

Make sure your computer
meets minimum system
requirements.
Read Chapter 1 for more
information.

To make your conversion
easier, you should
understand MS-DOS
basics.

Read these instructions
carefully. They will help
you cover the many details
of the conversion

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Before Getting Started

You can help make sure this is an easy transition by taking a few preliminary steps before doing anything else:

- 1) You should be able to use the basics of MS-DOS and know computer basics. If you are not familiar with creating a directory, copying files, running a back up or reading the path of a file, you should find a friend or coworker who is. It will make your conversion of the computer a lot easier.
- 2) You should be running ExpressNet II® software version 2.06 before converting to the new ExpressNet® software.
- 3) Make sure your computer system meets the minimum requirements. You can see the *BUILD3 Computer Requirements* and related sections near the end of this *Introduction* section.
- 4) Follow the steps in this package in order and read each section carefully. This will help you cover everything you need to do, and it will answer many of your questions.

Introduction

The telecommunications industry sometimes changes in great leaps at a time—the break up of AT&T, the rapid growth of the cellular phone and pager market—and the unfolding change to the North American Numbering Plan (NANP) is just the latest example.

What is The North American Numbering Plan (NANP)?

Since 1947, the NANP has established how phone numbers are assigned and dialed. As more numbers were needed, the NANP changed to accommodate the growing market. We are now in the midst of another NANP change. The basic idea is to make more phone numbers available, but it isn't quite that simple for telecommunications companies.

The NANP has always required that the second digit of all area codes be a zero or a one. Telecommunications equipment manufacturers have been able to use this number pattern to determine if the dialed number was an area code. Starting in 1995, however, the second digit of area codes can be any digit. (There are more NANP changes, but this is one of the big ones.) With these developments, PBX manufacturers, telephone switch makers and payphone manufacturers all have to update previously installed equipment.

The New ExpressNet® Software

Upgrading your Protel payphone route requires upgrading your ExpressNet® software and updating the firmware in your phones, so the NANP changes are not necessarily welcomed changes. We knew this when we were faced with them. But we also knew that we could make it a winning situation nonetheless.

Since we had to update all of our customers, we saw the opportunity to give you new tools to run your business by replacing the ExpressNet II® software with the new, NANP-compatible ExpressNet® Payphone Management System. This latest software gives you greater ease of use with background polling and automatic report printing. The automatic polling feature offers more flexibility, and the new ExpressNet® can use up to two modems, which effectively doubles the number of phones you can poll at a time. We hope that with this feature-rich software we can do more than just react to the changes in the phone industry, we can turn it into an opportunity for you to benefit from the most productive features of our latest software design.

Updating Your Protel Payphone Route

And that's what this package is all about. It gives you step-by-step instructions to upgrade to the latest ExpressNet® software as well as bring your Protel phones up to NANP compatibility. To walk you through this process, this package is divided into several sections:

- 1) *Introduction*: Starts you on your way by giving you an outline to the conversion process and by providing information to help you decide if you need to upgrade your computer.
- 2) *Installing ExpressNet® Software*: Shows you how to install the new ExpressNet® software.
- 3) *Converting ExpressNet II® Files*: Shows you how to convert your old ExpressNet II® files to the new ExpressNet® format.
- 4) *Firmware Matrix and Worksheet*: Steps you through the process of deciding what kind of firmware chips you need for your phones.
- 5) *Field Check Lists*: Check lists you or your service and repair employees can use to change chips on each kind of phone you may have.

Printing Your ExpressNet II® Modem Settings

Once you install the new ExpressNet® software, you will have to confirm your modem settings in the new program. If you will NOT use a Protel UPMS 1200 modem and will use the same modem you use for the ExpressNet II® program, you should first print the ExpressNet II® modem settings. Make sure your printer is connected to the computer and follow these steps:

- 1) From the ExpressNet II® “MAIN MENU” screen, press the following keys:

[F4] to go to the “UTILITIES” screen

[F5] to go to the “MANUAL MODEM CONTROL” screen and

[Print Screen] to print the modem settings.

