

Instructions for Time Stamp Filter Used in INCOM Networks

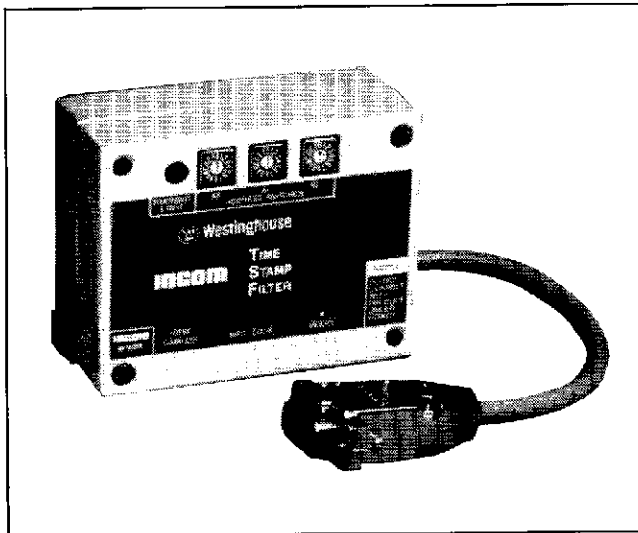


Fig. 1 TSF Assembly

THE TIME STAMP FILTER

The Time Stamp Filter (TSF) is an auxiliary module that is used to communicate information from a solid-state control product to a computer control station via the INCOM network. In addition to providing communications, the TSF collects data from the solid-state device and records the time (expressed in real time) of any status changes in the device. By filtering information from a device, the TSF improves network efficiency and response time over that of a standard PONI card.

The TSF is powered by the device to which it is attached and needs no other source of power. The memory of the TSF is powered by a replaceable 3-volt, type BR2325 lithium battery so that memory is retained through a power outage to the device.

The TSF can operate over a temperature range of 0° to 70° C.

Each TSF has three hexadecimal (digits 0 through 9, plus A through F) selector switches that must be used to assign a unique address to each card in the INCOM network. A light emitting diode (LED) located to the left of the three address switches blinks while the TSF is transmitting information into the network. See Figures 1 and 2. The LED does not light while the TSF is receiving instructions.

RECEIVING DEVICE

The control station for the network must be an IBM personal computer or equivalent (compatible) or a translator unit that will accept the INCOM network signals and convert them to RS 232 format for transmission to the controlling computer.

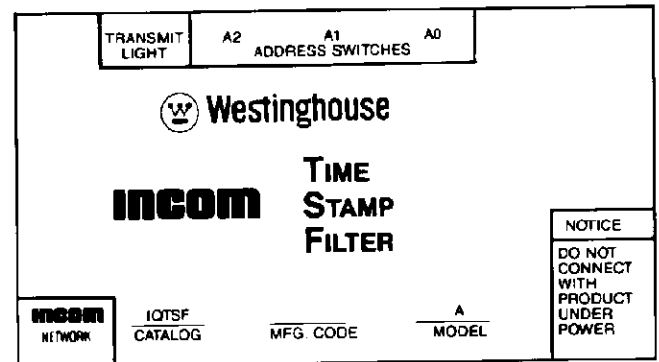


Fig. 2 TSF Nameplate

TRANSMITTING DEVICES

A TSF can be used with any of the following Westinghouse products:

1. IQ 1000
2. IQ Data Plus or IQ Data Plus II
3. Assemblies Electronics Monitor

FEATURES

In addition to monitoring devices on the INCOM network, the Time Stamp Filter provides the following:

- Time stamping and storing of up to 500 events (such as device trips).
- Storage of parameters at the time of an event occurrence (such as currents, voltage, reason for trip, etc.) in non-volatile memory until reported back to computer.
- Protection against loss of information during power outages through the use of non-volatile memory.
- Indication that communication is taking place from the light emitting diode (LED) on the TSF. This feature simplifies communications troubleshooting.

ENGAGING MEMORY BACKUP BATTERY

Prior to use, the TSF's memory backup battery must be engaged by removing the mylar tab located on the left-hand side of the metal case (directly below the INCOM connector). This tab is provided as protection for the battery during shipment only.

INSTALLATION

This industrial type control 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 federal regulations, as well as safety practices, for this class of equipment.

TIME STAMP FILTER

I.L. 17279A

INSTALLATION (cont.)

CAUTION: Remove power from (de-energize) the device to which the TSF is being attached or wired before connecting the TSF, otherwise damage will result.

