

Read This First

Congratulations! Your system board just received our newest modifications! Please be sure to read the "Five System Board Modifications for Greater Compatibility and Expandability!" section of the attached sheet for more detailed information. Also, to help you understand the Tandy modification better we have included a sheet titled "How to Run Tandy Software on the PCjr". This sheet will prove to be very helpful.

Note that before attempting to run any 16-color programs you must first set up the PCjr's memory to use a 32K video buffer. If you are using the JRCONFIG program to recognize memory above 128K you can do this with the -V32 option. There should not be any disadvantage to using the -V32 option for all programs that you run, except that your system may have slightly less memory available to run programs.

EXAMPLES:

DEVICE = JRCONFIG.NRD -V32

OR

DEVICE = JRCONFIG.NRD -T3 -V32

OR

DEVICE = JRCONFIG.NRD -T3 -V32 -D2

If you do not use the JRCONFIG program to recognize your memory above 128K you will need to follow the instructions provided with the program you are using to set up a 32K video buffer.

EXAMPLES:

DEVICE = PCJRMEM.COM /E

OR

DEVICE = JRVBUFD.D.SYS /E

NOTE: In the above examples you can substitute /C for the /E and obtain improved performance, however doing so may cause you to run out of memory.

WARNING: If you do not use a 32K video buffer and you try to run a PCjr or Tandy program that uses a 16-color mode you will likely encounter a variety of problems. In some cases the 16-color program simply will not work correctly; or in other cases a TSR (Terminate and Stay Resident) program you have loaded may crash or information you have saved on a Ramdisk could become corrupt.

New Product Announcement!!

**Enhance Your
PCjr with VGA
Graphics**

COMING SOON!

Imagine being able to run your favorite software in 256 colors! This can be made possible by adding PC Enterprises new PCjr VGA sidecar. Once installed in the PCjr, we believe the PCjr's graphics will be 100% compatible with software designed not only to use VGA but also EGA, CGA, MGA, HGA, and MDA graphics!

Our new PCjr VGA card is a sidecar, just like any other PCjr sidecar. Your system board received the VGA Modification, this means if you decide to upgrade your PCjr's graphics to VGA, at a future date, you'll be able to do so without having to send your PCjr anywhere to be serviced. All that will be required is the purchase of PC Enterprises VGA sidecar and your PCjr will run software in 256 colors! We are expecting the PC Enterprises PCjr VGA sidecar to be available soon.

How to Run Tandy Software on the PCjr

While all PCjrs came standard with the ability to display 16-color graphics and to produce 3-voice sound you'll never utilize these capabilities unless you run programs designed to work with the PCjr's hardware.

Almost all programs designed to run in PCjr, EGA, and Tandy modes produce 16-color graphics, however, programs designed to run with CGA cannot display more than four colors in graphics mode simultaneously.

Software publishers decide which modes their programs are going to support. Most publishers always release a 4-color CGA version. In addition, their programs may also support any or all of the popular 16-color modes (PCjr, EGA, and Tandy). You can determine which modes are supported by examining the software package.

CGA modes always produce primitive looking graphics which are not very exciting. Understandably so. Asking a software publisher to design detailed screen graphics which work with CGA is like giving them a sheet of paper and three crayons—and then asking them to draw you a detailed picture! That's why you'll notice a night and day difference when you run programs which use 16-color modes. The software publisher now has 15 colors (plus background) available to design his programs. The result is more detailed screen graphics which are remarkably clearer and easier to understand.

Now, here's why PCjr users should all be supportive of software publishers such as Sierra On-Line, who have continued to support the PCjr's unique 16-color capabilities. When you buy one of their programs it runs on the PCjr in 16-color 3-voice sound, without doing anything special.

Unfortunately, though, few software publishers have continued to support the PCjr's unique hardware. But, the good news is that most programs sold today do support Tandy graphics and, with a little know how, PCjr users can get most Tandy programs to run on their PCjr. Tandy programs produce EGA-like graphics with not 3, but 4-voice sound! If you'd like to know how, just keep reading.

PC Enterprises offers a service in which we can make modifications to your PCjr system board for increased Tandy compatibility. What's important to realize, however, is that while these modifications greatly increase the number of Tandy programs that run on a PCjr—the Tandy modifications are not always required. Some Tandy programs will run on a PCjr without any modifications. The only way you can tell whether a Tandy program will run is to try it.

Before you attempt to run any 16-color program, you must first use your existing PCjr Memory Management Software to set up a 32K video buffer. If the program you use to recognize your PCjr's memory is called JRCONFIG.NRD use the -T3 -V32 options to set up an 80 column display and a 32K video buffer. When you try to get a Tandy program to run on your PCjr for the first time I strongly recommend that you use the .NRD program (not .DSK) and that you do not use any other options of the JRCONFIG program.

It's also important that you do not have any other lines in your CONFIG.SYS file and that you do not have an AUTOEXEC.BAT file on your boot disk.

Although the -T3 -V32 option gives you the greatest degree of compatibility, it also wastes 64K of memory. If you run out of memory, you can try using the -S0 option, however, doing so will sacrifice system performance and also Tandy compatibility.

