



# PBXpress Installation Guide

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## Preface

This document provides general information about PBXpress VoIP PBX as well as installation and configuration instructions.

### Where to get the latest version of this guide

The online copy of this guide is always up-to-date, integrating the latest changes to the product. You can access the latest copy of this guide at: [www.pbxpress.com/docs](http://www.pbxpress.com/docs).

### Conventions

This publication uses the following conventions:

- Commands and keywords are given in **boldface**
- Terminal sessions, console screens, or system file names are displayed in fixed width font



**Caution** indicates that the described action might result in program malfunction or data loss.

**NOTE:** Notes contain helpful suggestions about or references to materials not contained in this manual.



**Timesaver** means that you can save time by performing the action described in the paragraph.



**Tips** provide information that might help you solve a problem.

# Introduction

This guide is created for PBXpress distributors and describes the PBXpress initial assembly and set up process – operations which should be performed before it can be shipped to the end user.

# Assembly

## Pre-requisites

Make sure you have the following:

- Installation CD (provided by PBXpress Communications Inc)
- LCD (provided by PBXpress Communications Inc)
- Server:
  - PC architecture: Intel or AMD
  - USB support
  - CD-RW (or DVD-RW) drive
  - Hard drive
  - At least one network interface (two recommended to utilize all available PBXpress features)
- PSTN interface card by Digium

## Hardware requirements



- RAM: 512MB minimum, 1GB is required for 2 E1/T1 configuration, 2GB is required for quad E1/T1
- Hard drive: minimum 20GB
- Minimum CPU speed: 1GHz



## Ten points for the elimination of ESD damage to PC hardware

1. Make sure you have a reliable ground point available near the work site.
2. Connect your body to the ground point with a wrist strap.
3. Ground all equipment you are working on with ground straps.
4. Handle PC components only on a grounded anti-static work surface.
5. Do not wear clothing which generates static electric charges every time you move.
6. Do not handle static generating objects while working on PC hardware.
7. Store all chips and other components in appropriate anti-static containers.
8. Keep all PC cards in anti-static envelopes until required.
9. Be sure to turn off the power and remove the power plug from all equipment before working on it.
10. Do not plug in or remove devices such as printers and modems while the power is on.

## PC box assembly

If you buy the server already assembled from a vendor, skip this step and proceed to the next one. Otherwise consult the product manual and install the motherboard, CPU, memory, CD-ROM, hard drive and network card.