Use twisted-pair wire (18 gage shielded telephone or instrumentation wire) to connect each TSF to the INCOM network, daisy-chain style in parallel. See Figure 3B. Attach the twisted pairs to the two-pole plug located on the side of the TSF assembly. See Figure 3A. Where the terminating TSF is installed more than 200 feet from the control station computer, connect a 150 ohm, 1/2 watt, carbon composition resistor across the two-pole terminal block shown in Figure 3A. Consult the factory for information regarding transmission line terminations if any TSF is installed more than 7500 feet from the control station computer. There should be at least one, but not more than five, 150 ohm termination resistors in each network.

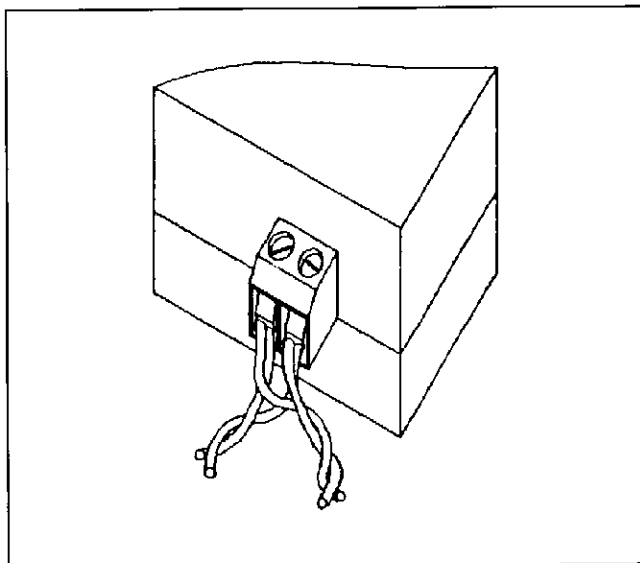


Fig. 3A Twisted Pair Termination

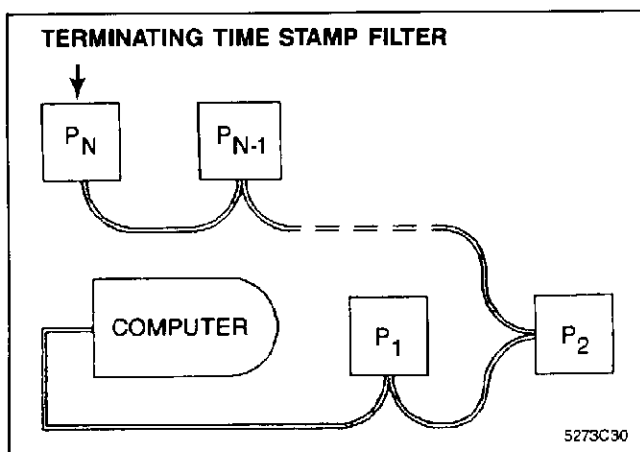


Fig. 3B Network Interwiring

MOUNTING HARDWARE

Each TSF assembly includes the hardware needed to attach the TSF to a transmitting device. Discard the hardware not used.

Item	Qty.
8-32 x 2" Screw	2
6-32 x 1/4" Screw	4
#6 Flatwasher	4
#6 Lockwasher	4
Mounting Bracket for IQ 1000	1

MOUNTING TO IQ DATA PLUS OR IQ DATA PLUS II (without Power Module)

Disconnect power to the IQ Data Plus (II). Mount the TSF assembly on the back of the IQ Data Plus (II) as shown in Figure 4, using hardware indicated, with the LED and address switches on top and the cable on the right. Connect the cable from the TSF to the receptacle of the IQ Data Plus (II) and screw the plug lock assembly tight as shown in Figure 6.

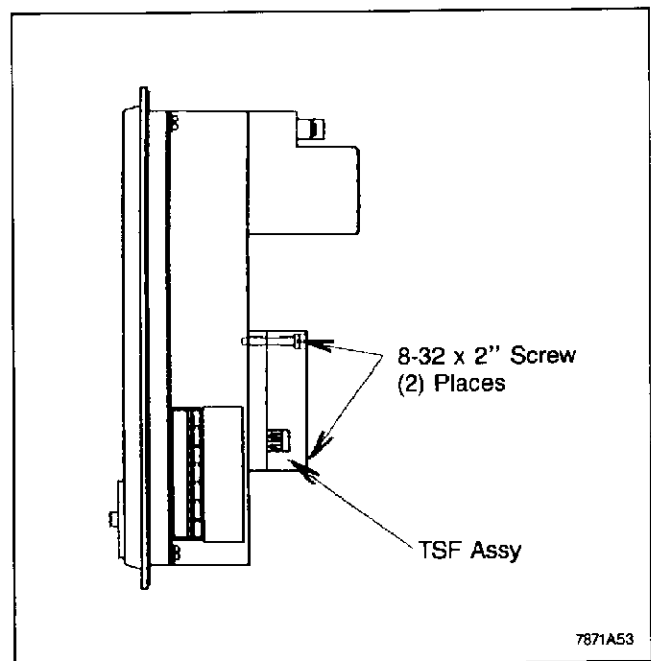


Fig. 4 IQ Data Plus (II) without Power Module

MOUNTING TO IQ DATA PLUS OR IQ DATA PLUS II (with Power Module)

