



ACP 3/5 INSTALLATION MANUAL

PoINet ACP 3/5 Installation Manual

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INSTALLATION/SAFETY **1**

When using your telephone equipment, basic safety precautions should always be followed to **reduce the risk of fire, electric shock and injury** to persons, including the following:

1. Read and understand all instructions.
2. Follow all warnings and instructions marked on the product.
3. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this product near water, for example, near a bathtub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.
5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
- 6 This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.
7. This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your dealer or local power company.
8. Do not allow anything to rest on the power cord. Do not locate this product where the cord will be abused by persons walking on it.
9. Do not overload wall outlets and extension cords as this can result in the risk of fire or electrical shock.
10. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock. Never spill liquid of any kind on this product.

11. To reduce the risk of electric shock, do not disassemble this product, but take it to a qualified serviceman when service or repair work is required. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect reassembly can cause electric shock when the appliance is subsequently used.
12. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - A. When the power supply cord or plug is damaged or frayed.
 - B. If liquid has been spilled into the product.
 - C. If the product has been exposed to rain or water.
 - D. If the product does not operate normally by following the operating instructions. Adjust only those controls, that are covered by the operating instructions because improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
- E. If the product has been dropped or the cabinet has been damaged.
- F. If the product exhibits a distinct change in performance.
13. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning.
14. Do not use the telephone to report a gas leak in the vicinity of the leak.

**SAVE THESE INSTRUCTIONS!!!
INSTALLATION PRECAUTIONS**

1. Never install telephone wiring during a lightning storm.
2. Never install telephone jacks in wet locations unless the jack is specially designed for wet locations.
3. Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
4. Use caution when installing or modifying telephone lines.

GENERAL INFORMATION

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To simplify this installation manual, all graphical representations of ACP product in wiring schematics are of the 3-port model. You may be installing an ACP-5, which is a 5-port device. The installation procedure for both

products is identical concerning interface on the existing phone wiring. The ACP is designed to process and route all incoming calls to data and telephone equipment connected through the ACP to the phone line.

WARNING

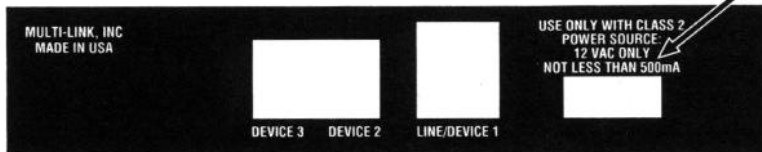
The key to proper operation of the ACP is CORRECT installation. It is VITALLY IMPORTANT that you install the ACP unit between the telephone wiring demarcation point and all station equipment (including KEY systems).

POWERING UP

3

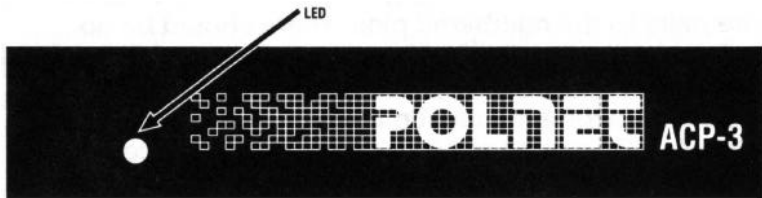
Before installing the ACP on the telephone line, it is a good idea to check for functionality by "powering up" the unit. Take the AC power transformer

(supplied) and plug it into a 110 VAC, 50-60 Hz electrical outlet. Next, plug the power line (attached to the transformer) into the rear of the ACP, here:



At this time, the LED on the front panel of the ACP should

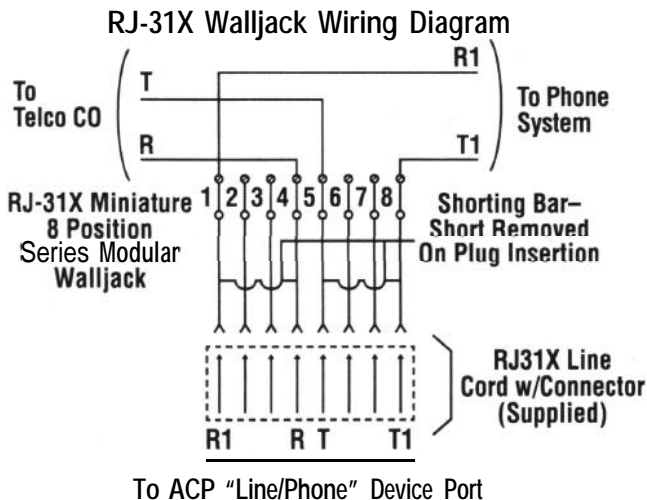
be lit indicating that power is supplied.