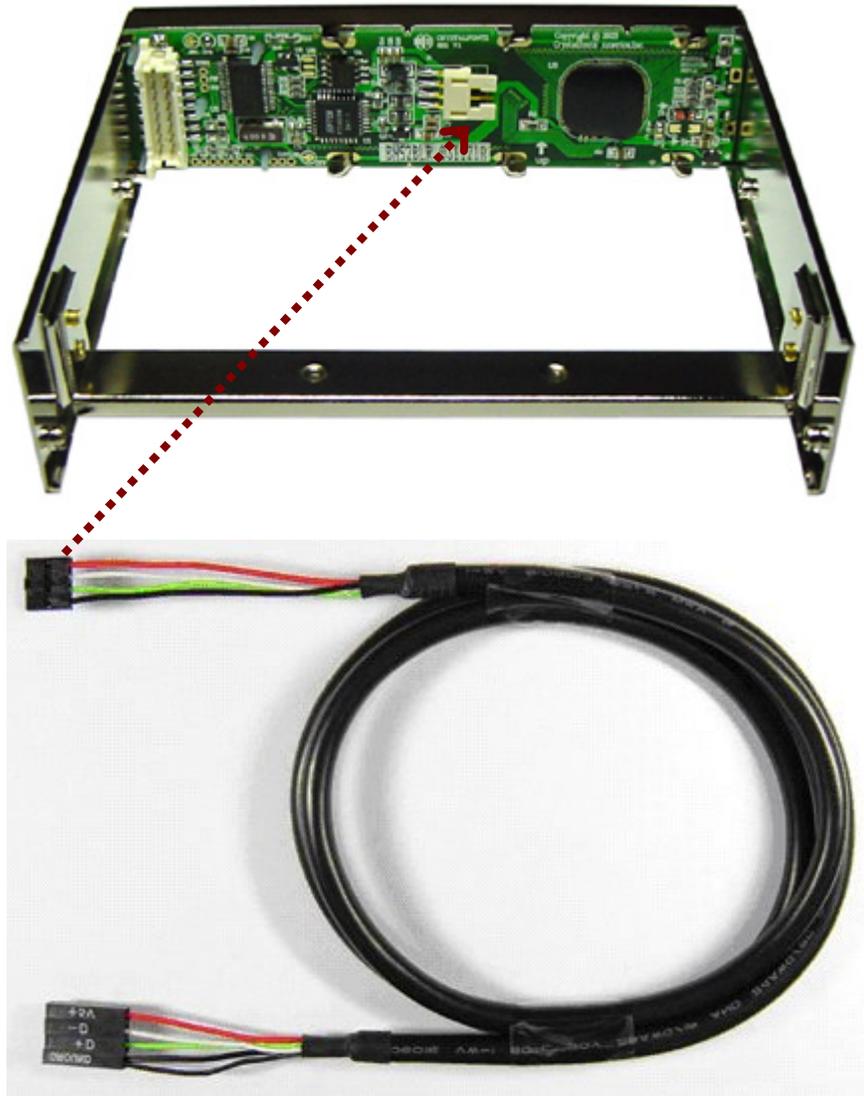
We strongly recommend to disable the reset button on the case by disconnecting cables going from the button to the motherboard. This will help to prevent potential problems with the ungraceful system shutdown, when user will just press the reset button.

## Install the PSTN interface card

Please refer to the user manual, provided by Digium for more details  
[http://www.digium.com/downloads/tdm\\_inst.pdf](http://www.digium.com/downloads/tdm_inst.pdf)

## Install the LCD

1. Connect the cable to the LCD



2. Install the LCD in the available 3.5" slot (the one normally used for floppy-drive)
3. Correctly connect the cable to motherboard, see below

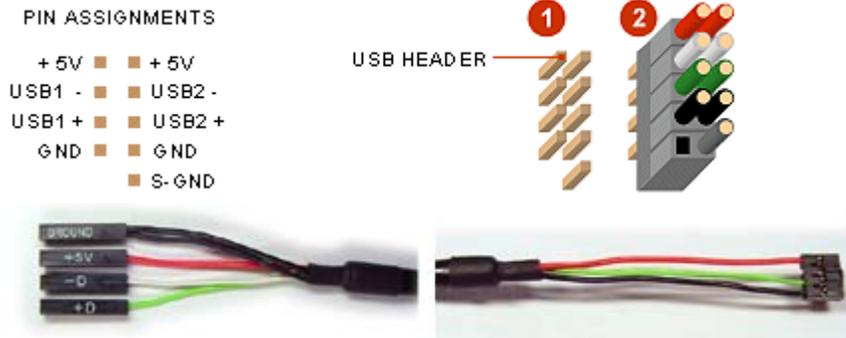
### Header connection

Consult a manual for your motherboard to locate the USB header connector and check the pin layout.

On most motherboards, the USB header/pin-out consists of 9 pins arranged in 2 rows; and each header allows for 2 USB connections (i.e., USB1 and USB2). Normally, the pins for USB1 and USB2 are in separate rows.



Each wire on the LCD connector cable is marked. Connect each wire to the corresponding pin in the same pin row (pin group) on the motherboard. Be extremely careful, since incorrect wire connection can cause a permanent damage to the LCD indicator.



# Installation

Connect the monitor and keyboard, then power on the server. Insert the installation CD in the optical drive (if you did not do it fast enough and you receive “Boot failure” error – simply press Reset).

