

THE NETWORK

DESKTOP MANAGER & GRAPHIC USER INTERACE

FOR THE AMSTRAD PCW SERIES COMPUTERS

USER MANUAL



CREATIVE TECHNOLOGY (MICRODESIGN) LTD

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OVERVIEW: WHAT IS THE NETWORK?

The Network is a memory and program management system for the PCW's CP/M operating system. It requires a PCW computer fitted with at least 512K of memory, and can be controlled using the PCW keyboard, or a computer mouse such as the Creative Technology KeyMouse.

How to use this Manual

This manual has four chapters. This **Introduction** provides some background information on the Network, notes on compatibility with CP/M versions and other programs, and covers the Installation process by which you make a working copy of the Network programs. The second chapter is called **Installing and Using Programs on the Desktop**: it provides a walk-through guide to configuring the Network for your own programs. We recommend that you work through the first two chapters as a kind of Network tutorial.

The third chapter is a **Reference** guide, giving detailed explanations of all the commands and options in the Network menus, in the order in which they appear on the screen. The fourth chapter discusses different ways in which the Network might be configured for different situations and requirements.

MANAGING PROGRAMS AND MEMORY

The Network runs on your PCW like any CP/M program, but once running, it allows you to "install" other CP/M programs within its operating environment, and to switch between them via the Network's Desktop screen. Programs can be installed on the Desktop in two ways: they can either be run from disc as normal when you need them, or they can be "Resident" in the computer's memory, so that they run instantly when selected. Up to sixteen programs can be installed in separate "program slots" on the Desktop screen (though the number of these programs which can be Resident may depend on the amount of memory fitted to your PCW).

You can launch any program from the Desktop by clicking over its slot with a mouse, or by pressing a key-letter which you assign to it. Once a Resident program has been launched, its slot displays a small picture, called an Icon, to show that the program is stored in memory and can be used instantly without inserting its disc.

When you Quit from a program, the system returns to the Desktop screen instead of the usual CP/M **A>** Prompt, so that you can select another program just by clicking over another slot.

Using this Manual

Program & Memory Management

Screen Saver

THE SCREEN SAVER

When the Network is installed, it detects all mouse and keyboard activity, even when other programs are running. If there is no such activity for a given period time (you can set the delay time in the Network Options screen), the Network can initiate a Screen Saver program which blanks out the display. The display is switched on again as soon as you press a key or move the mouse. The Screen Saver prevents the "screen burn-in" effect, which can permanently mark a computer screen with any picture which is displayed constantly for long periods. Instead of just blanking the screen, the Screen Saver can also display simple animated graphic sequences, which (as well as being more amusing than a blank screen) serve to remind you that your computer is still switched on!

Network Programs & MicroDesign3

NETWORK PROGRAMS & THE MICRODESIGN3 FAMILY

Most CP/M programs can be installed on the Desktop, but some programs are specifically designed to take advantage of the Network's more advanced features. MicroDesign3, Tweak3, and the Font & Shade Designer are all examples of this special category, called "Network programs". A Network program includes a "Network" entry in its main menu. This avoids the need ever to Quit from the program or run it again. When you select Network from the menu in a Network program, you return to the Desktop, but the program remains active in the computer's memory, so that you can return to it at any time by selecting it from the Desktop. When you do select it, the program returns exactly as you left it.

Network programs which are running simultaneously can also share information. Some, such as MicroDesign3 and the Font & Shade Designer, share a common "Page": changes made to the Page in FSD will be retained when you see the Page in MD3. The Tweak3 program, when it is installed on the Desktop, automatically appears as an operation in the MD3 and FSD menus. A full description of the special facilities used by MD3, FSD, and Tweak3 is given in chapter 2, but new Network programs are being developed all the time: the latest information available is always included in the "README.TXT" file on the Network master disc, but for full information about how a program uses the Network's facilities, see that program's manual.

IMPORTANT NOTES ON COMPATIBILITY**CP/M Versions**

The Network facilities are not supported by the earliest PCW CP/M versions: if you are using a CP/M version lower than 1.8 (for the 8256/8512/9256) or 2.10 (for the 9512), you will need to upgrade your CP/M master disc: contact Creative Technology for more information.

Locoscript and Flipper3

The Network is a CP/M program, and only works with other CP/M programs. **You cannot install or use Locoscript within the Network.** However, the Network is fully compatible with Flipper3, so you can run the Network as a CP/M environment under Flipper3.

If you do run the Network under Flipper3, you must never Flip out of the Network while a program is running: you should always return to the desktop before Flipping. You should also ensure that you allocate a minimum of 32 blocks (512Kb) of memory to the Network, or at least 47 blocks (752Kb) if you want to run MD3 under the Network with Flipper.

MicroDesign3 and Tweak

Any MicroDesign3 version earlier than 3.30, or Tweak version before Tweak3 v3.0, cannot be run under the Network. If you have an earlier version of MicroDesign3 or Tweak, please contact Creative Technology for information about upgrading.

Disckit, MicroDesign2 and other CP/M Programs

Although every effort has been made to make the Network compatible with as many programs as possible, there are a small number of CP/M programs (including Disckit, MicroDesign2, and ProSCAN) which will not work properly within the Network environment. See the the README.TXT file on the Network master disc for a summary of compatibility problems.

Programs Which Cannot Quit

Some CP/M programs, especially games, have no facility to Quit back to CP/M. This also means that there is no way to return to the Desktop after running one of these programs, so they are not properly compatible with the Network. However, they can be launched normally from the Desktop, so the Network can still provide a menu system for selecting one program, even though you will have to re-start the computer to escape from the game as normal.

Compatibility:**CP/M Versions****Locoscript & Flipper****MicroDesign3 & Tweak****MicroDesign2, Disckit etc****Programs which won't Quit**

MAKING A WORKING NETWORK DISC

Start Here: Making a Network Disc

The first thing you must do is make a Working Copy of the Network program. As with MicroDesign, the Network Master Program disc is copy-protected: this means that you cannot copy or verify it using the normal Locoscript or Diskit copying programs. It can only be copied using a program called NETMAKE, which is supplied on the disc itself. Before running NETMAKE, you must have a spare disc handy to use as your Working Disc: it does not need to be formatted, but **any data on it will be destroyed during the copying process.**

COPYRIGHT WARNING

Please note that the working disc you make will be copy-protected like the master disc, and cannot be copied or verified. We allow you, as a legitimate user, to make a Working Copy of Network for your own use: please do not abuse this by making extra copies for your friends. If everyone who wants to use the program buys it legally, everyone (including you) will receive better after-sales support and better programs in the long run. Please note that any copies made from your program disc will bear your serial number, and can be traced back to you: software piracy is THEFT.

Starting up Before running NETMAKE, you must "Boot-Up" your PCW using a copy of your CP/M Plus disc (one of the Master discs which was supplied with the PCW). Switch on the power, then insert the CP/M Plus disc: after a few moments, you should see the "A-prompt" appear on the screen.

A>

You are now "in CP/M", and you can run programs from here.

Running NETMAKE

To run NETMAKE, insert the Network Master program disc drive A, and type:

NETMAKE

NETMAKE will ask you a series of questions about your computer and any peripherals which are attached to it, such as a mouse. The answers to these questions will be used to create an initial configuration for the Network program.

NETMAKE will also ask you whether you want to include the Tutorial files on your Network disc. If you are using the Network for the first time, we recommend that you include these files, and follow the short "walk-through" tutorial in the next chapter.

Disc Drives

After you have answered the questions about peripherals, NETMAKE asks you which disc drive you want to use for making your Working disc. You can make your Working disc in any drive, but if you do not have a Hard Disc, we recommend that you use drive A, so that the Working Disc can be made into a "Start-Of-Day" disc.

Start-of-Day Discs

To run the Network using a Start-of-Day Disc, you simply switch on your computer and insert the disc: CP/M will be installed and the Network will be run automatically. Note that you can only make a Start-of-Day disc in floppy drive A, not in any other drive.

Hard Disc Drives

The Network is a powerful tool for the hard disc user. On a self-booting hard drive (such as those made by Cirtech), the Network can be run automatically when you start up CP/M, with up to 16 programs instantly available on the Desktop.

If you have a hard disc, you should still use NETMAKE to install the Network, but you must also make a floppy disc copy to use as a "Key-Disc". Whenever you start up the Network from a hard disc, you must also insert a Network Working Disc in one of the floppy drives: the program always checks that there is a proper Network Working disc in one of the floppy drives before it runs, for copyright reasons. (Note that other Creative Technology programs which require key-discs, such as Micro-Design3 and Tweak3, will accept a Network key-disc instead, so you can use the Network key-disc for all your programs.)

When you install the Network on a Hard Disc, the NETMAKE program asks you to select which User Group you want to use for the Network. We recommend that you select Group 0, unless you have a specific reason for using a different Group.

To start up the Network automatically at switch-on, add the line...

```
NETWORK
```

...to the end of your PROFILE.SUB file. For a full explanation of PROFILE.SUB, see your CP/M manual.

