### **Creating HEX Files for the 6502 Microprocessor**

### Using the ADX-65 Cross Assembler

## \*\*\*THIS IS FOR VERSION AVOCET WIDE 3.29\*\*\*

### Double click on the Avocet Wide icon on your desktop

•Create a new project file •Select Project >> New from toolbar

WIDE - default - 6502 File Edit View Project Build Debug Window H 🋍 🚅 🖬 🛛 🐰 p <u>N</u>ew 🖻 Open 🖃 🔄 default Fil 🔛 Saye Project 🗄 🔛 T6502.7 🔂 Close 🔝 peter.a Settings... Alt+F7 p Add Files...

Scan Dependencies

12



- •Give your project a USEFUL name (i.e. MPU\_test)
- •Save project in WIDE/asmfiles
- •File automatically given .prj extension

Create new project	? 🔀
Save in: 🗀 asmfiles	💌 🕂 🗈 🕂 🎫
default.prj	
eignt.prj	
test.prj	
🔤 whatever.prj	
File name: tutorial	<u>S</u> ave
Save as type: Project file (*.prj)	

•Select Project >> Settings from toolbar

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<u> </u>	Project	<u>B</u> uild	<u>D</u> ebug	<u>W</u> ind
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# Change ROM start address from 08000 to 00000Click OK

•Click File >> New

Project Settings
Compiler/Assembler Files Debugger Properties
Compiler Options -C -ns -o -d
Assembler Options
-q -ns -d
Using only assembly files in this project
ROM start address (in Hex) 00000 Vector start address (in Hex) 0FFFA
RAM end address (in Hex) OFFF
OK Cancel Apply



- •This opens a new window New Wide File window
- •Go to the program of your choice on the website, OR type in your ASM code

•To copy text from webiste:
•Right click mouse
•Choose Select ALL
•DO NOT sweep with mouse to highlight text, this may cause errors in your code





# •In the blank New Wide File window paste your text

WIDE - tutorial - 6502		
<u>File E</u> dit <u>V</u> iew <u>P</u> roject <u>B</u> uild (	Debug Window Help	
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~ ×	New Wide File 1	
tutorial Files	(program to turn AIM 65 into an octal inverter)	-
	ROCKWELL AIM 65 (enter program)	
	<*>=0200	
	<pre><i></i></pre>	
	0202 STA A002 8D 02 A0 (A002 is the port B direction register)	
	0205         LDA #00         A9 00           0207         STA A003         8D 03 A0         (A003 is the port A direction register)           0204         LDA A001         AD 01 A0         (A001 is the port A data register)           0205         EOR #FF         49 FF         (use 'EOR #FF' command to invert all bits)           0205         STA A000         8D 00 A0         (A000 is the port B data register)           0212         JMP 020A         4C 0A 02         (loop back to the read port A instruction)           0215         STA         STA STA A000         STA A000	
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•Save your ASM code with a better name (i.e. RAM\_test.asm)

- •File >> Save
- •Save file in directory WIDE/asmfiles

Save As				? 🗙
Save in: 🗀	asmfiles	•	+ 🗈 💣 💷 -	
blah default default default default default	default.lin default.prj default.ssa eight eight eight eight	i eight eight eight eight.DCF eight.lin eight.obj	isi eight.prj isi eight.ssa isi new isi new isi new.obj isi owen	
<				>
File name:	RAM_test.asm		Save	
Save as type:	All Files (*.*)		▼ Cance	el

#### •Project >> Add files

 WIDE - tutorial - 6502

 File
 Edit
 View
 Project
 Build
 Debug
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 New
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 Open

 Utorial File
 P
 Save Project
 P
 Close

 Settings...
 Alt+F7
 File
 Add Files...

 Scan Dependencies
 Scan Dependencies

#### •Change "Files of type" to .asm

Add .asm file you just savedClick "Open"

Add Source	Files to Project	? 🔀
Look in: [	asmfiles	 * 📰 •
File name:		 Open
Files of type:	C Source File (* c)	 Cancel
	C Source File (*.c)	 
	ASM Source File (*.asm) Header file (* b)	

Add Source	Files to Project		? 🗙
Look in: 🗀	asmfiles	- 🗧 🖻	* 💷 •
<ul> <li>blah</li> <li>eight</li> <li>new</li> <li>owen</li> <li>peter</li> <li>RAM_test</li> </ul>			
File <u>n</u> ame:	RAM_test		<u>O</u> pen
Files of type:	ASM Source File (*.asm)	-	Cancel

•File should appear under "tutorial files" on the left

•Repeat last couple of steps to add the file c:\WIDE\x6502\t6502.asm

•Note: to find t6502.asm you have to change directories, the .asm file you saved was in c:\WIDE\asmfiles\XXX.asm

•Build >> Rebuild All







Build message appears at bottom of screen
Check for a few things: link errors, input name, output name
NOTE: The output name is the name you gave the original project



- •Follow EMP-21 Instructions
- •Your \*.hex file is in c:\WIDE\asmfiles\
- •For instance, this examples output file is tutorial.hex (highlighted above)