

# E2 Standard (ver. 3.xx and below) and E2 Enhanced (ver. 4.0 and above)

## Feature Comparison

### Key Features of the New E2 Enhanced (Firmware Version 4.0 and Above)

#### E2 Version 4.0 and Above Hardware Features

Larger display (800 x 480 vs. 640 x 480)

Increased CPU speed (500 MHz vs. 100 MHz)

Increased memory

Integrated COM4 & COM6 (integrated additional RS485 & modem connectors that are built in)

Increased Ethernet network interface speed (100 Mbps vs. 10 Mbps)

USB connection for firmware update and basic backup/restore of configuration

Single, coin-sized battery for real-time clock and CMOS setting; up to 10-year battery life span

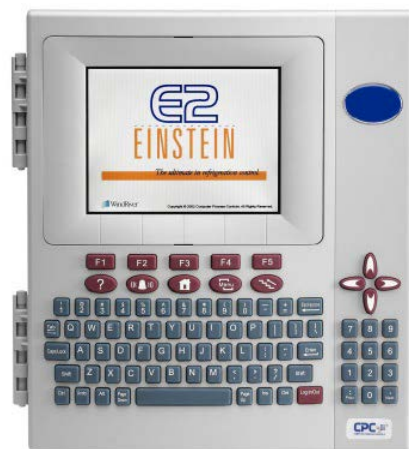
RS485 COM2, COM3, COM4, and COM 6 ports can be configured for MODBUS or I/O Net

## Dimensions

The dimensions of the enclosures are the same. The only difference is the plastic surrounding the display (due to the change in screen size) shown below:

