XTB-232 X10 RS232 Powerline Interface

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The XTB-232 is a high-power RS232 serial powerline interface for X10 automation systems. It emulates the CM11A "real-time" protocol, and can be directly used as a CM11A substitute for PC-based automation systems such as HomeSeer, Home Control Assistant, or XTension on the Mac.

Many of you are familiar with the XTB and XTB-IIR X10 Transmit Boosters that have been available since 2006. The XTB-IIR provides support for the original proprietary X10 TW523 protocol, which was defined before computers became a household item. The CM11A included a RS232 serial interface to directly interface with computers. The CM11A has long been out of production, and the XTB-232 was developed as an alternative to provide a more reliable serial powerline interface for PC-based automation systems.

The XTB-232 does not have an internal schedule clock, and will not support any controller functions itself. It will act as a powerline interface for ActiveHome or ActiveHome Pro running on the PC. It handles all CM11A direct-action commands, but will not accept any downloaded functions such as timed events or macros.

Like the other XTB units, the XTB-232 outputs a much stronger signal than other X10 transmitters. While not quite as powerful as the XTB-IIR, it can still output over 20Vpp onto the powerline. When combined with a good tuned-circuit passive coupler like the XPCP, the XTB-232 located near the distribution panel can provide adequate signals throughout an average home.

Collisions can lock up the real CM11A. The XTB-232 contains a "polite" transmitter, and will delay its transmission as long as necessary while waiting for a clear line if there is already X10 activity on the powerline. It will also immediately abort a transmission if it senses a collision, and will automatically retransmit that command after the powerline has cleared. The handshaking defined in the CM11A protocol document ensures the controlling software knows what is actually happening on the powerline. Since an acknowledgement is issued over the serial port when a transmission is successfully completed, the automation software can reissue that command when an acknowledgement is not received in a timely manner.

The XTB-232 handles all normal and extended commands, including the pre-set dim commands used to set brightness levels in Insteon dimmers running in the X10 compatibility mode. The LED indicator provides feedback on the state of the unit. It should glow dim green whenever it is active and monitoring the powerline. A bright green flash indicates it is receiving a potential X10 command, and an orange flash indicates it is transmitting. Red flashes indicate various errors, as explained in detail in the XTB-232 Instructions document: http://jvde.us/xtb/xtb-232_instructions.pdf

The XTB-232 supports the functions detailed in sections 1-4 and 6 of the CM11A Rev 3 Protocol document that can be downloaded here: http://jvde.us/info/cm11a_protocol.txt

The serial configuration is 4800 baud, 8 bits, no parity, and one stop bit.