

# The Casio QV Range of Digital Cameras

## Information Pack

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## Casio QV-11, QV-100 and QV-300 Digital Cameras



### Features

### QV-11

### QV-100

### QV-300

<p><b>Built -in high resolution TFT LCD Screen</b> Enables the user to compose pictures without having to look through a viewfinder. Also, the images can be viewed straight after shooting them.</p>	LCD size: 1.8"	LCD size: 1.8"	LCD size: 2.5"
<p><b>Compact and lightweight for total portability</b> All are similar in size to a standard compact camera.</p>	Weighs less than 200g*	Weighs only around 180g*	Weighs around 250g*
<p><b>High capacity Flash ROM memory</b> Images can be added to, viewed or deleted any number of times with no loss of quality. Images are not lost when batteries go flat or are removed.</p>	Has a <b>2MB</b> memory, which holds up to <b>96</b> images	The QV-100 and QV-300 have a <b>4MB</b> memory holding 64 images at the higher resolution and 192 at the normal resolution.	
<p><b>Image resolution</b></p>	<b>320 x 240</b>	Normal: <b>320 x 240</b> or Fine: <b>640 x 480</b>	
<p><b>Allows you to display images directly from your camera to your TV</b> A video cable is provided, allowing images to be viewed on a suitably equipped TV, or recorded on a VCR. The auto-play function can be used for presentations or making a video album.</p>	Displays <b>300</b> Lines PAL	Displays <b>400</b> Lines PAL	
<p><b>Versatile PC file storage</b> The cameras use the Casio CAM compressed file format based on JPEG technology. Options include Bitmap (BMP), JPEG, TIFF and PICT file formats.</p>	Images only take <b>26k</b> (Normal resolution) per image on your PC hard disk.	On the QV-100 and QV-300 images only take <b>65K</b> (Fine resolution)a combination of high and normal resolution ( <b>26K</b> ) images can be taken.	
<p><b>Rotating Lens</b> 270 Lens rotation allows you to shoot at awkward angles and still view the screen.</p>	✓	✓	✓
<p><b>Telephoto Lens</b></p>	✗	✗	✓
<p><b>Self Timer</b> Displays 10 second countdown and allows you to protect images from accidental deletion.</p>	✓	✓	✓
<p><b>On-screen indicator</b> This tells you how many pictures are left to take at each resolution or how many photos have been taken so far.</p>	✓	✓	✓

\* Without batteries



Features	QV-11	QV-100	QV-300
<b>Memory protection function</b> Protect specific images against accidental deletion.	✓	✓	✓
<b>Produce a Multi-Page Display</b> You can view one, four or nine images at once on the built-in screen or a TV.	✓	✓	✓
<b>Data-transfer to personal computer via serial port</b> Makes it possible to transfer images to a Windows based PC or Apple Macintosh computer. Images can also be transferred back to the Digital Camera from a computer. Cables and software are provided for either PC Windows or Apple Mac.	✓	✓	✓
<b>Macro function</b> Take close-ups from as close as 11cm for highly detailed images of small objects. The QV-300 can take images of objects as close as 7cm.	✓	✓	✓
<b>Zoom Function</b> This function lets you select a specific part of a stored image and enlarge it to twice it's normal size.	✓	✓	✓
<b>Send or receive data to another camera</b> This function allows you to transfer images between the Casio QV range of Digital cameras.	✓	✓	✓
<b>Aperture Setting</b> Set aperture to match lighting conditions.	✓	✓	✓
<b>Software included</b> For downloading, storing and manipulating images on PC or Macintosh.	✓	✓	✓
<b>Versatile image storage</b> Any images can be deleted, or all images at once, without the need to connect to a computer. Memory gained by deleting images is released for new images.	✓	✓ On the QV-100 and QV-300, high resolution images can be changed to normal resolution to release memory.	

