Thank you very much for purchasing our FOX11 trainer kit.

The package includes the FOX11 Rev. F board with LCD module, 4x4 keypad, AC adapter (US and Canada only), CD and 6-foot DB9 RS232 cable. The board is installed with a 68HC11E1 chip that is actually a 68HC11E9 with internal ROM being disabled.

The getting started manual and the user manual for the Wytec monitor can be found at CDROM\document. Please, at least, briefly read the getting started manual before installing the software. Many questions could be answered by reading the manuals. The **interrupt vector table** is on page 4 of CDROM\document\m68HC11erg.pdf, and the **memory map** of this board is in the getting started manual. The Motorola 68HC11 reference manual book (the pink book) is located at CDROM\document\m68HC11rm.pdf. The schematic diagrams in PDF format are located in the folder named CDROM\document\schematic. To print out the schematic diagrams, set your print resolution at 600 dpi for the best results.

If you are confused by different variants of the 68HC11, please read the file CDROM\document\mcu_type.txt.

To install software, just click on the setup.bat.
All example programs are fully debugged and ready to run. All example programs are written in assembly language. The board comes with AsmIDE that is written by one of our users, Eric Engler. Don't forget to send them $5.00 if you would like to use AsmIDE.

The BUFFALO 3.47sc monitor is installed in the on-board EPROM (U5) which also contains Wytec Phantom monitor and monitor for Code Warrior C source level debugger. The jumper on J15 is placed on the middle position by factory default and the board will boot from the BUFFALO monitor in U5.

All example programs are on the CD, so no matter how you hack the example programs, you will always have the original files on the CD.

All example programs in the folder c:\Ep2IDE\Ex_BUFFL must be tested under the BUFFALO monitor. All example programs in the folder c:\Ep2IDE\Ex_WYTEC must be tested under the Wytec monitor.

File download is faster and easier under Wytec's debugger. Most of the time you don't have to use the L command to download an S19 file. You can use the F10 key and R (Re-download file) option instead. To download an S19 file for the first time just click the Build menu, then Wytec HC11 Tools menu, then use the browser to select a file name, and finally click 'Select this file'. This will store file information in the file C:\Ep2IDE\Ep2IDE.txt. By clicking the debugger button, the debugger will fetch the file name from the Ep2IDE.txt and automatically download the S19 file. If you load another file with the 'Select this file' button, the debugger will minimize on the Windows Task Bar at the bottom of the screen. Click on the task bar to activate the debugger again and press the F10 function key and R option.
You cannot open two Wytec debugger windows at the same time. Before invoking the debugger, check the Task Bar at the bottom of the screen. If the debugger is already open, just click it to activate.

Please visit our web site www.EVBplus.com for technical bulletins and new EVBplus boards for different microcontrollers and software upgrades in the future.

I thank you very much again for your support. If you have any questions or bug reports, do not hesitate to send me an email at wchu@wytec.com.

Wayne Chu
EVBplus.com / Wytec

Acknowledgements:

We thank all professors and users who have made a great impact on our FOX11 board.

Dr. James A. Armstrong of Virginia Tech is the main contributor in upgrading our FOX11 board from Rev. C to Rev. E. With the help of his expertise we were able to have the rev E. board to meet the high standard of VT's requirements. He has offered great instrumental suggestions while spending many weeks of his precious time along with his lab manger Bob Lineberry in evaluating, testing and improving the FOX11 board. We appreciate all the work they have done for bringing the FOX11 board to VT.

The BUFFALO 3.47sc is provided by Professor Shu-Jen Chen of DeVry University at Tinley Park, IL for someone who does not use Windows O/S or some students who use BUFFALO in their classrooms. The BUFFALO monitor 3.47sc is an improved version of the original BUFFALO 3.4 and we are very grateful to Professor Chen's contribution.

Professor Chen and Professor Art Ramirez of DeVry University at Addison, Illinois have also made instrumental suggestions to allow the FOX11 trainer board to be more useful in the classroom environment. We are very grateful to their work.

The AsmIDE is the result of great work of Eric Engler who is a professional Delphi programmer. We are very grateful to his work for supporting our boards in his IDE. He also offers the free EmbeddedGNU for GNU C compiler. If you need an easy-to-use GNU C development toolset, you can download it from his web site at http://www.geocities.com/englere_geo/. If you would like to use his IDE after your evaluation, please send him a $5.00 donation toward to his development fund for the great job he has done.

Roger Schaefer, the creator of the one of most popular 68HC11 web sites, "Roger's Embedded Microcontrollers Home Page", has written FREE software for USB application and a DS1302 Real Time Clock on our DRAGON12 and FOX11 boards. You can download them from http://www.ezl.com/~rsch/USB.htm and http://www.ezl.com/~rsch/DS1302.htm. We are very grateful to his contribution.

Lin Zhao, a Ph. D student and teaching assistant of Indiana State University, has written 6 FREE application notes for the GNU and ICC c compilers for any 68HC11/HC12/HCS12 boards. Please visit his web site at: sapphire.indstate.edu/~lzhao/application_notes_for_motorola.htm. We are very grateful to his contribution.