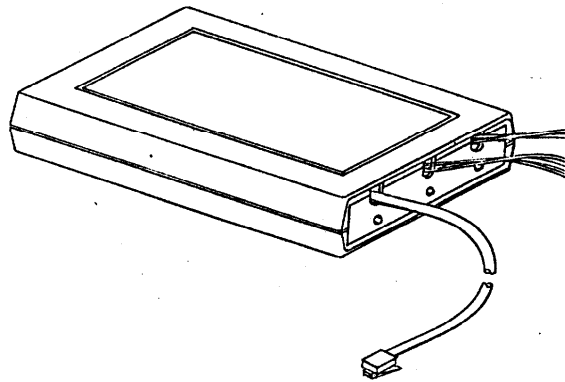




ClipperNet™ MASTER INTERFACE MODULE

THE MODEL M801X MASTER INTERFACE MODULE IS PART OF SOLIDYNE'S ClipperNet SYSTEM. THE M801X PROVIDES A MASTER SERIAL INTERFACE THROUGH WHICH ALL OF THE ClipperNet CONTROLLERS CONNECTED TO A NETWORK MAY BE ACCESSED.

- Isolates and gives added output driver power for the host PC or modem networked 8008LAN controllers, which might be distributed over a large area
- Increases noise immunity and protection for the modem or directly connected PC
- Provides safe and trouble free interface to drive up to 32) 8008LAN controllers for both transmit and receive
- Isolates and converts the RS-232 receive and transmit lines of the modem or PC into a bi-directional twisted pair interface



#M801X

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GENERAL

The M801X Master Interface module provides the communications interface to the ClipperNet building automation system. The M801X is used to connect the LAN to either a modem or directly to a PC. Both male and female "D" connectors are provided. The M801X converts the RS-232 signal from the modem or PC into a 2-wire bi-directional LAN or a 3-wire LAN. A 3-wire LAN can be used for distances in excess of 2000 feet when combined with Solidyne's #M945 Repeater modules.

SPECIFICATIONS

ELECTRICAL

INPUT

POWER: 12VAC, +/- 20%

INPUT

CURRENT: 30mA AC @ 12VAC max

OUTPUT A:

(terminal strip, to Network)
8008LAN bus interface rated for
12-20 VDC up to 50 mA, pulsed

OUTPUT B:

(to Modem or PC, D-con-
nector) RS-232 voltage levels;
Logic "0" = -12 VDC,
Logic "1" = +12 VDC

OPERATING

TEMP: 32°F to 140°F

STORAGE

TEMP: -40°F to 185°F

DATA RATE: 1200 BPS

MECHANICAL

DIMENSIONS: 3.75"L x 2.34"W x 0.905"H (figure 1)

WIRING:

A 5-position terminal strip is used
for supply and LAN wiring

25-pin "D" Female (computer)
[2 = Rcv, 3 = Xmt, 7 = Com, 4-5, 6-20]

25-pin "D" Male (modem)
[2 = Xmt, 3 = Rcv, 7 = Com]

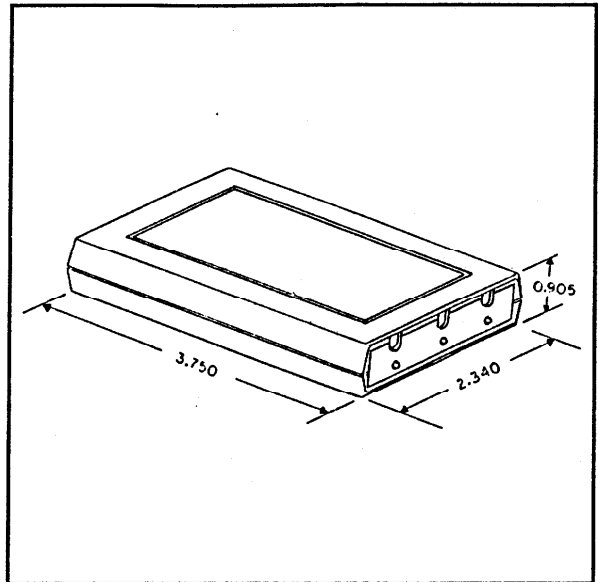


Fig. 1, Dimensions

INSTALLATION

CAUTION

BEFORE INSTALLING OR REMOVING THE M801X MODULE, DISCONNECT POWER TO PREVENT EQUIPMENT DAMAGE OR PERSONAL INJURY.

1. Read the instructions very carefully. If these instructions are not followed damage or injury may result.
2. Discharge any static charge you may have accumulated by touching building ground before touching any components.
3. Check the ratings in the specifications and verify that this product will meet the requirements of your application.
4. This product should be installed by a trained, qualified service technician.
5. After the installation is complete, be sure to check the system out for proper operation.

MOUNTING / LOCATION

The M801X is typically located near the computer or modem, as the indicator LED's are useful in monitoring the LAN communications. The M801X can be located away from the computer or modem if desired, by using a standard RJ-11 telephone extension cable between the M801X and the "D" connector. This distance should not exceed 50 feet.