**USES:**

- E-mail and Desk top publishing
- ID Photographs
- Insurance records
- Estate agency
- Internet pages
- Presentations
- Sales and marketing
- Visual Database/memos

**Other uses include:**

- PR
- Construction
- Police
- Point-of-sale design
- Hospital records
- Security
- Retail buying
- Surveyors
- Design
- Emergency services
- Education
- Training



## FREQUENTLY ASKED QUESTIONS

### Q: What is the computer resolution of the images?

A:

<u>QV-11</u>	<u>QV-100 and QV-300</u>
320x240	640x480 or 320x240

### Q: What is the video resolution?

A:

<u>QV-11</u>	<u>QV-100 and QV-300</u>
300 Lines (PAL)	400 Lines (PAL)

### Q: What happens when the memory is full?

A: The user can transfer the image to a PC/MAC or VCR and then clear the memory of individual images or all of the memory. Images can also be deleted in the same way from the camera.

On the QV-100, images taken can be changed from fine to normal resolution to release memory.

### Q: How do you get hard copy of the pictures?

A: Transfer the image to a PC/MAC and print them from there, or use the Casio QG-100 or DP-8000 printers which links direct to the camera.

### Q: What size and type are the images produced by the cameras?

A: The images produced are in a Casio compressed format called CAM files, (about 26-65k per image). They are then decompressed using the Casio supplied software. When decompressed the images are saved in formats BMP, JPEG, TIFF or PICT. The images are 24bit true colour-16.7million colours.

### Q: Do you need anything else to make the cameras to work with an Apple -Mac or Windows PC?

A: The cameras come complete with software and cables for either PC/Windows or the Apple Macintosh. A mains adaptor is available as an option. Additional software and cable can be purchased separately for either system (Windows or Mac).

### Q: Does the camera need to be connected to a computer all the time?

A: The camera only needs to be connected when transferring images to or from the camera.

### Q: Can the images be viewed on the camera once they have been taken?

A: Yes, using the camera's built-in LCD colour monitor.

### Q: Does the camera have removable memory?

A: No, it is built into the camera. Images can be deleted individually or all at once to free memory.

<u>QV-11</u>	<u>QV-100 and QV-300</u>
2MB Flash ROM memory, which holds up to 96 images	4MB Flash ROM memory, which holds 64 images at high resolution or 192 at normal resolution. A combination of these can be used.

### Q: Are other lenses available?

A: Yes, although Casio do not manufacture these, lenses that fit the QV-11/QV-100 are available from third party companies. The camera also has a built-in Macro lens for close-up work, from 11cm (7cm for the QV-100)

### Q: Does the camera have a tripod mount?

A: Yes, it has a standard tripod screw mount.



**Q: How long and what type is the warranty?**

**A:** One year parts and labour for all cameras.

**Q: Does the camera have a flash light?**

**A:** No, but it will take pictures down to 15 Lux, equivalent to candlelight. Exposure can also be adjusted on the camera. For very dark conditions, a camcorder flood-light can be attached to the tripod screw mount.

**Q: What type of adaptor is available?**

**A:** There is a mains adaptor available as an option-the ADK65EL.

**Q: Can I use rechargeable batteries?**

**A:** Nickel Cadmium rechargeable batteries cannot be used in the camera as they do not provide the correct voltage. The cameras need a constant supply of 6 volts to operate. Alkaline or Lithium batteries must be used.

**Q: Will the images stored on the camera be lost if the batteries go flat?**

**A:** No, the images are stored in Flash ROM which does not need a battery to maintain it's contents.

**Q: How are the images captured?**

**A:** The images are captured digitally on a CCD (Charge Coupled Device), then compressed and stored in the Flash ROM memory. There is a D/A (Digital to Analogue) converter in the camera, which converts these images so that they can be displayed in the internal screen or sent to a PC or TV.

**Q: I am having trouble getting the camera connected to my computer.**

Please refer to our Trouble shooting sheet.

