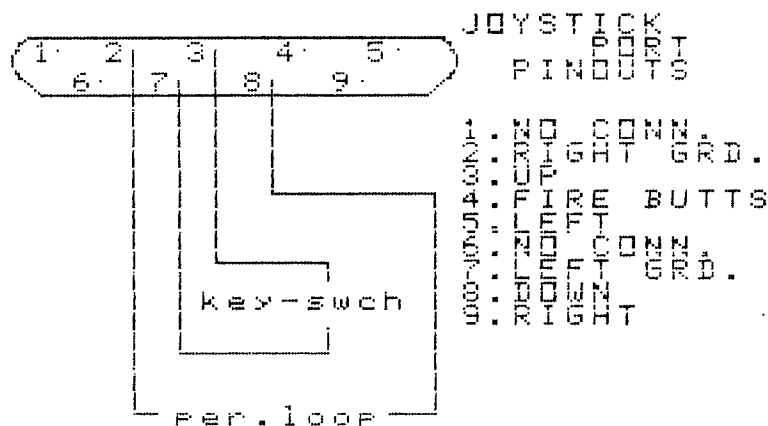
warning and tells you to check and remedy the situation. Do this by moving J1 to the down position and holding it there. Now push the "R" key and the program goes back to line 310 and sounds the O.K. chime.

The word "UNARMED" appears and tells you that the system is now ready for input from the keyswitch. When you turn the keyswitch on (by holding J2 in the UP position and J1 in the DOWN position) the program goes to the exit delay loop. This loop allows you to leave your home without triggering the system. Once this times out the program goes to the exit delay loop. this loop allows you to leave your home without triggering the system. Once this times out the program begins looping and checking each of the joysticks for a change of state.

If J1 suddenly becomes open the program moves to the entry delay loop. This delay allows you to enter your home and disarm the system with the key switch, before the alarm is sounded. If the timer times out (e.g. break-in) the program now sounds an alarm. You can simulate this by letting J1 return to the centre position. Even if you were to close the door now it is too late, the timer is running down and the only way to stop it is to disarm the system.

FINAL COMMENTS

Any number of changes and additions can be made to the program, limited only by your imagination and your requirements. The intention of this routine was to give you an idea of what is possible. There are also heat detectors available that work on the normally open and normally closed switch principles, so a fire alarm can also be added.



```

100 REM BURGLAR ALARM PROGRAM
110 REM FOR THE TI HOME COMPUTER
120 REM A PUBLIC DOMAIN PROGRAM
130 REM WRITTEN BY R. A. LUMSDEN
140 REM
150 ENDEL=1000
160 EXDEL=1000
170 SKIPD=1
180 CALL CLEAR
190 PRINT "PLEASE REMOVE ALPHA
    LOCK"
200 PRINT
210 PRINT
220 PRINT "PRESS 'C' TO CONTINUE"
230 CALL KEY(3,N,N)
240 IF N=0 THEN 230
250 IF N(>)67 THEN 230
260 CALL CLEAR
270 PRINT "PERIMETER CHECK(Y/N)?"
280 CALL KEY(3,L,T)
290 IF T=0 THEN 280
300 IF L=89 THEN 730
310 IF L(>)78 THEN 280
320 CALL SOUND(1000,440,0,330,5)
330 CALL CLEAR
340 PRINT "UNARMED"
350 CALL JOYST(2,X,Y)
360 IF Y(>)4 THEN 350
370 IF SKIPD>1 THEN 400
380 GOSUB 660
390 SKIPD=SKIPD+1
400 CALL JOYST(1,A,B)
410 IF B=-4 THEN 350
420 CALL CLEAR
430 PRINT "ALARM TRIPPED"
440 PRINT
450 PRINT "ENTRY DELAY INITIATE"
460 FOR ENTRDEL=1 TO ENDEL
470 NEXT ENTRDEL
480 CALL JOYST(2,X,Y)
490 IF Y=0 THEN 330
500 FOR LOOP=1 TO 5
510 FOR SIREN=700 TO 900 STEP -12
520 CALL SOUND(-99,SIREN,0)
530 NEXT SIREN