A screen similar to the following will print.

```
MANUAL MODEM CONTROL

Modem Command:
Modem Reply :

Modem Initialization String: AT E0S0=0S10=255X1
Modem Dial String : AT DT
Modem Answer String : AT A
Computer PBX Code :

Modem In Use (Y/N) : Y
Allow Computer To Answer Calls (Y/N) : Y

Modem Port (1 or 2) : 2          Parity Character : N
Low Baud Rate (Phones) : 300    Data Bits : 8
High Baud Rate (Network) : 1200 Stop Bits : 2

F1 - Send Modem command
F2 - Reset Modem

-----<F9 Help> <F10 Exit>-----
```

Keep the printed copy of this screen. You will use it later when you set up your modem on the new ExpressNet software.

- 2) Press [F10] two times to return to the main menu screen.

Conversion Checklist

_____ Make sure the ExpressNet II® computer has sufficient disk space.

_____ Make sure the ExpressNet® computer meets the minimum requirements.

See Introduction

_____ Install ExpressNet®.

See Installing ExpressNet® Software

_____ Run "BUILD3" to convert old ExpressNet II® files.

_____ Move the converted files to the computer running the new ExpressNet®. (Only if moving files is required.)

_____ Import the converted files into the new ExpressNet® software.

See Converting ExpressNet II® Files.

_____ Poll all phones with ExpressNet® software.

_____ Determine required firmware upgrade chips.

_____ Order the required chips.

See Firmware Matrix and Worksheet.

_____ Update Firmware.

See Replacing The Firmware... sections.

BUILD3 Computer Requirements

A small program called BUILD3 will convert your ExpressNet II® data to a format the new ExpressNet® software can read. It converts and copies your old information into several temporary DOS files. However, you have to make sure you have enough disk space to store the files. If you have DOS 5.0 or higher, use the following procedures to determine if your ExpressNet II® computer has enough disk space.

- 1) At the DOS prompt on your ExpressNet II® computer, go to the “XPRESNET” directory.
- 2) Type “DIR” and press [Enter].
 - The computer will scroll through the directory and a screen similar to the following will be displayed.

```
TIMEDATE TXT          434 03-28-89  12:17p
CTR200_9 OVR         631,120 09-11-92   8:32a
CARD                <DIR>      11-02-94  12:50p
ACCOUNTS DAT         634 11-02-94  12:52p
ACCOUNTS ACT         376 11-02-94  12:52p
ACCOUNTS GRP         376 11-02-94  12:52p
ACCOUNTS RPT         188 11-02-94  12:50p
ACCOUNTS CHS          52 11-02-94  12:52p
ACCOUNTS BHS          51 11-02-94  12:50p
ACCOUNTS DFT        11,767 11-02-94   2:19p
ACCOUNTS RTS         376 11-02-94  12:53p
ACCOUNTS STF          0 11-02-94   2:27p
ACCOUNTS STO         188 11-02-94   2:27p
ACCOUNTS ATH         2,160 11-02-94  12:52p
ACCOUNTS ZRO          938 11-02-94  12:50p
ACCOUNTS CAL        1,044 11-02-94  12:50p
ACCOUNTS FRD        1,007 11-02-94  12:50p
ACCOUNTS GFR         188 11-02-94  12:50p
ACCOUNTS MAP         231 11-02-94   2:54p
ACCOUNTS SPL         642 11-02-94   2:23p
R_COINRE DBS          0 11-02-94   2:23p
      192 file(s)          1,229,097 bytes
                          226,037,760 bytes free

C:\XPRESNET>
```



- The “bytes” field shows how much space is used by the files in the directory.
- 3) Note the “bytes” and “bytes free” field. You should have 1.5 times more bytes free than are used by the files in the directory.

Example: $1,229,097 \times 1.5 = 1,843,645$ minimum free bytes needed

ExpressNet® Software Minimum Disk Space

The following information gives the minimum disk space needed for storing 30 day's worth of data.

