PTI Integrated Systems
PreInstallation Recommendations
Technical Support Form

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PreInstallation Recommendations

This is a list of the equipment to have on hand and issues to consider when preparing for the installation of your PTI System. If you have questions or need assistance, please contact your local PTI Office Technical Support.

1. Check Local, State, and National Electrical Codes. These codes always take precedence over our installation specifications. Meeting code is always your responsibility and PTI cannot be held liable when you do not install to code. Make sure that your installer is aware of and meeting all necessary applicable code. This is especially important if with Gate Operators as UL325 applies.

2. Consider the layout of the site. It is a good idea to have blueprints on hand (or at least a sketch of the plans) to layout the equipment. A copy of this can be sent to your PTI Sales Representative so they can review it with you to make sure that you get the equipment that you need. Be sure to discuss the Local Code particular to your municipality with your PTI Sales Representative.

3. While it may seem to save money in the short run by cutting corners on the installation, your overall satisfaction with the system will be better if you spend the time and money to do it correctly from the start. A poor installation ultimately will be very frustrating, costing much more money as it can lead to loss of revenue as well as many hours of technical support and service personnel time to fix issues with the install.

4. While the PTI Access Control System is designed to be user friendly and simple to use, proper planning and installation of electrical and electronics systems is a process that requires a high degree of technical knowledge. We strongly recommend that installation and setup of any PTI equipment be done by a certified, licensed, qualified, and competent person. PTI Integrated Systems can recommend local dealers and installers, but it is up to the customer to verify their qualifications and negotiate any pricing or contracts unless PTI has been specifically contracted in writing to do so for the customer.

5. Review the manuals and documentation in advance. These are available on our website at www.ptiaccess.com. This documentation can also be obtained by email, fax, or U.S. mail by contacting PTI Technical Support.

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PreInstallation Recommendations (Page 2)

6. Refer to Local Code for wire and installation requirements. We strongly recommend that you use a minimum of 18 awg wire or larger for power, data, and intercom wiring. Door alarms can be run with 24 awg wire. Refer to the Wire Recommendations Document. Consider your wire needs as follows:

   a. PTI can supply the necessary wire for your needs. We recommend that you use this wire as we have tested it over the years and know that it works with our system if it is installed correctly. Refer to local code for wire requirements.

   b. Be sure to plan on enough wire for the run to each remote and door in feet plus an additional 10% - 15% for safety. Take into consideration the linear distance, distance in rise for multiple floors, or the distance in depth for burial when ordering wire.

   c. Be sure to pull an extra 10 feet of wire at each end of a wire pull as you are installing. This allows you to have enough wire to meet your needs without having to splice on extra. When you are ready to install the remotes, trim the excess leaving a one-foot service loop.

   d. Also, leave a one-foot service loop at each junction box. This allows for future maintenance and additions to the site to be more easily performed.

   e. It is a wise idea to pull an extra 18 awg 4 conductor wire throughout the site and set aside several extra sets of conductors in the 24 awg 50 conductor wires for future add-ons, maintenance or repair of wiring if needed. It is less expensive and easier to do this up-front than to try and pull wire later.

   f. Never pull high voltage in the same conduit with the low voltage for your access control, video, intercom, and alarm systems (even if allowed by code). High voltage will interfere with the operation of these systems. Use a separate conduit for high voltage.

   g. Do not use intercom wires that are in the same shield as power and data for the remotes as this will cause the intercoms to buzz and hum. Use a separate 18 awg 2, 3, 4, or 10 conductor wire with its own shield for the intercoms.

   h. Wire splices must be kept to a minimum. Refer to the Correct Splicing Techniques Document.

   i. Wire not run in conduit should be supported with wire hangers that clip to the steel building or by zip ties with screw holes that are screwed into the wall. Refer to local code. Never support wire with adhesive foam pads as these will fail over time.

   j. Verify that there are enough 120V outlets in the office (and/or maintenance rooms) where PTI equipment will be located to support the equipment needs. Consider also other office equipment and electronics that require power such as copiers, fax machines, computers, telephones, lights, water coolers etc. Each power supply, Falcon Base Unit, computer, Video Monitor, etc will require at least one outlet. We recommend a minimum of 2, four-outlet stations for the PTI equipment, however your site may require more.

   k. We recommend keeping a diagram of the wiring layout, showing location of all remotes, location of all power supplies, wire access locations, direction, and type at the site. This can be drawn in PTI Site Builder software, taped to the inside of the main power supply lid, or kept in a notebook. This will help with future troubleshooting and maintenance at the site.

