



TOTALFLOW

Technical Bulletin 86

UCI2 Radio Wiring Recommendation to Prevent Unintentional Keying of Transmitter

Totalflow Technical Bulletin

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1. Purpose

To describe the potential for the UCI2 to produce a spurious pulse signal on both the Key/CTS (radio key line) and TXD (transmit data output) lines.

This problem is only associated with the UCI2 and not the UCI. The picture below is of the UCI2. The telephone connection (tip and ring) can be used to distinguish the UCI2 from the UCI.



UCI2 (used to RS-232/485 conversion or dial-up modem operation)

2. Potential Problem

The new UCI2 (P/N 2017266-xxx or 2017379 kits) can intermittently cause a radio to key (chirp) while cycling the power on the UCI2. This intermittent signal is caused when the UCI2 is wired for 12 volt duty cycle operation used in conjunction with Totalflow's low power protocol. This low power technique, cycles the power to both the UCI2 and remote communications device to reduce overall system power consumption.

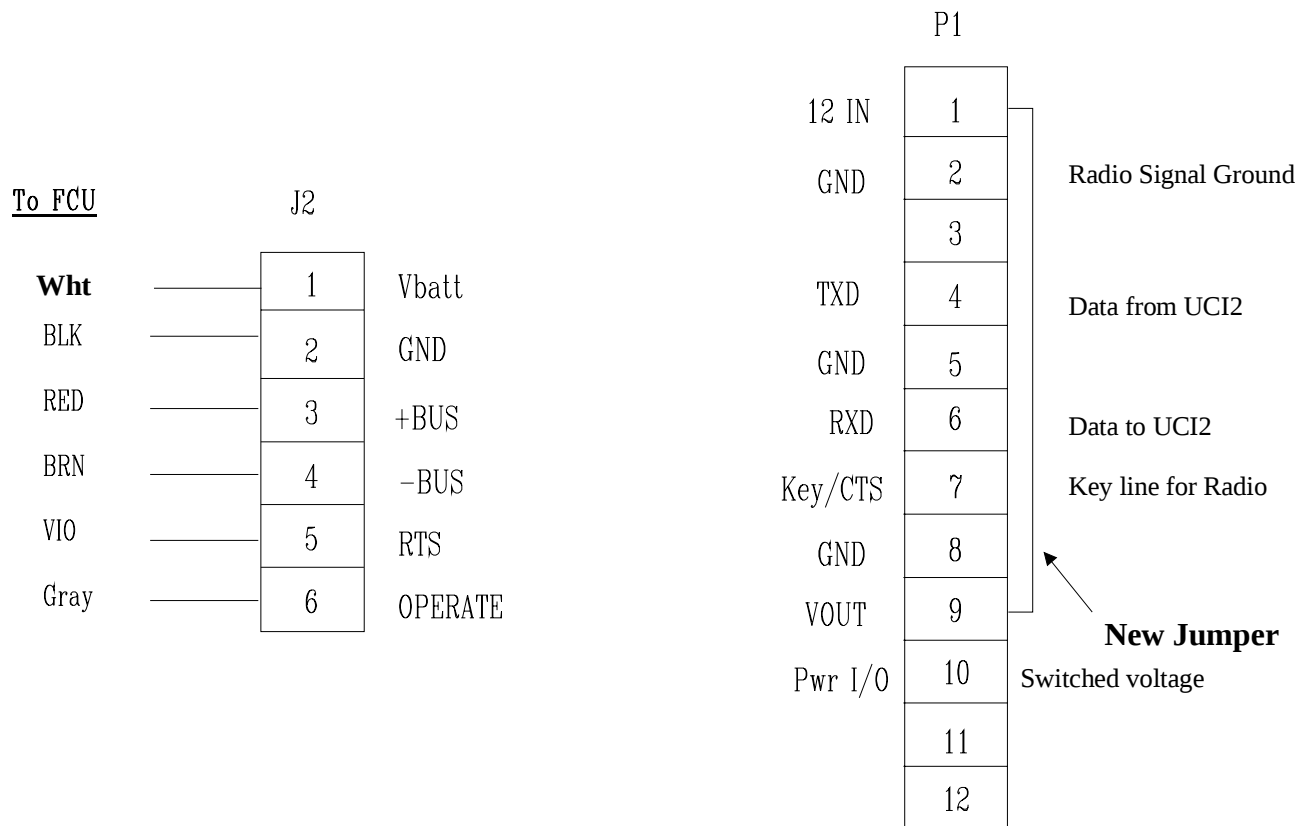
3. Solution

The UCI2 only consumes about 2-4 milliamps of current when used as an RS-232/485 converter. It is recommended that the UCI2 be powered continuously while continuing to duty cycle the remote communications device. This can be accomplished by following the procedure and drawing listed below.



Universal Communications Interface 2 (UCI2)

Wiring change when duty cycling a radio requiring a signal to key the transmitter (i.e. RTS)



Problem: The new UCI2 can cause a radio to key intermittently if the UCI2 is allowed to duty cycle based on Totalflow's 1, 2, or 4 second communications protocol.

Original Documentation: The original documentation allowed the option to either continuously power the UCI2 or to duty cycle power to the UCI2. Duty cycling was achieved by connecting "Operate" (Pin 6 of J2) line of the UCI2 to the operate (model 6400/6700) or switched Vbatt (model 6600) of the Flow Computer. Duty cycling the UCI2 can cause the radio to "chirp" or intermittently key the transmitter.

Solution: Install a jumper between pins 1 and 9 on P1 of the UCI2. If you want to continue to duty cycle the radio, connect the power (Or the inhibit line when using certain MDS radios) from the radio to "Pwr I/O" (pin 10 of P1). The "Pwr I/O" connection will continue to duty cycle as directed by the "Operate" signal.



4. Conclusion

This method of powering the UCI2 should reduce the potential of keying the transmitter unintentionally. The reduced current consumption of the UCI2 should allow most power systems to successfully power the UCI2 continuously without adversely effecting the integrity of the power system. We have taken the appropriate steps to change our wiring diagrams for radio installations using the UCI2. If there are questions concerning this or any other technical bulletin, call our support center at (800) 442-3097 (option 2, 2).