

Project.....Zeda's Hex Opcode Compilation  
Program.....N/A  
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Size.....N/A  
Language.....English  
Programming.....Assembly :P  
Version.....1.00  
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## Intro

Once upon a time, I was a BASIC programmer. Yep. The end. As a BASIC programmer, I liked to make games and math programs, naturally, but I soon came across an amazing thing... assembly opcodes. Pretty quickly, I realised something horrible. hex opcodes barely exist! Well after two and a half years, I finally learned assembly, but there is a catch. I learned the hex, not the actual assembly like most people. So what does that mean? That means for me to make all of my assembly programs--and you can check some samples on TICalc.org-- I need to make the opcode, so naturally I almost always include it and if I do not include it, I have it on my computer.

So here is what it really boils down to. My goal is to make a compilation of almost all of my opcodes that I have used or have come up with. So I guess here goes. Oh, and if you do not know how to input an opcode, check [this](#) video over on TIBD.

## Easy Assembly Opcodes

### Run Indicator Off

**EF0745C9**

This turns the run indicator off

### Run Indicator On

**EF6D45C9**

This turns the run indicator on

### Run Indicator Stop

**21028A3E01AE77C9**

This pauses the runindicator (stops it from moving).

### Clear Screen

**EF4045C9**

Clears the screen currently displayed. This only clears the LCD, not the screen buffer. In other words, if you run this from the homescreen, pressing [2nd][Mode] will restore the screen.

### Calc Off

**3E01D303C9**

Turns off the calc, but it doesn't exit the program. Too bad you have to press on to return.

### Screen On

**3E03D310C9**

Turns the screen on.

### Screen Off

**3E02D310C9**

Turns the screen off.

### Alpha Press Off

**21028A3E0FA677C9**

Cancels alpha if it has been pressed or simulated.

### Alpha Press On

**21028A3E50B677C9**

Simulates the alpha key being pressed once.

### Alpha Press Lock

**21028A3ED0B677C9**

Locks the alpha key. Use [2nd][Mode] to escape. In a program, if you want only capital letters used in an input, use this and then command 5 after the command (if you want).

### Lowercase Press On

**21028A3E30B677C9**

Simulates the alpha key being pressed twice. Lowercase does not need to be active to use this.

### Lowercase Press Lock

**21028A3EB0B677C9**

Locks lowercase key. Use [2nd][Mode] to escape. Lowercase does not need to be active to use this.

### Indicator Start/Stop

**21028A3E01AE77C9**

This does not remove the indicator, but it does stop it.

### Lowercase Off

**FDCB249EC9**

This deactivates lowercase typing.

## Lowercase On

**FDCB24DEC9**

This activates lowercase typing. Press Alpha twice.

## Lowercase (De)Activate

**21148A3E08AE77C9**

This will enable or disable lowercase access.

## Inverse Text Toggle

**21F5893E08AE77C9**

This turns inverse text on or off.

## Inverse Text On

**FDCB05DEC9**

Turns inverse text on.

## Inverse Text Off

**FDCB059EC9**

Turns inverse text off.

## Screen On/Off

**DB10CB6F3E0220013CD310C9**

Turns the screen on or off.

## Arch/Unarch (Program Rights)

**21F8893E02AE77C9**

There are some things that a program can't do, like archiving and unarchiving programs, that can be done on the homescreen. Likewise, there are things, like using a For( loop, that can be done in a program, but not on the home screen. This command tricks the calculator into thinking a program is the home screen and the home screen is a program. This command should be used to reset the rights, otherwise, you'll get an error. In other words, if you use it in a program, you need to use it again to tell the calc you are in a program!

## QuickKey 1

**3A3F84EF8C47EFBF4AC9**

This is kind of like getKey, except all of the keys will repeat without a delay.

Key is stored to Ans.

## QuickKey 2

**3A4584EF8C47EFBF4AC9**

Here, the last key press is returned, so even if you aren't pressing a key, a key press is returned. Useful for Pac-Man esque games :P

Key is stored to Ans.

### QuickKey 3

**3A4584EF8C473A3F84324584EFBF4AC9**

This first version detects the current key press and the second version detects the last key press. This version detects a key if it has been pressed between loops. This means that if you tap a key, even if the program isn't using a getkey yet, it will still register.

Key is stored in Ans.