Note: if you are using a 'Gem' or 'Insyder' hard drive, you may be using the 'MANAGER.COM' program which is supplied with it. **You cannot use the Manager in conjunction with the Network.** If the Manager appears automatically when you switch on your PCW, you must Quit from it before running the Network. If you add the Network to the end of your PROFILE.SUB file, as described above, you must also remove any line which says...

```
MANAGER
```

...otherwise the Network will not run.

Disc Drives**Start-of-Day Discs****Hard Discs****Gem & Insyder 'Manager'**

Chapter 2: USING PROGRAMS ON THE DESKTOP

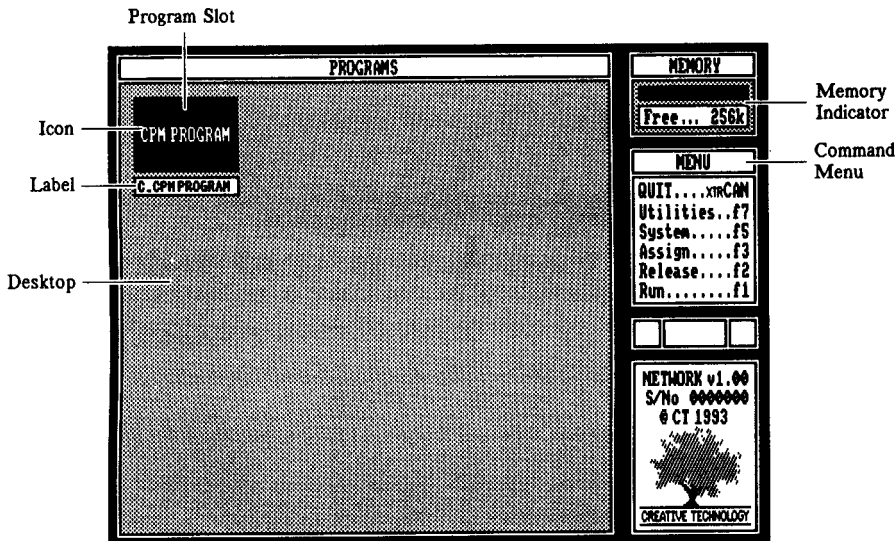
This section assumes that you have made a start-of-day Network disc in drive A, or that you have installed the Network on a self-booting hard drive, and that you chose to include the Tutorial files during the copying sequence. To run the Network, simply switch on your PCW, and insert the Network Working disc in drive A. With a self-booting hard disc, insert your key-disc in a floppy drive, and at the **A)** prompt, type...

NETWORK

THE DESKTOP SCREEN

When you run the Network, the screen displays a "Desktop", and a menu of commands:

Using the Desktop



The Desktop contains sixteen "Slots", which you can "Assign" to your programs: on the Tutorial desktop, the top left slot is automatically assigned to an example program, called "CPM PROGRAM". Slots which have not yet been assigned are blank.

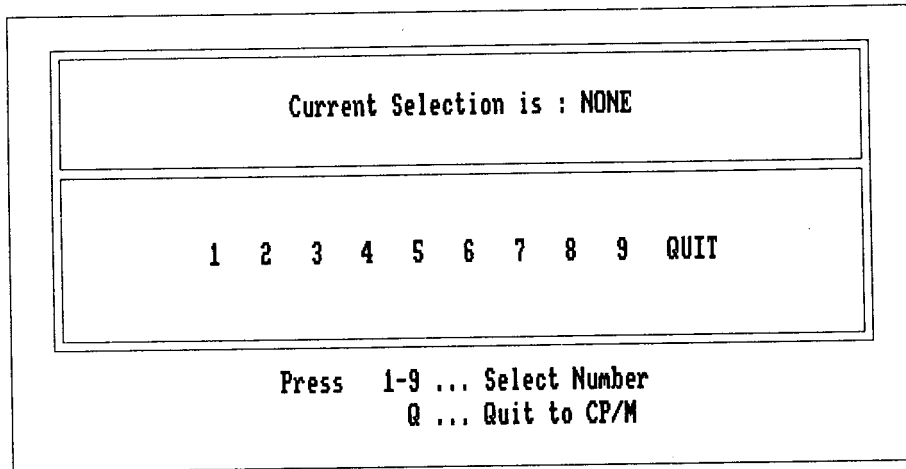
Running and Quitting from a CP/M Program

When you "Assign" a program to a desktop slot, you give the slot a name, which appears in the "label" just below it. You can then run the program by clicking over the slot with the mouse left button, or by selecting the Run command from the menu by pressing [f1], and selecting the slot you want using [↑↓←→] then [Enter]: try running the example "CPM PROGRAM".

Running a Program

**Running
Programs from
the Desktop**
(cont)

When you choose "Run" and select a program slot, the program is loaded from disc and run. The Network makes no difference to the way ordinary CP/M programs actually work: they behave just as if they were running under normal CP/M. To illustrate this, you can run the CPM PROGRAM program outside the Network, from the CP/M **A** prompt, if you wish.



The example program asks you to type any number between 1 and 9, and highlights the number you choose. It also tells you that you have to type [Q] to return to the Desktop: when you use a CP/M program, you must use the program's own version of the Quit command to return to the Desktop. In this example program, press [Q] to Quit. When the desktop is displayed, you will see that the icon for the CPM PROGRAM remains visible, indicating that the program is Resident - this will be explained later.

MEMORY

In addition to controlling the desktop and running programs, the Network's other main function is to manage the PCW's memory, and use it to run programs and store files. The amount of "free" memory (*ie* the amount which is currently available for use by the Network and its programs), is shown by the Memory Indicator at the top right of the Desktop. Some of this memory is used for "drive M": whenever you save a new file in drive M, the amount of "free" memory will decrease.

Note how the "Free" figure also drops whenever you activate a new slot. This is because the slot requires a memory allocation in which to run its program. Most programs, including the CP/M example program you have already used, require 64K of memory to run. To see how this affects the memory indicator, try running CPM PROGRAM again, and watching the memory indicator as you do so: you should see that it drops by 64K when the program runs, but that it has returned to its original value when you return to the desktop.

A few special programs, such as MicroDesign3, require more than 64K memory. A program's memory requirement is stored as part of the slot's "Assignment". You cannot run a program from the desktop if its Program Memory allocation exceeds the amount of free memory.

Freeing Memory: "Releasing" a Slot

The Network uses free memory in two ways: for running programs, and for storing files. Whenever a program slot is active, it occupies some of the computer's memory, so the amount of free memory is reduced: if you have lots of programs active at the same time on a computer which does not have much memory, you will eventually find that there is insufficient free memory to run any programs at all. The memory used by an active slot can be freed using the Release command: Releasing an active slot makes the program's icon disappear, and removes the program itself from memory, leaving that memory free for use by another program.

You can see how this works by Releasing the CPM PROGRAM slot. The slot's icon is displayed on the desktop, showing that it is currently active. To Release it, select the Release command by clicking over the word "Release" in the menu, then click over the slot you want to release. (With the keyboard, select Release from the menu by pressing [F2] then use [←→↑↓] then [Enter] to select the CPM PROGRAM slot on the desktop.) The program displays a message asking you to confirm that you want to Release CPM PROGRAM: type [Y], or click on the symbol with the left button, to confirm. The program's icon disappears, and the memory indicator shows an increase in the amount of free memory. The increase is small because the example program is small: Releasing a larger program will free more memory.

Using Memory



Freeing Memory: the 'Release' Command

COMMANDS

Network Commands



The Network has a menu of five commands, which are used to control and configure the desktop and the programs installed on it: the Release command you just used is one of them. To use any command, press the key listed beside the command name in the menu, or click over the name with the mouse left button.

Briefly, the commands are divided into two groups: Run, Release and Assign are used for controlling programs and slots, while System and Utilities are special commands which select and control the Network's own internal features and settings.

'Run'

RUN is used to run a program by selecting its slot on the desktop. You can also run a program by clicking over its slot with the mouse.

'Release'

RELEASE is used to remove a program from memory, in order to make more memory available for another program to use.

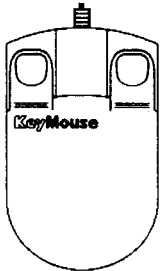
'Assign'

ASSIGN is used to install a new program on the desktop, by allocating it to one of the slots, or to alter the settings of an existing slot assignment. The Assign command displays a menu showing the current assignment settings for the slot you selected: for a detailed explanation of these settings and their meanings, see chapter 3.

When you select one of these three program commands, a rectangular frame appears around one of the desktop slots. This frame indicates the slot on which you want the command to operate: select a slot with the mouse left button, or using the cursor keys [\uparrow \downarrow \leftarrow \rightarrow], then press [Enter], as you did to Release the CP/M example program earlier.