```

```

570 NEXT LOOP
580 CALL CLEAR
590 PRINT "ALERT!!!!!!"
600 PRINT
610 PRINT
620 PRINT "ALARM TRIPPED"
630 PRINT
640 PRINT "PLEASE RESET"
650 END
660 CALL CLEAR
670 PRINT "EXIT DELAY INITIATED"
680 FOR DELAY=1 TO EXDEL
690 NEXT DELAY
700 CALL CLEAR
710 PRINT "ARMED"
720 RETURN
730 CALL CLEAR
740 CALL JOYST(1,A,B)
750 IF B=-4 THEN 320
760 CALL SOUND(1000,-2,0)
770 PRINT "BREAK IN PERIMETER
    CIRCUIT"
780 PRINT
790 PRINT "PLEASE CHECK"
800 PRINT
810 PRINT "PRESS 'R' TO RECHECK"
820 CALL KEY(3,K,S)
830 IF S=0 THEN 820
840 IF K=82 THEN 730
850 IF K(>)82 THEN 820

```

VCR TITLE SCREEN PROGRAM IN BASIC

by John Hedstrom

This is a simple program to title vcr taps. It allows six lines of text (at rows 5,6,11,14,17,20) and 28 characters per lines. To skip a line, press ENTER to pprint a quotation mark, type in 3 of them consecutively. The program will center each line horizontally and will then draw a border which looks like a filmstrip. The border uses the cursor which is ASCII code #30 and it remains black. The computer can be hooked up to the VCR via the vhf antenna input (with modulator cable and VCR set to tuner) or via the video In input (with monitor cable and VCR set to line) and the title screen can then be taped for any length of time. Try experimenting with yourself on TV. Who knows maybe there is something more to computing then running programs.

```
100 REM VCR Title Screen
110 REM by John Hedstrom
120 REM
130 CALL CLEAR
140 INPUT "SCREEN COLOR?_":S
150 INPUT "foreground color?_":F
160 INPUT "LINE #1?_":L1$
170 INPUT "LINE #2?_":L2$
180 INPUT "LINE #3?_":L3$
190 INPUT "LINE #4?_":L4$
200 INPUT "LINE #5?_":L5$
210 INPUT "LINE #6?_":L6$
220 T1=(30-LEN(L1$))/2
230 T2=(30-LEN(L2$))/2
240 T3=(30-LEN(L3$))/2
250 T4=(30-LEN(L4$))/2
260 T5=(30-LEN(L5$))/2
270 T6=(30-LEN(L6$))/2
280 CALL CLEAR
290 CALL SCREEN(S)
300 FOR C=1 TO 12
310 CALL COLOR(C,F,1)
320 NEXT C
330 PRINT TAB(T1);L1$:::TAB(T2);L2$:::TAB(T3);L3$:::TAB(T4);L4$:::
TAB(T5);L5$:::TAB(T6);L6$:::
340 CALL HCHAR(1,1,30,32)
350 CALL HCHAR(24,1,30,32)
360 CALL VCHAR(1,1,30,24)
```

PURPOSE - To provide the following:

1. R/F interference isolation, line transient and power line surge or dropout protection.
2. A single unit having sufficient AC receptacles so that all peripherals and a computer may be plugged in.
3. A delayed application of power to the computer's outlet, to ensure that it comes on last.
4. A single switch, on one unit, may be used to power up the whole system in sequence.
5. A regulated power supply for an external disk drive.

A single transient (spike) or surge on a power line can wipe out hours of work on a personal computer. Item 1 above is therefore the most important reason for this type of unit. The remaining items are mainly for convenience, but once you've used such a unit, you'll hate to be without it.