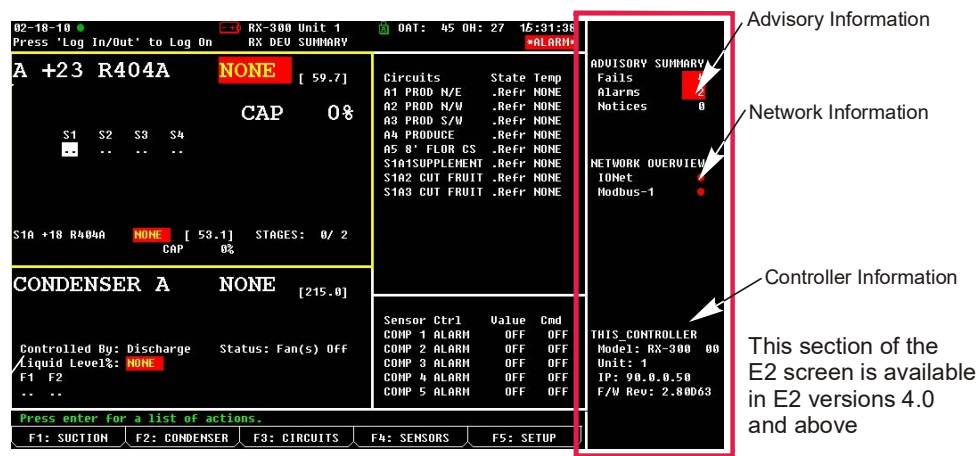


E2 Enhanced



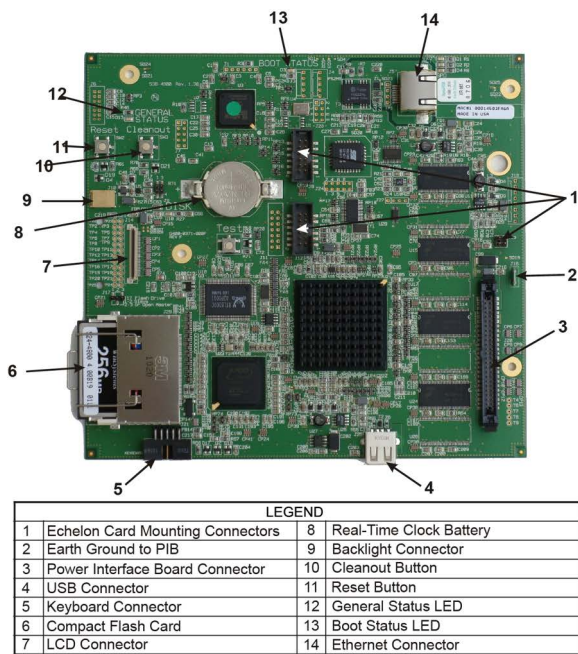
E2 Standard

E2 Enhanced User Interface

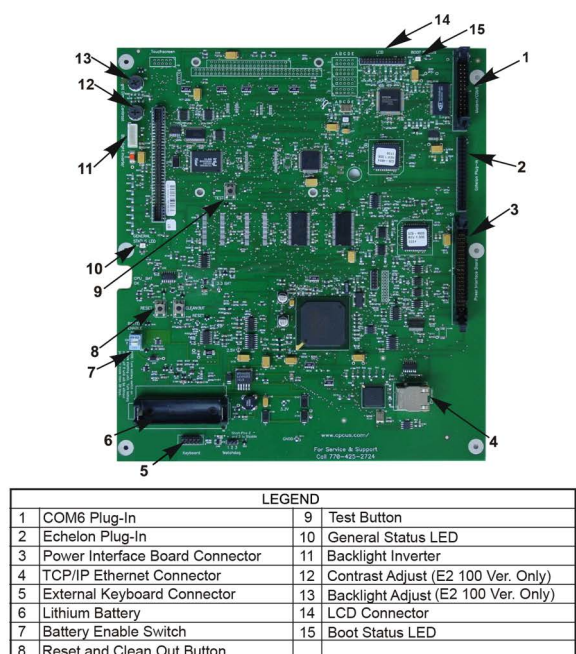


E2 Enhanced and E2 Standard CPU Board Hardware Comparison

- Different connector for ribbon cable between CPU board and PIB board.
- Different connector for new Echelon plug-in board.
- Ethernet connection located at top of CPU board.
- USB connection for firmware update and basic backup/restore functionality.
- Change from AA-size battery to coin-sized battery for RTC (real-time clock). Battery switch removed.
- Compact Flash for program and data log storage.



E2 Enhanced (4.0 and above)



E2 Standard (3.xx and below)

# Differences Between the E2 Enhanced and the E2 Standard Echelon Plug-In Board

The E2 Enhanced Echelon board has a Phoenix connector for the Echelon communications cable. On the E2 Standard the connector for the communications cable was located on the PIB board.



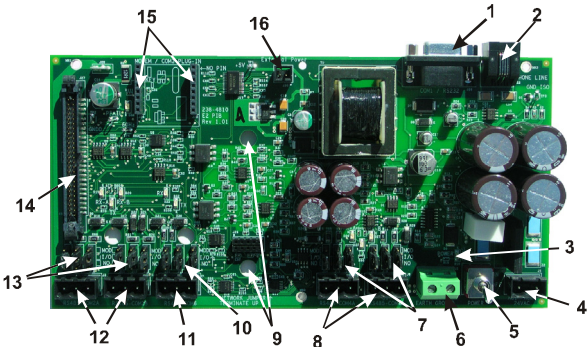
E2 Enhanced Echelon Board



E2 Standard Echelon Board

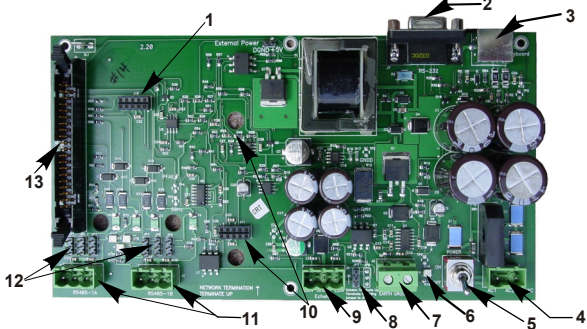
## E2 Enhanced and E2 Standard PIB (Power Interface Board) Hardware Comparison

- Ribbon cable connector between the CPU board and the PIB has changed (non-interchangeable between versions).
- COM4 and COM6 (additional RS485 & Modem connectors) are now built into the PIB (E2 Standard PIB required additional plug-in boards).
- RS485 COM2, COM3, COM4, and COM 6 ports can be configured for MODBUS or I/O Net.
- Tri-State RS485 termination jumpers for I/O Network and Modbus network compliance.
- Direct plug-in connector for the modem module board (the previous generation COM6 board is not compatible with the E2 Enhanced).
- Echelon communications cable connector is no longer on the PIB (connector now located on new Echelon plug-in board).
- Phone jack is now built into the PIB.
- The 4-Way Repeater can now be used with COM6 that is located on the E2 Enhanced PIB.



