

01/30/23

Help With The Gateway Telepath

by Joe Little, 76500,1513
(Just a Telepath user; not affiliated with Gateway, etc.)

These are some thoughts I put together for myself on making the Telepath work better for me. It is meant for someone like me, who is relatively new to modem communications and doesn't have time to keep up with the latest jargon, etc. I hope you find it helpful.

There may be errors in here. So use your judgment. Experts & new users: I'd like to hear your suggestions for improving this.

* * *

Modem communication is still a bit of a black art. Like the beginning of the PC era, many people are trying to make it work without really understanding what's going on inside their own system. More importantly, the technology isn't quite there (in my view). Phone lines can be bad. There are too many varying software and hardware standards. Standards aren't rigorously adhered to. Etc., etc.

Results: Everything seems to be going fine, and then you can't get that important fax through. Or you can't connect to a new service you've been dying to try; Or you upgrade to a new version of the software, and it doesn't seem to work quite the way you thought it would. It may not happen often, but it WILL happen eventually. Whether you are a new user or an expert, just don't let your frustration level get out of hand - unless you enjoy that.

GROUND RULES

To trouble-shoot the problems you will have, the first thing is to have a view of what's going on between your computer and the other machine you are connecting to (I'm calling that the Host; whether it's CompuServe, another PC, or a stand-alone fax machine). This gives an idea of where things can go wrong.

Let's start with your Application, and go through the other pieces of the puzzle.

1. Application (e.g., Crosstalk, WinFax, Qmodem)
You add initial configuration settings and an Init String, specific "session" settings for each Host you communicate with, and you usually add or type inputs for that specific connection.
2. Operating System

Generally the application software deals with the operating system (Windows, DOS or OS/2). But you have to set up the operating system correctly (e.g., especially if you use COM3), and deal with its weaknesses. For example, Windows still doesn't handle high speed communications well.

3. Modem (& other hardware in your system)

The Application communicates to the modem. The modem must have a good physical connection to your computer, and the software must be configured correctly (especially the Initialization String). These "Hayes" (AT) commands can significantly change the performance of your modem. The fax commands can similarly affect the fax daughter board. You should get to know these. Your fax/modem manual should have a complete listing of AT commands that work with your particular model. They are generally sent to the modem in the Init String. You should also be aware of which version of the "firmware" (the software embedded in the hardware by the manufacturer) your model is using and the Rockwell Chip Set. More about these later.

4. Phone Lines

The modem sends its signal out the phone line. It goes through the phone lines in your building, to your local carrier's lines (NYNEX in my case), maybe to your long distance carrier's lines (MCI in my case), to the Host's local carrier's lines (e.g., in South Dakota), and to the phone lines in the Host's building. There are (at least) two characteristics of phone lines you should be aware of.

"Line noise" appears to occur in virtually all phone lines, but in some more than others. Line noise can also be worse during high traffic hours, so a connection can work well at midnight, but poorly at 10am. Line noise can originate in (1) your building's lines, (2) your local carrier, (3) the long distance carrier (yours or his), (4) the Host's local carrier, or (5) your Host's building's lines. It also seems to be aggravated by older, copper phone wiring

5. Host Modem

He has all the same issues as your modem. And, you should be aware that currently, some modems just don't communicate well with other modem types, probably for a variety of reasons. For example, "modems (such as the US Robotics HST [or the Telebit series]) using proprietary protocols are not compatible with the Telepath at speeds above 2400 bps." (From the Telepath manual. See below for what to do about this.) And there are bad or "weak" individual modems of any type.

6. Host Operating System

Same issues as your operating system.

7. Host Application

Same issues as for your application software. His software may give him more or less "control" over his modem (e.g., in reducing the speed or modifying the Hayes

commands for a session with you).

Main Implication. There are just too many places for things to go wrong! It's not always your software or your Telepath. Surprisingly, things generally don't go wrong. And the evolution is toward the modem and the software becoming increasingly able to figure out the "problem" (such as line noise) and adapt to it (e.g., reducing speed).

Standards. There are three main types of standards that modems can support: A "(TP?)" beside a standard means that the Telepath may not support it. A "(TP--)" indicates that the Telepath does not support it.

(1) Modulation standards (bps, sync/async, half/full duplex), which include:

CCITT v.17	<i>A new standard. 14400 bps, half duplex (or 12000 or 9600). Used mainly for FAX</i>
CCITT v.21	300 bps. (FSK). <i>Bell 103J</i>
Bell 103J	See v.21.
Bell 202	1200 bps, half duplex. <i>Leased lines. (TP?)</i>
CCITT v.22	1200 bps. (DPSK). <i>Bell 212A</i>
Bell 212A	See v.22
CCITT v.22bis	2400 bps. (DPSK).
CCITT v.23	<i>1200 bps, with 75 bps back channel. Used mainly in faxing.</i>
CCITT v.24	Virtually identical to American RS-232C. (TP?)
CCITT v.26ter	2400 bps with echo cancellation. (TP?)
Bell 208	4800 bps. Used on leased lines. (TP?)
CCITT v.27ter	<i>Group 3 FAX at 4800 bps with fall back to 2400 bps.</i>
CCITT v.29	<i>Group 3 FAX at 9600 bps with fall back to 7200 and 4800 bps. Also used by Compucom modems.</i>
CCITT v.32	9600 bps with echo cancellation. Fall back to 4800 bps. Both directions simultaneously. (QAM).
CCITT v.32bis	14400 bps with echo cancellation. Fall back to 12000, 9600, and 7200 bps. (TCM) Both directions simultaneously.
CCITT v.33	14400 with fall back to 12000 bps. (TP--)
USR HST14400	US Robotics HST modulation. 14400 bps in one direction and 450 bps in reverse direction. Fall back to 12000, 9600, and 4800 bps. (TP--)
Trailblazer	Proprietary, up to 18000 bps. (TP--)
Hayes Express	a.k.a. Hayes V-Series. Proprietary full-duplex 9600 baud. Uses Hayes' CCITT LAP-B error control and data compression. (TP--)
EIA Class 2	<i>A Group 3 Fax standard. See below.</i>
CCITT V.FAST	19200 bps or slightly higher. Uses echo CCITT v.32bis. In the future.
ISDN	Integrated Services Digital Network on fiber optic cable. THE FUTURE, maybe without modems.
SMDS	Switched Multi-Megabit Data Service on fiber optics.