This unit can be built to satisfy anywhere from one, to "all of the above" purposes. A simple outlet strip or duplex receptacles in a metal box with Metal Oxide Varistors(MOV's), wired across the lines would represent the minimum. A fuse or breaker, a switch and some R/F filtering is also desirable. The unit described was made up to do "all of the above", using parts that were already on hand, as much as possible. This worked out quite well, as a large well ventilated case was available, along with some rather large relays and transformers. Other arrangements, and buying new smaller parts, would enable making the unit much smaller, if desired.

Note: Before attempting to build such a unit, make sure that it is planned and built in an electrically safe and sound manner. Get help if necessary to avoid creating a shock or fire hazard!

References:

- Radio Electronics Sep '83 page 57 "Transient Suppressor"
- Apr'84 page 14 "Safety of above Circuit"
- May'84 page 21 "Improved Circuit"
- May'82 page 54 "Power Switches"
- Oct'85 page CD8 "Use MOV's"

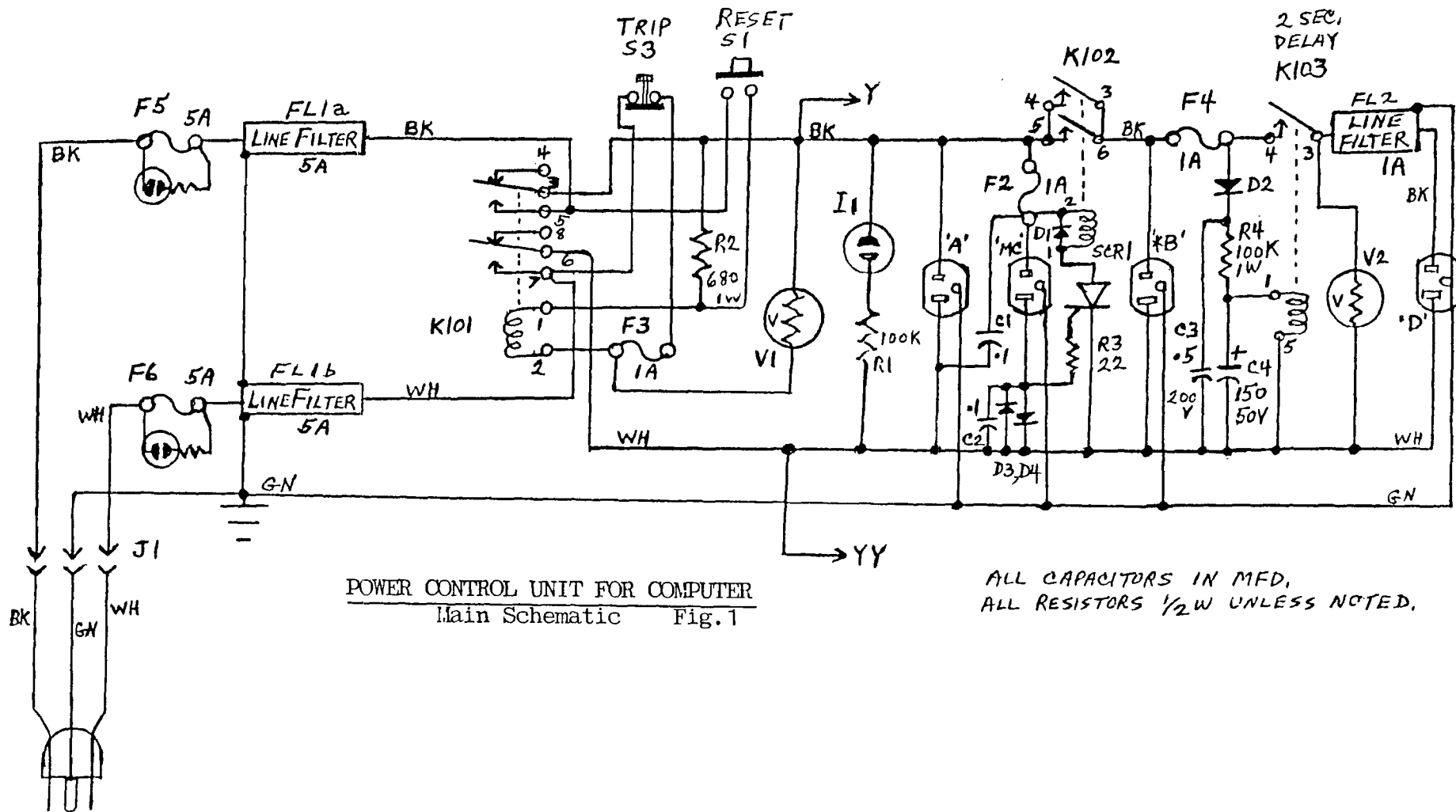
In the accompanying main schematic, AC power from the 3 prong plug goes through the main fuses, F5 and F6 to the two line filters and then to the Main Power Relay, K101. Neon fuse alarms, to indicate a blown fuse, are built into the fuseholders for F5 and F6, but are not essential. When "Reset" switch S1 is pressed, K101 energizes and stays on until either the "Trip" switch is pressed, or the line voltage drops below roughly half of normal. Resistor R2 is selected by trial with the relay used to achieve this. Thus, in the event of a power failure or "brownout", the relay will drop out and keep equipment power off until you press "Reset". With K101 energized, power is now supplied to one duplex receptacle "A", and via switch S2 and fuse F1, to the optional Disk Drive Power Supply, shown on the 2nd schematic. Indicating neon lamp I1, shows equipment power is on.