The M801X is supplied with two 25-pin "D" connectors. The FEMALE connector is for direct connecting to a PC serial port, and the MALE connector is for connection to a modem. Some computers and modems may use a 9-pin "D" connector. If the manufacturer did not supply a 9-pin to 25-pin interface connector, one can be purchased at most computer hardware stores.

IMPORTANT NOTE

PDC-832 communication software versions earlier than 2.0 require the serial port to be the COM-1 port of the PC. This is not programmable. Versions 2.0 and greater allow selection of either COM1 or COM 2 from the CONFIGURE menu. If your computer's serial port is not configured to match the software, PDC-832 will not work. Refer to the PDC-832 manual for further details.

WIRING

1. Remove the top cover from the M801X module to reveal the terminals as shown in figure 3.

2. Connect an isolated 12VAC supply voltage or use enclosed XFM-1 plug in transformer. Wire the 12VAC wires to the 2 terminals on the 5-position terminal strip furthest from the RJ-11 jack. Make sure the wires are screwed in tight and that strands are not accidentally touching other terminals. DO NOT plug in the XFM-1 until all wiring is completed. Refer to figure 2 for terminal designations.

3. The remaining 3 terminals of the 5-position terminal block are used for wiring into the 8008LAN bus. One terminal is designated as COMMON and the other terminals are TO LAN RCV and TO LAN XMT. Reversing any of these wires may cause damage to LAN and/or the M801X. The COMMON wire can be attached to the terminal labeled

MODEM COM of any 8008LAN in the network, or be spliced into the LAN bus common. Similarly, the TO LAN RCV is wired to the MODEM RCV, and the TO LAN XMT to MODEM XMT. Make sure all connections are tight and check for proper polarity.

5. Note that a 2-wire LAN system will have the "Modem Rcv" and the "Modem Xmt" terminals jumpered at the Clipper baseplate. This is normal, as the M801X is designed to operate with either a 2-wire or a 3-wire LAN system.

NOTE

It is very important that the common side of the bus is not connected to building ground nor any of the sensor commons.

6. The 4-conductor phone cable supplied with the M801X plugs into the RJ-11 jack on the M801X, and into either the male or female "D" connector for connection to a PC or modem respectively. The M801X can be located away from the computer or modem if desired by using a standard RJ-11 telephone extension cable between the M801X and the "D" connector. This distance should not exceed 50 feet.

7. Plug the XFM-1 into a 120 VAC outlet to power the M801X. The POWER ON LED should light.

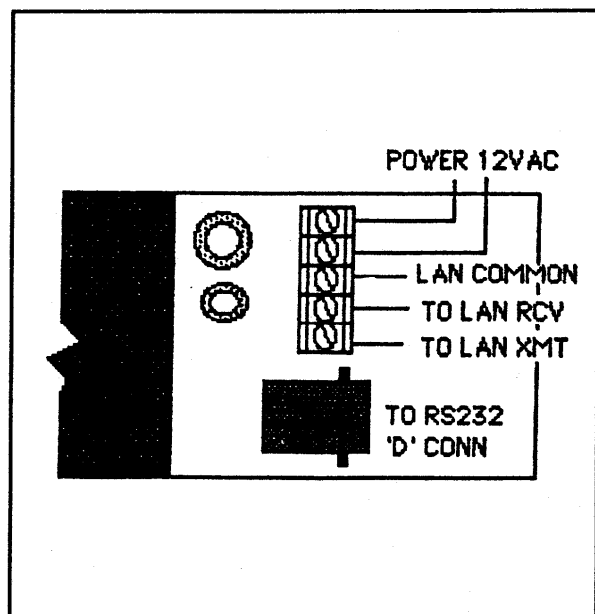


Fig. 2, Terminations / Wiring

WIRING SUGGESTION

Many users require the use of both direct connect communications as well as remote. This can be accomplished in several ways.

1. A standard 2-line manual telephone line switch can be purchased along with 2 telephone line extension wires with RJ-11 plugs. The M801X plugs into the PHONE jack, with the male "D" connector (computer) plugged into LINE 1, and the female "D" connector (modem) plugged into LINE 2. This is the easiest method, as it requires no special wiring.

2. A 4PDT switch can be purchased and spliced into the 4-wire cable. The M801X wires are connected to the COMMONS of the switch, with one set of poles connected to the male "D" connector wires and the other set connected to the female "D" connector wires.

3. A 4PDT relay can be used in place of the switch mentioned above, along with a "twist timer" to activate the relay. The operator at the computer would activate the twist timer as long as he is direct connected, but would turn it off or allow it to time out when he leaves, thus allowing remote communications via modem. This method eliminates the possibility of the operator forgetting to change the switch back to the modem setting and thus prohibiting remote communications.

Note that if you utilize one of the above methods or invent your own, only one type of communications can occur at a given time. It must be *EITHER* direct connected *OR* remote.

OPERATION

Boot your PC and load the PDC-832 software. The PC should either be connected to the a 1200 baud modem or be directly attached to the 8008LAN bus.

Use instructions outlined in the PDC-832 software manual to connect to the 8008LAN bus line. The heading on the top of the screen will show ON-LINE when communications have been established.

