Addendum
m802 Microphone Preamplifier Owner's Manual Rev. H
RS485/RS422 Serial Port Information

Preamplifier Unit

m802 preamplifiers with serial number P802490 and above are now equipped with RS485/RS422 serial ports. These units also contain the original I^2C serial ports and are backwards compatible with previous m802 systems. RS485 is a bi-directional serial bus that can be configured in the same manner as the original I^2C bus.

While both RS485/RS422 and I^2C serial ports are active on the m802, they can not be used simultaneously. Also, the m802 firmware comes set from the factory with the RS485/RS422 port set for RS485 operation. If RS422 operation is required then do the following:

1. **Hold the "SETUP" push-button on the front panel while turning the power on.**

2. **Upon releasing the "SETUP" the m802 screen will display the current function of the RS485/RS422 port.**

3. **Rotate the GAIN/EDIT knob to select the serial mode then push the GAIN/EDIT knob to save the setting.**

Note that the RS485, RS422, and I^2C ports use different pin configurations on the DB9 connector. Please be careful to use the correct wiring for your m802 system. Refer to the connector pin diagram below.

Remote Control Unit

m802RCU remote controls with serial number R802171 and above are equipped with RS485/RS422 serial ports. These units also contain the original I^2C serial ports and are backwards compatible with previous m802 systems.

The m802RCU comes from the factory in RS485/RS422 communication mode. If I^2C operation is desired for controlling older m802 preamplifiers then the software must be set for I^2C mode. To change the communications mode do the following:

1. **With the RCU's power supply unplugged from the barell jack, push and hold the first three leftmost top row buttons (◄◄ + ch1 + ch2).**

2. **While holding, insert the power supply plug. The RCU screen will display the current function of the serial port.**

Release the three buttons, rotate the GAIN/EDIT knob to select the serial mode, then push the GAIN/EDIT knob to save the setting.

Note that the RS485, RS422, and I^2C ports use different pin configurations on the DB9 connector. Please make sure you use the proper cable for your m802 system. Refer to the connector pin diagram below.

## The advantages of using the m802 in RS485/RS422 mode

Ground isolation - The RS485/RS422 ports on the m802 preamplifiers are ground isolated. This ensures that there are not ground loops created in the control wiring of the m802 system. This is especially helpful in situations where there are multiple m802 preamplifiers in distributed locations.

Differential signaling - Since RS485/RS422 is based on a balanced differential signal it radiates far less noise than the older I^2C connection. This means that control signals will be less likely to pollute audio signals in adjacent wiring.

Longer distance - The RS485/RS422 signals can run over very long lines. Control signals can be easily sent over 1000 meters (3937')

Compatibility - With RS422 the m802 control signals can be transported over various standard data links. This includes optical fiber media combiners.

m802 **preamplifier** DB9 pinout upper and lower connector
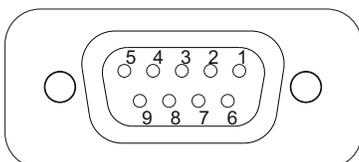
1 I^2C Data
2 I^2C Clock
3 RS485 / Rs422 TX-
4 RS422 RX-
5 Chassis GND (I^2C GND)
6 RS485 / RS422 TX+
7 RS485 / RS422 GND (GND-ISO)
8 RS422 RX+
9 +5V Power Supply Output (relative to Chassis GND)

m802 **RCU** DB9 pinout
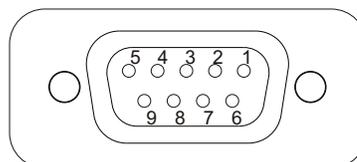
1 I^2C Data
2 I^2C Clock
3 RS485 / 422 TX-
4 RS422 RX-
5 GND
6 Rs485 / 422 TX+
7 GND
8 +8V Power Supply Input
9 RS422 RX+

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