Without CDR Data: 20 MB

With CDR Data Add the Following to 20MB:

Activity (Average calls per day per phone)	Number of Phones		
	1-500	500-1000	1000-3000
1-20 Calls	23.2 MB	26.4 MB	39.2 MB
20-80 Calls	36.7 MB	53.4 MB	120.4 MB
80-125 Calls	51.8 MB	83.6 MB	210.8 MB

Minimum Free Disk Space

This table shows what's needed for storing 30 days of data. If your computer will have more than 30 day's data, you should increase the required disk space accordingly. Then add 20MB to the amount to determine the disk space required before installing the new ExpressNet® program.

Example:

You store each month's data, including CDR data, for 30 days after the month ends. At the end of each month, you purge the data from the previous month. Therefore, on the last day of the month you have the data for the current month and the previous month—a total of 60 day's data.

You have 300 phones and each phone averages 60 calls a day.

The above table says you should have at least 36.7 megabytes of free disk space for 30 days of data. Since your computer will have 60 day's data at the end of each month, you should double the amount. You need at least 73.4 megabytes for data.

73.4 MB (needed for storing data)
+ 20.0 MB (needed for the new ExpressNet® program)
93.4 MB TOTAL disk space needed before installation

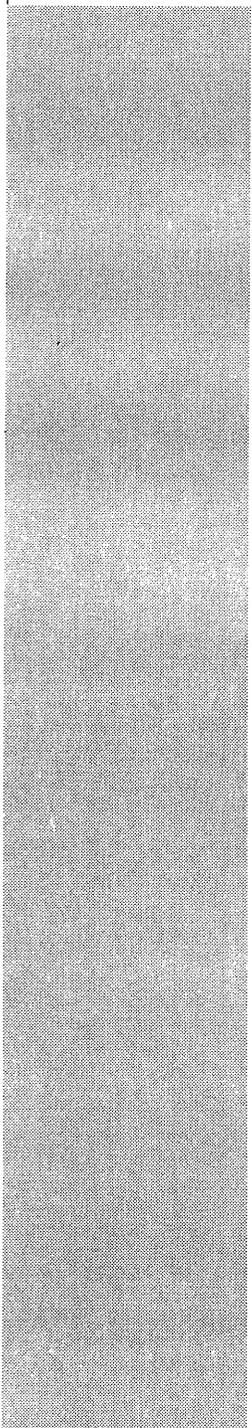
ExpressNet® Minimum System Requirements

The following are the *minimum* system requirements needed to run the new ExpressNet® software.

Computer Type:	IBM or Compatible
Processor Type:	386
Free RAM Memory:	2 MB
Software Disk Cache:	512 KB
MS/PC DOS version:	5.0
Floppy Drive:	5.25 inch 1.2 MB <i>or</i> 3.5 inch 1.44 MB
Monitor:	VGA

However, for *optimum performance*, the recommended system requirements are:

Computer Type:	IBM or Compatible
Processor Type:	486
Free RAM Memory:	2 MB
Software Disk Cache:	1 MB
MS/PC DOS version:	6.2
Floppy Drive:	3.5 inch 1.44 MB
Monitor:	VGA
Other:	Tape Back Up Uninterrupted Power Supply (UPS)



CHAPTER 2

INSTALLING

EXPRESSNET[®]

SOFTWARE

Introduction to Installing ExpressNet® Software

Making a Backup of the Installation Disks

Before installing ExpressNet®, make a backup copy of each of the installation disks. Backup copies can be made using the DOS “diskcopy” utility. We recommend that the original disks be write-protected to prevent accidental erasing or overwriting of files. After making the backup, store the original disks in a safe place for future use and use the backup disks to install ExpressNet® on your computer.

