

# Basic Express BXDS-35

## BasicX-35 Development Station

### Getting started

This document illustrates how to get started with a BasicX-35 system. System requirements are summarized, and hardware/software setups are explained. A pre-loaded test procedure is run, followed by a simple "Hello World" program that you compile yourself. Help information and procedures are outlined, as well as contact information.

The Basic Express BXDS-35 Development Station includes the following items:

- 1) BXDS BasicX System Board
- 2) BX35-PD BasicX-35 PDIP chip on board
- 3) 32 KB EEPROM chip on board
- 4) BasicX software and documentation CD
- 5) 16 jumper wires
- 6) Serial download cable
- 7) Plug-in wall transformer

### PC System Requirements

Although BasicX is a stand-alone processor, software development requires a PC that meets the following minimum requirements:

- 1) MS Windows 95/98/ME/2000/NT/XP
- 2) Pentium or higher processor, 400 MHz minimum clock speed
- 3) 32 MB RAM, 64 MB recommended
- 4) 20 MB free hard disk space
- 5) High density 3.5" floppy disk drive
- 6) CD-ROM drive
- 7) Available COM port

### Hardware Setup

Here the COM port on BasicX should be set to COM1 by default:

- 1) Connect DB-9 cable to unused PC COM port
- 2) Connect DB-9 cable to BX-35 COM port
- 3) Connect the wall transformer to the BX-35
- 4) The factory-loaded program should start blinking LEDs on the BX-35

### Software Setup

This step installs the BasicX Downloader and Editor/Compiler on your computer. It is important to close all open programs before running Setup. If sharing violations still occur, press Ignore and continue Setup. Setup will prompt you to replace system files before continuing the installation. Examples assume D: as CD-ROM drive -- substitute appropriate drive letter for your system.

- 1) Close all running Windows programs

- 2) Remove any previous BasicX Installations (Start, Settings, Control Panel, Add/Remove Programs, BasicX, Add/Remove)
- 3) Insert BasicX CD into CD-ROM Drive (D: for example)
- 4) BasicX CD\_SETUP screen automatically appears if autorun enabled
  - a) If not, Run CD\_SETUP.EXE: Start, Run, D:\CD\_SETUP.EXE, OK
- 5) Choose "Install BasicX Development Software" from menu
- 6) Choose "Install BasicX"
- 7) Follow prompts for Installing BasicX to computer
  - a) If prompted, replace some system files and restart Windows
    - i) After restart, proceed from Step 1 again
  - b) If prompted, keep newer files and replace older files
  - c) If prompted, Ignore sharing violations and continue setup

## Test Setup

The Test program is pre-loaded on the SPI EEPROM chip at the factory. It will work until another program gets downloaded to the chip. Therefore, we recommend that you **DO NOT PRESS THE DOWNLOAD BUTTON OR "COMPILE AND RUN"** until after you have run this test. Otherwise, we will be unable to provide phone support.

Test procedure:

- 1) Start BasicX Program: Start, Programs, BasicX, Basic Express...
- 2) Processor menu, click on BX-35 if not already checked.
- 3) I/O Ports -- Download Port menu, open the appropriate serial port if not already open. Note that the baud rate is fixed.
- 4) I/O Ports -- Monitor Port menu and select the same serial port as you used for the Download port in step (3). Configure the port to 19200 baud, no parity, 8 data bits, 1 stop bit.
- 5) A test message from the BX-35 should appear. If not, press the Execute button (green stoplight icon).
- 6) If all is working properly, a BasicX test message will print on screen until stopped by reset button
  - a) If not working, verify connections and port addresses and retry
  - b) If still not working, confirm that the power supply is working and supplying between 5 VDC to 15 VDC power

After passing this test, the Hello World program can be used as an additional test.

## Hello, world

HelloWorld is a simple BasicX program that uses built-in serial port functions to write to the BasicX Status Window. The program simply enters a loop in which the string "Hello, world" is transmitted repeatedly, followed by carriage return/linefeed. A call to the built-in Delay procedure inserts a one second delay after each string.

## Procedure:

- 1) Start BasicX Program: Start, Programs, BasicX, BasicX Express...
- 2) Processor menu -- verify that BX-35 is checked.
- 3) I/O Port -- Download Port -- open the COM port.
- 4) I/O Port -- Monitor Port -- open the same port as step (3)above.
- 5) Open Editor button -- press.
- 6) File -- New Project menu -- press. This causes a dialog box to pop up. Use the default project name and module name, hit OK.

This boilerplate code is automatically created in the editor window:

```
Option Explicit  
  
Public Sub Main()  
  
End Sub
```

- 7) Project - Chip menu. Verify all boxes in the "IN" columns are checked (this means all input pins are initialized as input-tristate). Click on OK.
- 8) Type the following code into the Edit Window:

```
Public Sub Main()  
  
    Do  
        Debug.Print "Hello, world"  
        Call Delay(1.0)  
    Loop  
  
End Sub
```

### **Hello World program**

- 9) Hit F5 to compile and run. Say "Yes" if compiler asks to save changes.
- 10) "Hello, world" will print on screen until stopped by reset button
  - a) If not working, verify connections and port addresses and retry.
  - b) If still not working, supply 5.5 VDC to 12 VDC power directly to BasicX power terminals and retry.
  - c) Try the Download Port - Rescue menu choice, then download the program again.

## Software updates

BasicX software updates can be downloaded from the following web site:

<http://www.basicx.com/transfer>

## Help Information

Sources of help information:

1) BasicX documentation and examples can be found on the hard disk and CD under the BX35\_Docs folder. The \*.doc files are in Microsoft Word format. If you don't have Word installed, we provide a free copy of Microsoft Word Viewer program on the BasicX Setup CD under the Word\_Viewer folder. You can run the setup.exe file there to install Word Viewer.

We recommend that you set Word or Word Viewer to Page Layout mode in the View menu. Otherwise illustrations may not appear and other formatting may be adversely affected.

2) This is the official BasicX support mailing list:

<http://groups.yahoo.com/group/basicx>

3) At the BasicX website: <http://www.basicx.com/>

4) Through e-mail to: [support@basicx.com](mailto:support@basicx.com)

5) By phone at: (520)544-4567

6) By mail to: NetMedia, Inc.  
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Tucson, AZ 85737



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