(2) Error-control standards and (3) data compression standards. These are related, and some do both. They include:

MNP1	Hardware error control.
MNP2	Hardware error control.
MNP3	Hardware error control. Strips off start and stop bits during transmission over phone line.
MNP4	Hardware error control. Fastest way to send compressed files. Strips off start and stop bits during transmission. Also adapts to line conditions.
MNP5	Hardware data compression (up to 2 time compression on TEXT) and error control. Do NOT use on compressed files!
MNP6	Additional Universal Link Negotiation and Statistical Duplexing to MNP5 service. (TP--)
MNP7	Additional Enhanced Data Compression with MNP4. (TP--)
MNP8	To be announced.
MNP9	Additional Enhanced Data Compression with v.32 modems. Also adds Enhanced Universal Link Negotiation, which allows connection to both MNP and non-MNP modems at the highest performance level. (TP--)
MNP10	Hardware error control and data compression. (TP--)
CCITT v.42	CCITT error control. Specifies LAPM error control (with a fallback to MNP 1-4). Fastest way to send compressed files. Strips off start and stop bits during transmission.
CCITT v.42bis	CCITT data compression (up to 4 time compression on TEXT, with no adverse effect on already compressed files). Uses a version of the Lempel-Ziv data compression algorithm. Requires V.42 error control (LAPM).
LAPM	Part of v.42. Can also be used with Hayes Express modulation. Stands for: Linked Access Procedure for Modems. a.k.a. LAP/M or LAP-M.
USR HST	US Robotics' error control protocol.

A Reliable Connection is one with hardware error control (usually MNP1-4). A Normal Connection (or Normal mode) is one with software error control, or no error control. Some of these protocols can be implemented in software, but MNP1-4 is usually not.

There are also other "types" of standards, such as the V.25 answering sequence and V.54 remote testing standards.

Other FAX Standards:

Group 1	Old standard, with Group 2. They allowed faxing 1 page in 6 or 3 minutes. Used in the 1970s. (TP??)
Group 3	The international standard for communication between fax devices (machines or boards). 1 page in 20 secs. at 9600. Virtually all new

	machines are Group 3 units.
Group 4	An emerging standard.
CAS	Developed by Intel and DCA. (TP-- , but can communicate with them.)
Class 1	Mostly software control of faxing; minimal hardware support. Included within Group 3.
Class 2	Adds over 40 AT commands. More hardware control. Finalized, after major revisions, about August 1992. The TP (as with most modems) implements an earlier 8/30/90 draft of this standard.
T.3	Defines FAX formats, used with V.23.
T.4	Defines FAX formats, used with V.27ter and V.29.
T.30	FAX protocol standard.

You should at least know which category someone is talking about when they mention one of these standards. Ideally you should read up on them somewhere. Anything starting with a V is also known as a CCITT standard (e.g., CCITT V.42bis). The CCITT (Comité Consultatif Internationale Télégraphique et Téléphonique) is an international telecom standards setting organization.

Main Implication: Your Telepath can have problems trying to negotiate a common speed and set of standards with your Host modem, especially if the Host is older. Also, your software or the Host software may have problems with the error-control or data compression standard that the two modems have agreed on. (Experts, please clarify this if I'm not quite right.)

Firmware: As mentioned earlier, this is the software embedded in the modem hardware. For a Telepath, you need at least revision 1.5. To check what you have, go into a terminal program (e.g., Windows Terminal, or you can also do this in Crosstalk or Qmodem), and type "ATix" <return>.

Modem response strings:

For ATi3:	Gateway Telepath 1.5 108
For ATi4:	a007090C08484402F bC60000000 r16E5111151012004 r300011117000000

For AT+FCLASS=?: 0,1,2

Gateway should also be coming out with new firmware sometime soon... You probably want to get it in any case. I've heard that Rockwell is up to revision level 2.0.

Rockwell Chip Set. The Rockwell Chip Set has been a major push in "modem" evolution by making high speed communications (9600 bps+) available at a lower price. The Telepath, like many of the less expensive modems on the market today (e.g., Supra) uses the Rockwell Chip set. Some people say there are known problems in the chip set. This is probably the case, but then my impression is that no modem is perfect.

A bit more philosophy: There are still plenty of problems with modem communication (enough to go around), and yet much modeming still gets done. As you see in the CompuServe forums from time to time, some people, it seems to me, want to blame Rockwell or Gateway for all their problems. And for some users who **must** communicate with specific Hosts, the Telepath may not be bad, but a disaster. But for most users, the Telepath and Rockwell modems are a reasonable price/performance trade-off. **AND** Rockwell and Gateway should be supporting the modems a little better, including more detailed and honest communication about the issues. End of rant.

Whenever you hear about other Rockwell Chipset modems, perk up your ears. It probably applies to your Telepath. And tell those you are working with on problems that you have a Telepath and a Rockwell Chipset modem. That may help them help you. If anyone has a list of all the Rockwell modems, I'd like to see it.

Line Conditioning. When operating at high speeds (i.e., 9,600 bps+), V.32 and V.32bis modems must filter out the local 'echo' (reflections by the local phone company equipment of the outgoing modem signal) to clearly decipher the incoming signal from the far end modem. In many modems, the detection and optimum echo filter settings are automatically determined each time the modem negotiates and communicates with another modem.

For some V.32bis modems built with the Rockwell 14,400 chipset (e.g., the Telepath), a special command (\E1 for the Telepath) must be sent to the modem to instruct it to sense the local echo conditions and 'tune' itself for maximum echo cancellation. Without this command, the modem will not be able to clearly detect the signal from the far modem, which may result in data errors, multiple retransmissions of data, or even unexpected disconnection during a call.

The "special command" must be sent just before a call is made to or received from a Host.

The Telepath specifically will set NET1 and NET2 (two memory variables, I guess) so that local echo is optimized. After this optimization, NET1 and NET2 will remain in their optimized state until another connection is attempted following an \E1 command, or a reset (such as ATZ or a reboot). The state of NET1 and NET2 is **not** stored in NVRAM. NET1 and NET2 default to 0 and 1, respectively, at power up/reset. [Basically from the Telepath manual]

Thus, if line conditioning is important to you, you should add it to your Init String for all COMMS software, because it has to be done again each time you restart the modem.

BTW, neither the Host modem nor your TP can be in **FAX** answer mode to do this.