**COMPUTER CONNECTIONS**

**IBM Compatible PC with Microsoft Windows 3.1, 3.11 or Windows '95**

Specification	Minimum	Recommended
Display colours	8 bit 256 colours	24 bit true colour 16.7 million colours
CPU	386 25 MHz	486 66MHz or Pentium 75 MHz
RAM (Windows 3.1)	4MB	8MB or more
RAM (Windows '95)	8MB	16MB or more
Hard drive space	40MB	120MB
Operating System	Windows 3.1/3.11	Windows 3.1/3.11 or '95)
I/O Port	RS232C Serial	RS232C Serial
Mouse	Yes	Yes

**Apple Macintosh**

Specification	Minimum	Recommended
Display Colours	8 bit 256 colours	24 bit true colour 16.7 million colours
CPU	68030	68040
RAM	4MB	8MB or more
Hard drive space	40MB	80 MB or more
Operating System	System 7	System 7 or later
I/O port	RS244 Serial	RS244 Serial
Mouse	Yes	Yes

QVMAC is not a Power PC application, however it does work with these models. AppleTalk and Modem Memory manager should be disabled.

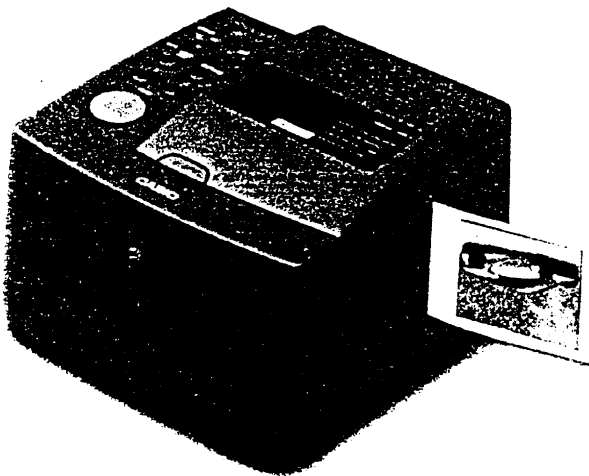
## Technical Specifications

Technical Specifications	QV-11	QV-100	QV-300
<b>Dimensions</b>	66(H)x130(W)x40(D)(mm)	66(H)x130(W)x40(D)(mm)	72(H)x162(W)x49(D)(mm)
<b>Weight</b>	190 excluding batteries	180g excluding batteries	250g excluding batteries
<b>Focus</b>	F2.6, F8 manual switching	F2.8, F8 manual switching	F2.6, F8 manual switching
<b>Monitor</b>	1.8" TFT low glare, colour liquid crystal: doubles as view-finder		2.5" TFT low glare, colour liquid crystal: doubles as view-finder
<b>Lens</b>	Fixed focal length with macro position (F2.8/F =5.2mm)		Two focal points with Macro position F/2.6 F=4.9mm/11mm (equivalent to 47mm/106mm on 35mm camera)
<b>Focusing Distance</b>	F2.6 Normal -60 to 310cm F2.6 Macro - 13 to 16cm F8/Normal 28cm to ∞ F8/Macro 10cm to 24cm	F8 Normal - 50 to ∞ F8 Macro - 14 to 18cm F8/Normal 30cm to ∞ F8/Macro 11cm to 27cm F8/Macro 11cm to 27cm	F8 Normal (F=4.9mm) - 30 to ∞ F8 Macro (F=4.9mm) - 7 to 14cm F8/Normal(F=4.9mm) 60cm to ∞ F8/Macro (F=4.9mm) 9cm to 11cm F8/Normal(F=11mm) 170cm to ∞ F8/Macro(F=11mm) 44 cm to 77cm F8/Normal(F=11mm) 340cm to ∞ F8/Macro (F=11mm) 52cm to 62cm
<b>Recording Medium</b>	Internal memory 16 M-bit Flash memory - 2MB	Internal memory 32 M-bit Flash Memory - 4MB	
<b>Number of Shots</b>	96	64 Fine / 192 Normal	
<b>Video</b>	300 Lines PAL	400 Lines PAL	
<b>Photographic Element</b>	1/5 inch CCD 250 000 pixels	1/4 inch CCD - 360 000 pixels	
<b>Signal System</b>	PAL Standard		
<b>Recording System</b>	Digital ( JPEG Based) / field recording		
<b>ISO rating (ASA)</b>	100 to 1600		
<b>Photo metric system</b>	TTL (centre point photometry) using CCD area		
<b>Exposure correction</b>	2EV to +2EV (1/4 EV unit)		
<b>Shutter system</b>	Electronic		
<b>Shutter speed</b>	1/8 to 1/4000 second		
<b>White balance</b>	Automatic		
<b>Digital transfer</b>	RS232 serial bi-directional cable (PC) or RS244 (MAC)		
<b>Delete</b>	1 shot (any)/all shots (includes delete protect function)		
<b>Self-Timer</b>	10 second, automatic		
<b>Power supply</b>	Batteries (AA size alkaline x 4) / AC adaptor		
<b>input/output sockets</b>	Digital in/out: video out:external power supply		
<b>Battery Life</b>	Approx. two hours (continuous operation on alkaline /6 hours on lithium)		
<b>Accessories</b>	Software and cable for PC/ Windows or Apple Mac; instruction manuals; strap; soft case; Video cable; 4 batteries (AA size alkaline); cleaning cloth		
<b>Options</b>	ADK65EL mains adaptor SB62 Camera to camera image transfer cable Software development kit - C++ or Visual Basic (tbc) QV-11		