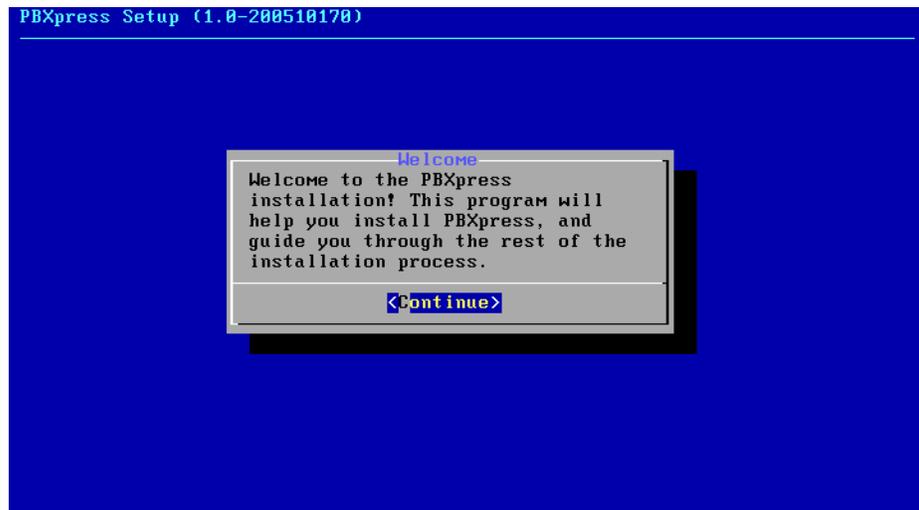
**NOTE:** When you just turn the power on and the boot process is still in progress, the LCD indicator will be dark. This is perfectly normal, and does not signal about a problem with the LCD. LCD will only become active later in the installation process.

When you see the message “Press any key to boot from the CD”, press the **Enter** key.

## Installing a new PBXpress system

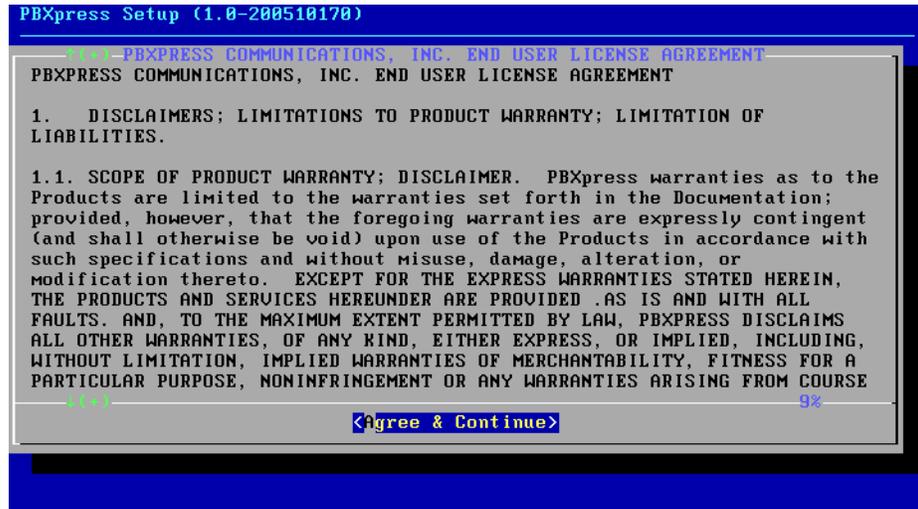
### Welcome screen

After the installation utility has finished booting up you will see the following screen. Press Enter to proceed with the installation.