Some other modems "remember" the optimization to local echo despite resets or cold reboots. However, if these modems are connected to a different phone line, or the

modem is exchanged with another modem (of the same type), the special command (and the subsequent high speed data connection) must be repeated to again optimize the local echo cancellation.

Once a modem has been able to optimize itself for the phone line's local echo, it will provide the most reliable high speed operation possible (using that modem on that phone line), for both data and fax connections.

Flow Control. Another arcane subject you need to know something about. This is the protocol for controlling the flow of data to or from the modem. Flow control can be set for either the PC-to-modem (DTE-DCE) flows or the modem-to-modem (DCE-DCE) flows. There are two types: Hardware (a.k.a. "RTS/CTS" or "RTSCTS") and Software (a.k.a. "XON/XOFF" or "XonXoff" or just "XOFF"). Generally, hardware is better for file transfers. WinFax now prefers hardware as well.

Comment on 16550 UART: Many Windows COMMS program will work better in high speed situations if your system had a 16550AFN UART Chip. The Telepath emulates the older 16450 chip. However, since the Telepath is an internal modem, there is no point in buying a separate board with a 16550 Chip. If you have an external modem, this separate board would be valuable. Hopefully, in the next version of the Telepath, Gateway will include a 16550 Chip.

Suggested Reading:

"Guide to Modem Communication" by Freed & Derfler (1992)

"The Modem Reference" by Banks (1992)

In the GO TELECOM forum, library 11:

MODEMS.TXT: "What you need to know about Modems" by Chen (1992)

MODEMP.ZIP: "A Modem Primer"

MDMLEX.TXT: "Modem Lexicon"

MODM10.ZIP: "Modem 101: An Introductory Lesson in High-Speed Modems"
(Hattaway)

And in the GO IBMCOM forum, library 5:

MDIC13.ZIP: "The Modem Dictionary" by Perry (1992)

Other Rockwell modems are a source of information, but can not be assumed to be identical to a Telepath. In the GO MODEMVEN forum, in the Supra or Zoom libraries:

TEL_LI.TXT: "Line noise, The Phone Company, and Your Modem or FAXModem"
(Supra)

14400.DOC: "GETTING THE BEST CONNECTION BETWEEN ZOOM 14400
AND OTHER HIGH-SPEED FAX MODEMS" (Zoom)

%L_&_%.TXT: "An Explanation of the %L & %Q readings on the SupraFAXModem
v.32 & v.32bis" (Supra)

In the Hayes forum (GO HAYES):

TRM.ZIP: "TECHNICAL REFERENCE FOR HAYES (TM) MODEM USERS" This has some excellent discussion of the &Qn settings, and others. And it gives you a feel for how modems have progressed over the generations.

In the Microsoft KnowledgeBase:

"Serial Communications Speeds in Windows 3.1" MSKB #Q82642

"Setting Up Terminal in Windows 3.0, 3.0a, and 3.1" MSKB #Q88448

"Using a Modem with Windows 3.1: Questions and Answers" MSKB #Q81612

"Meaning of COM Port Settings in WIN.INI" MSKB #Q73234

"Windows 3.1 Serial Communications Q & A Part 1" MSKB #Q83449

"Windows 3.1 Serial Communications Q & A Part 2" MSKB #Q83450

"Communication Port Data Loss in Enhanced-Mode Windows 3.00" MSKB #Q63793

BASIC SETUP - *To help minimize problems*

You're gonna have problems. As described above, that's more because of the nature of COMMS, than the Telepath. The following are a collection of things that may help you.

Call Waiting. Call the phone company and get rid of it. If you don't want to do that, you can temporarily disable call waiting by adding "*70," to each phone number you dial (include the comma). But this only affects outgoing calls. It doesn't protect you (because you can't send the *70) when your modem receives a call from somebody else. You can also add *70, to the Init String. If this includes the Init String for Answer mode, this may have more effect.

Phone Lines. You **may** have much more line noise if you have:

- * Too many phones on a line
- * Two-line phones
- * Shared phone lines
- * Substandard Wiring
- * Some interference with the electricity in the phone line (e.g., a laser printer might cause it).
- * Phone line managers

I don't have these problems (well, I do have a Two-Line phone, but I don't think it's bothering me). But you can read about these in "Guide to Modem Communications" by Freed and Derfler.

Port Setup. Follow the instructions in the Telepath installation manual carefully. This is most important if you are setting up for COM3 and IRQ5. In Windows, this means setting up for COM3 in the Control Panel. If nothing is working at all, be sure you've got everything pointing right in the O/S and the software. For me that means:

Port: COM3

IRQ: 5

Port Address: 03E8

Port setup is particularly important for the old CIM (you needed to get PORT.EXE I believe). Also, some software won't work or needs patches to work with COM3.

Even after initial setup, I've had problems because I didn't realize I was no longer pointing at the right port (this happened in a Crosstalk "session" for me).

Setting up in Windows: Always **install** under a vanilla Windows system (e.g., don't use Norton Desktop for Windows and always start up with PROGMAN). Specifically, in SYSTEM.INI change to "shell=progman.exe" (if it's different) and restart Windows. If you didn't do this originally, do a FULL reinstall (as though brand new) this way. This may not strictly be necessary, but it won't hurt and it may save you from lots of problems. Definitely use PROGMAN to install WFP3.

Control Panel: Be sure that your Telepath port is set up properly in Control Panel. The Baud Rate will vary depending on your CPU type, speed, etc. For my 486 DX2 - 50 I have it set at 38400. Data Bits (8), Parity (none), Stop bit (1). Flow control should be None. In the advanced settings, with my setup on COM3, I want Base Address of 03E8 and IRQ of 5.

Microsoft advises that these settings (except Base Address and IRQ) will be looked at as "defaults." In other words, your Apps can override them.

These Control Panel settings can be critical.

Application Setup. Again, follow the instructions carefully, read the README file. Check on CompuServe or their BBS for software updates (even after you think you've got it going -- communications evolves every month or so.). For me, updates have applied to WFP2.0, Crosstalk/Win 2.0, QmodemPro, and WinCim.

Be sure you follow the software's setup instructions carefully. (It ain't always easy or clear at first, IMHO.)

WinFaxPro Setup:

1. **Class1:** For WinFax PRO (either 2.0 or 3.0) be sure you install as a Generic Class 1 fax! This is/was **contrary** to what the original standard WFP3 install program would do if you selected the Telepath modem from the install list. (Install would set the Telepath up as a Class 2 modem, which is not technically wrong, but simply doesn't work as well with WFP3 right now.) Class1 is what Delrina currently recommends.