The MOV marked V1 will protect against spikes or transients. If an excessive transient should cause F3 to blow, the main relay will drop out, removing equipment power and protecting from further transients until fuse replacement, possible V1 replacement, and pressing "Reset". Half of a split duplex receptacle, marked "MC", or "Master Control" is connected in a circuit that will sense when current is being drawn by the unit plugged into "MC". This circuit comprises relay K102, SCR1, R3, D1, D3&4, C1, C2, and F2. When the unit plugged into "MC" is switched on, about 0.7V is applied to the gate of SCR1 turning it on each alternate half cycle, thereby energizing K102. The contacts of K102 then supply power to the controlled outlets marked "*B". These are two duplex receptacles allowing 4 units to be plugged in. Power is also supplied via F4 to a time delay relay circuit, K103, D2, C3, C4 and R4. K103 is a sensitive "plate" circuit relay which energizes in approximately 2 seconds as determined by C3 and R4. When K103's contacts close, power is supplied to half of the split duplex receptacle marked "D" for "Delayed Power". Another MOV marked V2, and another R/F filter (rated 1A), further protects and isolates this outlet, which is meant for the computer console. The accompanying Disk Drive Power Supply is quite conventional. Two transformers were used rather than one, because they were "on hand". Generous heat sinks should be used on the voltage regulator IC's. By adding another 7812 voltage regulator circuit, it could supply enough current for two conventional Disk Drives. As shown, it hardly gets warm supplying one drive. The pins of J2 are marked for a particular 5 pin receptacle that was used for the power supply end of the cable. The other end has the conventional 4 pin Disk Drive power connector plus a 3/16 inch "Faston" push-on connector for the chassis ground. Although not shown, two additional MOV's could be fitted for extra protection. These would be connected between the safety ground terminal and the white wire of receptacle "A", and between safety ground and the black wire of this receptacle.

In use with my TI-99/4A System, I have the Peripheral Expansion Box (PEB), plugged into "MC", and the computer console into "D". My printer, a Smith-Corona "Messenger" series typewriter, is plugged into "A", along with my Cassette Recorder. My monitor, a TV set, is plugged into "*B", along with my modem. Two outlets are available for future items.

In normal use, I switch on the PEB to energize the whole system. My typewriter is left switched off, but plugged in, and may be used with the computer off. When not likely to need the system on for some time, I press the "Trip" switch to kill all power.

Many parts may be substituted for those shown, but make sure they are equivalent, or better. For example, a single Radio Shack EMI/RF Filter (273-103) may be substituted for the 2 separate units shown as FL1a and FL1b. FL2 could be omitted, if desired. Also ensure that you use hookup wire adequate for the current and voltages in use. If your system uses more current, use fuses and line filters rated higher than shown.

