

# 941B0107 Quad UART Board Application and Use

This product bulletin is published to bring attention to the Quad UART accessory circuit board, and its applications. UART is short for Universal Asynchronous Receiver/Transmitter. A Quad UART has 4 channels/ports. The Quad UART (also known as QUART) Board is installed in a mainboard expansion slot of a Plus FMU or Plus Mobile FMU to provide specific communications capabilities. There are two versions of the 941B0107 Quad UART:

- The original 941B0107, Rev B (Figure 1), and
- The revised 941B0107C, Rev E (Figure 2).

Both versions possess the capability to communicate with, and control, a Remote FMU Radio Board (FRB), and an Electronic Dispenser Interface. Both boards have four channels, or ports, and a 20 pin 12VDC external power connector. Each port utilizes a 10-pin serial connector. As the capabilities described herein are further developed, this product bulletin will be revised to cover the applications, and other product bulletins will be created to provide specific instructions for the applications. New capabilities may require a revision to the board design, and will be addressed by a different revision level silkscreened on the face of the board under the board part number.

In addition to the above-mentioned features and capabilities, the Rev E board also offers communications through an External Modem, and interface to a Bluetooth Board for Bluetooth communications. The Rev E board also offers 12VDC on pin 10 of each port to supply DC power to devices through the serial cable rather than through a separate power cable and connector.

## Applications/Compatibility:

**FMU Firmware.** The FMU firmware in use will determine which port some of the functions are tied to:

- In FMU firmware version 3.67 and earlier, both the Rev B and Rev E QUART utilize only ports C and D.
  - C for the Remote FMU Radio Board (even though the Rev E QUART is labeled External Modem on port C), and
  - D for the Electronic Dispenser Interface.
- The External Modem function became available in FMU firmware version 3.68.
- Bluetooth Board support will be provided in future FMU firmware.

### **941B0107, Rev B (Figure 1)**

Port C: Remote FMU Radio Board (firmware 3.67 and earlier; port B with 3.68 and later)

Port D: Electronic Dispenser Interface (all firmware)

### **941B0107C, Rev E (Figure 2)**

Port A: Bluetooth Board (future)

Port B: Remote FMU Radio Board (3.68 and later firmware; port C with 3.67 and earlier)

Port C: External Modem (3.68 and later firmware)

Port D: Electronic Dispenser

### **Jumpers**

The Rev B QUART utilized two jumpers at each port to select between RS232 or RS422 communications. The newer Rev E utilizes three jumpers at each port to select between RS232 or RS422 communications. In addition, the Rev E has a MASTER MODEM JUMPER, and a QUART2/QUART3 jumper. The MASTER MODEM JUMPER is only installed when an external modem connection is made to port C. The FMU will not recognize the FMU modem if the MASTER MODEM JUMPER is installed.

The QUART2/QUART3 jumper is for future expansion. If a second Quad UART Board is installed, the first board will have a jumper in the QUART2 position, and the second board will have a jumper in the QUART3 position. If only one Quad UART Board is installed, the jumper will be installed in the QUART2 position.

If the FMU firmware is upgraded and the application moves to another position, the jumpers must also be moved to the new position (example: Remote FRB moves from position C to position B, the jumpers must also be moved from J7 and J8, to J3, J4 and J5).

