Instructions for Product Operated Network Interface Used with IMPACC Networks

THE PONI

The Product Operated Network Interface (PONI) communicates information between a computer control station and IMPACC™ or INCOM™ compatible product(s). The PONI gets power from the product to which it is attached and needs no other source of power. The PONI operates over a temperature range of 0° to 70°C.

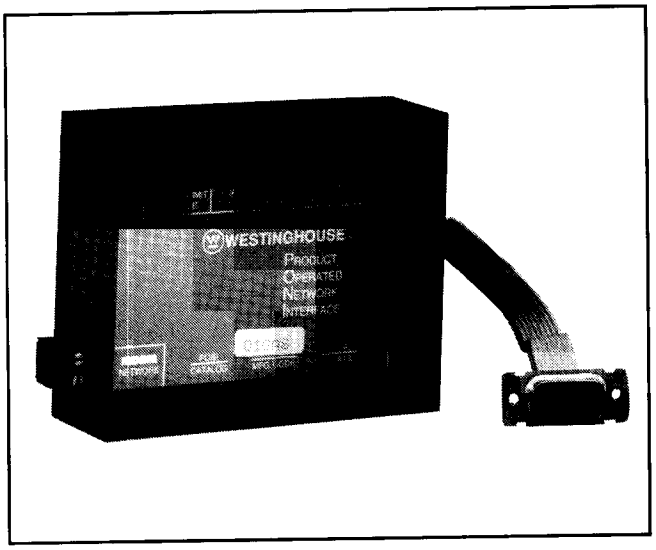

Fig. 1 The Westinghouse PONI

The PONI has a function selector switch located on the side of its package (Fig 10). The selector switch selects the function of the PONI to be one of three unique PONI's in addition to selecting the IMPACC baud rate. The function choices are:

1) IMPACC PONI
2) TSF PONI
3) Buffering IMPACC PONI

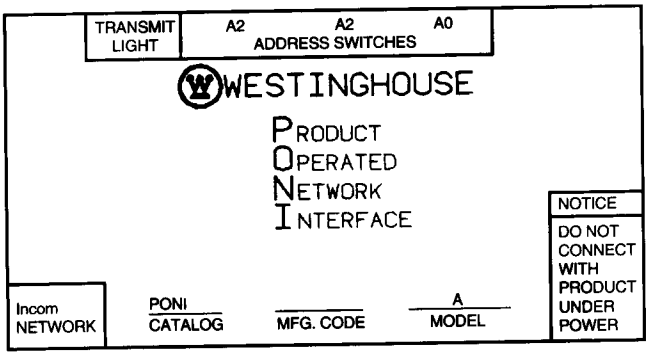

Fig. 2 PONI Nameplate

The choices of IMPACC baud rate are 1200 or 9600 baud. All products on an IMPACC network must be set for the same baud rate.

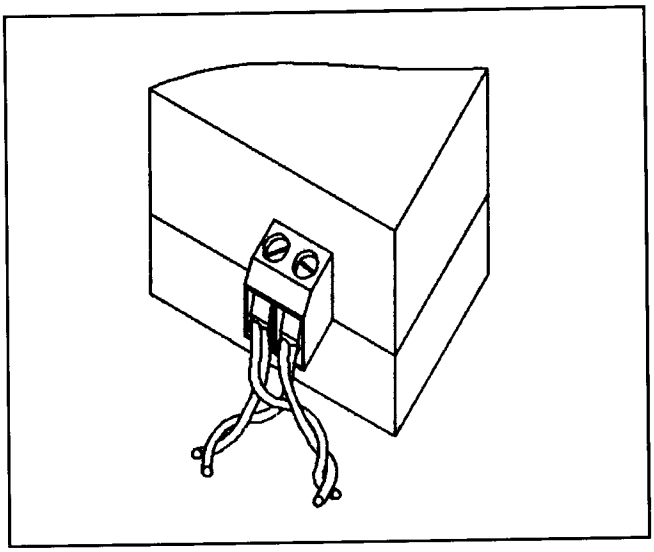

Fig. 3A Twisted Pair Termination

Each PONI has three hexadecimal (digits 0 through 9, plus A through F) selector switches that must be used to assign a unique address to each product in the INCOM network. A light emitting diode (LED) located to the left of the three address switches lights while the PONI is transmitting information into the INCOM network. The LED does not light while the PONI is receiving instructions.

