

THE STRIPPER

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OPERATING INSTRUCTIONS

The Stripper is a very useful tool for reducing the size and increasing the running speed of TRS-80 Color Computer Basic programs. The Stripper is an assembly language program which can be loaded into any protected area of memory. It provides three commands: 1) delete remarks; 2) pack lines; 3) remove blanks.

The procedure you should follow to use The Stripper is:

- 1) Thoroughly debug Basic program
- 2) Save a copy of unstripped Basic Program
- 3) Load The Stripper utility
- 4) Execute The Stripper and use desired commands
- 5) Save stripped Basic Program to cassette or disk
(Do not save with Ascii option)

Should you need to make changes in the stripped Basic Program reload the UNSTRIPPED version, make the changes in it and then repeat the above procedure to make a new stripped version.

PLEASE NOTE: You should ALWAYS keep a separate master copy of any program reduced by the Stripper. This master copy should be used when corrections and changes are required. The version produced by The Stripper should be considered a "run time" version only. There are several reasons for this. For one thing lines that are packed together may be too long to edit. Another factor is that in some cases editing lines from which The Stripper has removed blanks may affect the operation of that line. More detailed explanations of these factors will be given further on. Just remember; DON'T EDIT A PROGRAM REDUCED BY THE STRIPPER!

LOADING THE STRIPPER

The Stripper is loaded using the CLOADM command. If you have only the regular Color Basic you will have to load The Stripper into "high" memory which you have protected using the CLEAR command. In this case skip the section on loading into "low" memory. If you have Extended Color Basic you have two choices on where to load The Stripper -- either into "low" (i.e. graphics memory) or "high" memory. It is easier and simpler to load it into graphics memory.

LOADING INTO "LOW" MEMORY (Extended Color Basic only)

By "low" memory we mean that area of memory used by Graphics Page 1. This is the area of memory from 1536 to 3072. Unless you are actually using it for graphics this space is always protected, and therefore a good place to load The Stripper.

The Stripper is designed to load into this area so all you have to do is insert the cassette containing The Stripper and type the following command:

```
CLOADM *STRIPPER*
```

Once the program has loaded all you need to do to execute it is to type the command:

```
EIEC
```

A menu detailing the various options available should be displayed at this time. Proceed to the section "Command descriptions"

LOADING INTO "HIGH" MEMORY

By "high" memory we mean any area above the program area which has been protected by a CLEAR command. For example the command

```
CLEAR 200,11999
```

protects all of memory from 12000 on up. The Stripper could therefore be loaded starting at 12000. To do this the CLOADM command would be used. The following command would load The Stripper at memory location 12000:

```
CLOADM "STRIPPER",10464
```

What is that 10464? Shouldn't it be 12000? The answer is no and here is why. The Stripper is normally set up to load at memory location 1536. The CLOADM command will load it at 1536 unless you specify an OFFSET which you want to ADD to the normal load point.

$$1536 + 10464 = 12000$$

Hence it would be loaded at 12000 when you specify an offset of 10464. So no matter what actual memory address you want to load the Stripper at remember that you must subtract 1536 to get the offset to use in the CLOADM command. To load it at memory address 13000 you would use an offset of 11464.

Where ever you decide to load it remember two things. First you must have protected that area with a CLEAR command. And only there must be enough room for The Stripper program itself. The Stripper is 1536 bytes long. For a 16K RAM system the highest memory address at which you can load The Stripper is 14847. This would require a CLEAR 200,14846 command before loading.