## Accept the license agreement

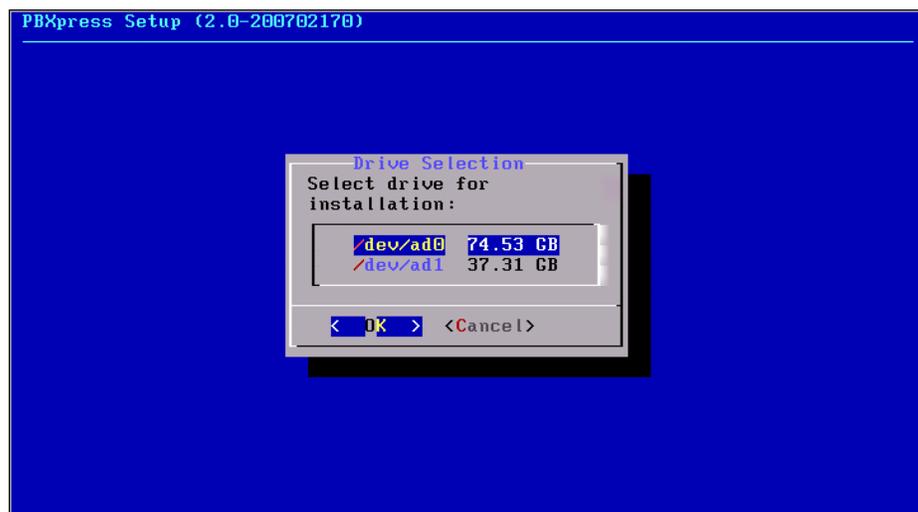
If the LCD display is detected, you will be presented with the PBXpress license agreement. Use **Up** and **Down** arrow keys to scroll the text on the screen so you can read the entire agreement.



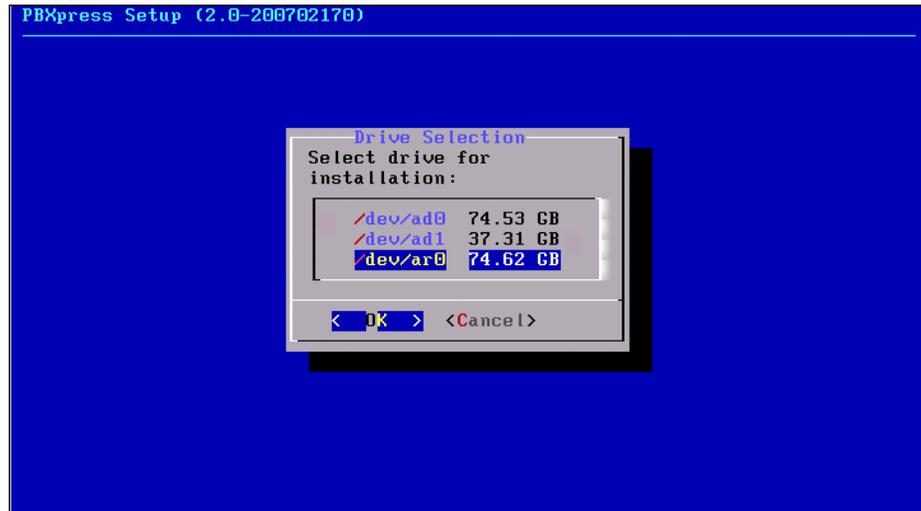
After you press Enter, the LCD display should become active and you will see the PBXpress logo.

## Choose the disk drive (optional)

PBXpress installation program automatically detects all available IDE, SCSI or SATA disk drives. If there is more than one disk device present in the system, you will be prompted to choose, which one you will use for PBXpress. On the screen, similar to the one displayed below, you should choose a specific disk and press Enter.