If you have already installed WFP3 as a Class2 fax, I would recommend completely reinstalling under PROGMAN as Class 1 to be completely safe. But I'm told you can simply change WINFAX.INI (in your WINFAX directory), under the [General] section, to read:

Fax Device=Class1
(instead of Fax Device=Class2)

For WinFax PRO 2.0, you need to change the [WINFAX] section of your WIN.INI to read:

```
imodemclass=Class1  
Fax Device=Class1
```

2. **Hardware Flow Control:** With the new patch (WFX304.ZIP), Delrina recommends hardware flow control with WFP3 and the Telepath.

"To set flow control for WinFax, change the HdwFlowControl= line in the [General] section of the WINFAX.INI file to ...the following:

```
HdwFlowControl=1; for hardware flow control
```

2. **MaxTxSpeed:** I have learned that in previous versions of TPHELP I have lied. Delrina says that "Max Tx Rate" currently has **no** effect whatsoever in WFP3.0. (But MaxTxSpeed does; see below.)

But in WFP2, you can add to WINFAX.INI (in the subdirectory where you installed the WinFax software [e.g., D:\WINFAX3]), under the [General] section:

```
Max Tx Rate=9600
```

Add the same Max Tx Rate statement also to the [Winfax] section of Win.ini.

This Maximum Transmission Rate should control the speed at which your modem connects when **sending** faxes. This is important because faxing at 14400 is not always reliable (although the TP does have 14400 fax capability - I've done it myself).

BTW, I understand Max Tx Rate=7200 is an invalid setting. If you use it, your modem should bounce down to 4800.

The new patch for WFP3 (WFX304.ZIP) supports MaxTxSpeed, which seems to do the same thing as Max Tx Rate does in WFP2. See the readme file with the patch.

3. **New Modules:** If using WFP2.0, be sure to get the latest MOD.EXE. Look in the Gateway or Delrina libraries on CompuServe. Do **not** use a WFP2 MOD.EXE file with WFP3.

Delrina has (finally <g>) released an update for the Rockwell modem group (and others). It is the "fix" we have been waiting for. So far, it seems to be working well. Of course, there may be other "updates" in the future. It is called WFX304.ZIP in the Delrina

library. Be sure to follow the directions on the readme file carefully.

There was an initial SNAFU on this patch, but that has been corrected. Certainly mine is working.

Also check in the Delrina libraries for other new "new modules."

About April 5, Delrina released a replacement Windows COMM driver. Delrina says this "new module" will **not** be useful to Telepath owners. In theory it shouldn't hurt, although it hasn't been endorsed for Crosstalk, WinCim, etc. The new COMM driver **will** help you if you have a 16550 UART and connect at 14400.

4. **System.ini:** To the [386Enh] section of your System.ini add:

```
COMBOOSTTIME=30
COM3BUFFER=1024
COM3PROTOCOL=XOFF [I'm checking on this now.]
COM3AutoAssign=0
COM3FIFO=0
COM3Irq=5
COM3Base=03E8
```

These latter two lines are only necessary if you using an unusual IRQ or base address setting. They will be different if you're using something different than IRQ5/03E0. The COM3 piece in all the lines assumes your Telepath is installed for Com3.

I'm not sure COM3FIFO=0 does any good on a Telepath because it doesn't use the 16550 UART, which this line disables. Of course, it does no harm either.

These settings potentially affect **all** of your Windows COMM Apps (e.g., Crosstalk/Win). I have not noticed any adverse effects on other programs.

5. **Init String:** For WFP3.0 my current Init String is:

```
AT &F~~ &C1 &D2 &K3 S95=44 S7=90\
```

Delrina recommends for the Telepath:

```
AT &F &C1 &D2 &K3 S7=90\
```

Be sure to use the &K3 for hardware flow control. With the &F, the &K3 is technically not necessary, but why tempt fate with faxing?

You don't have to put the spaces between each Hayes command. In fact, some software will not give you enough room if you include the spaces.

To assure that WFP3 always comes out of Fax mode and doesn't hang the system, Delrina recommends you add under Fax, Program Setup, Fax/Modem, Modem Reset String:

AT&F~~+FCLASS=0~~\

The "\" operates as the carriage return "signal" **in WinFax3 only**, like a "^M" elsewhere. BTW, an "\" elsewhere signals a group of extended Hayes commands.

6. WINFAX.T directory: Delrina advises that this is a temporary directory created during installation. It should be deleted after installation, but on some systems it gets left behind. You should delete it (and all its files) manually, if you see it.

Timing Issues:

Windows communications are more difficult than DOS because it is a multitasking environment. One way to make it better is to reduce the number of times the CPU and your App are interrupted. This is especially sensitive when receiving faxes (Auto Receive). But it affects all Windows Comm programs. Many of the earlier suggestions have already dealt with this issue. The following are some more suggestions that have become part of my standard config.

Delrina is about to come out with a Tech Note about these timing issues. Please see Appendix A for a "draft."

1. Disk Cache Writes (Recommended for WinCim Time-outs): If you are using a disk cache, you may want to disable the write cache feature. This helps with the sensitive Windows timing. Thus, your autoexec.bat should look something like this with Smartdrv:

```
SMARTDRV c d 2048 2048
```

This probably also applies to Ncache.

2. Video Drivers (raised on the Delrina forum): Also, I understand that the Mach 20 ATI Graphics Ultra +/-Pro drivers also monitor this/these interrupts. But I'm not sure about the solution. I understand Build 59 is good, but not previous versions. I believe the Mach 8 drivers for the plain Ultra card (that I have) don't present a problem. Anybody know for sure?

3. TSRs & Screen Savers (recommended by Delrina): For WFP3.0, turn off all screen savers or other programs that monitor interrupts. If you are having any problems, particularly in receiving faxes, put a ";" in front of any "load" or "run" statements in System.ini, and REM out **any** TSRs in Config.sys or Autoexec.bat. This includes the Norton Antivirus Intercept (if any) in your CONFIG.SYS. And "load=pointer.exe" or the equivalent for your Mouse in System.ini.

When in doubt, get rid of it for now, and discuss it with Delrina. This topic is also discussed below.