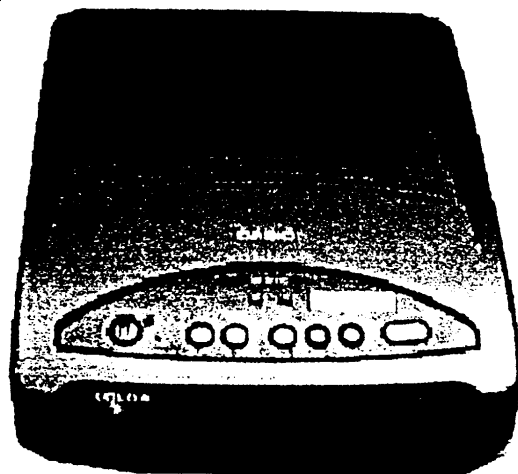
## The DP-8000 and QG-100 Dye Sublimation Printers

The printers use a dye sublimation thermal transfer system for printing straight from the QV range of digital cameras.

FEATURES	DP-8000	QG-100
Can connect directly to your PC	✓	X
A choice of image sizes	A6 Standard, Postcard, Sticker and Mini-Label sizes available	18mm, 36mm or 46mm width sizes are available
Choice of image Outputs	✓ 416 different image output options are available	X
High quality printing technology	Dye Sublimation produces a high quality print without visible dots	
Supports Casio QV Series Digital Cameras	The printers can link directly to the camera via a supplied cable, thus avoiding the need for a computer	
Easy to use	✓ Simple menu system	✓ Simple menu system



**QG-100**



**DP-8000**

While the DP-8000 has nearly an unlimited range of uses, typical uses for the QG-100 include:

- Businesses for inserting small pictures into documents or reports
- ID pictures
- Labelling of goods
- Point-of-sale design
- exhibition passes
- Hospital records
- police
- Security
- Insurance
- Education

**FREQUENTLY ASKED QUESTIONS****What is Dye Sublimation thermal transfer?**

**A:** Dye sublimation printers are restricted to a low resolution, but offer the smoothest continuous tone printing available. This makes them ideal for photographic images.

1. A printhead covers the whole printable area of the label.
2. A roll of red yellow and blue dyes passes under the printhead.
3. A heating element in the printhead vaporises the ink from the dye.

The right amount of ink is passed to the label, mixing with other colours.

