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Introduction

What Is The PCBoard Internet Collection?

The Internet has broaden our horizons. Not only has it helped us connect with other sites around the world in a matter of a few seconds, but it has also shown us how that can be done at a low cost.

The bulk of Internet services are provided by Internet Service Providers (ISPs). While they can connect you to the Internet, they cannot provide the sense of community provided on a PCBoard Bulletin Board System.

The Best Of Both Worlds

It makes perfect sense to combine the global outreach of the Internet with the sense of community and personal service provided by a BBS. That is why the PCBoard Internet Collection (PCB/IS) was created. With this software package popular Internet features such as World Wide Web, FTP, and Telnet are all available directly from your system.

Furthermore, your system still provides all of the features that made it popular in the first place: conferences, doors, local message bases. That is how both worlds can be merged to both your benefit and that of your callers.

Requirements

The PCBoard Internet Collection does have some requirements that must be adhered to in order to operate properly. The following details the requirements:

Dedicated Internet Connection

The Internet Collection requires you to have a permanent or dedicated connection to the Internet. There are a number of ways to get this type of connection such as T1, fractional T1, 56K, and even ISDN. These terms may not mean anything to you on first inspection, but your local Internet provider can explain the cost of each option and which is best for your situation.

Fractional T1 may be a good starting point if you do not already have a connection. The reason this is a good investment is that the hardware is basically the same for a full-T1 as a fractional. Therefore, as your system and needs grow, another investment is not required in hardware.

Once the Internet connection is installed to your site, the signal must be put onto your network. typically this is a combination of a TSU unit hooked into a router. The router is only required if you want to broadcast the signal to multiple workstations on a network. A single-machine network can take the feed directly from the TSU.

TCP/IP

If you have any experience with the Internet, chances are that you have heard this term before. The term is an acronym that stands for **T**ransmission **C**ontrol **P**rotocol/**I**nternet **P**rotocol or TCP/IP. This term refers to the "language of the Internet" or the way that machines communicate with one another.

When TCP/IP is enabled on your network, a protocol or TCP/IP stack is maintained that allows the network and software run on the network to communicate with your hardware. In this case, the software is the PCBoard Internet Collection. More information on TCP/IP and how to add it to your system is discussed in the "*First Time Setup*" chapter.

The way that the TCP/IP stack is accessed varies between operating systems. PCB/IC works with DOS and OS/2 based TCP/IP stacks. From a DOS level, the PKTDRV method is used. For OS/2, the API is accessed directly.

PCBoard

Any PCBoard version 14.5 or greater system will run PCB/IC just fine. However, several Internet related features have been added to more recent PCBoard upgrades. This is something to keep in mind as you evaluate the requirements.

Memory

PCB/IC only requires about 400k of memory to operate properly. Since this memory requirement is less than PCBoard requires, there will be no difficulty making it work.

Goals Of The Manual

Understanding the design goals of this manual and how the information is structured is essential to you getting the most out of this manual. When you

know where and how to find information, this manual becomes a very valuable resource.

First, we make sure you understand the requirements of PCB/IC so that you know what you are getting into. This is an essential part of any undertaking because it helps you manage the expectations of the project. We've already gone over the requirements which means by now you can meet them and are prepared to move on.

Second, we talk about how to install the software for the first time. This is more than just copying files, but also how to customize the software to meet your needs and also how to secure the features so only desired users may access it.

The last part of the manual is dedicated mostly to reference material including descriptions of the programs in the collection and appendix chapters to cover any additional pertinent material.

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First Time Setup

Establish A Feed

Some work must be done before you can put PCB/IC on-line. The two fundamental things that has to be taken care of is get a compatible TCP/IP stack installed and make sure it provides a permanent IP address.

TCP/IP Stacks

An effort to stress *compatible* TCP/IP stacks has been mentioned and this may make you wonder if your stack is compatible. TCP/IP is TCP/IP, right? Yes, it is, but how you access that protocol varies from operating system to operating system. For example, a different API is used to access TCP/IP under Windows NT and under OS/2. Currently, any DOS or OS/2 based TCP/IP stack works fine with PCB/IC.

Permanent IP Addresses

Some connections to the Internet such as PPP and SLIP do not always have a guaranteed IP address. Instead, you get whatever IP address the provider wants to assign to your machine. This is a problem in relation to PCB/IC because anytime you provide Internet access to other callers, a permanent IP address is required.

Put The Feed On The Network

Just because you have a feed, it does not mean that you are ready to go, yet. Steps must be taken to get that feed to be broadcast into your network. Typically this involves broadcasting multiple packet types. This means your network needs to be capable of supporting multiple protocols.

For DOS users, your network must support the PKTDRV specification. If your network supports either NDIS or ODI (which most do), simply install the appropriate packet driver. This process is sometimes referred to as a shim.

Most OS/2 users will be using the TCP/IP product directly from IBM. Some work may be required in making that product work with your existing network. Once that part is setup, however, the collection talks directly to the OS/2 API.

The next sections talk about some possible solutions with the most popular networks: LANtastic, NetWare, and Windows For Workgroups.

LANTastic for DOS

Artisoft provides NDIS drivers for their products. Once these NDIS drivers are installed, you can load NDIS packet-driver to complete the TCP/IP connection.

NDIS drivers are available from Artisoft's BBS (520-884-8648) and FTP site (ftp.artisoft.com)

Netware

Using the ODI implementation of NetWare, you can use an ODIPKT driver that is freely available on many Internet sites. You may also need additional packet drivers for your card. The Crynwr packet driver collection provides a good place to find packet drivers for most cards. This collection is obtainable from most FTP sites under the filename DRIVERS.ZIP. Use Archie to help you find suitable sites.