WALLJACK WIRING 4

To connect the ACP to the phone line, a RJ-31X modular walljack will need to be installed on to the existing telephone wiring in front of all telephone/data equipment.

The installation for the RJ-31X will be identical to a standard alarm system reporting application. The following diagram denotes the proper wiring of telephone cable to the RJ-31 X walljack.



WARNING

The “Tip” and “Ring” labeling is important when attaching wire pairs to the numbered pins. There should be no deviation from the diagram on **page 5**. Any deviation would result in reverse polarity problems for the phone system and data equipment used on the ACP. The “shorting bars” in the RJ-31 X walljack allow for continuation of voice service to the phone system when the 8-wire line cord is unplugged. If the line cord is unplugged from the ACP and still left attached to the walljack, calls will not get through to the phone system.

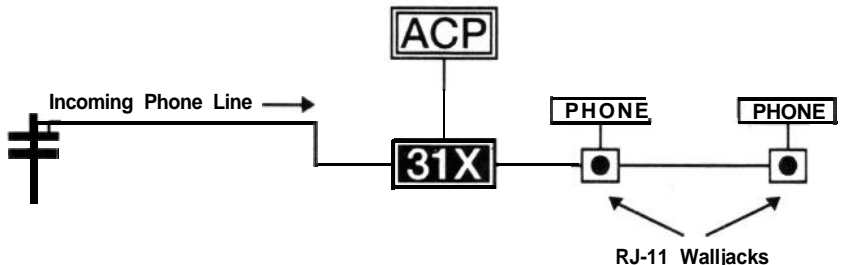
EXISTING WIRING

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In this section, we will detail the most common types of wiring configurations found in a business location. The proper installation point for the RJ-31X walljack in each wiring configuration is represented by a black box labeled “31X”. Installing the RJ-31X at that point or before on the incoming phone line should guarantee correct operation of the ACP unit.

Single Line Installation

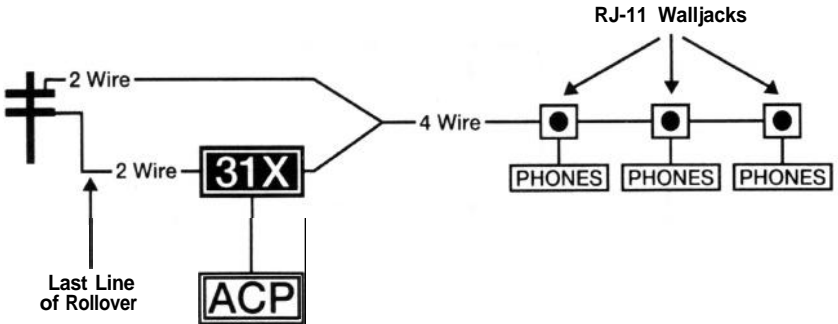
RJ-31X placement in a single-line wiring configuration occurs before all existing phone equipment. The wiring configuration is characterized by a single incoming phone line with single or multiple RJ-11 walljacks.



Two Line Installation

RJ-31X installation on a two line phone system is basically the same as a single line installation, but with a few exceptions.

A) If "Rollover" is present, install the RJ-31 X walljack



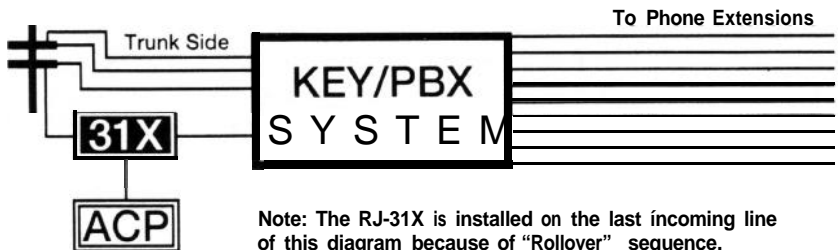
on the last line of the "Rollover" sequence.