<b>Question</b>	<b>QG-100</b>	<b>DP-8000</b>
<b>Can I connect the printer to my computer?</b>	No, the QG-100 connects directly to the camera	Yes, the DP-8000 can be connect either to your PC (via the parallel port) or directly to your camera*
<b>What is the resolution of the pictures?</b>	200dpi	Connected to PC446x 297 dpi and 149 x 149 when connected to the camera
<b>What consumable does the printer use?</b>	A tape cartridge which is available in three sizes: 18mm wide, 36mm wide or 46mm wide. (This contains the dyes and tape in one cartridge)	A6 postcard size, sticker paper and mini label sizes
<b>How many colours can the printers print?</b>	Approx. 260 000 with 64 different tones	16.7 million with 256 different tones
<b>What is the printing speed?</b>	Approximate standard printing times are: 18mm tape 4 m 15s (6 images print at once) 36mm tape 2 m 15 s 46mm tape 2 m 45 s	Approximate standard printing time(excluding data transfer from the camera) 3m 30s
<b>Do the printers come supplied with paper?</b>	Yes, 36mm tape is supplied in the box	Yes, standard paper (postcard type) and 1 ink cartridge supplied
<b>How does the printer connect to the camera?</b>	It connects through the digital port on the camera. The cable is provided with the printer.	
<b>What power supply do the printers use?</b>	An A/C mains cable is provided with the printer. Unlike the camera, it does not use batteries.	
<b>What are the printers warranties?</b>	One year parts and labour	



## Technical specifications of the DP-8000 and QG-100

	QG-100	DP-8000
<b>Printing resolution</b>	200 dpi	PC:297 x 446 dpi QV Digital Camera:149 x 149 dpi
<b>Number of colours</b>	Approx. 260 000, with 64 tones	256 gradations, 16.7 million colours
<b>Dimensions</b>	154(W) x 96.5(H) x 154(D) mm	250(w) x 71.5(H) x 317(D)mm
<b>Weight</b>	980g (approx.)	2.3kg (approx.)
<b>Connection</b>	SB-62 cable from camera digital terminal to printer	SB-62 cable from camera digital terminal to printer and data communication cable
<b>Optional accessories</b>	<b>QR18CR</b> -18mm wide tape cartridge (30 x 6 prints per tape) <b>QR36CR</b> - 36mm wide tape cartridge (60 prints per tape) <b>QR46CR</b> - 46mm wide tape cartridge (50 prints per tape)	<b>QS-101 Standard Paper Set</b> 25 pieces of standard paper + one ink cartridge <b>QS-102 Standard Paper ( Postcard Type) Set</b> 25 pieces of standard paper (postcards) + one ink cartridge <b>QS-201 Sticker Paper Set</b> 25 pieces of sticker paper + one ink cartridge <b>QS-202 16-image Sticker Paper Set</b> 25 pieces of 16-image sticker paper + one ink cartridge
<b>Accessories included</b>	Mains cable, SB-62 connection cable, 1x 36mm tape.	AC adaptor, data communication cable, window print driver, standard paper set
<b>Operating temperature</b>	10°C to 35°C	10°C to 35°C
<b>Power consumption</b>	20W	53W
<b>Power supply</b>	120V A/C, 220 to 240V A/C (cable supplied)	
<b>Printer Type</b>	Dye-sublimation thermal transfer colour printer	

## Communication Problems and Troubleshooting

Q) My camera is not communicating with my computer.....

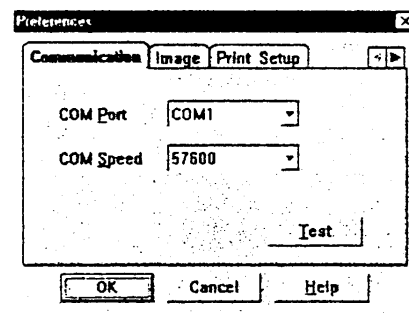
A) Is the Serial Cable securely attached to the camera?