'System' & 'Utilities'

The other two commands are **SYSTEM**, which is used to control some of the desktop's internal options including the Screen-Saver, and **UTILITIES**, which displays a menu of small utility programs which "pop up" on the desktop. For more information about the System and Utilities commands, see chapter 3.



Using a Mouse - Short-Cuts for Run and Release

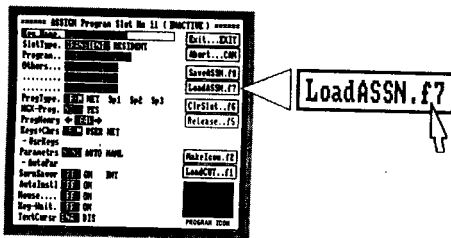
If you have a mouse, you can Run or Release a slot simply by clicking over it on the desktop. Use the left button to Run the program, and the right button to Release it. The Release command always has a confirm stage.

ADDING A PROGRAM TO YOUR DESKTOP:

LOADING AN ASSIGNMENT FILE

The usual way to install a program on the desktop is to load the program's assignment file. The Network needs to know some technical information about a program before it can use it: you can enter this information "by hand" using the Assign menu, but Assignment files are much easier to deal with. The Network master disc includes Assignment files for almost all popular CP/M programs, including the one for the CPM PROGRAM example, which was installed automatically when you made your Network disc. Assignment files have the suffix **.NAS**.

We will now add a second example program to your desktop. The program is called **NETPROG.COM**, and we will install it by loading its assignment file: the assignment file is called **NETPROG.NAS**. The first thing you must decide is which desktop slot you want to use for the new program: select the Assign command, then select one of the empty slots using the mouse or [**↑↓←→**] followed by [Enter]. The screen now displays the Assign menu for the slot you have chosen, but all the entries are blank because the slot is not yet assigned.



Installing Programs on the Desktop:

Loading an 'Assignment' File

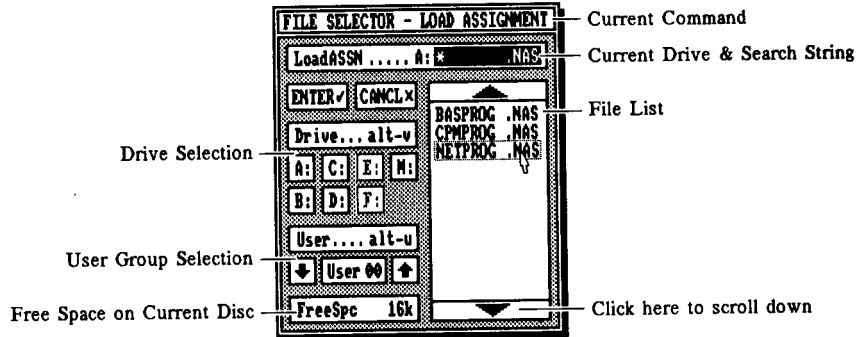
On the left of this menu are a number of options, most of which you will never have to worry about. On the right, there are several "Command Buttons". Most Network menus contain command buttons, which appear as rectangles containing a command and a key-name. You can always select a command by clicking over the rectangle with the mouse left button, or by pressing the named key. In this case, we want to use the LoadASSN command, so press [f7], or click on the LoadASSN button.

Loading an Assignment
(cont)

The File Selector

THE NETWORK FILE SELECTOR

Now the screen displays the Network's "File Selector" window. The File Selector is used by all the Network's Load and Save commands, and by some Network programs: it provides a standard way of listing the files on a particular disc, and of selecting a file from the list.



The particular load or save command you are using is shown in the top line of the Selector window. Below is the current disc drive and search string. The search string is the standard CP/M method of specifying a file or group of files, using the wild-card characters * (any name) and ? (any character): in the illustration, the search string *.NAS means 'any file-name ending in the suffix .NAS'. If you are unfamiliar with search strings, see your CP/M or MicroDesign3 manual for a full explanation.

Search Strings

File Types & the File-Suffix

Drives

All Assignment files have the suffix .NAS, so the suffix in the Selector window is locked to this suffix. Now insert your Assignment files disc: the Assignment files are supplied on the Network master disc (side B of the 3" version). Use the Drive buttons in the Selector window to change to the appropriate drive if necessary: with the keyboard, hold down the [Alt] key and press the drive-letter you want (eg [Alt]+[B] to select drive B). Next, press [Enter] or click over the **ENTER ✓** button (or the search string itself) to list the files.

Selecting a File

You can select a file from the Selector list by clicking over it with the left button, or using [↑↓] then [Enter]. In this case, you want to load the file called **NETPROG.NAS**: the files are listed in alphabetical order, so you may need to scroll down the list using the [↓] key, or by clicking on the arrow below the list.

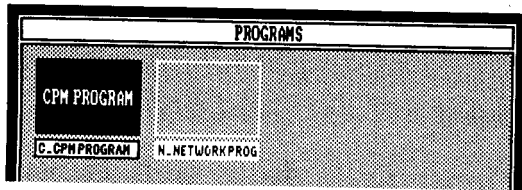
When the Assignment file has been loaded, you can see that the "Program" option is set up to look for the program on drive A: this is because the program was copied onto your Network start-of-day disc, and you must make sure that this disc is in drive A before you try to run NETWORK PROG.

Now choose EXIT to return to the desktop. You should see that the slot you selected displays the name NETWORK PROG in its label, indicating that you have successfully installed the program on your desktop. Note, however, that there is no icon displayed in the slot. This is because the slot has not yet been activated: a program has been assigned to it, but the program has not yet been used.

Exit...EXIT

TRANSIENT AND RESIDENT PROGRAMS

Before proceeding with this section, put your Network start-of-day disc back in drive A, and run the CPM PROGRAM example as described earlier, then Quit back to the desktop. Your desktop should look something like the illustration below, though the NETWORK PROG slot will appear wherever you assigned it on the desktop.



When you Quit from a program, you return to the Desktop. In the case of the example CP/M program you have just used, the program icon remained visible, showing that the slot is still active. If a slot remains active even after you have returned to the desktop, the slot is assigned as Resident: this means that its program remains in memory, and can be used again at any time without having to be re-loaded from disc.

As we have already seen, you can use Release to remove the program from memory, but you can also assign the slot so that the program is never stored in memory at all. This type of assignment is called "Transient".

The icon for a Transient slot disappears as soon as you Quit from the program, and the slot is de-activated. This means that the program is not being stored in drive M for later use, so every time you run it, the Network has to re-load it from disc.

To demonstrate the difference between Transient and Resident slots, try running the other example program, called NETWORK PROG, using the usual method: click on its slot with the mouse left button, or press the key-letter assigned to the slot, which in this case is [N]. The second program has the same basic functions as the first, and looks quite similar, but there are some important differences which we shall discuss later. For now, just switch back to the Network by pressing [N], or by clicking over the **Network..N** button with the mouse.

Changing an Assignment: 'Transient' & 'Resident' Programs

Resident

Transient

Transient & Resident Programs

(cont)

When you return to the desktop, you will see that unlike the CPM PROGRAM example, this program's icon has disappeared. If you run it again, the Network will have to load it from disc again, because its slot is assigned as Transient.

To change this to Resident, we must use the Assign command again. Press [f3] to select Assign, or click over it in the menu, then select the NETWORK PROG slot.

The desktop now displays the Assign menu settings for the slot. This menu has a large number of options (most of which you will never have to use), but the one we are interested in at the moment is called "SLOT TYPE", and it appears near the top of the menu.



Change this option from Transient to Resident, by clicking on the word "Resident" with the left button, or using the [↑↓←→] keys. Now press [Exit], or click over the **Exit** button, to return to the desktop.

If you now Run the NETWORK PROG example program again, it loads from disc and runs as normal. When you now Quit back to the desktop, however, the icon remains visible on the desktop, like the CPM PROGRAM example, instead of disappearing as it did before. Now run the program yet again: you should notice that it runs more quickly, because the program does not have to be loaded from disc.

You can configure any desktop slot to be Resident, so you can have up to sixteen programs instantly available - they only have to be loaded from disc the first time they are run. Note, though, that the number of slots which can be active at any one time depends on the amount of memory fitted to your PCW.

A Note About Icons

Icons

The icons used by the two test programs are simple text labels. These can be generated automatically in the Assign menu, but you can also design more interesting and attractive icons yourself, using MicroDesign3. See 'LoadCUT' in the Reference chapter for more details.

AUTO-INSTALLING PROGRAMS

Any Resident program can be Auto-Installed: this means that it is copied to drive M (or run if it is a Network program - see overleaf) automatically as part of the Network start-up process. If you assign a program to be Auto-Installed, you do not need to load the program from disc the first time you use it.

Programs can be Auto-Installed from the Network disc itself, or loaded from a disc in another drive: when assigning a program to Auto-Install, make sure that the correct drive and user group is entered in the "Prog-Name" line of the Assign menu. If there is insufficient disc space available to store all your Auto-Install programs, you can use a sequence of discs: if the Network cannot find a program on the disc which is currently in the nominated drive, it will ask you to insert the appropriate program disc(s) during its start-up sequence.