4. NDW (recommended by a user): If you have Norton Desktop for Windows, you

should change or add a setting in the [NHookSettings] section of Ndw.ini to read:
Int21hHook=0

This keeps it from accessing Interrupt 21 all the time. I understand the main effect to your NDW will be that you have to refresh the Drive windows manually sometimes, i.e., a minor loss at most in my view.

5. **Control Panel:** Delrina recommends setting the Minimum Timeslice in the 386 Enhanced section of the Control Panel to 30msec. Check that the Windows in foreground is 100, background 50.

6. **System.ini** (from WinCim Support): Add to the [386Enh] section:
TrapTimerPorts=False
SyncTime=True

Crosstalk for Windows 2.0 Setup: If you just got the package shrink wrapped, it probably isn't at least Version 2.0.0b. You must have Version 2.0b. Contact Crosstalk by calling 800-348-3221 and ask them to send you the update diskettes. Also check GO XTALK for details. In addition to the 2.0b diskettes, you will need to download all the update modules in the XTALK libraries on CIS.

DCA is also updating modules occasionally now. Again, they are in the XTALK forum libraries on CompuServe. I'd recheck the libraries every month or so.

My current Init String is: AT&F~~W1&C1&D2 S95=44S7=90|
This recently changed has improved my high speed connections to Zoom modems immensely.

You'll notice that this string is fairly close to the original Init String, except that all the factory default settings (that &F calls) have been removed.

Dan McWhorter has mentioned problems getting started on CompuServe with Crosstalk. "For several days I have been trying to use the XTalk automated logon script for Compuserve access. I kept getting logged on but, the session would lock-up upon the "Copyright..." information. I would never see the opening menus.... [He tried the GO TERMINAL Settings, specifically 2 Change Permanent Settings, 4 Terminal type/parameters.] ...there I discovered that the "Micro inquiry sequence at logon" option was set to "yes". I changed it to "no" and was finally able to complete a full session using the XTalk script."

This is not necessarily a Crosstalk problem per se. This problem could potentially affect the access to CIS with other software. There seems to be no great benefit to having "Micro inquiry" turned to "yes."

QModemPro Setup Just follow the basic instructions. Don't forget to adjust for COM3 (e.g., COM3, IRQ5, and 03E0 as mentioned earlier), if your modem is using them.

Also, in March '93, Mustang Software uploaded a patch to QmodemPro to bring it to V1.02. Fixes lots of "minor" bugs. GO PCVENA, in the Mustang library on CompuServe. Or call their BBS. You need it.

The Init String for Qmodem is ATZ. This calls User Profile 0, which the program changes at setup. For QmodemPro, this means the effective Init String is ATW1&C1&D2S95=44.

Qmodem seems to be a very good program. It will often get me connected when other software won't. This may be mainly because it is not a Windows program, and I don't use it in Windows.

Init String. This is usually the most important thing. Get to know all the Hayes commands anyone tells you to use. Ask for the latest Init String for your software. And be aware that you may need special init strings for specific Hosts you want to communicate with. (These special Init Strings or additional Hayes commands are usually sent to the modem through special "Dial Modifier" settings for that Host.)

Right now, Neil Roepke at Gateway is recommending:
AT &F &C1 &D2 M0 S7=30 S0=1 S1=2 S95=3
for everything (WinFaxPro 2.0, Crosstalk 1.x, CIM, Qmodem 4.5).
Read about all these commands in the Telepath manual.

I've pretty much stuck with the Init Strings that the software recommended. But for Crosstalk, I've added "&F" because I believe that WFP3.0 is not always resetting the modem out of fax mode.

Right now I'm using:

WinCim: AT&F S0=0 &Q0 ^M

TAPCIS: AT&F V1 &C1 &D2 X4 DT

PC TOOLS - COMMUTE: According to Ed Masoorli, Central Point Tech Support suggests you choose the Practical PM9600 V.32 in the modem selection section of configuration. That works for the Telepath.

Prodigy: I'm told that the Init String goes like this for 2400 bps:
MODEMSTR AT&FE0X4&Q6%C0S37=6N0

If that gets an error message, replace "MODEMSTR" with "MODEMUTL". For 9600 bps the Init String is the same, except that S37=9.

You should also know that Prodigy seems to recommend:
MODEMSTR AT&FE0X4&Q0\N1S37=9N1 for 9600 bps.

Thanks to Gary Weintrob for this info. Not using Prodigy, neither he nor I know which one to recommend.

Also, if you have your Telepath on COM3 or COM4, you need to ask the Prodigy folks for a special utility that makes it work on these ports.

Is the Setup Ok? If you can send an "ATZ" to the modem and get back "OK," that's the first step. If you can connect with a friend or a BBS and download a file, then you know things are working "basically." (File Transfers are more demanding than simple connections.) Also, if you can send multiple page faxes to anybody, then your basic setup is probably OK.

NEW PROBLEMS

If you've gotten your current hardware and software to work with somebody, and it isn't working now, we can make the brilliant deduction that something has changed. For example, you changed *something* (maybe added a screen saver in Windows), or you are calling somebody new, or the Host you are calling changed something on their system.

Here are some ideas that may be useful.

Known WFP Bugs: Delrina: "This message is to describe two known problems when using WinFax PRO with any fax modem using Rockwell's 14.4 fax chip set.

1. A series of transmission problems can occur when sending a fax with one of these modems at 14.4 transmission speeds with the modem at its Class 2 setting. This problem lies in the modem firmware and can be easily circumvented by changing your modem's setting to Class 1. We are looking to Rockwell to provide a fix for the Class 2 setting.

To change your modem to Class 1, run the WinFax PRO Setup program and select the Change Modem option. On the screen instructing you to select your modem, select Class 1 in the Modem type box and select Generic CLASS 1 in the Description box. WinFax PRO performs identically whether you are running your modem in Class 1 or Class 2.

2. During fax reception, the connection may be lost intermittently. This problem is very uncommon on all transmissions except those from fax back systems. (Fax back systems automatically fax requested documents to the number you specify.) Rockwell acknowledges that this problem occurs in its modem firmware. We are investigating what we can do to solve this problem."

This last issue is why Delrina and I have stressed the timing issues so much.

Check for Class 1: If you are having problems faxing, ask the other guy to change to

Class1. This is clearly indicated if he has WFP3 and a Rockwell Chipset modem. Then he should (ideally) make a note of his current WFP3 Init String, reinstall under progman.exe as a Generic Class 1. Then he should go back into WFP, and re-input his Init String (because the "generic" Init String is probably not right for his modem). Then restart WFP under Windows.