RECEIVING DEVICE

The control station for the IMPACC network must be an IBM personal computer or compatible (PC) or a translator unit that will accept the IMPACC network signals and convert them to RS232 format for transmission to the controlling computer.

TRANSMITTING DEVICES

A PONI may be used with any IMPACC product or any

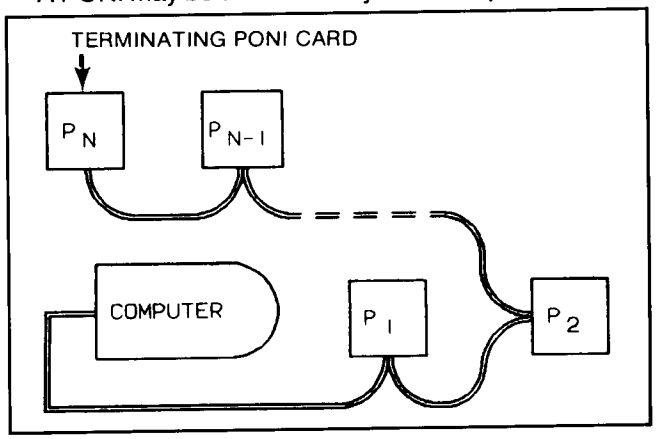

Fig. 3B Network Interwiring

product that is designed to operate with the INCOM network format, and that has the standard INCOM 9 pin D-subminiature connector.

INSTALLATION

The PONI is designed to be installed, operated, and maintained by adequately trained workmen. These instructions do not cover all details, variations, or combinations of the equipment, its storage, delivery, installation, check-out, safe operation, or maintenance. Care must be exercised to comply with local, state, and national regulations, as well as safety practices, for this class of equipment.

CAUTION: Remove power from (deenergize) the device to which the PONI is being attached or wired, otherwise damage will result.

1) Make sure that there is a twisted wire pair present that is intended for IMPACC network use.

   Use twisted pair wire (Belden 9463 or equivalent) to connect each PONI to the IMPACC network, daisy-chain style. Attach the twisted pairs to the two-pole plug located on the side of the PONI assembly (Fig 3). The polarity of the twisted pair is not important. Consult the factory for information regarding transmission line terminations if any PONI is installed more than 2500 feet from the control station computer.

2) Make sure all the mounting hardware for the PONI has been included. Different mounting hardware is needed for connection to different devices. Discard the hardware not used.

Item	Qty.
#8-32 x 1-1/8" Screw	2
#8-32 x 3-3/8" Screw	2
#6-32 x 1/4" Screw	4
#6 Flatwasher	4
#6 Lockwasher	4
Mounting Bracket for IQ1000	1
Mounting Bracket for IQ1000II	1
Mounting Bracket for Custom Panels	1

3) Set the baud rate to 1200 baud if all of the products on the IMPACC network are set for 1200 baud, 9600 baud if all of the products on the IMPACC network are set for 9600 baud.

4) Set the product function switches. Use the following pointers to assist in selecting the correct function:

   A) The product is a direct replacement for a PONI which is operating at 1200 baud. It is desired that the software configuration on the network master PC does not change.
   Set the PONI's function switches for 1200 baud, PONI operation.

   B) The product is a direct replacement for a TSF PONI which is operating at 1200 baud.
   Set the PONI's function switches for 1200 baud, TSF PONI operation.