SAVING AND LOADING THE DESKTOP

When you have assigned all the slots you want to use on your Desktop, you can save the complete Desktop on disc. Select **SYSTEM** from the command menu, then **SaveDESK**. Desktop files are always saved with the suffix **.NDT**.

Selecting a Save command displays the File Selector. When using the File Selector to save a file, simply type the file-name, and choose **ENTER**✓. When Saving a Desktop or Assignment file, the appropriate **.NDT** or **.NAS** file-suffix is included automatically, and cannot be changed.

You can store as many Desktops as you like, and load each one as required using the **LoadDESK** command. **Note that whenever you Load a new Desktop, the old settings are lost, and all active programs are released.** Network programs will lose any unsaved information, so make sure that you save your work before loading a new Desktop.

If you want to set the default desktop which the Network loads automatically whenever it starts up, you must save this desktop as **NETWORK.NDT** on your Network start-of-day disc. For more suggestions about how to use different Desktop configurations, see chapter 4.

Note that a Desktop file only contains a set of slot assignments: it does not contain any of the programs themselves.

Auto-Installing Programs

Saving and Loading Desktop Files

Default Desktop: NETWORK.NDT

What is a 'Network' Program?

MORE ABOUT NETWORK PROGRAMS

There is a special category of programs which were created especially to run in the Network environment (though some will also run without it): examples include MicroDesign3 and Tweak3, and the NETWORK PROG example you have just seen. Network Programs do not usually have a Quit command: instead, they have a special menu selection called "Network". When you want to return from the program to the desktop, you select its "Network" command. If you return to the program later, it is not re-run from scratch like a CP/M program: instead, it returns exactly as you left it, and remembers any information it was using. **Note that this only applies if the program's Slot-Type is set to "Resident", and it remains active: the program will not retain information if you Release it.**

To see this in action, Run the NETWORK PROG program, and this time, select a number by pressing a number key, or by clicking over a number with mouse. This number will appear in the box marked "Current Selection". Next, press [N] or click over "Network" to return to the desktop, run CPM PROGRAM, and select a number in that program before pressing [Q] to Quit back to the desktop. Both programs are Resident, so their icons are both displayed. If you Run CPM PROGRAM again, you will notice that the "Current Selection" box shows that no number has been selected: the program has forgotten the number you chose when you last used it. Now Quit, and Run NETWORK PROG. Its "Current Selection" box still shows the number you selected the last time you ran the program.

Remembering a single number is not a very impressive feat, but the same principle applies to any information which a Network program contains. For MicroDesign3 users in particular, this is a very powerful feature, because MicroDesign3 contains lots of information. If you are using MD3 outside the Network, the Page, the Text, and the Template all have to be saved before you can Quit from MD3 and use another program. Under the Network, by contrast, you select "Network" from the main menu, run another program from the desktop, then return to MD3 - the program comes back with the Page, Text, Fonts, and all its settings exactly as you left them.

The Mouse

Network programs have other advantages too: in CPM PROGRAM, you had to type on the keyboard to select the numbers and to Quit, but in the NETWORK PROG example, you could use the mouse. The mouse facility is provided and controlled by the Network, and most Network programs can be operated using the mouse.

Also, Network programs can configure and use the Page. Some Network programs (such as MicroDesign3, the Font & Shade Designer, and Micro-Chart) operate on a MicroDesign-style Page. Under the Network, this Page becomes commonly accessible to any program, so that any changes made to the Page in one program will be retained and displayed when the Page is accessed by another program. This makes it very easy to transfer images and information between different Network programs.

The Page

CP/M AND NETWORK PROGRAMS - MEMORY USE

When experimenting with the Release command earlier in this chapter, you may have noticed some differences between the memory usage of CP/M and Network programs. Resident CP/M programs actually use memory in two different ways: firstly, the programs themselves are stored as files in drive M; and secondly, they use another 64Kb of memory when you run them, though this memory is released automatically when you Quit back to the desktop.

This means that an active CP/M program which is 10Kb in size only uses 10Kb of memory when it is not in use, but you must have 64Kb free in order to run it. It also means that Releasing a CP/M program will only free as much memory as the program (and any "Other" files assigned to it) occupy in drive M. (It is even possible to erase an active CP/M program from drive M by accident, so that when you next try to run it, the Network will be unable to find it!)

Network programs behave rather differently from CP/M programs. Network programs are not stored in drive M as files: instead, they are always "up and running" in a different section of memory whenever they are active on the desktop. This means that every active Network program uses at least 64Kb of memory all the time (and a few, such as MD3, use more), but unlike with CP/M programs, you do not need to have any memory free in order to switch to an active Network program. Because of this difference, Releasing a Network program will usually free more memory than Releasing a small CP/M program.

Note also that when you Release a Network program from the desktop, the program is removed from memory, along with all the information it was using. This means that you must save any work you have done in your Network programs before Releasing them, just as you must save work done in CP/M programs before you Quit back to the desktop.

Memory Use:

CP/M Programs

Network Programs

The MicroDesign3 Family

THE MICRODESIGN3 PROGRAM FAMILY

The most important group of Network programs is the MicroDesign3 family, which includes MD3 itself, the Font & Shade Designer, Tweak3, and Micro-Chart. These programs all share information via the Network system, and use special Network features to communicate with each other. As explained above, they all operate on the same Network Page, but there are more specific connections between them.

MD3 & FSD **MicroDesign3 and the Font & Shade Designer**

As well as sharing the Page, MD3 and FSD also share a "Charset", and a set of Shades. This means that when you make changes to the Charset or Shades in FSD, then switch back to MD3, the changes appear automatically in MD3 even if you didn't Save them from FSD.

MD3 & Tweak3 **MicroDesign3 and Tweak3**

If Tweak3 is installed on your Desktop, you will find that it appears as an operation in the Layout menus in MD3 and FSD. To Tweak a section of the Page in MD3, simply select Tweak from the Layout menu, define the area you want to Tweak as if it were a Block, then Fix: the Network automatically switches to the Tweak3 program, and loads the area you defined ready for Tweaking. When the Tweak operation has finished, you don't have to Quit from Tweak: the Network automatically switches back to MD3, shows the Tweaked area as a frame on the Page, and asks you to position the area. When you Fix, the Tweaked area appears on the Page. At no point in this process do you have to Save the area as a disc file. Note that this link works by storing the image on the Network's Working drive (drive M by default): if there is insufficient space to store the image on the working drive, the link will not work.

Please note that this list of special connections and features is not exhaustive: new Network programs are being written all the time, and it is not possible to list all their features in this manual. For a complete description of how a program uses the Network, see that program's manual.

Chapter 3: COMMAND REFERENCE

This chapter lists the commands which appear in the Network's command menu, and explains their operation in detail.

Network Commands:

QUIT

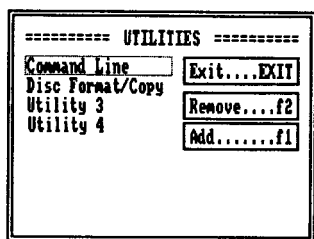
This command exits from the Network, back to the CP/M **A)** prompt. When you quit, all the unsaved information in all programs running in the Network will be lost. Note, however, that any files stored in drive M will still be accessible to CP/M even after you have quit from the Network.

Quit

UTILITIES

This command displays a menu of Network Utilities. The Network Utilities are small programs, which operate entirely within the Network environment, and which are copied into drive M when the Network starts up. Utilities are supplied as disc files with the suffix **.NUT**: any **.NUT** files stored on your Network disc are automatically installed as part of the Network start-up process.

Utilities



Utilities can also be added to the menu after start-up, or removed from memory, using the **ADD** and **REMOVE** command buttons. At least two Utilities are included on the Network master disc, but more may be added.

Add & Remove

Utilities

(cont)

'Command Line'

The Command Line Utility

This utility allows you to type a standard CP/M "Command Line", just as you would have typed at the old CP/M Prompt, from within the Network environment. Although the main purpose of the Network is to avoid using the command line, there may be occasions when you need it. It is especially handy if you do not have a file-manager program such as MicroDisplay, and are accustomed to using CP/M's resident filing commands DIR (Directory), ERA (Erase), REN (Re-Name), and TYPE.

Please note that you cannot run "SUB" program files using this facility: you can only run "COM" program files and resident commands. The maximum number of characters which can be typed on the command line is 32.

'Format / Copy Disc'

The Format/Copy Disc Utility

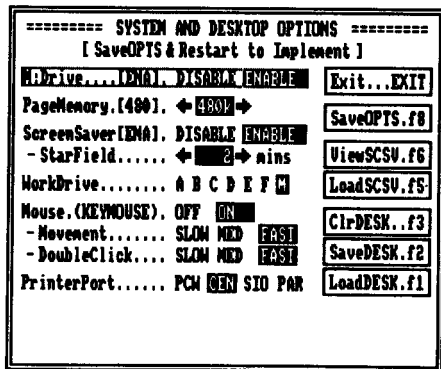
This utility replaces the CP/M Diskit program, and provides a friendly menu-driven method of formatting and copying floppy discs. You can format a disc in A or B (C or D for Gem/Insyder users), and copy discs to or from any compatible drive.