B) If the existing wiring is in a RJ-14 configuration, the two phone lines will need to be separated for installation of the RJ-31X walljack on the chosen line.

KEY/PBX System Installation

This type of installation is simple and should be a rarity. The same rule applies for Key/PBX phone system installation as with single and

two-line installations- install the RJ-31X walljack on the incoming phone line before all telephones and telephone equipment! In this case, installation occurs on the trunk side of the phone system.



Note: The RJ-31X is installed on the last incoming line of this diagram because of "Rollover" sequence.

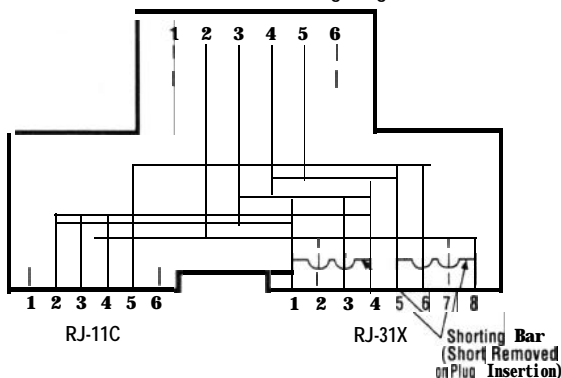
SERIES T CONNECTOR

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When installing the ACP on a single phone line where only one RJ-11 walljack is present, it may be advantageous to use a 4-pin/8-pin series T-connector.

This T-connector, when inserted in a regular RJ-11 C jack, expands the interface to support **RJ-11 C/RJ-31 X** modular connectors.

4/8 Series T-Connector Wiring Diagram



By utilizing a 4/8 pin series T-connector on a regular RJ-11 C walljack, the ACP can be connected to the existing phone line without installing a RJ-31X walljack. The ACP line cord plugs into the 8-pin side of the T-connector and the phone can be plugged into the 4-pin side.

Note: If more than one RJ-11 C jack is present on the existing phone wiring, the 4/8 pin series T-connector should be inserted

on the first incoming walljack on the phone line. The phone line wire running to the next walljack should be disconnected at the first walljack. This will ensure that all incoming calls will be routed through the ACP. If the additional RJ-11C walljacks are needed for phone extensions, simply crimp an RJ-11 C modular plug on the end of the disconnected line and plug it in to the RJ-11 C side of the 4/8 pin T-connector.

Listed below are part numbers for the 4/8 pin series T-connector. If your telephone accessories retailer does not have the part numbers listed in his catalogs, ask him to cross reference

them to another manufacturer's part number.

Part No.	Manufacturer
AT 267 SB	Allen Tel
304A	AT&T

VERIFICATION

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Functions/ Operations Check

After installing the ACP on the phone line, it is wise to make a "functions check" of the unit and the phone system wiring.

To check the phone system wiring:

1. Check all telephones for dial tone. If none is present, unplug the 8-wire line cord (which connects the ACP to the phone line) from the RJ-31X walljack. If dial tone is returned to the phones after unplugging the line cord, check the line cord connection at the LINE/DEVICE 1" port of the ACP 3/5. Reconnect the line cord to the RJ-31X walljack. Dial tone should be returned to the phone system.
2. If dial tone is present but you can not dial out on the line, the phone line polarity may

need to be reversed. This can be done by switching the "tip and ring" wires on the incoming line at the RJ-31 X walljack.

3. After connecting the specified data equipment to the device ports at the rear of the ACP (DEVICE 2/DEVICE 3 for the ACP 3-DEVICE 2/DEVICE 3/DEVICE 4/DEVICE 5 for the ACP 5), the unit should be tested for call routing capability. This can be done by contacting the central office or location that will be polling such equipment and give them the location phone number and device selection codes (if known).

TO THE INSTALLER: If the ACP 3 or 5 fails to operate at any time after installation please contact the location supervisor or corporate MIS Manager.



SPECIFICATIONS

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Input Power Requirements:

At AC Transformer: 110-125 Volts AC Only, 50-60 Hz

At Power Jack On ACP: 12-15 Volts AC Only

Power Consumption Idle: 8 Watts

Ringling A Device: 10 Watts

CO Interface: REN 1.1B

DOC (Canada): Load No. 22.6

Input Ring Detection: 40-150 Volts AC, 15-68 Hz

Device Interface:

Battery: Nominal-45 Volt DC To All Ports.