   C) The product is a direct replacement for a PONI. The desired network speed is 9600 baud. All products on a network must operate at the same network speed.
   Set the PONI's function switches for 9600 baud, PONI operation.

   D) The product is a direct replacement for a TSF PONI and it is desired to upgrade the entire network to 9600 baud but not change the software configuration on the network master PC. All products on a network must operate at the same network speed.
   Set the PONI's function switches for 9600 baud, TSF PONI operation.

   E) The product is a new product and it is desired that the new network is a Standard Buffer Network operating at 9600 baud.
   Set the PONI's function switches for 9600 baud, Buffered PONI operation.

   F) The products application cannot be resolved easily.
   Contact the Westinghouse Advanced Product Support Center 1-800-542-7883.

5) Set the address selector switches.
   Each PONI installed in any one network must have a unique address. The three hexadecimal selector switches offer 4094 different addresses (16x16x16), ranging from 001 to FFE. Records of addresses should be maintained in terms of the hexadecimal number (recommended) or decimal equivalent along with the connected product and the function of the PONI. In a hexadecimal system, A=10, B=11, C=12, D=13, E=14 and F=15. Examples of switch settings are shown in Figure 8.

   To convert from a hexadecimal number to a decimal number...
   1) Multiply the setting on the first (L.H.) switch by 256. (Switch A2)
   2) Multiply the setting on the middle switch by 16. (Switch A1)
   3) Multiply the setting on the third (R.H.) switch by 1. (Switch A0)
   4) Add the results from #1, #2, and #3 together. The result for the second example in Figure 8 is (2 x 256) + (1 x 16) + 10 = 538.

6) Follow the mounting instructions listed below that apply to the product to which the PONI is to be mounted.

6a) MOUNTING TO IQ 1000

Disconnect power to the IQ 1000. Mount bracket as shown in Figure 4, using the hardware indicated. Mount the PONI to the bracket with LED and address switches on top and ribbon cable on the right. Insert the nine-pin connector attached to the PONI's ribbon cable into the matching receptacle on the IQ 1000. With the plug lock assembly in position, tighten the lock assembly screws. See Figure 5. Wire into network with twisted pair.