OS/2

The OS/2 version of PCB/IC talks directly to the OS/2 TCP/IP API. There is nothing special you have to do other than to verify that your network under OS/2 does have TCP/IP enabled. Realize that IBM does produce its own TCP/IP package.

WFWG

PCB/IC does not directly interact with the Windows For Workgroup's interface. As a result, Windows NT is not a viable platform for using PCB/IC. However, Windows 3.1 and later can be used because you can still load DOS TCP/IP drivers in your CONFIG.SYS and AUTOEXEC.BAT files with another network operating system (e.g., LANTastic, NetWare, etc.)

The IP Environment Variable

PCB/IC uses a configuration file called TCPIP.DAT that keeps track of many things such as IP addresses, security levels and so forth. The only node dependent field in the entire file is the IP address.

Because so much of the data is common between nodes, you can share one TCPIP.DAT for all machines by setting an environment variable named IP to

have the IP address for the current node. For example, if I want the IP address to be 198.42.22.16, use the following line:

```
SET IP=198.42.22.16
```

This setting needs to be in the batch file that runs each node as it used to differentiate which nodes get which incoming packets. If all nodes use the same IP address, PCB/IC will not operate properly.

Knowing that you can share one TCPIP.DAT will help you understand the best way to setup your system which is to use one data file. If you choose not to use one data file, you must maintain a separate copy of TCPIP.DAT for each machine on your network.

With the data file location set in place, you are ready to begin the configuration process. First you must set the IP addresses for your machine and for other machines you access.

Configuring IP Addresses

Sites on the Internet are referenced by name or by what is called an *IP address*. The address is a series of 4 numbers separated by periods such as 255.128.64.32. There are a few addresses you need to setup that allows PCB/IC to operate properly.

These addresses are configured by loading PCBICCFG.EXE. Once PCBICCFG is loaded, select *IP Addresses*. Here you will find 7 IP addresses that must be entered in order to use all of PCB/IC's features.

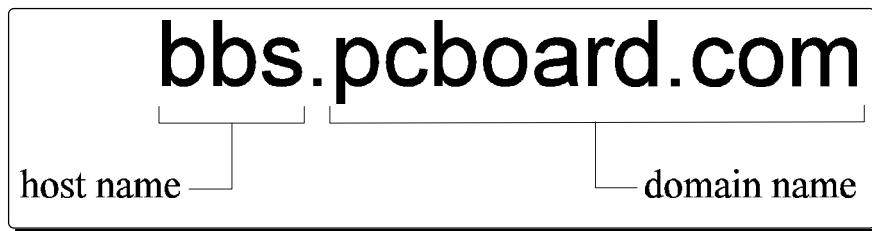
IP Address: First is the IP address for the current machine. This address is set via the IP environment variable as outlined in the previous section. To change this value, the node batch file must be changed as appropriate.

Net Mask: This is not an address but rather a mask to the address. The number you enter here is used in conjunction with any other IP addresses that are used to communicate with other sites on the network. The mask is used to determine if the machine is part of your subnet or not. If you have only one IP address (such as a SLIP or P3 connection) the mask typically used is 255.255.255.255. Class C sites that have access to the last 255 numbers use a mask of 255.255.255.0. The best person to talk to about your mask is the provider as they know the exact mask to use.

Gateway: With the mask, we determine if a packet or datagram is destined for our subnet or group of computers. Packets that are not for us need to be sent somewhere. Where do these packets get sent? The answer to that question is an address referred to as the *gateway*. Typically, this is a router on your network that forwards packets based on its routing table.

Name Servers: There is room to enter IP addresses for 3 name server (DNS) machines. Most likely your provider has their own name server which they are more than happy to provide the address of. Additional servers can be obtained with the information obtained by the WHOIS application.

Domain Name: This is an option field that you can fill in to contain the domain name for your system. For example, if I have registered site.com, I enter that value in this field. The domain typically ends with .COM, .GOV, or .EDU.



A sample internet address with domain name and host name clearly labeled.

Host Name: The name you enter in this field is typically the name for the machine. Many sites or domains have numerous hosts. That is, they have a www host, ftp host, etc. Realize that this name in conjunction with the domain name makes up your entire Internet name. Also keep in mind that this is an optional entry.

Nic Server: With the vastness of the Internet, someone has to keep track of all the address and who is assigned to what. This information is only used in the WHOIS application of the collection. A handful of sites around the world track this information. The default IP address for this field is 198.41.0.5 which is the address for InterNIC.

Gopher Server: This field has a default gopher server to use. You may change it to any server you desire.

Archie Server: Like the gopher server, this field contains a default location. Change the server name as your needs dictate.

Test The Connection

With the IP addresses all entered, you are ready to begin testing the connection. First of all, make sure you have exited PCBICCFG and saved changes on the way out. The next step is to use the PCBICTST.EXE application. This program tests multiple aspects of your Internet connection including pinging another site.

You are first asked to Enter Site Name. What you enter here must be a valid *named* address like sitename.com, not an actual IP address. Once this information is entered, the test proceeds.

If the tests are successful, a message stating further instructions is printed at the bottom of the screen. In the event that the tests were not successful, you need to narrow down the problem.

Troubleshooting

There are 4 major areas to look at when troubleshooting why the test program failed: 1) is the proper packet driver installed?, 2) your IP address, 3) the gateway address, and 4) name server addresses.