There are 3 LED's on the module to indicate POWER ON, LAN RCV and LAN XMT status as shown in figure 3. When power is applied the POWER LED will be lit. If the module is receiving data from the LAN, the LAN RCV LED will flicker. This will occur even when OFF-LINE, as the M801X will see the Clippers sharing data. If the module is transmitting data, the LAN XMT LED will flicker. (Note: When the M801X is connected to a modem, the LAN RCV LED will correspond to the modem's SD LED, and the LAN XMT LED will correspond to the modem's RD LED.

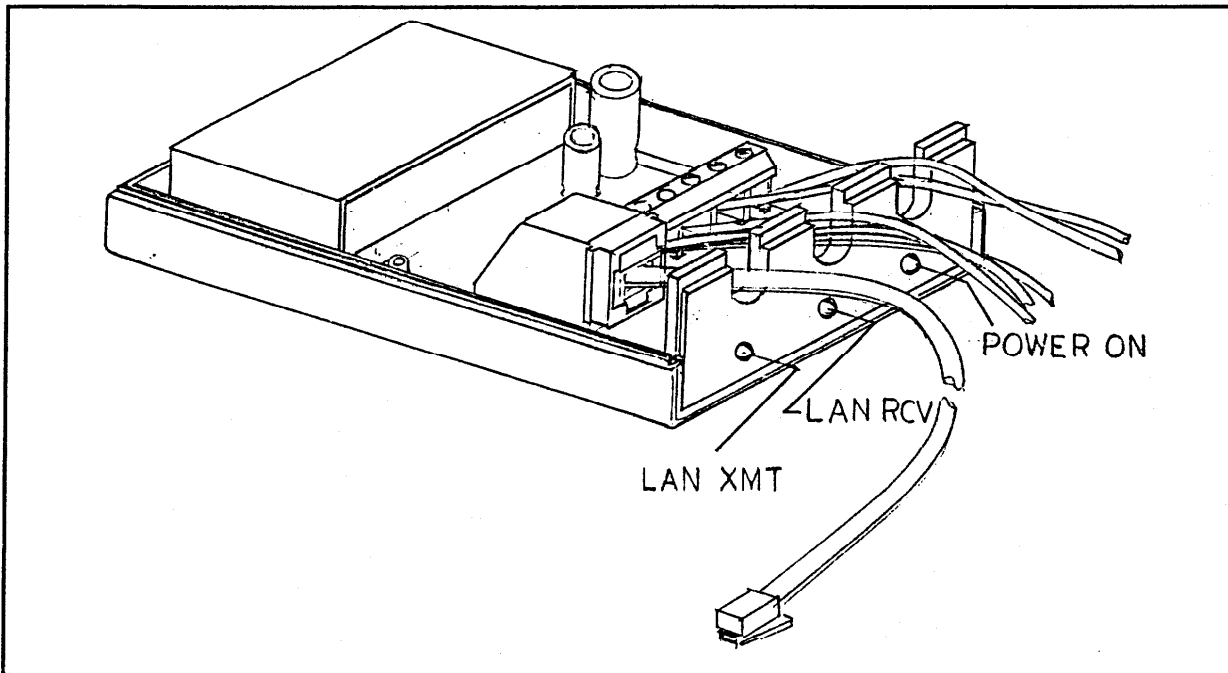


Fig. 3, LED Indicators

CHECK OUT PROCEDURE

If you are not able to complete successful communications, perform the following checks:

1. Make certain the M801X is securely and properly wired to your modem or PC.
2. Check that the M801X is powered properly via XMT-1 power source. The "Power ON" LED on the M801X should be lit. If not, check for 12 VAC with an AC voltmeter to verify that the M801X is receiving power.
3. Check that "common" and "signal" lines of M801X are properly wired at the 8008LAN bus and at the M801X.
4. Check the COM1 or COM2 of your PC for proper wiring, designation and installation. Check all optional cards installed in your computer to be sure that there is no conflict. In particular, if you are using a serial mouse, check that the mouse and modem are not set for the same port. Read your

PDC-832 manual carefully for requirements and operation of PDC- 832 software.

5. Check the "LAN RCV" LED on the M801X. When wired to the LAN, the "LAN RCV" LED will occasionally flash as the networked units are share information.

6. Contact Solidyne's Customer Service for technical help if items 1-5 check out and you are still having problems after reviewing the PDC-832 instruction manual. Have the following information ready:

A: Brand and model of computer

B: Brand and model of monitor

C: Brand and type of optional cards installed

D: Brand and model of modem used at each end

E: Number of Clippers on network and distance between units

2/90

ORDERING KEY

Refer to your authorized Solidyne Wholesaler or Blue Sheet price list for ordering information.

If you have additional questions or need further information related to this product or any other Solidyne products, call (800)648-3980 for ordering information, or call (708)394-4933 for technical help and support.

1. Order part# M801X
2. For use with 8008LAN systems only
3. Use a Hayes 1200 baud smart modem at the Clipper side for remote communications
4. Requires Solidyne's PDC-832 software for communications