

# E2 Enhanced RX and BX Controllers and RMCC/BEC/BCU Retrofitting

## Technical Bulletin

### Overview

This technical bulletin describes E2E retrofitting of supermarkets with existing REFLECS controllers.

### STEP 1: Preparing for Retrofit

When replacing a REFLECS unit with an E2E, there are several major differences that must be taken into account.

1. All REFLECS units are powered by 110/220VAC line voltage. E2E controllers are powered by 24VAC non center-tapped transformers. Refer to the E2E User's Manual (*P/N 026-1614 Rev 5 or later*) for more information on powering the E2E controller.
2. REFLECS units use an RS485 (COM B) network to connect to a 485 Alarm Panel. E2E does not support the 485 Alarm Panel.
3. REFLECS units use an RS232 (COM C) host network to connect all units to a modem for alarm dial-out. E2Es may use either Echelon or Ethernet for box-to-box communication. The existing host network wiring may not be used for E2E box-to-box communication - you will either have to rewire using approved Echelon network wire, or wire CAT 5 cable to an approved network router or switch. Refer to the E2E User's Guide for more information on box-to-box wiring.
4. COM A and COM D networks (the RS485 I/O networks) use the same wire and polarity for both the REFLECS and E2E controllers. No rewiring of the I/O network will be necessary; just unplug the COM A and/or COM D connectors, and plug them into the I/O port(s) on the E2E PIB (*see "Transferring the COM A and COM D Networks" below*).

### STEP 2: Transferring the COM A and COM D Networks

The COM A and COM D I/O networks on the RMCC/BEC/BCU are where connections to all I/O devices, such as 16AIs and 8ROs are made. The two networks are interchangeable, each one capable of connecting up to 31 devices.

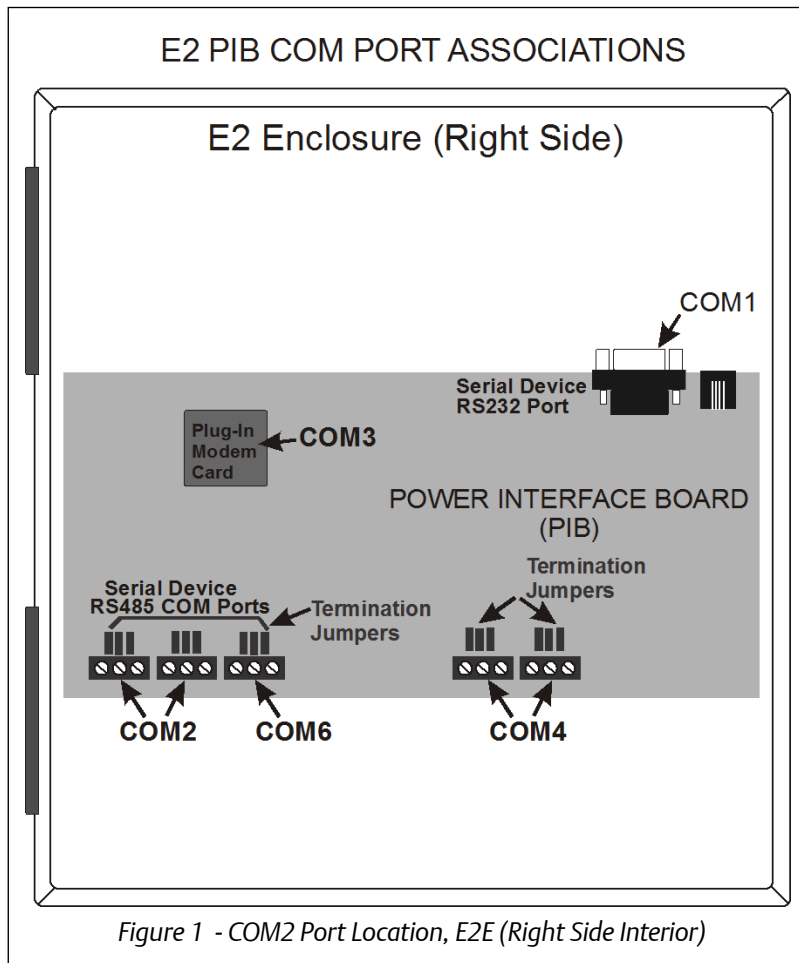
The E2E's standard I/O port (COM2, located on the E2E Power Interface Board, or PIB) also has two connectors (*Figure 1*). Unplug the connectors from the COM A and COM D plugs, and plug them into the COM2 plugs on the E2E.