Packet Drivers

If the message NO PACKET DRIVER FOUND, then you do not have a compatible packet driver installed. Focus your efforts on the network drivers. Remember, you need to have NDIS or compatible installed and then run a packet-driver on top of that.

Your IP Address

If your IP address is not correct for the configuration, you may receive a Could Not Resolve message. An incorrect IP address would be something that is not within your assigned IP range. For example, if your provider has given you IP addresses 198.100.10.1 through 198.100.10.10, and you enter 198.100.15.10 for your IP address, the test will fail.

The Gateway Address

The gateway is what allows packets that are not for your subnet to get off your network and to be routed to their proper location. When an invalid or incorrect number is entered for the gateway address, the packets cannot get off of your network and you will receive a Could Not Resolve message.

Name Servers

The first test pings an actual IP address while the second test tries to ping the name you enter. The purpose of the second test is to see if your name server is able to resolve a name into an IP address. If not, the message Could Not Resolve is printed. Check to make sure your gateway address is correct and that your name server addresses are valid as well.

Adding PCB/IC To PCBoard

The PCBoard Internet Collection is accessed as a door application from the PCBoard system. It also requires your user file to be updated with a new allocation unit to store information about which applications a user can access, etc. In this section, we guide you through updating the user records and provide some ways you can add PCB/IC as a door application to your system.

User Records

In modifying the user records, two tasks must be accomplished. 1) A new allocation must be added to the user file, and 2) the default profile for your applications must be configured.

Updating User File

NOTE: This step requires all nodes to be down. If anyone has the USER file open, this step cannot be accomplished.

In the directory where you installed PCB/IC is a batch file named TPA.BAT. This batch file runs PCBSM.EXE and adds the new allocation to the users file. Because this is a global change to the USER file, all nodes must be down.

Change to your \PCB directory and run the TPA.BAT file. Example:

```
C:\PCB> C:\PCB\PCBIC\TPA.BAT
```

A screen appears that details what addition is being made to the user file. Simply press **⌘** to begin adding the new data. When the process is complete, you are returned back to the command prompt. An sharing violation error message while trying to update the user file means that some other node or process has the USERS file open. Rectify the situation and run the TPA.BAT file again.

Setting Default Profiles

The default user TPA profiles control what the default values are for each user that comes into PCB/IC for the first time. These values are configured in *PCBICCFG* | *Edit Default TPA Profile*.

This step is really quite simple but the options are broken down into seven separate screens. Screens can be switched between by press **2** to go forward a screen and **3** to go back a screen.

The first screen talks about access to PCB/IC as a whole. For example, if you set the Allowed Access flag to N for the template record, nobody will have access to the door. Instead, users must be manually registered using the configuration program.

Throughout the screens, you will run into the following fields:

1. **Allowed Access:** The user can access the application being configured.
2. **Can Use Personal Pick List:** When enabled, users can create and maintain a private list of favorite sites for this application.
3. **Can Use Global Pick List:** Users can use the global or shared favorite-picks list when this option is enabled for the application.
4. **Restricted to Demo Rights:** When a user is restricted to demo rights, their access to the application expires after the amount specified for the demo time limit expires.
5. **Time Limit for Demo Rights:** This determine how many minutes a user restricted to demo rights may use the application.
6. **Max Drive Space Allowed:** In the FTP application, this setting controls the maximum temporary hold space the user is allocated. For example, entering 5000 in this field restricts the user to 5 megabytes of space.

Go through all of the screens, marking the options that you want selected. From there, exit the program and save the changes.

Adding PCB/IC To The System

At this point, you are ready to add the collection to your system. You can use any of the three methods outlined in this section. The first method details how to setup SLIP and PPP connections can be established directly from the language prompt. The second and third methods, make the entire suite of applications available as a door on the system.. Based on your needs, one or more methods may need to be used.

As One Door Application

The collection can be added just like any other door program in PCBoard. Recall that doors are defined in the conference configuration screen from PCBSetup. The following is a sample door definition:

Filename	Pwrd	Sec	Login	USER SYS	DOOR SYS	Shell	Os2	Charges Minute	Per Use	Path to DOOR Files
1) PCBIC		0	N	Y	N	N	N	0	0	C:\PCB\PCBIC

Two items about this definition are worth mentioning. First, notice that the USERS.SYS column is marked. This is how PCB/IC gets the extended user information it needs to operate. Second, notice the security is set to 0. Extensive security and access control is built into PCB/IC. For more information on these feature, see the security chapter of this manual.

Once the door is defined, a door batch file must be created. The batch file for this type of door, is extremely easy. Simply change to the drive and directory where PCBIC.EXE is and run it as the following example illustrates:

```
C:\PCB\PCBIC\PCBIC
```



The PCBoard manual contains many other samples and details about configuring doors on the system. Refer to that manual if you have questions about how to add a door application to the system.

Separate Door Applications

Another way that users can access the Internet applications is one at a time. For example, by using the FTP command on your main menu, they are taken directly to the desired application.

The setup for this type of scenario is identical to the setup for one door entry with the following exceptions:

- One door is required for each application you make available.
- In the door batch file, you must load PCBIC.EXE with the appropriate command line parameter. This parameter specifies the application to load.