If you prefer to use the .DSK program or any other JRCONFIG options, or if you wish to have other entries in your CONFIG.SYS or AUTOEXEC file that's fine, but it's important that you don't do so until you first determine whether you can get the Tandy program to run on your PCjr.

If the program you use to recognize additional memory is called PCJRMEM.COM, JRVIDMA.SYS, JRVIDMA2.SYS, JRBUFD.D.SYS, or JRVIDEO.SYS, try using the /C option first, and if that doesn't work try the /E option instead.

After you set up your PCjr to use a 32K video buffer (don't forget to reboot first) you are ready to run your first Tandy program. Select a program which you are sure will run on the Tandy in 16-colors. Look for programs which boast 16-color Tandy support right on the box. The first thing to do is to determine how to tell the program to run in the Tandy mode instead of CGA mode.

Some programs come with totally separate versions for Tandy. For example the program known as PAPERBOY has been sold with three separate versions on the same disk. PAPERCGA, PAPERCGT, and PAPEREGA. In this case just type PAPERCGA to run the CGA version and PAPERCGT to run the Tandy version.

Another technique often used is to provide an install or setup utility which must be run before running the application program. Look for a program named INSTALL or SETUP on the application program diskette and run this program. If the program asks what type of computer or graphics adapter you're using tell it Tandy 1000 or TGA.

A similar technique is for the application program to display a menu when it is first run. Once again, select Tandy 1000 or TGA. Certain versions of California Games fit into this category. If you tell the program you're using a Tandy 1000 it runs in 16-colors—even if you have not had the Tandy modifications installed on your system board.

Other programs use a parameter on the DOS command line when you first start the program. Often the parameter is the letter T or perhaps the word Tandy or the letters TGA. For example, you may need to enter the name of the program followed by a space, then /T or /TANDY or /TGA. The proper letters to type can be found in the program's manual.

Regardless of which of the above techniques the software publisher has used, you should not have any trouble getting the Tandy version of one of these programs to start on the PCjr. However, there's still another technique which often causes problems for PCjr owners. Some software companies try to figure out the type of computer you're using without asking. These programs might check the computer's "System Identification Byte", test for Tandy specific hardware, or search the computer's BIOS for the Tandy copyright notice.

While these "Auto-Sensing" programs are at times the simplest to run in 16-colors on the PCjr, but they are often the most difficult. The Dark Heart of Ukarall, for example, tries to detect the type of computer you're using, detects (in error) that its running on a Tandy, and goes directly into the Tandy mode.

This is great if your PCjr has already had the Tandy modifications installed, however, if you don't have the Tandy Mods, the program looks like you're viewing it through venetian blinds.

Other programs which attempt to automatically sense the type of computer being used correctly determines that the PCjr is not a Tandy and therefore default to 4-color CGA graphics.

To get these programs to run in Tandy mode you can sometimes defeat the auto-sensing "feature" by adding a parameter to the command line (similar to the situation described above). The difference is that with auto-sensing programs the software publisher probably intended to use the optional parameter for test purposes only, and therefore doesn't mention it in the manual. Experiment! Try using /T, /TGA, /Tandy, or anything else you think might work even though the manual makes no mention of any such command. If all else fails, place a call to the software's publisher.

The first thing to ask when you call a software publisher is whether the program runs in 16 colors on a Tandy. Its easy to be fooled because many publishers list Tandy on the package even though their program only runs on a Tandy in 4-color CGA mode. So, unless the box states Tandy 16-color mode, you'll have to ask!

If a program runs on the Tandy in 16 colors but it only runs on a PCjr in four colors it means your PCjr is running the CGA version. Tell the software publisher that you're using a Tandy compatible (not a true Tandy). Ask how to force the program to run in Tandy mode. Sometimes this takes a lot of persistence.

For example, I tried to run Where in Time is Carmen SanDiego in Tandy mode. I typed CARMEN TANDY to start the program and received a "Graphics Adapter Not Available" message. After making six phone calls to Broderbund (the publisher) and speaking to three different people, someone at Broderbund told me to try TANDY!. So I tried starting the program by typing CARMEN TANDY! and the exclamation point did the trick!

If you succeed in getting the Tandy version of a program to start on your PCjr, but the program does not run correctly, you may not see anything at all on the screen, or what you do see may or may not resemble the program. If this happens go back to your CONFIG.SYS file and try using different video buffer parameters.

Instead of -V32 try using -V64 and -V96. Also try using the -V32 switch with the -S0, -S32, and -S64 switches. (The -V switch allocates a larger video buffer and the -S switch moves the video buffer to different areas of low memory).

If you try to run a Tandy program on your PCjr and the program comes up with every other line of graphics missing we call this the venetian blind effect. If this should happen, chances are very good that the PCE Tandy Modification will enable the program to run correctly.

Getting the Sound to Work

All PCjrs come standard with 3-voice arcade quality sound capabilities—however, you'll never hear 3-voice sound unless you have an external amplifier and speaker connected. (The "IBM PCjr Color Display" has a built in amplifier and speaker). However, if you are using another monitor you must connect the "Audio Out" RCA jack of the PCjr (marked with the letter A) to your stereo system, or another external amplifier. The only other thing you'll need to hear 3-voice sound is a program designed to produce PCjr compatible sound.