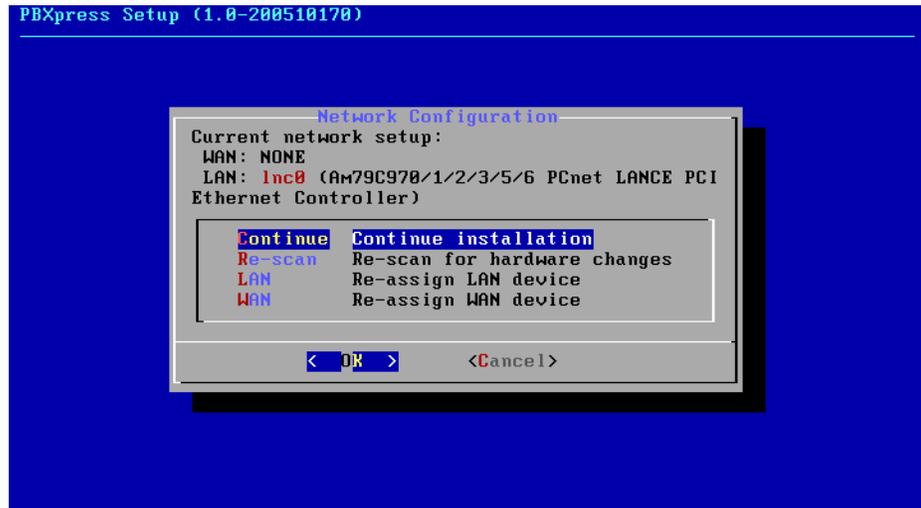


If you have a RAID controller available, please make sure you properly create and initialize the RAID logical disk **before** the PBXpress installation. You will see it in the list of available disk drives. RAID drives have the **ar** abbreviation; make sure you select it and not the physical drives, which are part of the RAID.