LEGEND	
1 RS232 Port	9 Plug-In Digital I/O Card
2 Phone Line Jack	10 Termination Jumpers (COM6) - I/O Net or MODBUS
3 Power ON LED	11 RS485 COM6 Port
4 Power Terminals (24VAC Class 2 only)	12 RS485 COM2A and COM2B Ports
5 Power Switch	13 Termination Jumpers (COM 2A and B) - I/O Net or MODBUS
6 Earth Ground	14 Power Interface Port
7 Termination Jumpers (COM4A and B) - I/O Net or MODBUS	15 MODEM/COM3 Plug-In
8 RS485 COM4A and COM4B Ports	16 External Power Connector (for Echelon Repeater Card)

E2 Enhanced PIB



LEGEND	
1 Plug-In 3rd Party Network Card	8 Termination Jumper (JP7)
2 RS232 Port	9 Echelon Network Connector
3 External Keyboard Port	10 Plug-In Digital I/O Card
4 Power Terminals (24VAC Class 2 only)	11 RS 485 I/O Network Connectors (two)
5 Power Switch	12 RS 485 Termination Jumpers (JP1-6)
6 Power On LED	13 Power Interface Port
7 Earth Ground	

E2 Standard PIB



## No Backwards Compatibility Between E2 Enhanced and E2 Standard Doors

The E2 Enhanced door (CPU board) and PIB are not backwards compatible with the E2 Standard door and PIB. The E2 Enhanced's door and PIB are connected via a ribbon cable that is not compatible with the E2 Standard hardware. The E2 Enhanced door cannot be connected to the E2 Standard PIB; and vice versa, the E2 Standard PIB cannot be connected to the E2 Enhanced door; therefore, keep each unit's door with its correct case.

## Plug-in Board Compatibility

Most of the plug-in boards from the E2 Standard are not required for the E2 Enhanced Platform. The E2 Standard plug-in boards that are supported on the E2 Enhanced hardware are the E2 Digital I/O Board (P/N 638-4880) and the Modem Plug-In Module (P/N 638-3362). The module has been removed from the COM6 board and the capabilities of the other plug-in boards have been merged directly into the E2 Enhanced PIB.

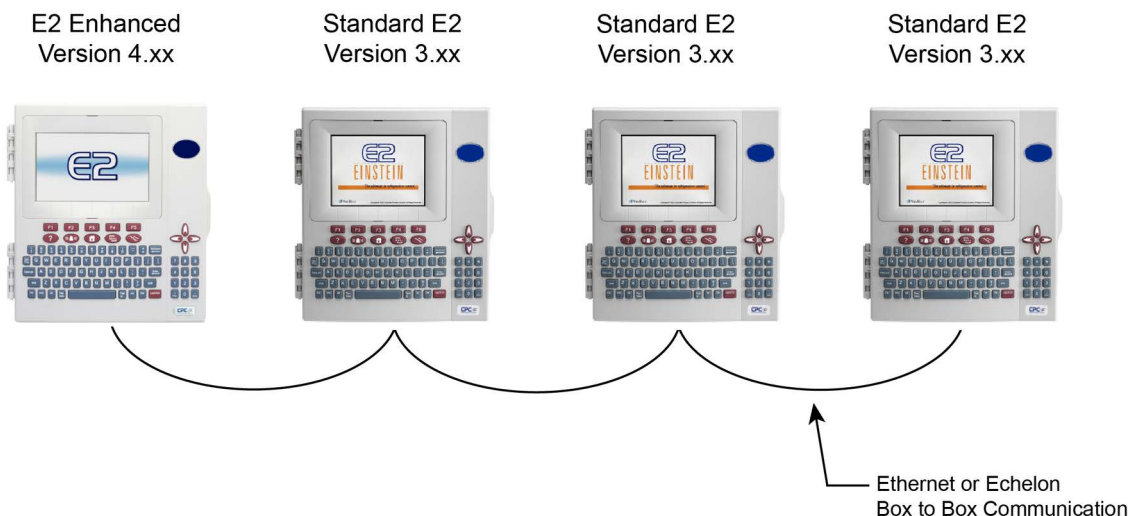
## The E2 Standard and E2 Enhanced Do Not Use The Same Firmware Version

The E2 Standard uses firmware versions starting at 3.00. E2 Enhanced will use firmware versions starting at 4.00.