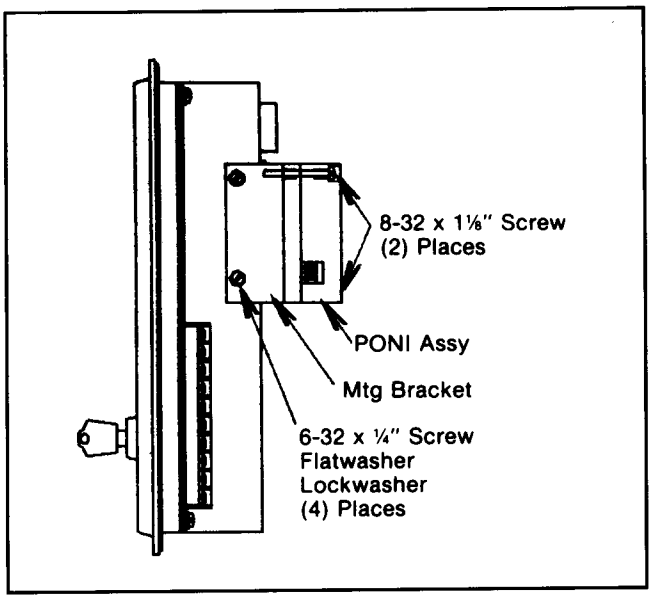

Fig. 4 IQ 1000 Mounting

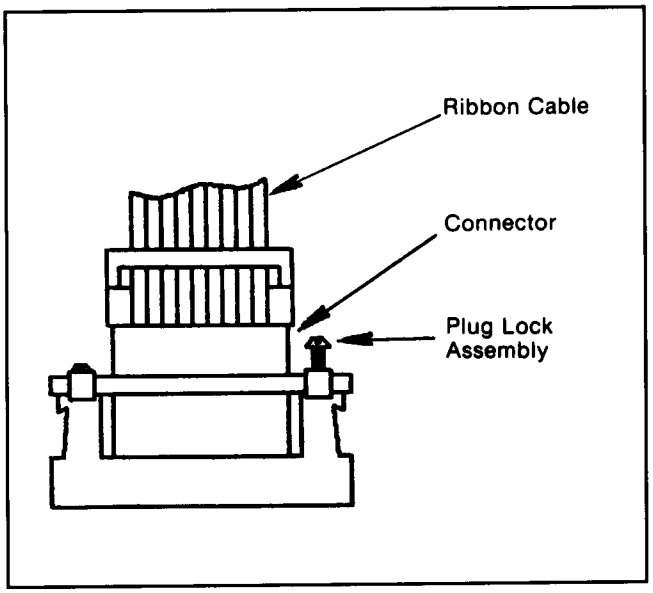

Fig. 5 Plug Lock Assembly

6b) MOUNTING TO IQ DATA PLUS (without power module)

Disconnect power to the IQ Data Plus. Mount PONI on the back of the IQ Data Plus as shown in Figure 6, using hardware indicated, with the LED and address switches on top and the ribbon cable on the right. Connect the ribbon cable from the PONI's to the receptacle of the IQ Data Plus and screw the plug lock assembly tight as shown in Figure 5.

6c) MOUNTING TO IQ DATA PLUS (with power module)

Disconnect power to the IQ Data Plus. Remove the two 8-32 x 1" screws holding the power module to the Data Plus. Remount the power module with the PONI in tandem

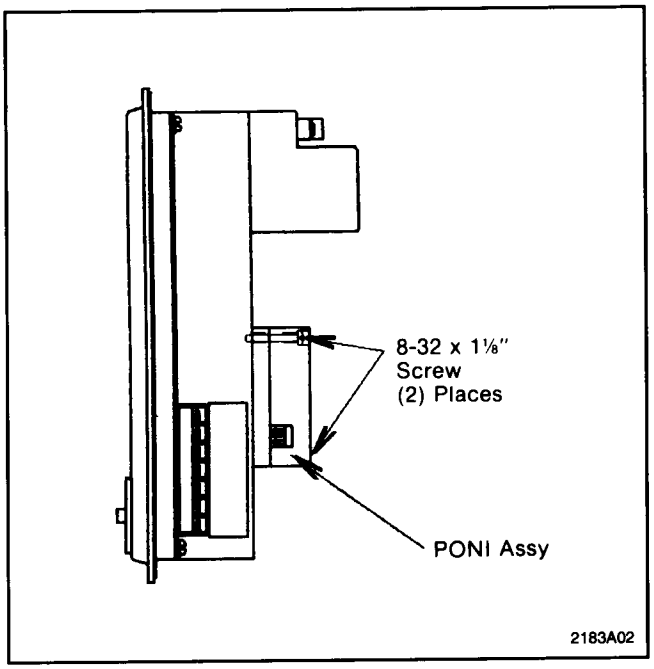

Fig. 6 IQ Data Plus without Power Module

using the hardware indicated in Figure 7. Mount the PONI with the LED and address switches on top and the ribbon cable on the right. Connect the ribbon cable from the PONI to the receptacle of the IQ Data Plus and screw the plug lock assembly tight as shown in Figure 5.