Off-Hook Detection: 8-150 mA

Ringer Frequency: 33 Hz Pseudo-Sine Wave

Ringling No Load: Approximately 105 Volts AC

Ringling 8000 Ohm Impedance (REN 1.0): Approximately 76 VAC

Ringling 4000 Ohm Impedance (REN 2.0): Approximately 59 VAC

Ringling 2667 Ohm Impedance (REN 3.0): Approximately 45 VAC

Ringling Short Circuit: Current Limited to 30mA

(Impedances of less than 2667 ohms not recommended)



WARRANTY

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DOC Registration

The Department of Communications label identifies certified

equipment. This certification means that the equipment meets certain telecommunications network protective,

operational and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction. Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an accepted method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone

lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the Load Numbers of all the devices does not exceed 100.

Notice: This product has been tested and meets the Class B limits for radio noise emissions set out by the Radio Interference Regulations of the Canadian Department of Communications.

FCC Registration

This equipment complies with Part 68 of the FCC rules. On the bottom of this equipment

a label that contains, among other information, the FCC Registration Number and Ringer Equivalence Number (REN) for this equipment. You must, upon request, provide this information to your telephone company.

The REN is used to determine the quantity of devices you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, the sum of the RENs of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area.

If your telephone equipment causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But if advance notice isn't practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities,

equipment, operations or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

If you experience trouble with this telephone equipment, please contact your PolNet dealer or **Multi-Link, Inc.** for information on obtaining service or repairs. The telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.

This equipment may not be used on coin service provided by the telephone company, and is not intended for use with party line service. This equipment is intended for use only on loop-start service, and will not operate on a ground-start central office line.

Limited Warranty

We warrant that if this PolNet ACP 3/5 product, manufactured by **Multi-Link, Inc.** and purchased by you, proves to be defective material or

workmanship, we will provide without charge, for a period of two (2) years, the labor and the parts necessary to remedy any such defect. Warranty period commences on the date of purchase by the original retail consumer.

The duration of any implied warranty of merchantability, fitness for a particular purpose, or otherwise, on this product shall be limited to the duration of the applicable express warranty set forth above. In no event shall we be liable for any loss, inconvenience or damage whether direct, incidental, consequential or otherwise resulting from breach of any express or implied warranty, of merchantability, fitness for a particular purpose, or otherwise with respect to this product, except as set forth herein. Some states do not allow limitations on how long an implied warranty lasts and some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusion may not apply to you.

To obtain service under this warranty, you must present or send your ACP 3/5 product, together with a copy of the

retail seller's original bill of sale, your charge or credit receipt, or other satisfactory proof of the date of the original retail purchase of the product, to any of the authorized PolNet service centers.

Any postage, insurance or shipping cost incurred in presenting or sending your ACP 3/5 product for service is your responsibility. However, Multi-Link will pay for normal return freight expenses.

The AC adaptor used with this product is covered under this warranty. This warranty does not cover damage which results from accident, misuse, abuse, improper line voltage, lightning strike, fire, flood or damage resulting from repairs or alterations performed other than by PolNet authorized service stations. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Service Information

Your machine has been registered with the Federal Communications Commission, and under this program, in the event of equipment malfunction, all repairs will be performed by

Multi-Link, Inc. or a warranty repair center that we have authorized. The owner is restricted from performing any maintenance operation other than those specified within this instruction manual.

If **you** require service, please contact your Polnet dealer or Multi-Link, Inc.

Multi-Link, Inc.
225 Industty Parkway
Nicholasville, KY 40356
(859) 885-6363

The PolNet ACP 3/5 contains patented and otherwise proprietary circuits and software algorithms. This installation manual describes the operation and function of some of these circuits and algorithms. Unauthorized duplication of this manual is a violation of U.S. and other copyright laws, and unauthorized use of all or part of this manual may result in patent infringement. Therefore, THIS MANUAL IS TO BE USED ONLY WITH OR ASA MARKETING TOOL FOR THE POLNET ACP 3/5. Duplication of all or part of this manual without the permission of **Multi-Link, Inc.** is prohibited.

Printed in the U.S.A.
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