This definitely "saved" me with another TP/WFP3 user. Class 1 is Delrina's basic advice for other Rockwell modems. Class 1 may be useful in other situations.

Review Software Changes. Try to think if there is anything you changed on your system recently. Ask your host the same thing about his system.

Check Modem Connection. Make sure the current software (or any software) can connect to the modem. For example, try sending "ATZ." If you get "OK" then that's good. Once I had WFP in auto-receive mode and Crosstalk couldn't connect to the modem. This became clear when I tried to send "ATZ" and didn't get an "OK."

Slow the Speed. If you can't connect or the connection isn't working well, try going to a slower telco line speed *for this connection with this Host*. If you can't change a setting in your software, then try an Init String change. Add "N0" (N + zero) followed by a change to the S37 register, such as:

"N0S37=11" for 14400

"N0S37=9" for 9600

"N0S37=12" for 7200 (Beats me why it's 12. It just is.)

"N0S37=8" for 4800

"N0S37=6" for 2400

"N0S37=5" for 1200

"N0S37=1" for 300

The TP manual also suggests adding "&Q6" after the N0S37= command. &Q6 selects the communications mode with the other modem, specifically, asynchronous in Normal mode (no hardware error-check). This helps in connecting to older, non-error checking modems, and with modems where the negotiation of the error-checking protocol doesn't seem to go well.

By the way, you need to know some jargon. DTE stands for Data Terminal Equipment. Think of it as everything in your PC except the Telepath. DCE stands for Data Communications Equipment. That's your Telepath (or the Host's modem, depending on the context).

There are two speeds to be concerned with. One between your DTE and your DCE. This is often set at 38400 bps, when you set up the modem in the application (e.g., Crosstalk). Crosstalk uses the CONNECT setting for this. Then there is the DCE-DCE speed, or the telco line speed. This is generally negotiated by the two modems, going at the highest rate both modems support. But most software packages allow the user to reduce the maximum possible bps rate. Such as issuing the N0S37= commands.

Crosstalk uses the CARRIER setting to adjust this.

One key point is that the DTE-DCE speed can be higher than the telco line speed. This will make a file transfer run slightly faster.

For WFP3.0 I suggested above a change to Winfax.ini and Win.ini (e.g., Max Tx Rate=2400) to reduce DCE-DCE speed.

If that doesn't work, or you're reluctant to change your Init String, **ask your Host**. Usually he can reduce the speed in his software. This has made things work in several cases for me (WFP3 to get to 9600, etc.). I'd guess that it is more effective when the Host is calling me, but that's just a guess.

If slowing the telco speed is the solution, the underlying problem still could be anywhere (e.g., temporary line noise, an imperfect setup or session setting on your machine or his, an old modem at the Host, etc.). But at least you know you can communicate.

Try Different Software. Try to do the same thing (connect or file transfer) with different software. For example, if sending a file with Crosstalk doesn't work, try Qmodem or Windows Terminal. If they work, you still can't be sure that it's Crosstalk's problem (e.g., it could be Windows or that Host), but you know you can communicate.

Review Timing on Incoming Faxes. System timing is very important for incoming faxes. Disk intensive operations and other factors that can throw off the timing between your modem and your software can cause an incoming fax to abort. This includes starting another application, rasterizing a cover page, etc. Try to make sure the CPU and disk are doing nothing else while you're receiving faxes.

Run in Standard Mode: Delrina advises that running Windows in Standard Mode (vs. 386 Enhanced Mode) can improve the timing issues with faxing.

TSRs & Screen Savers: If you are having problems, particularly in Auto Receive mode, Delrina recommends you disable all screen savers and TSRs. This was already described above.

This includes Norton Anti-Virus, Mirror, Image, FastOpen, DosKey, AfterDark, etc.

You can leave AfterDark on if it doesn't monitor the COM port. This can be arranged within AfterDark. Turn off the IQ Activity Monitor in **its** Control Panel.

Try Changing Callers. If you can't make a connection by calling, let him call you and you become the Host. Of course, you have to set your software (and it will set the modem) in Answer mode.

Or, if you and the Host connect OK, try a file transfer or fax the other way. This may give you a clue where the problem is.

Try a Different Host. This changes the Host side of the phone line, the receiving modem, and the Host software. If it works, then your side is OK in a sense, particularly if the replacement Host has the same configuration as the original Host. But you still might be able to change some things yourself (e.g., lower speed) to connect to your original Host.

Check for Line Noise. You can check for line noise if you can get into terminal mode with your Host. You'd be checking on line noise at that time on that line with the Host. Remember that on long distance calls, the connecting "line" could be different on each call.

Just send "AT%L" to the modem in terminal mode after connection to the Host. If the modem returns 024 or less, then the line is "good." As the number moves from 024 toward 043, line noise gets progressively worse. You should send the "AT%L" a couple of times. If it is bad, it might be better at a different time of day or a different day. If it's bad, contact the phone company(ies), but ask about their repair charges (if any).

What to do if you have line noise? Try lowering the telco line speed. This works because a lower line speed gives a greater margin for error with line noise.

Check Echo Cancellation. Use the \E1 command as explained earlier under "Line Conditioning." Delrina particularly recommends this.

Check Flow Control Settings. If you are getting missing characters from the Host or you connect to the Host but don't see the Host computer's data, you should check Flow Control. It was discussed above. Generally you want Hardware (RTS/CTS) for file transfers and now for faxing (WFP) as well.

Remember that in Crosstalk (and others?), you can have one standard "Normal" setting for Flow Control, and a separate, overriding setting for the given "session" or Host. You probably want to fix both.

Also, the Help files in Crosstalk2.0 and QmodemPro have useful discussions of flow control.

Garbage On the Screen: In Qmodem, I've solved this by hitting the "Hi-bit Strip" toggle: Alt-8. It's a toggle; you either want to Strip the 8th bit or not. Check the Qmodem manual. In Crosstalk, I believe the same thing is accomplished through Settings, Terminal Settings, Misc. (Strip 8th bit). You probably either want to switch into or out of ANSI emulation. Be sure you have the latest Crosstalk drivers and check the manual for details.

You may also have called up at the wrong speed. Try 2400 (the most common). Or talk to the people who run the Host for the right speed.