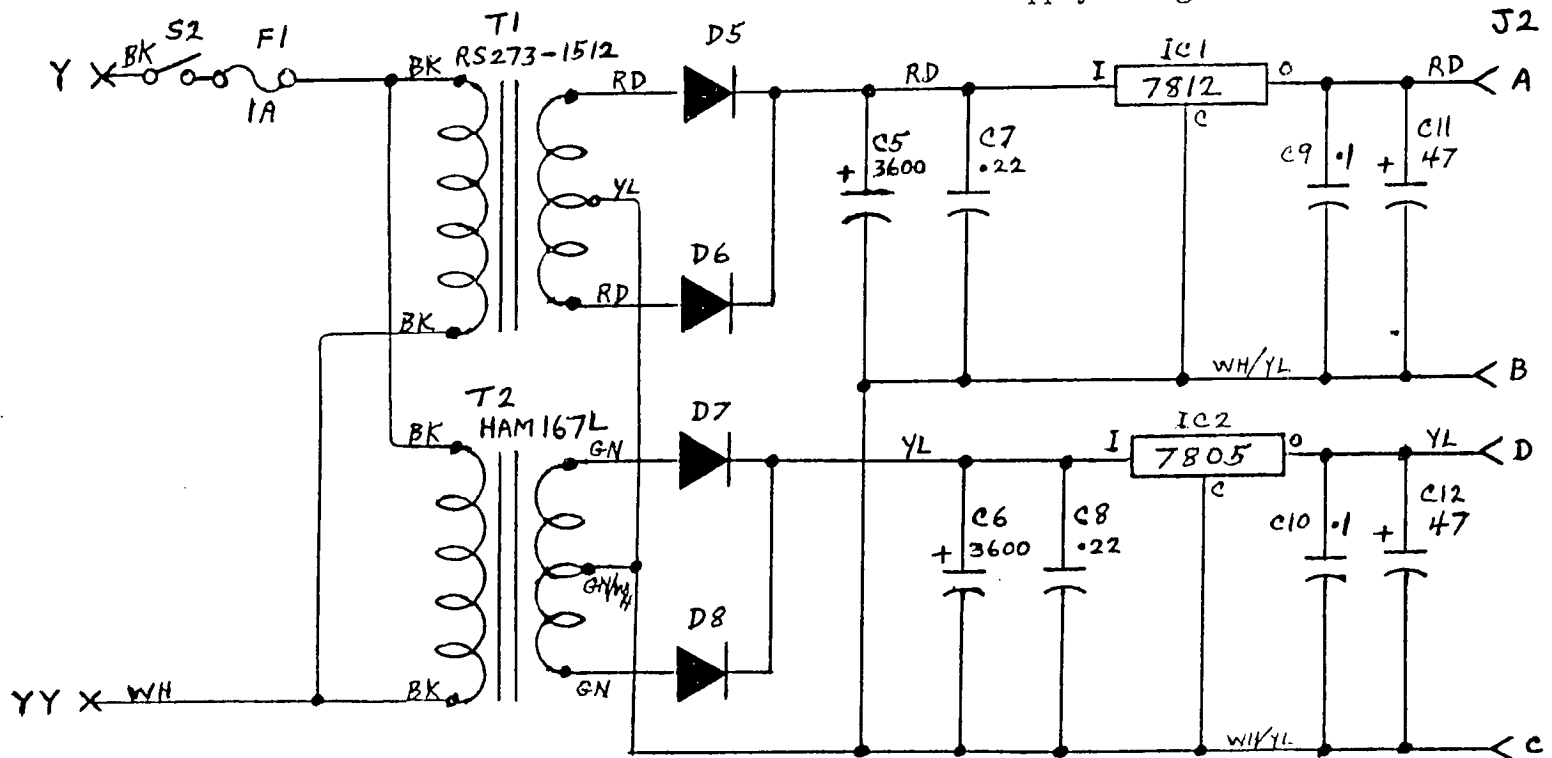


POWER CONTROL UNIT FOR COMPUTER
Main Schematic Fig. 1

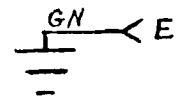
ALL CAPACITORS IN MFD,
ALL RESISTORS 1/2W UNLESS NOTED.