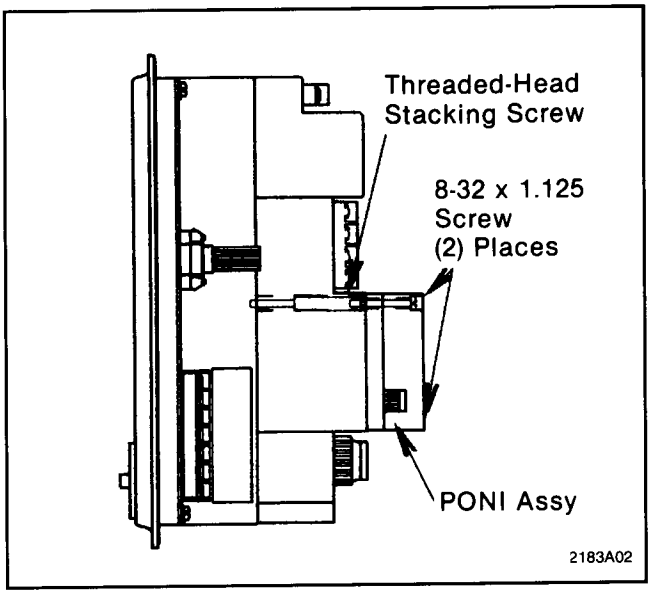

Fig. 7 IQ Data Plus with Power Module

6d) MOUNTING TO CUSTOM PANEL (EXAMPLE)

Disconnect power to the panel. Attach bracket as shown in Figure 9, using the hardware that supports the panel. Mount the PONI to the bracket with two 8-32 x 1-1/8" screws, in the orientation shown in Figure 9. Con-

nect the ribbon cable from the PONI to the receptacle of the panel and screw the plug lock assembly tight as shown in Figure 5.

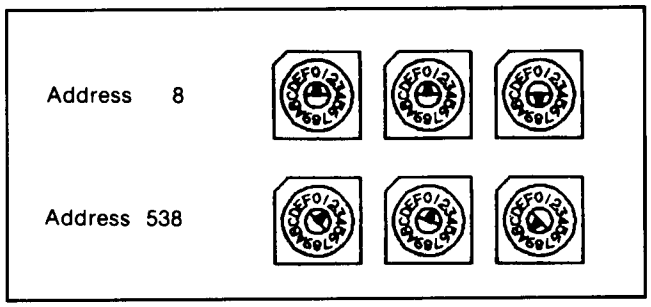

Fig. 8 Address Switch Examples

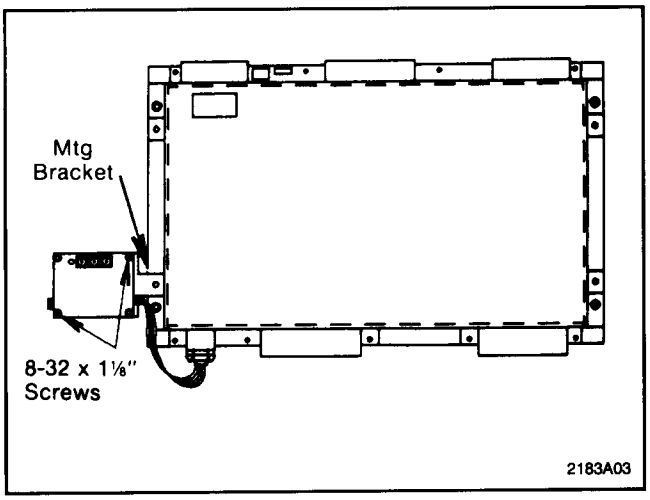

Fig. 9 Typical Custom Panel Mounting

OPERATION CHECK

After the IMPACC system has been installed, check the operation of each PONI by applying power to the parent unit and issuing an IMPACC command, using the application software running on the PC, to each PONI using the selected addresses. The product responds by flashing the LED (OFF to receive, ON while transmitting, OFF to receive). The flashing LED indicates that the product is functioning correctly.