Along these lines, you can get garbage if two V.32bis modems try to connect. (Remember that a V.32bis modem basically means a 14400 modem.) Apparently not all modems can negotiate all the protocols at high speed. See Appendix B. So, you want to eliminate the error-check negotiation (&Q6) or slow the speed (N0S37=x), as mentioned earlier.

If each character is typed twice (l i i k k e e t t h h i i s s), change your App's duplex, echo, or "mode" setting.

If it's partially garbled text, check your parity setting. If you are on 8 bits, try parity none. If on 7 bits, try parity even or odd (the opposite of what you have).

If the text is more garbled, try changing from 8 bits to 7 bits, or vice versa.

Remote System Does Not Respond: Could be many reasons. If you hit a Ctrl-S, you probably got paused. Ctrl-Q should get you going again. Or try Ctrl-C or Ctrl-O to interrupt the system and get back to a prompt.

For File Transfer Problems. Here are a few extra things to try if a file transfer won't start or won't work correctly.

1. Be sure you and the Host are using the same protocol. Remember that there are different versions or flavors of Ymodem that are not compatible. If one protocol doesn't work, try another. Generally I prefer Zmodem, and I hear that it's become the protocol of choice. But Ymodem-G is faster (because there is no error checking). You don't need an error-correcting protocol **and** MNP or V.42 modem "hardware" error-checking.
2. Go back and check the connection settings for this connection. This includes databits, stop bit, parity (usually want 8/1/N, except for Kermit).
3. Flow Control. I described this above. "Make sure your modem is not set to use software (XON/XOFF) flow control. If it is, the transfer will 'hang' the first time the software tries to send a file containing a Ctrl-S character. One sure symptom of this problem is an Xmodem transfer that stops on block number 13. Another symptom is a transfer that stops at the exact same spot each time you attempt it.... If your software and modem allow hardware flow control, use it! If your flow control is set incorrectly, your modem and software will appear to work fine until you attempt a file transfer. Because file transfer protocols try to keep the modem as 'busy' as possible, flow control is more important during file transfers." From Freed and Derfler.
4. Check all the File Transfer protocol settings for you and the Host. In Crosstalk2.0 for Zmodem, these include Packet Size, Timing, AutoStart, etc. You probably want them to be identical between you and the Host, if possible. I've also found that changing the timing from "Normal" to "Sloppy" in Crosstalk

to help. Timing specifies the time between transmitting blocks. Giving more time slows things down, allowing error checking, etc. to occur more easily.

Read the Manual. When all else fails, read the manual. Seriously, all the COMMS manuals I've seen are hard to read and poorly indexed and don't deal enough with troubleshooting. But, they all contain nuggets of good info on file transfers, settings, problem-fixing, etc. Also check the Help file in the software. Especially with Windows, these may be better, by being context-sensitive, than the manual. At worst, you may learn more about COMMS or get to sleep earlier that night.

Fiddle with Init String. More than any other one thing, changing the Init String is likely to fix your problem. Contact Gateway or the Software vendor. Look in the CompuServe forums. Ask your local expert. But remember that Rockwell modems are somewhat different than other modems. Telepaths are a special subset of Rockwells. And Init Strings may be right in one situation and not right in another.

As you get to know the AT command set, you can experiment. But I don't recommend that at first. Just ask advice from an expert. And find out what all your current commands mean.

Asking for Help. As I've indicated, modem communication can be complex, so make some allowances for this when talking to those you can offer help. Sometimes the problem can be something where they can help you, and sometimes the problem will turn out to be something where they really can't help much (e.g., asking someone on a forum to help you with a problem that turns out to be line noise that your phone company must fix).

Tell them your Init String, and the basics about your configuration. And if you have done some testing, tell them what you've learned, and what you guess it might be and why. Even you uneducated guess may tell them that you're new to COMMS, so that they will re-check the basics with you. I've seen cases where they have assumed I had covered the basics, and then they (incorrectly) went off looking for something esoteric (and it wasn't).

Tell them what you **know** it can't be, and why.

Give them at least a good page of info on your problem, Init String, configuration, testing, etc. But don't bury them with info either. Then, expect a dialogue and let them come back to you with questions. In follow up messages, don't assume that they remember your configuration. They deal with **lots** of messages and there is no way they can keep track of everything on your system like you can.

CompuServe Support Fora include:

GO GATEWAY: Neil Roepke 75300,1300
GO DELRINA: Jennifer Wittek 76300,2500
Kevin Quinn 72410, 2273

Line Robichaud 72120,2676
GO XTALK Steve Johnson 76702,1216
GO PCVENA (Mustang section) for Qmodem
GO WCIMSUP for WinCim

It's A Game. Think of the problems you have as a game. (Everybody has problems, so you're not alone.) Then think of an objective to the game. And have fun with it. One objective might be to use the problem to learn more about one area of COMMS. A somewhat opposite objective might be to get the quickest "work-around" so that one client receives that one message ASAP.

Types of Problems

I wish someone would continue this document with a list of things to do or check in specific situations. I leave that to someone else. Here are some suggested "problem situations:"

1. My Modem won't connect with Receiving modem (Host).
2. Modem connects but garbage appears on the screen.
3. File Transfer not occurring properly

I'd also suggest starting a TPHELP2.DOC that gives specific examples from a variety of users about problems and solutions. I've already seen groups of forum messages that might be reduced to a paragraph or half a page. I think this would be helpful to many users and many people could contribute to it.

Please tell me if there is anything inaccurate here. And please feel free to add to or modify this document. When you do, please take credit and Email me the revised version. I'll upload the revised version, if you didn't.

To the wonderful world of communicating...<g>

BTW, the latest version of TPHELP will always be in the GO GATEWAY library.

Appendix A

This is another explanation of the "Windows Timing Issues" that affect WinFax and all Windows Comms Apps to some degree. Tony Davis is one of the main Winfax programmers. His face comes up in the "About..." screen.

#: 5061 S4/WINFAX PRO
15-Apr-93 10:31:56
Sb: #5051-NAV Intercept Conflict?
Fm: Joseph Little 76500,1513
To: Tony Davis 72020,1045

Tony,

It seems like you (Delrina) DO have some suggestions...

This is what I think I've pieced together; feel free to correct/modify and use....

"1. WFP3 is a real-time synchronous communications application in Windows, and requires that data be sent at high speeds without any breaks or timing changes. Thus, it is subject to the timing issues inherent in any multi-tasking system, and in the Windows method for handling communications specifically. For this reason any intrusion into the system by "TSRs" (including screen savers, etc.) may cause problems.