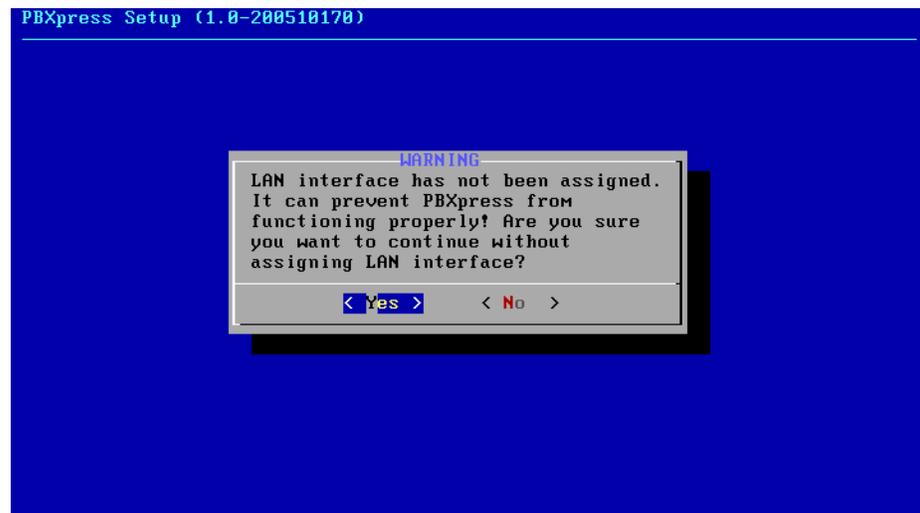


### Assign network interfaces

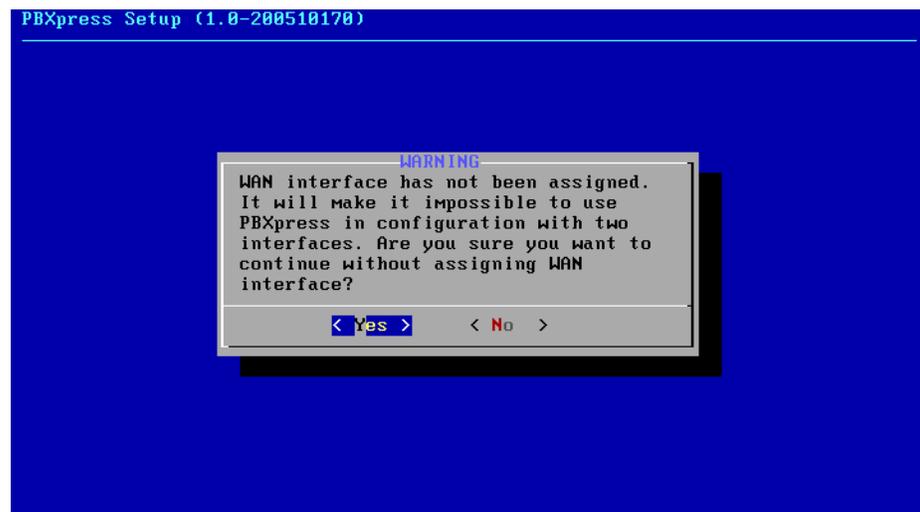
At this stage, you must decide which network interface you will use as LAN and which one as WAN, since it will not be possible to change it later. If there is only one network interface is available, PBXpress will automatically assign it to be a LAN interface, as displayed below.



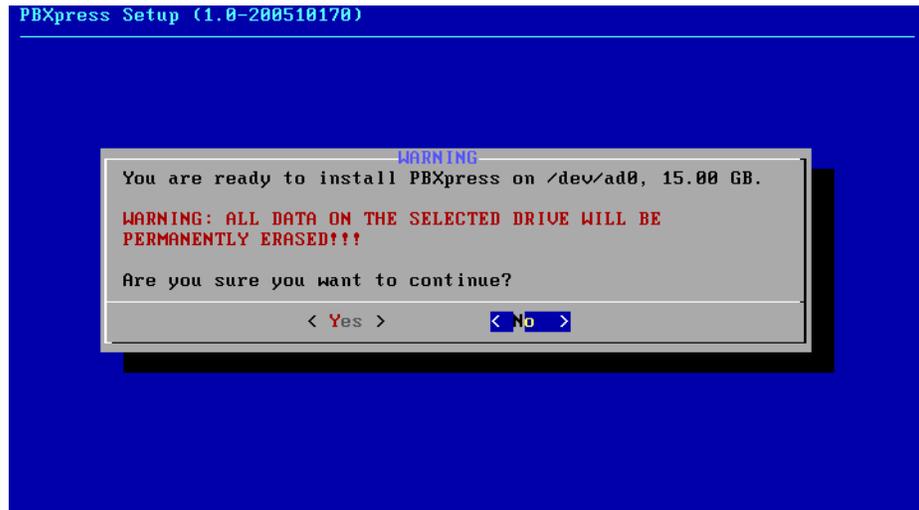
Please note that for the normal system operation LAN interface must be assigned, you will be warned if you try to proceed without assigning it.



If you do not assign the WAN interface, it makes it impossible to use some of the optional PBXpress features – you will be prompted about this.