Note that if you have a PCW with two drives, and drive A is a 180Kb low-density type, you cannot copy a disc from A to B, and you can only copy a 720Kb high-density disc in drive B.

SYSTEM

System

Selecting the SYSTEM command displays a menu which allows you to adjust the operation of the Network and the Desktop.



'Restart to Implement'

NOTE: "SaveOPTS & Restart to Implement"

The first three system options in the list cannot be changed while the Network is running, because they are implemented as a part of the system's start-up procedure. These options have their current settings indicated in square brackets, and these

settings will not change until you save the new settings on your Network start-up disc using **SaveOPTS**, and re-start your PCW. When you do this, any information which is currently stored in active Network programs, and any files saved in drive M, will be lost.

SYSTEM MENU OPTIONS

Drive M Enable/Disable

Although drive M provides many useful features in the Network, it is possible to Disable it using this option. Disabling drive M frees the 16K of memory which is used by the Drive M directory, and it may sometimes be necessary to do this if you do not have quite enough memory fitted to your PCW to run all the Network programs you need. **Note that CP/M programs cannot be Resident if drive M is disabled, though the operation of Network programs is unaffected.**

Drive M Enable/Disable

Page Memory (Kb)

This option allows you to set the maximum memory allocation for the Page. If you are using a Page-based program (such as MicroDesign3), and your PCW does not have quite enough memory to run a particular combination of programs, you can use this option to "steal" memory from the Page allocation. This may reduce the size of the Page, depending on the printer type (see below) but it makes more memory available for use as Drive M, or for running programs.

Page Memory

If you want to set the Page Memory limit so that it makes as much memory available as possible **without** reducing the Page size, you should set it as follows: for 240dpi Pages you need 320Kb; for 300dpi Pages you need 480Kb; and for 360dpi Pages you need 720Kb.

Screen Saver Enable/Disable

This option can be used to remove the screen-saver from the Network system altogether, so that it will not operate even if it is switched ON in a slot's Assignment menu. The screen saver requires 32K of memory to operate: if you disable it using this option and re-start the Network, this memory is Released, and can be used by other Network programs.

Screen Saver Enable/Disable

Screen Saver Time (Minutes)

This option sets the delay used before the Screen Saver becomes active: this delay can be varied between one and sixty minutes. There is also an OFF setting, which disables the screen saver completely, even if it is switched on in the slot assignment screens. This setting also indicates the name of the currently loaded screen-saver: see LoadSCSV for more information about loading and using different screen-savers.

Screen Saver Time

Work-Drive

Work-Drive

The Network sometimes needs to use temporary work-space, for example to pass images or text from one Network program to another. By default, the system uses drive M user 0, so the process is completely invisible to the user. If the Network tells you that it has "Insufficient Work-Space" on drive M, or if drive M is disabled (see above), use this option to tell the Network which drive to use for work-space. If you select a floppy drive in this option, make sure that you have a disc with some free space in the nominated drive when required.

Note that when Tweak3 is running under the Network and is launched from MD3's Layout menu, it uses the Network's Work-Drive for creating the Tweaked image. If you use drive M for the Work-Drive, ensure that there is plenty of free memory before trying to Tweak a large image.

Mouse Movement

Mouse Movement

This option controls the speed of mouse movement, or "sensitivity", both on the desktop, and in any Network program which uses the mouse. A few programs (such as MD3 and FSD) allow you to adjust the mouse settings in their own Options sections, without needing to return to the Desktop.

Mouse Double-Click

Mouse Double-Click

This option controls the speed of the mouse "Double-Click" feature. Some Network programs distinguish between a Double-Click and two separate clicks of the mouse buttons. Setting this option to "Fast" means that you have to double-click very quickly, or the program will interpret the double-click as two single clicks. Similarly, setting it to "Slow" makes it easier to double-click, but means that two separate clicks are more likely to be interpreted by the program as a double-click.

Printer Port:

Printer Port

This option performs the same function as CP/M's "Device" command: it sets the external port to which CP/M's printer output is re-directed.

PCW

The PCW setting is used for the 9-pin dot-matrix printer supplied with the PCW8256, 8512, 9256 and PCW10 models.

CEN

The CEN setting is used for external Centronics printer interfaces fitted to PCW's expansion connector. These include the Creative Technology RamPort, and the Locomotive Power Pack.

PAR

The PAR setting is used for the Parallel printer adaptor fitted to the PCW9512 and 9512+ models.

SIO

The SIO setting is used to send data to a Serial printer, via an RS232 connector.

Exit

This command exits from the System menu, and returns to the desktop. Any new System settings will be used, except those which cannot be implemented unless the Network is re-started: see "Re-Start To Implement".

KillPage

This command deletes all the Page contents, and Releases the Page Memory. **Once the Page has been Killed, it cannot be used again without re-starting the Network.**

Save Options

This command saves the current System menu settings onto your Network start-up disc. If you have altered any of the first three System settings, you **must** save the Options and re-start the Network before your changes can be implemented: see "Re-Start to Implement".

LoadSCSV and ViewSCSV: the Screen Saver

The LoadSCSV command uses the File Selector (see chapter 2) to load a new Screen-saver, and ViewSCSV displays the current Screen-saver. Screen-savers are stored on disc with the file-suffix **.NSS**. The Network master disc includes two different ones: the "Starfield", which is the default selection, and the "Spider". More screen-saver designs are available - contact Creative Technology for details.

The file-name of the screen-saver you select is saved in the Network Options file when you use **SaveOPTS**. If the Network is unable to find the **.NSS** file for the selected screen-saver when it starts up, it uses the default "Blank" screen-saver, which simply blanks the screen.

ClrDESK

This command clears all the slot assignments, so that all the slots on the Desktop appear blank. The old assignment settings are lost, and all programs are Released.

SaveDESK

This command saves the current Desktop to disc in a **.NDT** file. When you select Save Desktop, you must enter a name for the Desktop file in the File Selector. When you choose **Enter** ✓, the file is saved on the current drive and user group. To change drive or user group in the File Selector, hold down [Alt] and press the drive letter or group number you want.

If you want to save a "default" desktop which is loaded automatically whenever you start-up the Network, you must save it on your Network start-up disc as **NETWORK.NDT**.

LoadDESK

This command loads a complete **.NDT** Desktop configuration from disc. The old Desktop settings, and all active programs, are lost when a new Desktop is loaded.

**System
Commands:****Exit...EXIT****KillPage.f7****SaveOPTS.f8****ViewSCSV.f6****LoadSCSV.f5****ClrDESK.f3****SaveDESK.f2****LoadDESK.f1**

ASSIGN

Assign The Assign command is used to set up a program slot, as described in Chapter 2. When you click over Assign then select a slot (using the mouse or [←→+↵]) then [Enter], the Assign menu for that slot is displayed.

Assignment Options	Command Buttons
===== ASSIGN Program Slot No 1 (INACTIVE) =====	
Key Name. P PROGRAM NAME	Exit...EXIT
SlotType. TRANSIENT RESIDENT	Abort...CAN
Program.. AO:PROGRAM.COM	SaveASSN.f8
Others... PROGRAM.OUL	LoadASSN.f7
..... CONFIG.DAT	ClrSlot..f6
.....	Release..f5
ProgType. CP/M NET Sp1 Sp2 Sp3	MakeIcon.f2
NSX..... OFF ON	LoadCUT..f1
ProgNewry ← 64K →	PROGRAM NAME
Keys+Chr CP/M USER MET	PROGRAM ICON
- UsrKeys .	
Parameters NONE AUTO MANU	
- AutoPar	
ScrnSaver OFF ON INT	
AutoInstl OFF ON	
Mouse... OFF ON	
Key-Wait. OFF ON	
TextCursr ENA DIS	

These options cannot be changed if the slot is active.

These options can be changed at any time.

The left column contains the assignment Options for the slot, and the right column contains command buttons for changing the assignment and the slot Icon.

Note that some assignment Options cannot be changed if a slot is active. The Assignment screen is divided into two sections: the options in the lower section can be changed at any time, but those in the top section cannot be changed if the slot is currently active.

ASSIGN MENU OPTIONS

Key Name **KEY NAME**

This option defines the text which appears in the slot label on the desktop, below the slot icon. It also defines the key-letter which is used to run the program from the keyboard.

To enter a new Key-Name, just click over the Key-Name option with the mouse, or use [↑+↵] to move the rectangular frame over the option, then press [Enter]. Press [Cut] to remove any text which is already there, then type the key-letter followed by the name you want to appear on the desktop.