Remember how the batch file looked like the following:

```
C:\PCB\PCBIC\PCBIC.EXE
```

To load the FTP application, and only the FTP application, simply use the command line parameter as shown:

```
C:\PCB\PCBIC\PCBIC.EXE /FTP
```

The entries for the doors themselves are the same only there are more of them. Look at this example:

Filename	Pwr	Sec	Login	USER SYS	DOOR SYS	Shell	Os2	Charges Minute	Per Use	Path to DOOR Files
1) FTP		0	N	Y	N	N	N	0	0	C:\PCB\PCBIC
2) TELNET		0	N	Y	N	N	N	0	0	C:\PCB\PCBIC

The only difference between the two batch files is that the first one uses the /FTP command line parameter and the second one uses the /TELNET parameter. A comprehensive list of command line parameters for PCB/IC follows:

- /ARCHIE, /FTP, /FINGER, /GOPHER, /PING, /RLOGIN, /SLIP, /PPP, /TELNET, /TRACE, /WHOIS



When your system is setup in this manner, users can specify the site to go to right on the command line (e.g., `ftp ftp.pcboard.com`).

SLIP/PPP Connections

Many users of the Internet have become accustomed to the World Wide Interface. As a result, your users may want to utilize this same interface and can with PCB/IC and the SLIP or PPP application. The target of this section is to setup the system for users to get SLIP/PPP access faster in the logon process thereby simplifying their logon scripts.

```
1 - Logon To PCBoard
2 - SLIP Internet Connection
3 - PPP Internet Connection
```

- Are multiple languages setup?
- Add language entries for SLIP/PPP (SLP, PPP extensions)
- Prompt user where they want to run the actual connection (logon script or after \$\$logon?) This is due to accounting (those using CMS)
- How do we get the USERS.SYS file here?
- Use a PPE with the COMMAND function to load a door.

- ▶ If a script is already defined, prompt user if they want to update it. That way, we can turn it from the default to something like LOGON.RUN.
- ▶ Need sample scripts for Trumpet, Win95, OS/2, WinNT

The Maintenance Event

PCBICEVT (not implemented yet)

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Restricting Access / Security

The Internet Collection offers a abundant set of security options that give you control over who gets access to various components. Available security options can best be categorized in the following areas: 1) normal PCBoard security, 2) application security, and 3) group templates. We will spend the next few sections discussing each:

Normal PCBoard Security

Because the Internet Collection functions as a door from PCBoard, you get all of the security benefits of running a door. This means you can control access by password or security level directly from the DOORS.LST file in the configuration screen for any given conference.

With these global security options, access can be quickly enabled or disabled for all users on your system. For more specific control of who has access, you'll need to explore the security options in PCB/IC. The next two sections are dedicated to discussions of this area.

Application Security Via Menu Options

The Internet Collection is broken down into several different applications. Access to each application is controlled by security level in *PCBICCFG | Menu Configuration*.



Program	Sec Level
Archie	0
TraceRoute	0
FTP	0
Gopher	0
Finger	0
Ping	0
PPP	0
RLogin	0
SLIP	0
Telnet	0
Whois	0

This type of security presents the easiest way to guard a particular application from unauthorized access. Simply set the minimum security level required to access a particular application.

Obviously, there are other issues to contend with. What if I want to allow users to try out an application before they decide to buy access to my system? This type of security will not work in this situation. That is correct and that is where you need to look at what is known as group security. Utilizing the next level of

security, you can put demo users and subscribers in separate groups and give them different access accordingly.

Application Security Via Groups

What Are Groups And Profiles?

Groups are, as the name implies, a way to group people together and give them access based on which ones they are a member of. For example, you may setup a group named DEMO. Everyone that is a member of this group has access associated with a demo user. The DEMO group most likely has less time per application and may not have access to all applications.

The term profile refers to the definition of a group. What applications they have access to, how long they can spend in the applications, etc. We will spend more time explaining what settings are in a profile later in this document. For now, it is simply important that you understand what is meant by group and profile.

Configuring Groups And Profiles

Groups are setup by selecting the "Profile Information" option from the PCBICCFG Main Menu. When you select this menu option you see a screen like the following:



The initial screen when you edit profiles for the first time.

This screen shows us a composite view of what the user SYSOP has access to. Notice that, by default, this user has no access. That is because we need to grant

the access we want to give the user. This is done by giving the user the access to certain groups.

Groups? I don't have any groups. With a new configuration, you're not expected to. However, that can be quickly remedied by pressing ALT-A to add a group to the current user followed by ALT-A again to add a group to the "Available" list.

Adding New Groups

Adding a new group is really quite easy. Why? Because we describe the users of your system verbally.

Naming Your Groups

Simply come up with a name to define a group of users. Some examples may be:

- ▶ PAYING MEMBER
- ▶ PUBLIC USER
- ▶ VISITING SYSOP
- ▶ SYSOP

Notice that the names are all based on nouns. You can use them in sentences like the following:

- ▶ He is a PAYING MEMBER.
- ▶ She is a VISITING SYSOP.
- ▶ He is a SYSOP.
- ▶ He is a PUBLIC USER.
- ▶ She is both a VISITING SYSOP and a PAYING MEMBER.

As you give the user classification of your system some thought, you'll be able to come up with group names you want to use. Once we have the groups defined, we can begin assigning them to users. First things first, however.