## Same-Site Compatibility Between E2 Standard and E2 Enhanced Controllers

E2 Standard and E2 Enhanced controllers can communicate with each other and share Global Data and a modem.

E2 Standard and E2 Enhanced controllers are compatible; however, for a E2 Standard controller to be compatible with an E2 Enhanced controller, the E2 Standard must be upgraded to 3.00 or above. The E2 Enhanced is unable to communicate with E2 Standard controllers prior to E2 3.00.



## Using UltraSite to Update the Firmware of Different E2 Versions (E2 Standard and E2 Enhanced) at the Same Site

UltraSite can update firmware versions at a site that contains E2 Standard hardware and E2 Enhanced hardware.

UltraSite 5.00 and above supports what is called the E2 "Meta-Package." This is a firmware update package file that contains both the E2 Standard firmware and the E2 Enhanced firmware upload files. There will be no change to the way the user performs a site firmware update in UltraSite (or Site Manager) - as these products have the ability to discern which type of hardware is installed and will transfer the appropriate firmware packages to the appropriate E2 hardware platforms at the site. (Although it is not required for E2 3.xx and 4.xx, it is a recommended best practice to keep all E2s at a site using synchronized firmware versions - the same tenths and hundredths of the E2 firmware version (for example, E2 Standard 3.10 and E2 Enhanced 4.10).

## About “Meta-Packages”

All E2 firmware update packages will be available on the Copeland Web site: (<https://www.copeland.com/en-us/products/controls-monitoring-systems/facility-controls-electronics/facility-and-system-controls/e2-facility-management-system>). Scroll down the page for the link to the latest firmware version download.

## The E2 Enhanced Will Require An Updated Version of UltraSite and/or Site Manager

The E2 Enhanced is supported by UltraSite 5.00 and above, and Site Manager 11.1 and above.

## E2 Enhanced USB Port

The USB port can be used for the following three purposes and will not support any other USB devices:

1. **Firmware Update** – The firmware update meta-package can be placed on a USB flash drive and by navigating a couple of screens, the user can initiate the firmware from a USB flash drive.
2. **Backup Configuration** – The E2 Enhanced can be backed up to a USB flash drive. The format of this backup file is not compatible with UltraSite’s offline programming. It can also be used by the E2 Enhanced to restore a configuration. The backup file will be saved with a unique filename so the user can differentiate backup files.
3. **Restore Configuration** – The E2 Enhanced can restore a configuration from a USB flash drive that was previously backed-up from the E2 Enhanced.

**Important Note:** The USB port capabilities are initiated through the user interface, which means they will be unavailable for use with the E2 Enhanced blind controller type (although still available through Terminal Mode).

## E2 Enhanced System Part Numbers

Description	E2 Enhanced Part Number	E2 Standard Part Number
RX-100	845-1100	834-0100
RX-300	845-1300	834-0300
RX-300 + Echelon	845-1301	834-0310
RX-400	845-1400	834-0400
RX-400 + Echelon	845-1401	834-0410
RX-300 Blind	845-1310	834-2300
RX-300 Blind + Echelon	845-1311	834-2310
RX-400 Blind	845-1410	834-2400
RX-400 Blind + Echelon	845-1411	834-2410
BX-300	845-2300	835-0300
BX-300 + Echelon	845-2301	835-0310
BX-400	845-2400	835-0400
BX-400 + Echelon	845-2401	835-0410
BX-300 Blind	845-2310	835-2300

Description	E2 Enhanced Part Number	E2 Standard Part Number
BX-300 Blind + Echelon	845-2311	835-2310
BX-400 Blind	845-2410	835-2400
BX-400 Blind + Echelon	845-2411	835-2410
CX-100	845-3100	836-0100
CX-300	845-3300	836-0300
CX-300 + Echelon	845-3301	836-0310
CX-400	845-3400	836-0400
CX-400 + Echelon	845-3401	836-0410
CX-300 Blind	845-3310	836-2300
CX-400 Blind	845-3410	836-2400
CX-400 Blind + Echelon	845-3411	-

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For Technical Support call **833-409-7505** or email **ColdChain.TechnicalServices@Copeland.com**