SLOT TYPE TRANSIENT / RESIDENT

Programs can be installed on the Desktop as Transient or Resident. Transient programs must be run from disc every time they are used. A Resident program is copied into the computer's memory the first time it is used, so that the program is instantly available to be run again later, and does not have to be re-loaded from disc.

Note that Resident programs must always be run from the disc the first time they are used.

**Slot Type:
'Transient' &
'Resident'**

PROGRAM

This tells the Network the name of the program which is assigned to the slot. The name must include the Drive and User Group where the program is stored: this tells the Network where to find the program file when you run the program from the Desktop. **Please note that the program name must end in CP/M's normal .COM program suffix.**

Program

You can select and edit this option with the mouse or the keyboard, using the same procedure as for the Key-Name option described earlier.

OTHER FILES

In addition to their main .COM program file, some CP/M programs also require extra files containing the program configuration data, or sections of program itself stored as "overlay" files. When the Assign command is used to Copy a program onto a Network Start-Up disc (see "Copy to Start-up" below), this option must contain the names of any other files which must be copied in addition to the main .COM file, to make the program work properly.

Other Files

The file-names in the list can contain the ? and * "wild card" characters. If you are not sure what wild-cards are or how to use them, check your CP/M or MicroDesign3 manual.

PROGRAM TYPE CP/M / NET / Sp1 / Sp2 / Sp3

This option tells the Network what kind of program is installed in the slot: it is used to distinguish between CP/M programs and "NET", or Network-specific programs. Most programs you will Assign yourself will be standard CP/M programs, since all Network programs will be supplied with an appropriate Assignment file which will set this option correctly - use the LoadASSN command to load Assignment files.

Program Type

(continued overleaf...)

Program Type

(cont)

In addition to the standard CP/M and Network settings, there are three special settings for CP/M programs, called **Sp1**, **Sp2** and **Sp3**. These are only required by a small number of programs which have particular compatibility problems with the Network:

Sp1

The **Sp1** setting prevents a program from accessing drive M. This is necessary if the program uses the memory in drive M directly, without using CP/M's normal filing procedures. Programs installed with this setting (or **Sp3**, see below), will normally require a large Memory Allocation setting too, because they expect to be able to access additional memory on top of the normal 64K CP/M program allocation.

Sp2

The **Sp2** setting allows the program to access more CP/M's Transient Program Area than usual, by removing those parts of the Network system which normally remain in memory when another program is running. (Technically, the Network system normally remains resident in the top of memory, as an "RSX".) This facility is required by programs whose size is close to CP/M's normal limit, such as 'Money Manager PCW'. **Please note that the Network's screen-saver will not work in a program which is using this option.**

Sp3

The **Sp3** setting combines both the other "Sp" settings, and programs using it will operate under both sets of restrictions listed above. The 'Rocket' spreadsheet is one program which requires this setting.

NSX OFF / ON**NSX**

Some Network programs use a special program add-on called the Network System Extension, or "NSX". The NSX is part of the Network system, but most CP/M programs do not use it. If you accidentally set this option to ON for a large CP/M program which does not require the NSX, you may find that the program cannot run. For CP/M programs, the option should normally be set to OFF, as this setting makes more of the PCW's Transient Program Area available to the program.

PROGRAM MEMORY (Kb)**Program
Memory**

This controls the amount of memory which is allocated to the program when it runs. The normal (and minimum) setting is 64K: this is about the same size as CP/M's Transient Program Area, the memory allocation in which CP/M normally installs and runs programs, and is sufficient for the vast majority of CP/M and Network programs. A few special Network programs (including MicroDesign3 and the Font & Shade Designer) require a larger allocation, but you do not need to type in the assignment options for these programs. Their Assignment files are supplied with the Network, or with the program itself: see LoadASSN.

If the Program Type option (see opposite) is set to SP2 or SP3, the Program Memory option **MUST** be set to at least 160Kb. Programs which use these special settings normally expect to use all the memory in the computer: in these circumstances, the Program Memory option defines this amount of memory. For example, with an SP2/SP3 program which expects to use all the memory in a 512K PCW, you should set the Program Memory option to 512K.

KEYS & CHARS CP/M / USER / NETWORK

This allows you to specify a re-defined keyboard for a particular program. A small number of CP/M programs re-define the keyboard by running CP/M's SETKEYS command, which loads a keyboard definition file, before running the main program. To install a program which normally uses SETKEYS when it runs under CP/M, you must set this option to "User". In the next line, you must enter the name of the keyboard file which the program uses in the CP/M SETKEYS command.

The Network has its own special keyboard layout, which is used by most Network programs including the MicroDesign3 family. Assignments for these programs will normally be loaded from disc, so you should not need to set this option to Network yourself.

USERKEYS

This option is only available if the previous option is set to USER. It allows you to specify a file-name for the the program's SETKEYS file: see **Keys & Chars** above.

PARAMETERS NONE / AUTO / MANUAL

This option controls whether the program uses any "Command-Line Parameters" when it is run. The Parameters are added to the program name when it is run from the Network slot, and this has the same effect as typing the parameters after the program name on the CP/M command line.

Parameters are used by many CP/M programs. One example is Basic: when you run a Basic program from the command line by typing, say, "BASIC MYPROG" [Return], you are actually running the program called BASIC.COM, and adding the program name MYPROG as a parameter.

With the Parameters option, if you select **NONE**, the program will be run without any parameters. If you select **MANUAL**, the program will ask you to type in a parameter manually every time you run the program. If you select **AUTO**, the program always uses the parameters which are entered in the "Auto-Par" option in the next line.

See chapter 4 for more information about setting up parameters.

Keys & Chars

User-Keys

Parameters

AUTO-PAR

Auto-Par

This option is only available if the "Parameter" option (see previous page) is set to AUTO. It allows you to specify a parameter which is used every time the program assigned to the slot is run.

SCREEN-SAVER OFF / ON / INT

Screen-Saver

The screen-saver is explained in chapter 1. It can be switched off in any slot assignment, so that that particular program's display is never blanked. The Screen Saver can also be disabled completely in the Network Options screen.

To switch the screen-saver on, you should normally select the ON setting. The INTERNAL setting is used only by MD3, FSD and Tweak3, which have their own internal screen-saver systems: **you should never set the screen-saver to ON in a slot which is assigned to any of these three programs!**

AUTO-INSTALL OFF / ON

Auto-Install

When this option is switched ON and a program is Resident, the program is Run (or copied to drive M if it is a CP/M program) automatically during the Network start-up process. This means that the program can be used as soon as the Network is running; you do not need to insert a program disc when you first run it. A full explanation of this option is given in chapter 2.

MOUSE OFF / ON

Mouse

The desktop can be controlled using a KeyMouse, or the AMX and Kempston types of PCW mouse. If you are assigning a slot to a program which cannot use a mouse, however, the Network's "Mouse Driver" can slow the program down by a small amount. This option allows you to disable the mouse driver whenever the slot's program is running.

Note that switching the Mouse OFF stops the program from monitoring mouse movement. This means that if the screen-saver is activated while the program is running, you must use the keyboard to cancel the screen-saver - moving the mouse will not work.

KEY-WAIT OFF / ON

Key-Wait

Some CP/M programs display useful information or error-messages on the screen when they finish, or when you have quit from them. If you set the Key-Wait option to OFF, the system returns immediately to the desktop, and any message displayed by the program as it finished will disappear before you have a chance to read it. Switching this option ON makes the program display a "Press a key" message, and then wait for you to press a key before returning to the desktop.

TEXT CURSOR ENABLE / DISABLE

Some CP/M programs such as word-processors use the standard CP/M text cursor system. If you are assigning a program in which the text cursor is not required, you can disable it using this option.

Text Cursor**ASSIGN MENU COMMAND BUTTONS****Assign
Commands:****Exit**

This command returns to the Desktop, and implements any changes you have made in the Assign menu.

Exit...EXIT**Abort**

This command returns to the desktop, discarding any changes you have made in the Assign menu, and restoring the original settings. **Note that the original settings cannot be restored if you have Loaded a new assignment, or Cleared the slot.**

Abort...CAN**SaveASSN**

This command allows you to save the current assignment settings in a **.NAS** assignment file. Note that you can also save all the current slot assignments in one file by saving the whole Desktop: see "SYSTEM".

SaveASSN.f8**LoadASSN**

You may occasionally have to set up the assignment screen yourself, but program assignments can usually be loaded from disc using the **Load Assignment** command. The Network disc includes assignment files for many popular CP/M programs. New Network-Specific programs should be supplied with their own assignment files: to install a new Network program, simply load its assignment file from its own disc.

LoadASSN.f7

When you select Load Assignment, the File Selector appears, allowing you to select an Assignment file. Assignment files have the suffix **.NAS**, and will normally have exactly the same file-name as the **.COM** file of the programs they are designed for. For example, the assignment file for Basic is called **BASIC.NAS**, and the assignment file for MicroDesign3 is called **MD3.NAS**.

Clear Slot

This command clears the slot assignment, leaving it completely blank.