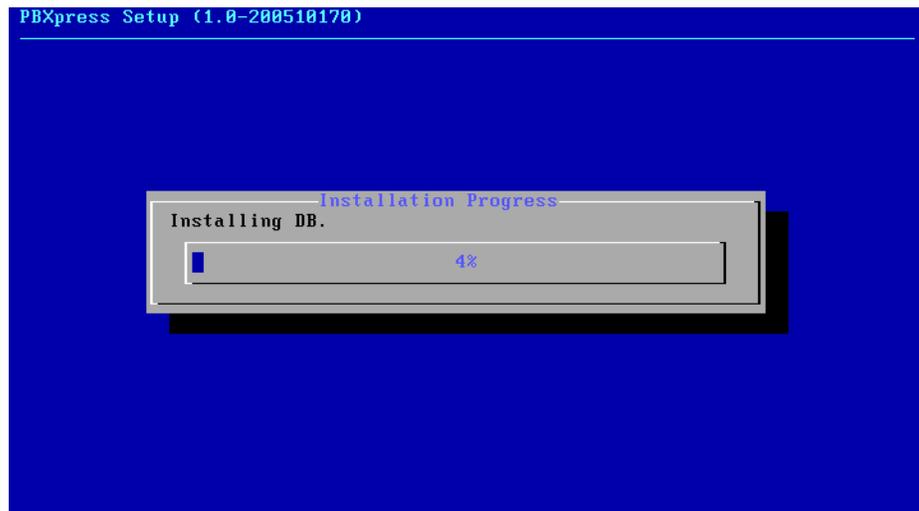


## Start the installation



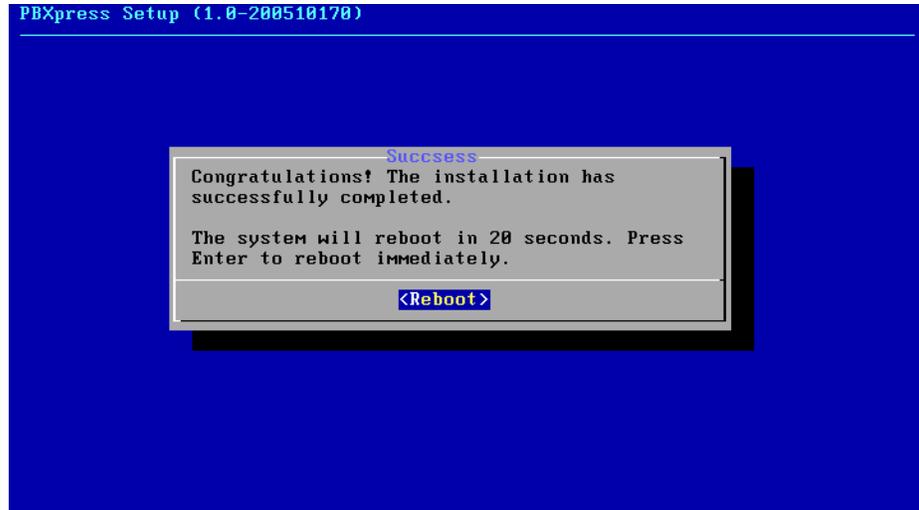
Choose the **Yes** option and press Enter, in order for the installation process to begin.

You can watch the installation progress on the monitor and on the LCD display



## Finishing the installation

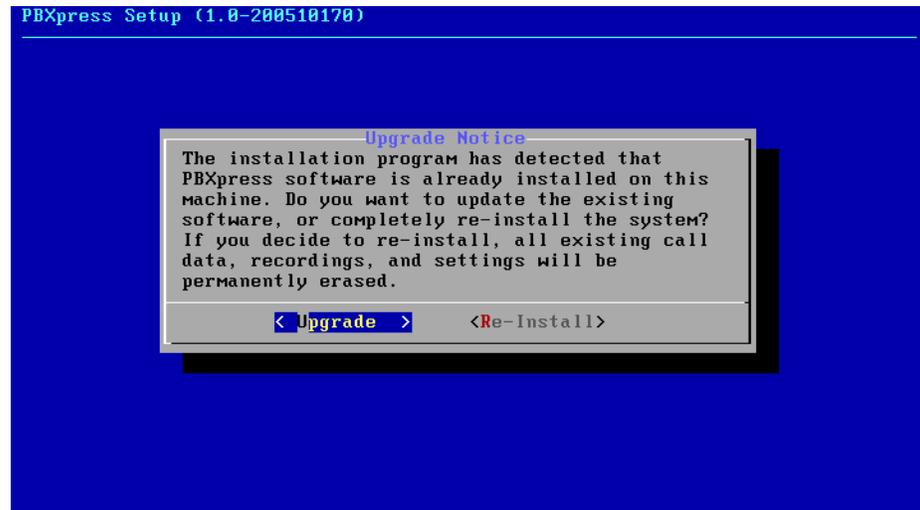
After the installation is finished – press Enter to reboot PBXpress.



When the system starts rebooting, do not forget to remove the installation CD from the optical drive. If possible, change the boot order in BIOS that the hard drive will be the first device in the boot sequence.