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

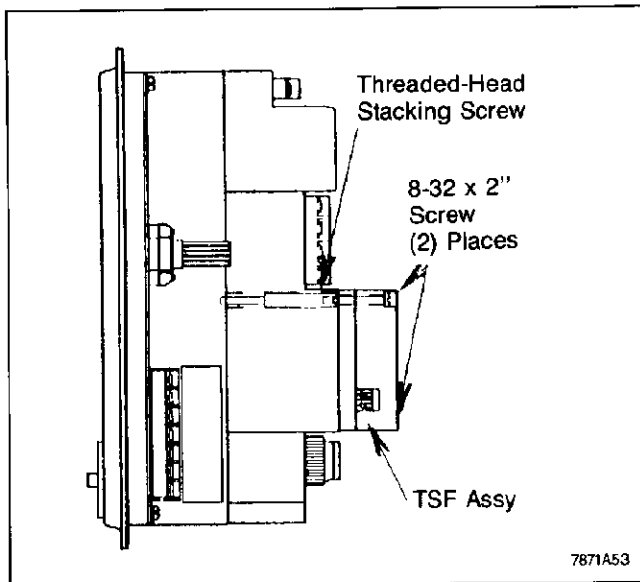


Fig. 5 IQ Data Plus (II), with Power Module and threaded-head stacking screw

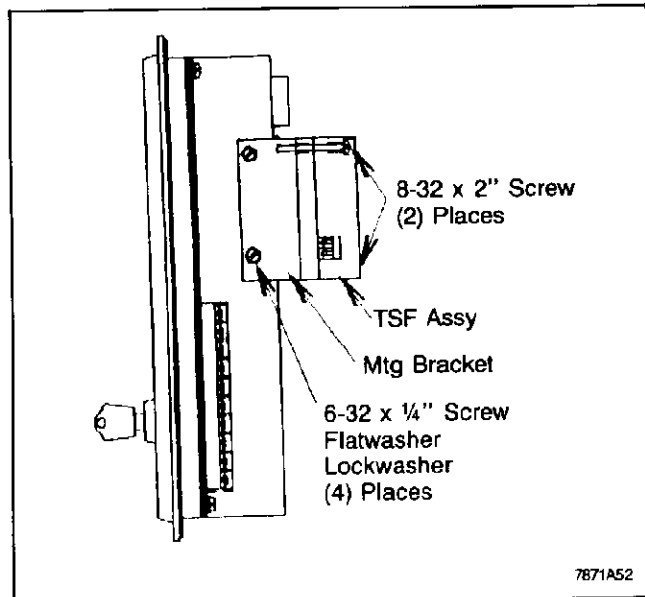


Fig. 7 IQ 1000 Mounting

MOUNTING TO ASSEMBLIES ELECTRONICS MONITOR

Disconnect power to the Assemblies Electronics Monitor (AEM). Mount the TSF assembly on back of the AEM as shown in **Figure 8**, using hardware indicated, with the LED and address switches on the top, and the cable on the right. Connect the cable from the TSF to the receptacle of the AEM and screw the plug lock assembly tight as shown in **Figure 6**.