2. These "TSRs" may interrupt the system either on a disk access mode or on interrupts, and in so doing alters the behavior (of...? faxing or WFP3?). The TSRs would not be a problem for applications that are not real-time, but faxing by its nature is real-time. Some TSRs (such as HIMEM.SYS and EMM386.SYS) are not a problem because ...

3. Using any program that interrupts WFP3 while sending or receiving data is likely to cause a fax to fail or be slightly garbled. The more frequent the interrupts, the more likely the problem. And the slower your system, the more likely you are to have problems. These problems are endemic to any Windows Fax program; it isn't just WFP3. In practice, many systems with WFP3 may technically be interrupted infrequently, but have no noticeable problems at all in faxing.

4. These interruptions can be caused by any program that monitors PC interrupts or causes disk or CPU activity. This includes Norton Anti-Virus (and most other anti-virus programs), Smartcan (and most other "erase protection" programs), all screen savers, Image & Mirror, Smartdrv & Ncache with a write cache,[whatever else the list is]

5. You can have a problem with just one of these programs running while WFP3 is faxing (sending or receiving). The likelihood of visible problems increases the greater the number of interruptions (e.g., if you have more of these TSRs running). The faster your system, the more interruptions you can have without noticeable problems. But you are still running a risk for problems if your system can't *always* keep the Comport

buffer from overflowing. We believe a 386DX-25Mhz with a 8250 or 16450 UART can easily handle the interruptions from the Windows screen saver module [or some example from a cheaper config you want to use...].

6. Some programs, such as AfterDark, can be adjusted so that they no longer interrupt WFP3. For AfterDark this requires.... For XXX program, you must...

7. Some screen savers "monitor" the system more than others. The Windows screen saver is one that gives WFP3 fewer problems, but it still is not risk-free in all cases.

8. One way to deal with this problem, particularly if you have Norton Desktop for Windows, is to write a "Windows batch file" that disables all the Windows "TSRs" that cause interruptions. The batch could then turn these "TSRs" back on after you exit WFP3. A "Windows batch file" will not, however, deal with "TSRs" started from DOS.

9. If you have a 16550AFN UART and you use our new comm driver (WFXCOM.DRV) or KINGCOM, or TURBOCOM, then you can set on sufficient buffering of the Comm port activity that these TSRs can not affect your faxing, once you have made a connection. [Tony, I not sure I'm right here; it's getting technical for me; but I think there's something here...]

10. These interruption problems will be less noticeable (probably non-existent) if you lower the connect speed between your system and the fax you are connecting with. You probably only want to do this if one fax has already failed. You can do this when sending faxes by adding a Max Tx Rate=4800 statement to WINFAX.INI. When receiving faxes, you should ask the sender to reduce his connection speed before calling you.

11. You should be aware the similar timing issues on the PC/MAC system that you are faxing to (or is faxing to you) can cause problems that look identical to a timing problem on your system. Similarly, line noise, etc. can cause problems with similar symptoms.

12. This is the extent of Delrina's current knowledge of this situation. As we learn more, we will revise this Tech Note with additional TSRs that may cause problems, or other potential solutions. We hope to address this issue in later releases of WinFaxPro, but are unsure if we or anyone can be completely successful without further improvements in the Windows system or the Comport buffering hardware. And for consistently reliable faxing, these improvements must occur not only on your system, but on the other party's system as well."

Something like this is what I'm looking for. How close is it to the truth as we know it so far? You might also solicit user "real-world" testing information about this. Knowledgeable (influential) users will be impressed with you for addressing the issue head on.

Thanks, Joe

#: 5765 S4/WINFAX PRO
19-Apr-93 22:35:06
Sb: #5061-NAV Intercept Conflict?
Fm: Tony Davis 72020,1045
To: Joseph Little 76500,1513 (X)

Joseph,

Your comments are accurate. I will pass this along to our support people to fill in the blanks and expand on the information.

The only comment I have is the part regarding Max Tx Rate. This parameters was only in use in WinFax 1.0 and WinFax 2.0 and the Lite versions. You cannot use this parameter with WinFax PRO 3.0.

Using a 16550 UART will solve the problem if it relates to servicing interrupts.

Tony Davis

Appendix B

This explains "occasional" problems with connecting two V.32bis modems (i.e., the Telepath plus another V.32bis modem like the Zoom).

"#: 28288 S8/Zoom
26-Apr-93 18:53:10
Sb: TP>14400>Zoom??
Fm: Joseph Little 76500,1513
To: Zoom 76711,770 (X)

To Doug & All:

I'm having problems getting my Telepath to make consistent connects to a Zoom V.32bis fax/modem. My client/friend is getting frustrated too. I think I understand this is a common Rockwell to Rockwell problem.

Scenario: I call, we get CARRIER 14400, then I get lots of screen garbage, and either disconnect or lose patient and force a disconnect. It appears the modems are trying to negotiate the protocols, and usually failing. Usually (but not always) this happens with Xtalk/Win over about 15 attempts in recent days. This happens sometimes (2 of 6 ?) with QmodemPro. Looks like exactly the same symptoms with QmodemPro.

BTW, the Zoom has also gotten screen garbage when he's called me.

I believe I need a special Dial Modifier/Init String to "force" the best 14400 connect (or lower?). Or maybe we both need the one? Anybody know the best one?

And can anybody explain the problem?

One book says the screen garbage indicates that the two modems are trying to negotiate at a speed at least one won't support. I don't think that's it; I believe I've heard there's a bug in the Rockwell ROM (of both modems?) that makes negotiation "finicky" at 14400, e.g., with a little line noise (and there probably is some line noise).

Thanks, Joe

#: 28510 S8/Zoom
28-Apr-93 15:55:05
Sb: #28288-TP>14400>Zoom??
Fm: Zoom 76711,770
To: Joseph Little 76500,1513 (X)

Joseph - Forcing the speed and type of connection is generally the best choice for what you're describing -- sometimes 2 V.32bis modems will attempt to establish a 14,400 bps connection when the phonelines can't handle it -- the modems should automatically shift

down to a safer speed, but sometimes, they need to have this "forced" -- to do this, send an appropriate init string -- on page 11-7 of the Zoom modem owner's manual is a list of these strings -- here are 2 from that list I'd recommend: ATN0S37=10&Q5 <CR> (forces 12,000 bps) ATN0S37=9&Q5 <CR> (forces 9600 bps)

Doug"