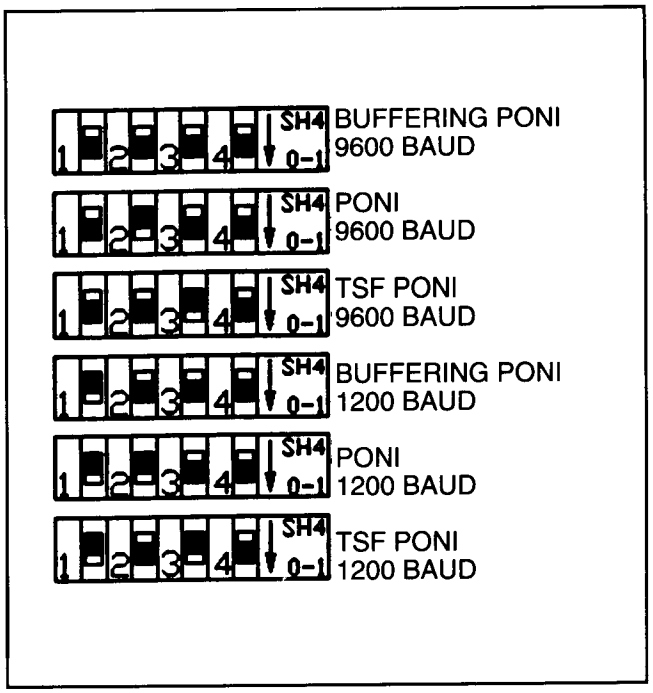

Fig. 10 Function Selection Switch

PONI SERVICING

In the unlikely event the LED remains OFF, try the following items:

1. Check the baud rate selection on the PONI. Make sure that it is communicating at the same rate as the rest of the network.
2. Check the product function.
3. Check the application software installation.
4. Remove and replace the PONI's ribbon cable from the product.
5. Check the IMPACC network wiring.
6. If suggestions 1-5 do not remedy the problem the PONI may need servicing.

There are no user serviceable parts on the PONI. The user should not attempt servicing this equipment. Please contact your local Westinghouse representative or the **Westinghouse Advanced Product Support Center (1-800-542-7883)** for service information or additional questions regarding the PONI or any other IMPACC product.

Westinghouse Electric Corporation
Electrical Components Division
Pittsburgh, PA 15220

Additional Instructions for the Buffered INCOM Product Operated Network Interface used with IMPACC Networks

Addendum for I.L. 17361

THE B-PONI

The Buffered INCOM Product Operated Network Interface (B-PONI) communicates between a computer control station and IMPACC™ or INCOM™ compatible products in a Master/Slave format over a twisted-pair network. The B-PONI uses power from the product to which it is attached and needs no other source of power. The B-PONI operates over a temperature range of -20°C to 70°C.

PONI COMPATIBILITY

Table one shows the IMPACC and INCOM compatible products and which PONI to use when placed into a twisted-pair network.

The B-PONI may be used with products the I-PONI is designed for, but network performance may be compromised.

CONTACT PHONE NUMBERS

APSC	**1-800-809-2772**
	412-494-3750
APSC BBS	**412-494-3746**
FRED	**412-494-3745**
(When using FRED dial the number from the handset of your fax machine.)	

I-PONI (Style Number [illegible])		
• AEM II	• IQ 1000 II	• IQ Data Plus II
• AF 95	• IQ Analyzer	• IQ Data Plus II HV
• AF 97	• IQ CED II	• IQ Generator
• BIM	• IQ Data	• IQ Transfer
• CMU	• IQ Data Plus	• MMCO Relay
• IQ CED		
B-PONI (Style Number [illegible])		
• AEM (TSF Mode)	• IQ 500	• URTD Module
• IQ 1000		
No PONI Required		
• Addressable Relay II		• Digitrip OPTIM
• Alarm Relay		• Digitrip RMS
• Breaker Controller		• IQ Energy Sentinel
• Digitrip MV		
W-PONI (Style Number [illegible])		
• ACM	• Advantage	

Table One PONI Compatibility Guide

There are other versions of the PONI available such as the RS 232 PONI and the PONI Modem, which do not communicate directly on the twisted-pair network. For applications involving these other products consult the *APSC* (Advanced Product Support Center).

Drawing Number 8163A05H01

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