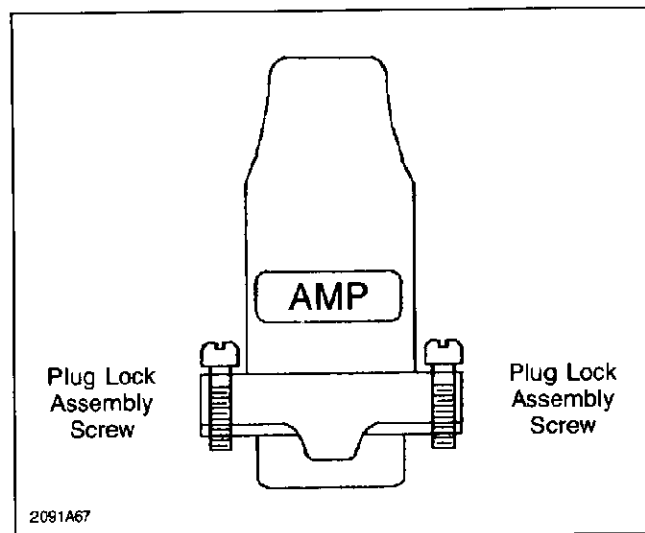


Fig. 6 Plug Lock Assembly

MOUNTING TO IQ 1000

Disconnect power to the IQ 1000. Mount bracket as shown in **Figure 7**, using the hardware indicated. Mount the TSF assembly to the bracket with LED and address switches on top and the cable on the right. Insert the nine-pin connector attached to the TSF cable into the matching receptacle on the IQ 1000. With the plug lock assembly in position, tighten the lock assembly screws. See **Figure 6**.

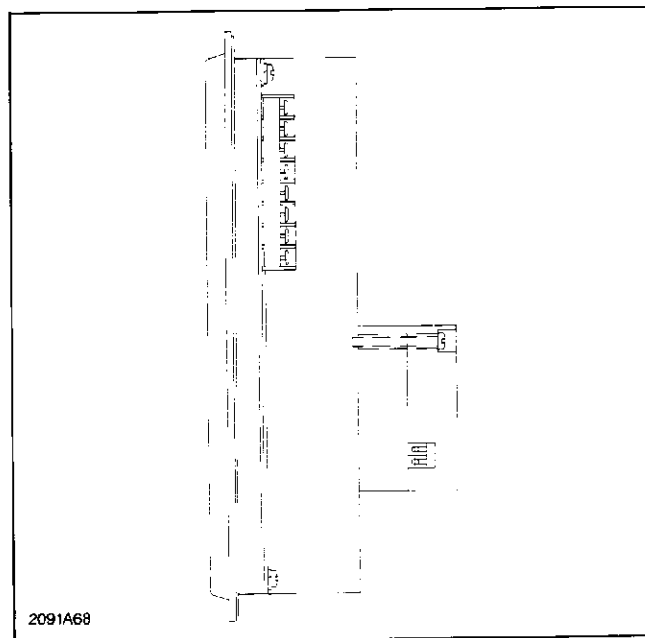


Fig. 8 Assemblies Electronics Monitor

ADDRESSING

Each TSF installed in any one network must have a unique address. The three hexadecimal selector switches offer 4096 different addresses (16x16x16), ranging from 000 to FFF. Records of addresses may be maintained in terms of the hexadecimal number (recommended) or decimal equivalent. 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 9**.

To convert from a hexadecimal number to a decimal number, multiply the setting on the first (L.H.) switch by 256, and add to it the product of 16 times the setting on the center switch, and to that sum add the setting of the right hand switch. For the second example in **Figure 9** (2×256) + (1×16) + 10 = 538.

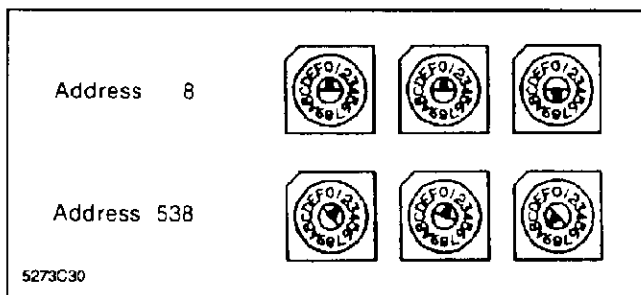


Fig. 9 Address Switch Examples

OPERATION CHECK

After the INCOM system has been installed, check the operation of each TSF by applying power to the parent unit and issuing an INCOM command through the system to each TSF in turn, using the selected addresses. If the product responds by flashing the LED (OFF to receive, ON while transmitting, OFF to receive), all connections are correct.

If the LED remains OFF, check the TSF address selector switches to ensure that they correspond with the address referenced in the communications software. If the LED still does not light, check the communication hardware (twisted-pair wires, CONI card, MINT, etc.) for proper installation and operation. If the LED remains OFF, replace the TSF assembly.

BATTERY REPLACEMENT

With a replacement Type BR2325, 3 volt, coin-size lithium battery at hand, remove the two cover retaining screws. Be alert to capture the two spacers and two flat washers that hold the printed wiring board in position. With a thin blade tool, remove the old battery from the underside of the printed wiring board. Be careful not to bend the printed wiring board connections. Insert the new battery into the battery retainer with the "+" side visible after installation. Reassemble the TSF, placing the flat washers between the posts of lower housing and the printed wiring board assembly.