

# MOVIT

By Lew Edwards

ANOTHER move program? This one moves anything anywhere! No limit to number of bytes, or locations in memory, or overlapping of source and destination. Use it to lift sections of code from other programs, close in or open up gaps for altering programs, moving programs to another location (use Butterfield's RELOCATE to take care of the branch and address correction). Locate it wherever you have the room.

Use is straight forward. Old start address goes in D0,1; old end address in D2,3; new start address in D4,5 before running the program which starts at 1780, or wherever you want to have it in your system. Program uses zero page locations D0 thru D9 to do the job.

1780	D8	START	CLD	
1781	A0 FF		LDY #\$FF	STORE TEST VALUE
1783	38		SEC	
1784	A5 D2		LDA OEAL	HOW MANY BYTES?
1786	E5 D0		SBC OSAL	TO MOVE?
1788	85 D8		STA BCL	
178A	A5 D3		LDA OEAH	
178C	E5 D1		SBC OSAH	
178E	85 D9		STA BCH	
1790	18		CLC	
1791	A5 D8		LDA BCL	ADD THE COUNT TO
1793	65 D4		ADC NSAL	THE NEW START TO
1795	85 D6		STA NEAL	GET A NEW END
1797	A5 D9		LDA BCH	
1799	65 D5		ADC NSAH	
179B	85 D7		STA NEAH	
179D	E6 D8		INC BCL	ADJUST THE BYTE COUNT
179F	E6 D9		INC BCH	TO PERMIT ZERO TESTING
17A1	38		SEC	
17A2	A5 D4		LDA NSAL	IF NEW LOCATION
17A4	E5 D0		SBC OSAL	HIGHER THAN OLD
17A6	A5 D5		LDA NSAH	CARRY FLAG IS SET
17A8	E5 D1		SBC OSAH	
17AA	A2 00	LOOP	LDX #\$00	HIGH POINTER INDEX
17AC	90 02		BCC MOVE	
17AE	A2 02		LDX #\$02	LOW POINTER INDEX
17B0	A1 D0	MOVE	LDA OSAL,X	MOVE OLD
17B2	81 D4		STA NSAL,X	TO NEW
17B4	90 14		BCC DOWN	
17B6	C6 D2		DEC OEAL	ADJUST UP POINTER, (OLD)
17B8	98		TYA	BELOW ZERO?
17B9	45 D2		EOR OEAL	
17BB	D0 02		BNE NO	NO, ENOUGH

17BD	C6 D3		DEC OEAH	YES, ADJUST THE HIGH BYTE
17BF	C6 D6	NOT	DEC NEAL	ADJUST THE OTHER ONE (NEW)
17C1	98		TYA	
17C2	45 D6		EOR NEAL	NEED HIGH BYTE ADJUSTED?
17C4	D0 02		BNE NEIN	NO
17C6	C6 D7		DEC NEAH	YES, DO IT
17C8	B0 0C	NEIN	BCS COUNT	
17CA	E6 D0	DOWN	INC OSAL	ADJUST "OLD" DOWN POINTER
17CC	D0 02		BNE NYET	
17CE	E6 D1		INC OSAH	AND THE HIGH BYTE IF NEEDED
17D0	E6 D4	NYET	INC NSAL	AND THE "NEW" ONE
17D2	D0 02		BNE COUNT	
17D4	E6 D5		INC NSAH	
17D6	C6 D8	COUNT	DEC BCL	TICK OFF THE BYTES,
17D8	D0 02		BNE ONE	ENOUGH FINGERS?
17DA	C6 D9		DEC BCH	USE THE OTHER HAND
17DC	D0 CC	ONE	BNE LOOP	'TIL THEY'RE ALL DONE
17DE	00	DONE	BRK	& BACK TO MONITOR

P.S. Don't forget to set the IRQ vector for the break  
(KIM - 1C00 at 17FE,FF)

\*\*\*\*\* Hex Dump - Movit \*\*\*\*\*

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1780 D8 A0 FF 38 A5 D2 E5 D0 85 D8 A5 D3 E5 D1 85 D9
1790 18 A5 D8 65 D4 85 D6 A5 D9 65 D5 85 D7 E6 D8 E6
17A0 D9 38 A5 D4 E5 D0 A5 D5 E5 D1 A2 00 90 02 A2 02
17B0 A1 D0 81 D4 90 14 C6 D2 98 45 D2 D0 02 C6 D3 C6
17C0 D6 98 45 D6 D0 02 C6 D7 B0 0C E6 D0 D0 02 E6 D1
17D0 E6 D4 D0 02 E6 D5 C6 D8 D0 02 C6 D9 D0 CC 00

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Addition: The last address filled can be displayed after the program is complete by adding the following code:

- (1) 85 FA between instructions now at 1795 and 1797
- (2) 85 FB between instructions now at 179B and 179D
- (3) replace the break at the end with 4C 4F 1C

Use Movit to move itself to another location and then again to open up the necessary spaces!