Setting The Group Properties

Remember, we had pressed ALT-A twice from the User Profile screen to get to the point where you had to enter a name. Now is the time you enter the names you want to define. Let's go through an example by defining the group named "SYSOP". The first screen you see is as follows:

Program	Time Limits	
TELNET	No Access	
RLOGIN	No Access	
FTP	No Access	
SLIP	No Access	Allow Holding : N
PPP	No Access	Allow Attach's : N
GOPHER	No Access	Global Picks : N
ARCHIE	No Access	Personal Picks : N
FINGER	No Access	
WHOIS	No Access	Max Hold Days : 0
PING	No Access	Holding Limit : 0
TRACERT	No Access	

Setting Application Time Limits

The first thing to do is to determine how much time a user should have in each application (0 = No Access). Use the TAB key to move between the fields and enter the maximum amount of time you want the user to stay in each application on a DAILY basis. To limit the user to the normal PCBoard time limit, simply enter a -1 which gets translated to 65535 minutes.

Since we are creating a group for the System Operator(s), set all of the time limits to -1 (65535) and enable all of the Y/N options.

Setting Group Options

On the right side of the screen is a few options relating to hot-picks and holding directories for FTP files. Once again, the TAB key will move between the fields and you can set the appropriate setting.

Allow Holding: When this option is enabled, the user can store files retrieved from an FTP site in a temporary holding directory. Remember, the global "Allow Holding" option must be enabled in *PCBICCFG | System Configuration*.

Allow Attaches: Users can choose to store retrieved files as file attachments in the message base when this option is enabled. There is no global option to be concerned about with in regards to attachments as there is with the holding directory.

Global Picks: (Not Implemented)

Personal Picks: (Not Implemented)

Max Holding Days: Files that are still in the user's holding directory are deleted by the event utility, PCBICEVT (not implemented yet).

Holding Limit: Anyone that is offering their system as a storage bin needs some sort of limit. This is the case with PCBIC as you can limit the user to a certain size for their holding directory.

Saving The Group

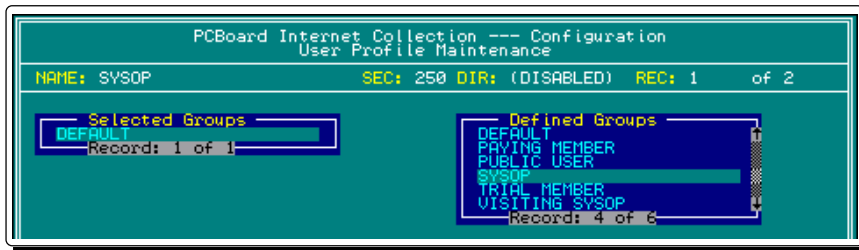
Saving the group is really easy. Press ESC to exit and confirm that you want to save the changes.

Creating Additional Groups

Not a lot of effort is required to get additional groups created. It is more of a repetition process. If you look at your user profile screen, you see something like this:



After adding all of the groups (ALT-A from this screen), your screen should be more like the following:



Adding Groups To A Security Profile

Rather than have to manually add groups to every user on your system, you can apply groups to all users with a given security level. This is done by going to the User Profile screen from *PCBICCFG | Profile Information*. Press ALT-S to edit security profiles. The default profile to enter is the security level of the current user.

In our example setup, the SYSOP has a security level of 250. Once we are done setting up the profile for security level 250, every user with that security automatically becomes members of groups in the security profile. This makes system maintenance easier because now you can change the access of entire security levels very quickly.

Let's create two security profiles. One for level 250 (SysOp) and one for VISITING SYSOPs who have become PAID SUBSCRIBERS.

Example: Creating A Profile For Security 250 (SYSOP)

From the User Profile screen, press ALT-S to select the security level and enter 250 (or whatever your SysOp security is). Notice that you are now at the Security Profile screen. Here you can add groups that everyone with a security level of 250 will have. Let's add just the SYSOP group by doing the following:

1. Press ALT-A to add a group to the security profile.
2. Cursor down to SYSOP in the "Defined Groups" column.
3. Press ENTER to add the group.
4. Press ESC to exit and return to the security profile screen.
5. Notice the time limits now reflect that of the SYSOP group.
6. Press ESC one more time to return to the user profile screen.



The SysOp has unlimited access because he is a member of the SysOp group we defined.

The DEFAULT group is automatically applied to everyone. The SYSOP group, in this example, comes from the security level profile. You can add additional groups for just this user by using ALT-A from this screen. Any groups added in this manner have no effect on those with a similar security level.

Example: Creating A Visiting Sysop Member Profile (Sec. 90)

Our example for security level 90 puts a bit of a twist into the picture. Now we have a group of users who are both Visiting SysOps and Paid Members. How to

we accommodate them? The answer is easy. Simply assign the groups to that security level and let PCB/IC handle the rest.

1. Go to the User Profile Screen (PCBICCFG | Profile Maintenance)
2. Press ALT-S to edit security profiles.
3. Enter 90 for the security level to edit.
4. Add (ALT-A) VISITING SYSOP and PAYING MEMBER to the security profile.
5. Exit and save.

It's that easy. We've now just assigned security level 90 the privileges of a VISITING SYSOP who is a PAYING MEMBER. This brings up an interesting point. With more than one group, how does PCB/IC resolve the differences between the two. This is called a composite profile

How To Understand Group Composite Profile

The rules for resolving the access when two or more groups are involved is really quite simple—the user gets the most access granted to them.

In they are a member of a group that gives 10 minutes of access to SLIP, and also a member of a group that gives 45 minutes, the user gets 45.

Summary

There is a lot of territory that we have not covered in this documentation in regards to groups and profiles. Yes, we have covered the essentials, but there is a lot you can explore in the way of adding and deleting groups. Don't be shy when it comes to satisfying your curiosity.