YES

Does the serial port that you are using, correspond to the serial port that you have selected in the preferences screen (see below)

NO

secure cable and try again.



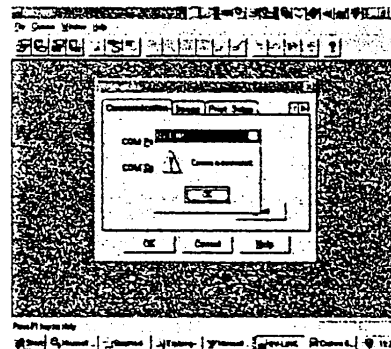
YES

Click on the Test button

NO

change the com port to match the communications port that you have the serial cable connected to, turn the camera off and back on again.

Did you receive the message *There is no response from the Camera?*



**YES**  
**Was the error message displayed in less than 2 seconds or instantaneous?**

**NO**  
 Click on the OK button and attempt to get images from the camera  
**Did the Camera display an error message before downloading any images, or halfway through downloading?**

**YES**  
 communication speed is too fast for your computer. If this happens, try to lower the communication speed using the File/Preferences command. Try starting at the highest speed (57,000), moving down through the speeds. Please remember, whenever changes are made to the communication speed, the camera needs to be switched off and on again



**YES**  
 Some computers have their own energy saving features that can remove power from the COM Port, this utility must be disabled.  
 You can disable these features in either the BIOS menu in the boot up sequence or in the manufacturers utility program. IBM Thinkpads for instance have this facility.

**NO**  
 Go to page three.

### **Known exceptions**

Packard Bell has an IR Port assigned as a COM Port to overcome this:

- From Windows 95 click the START button
- Select RUN and type SYSTEM.INI
- Select the SEARCH menu, and select the FIND option
- Type PBIRPORT=1 and select FIND NEXT
- PBIRPORT=1 should appear
- Type a semi colon (;) before the PBIRPORT=1
- Select the FILE menu and EXIT, say YES to save amendments
- Reboot the system, all should be OK

### **DELL**

Some Dell computers do not function properly with the power battery meter set on, to correct this:

Go to START

Click on SETTINGS

Choose POWER

If there is a check mark in the "Enable battery meter on Taskbar" remove it and OK it, you may need to reboot the system.

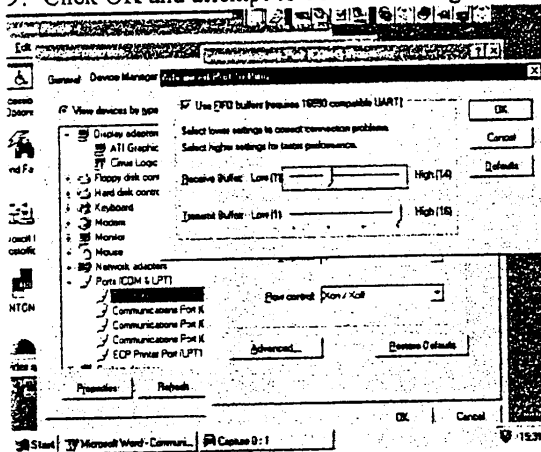
Are you still receiving the message *There is no response from the Camera?*



**Yes** ( This section refers to the Windows 95 Operating system)

Find out which Com port you are connecting your camera to. Once you have done this, carry out the bellow procedure to lower the setting on the FIFO receive buffer.

1. Open up Control Panel.
2. Go to System.
3. Click the Device Manager Tab.
4. Double Click on Ports (Com & LPT).
5. Highlight the Coms port you are connecting the camera to.
6. Open the Port Settings Folder.
7. Double Click on the Advanced Tab.
8. Lower the Receive gauge by a single notch.
9. Click OK and attempt to download images.



**No**

Attempt to download the images.

Attempt to get an image from the camera.