ClrSlot..f6**Release**

This command Releases any memory the slot was using, and removes the program from drive M. It works in exactly the same way as the Release command in the Network menu. If the slot is not currently active, the Release command is greyed-out.

Release. f5

Make Icon

MakeIcon.f2

This option uses the program name to define a default Icon for the slot. The default Icon system simply displays the contents of the slot's label in a larger font: this is informative, but not very interesting: to make your Desktop look more exciting, use MD3 to design your own Icons: see LoadCUT below.

Load CUT

LoadCUT.f1

This command loads a CUT file from disc, and assigns it as the slot's icon, so that it appears on the Desktop when the slot is activated. The ability to load a CUT file into a slot icon allows you to design your own Desktop Icons using MD3.

Slot icons must measure exactly 49x35 pixels, and they must be saved from the Graphics section of MD3 using the SaveCUT operation. You can measure the size of an image in pixels by setting MD3's Readout option to work in pixels.

When you press [f1] to load an icon, the File Selector displays a list of all the CUT files on the current drive and user-group: to select a file, click on its name with the mouse, or use [←→↑↓] then [Enter]. See chapter 2 for more information on using the File Selector.

RELEASE & RUN

These two commands are explained in detail in chapter 2: see pages 7-9.

Chapter 4: NETWORK CONFIGURATION EXAMPLES

This chapter discusses how to get the best out of the Network in different situations, and with different PCW configurations. It does not provide complete key-by-key instructions for you to follow: for detailed instructions on using specific Network commands, see chapters 2 and 3, and for more information about CP/M commands and parameters, see your CP/M manual.

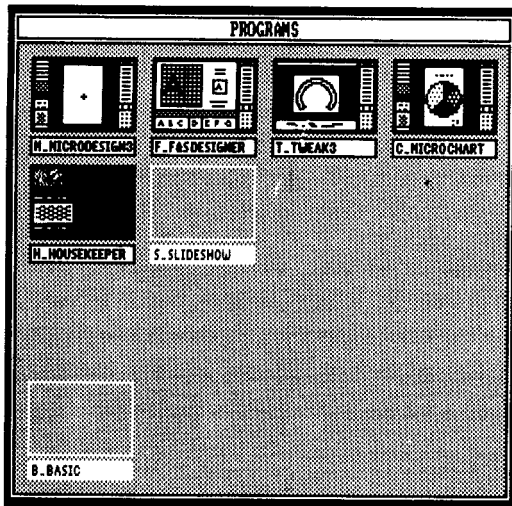
Scenarios:

The MicroDesign3 Family

Scenario 1: THE MICRODESIGN3 FAMILY PROGRAMS

If you are not a MicroDesign3 user, please ignore this section.

For those using MicroDesign3 in conjunction with other Creative Technology programs like Tweak3 and the Font & Shade Designer, the Network represents a substantial improvement over the old CP/M environment. By running all the programs in Resident mode, they are retained in memory simultaneously, and you can switch between them just as if they were sections of the same program.



Notes on Memory

This type of configuration may require a large amount of memory, depending on the Page format and printer type you are using. Simply running MicroDesign3 under the Network requires a minimum of 768K of memory, and more memory is required to use Page resolutions higher than 240dpi. You can use the **Page Memory** option in the Network's **System** menu to reduce the size of the Page, but if you want to retain the full MD3 A4 Page sizes, you need at least 768K of memory for 240dpi Pages, at least 1Mb for 300dpi Pages, and at least 1.2Mb for 360dpi Pages. If you do not have

Memory

Memory (cont)

enough memory for the Page format you want, you may be able to make more available using the Page Memory option in the System menu: see page 21.

Note also that the memory figures mentioned above do not necessarily allow for installing other programs as Resident on the Desktop: different combinations require different amounts of memory, and you will have to experiment to find out how many programs and which Page formats you can use with your PCW configuration. To use the MD3 family with other programs effectively under the Network, we would recommend a total memory allocation of 1½Mb. Any PCW can be expanded to 1½Mb by upgrading the internal memory to 512Kb, and adding a 1Mb external expansion: contact Creative Technology for technical advice about upgrading your PCW.

Drive M

Drive M

The Network adds one important feature to all the MD3 family programs: the ability to use drive M. When running under the Network, MD3, Tweak3 and FSD can all use the Network's common drive M just like any other drive. Remember that the size of drive M is limited by the amount of free memory, and that all files in drive M are lost when you switch off your PCW.

Links: The Page

Using the MD3 Programs: The Page

There are a number of special "Links" set up between MD3, FSD and Tweak3, which allow them to work together. The simplest is the Page: under the Network, any program can access the Page (though only FSD and MD3 can create it), and all programs operate on the same Page. This means that when you make changes to the Page in MD3, then switch to FSD via the desktop, the changes also appear on the FSD Page. This can be especially handy if you want to use, say, MicroChart or FSD in the middle of an MD3 job.

MD3 & Tweak3

Tweak3

When Tweak3 and MD3 are running together under the Network, Tweak3 appears as an operation in the MD3 and FSD Layout menus. This link is explained at the end of chapter 2: see page 18 for full instructions on how to use it.

MD3 & FSD

The Shades and Charset

If MD3 and FSD are running together under the Network, they both use the same set of Shades, and the same 'Charset'. This means that if you want to create a new Shade or screen character to use in MD3, you can switch into FSD and create it, Keep it in the FSD set, then switch back to MD3 and use it.

Other Links

Other links will certainly be added to the Network system as more Network programs appear. If you buy a Network program, its manual should provide full details of any Links it uses.

Scenario 2: ADVICE FOR FLOPPY-DISC USERS

GENERAL COMMENTS

If you are using your PCW to run several different CP/M and Network programs, the best way to implement the Network depends very much on your own personal preferences. Here are two suggestions -

- 1: If you have a separate program disc (or start-of-day disc) for every program you use, you might want to create your Network start-of-day disc with a Desktop which includes all these programs. This method means that you can carry on using the program discs you already have: whenever you run a program from the desktop, the Network will ask you to insert the appropriate program disc. If you choose to make all the programs Resident, each one will be copied to drive M before it is run, so that if you need to use it again, you do not need to insert its disc a second time. If you run out of memory, just Release one or more of the Resident slots.
- 2: If you have several discs each containing several CP/M programs, you might want to create a separate Desktop file for each disc, and save this desktop on the disc itself rather than on your Network disc. This system might be especially useful if you use lots of programs, and cannot fit them all onto one desktop. Each time you insert a new disc, you would load the desktop file, and the desktop itself would then tell you what programs are available on that disc.

AUTOMATING PIP.COM TO COPY FILES

One of the most unfriendly aspects of CP/M is the difficulty of file-management, which in most cases means copying files and formatting new discs. Say for example that you want to copy all the files from a disc in drive A into drive M, then copy them back from M onto a new disc in A, and that the new disc needs formatting before you use it. Using the PCW's standard CP/M facilities, you would need to insert your CP/M disc and run the disc formatting program DISCKIT, insert and format the new disc, then type PIP commands to copy the files from the source disc to drive M and from drive M onto the target disc. All these different commands must be typed at the CP/M prompt, without a single typing error, and the process involves several disc-changes.

The Network makes this much simpler, because you can use the Assign menu to set up a program slot to do each stage of the job at a single key-press or mouse click. When you first assign the slots, you still have to type the same complex PIP

Using the
Network with
Floppy-Discs:

One Desktop
for lots of
discs...

...or a Desktop
on every disc.

Automating
Jobs

Automating a Job
(cont)

command parameters, but once the assignments are saved as part of the desktop, you never have to type the commands by hand again. The Network Utilities menu also has its own disc formatting utility, so there is no need to run the DISCKIT program to format the target disc.

Assigning Slots

Installing PIP on the Desktop

To make PIP available from the desktop, you must first copy the **PIP.COM** program onto your Network start-of-day disc, and Assign a program slot to it. In this case, two PIP slots are required: the two slots run the same program, but with different sets of parameters. One slot copies all files from drive A to drive M, and the other copies all files from drive M to drive A. For full details about PIP and its parameters, see your CP/M manual.

Adding Parameters

To set up a slot to copy files from A to M, you begin by Assigning a blank slot, and using the LoadASSN command to load the assignment file for **PIP.COM** (called **PIP.NAS**) into it. Next, change the **PARAMETRS** option to **AUTO**, and enter the PIP parameters you want into the **AUTO-PAR** option below: to copy all files from A to M, the parameters would be something like...

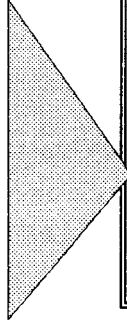
M:=A:*.*

...though you may want to add other optional parameters like those in the illustration below. You may want to select User Groups, or change the search string to restrict the range of files copied. (Note that Resident CP/M programs are stored as files in drive M user 0, so it is a good idea to use a different user-group when using drive M for file-management jobs: see below.)