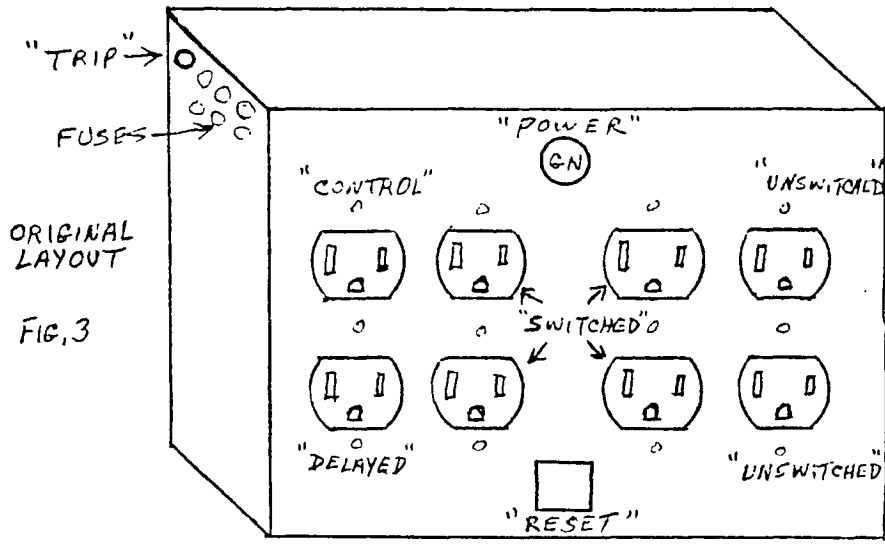
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POWER CONTROL UNIT FOR COMPUTER
Disk Drive Power Supply Fig.2



T1 = 25VCT @ 2A
T2 = 12VCT @ 1A
D5-8 = 1N4141-3A/200PIV
ALL CAPACITORS IN MFD,
AND RATED 20V OR HIGHER.





ORIGINAL LAYOUT
FIG. 3

POWER CONTROL UNIT

PARTS LIST

C1,2	0.1MF 200V	D1,2	1N4005
C3	0.5MF 200V	D3,4,5,6,7,8	1N4141
C4	150MF 50V	F1,2,3,4	1A
C5,6	3600MF 20V	F5,6	5A
C7,8	0.22MF 75V		
C9,10	0.1MF 75V		
C11,12	47MF 20V		
FL1a,b	Filter, RF3287-3 (RS273-103)		
FL2	Filter, Sprague JX64B		
I1	NEON LAMP Assy. 115V		
IC1	Voltage Reg. 7812		
IC2	Voltage Reg. 7805		
J1	CHASSIS MTG AC PLUG		
J2	5 PIN "AN" CONNECTOR (Optional)		
K101	115V AC COIL, DPDT 10A		
K102	OSBORNE 115V AC or 560 ohm DC, DPST		
K103	SIGMA 5RJ 10,000G SIL, SPDT		
R1	100K 1/2W		
R2	680 1W		
R3	22 1/2W		
R4	100K 1W		
S1	Switch, Push Mom. N.O. 3A, RS275-1566		
S2	Switch, Slide 3A, SPST		
S3	Switch, Push Mom. N.C., Armaco SB2192		
SCR1	SCR 3A 200PIV		
T1	25VCT at 2A, RS273-1512		
T2	12VCT at 1A, HAM 167L		
V1,2	MOV, GE V130LA10A or RS276-570		
Misc.:	Hookup wire, Line cord and plug, 4 duplex receptacles, case, Disk Drive power plug and wire, fuseholders, etc.		