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PreInstallation Recommendations (Page 3)

7. Refer to Local Code for conduit requirements. Consider purchasing the next size bigger than you need to allow for future expansion and maintenance if needed. Be sure to have Pull Boxes at all conduit terminations.
    a. Use only electrical conduit with sweep 90 bends. Do not use sprinkler PVC, plumbing pipe, or direct elbow 90 bends.
    b. Generally, a small site using only power and data for remotes along with intercoms only needs 1 – 1½" conduit. More equipment and larger sites generally require larger conduits.
    c. A 2" conduit will generally hold all the wires necessary for 6 cameras.

8. When installing door alarm magnets, calculate 1 tube of PL Premium per 60 – 70 doors. We also recommend 1 – 2 rivets per magnet. The combination of rivets and PL Premium makes for a very solid installation that will last for many years if it is done correctly. Do NOT use Liquid Nails to install door magnets, as it will fail over time. PL Premium is an industrial grade construction adhesive that is several times stronger than any other construction adhesive and is intended to last as long as the articles that are bonded. We recommend that you wear gloves when using PL Premium. Follow instructions that accompany PL Premium.

9. Have the following tools and equipment on hand:
    a. Basic Hand Tools (wire strippers, screwdrivers, hammer, drill, standard hex keys, wrenches, etc.)
    b. Wire pulling Fish Tape and Wire Pulling Lubrication
    c. Digital Multimeter
    d. Conduit pipe bender, pipe cutter, pipe reamer, hangers, bushings, and connections
    e. Crimp-style wire connectors (Always use the correct crimping tool as recommended by manufacturer) or Wire Nuts. PTI Recommends 3M UG, UY2, and UR2 connectors.
    f. Electrical Tape
    g. Mux Punchdown and Rivet tools if installing door alarms. Also a caulking gun to dispense the PL Premium.
    h. Silicon Sealant to seal the back of remotes
    i. Strong Anchors for concrete, steel, or drywall as needed. Refer to local code for requirements.
    j. Wireless Test Transmitter and Wireless Survey Kit if installing PTI Wireless
    k. Waterproof Junction boxes
    l. PTI Maintenance Kit (This can be ordered from PTI).

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PreInstallation Recommendations (Page 4)

10. Order equipment with enough advance notice so that you can have it on-site prior to installation. When you receive a shipment, check the equipment received against the packing list to verify that you have everything needed. Verify that there isn't any shipping damage. Contact the PTI Shipping Department or your PTI Sales Representative immediately if there are any issues. It is a good idea to plug everything in and verify that you understand the setup prior to the full site installation.

11. If you will be using PTI Software or interfacing to a computer, verify that the computer more than exceeds the total requirements for all software being loaded on it. We strongly recommend that you have Symantec pcAnywhere installed on the computer along with Internet access and email. Refer to the Computer Recommendation and TaskMaster System Requirements documents. Have all software preloaded and tested well in advance of the rest of the site installation.

12. When you have scheduled the site installation and the final system testing, you can contact PTI Technical Support a day or more in advance and schedule a Technical Support person to contact the site and provide support for initial questions or final setup while the installer is on-site.

We strongly recommend that installation and setup of any PTI equipment be done by a certified, licensed, qualified, and competent person. PTI Integrated Systems can recommend local dealers and installers, but it is up to the customer to verify their qualifications and negotiate any pricing or contracts unless PTI has been specifically contracted in writing to do so for the customer. These guidelines are subject to change without notice. With any setup or configuration, some troubleshooting and adjustment of the configuration may be required. This will differ with every installation depending on many outside and site-specific variables. This troubleshooting and configuration may include purchasing additional equipment. In no circumstances will PTI Integrated Systems be responsible for any damages either incidental or consequential based on these recommendations. All installation of electronics and electrical systems must be in compliance with local, municipal, state, and National Electrical Code.

Warning – Cross-wiring AC power to DC components will damage the electronics.
Warning – Cross-wiring DC+ to DC– on the system will damage the electronics.
Warning – Failure to follow prudent installation concepts can result in long-term problems.
Warning – Incorrect installation of electrical components can result in damage to electronics
Warning – Incorrect installation of electrical components can result in personal injury.