Auto-Install

Finally, to ensure that the copying facility is always available without needing to insert a PIP program disc the first time you want to use it, set the **AUTO-INSTALL** option to **ON**, and ensure that you copy PIP onto your Network start-of-day disc.

In this illustration, the **Auto-Par** option includes optional parameters for copying to User Group 1 (the [G1] option), and for copying files as binary data (the [O] option). The binary data option is not necessary if you are copying text files, but it ensures that MicroDesign images and other data files are copied correctly. For more information, see your CP/M manual.



```

===== ASSIGN Program Slot No 08 ( INACTIVE ) =====
Key Name.  A COPY A TO M
SlotType.  TRANSIENT RESIDENT
Program..  AO:PIP.COM
Others...
.....
.....
ProgType.  CP/M NET Sp1 Sp2 Sp3
NSX.....  OFF ON
ProgMemory  ← 64K →
Keys+Chrs  CP/M USER NET
- UsrKeys
Parameters NONE AUTO MANL
- AutoPar  M:=A:*.*:1[O]
ScrnSaver  OFF ON INT
AutoInstl  OFF ON
Mouse....  OFF ON
Key-Wait.  OFF ON
TextCursr  ENB DIS
Exit...EXIT
Abort...CAN
SaveASSN..f8
LoadASSN..f7
ClrSlot...f6
Release...f5
MakeIcon..f2
LoadCUT...f1
COPY A TO M
PROGRAM ICON
    
```

Configuring the Other Slot(s) and Saving the Desktop

Having Assigned one slot to copy files automatically from A to M, repeat the process in a different slot, but change the parameters to make the slot copy from M to A, and give the slot a different Key and Name. Note that the Name which appears in a slot label is not necessarily that of the program assigned to the slot: in this case, you might Name the slots **COPY A TO M** and **COPY M TO A**, without any mention of the PIP program which they use.

Copying files in this way has one drawback: it leaves copies of all the files in drive M, where they occupy space which you might need for other programs or files. One solution might be to assign a third slot to CP/M's **ERASE.COM** program, and include automatic parameters for erasing the files from drive M when you have finished the copying operation. **However, you should be very careful about erasing files from drive M user 0: see opposite.**

Having configured the slots and Run them to check that they work properly, you should Save the desktop on your Network start-of-day disc so that the slots appear whenever you start up the Network. Select **System** from the Network menu, and then choose the **SaveDESK** button. Save the desktop as **NETWORK.NDT**, so that it is used as the default configuration when you start up the Network, and ensure that your Network start-of-day disc is in drive A before saving.

You can also save the Assignments themselves, so that they can be loaded onto a different desktop: use the **SaveASSN** command in the Assign menu to save the Assignment as a **.NAS** file.

RUNNING BASIC PROGRAMS

Many programs supplied for the PCW are written in Basic. To run a Basic program from the CP/M prompt, you would normally type something like...

BASIC PROGNAME

This instructs CP/M to run **BASIC.COM**, which is itself a program, and to add the parameter **PROGNAME** after it. The Basic system assumes that any parameter is the name of a Basic program, which it must load and run: all Basic programs end in the suffix **.BAS**, so in this example, Basic would try to load and run a program called **PROGNAME.BAS**.

(If you run the **BASIC.COM** program without any parameters, you enter Basic's Program Editor, which is used for writing Basic programs.)

Assigning two slots to the same program**Saving the new Desktop****Using Basic:****Parameters**

Basic An example of a Basic program, called **BASPROG.BAS**, is provided on any Network start-of-day disc which includes the Tutorial files. To Assign a slot to this program, (cont) load the Assignment file called **BASPROG.NAS**.

```

===== ASSIGN Program Slot No 09 ( INACTIVE ) =====
Key_Name. B BASIC PROGRAM                               Exit...EXIT
SlotType. TRANSIENT RESIDENT                            Abort...CAN
Program.. AO-BASIC .COM                                  SaveASSN.f8
Others... BASPROG .BAS                                  LoadASSN.f7
.....
.....
ProgType. CP/M NET Sp1 Sp2 Sp3                          ClrSlot..f6
NSX..... OFF ON                                         Release..f5
ProgMemory ← 64K →
Keys+Chrs CP/M USER NET
- UsrKeys
Parameters NONE AUTO MANL                               MakeIcon.f2
- AutoPar BASPROG                                       LoadCUT..f1
ScrnSaver OFF ON INT
AutoInstl OFF ON
Mouse.... OFF ON
Key-Wait. OFF ON
TextCursr ENB DIS
PROGRAM ICON

```

Parameters There are several points illustrated in this assignment. Most importantly, the **Program** entry specifies **BASIC.COM** itself: the **BASPROG.BAS** program name is entered as a parameter, in the **Parameters** option. It is also included in the **Others** section, because it must be copied to drive M along with Basic itself if the slot is assigned as Resident.

Mouse & NSX In this example, the **Mouse** and **NSX** options are switched OFF. This would be appropriate for an old Basic program which runs normally without the Network. Some Basic programs are written specifically to run under the Network, and use the Network's Mouse and NSX facilities: these programs might require different assignment settings, but they should be supplied with a **.NAS** Assignment file, so you should not need to change these options for a Basic program yourself.

Scenario 3: THE NETWORK AND HARD-DISCS

This example assumes that you have a PCW fitted with a self-booting hard disc drive, such as the Cirtech Gem or Insyder. If you have a Vortex or other non-booting hard disc, you can install the Network on drive C, then make a start-of-day Network key-disc in drive A, as instructed during the NETMAKE process.

The main difference between a hard-disc and a floppy-disc is the speed at which programs and files can be loaded. For floppy-disc users, the main benefit of the Network is the ability to store a number of programs in Resident slots in the computer's memory, so that when they are needed, they can be accessed much more quickly than they can from a floppy disc. An additional benefit with some PCW configurations is that more programs can be stored in memory than can be fitted onto a single disc, so the Network also reduces the amount of disc-swapping.

These benefits are much less significant for the hard disc user, because the speed and capacity of a hard disc make it quite viable to run the programs from disc every time they are used. In practice, this means that while floppy-disc users will configure most of their CP/M program slots as Resident, hard-disc users are more likely to use the Transient setting. Transient program slots do not occupy memory when they are not being used, so a hard disc user can install up to sixteen CP/M programs on the desktop without worrying about running out of memory, even on a PCW which does not have much memory fitted.

It is important to note, however, that these comments apply much more to CP/M programs than to Network programs. Remember that the main difference between Network and CP/M programs is that you never have to Quit from a Network program - when you switch back to a Resident Network program, it appears exactly as it was when you last used it. In the case of MD3, for example, this means that all the text, page contents, fonts and other information remain intact. This is very different to a Resident CP/M program, which is re-run from scratch every time you use it (see page 16 for a full explanation of the difference between Network and CP/M programs). Even with a hard disc, you will probably want to assign your Network programs as Resident, and Release them only when you need to free more memory.

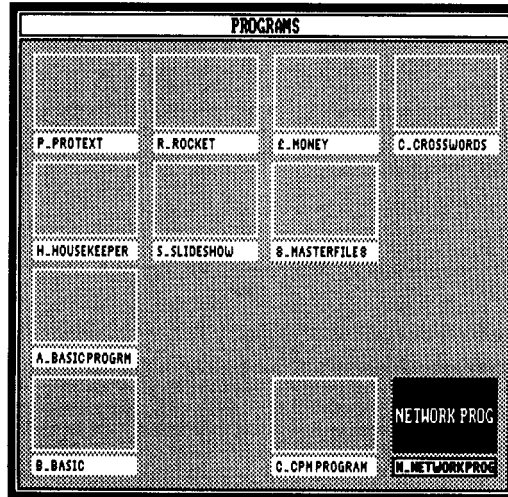
Hard Disc Drives

Loading speed: Transient & Resident...

...and CP/M...

...and Network Programs

An Example Desktop



This example shows how a complete suite of programs, including a file-manager, word-processor, spreadsheet, database and home accounts package, can all be installed on the desktop. Most of these are 'old' CP/M programs, and are assigned as Transient: because Transient programs require very little memory, this configuration will work perfectly even on a PCW with only 512K of memory.

Note though that the **NETWORK PROG** example program is Resident - as described on the previous page, Network programs are more useful when they are Resident.

Of the programs shown in the illustration, most are installed by loading the corresponding Assignment files, which are supplied on the Network master disc (side B of the 3" version). Use the **LoadASSN** command in the Assign menu to load each program's Assignment file. The Assignment files include suggestions for Keys and Names for the slots, but you can easily change these if you wish: you will need to change the key-letters if they conflict with one another.

Drive & User

Drive and User Settings

All the Assignment files supplied with the Network are set up to load their programs from drive A, user 0. This is a sensible default for floppy-disc users, but many hard-disc users separate their programs onto several different drives and user groups. When loading an Assignment file, make sure that the Drive and User settings you use match the location of the program on your hard disc, otherwise the Network will be unable to find the program when you try to run it from the desktop.

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