### **STEP 3: E2E Termination Jumper Settings**

The network termination jumpers, directly above the two COM2 plugs on the PIB, will need to be set to the same positions as the COM A and COM D termination jumpers on the RMCC/BEC/BCU. The rules for termination on E2E I/O networks are the same as the rules for RMCC/BEC/BCU I/O networks. Set the three jumpers to the middle **I/O** (terminated) position if the port is at the end of a network segment or the hub of a star configuration, and down **NO** (unterminated) if the port is in the middle of a segment.

There is one set of RS485 jumpers for each RS485 port (COM2A-2B; COM6; and COM4A-B). Jumpers J8-J10 are located directly above the COM2A connector port, and jumpers J11-J13 are located directly above the COM2B port. The RS485 termination jumpers (J8-J22) are used to terminate the devices at the beginning and end of an RS485 Network. If the E2 is the beginning of all RS485 I/O or MODBUS Networks, all three of these jumpers should be set to the up position. For MODBUS, the jumpers should all be in the top-most position (**MOD**). For I/O Net, the jumpers should be in the middle position (**I/O**). For no termination, set the jumpers to the down position (**NO**).

Refer to the E2E User's Manual (*P/N 026-1614 Rev 5 or later*) for expanded communication setup information.



## STEP 4: E2E Baud Rate Settings

Because the COM A and COM D networks of an RMCC/BEC/BCU must communicate at the same baud rate, all I/O boards connected to the RMCC/BEC/BCU were also set to communicate at 19200 baud. Because the default E2E baud rate for I/O networks is 9600 baud, you will need to change the COM2 baud rate setting. This must be done in the C3: Serial tab of the E2E's General Controller Info screens.

1. Log into the E2 with Level 4 password access.
2. Press **Menu** **7** **3** **1** to access the *General Controller Info* screen.
3. Press **Ctrl** + **#3** (or **F2** two times) to access the *C3: Serial* tab (Figure 2).

You will need to set two parameters in the *C3: Serial* tab.

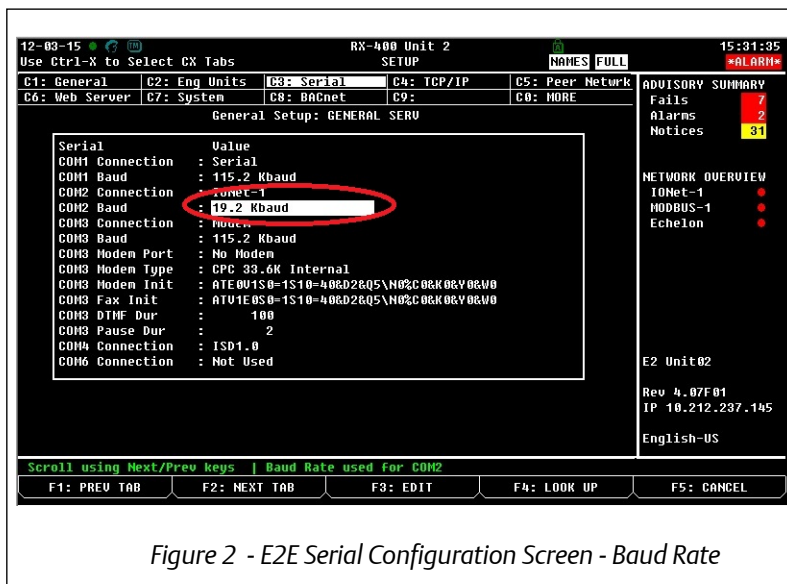


Figure 2 - E2E Serial Configuration Screen - Baud Rate

1. In the **COM2 Connection** field, if the value displayed is something other than **IO Net**, set this parameter to **IO Net**.
2. In the **COM2 Baud** field, set the value to **19.2 Kbaud**.

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