Are you still receiving the message *There is no response from the Camera?*



**Yes**

To eliminate the possibility of it being a software conflict, any TSR's or VXD's ( i.e. Network, Cdrom, Scanner and Sound card drivers ) that load up within the System Configuration files should be temporarily edited out. Theses device drivers are found in the Config.sys , Autoexec.bat and your Win.ini files\*. **Only persons with proficient knowledge of the Windows operating system should carry out this operation.** Before begin any editing of your System files, it is vital

**No**

Click on the OK button and attempt to get images from the camera

\* Edit your win.ini so that all lines which start with "load=" or "run=" have a space after the equals sign.

that backups of all of these files are made.

**If a communication problem still occurs then there is a good chance that there is an IRQ conflict.**

Enter the BIOS mode. Normally you can enter through the bootup sequence using the keys indicated on screen during Bootup. Once into the BIOS set-up screens, page through until you locate the COM PORTS and determine if they are enabled or disabled, follow the on screen instructions on how to enable.

If you have done the above or are sure that all your com ports are enabled please read the below section.

### **COM Port and IRQ Conflicts**

The terms 'com port' and 'serial port' both refer to the same type of connection on your computer. Your computer usually has two or more of these. They are referred to as COM1, COM2, etc. The most common devices you might connect to a com port include: a serial mouse, your modem, a graphics tablet, or a null modem cable connecting your PC to another computer.

Each serial device attached to your computer needs its own, unique communications port (COM port) and interrupt request line (IRQ). Your internal modem, a serial device, has been factory set to operate using COM2 and IRQ3. Unfortunately, there may be another device using either COM2 and/or IRQ3. If any other device is using the same COM port or IRQ as your modem, it will cause a conflict, and can result in lock-ups or loss of data.

### **Sources Of Irq And Com Port Conflicts**

A serial interface card or external COM port is the most common source of an IRQ or COM conflict.

#### **EXTERNAL COM PORTS**

Most computers come with two external COM ports labelled COM1 and COM2. If you have an external COM2 connector (look on the back of your computer), you will get a conflict from it when trying to install your internal modem using COM2. The conflict occurs even though there may be nothing connected to it. This is because the external connector uses a serial interface card that reserves COM2 and IRQ3 for this external serial connector.

Sound cards, network cards, SCSI/IDE, and other serial interface cards use COM ports and IRQs. You may have installed such a card in your computer's expansion slots to run an external hard drive or CD ROM or to connect to your network. Some video cards use an IRQ, too.

You need to determine the IRQ and COM port which is used by each serial interface card you or your PC's manufacturer may have installed. One way to find out is to open your computer, take out the expansion card, and examine its jumper settings (only

qualified computer technicians should attempt to carry out this task ). Another, simpler way is to use Microsoft's Diagnostics program.

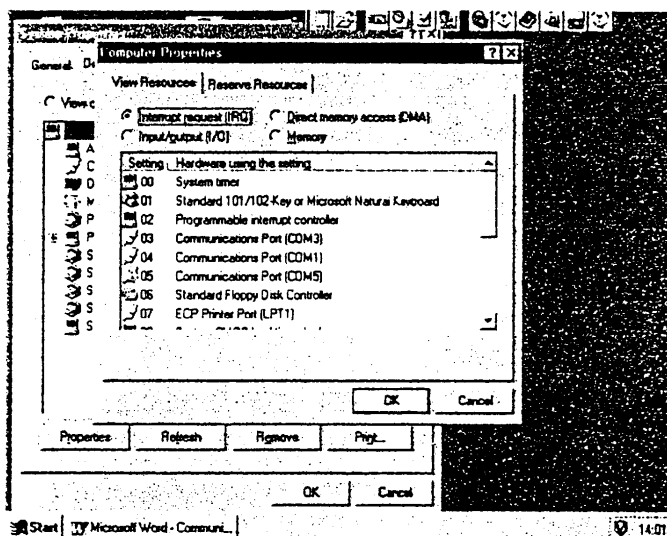
### USING MICROSOFT DIAGNOSTICS

Microsoft Diagnostics is a program included with most versions of MS-DOS ( not available for Windows95 Users) that tells you what is installed on each COM port and IRQ. Simply type MSD at the C:\ prompt in DOS (exit Windows) and look under "COM Ports." If COM3 or COM4 is available, it will be labelled "N/A."