## Upgrading the existing installation

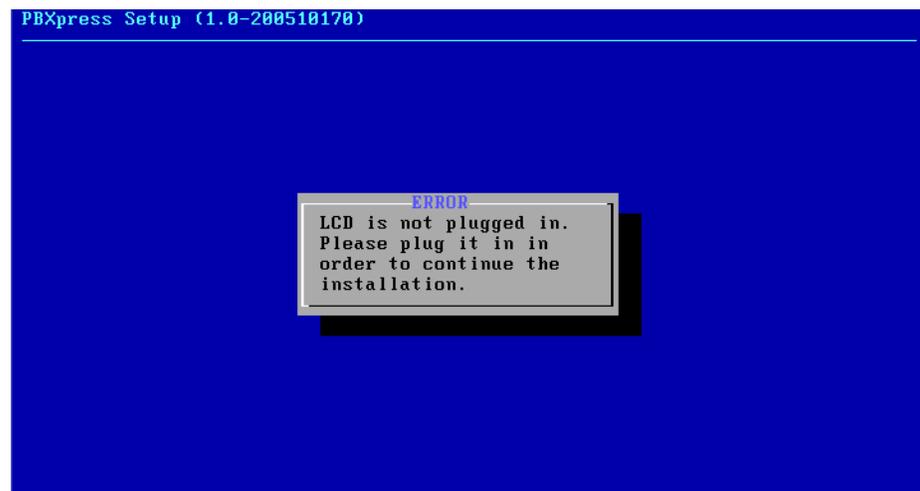
If PBXpress utility detects that there is an existing PBXpress installation on the hard drive, you will be prompted if you wish to completely reinstall the system or just perform an upgrade.



## Troubleshooting

### No LCD detected

If the LCD was not installed correctly you will see the following message. Turn off the power and re-install the LCD properly.



# Post-installation

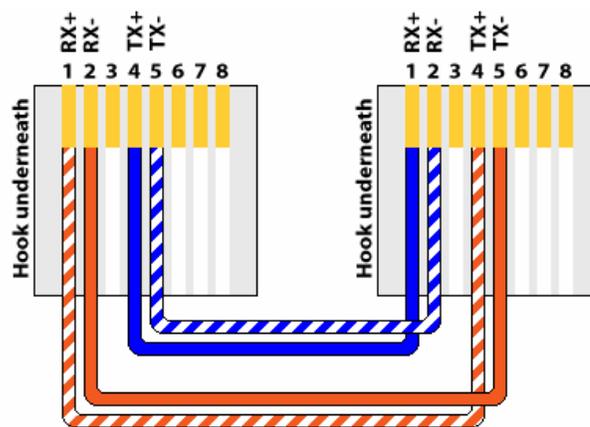
Before shipping the system to the customer, perform a simple check according to the table below:

Operation	Done?
Remove the installation CD from the drive	[ ]
Connect the Ethernet cable to the LAN interface	[ ]
After the system reboots, PBXpress logo and the IP address are shown on the LCD	[ ]
Open <a href="http://&lt;IP&gt;">http://&lt;IP&gt;</a> in your Web browser from the computer connected to LAN (where <IP> is the IP address shown on the LCD). When prompted for username/password, enter admin/admin. Do you see the PBXpress admin page?	[ ]
Press the "Power off" button	[ ]

# Appendixes

## Appendix A – How to make a cross over T1/E1 cable

If you need to connect PBXpress with some other device via E1 or T1 interface (e.g., legacy PBX or Cisco router), you will need a special “cross-over” cable. This is due to the fact that the normal cable is designed to connect the end-point device (such as PBX or a gateway) and the network side. In our case, we have two end-points, so the cable has to be adjusted accordingly to allow them communicate correctly. See the diagram below for the correct pin-out.



**PRI (T1/E1) CrossOver/Loopback Cable**