4

Configuration

PCBICCFG.EXE is the program that is used to setup and customize the Internet Collection. Obviously, you should become familiar with this program and how you can use it to customize the program to meet your needs. The design of this manual is to talk about the various components of setup that you may want to address initially and is grouped by categories. If you are looking for a specific topic, you may want to reference the index in the back of the manual for faster retrieval.

File Directories

There are only a small number of directories that you need to configure in *PCBICCFG | System Configuration*. This section talks about each of those sub-directories, and what files are stored in each one.

Name/Loc of ICPROFS.DAT

This data file contains information about the group profiles you define. It is typically small and should be shared among all nodes. Therefore, the best place to put this is on a shared-drive out on the network. That way, all nodes can access the same data file. The following is an example:

```
Name/Loc of ICPROFS.DAT : G:\PCB\PCBIC\ICPROFS.DAT
```

Name/Loc of ICLEVELS.DAT

As you know by now, you can simplify your configuration by making everyone at a particular security level a member of several groups. That way, you do not have to manually update hundreds, or thousands of users. Information about what groups are assigned to what security levels are stored in this file. It is best to store this file on the server so it is accessible to all nodes.

```
Name/Loc of ICLEVELS.DAT : G:\PCB\PCBIC\ICLEVELS.DAT
```

Location of Data Files

The subdirectory you specify in this field determines where the menu data file and external text files are stored. Remember, only the subdirectory is required. File information should be ignored. The following shows an example:

```
Location of Data Files : C:\PCBIC\DATA\
```

Location of Holding Dir

No files actually get stored in this subdirectory, but it does provide as a launching point where the FTP holding directories are located for each of your users. Underneath the holding directory is another structure of subdirectories for users on your system—one subdirectory for each letter in the alphabet.

If you enter C:\PCBIC\HOLD\ for the subdirectory, a unique subdirectory for JOHN DOE is created in the C:\PCB\HOLD\J subdirectory because his user name begins with the letter J. The actual subdirectory name is a unique identifier made up of letters and numbers which you can obtain by looking at the user's TPA record in PCBICCFG. An example entry for this field follows:

```
Location of Holding Dir : C:\PCBIC\HOLD\
```

Location of External Log

Logs are kept to track activity. PCB/IC has the ability to either store the information directly in your normal PCBoard caller logs, or you can send them to an external log file. External log files are written to the directory specified by this field.

Each node maintains a separate log file. The filenames for all of the logs begin with TCP and are followed by the node number. For example, node 21's external file is named TCP21. The following shows an example entry:

```
Location of External Log : C:\PCBIC\LOG\
```

Application Options

In *PCBICCFG | System Configuration*, there are a few fields that are specific to just a few applications. This section discusses those options and their effect on the applications of the PCBoard Internet Collection.

Email Site Name

Some of the applications in the collection such as FTP need an e-mail address for anonymous logins. This field allows you to specify the suffix for the e-mail address. The first part of the address, user name, is automatically generated by the program.

Whatever you enter for the suffix, it should usually begin with the mandatory @ sign used in all Internet e-mail addresses followed by the site the user's e-mail address is sent to. Most often, this is the domain name for your BBS. An example entry for this field follows:

Email Site Name : @sitename.com

With this field entry and a user named JOHN SMITH logged in, the user's full Internet e-mail address is john.smith@sitename.com.

FTP

Allow Holding

Holding a file provides a more permanent way for users to store files they have retrieved via FTP in case they do not have enough time to get them from the BBS on the original call.

This option must be enabled if you want to allow any users to store files in a temporary holding directory. A setting similar to this one is also in each group profile so that you can disable holding capabilities for certain groups of users. For example, if you want SysOps to have access to hold files but everyone else disable, you have to enable this setting and also the setting in the SYSOP profile (if that is what you named it). If either setting is set to "N", the user will not be able to store files in the holding directory.

Unlike file attachments, this option puts the file into a holding directory on disk. Since is separate from the message system, there is no overhead with one message per file, etc. Files are packed out of the holding directories during a system event using the PCBICEVT program.

Attach Conference Number

When allowing these files to be stored as file attachments, it is strongly recommended that you setup a separate conference for these file attachments to be stored. That way, PCBPack can be used to pack-out these files in a different manner than other message bases.

Suppose you specified this conference number to be a message base that holds regular messages too (e.g., Main Board message base). In this scenario, there are two problems with storing the file attachments here:

1. The message base could become excessively large. This would be the case if users download a lot of files since each message attaches only a single file.
2. In normal conferences, you may want to leave messages online for 30-60 days before packing it off the system. If you let 30-60 days of file attachments pile up, a good chunk of disk-space is used in the process.

The answer to each of these problems is to setup a separate conference that has one purpose—store file attachments. In an event, setup PCBPack to run with the /DAYS switch to remove attachments that are a certain age.

HotPicks

Maximum HotPicks : 0 (0 = Disabled)

Maximum HotPicks : 0 (0 = Disabled)

Logging Options

Logging information proves useful in many circumstances. By viewing activity logs, you can tell whether a user accessed a particular application and more. PCB/IC has numerous options that control where log files are kept and what information is stored. These settings are found in *PCBICCFG | System Configuration*.

Use External File

Logging can be done in one of two ways—internal or external. Internal logging is where all entries are placed directly in the PCBoard caller log while external logging is where all PCB/IC log entries are kept in a separate file for each node. This option only affects the location of the entries themselves, not how much is tracked. Therefore, your selection here is simply based on whether you mind having larger PCBoard caller log files or prefer to have PCB/IC log entries in an external file.