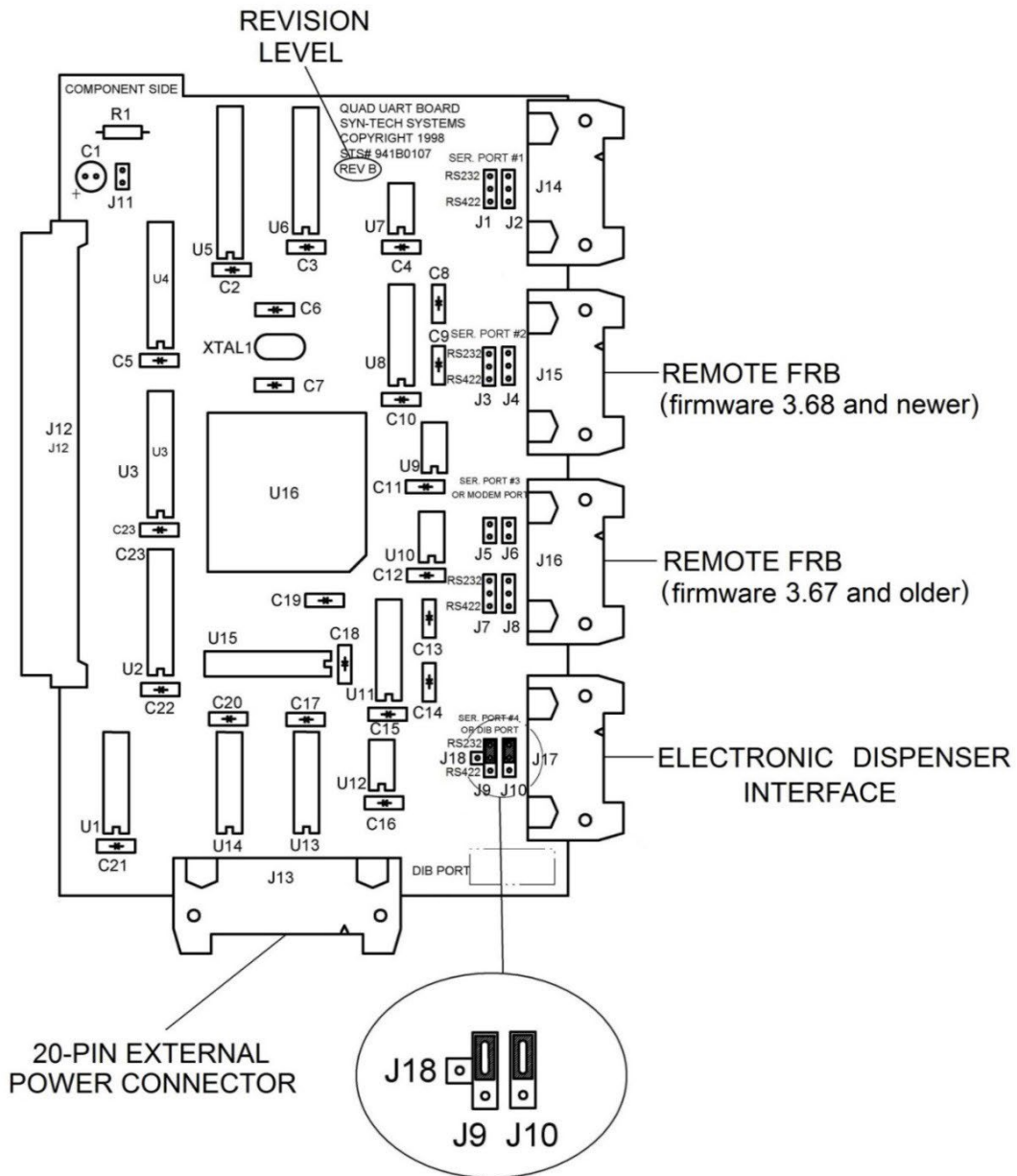


Figure 1. 941B0107 (Rev B) Quad UART Board

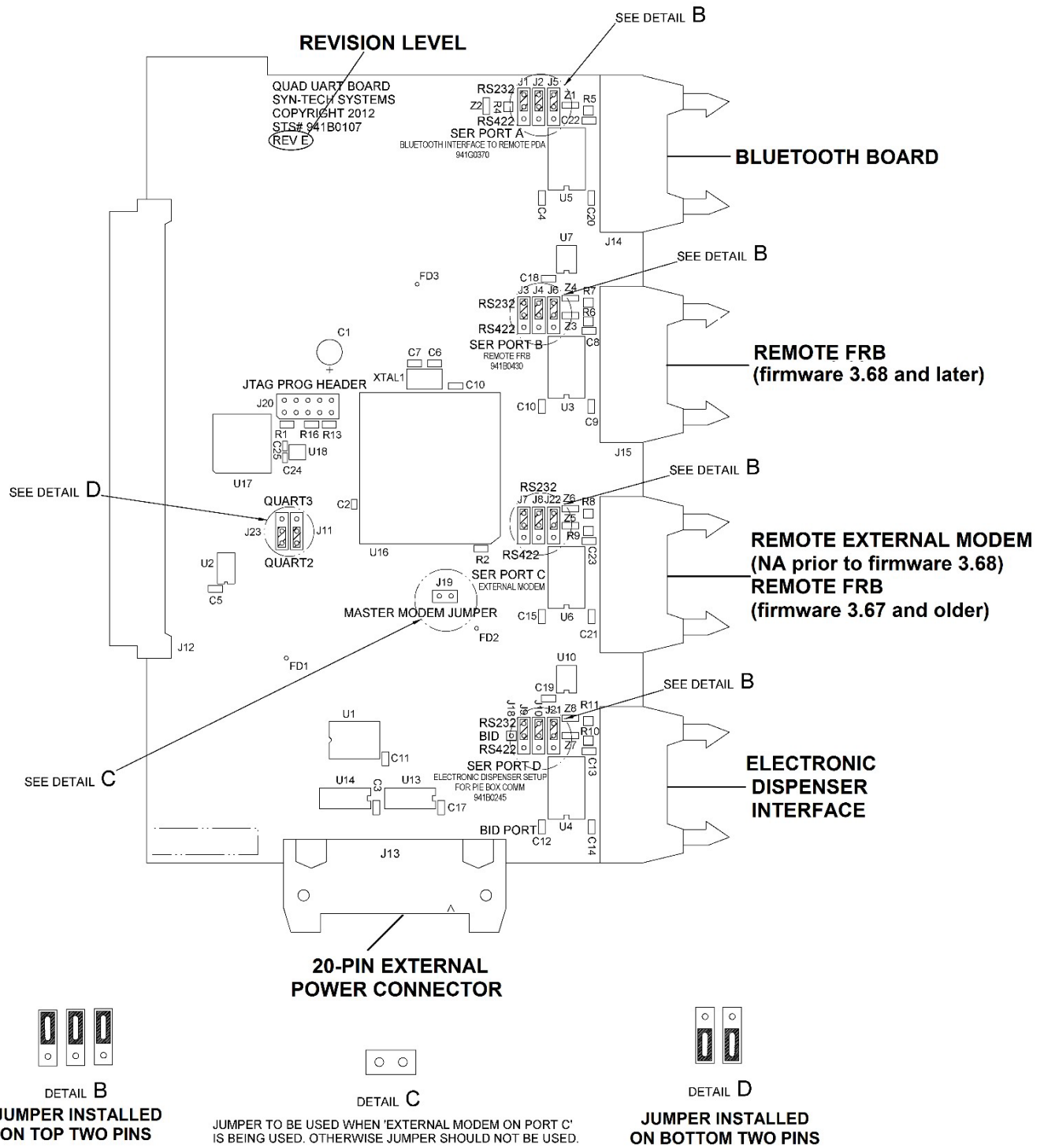


Figure 2. 941B0107C (Rev E) Quad UART Board

## Other References

Product Bulletin 154 provides detailed installation procedures for the Remote FRB. Product Bulletin 195 and the FMU Installation Manual provide detailed installation procedures for the Electronic Dispenser Interface Kit. Product Bulletin 197 will cover applications and use for the External Modem.

**TIP**

If any questions arise, contact Syntech Systems, Inc.'s Customer Satisfaction Center (CSC) at 1-800-888-9136, ext. 2, or email support@myfuelmaster.com.

## Change Log

Date	Description
6/14/2013	Original
4/30/2015	Revision Page 2, added third paragraph explaining movement of jumpers when application moves to new position due to firmware upgrade. Had separate references for 941B0107 and 941B0107C as well as Rev B and Rev E. To minimize confusion, combined 941B0107 with Rev B, and 941B0107C with Rev E. Moved Other References, from page 2 to page 3. Changed CSC extension to ext. 2.
10/9/2015	Corrected error in Figure 2; wrong jumper pin identifier for SER PORT C Reformatted product bulletin to meet new documentation requirements
12/28/2020	Rebranded/reformatted