Once it is loaded all that is necessary to execute it is to type the following command:

```
EXEC
```

A menu of options should appear. Proceed to the next section for a detailed explanation of these options.

```
*****
```

COMMAND DESCRIPTIONS

Upon execution of The Stripper the following menu will be displayed:

```
THE STRIPPER
```

```
(C) 1981 EIGEN SYSTEMS
```

```
BASIC PROGRAM SIZE xxxxx
```

```
OPTIONS
```

- 1 - DELETE REMARKS
- 2 - PACK LINES
- 3 - REMOVE SPACES
- 9 - EXIT

Entering the appropriate number will execute the corresponding option. While an option is executing the message "ONE MOMENT PLEASE" will appear on the screen. For large programs it might take 1 to 2 minutes for a command to complete. As a general rule removing remarks and spaces before packing lines will result in the most efficient reduction.

The current size of the Basic program is displayed whenever the menu is presented. This allows you to track how the various options are changing its size.

1) DELETE REMARKS

Selecting this option will cause ALL remarks in a program to be removed. This includes those beginning with REM as well as those using the abbreviated form "". If an entire statement is a remark the rest of the program will be searched to see if there are any branches to it. If any references are found to the line number being removed the reference will be changed to point to the next consecutive statement. The following example illustrates a before and after situation:

BEFORE

```
10 REM TEST PROGRAM
20 INPUT A : 'GET NUMBER
30 PRINT "SQR = ";A*A
40 GOTO 10
```

AFTER

```
20 INPUT A
30 PRINT "SQR = ";A*A
40 GOTO 20
```

Complicated situations such as ON GOSUB, ON GOTO, IF THEN ELSE, etc are also handled. If the last line is a remark which is referenced elsewhere in the program then it will not be removed.

2) PACK LINES

Executing this option will cause individual statements to be packed into multiple statement lines where possible. This is advantageous since each line that we reduce saves 4 bytes. In large programs this packing of lines can result in significant savings of memory. Our example program above would look like the following after packing:

```
20 INPUT A:PRINT "SQR = ";A*A:GOTO 20
```

Obviously the situation can get a lot more complicated than this. Here are the rules the program uses to decide whether 2 lines A and B can be added together.

B will be added to A if the following conditions are met:

- combined length is less than 255
- Line A has no remarks
- Line A has no IF statements
- Line A has no DATA statements
- Line B is not referenced by another line or itself
- Line B has no remarks
- Line B had no DATA statements

WARNING

A program which has had lines packed cannot be saved to cassette using the Ascii option! In other words DO NOT use the format CSAVE "PROGRAM",A to save programs which have had option 2 used. The reason for this restriction is that while

... The Stripper will not delete lines which are longer than 255 bytes in normal format, when expanded to ASCII format they may be longer than 255 bytes. You cannot save lines to cassette which are longer than 255 bytes. Neither can you list them! For that matter you can't edit them either!! This is another good reason to make all of your corrections on a separate master copy of the program.

3) REMOVE SPACES

This option allows all unnecessary spaces to be deleted from the program. Spaces will not be removed from remarks, text strings, or lines which contain DATA statements. Our previously packed example program from above would look like the following after execution of option 3:

```
20 INPUTA:PRINT'SQR = ';A#A:GOTO20
```

There are some cases where spaces are removed which would be impossible to remove otherwise. Consider the following program for example:

BEFORE

```
10 A=8:B=1
20 PRINT A OR B
```

AFTER

```
10 A=8:B=1
20 PRINTAORB
```

In both cases the correct answer of 9 would be printed. It is not possible to enter line 20 from the keyboard without spaces and still get the correct answer printed out. In fact if after having had The Stripper take out the spaces you try to perform an EDIT on line 20 it would no longer print the correct value (even if you didn't change anything)! Yet another reason why you MUST KEEP A SEPERATE COPY TO MAKE CORRECTIONS ON.

9) EXIT

This option will return to Color Basic.

WARRANTY INFORMATION

If not satisfied with your purchase you may return it within two weeks of receipt for a full refund. Please mail post paid, with proof of purchase, to the address shown below. If the problem is a defective cassette tell us and we will gladly send you a replacement.

EIGEN SYSTEMS
P.O. BOX 10234
AUSTIN, TEXAS 78766
(512) 837-4665

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