When external logging is selected, the location for the log files is defined in *PCBICCFG | System Configuration*. The filenames all begin with TCP followed by the node number. For example, if this is your entry for the log locations,

```
Location of External Log : C:\PCB\PCBIC\LOGS\
```

the log for node 22 is written to a file named TCP22 in the C:\PCB\PCBIC\LOGS\ subdirectory.

Connect Information

Statistics

FTP Commands

FTP Responses

FTP Transfers

Timeout Options

Timeout values determine at what point the Internet application gives up what it is trying to do. Activities such as establishing a connection, receiving input, and inactivity are all covered in this area.

You know when an application is waiting because a visible cue is given. This cue is simply the number of seconds (surrounded by brackets) before the time-out occurs. This example from the FTP application provides a great example:

```
Negotiating login process. [295]
```

From this prompt, we can tell that some sort of negotiation is in process. Furthermore, we also see that if that negotiation does not complete within 295 seconds, the connection will abort. To increase the time-out value temporarily, press the T key.

Open Connection

This value determines the maximum time that PCB/IC should wait for a connection response from the host computer. The normal operating procedure is to resolve the address into an IP address, send a connection response and wait for some sort of connection message.

Normally, this procedure happens quite quickly. A slow response time in this area may signal that sending and receiving data may also be slow and therefore not worth keeping the connection. Therefore, a value of 30 is a good default value. If your situation demands more time, by all means, increase it.

Receive Input

When one of the applications is expecting data from the host but is not receiving it, this time-out value is enabled. The application waits until the countdown reaches zero at which time it closes the connection.

There are two main reasons for a delay in receiving characters: 1) there is a delay on the Internet which is usually caused by excessive load, or 2) the host computer is busy processing your request.

In both cases, it is not uncommon to see a delay occur for several moments. A good value for this field is 180 seconds but may vary based on your circumstances.

Transfer Inactivity

This timer simply monitors if there is any data being sent or received. If nothing is sent or received in the time allotted, the connection is automatically closed. Typically, you'll want this to be one of your higher settings (several minutes). Remember, all time-out values are specified in seconds. The following example sets a 5 minute (300 second) value:

```
Transfer Inactivity : 300
```

Close Connection

Just as there is a time-out value for opening a connection, there is one for closing the connection too. In this case, a request to close the connection is made and confirmation is sent in return. If the confirmation is not received in the amount of time specified by this field, the connection is forced closed.

Since closing a connection does not take long, a relatively small value should be entered in this field. A value between 30 and 45 seconds is a good example.

Inactivity Delay

Both the inactivity and receive input delays are quite similar. The major difference is that the inactivity delay is activated whenever the application is not expecting input and is therefore simply idle. If no data is transferred during the time specified by this field, the connection is closed. Set this value to something greater than or equal to your receive time-out value.

Domain Lookup Timeout

Anytime a user enters a named address, the application has to send a query to the domain name server to find out what the IP or numerical address is for that site. These queries are typically answered in just a matter of seconds. It makes sense to set the value for this field to something small (15 seconds or less). After all, if an address cannot be resolved in that amount of time, what kind of transfer efficiency is the connection going to have?

5

Customizing

Changing Text Displays

Because there are so many ways to convey information, it is important to design systems that are easily customized. So it is with the Internet Collection. Not only can you customize nearly any text prompt that appears, but also add additional text files that enhance the information presented to your callers.

Creating Application Intro/Exit Screens

Although many people are familiar with the World Wide Web, many may not know what Archie or Ping is. You are given the opportunity to explain these applications in the intro screen for each program. Likewise, additional action may be required at the end of the application where an exit screen can explain this in better detail.

All of these screens we refer to are located in the data file subdirectory (*PCBICCFG | System Configuration*) and can be customized as any other PCBoard display file can. Yes, you can create security specific, or even graphic specific files if desired. About the only thing you cannot do is run a PPE or launch a MNU inside one of these display files.

Intro Screens

Screens that introduce an application serve to prepare the caller for what they are about to enter. For example, if a user selects Archie but does not know what it is, you can have the introduction screen give appropriate background information on the purpose of Archie. Likewise, you may want to include instructions on how to exit the program in case they find out this is not the application they wanted.

The following table outlines information about what intro filenames are associated with which applications. Remember, the location of each display file is in the data file subdirectory as pointed to by PCBICCFG.

Application	Filename	Application	Filename
Archie	ARCH	RLogin	RLOG
Finger	FING	SLIP	SLIP
FTP	FTP	Telnet	TELN
Gopher	GOPH	TraceRoute	TRACE
Ping	PING	Whois	WHOIS
PPP	PPP		

As an example, if the data directory is C:\PCB\PCBIC\DATA and you want to make an intro screen for FTP, edit the file C:\PCB\PCBIC\DATA\FTP.

Closing Screens

Some applications may require additional action by the user. FTP requires that the user download the file from the bulletin board once it is obtained from the FTP server. An excellent way to let the user know what to expect next is through a display file that appears after the Internet application is exited.

At the current time, only the FTP application has a closing screen which consequently is named FTPC. Like the opening screens, this file must be located in the data file subdirectory pointed to by PCBICCFG.