### CHECKING FOR IRQ CONFLICTS IN WINDOWS 95

In Windows 95 all devices that are installed using the Plug and Play option have their IRQs recorded. To check weather your Com port is conflicting with any other device the following procedure can be used:

Open up **Control Panel** and go to **System**. Then click the **Device Manager** Tab and double-click on **Computer**. You will then see a box with several pieces of information which can be used for checking free resources before installing new hardware.



### IRQ SHUFFLING

Sometimes it is necessary to change the IRQ setting on an expansion card to free an IRQ for the modem. For example, if your sound card is using IRQ5, you can reinstall it using IRQ11, and thus free IRQ5 for use by your modem. Note that most serial devices, including your modem, are incapable of operating at IRQs above 7.

## DETERMINING A COM PORT AND IRQ TO USE

Each IRQ on the computer is assigned a "peripheral device" or other function (you can consult your computer documentation to see what these default settings are, or use MSD as explained above). The typical assignments for the first eleven IRQs are listed below:

### IRQ Assignment

0	System Timer
1	Keyboard
2	Cascade Input (mandatory function)
3	COM2
4	COM1
5	Parallel Port (LPT2)
6	Disk Controller (all internal drives) floppy
7	Parallel Port 1 (LPT1)
8	Real-time clock interrupt
9	Reserved
10	Reserved
11	Reserved

As you can see from above, there are no default assignments for COM3 and COM4. In order to use COM3 or COM4, you must assign it to an IRQ. This means "sharing" that IRQ with its default assignment. This is possible ONLY if the default assignment is NOT in use. For example, you can assign COM3 to IRQ5 if you are not using LPT2 for a second printer or other external parallel device. You CANNOT assign COM4 to IRQ2, because IRQ2 is being used by the computer for a mandatory function. If you have a mouse attached to COM1, IRQ4 is in use by COM1 and cannot be used for COM3.

If you plan to use COM3 or COM4, you must assign these COM ports to an IRQ through Windows or your DOS communications software. Before running your software, however, you must first re-install your modem with the right IRQ and COM port.

### COM PORT PACKING

Every PC compatible computer is susceptible to a problem called Com Port Packing. Com Port Packing occurs when you leave 'gaps' in your com ports.

For instance, when you have com1, com2, and com4 physically installed in your computer, there is a gap between com2 and com4.

COM1	installed
COM2	installed
COM3	not installed - gap!
COM4	installed

When you turn on your computer, your computer's BIOS builds a list of what com ports are installed. However, any gaps in com port numbers will be skipped and the list of your com ports will look like this:

1st com port COM1  
2nd com port COM2  
3rd com port COM4  
4th com port not installed

When you examine your com ports using any DOS utility (MSD for example), you'll find that the com ports are reported based on their place in this list. The 1st com port becomes com1, the second becomes com2, the third becomes com3. So now the third com port in your system (com4) is being called com3. This is Com Port Packing.

Your PC now thinks you have the following com ports:

COM1 Correct.  
COM2 Correct.  
COM3 Wrong - should be N/A.  
N/A Wrong - should be COM4.

Problems associated with Com Port Packing become more evident when using applications in Windows.

You are more likely to experience the problems associated with Com Port Packing when using Windows applications. Windows uses the list generated by your BIOS to determine what com ports are installed in your system. When this list is incorrect, then applications running in Windows will be unable to find any com ports that have shifted.

Using the current example, Windows will tell you that COM4 is not installed. You will be able to select COM3, since Windows thinks it is installed, however, you won't be able to get any response from the device attached to the com port.