Installing the ExpressNet® Software

With ExpressNet® software, there are two possible installations that may be performed. The exact installation depends on whether you will accept or change the default directories. The choices are:

- Standard New Installation (Recommended)
- Custom New Installation

When to Use a Standard New Installation (Stand-Alone Computer)

A standard installation should be performed if ExpressNet® is to be used on a single computer *without* custom directories for file storage. The installation program will create an “XNET” directory on the “C” drive. (See the *Installing the ExpressNet® Software Standard New Installation* section for instructions.)

When to Use a Custom New Installation (Stand-Alone Computer)

This installation is similar to the Standard New Installation except that you are prompted to specify which directories on the hard disk that the program should be installed to. Use this installation if ExpressNet® is to be used on a single computer *with* custom directories for file storage. (See the *Custom New Installation—Stand-Alone Computer* section for instructions.)

The Standard New Installation is recommended. If desired, you can customize your file storage *after* installing the program.

Installing the ExpressNet® Software Standard New Installation

Start your computer and go to the DOS prompt (usually C:>) and follow these steps:

1. Insert the ExpressNet® installation disk into drive A or B.
2. Type "A:" or "B:" and press [ENTER] to log on to the drive that the installation disk is located.
3. Type "Install" and press [ENTER].
4. Press any key to continue when the screen prompts to do so.
5. Use the [Arrow Keys] to highlight "*Standard New Installation*" and then press [ENTER].
6. At the prompt, enter your company name and then press [ENTER].
 - The name must be between three and 30 characters in length.
7. At the prompt, use the arrow keys to select which of the available COM ports are to be used for communication with the payphones and then press [ENTER].
 - Once a port is highlighted, press [SPACE] to *select* (YES) or *deselect* (NO). One or all of the available ports may be selected.
8. Use the arrow keys to highlight the time zone in which the computer is located and then press [ENTER].
9. At the prompt, specify the number of days (if any) that should be allowed to pass before a user must change his/her password, and then press [ENTER]. This is the number of days allowed to pass since the password was created or last changed.
 - Zero (0) is recommended. You can change this in the program later if desired.

10. Use the arrow keys to highlight one of the following choices and then press [ENTER].

- Add to the Path (Recommended)

Allows a user to start the ExpressNet® program from a location other than the directory that contains the program files. The installation program adds or modifies the path in the AUTOEXEC.BAT file.

- Start Automatically

The ExpressNet® program will start automatically each time the computer is turned on or rebooted. The installation program modifies the AUTOEXEC.BAT file to enter the commands for starting the ExpressNet® program.

- Both of the Above

The ExpressNet® program will start automatically each time the computer is turned on or rebooted. In addition, if the program is exited at any time, a user will be able to restart the program by typing “XNET” for ExpressNet® software or “XNET3” for ExpressNet III® software from a location other than the directory that contains the program files.

- None of the Above

11. At this point, the installation program proceeds until all necessary files have been copied to the computer’s hard disk. After this process is complete, the computer prompts for confirmation to modify the AUTOEXEC.BAT and CONFIG.SYS files.

12. Follow the on-screen prompts to confirm modification of the AUTOEXEC.BAT and CONFIG.SYS files.

- NOTE: Failure to allow the installation program to modify these files will prevent the ExpressNet® software from operating.

13. When the computer prompts that the installation is complete, remove the installation disk and press [Enter] to restart the computer.

14. Go to the *Starting the ExpressNet® Program* section of this guide.

Custom New Installation—Stand-Alone Computer

Start your computer and go to the DOS prompt (usually C:>) and follow these steps:

1. Insert the ExpressNet® installation disk into drive A or B.
2. Type “A:” or “B:” [ENTER] to log on to the drive that the installation disk is located.
3. Type “Install” [ENTER].
4. Press any key to continue when the screen prompts to do so.
5. Use the arrow keys to highlight “Custom New Installation” and then press [ENTER].
6. At the prompt, enter your company name and then press [ENTER].
 - The name must be between 3 and 30 characters in length.
7. Use the arrow keys to highlight the drive that the Program Files should be installed to and press [ENTER]. Then, at the prompt, verify and if necessary change the default directory path that the Program Files should be installed to and then press [ENTER].
8. Use the arrow keys to highlight the drive that the *CDR Files* should be installed to and press [ENTER]. At the prompt, verify and change, if necessary, the default directory path that the *CDR Files* should be installed to and then press [ENTER].
9. Use the arrow keys to highlight the drive that the *Parameter Files* should be installed to and press [ENTER]. At the prompt, verify and change, if necessary, the default directory path that the *Parameter Files* should be installed to and then press [ENTER].