FTP Transfer Window

When a user has ANSI capabilities and when the FTPSCRN file exists, they are shown a progress window similar to the following:

Receiving:		FTP Transfer	File:	of
Time Remaining:	Status:	Average CPS :		
0...10...20...30...40...50...60...70...80...90...100%	Bytes:			
	Done:			

The layout of the sample FTPSCRN file included with the PCB/IC package

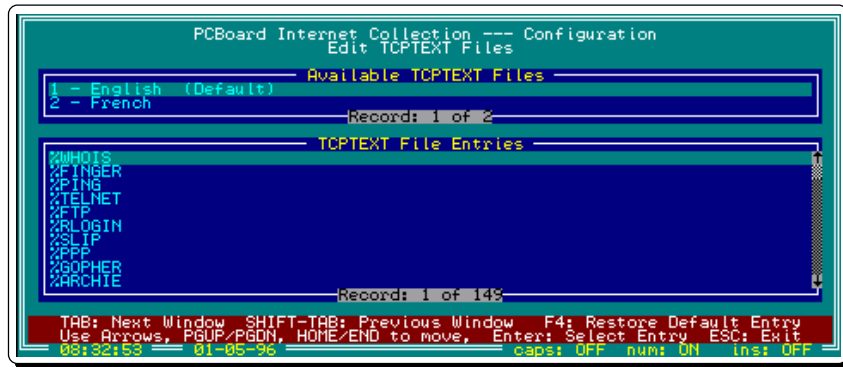
Because this is an external file, you can change the colors of the window using PCBEedit or any of the text if desired. You can even make this window language specific if desired.

The placement of the various options can also be configured by modifying some prompts in the TCPTEXT file. In particular, records 136 to 145 are the ones to be concerned with. The two numbers at the beginning of each line represent the x and y coordinates where each element is placed. For example, to change the location of the filename from column 13, row 2, simply change the numbers for

this record. If you make this change, be sure to update the FTPSCRN file so there is space for the filename to fit.

Individual Text Lines

Virtually everything that is displayed by the Internet Collection is either contained in an external text file or as editable text records the text record file. To get an idea of the text displayed by PCB/IC, load PCBICCFG and select *Edit Text Records* from the Main Menu.



The initial screen you see when you edit text records.

Notice that this screen is divided into two separate windows. The first shows the language you are editing, and the bottom window provides a scrollable window showing all of the text records you can edit.

Selecting A Language To Edit

When you first enter the text record screen, your current window is the language window. Use the cursor keys to highlight the language you want to edit and press TAB to edit records for that language.

Finding The Text to Modify

Saving Changes

Menu Customization

When Does The Menu Display?

Changing Menu Colors

Menu Option

Program/Application Name

Program/Application Description

Modifying The Menu Layout

Overriding The Menu

6

Maintenance

Holding Directories

Users

7

Program Summaries

Note About How Each Application Is Run (Menu / Command line)

Archie

Finger

What It Is

This application provides a way for you to find information about a user at a particular site. For example, you can find out the last time a user logged into the system. Many sites have found clever uses for finger requests by having them return additional information such as famous birthdays and the like.

Not all sites accept finger requests. An easy way to determine if a site allows finger access is to try it. If you do not see ...

A Sample Finger Site

Let's try a sample finger so you have a feel of what to expect. Begin by selecting Finger from the PCBIC menu or by loading PCBIC with the /FINGER command line parameter. The first thing you see is:

At the site name, type `oddjob.uchicago.edu` and press `R`. For the username, enter `copi` followed by `R`. After the site is queried, you should see a bunch of information about today and some quotes come across the screen.

When It Does Not Seem To Work

FTP

Files are retrieved into holding directory or temporary work directory
Recommend a relative path for your work directory
FTPSCRN - Used to replace the FTP bar thingy.

Gopher

Ping

What It Is

When you need a quick and easy way to see if you are communicating properly with the Net or if a site is operating, use Ping. With Ping, you are simply given statistics as to the amount of time it took to receive a packet back from a site.

Applying a telephone analogy, this application is the equivalent of calling a phone number, acknowledging that it rung and then hanging up. When you are not connected to the Internet, there is no dial tone so to speak and therefore you cannot verify if a site is operational.

Pinging A Site

Let's ping a popular site like *internic.net* to get a good idea of the output the ping program produces:

```
Enter Site Name: internic.net
Enter number of pings to send (1-9): 3

Pinging internic.net [198.41.0.5] 3 times

sent PING # 1 , PING response # 1 : response time 0.33 seconds
sent PING # 2 , PING response # 2 : response time 0.22 seconds
sent PING # 3 , PING response # 3 : response time 0.16 seconds

Ping Statistics
Sent      : 3
Received  : 3
Success   : 100 %
Average RTT : 0.23 seconds
```

Notable in this output is the response time for each ping as it provides a good performance gauge of your Internet connection. To determine an average response time, simply look at the `Average RTT` field on the last line.

NTime

RLogin

SLIP

Telnet

Port Number can be overridden like this: `pcboard.com 60` (to use port 6) as opposed to 23, the default.

TraceRoute

Whols

Information about a domain name or IP address can be obtained by using this program.

A

When Something
Goes Wrong

Errors When Loading

No Packet Driver

You Do Not Have Access

USERS.SYS not found

Not enough memory

Unable to initialize the door routines in the TOOLKIT

NO PACKET DRIVER FOUND (can't find 'PKT DRVR' signature)

ERROR ACCESSING PACKET DRIVER (wasn't properly initialized or closed)

Error initializing the socket class functions

Unable to locate or read TCPTTEXT

Unable to locate or read MENU.DAT

The holding directory doesn't exist for user (if sysop allows holding)

Unable to open the users, user.inf files

Unable to read the TPA information

Check The Feed

1. Can You Reach Your Own Domain?
2. Can You Reach Your Provider's Domain?
3. Can You Reach Other Sites?

General Tech Support Tips

B

Favorite Sites

Recommended Sites