The Tandy computer also comes with arcade quality sound capabilities, however, while Tandy designers made sure the Tandy would be PCjr compatible, they also made improvements to give the Tandy 4-voice sound. As a result, the PCjr is not 100% compatible with Tandy sound, although it's close enough for most Tandy programs to produce 3-voice sound on the PCjr. If you run a Tandy program and find it is only producing 1-voice (beeper) sound, try running the TSound utility program (found on our PCjr Utilities Diskette) before you run the Tandy program. This utility properly initializes the PCjr sound chip and turn on the PCjr's 3-voice sound—however it will not give your PCjr 4-voice sound. To hear 4-voice sound, and to allow Tandy programs to properly open the sound channel automatically, you need the Tandy Sound Modification which is now part of our Five System Board Modifications featured elsewhere in our catalog.

*P. J. Calabria
PC Enterprises*

Now PCjr Users can add 128K of Memory for only \$50*

New Product Announcement!!

192K Internal Memory Card

Our new 192K memory card replaces the PCjr's existing internal 64K memory card—thereby increasing system memory by 128K. The new memory card provides an easy and low cost method to add to the memory you already have.

*Requires system board modification

192K Internal Memory Card
Catalog #14032

Only \$50

- Low cost
- Replaces the PCjr's existing 64K card with a 192K card
- Expands memory on 640K PCjrs to 736K (System Board Modification #97514 required)
- Expands memory on 512K PCjrs to 640K (System Board Modification #97515 required)
- Expand memory on 128K PCjrs to 256K (System Board Modification #97516 required)
- Does not require any additional power
- Our Compatibility Guarantee
- Our Satisfaction Guarantee
- Full Year Warranty with PC Enterprises
- PC Enterprises Quality, Service, Compatibility, and Commitment to Continue Supporting the PCjr

Five System Board Modifications for Greater Compatibility and Expandability!!

Here are five system board modifications which we strongly recommend for every PCjr owner. The modifications allow the PCjr to run more PC and Tandy programs than ever before. In addition, these modifications allow you to upgrade your PCjr with our new internal memory card and our Display-Master VGA Sidecar.

To take advantage of these modifications, you can either send us your existing system board and let us modify it, or, purchase a reconditioned system board which has already had the modifications installed. For more information, refer to the section of this catalog titled "Reconditioned Replacement Parts".

System Board Upgrade Package

While your system board is here for modification, why not also let us install our add-on products which plug into the PCjr System Board? This way, when you get back your PCjr System Board, it will already have all the System Board enhancement products you might ever need installed and tested by our trained personnel and you won't need to worry about ever taking your system apart again! Purchase the System Board Upgrade Kit below and we'll install a jrExcellerator, Thin-Font Module, and jrROM Clock without any installation charges. Note: If you select this package you must also tell us the make of all memory expansions installed on your PCjr.

Catalog #10043 Price: \$188

1 THE TANDY MODIFICATION

Most programs which run on a PCjr use 4-color CGA graphics.

Programs which run on the Tandy computer produce far better graphics because most Tandy programs run with 16 colors! This modification allows many Tandy programs to run correctly with 16-color graphics on a PCjr!

2 THE VGA MODIFICATION

Imagine being able to run your favorite software in 256 colors! This is possible when you install our new PCjr VGA sidecar. Once installed, our VGA sidecar permits the PCjr to run VGA, EGA, CGA, and MDA graphics! Unfortunately, you will not be able to install our VGA sidecar unless we first make this modification.

3 THE TANDY SOUND MODIFICATION

This modification will permit most Tandy programs to produce 4-voice arcade quality sound on your PCjr! It will give you near 100% compatibility with Tandy sound now and full 100% compatibility when you upgrade to VGA.

4 THE PB2 MODIFICATION

This modification makes your PCjr more PC compatible. Certain PC programs run correctly on a PCjr until the program attempts to produce sound. When this happens the PCjr's display becomes garbled. The PB2 modification prevents programs which inadvertently modify bit 2 of the 8255B port from scrambling the display. (Paperboy is one example).

5 THE INTERNAL MEMORY BOARD MODIFICATION

Until now it was expensive to add memory to a PCjr. This modification permits you to replace the PCjr's 64K internal memory card with our new 192K internal memory card. This modification does not require that you purchase our 192K card, it simply permits you to add our 192K card now or later.

To have all FIVE modifications performed, send us your system board and request one of the modifications below.

Modification #97514: Permits 640K PCjrs to expand to 736K**

Modification #97515: Permits 512K PCjrs to expand to 640K**

Modification #97516: Permits 128K PCjrs to expand to 256K**

Do not send your entire PCjr. Send only the PCjr system board, system cabinet, and lid. (Remove all sidecars, disk drives, and internal plug-in cards). Include \$49.95 plus \$5 shipping and handling.

**The modification itself does not increase your PCjr's memory, it simply permits you to install our optional 192K memory card.