10. Use the arrow keys to highlight the drive that the *Site Files* should be installed to and press [ENTER]. At the prompt, verify and change, if necessary, the default directory path that the *Site Files* should be installed to and then press [ENTER].
11. Use the arrow keys to highlight the drive that the *System Files* should be installed to and press [ENTER]. At the prompt, verify and change, if necessary, the default directory path that the *System Files* should be installed to and then press [ENTER].
12. Use the arrow keys to highlight the drive that the *Local Files* should be installed to and press [ENTER]. At the prompt, verify and change, if necessary, the default directory path that the *Local Files* should be installed to and then press [ENTER].
13. At the prompt, verify the listed directory paths for the installation and then highlight the applicable choice (“Use these Paths,” “Change these Paths”) and press [ENTER].
14. At the prompt, use the arrow keys to select which of the available ports are to be used for communication with the payphones and then press [ENTER].
 - Once a port is highlighted, press [SPACE] to *select* (YES)/*deselect* (NO). One or all of the available ports may be selected.
15. Use the arrow keys to highlight the time zone in which the computer is located and then press [ENTER].
16. At the prompt, specify the number of days (if any) that should be allowed to pass before a user must change his/her password, and then press [ENTER]. This is the number of days allowed to pass since the password was created or last changed. If passwords should not be timed, enter “0” (zero) to disable this feature.

17. Use the arrow keys to highlight one of the following choices and then press [ENTER].

- Add to the Path (Recommended)

Allows a user to start the ExpressNet® program from a location other than the directory that contains the program files. The installation program adds or modifies the path in the AUTOEXEC.BAT file.

- Start Automatically

The ExpressNet® program will start automatically each time the computer is turned on or rebooted. The installation program modifies the AUTOEXEC.BAT file to enter the commands for starting the ExpressNet® program.

- Both of the Above

The ExpressNet® program will start automatically each time the computer is turned on or rebooted. In addition, if the program is exited at any time, a user will be able to restart the program by typing “XNET” from a location other than the directory that contains the program files.

- None of the Above

18. At this point, the installation program proceeds until all necessary files have been copied to the computer's hard disk. After this process is complete, the computer prompts for confirmation to modify the AUTOEXEC.BAT and CONFIG.SYS files.

19. Follow the on screen prompts to confirm modification of the AUTOEXEC.BAT and CONFIG.SYS files.

- NOTE: Failure to allow the installation program to modify these files will prevent the ExpressNet® software from operating.

20. When the computer prompts that the installation is complete, remove the installation disk and press [Enter] to restart the computer.

21. Go to the *Starting the ExpressNet® Program* section of this guide.

Starting the ExpressNet® Program

Once the software is installed, the following steps are required before the ExpressNet® program may be used to manage payphone sites.

- Logging On to the ExpressNet® Program
- Changing the Initial Log-on Password
- Verifying the Modem Setup

Starting the New ExpressNet® Program

Make sure your modem is turned on and connected to the computer and follow these steps.

1. At the DOS prompt, go to the directory that the program was installed in.
 - If you used the default settings during ExpressNet® installation, the program will be in the following path:
C:\XNET\
2. Once in the correct directory, type “XNET” and press [ENTER] to start the program.