### Smart Battery Check

**EF6F4C3D280A78FE1E**

**EF21521808**

**EFB3503E042001AF**

**EF8C47EFBF4AC9**

This is my BSA (Battery Status All) program. If you are running an 83+, a value of either 0 or 4 is stored in Ans. If you are using an 84+, a value from 0 to 4 is stored to Ans. 0 is the worst and 4 is the best. To be clear, 2 (meaning your batteries are okay) is a possible output if you are using an 84+.

### Free Ram

**EFE542EF9247EF5641EFBF4AC9**

The total free ram (minus the size of this program) is stored to Ans.

### Shift screen right

**2140930E40060CB7CB1E2310FB0D20F5C9**

This will shift the screen 1 pixel right.

### Shift screen left

**213F960E40060CB7CB162B10FB0D20F5C9**

This will shift the screen 1 pixel left.

### Shift screen up

**214C9311409301F402EDB0EB010C00EF304CC9**

This will shift the screen 1 pixel up.

### Shift screen down

**213396113F9601F402EDB823010C00EF304CC9**

This will shift the screen 1 pixel down.

### Increase Contrast

**2147847EC6D9D834D310C9**

This will increase the contrast slightly (unless it is at maximum).

### Decrease Contrast

**2147847E06D780B8D835D310C9**

This will decrease the contrast slightly (unless it is at minimum).

### Sleep Mode

**3E02D310EF72493E03D310C9**

This will turn the screen off, wait for a key press, and then turn the screen back on.

### Clear Home Screen

**EF4645C9**

This will leave the cursor in the same position, but the home screen will be cleared.

### Clear Disp

**EF5845C9**

This will move the cursor back to the start position.

### Graph→Screen

**214093063EEF7048C9**

This neat routine will put the graph screen image on the current screen.

### Screen→Graph

**214093EF7B4CC9**

This will put the current screen image on the graph screen.

### ClearHome

**2108853E2077110985018000EDB0C9**

This will clear the homescreen without actually displaying the home screen. Useful if you are using the graph screen for graphics or whatnot and you need to clear the home screen "behind the scenes."

### ClearGraph

**214093AF77114193010003EDB0EF6A48C9**

This will clear the screen (even of the axes and graph image) without telling the calc to update the screen (like ClrDraw). This also displays the graph screen.

### Disable "Done"

**FDCB00AEC9**

This removes the "Done" message when the program is finished.

# Complex Opcodes

These are opcodes that are longer and more involved than the previous opcodes.

## ListToVars1

;This uses a list to store to multiple variables. If the input is:

; :{0,4,3,12,8,24

; :Asm(prgmL2R

;Then the result will be:

; :A is 0

; :B is 4

; :C is 3

; :D is 12

; :E is 8

; :F is 24

;\*Bonus points to anybody who sees the pattern in that sequence

EFD74AFE01C0

1AFE1B38023E1B

EB232347

3E41

C5F5E5F5

EFC541F1

327984

D73003EF0F43

E1010900EDB0

F13CC110E4

C9

## ListToVars2

;Uses Str1 to name the vars, Ans for the list. If you do:

; : "ADCZQGB→Str1

; : {0,1,1,2,3,5,8

; : Asm(prgmL2V2

;Then result will be:

; :A is 0

; :D is 1

; :C is 1

; :Z is 2

; :Q is 3

; :G is 5

; :B is 8

EFC5413EAA327984

D7300F

3E40061B21EC86

3C772310FB

11EA861313D5

EFD74AFE01C0

1AFE1B38023E1B

EB232347

D11A13D5

C5E5F5

EFC541F1

327984

D73003EF0F43

E1010900EDB0

C110E3

D1C9

## ExecCode

```
;Deletes prgmU, then copies Ans to prgmU
;For example:
;      :Input "Code:"Str1
;      :Str1
;      :Asm(prgmEXECCODE
;This will automatically execute prgmU, whether the code is BASIC or assembly
EFD74A
FE04C0
215500          ;55 is the token for "U"
22EC86227984
21F086
EB4E234623
ED43EE86
EDB0
3E05327884
EFF142
3803EFC64F
3E0521EC86
EF3C4C
C9
```

## RepeatyKeys

```
;This lets all keys repeat...
;Super fast...
;Not really practical ;D
;Run the code again to deactivate
180A
83473A4584323F8478C9
2100807EFE83
2006AF77323F84C9
11979DEB018000EDB0
DB06210080EF664FC9
```

## FastKeys

```
;Keys that normally repeat repeat super fast...
1809
83473E0132428478C9
2100807EFE83
2006AF77323F84C9
11979DEB018000EDB0
DB06210080EF664FC9
```