Logging On to the ExpressNet® Program and Changing the Password

As the ExpressNet® program starts, it will initialize the modem and bring up the following password screen.

```
-----2-----| ExpressNet |----- Screen 1 -----  
                                     15:42:44  
  
ExpressNet Version 1.01U - Copyright (C) Protel, Inc. 1994  
  
      ██████████ User Name (ID): _  
                Password:  
  
This software is licensed to: Protel, Inc.  
  
-----| ESC Exit Program  F1 Help F7 Change Password |-----  
                Enter User Identification
```

A default user name and password are provided for logging on to the system for the first time. After access to the system is granted, the default password must be changed. Use the information below to log on to the system for the first time.

1. In the “User Name (ID)” field, type “PROTEL” and then press [ENTER].
2. Press [Down Arrow] to move the cursor to the “Password” screen. In the “Password” field, type “PROTELX3” and then press [ENTER].
3. Press [ENTER] when the screen prompts to do so.
 - A password change screen appears.

Verifying the Modem Setup

The settings for the modems should be verified at this time for proper communication between the computer and the phones. Follow the procedure outlined below to verify, and if necessary modify, the settings for the modem(s).

1. At the main menu screen, press the following keys:
 - [5] Modems
 - [4] Modem Setup
 - At this point all selected modem ports will be listed.
2. Use the arrow keys to highlight one of the modem ports on the list.
3. Press [ENTER].
 - A screen similar to the following is displayed.

```
-----12----- | COM 2  SETUP |----- 2.5.4 -----
                                     16:20:36
-----|-----
| Phone Nr:      (813)644-5558 | Parity:          N |
| PBX Code Local: | Bits per Character: 8 |
| PBX Code LD:   | Stop Bits:        2 |
|-----|-----
| Incoming Enabled: Y | Polling Speed:    1200 |
| Outgoing Enabled: Y |                   |
|-----|-----
| Change/Test Modem:  SPACE |                   |
|-----|-----
| Model:          PROTEL UPMS1200 |
| Description:    PROTEL 1200 BAUD |
| Init.:          ATM1L0E0Q0V1X3S10=255S0=0S9=2S7=100&D3 |
| Answer:         ATA |
| Dial 300:       ATDT | Dial 1200:      ATDT |
| Reset:          ATZ |
|-----|-----
| ESC Abort  F1 Help  F2 Save  F8 Reset/Enable  Arrows |
| Enter phone number for this port
```

4. In the "Phone Nr" field enter the telephone number of the phone line that is connected to this modem.
5. Verify that the settings in the "Outgoing" and "Incoming" Fields are appropriate for this modem.
 - The "Incoming" field must be set to "Y" if this modem port is used to receive incoming calls from phones.
 - The "Outgoing" field must be set to "Y" if this modem port is to be used to poll phones.
6. Verify that the modem type specified in the "Model" field, at the bottom of the screen, matches the type of modem connected to this modem port. By default, Protel's UPMS1200 modem is selected. If necessary, a different modem may be chosen as follows:
 - a. Use the arrow keys to highlight the field labeled "Change/Test Modem"
 - b. Press [SPACE].
 - c. Use the arrow keys to highlight the applicable modem type.
 - d. Press [ENTER] to select this modem type or press [F3] to create a new file for your modem. (Use the "MANUAL MODEM CONTROL" screen you printed from the ExpressNet II® software. See the *Introduction* section of this guide if you have not printed the screen yet.)
7. Press [F2] to save changes and exit to the previous screen.
 - The program will initialize the modem.
8. Perform steps 2 through 7 until all modem ports have been verified.

Exiting the ExpressNet® Program

To exit the program from any screen, follow these steps:

1. Press [Esc] several times until the “Main Menu” screen appears.
 - If the computer prompts you with “Do you wish to SAVE before exiting?”, type “Y” to save and exit or “N” to exit without saving.
2. From the “Main Menu” press [Esc].
3. At the prompt “Do you really wish to exit to the Password Screen?”, type “Y” to go to the password screen.
4. Press [Esc] at the password screen.
5. At the prompt “Do you really wish to Exit the Program?”, type “Y” to exit the program.

Go to the *Converting ExpressNet II® Files* chapter of this guide.