TECHNICAL BULLETIN FROM GLOBAL BUSINESS SYSTEMS

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V32 modem support for BACS

Since July 1993 BACS has not accepted new users of V26 Synchronous Comms or existing users upgrading to it. Since the above date, the only Synchronous Comms protocol supported by BACS has been V32.

We have now certified V6.2 Global Comms - 2780 Emulation (product CI) for use with BACS using V32 synchronous Comms with the following modems:-

Modtech M5032/42b
Miracom Courier V.32
Miracom Courier V.32bis FAX with ASL
U.S. Robotics Courier V.34
TCL Datablast modem

Only those modems listed above are supported for use with V32 Synchronous Comms transmissions to BACS. Furthermore, these modems will only operate correctly with the IBM Bisynchronous Communications Adapter card, or equivalent. Please contact the TIS Software Hardware Sales Dept. if you encounter problems obtaining a suitable card.

NOTE THAT YOU CANNOT RUN SYNCHRONOUS COMMUNICATIONS VIA A STANDARD ASYNCHRONOUS SERIAL INTERFACE.

None of these modems are configured for synchronous operation by default so a number of programming changes must be performed. These changes can be applied by connecting a serial screen (with its serial port configured to 9600 baud, 8 data bits, 1 stop bit and no parity) to the modem and keying the commands. Note that some of these modems can still be accessed via a serial screen after they have been switched to synchronous mode, but others must be reset before they can be accessed via an asynchronous serial screen.

Please note that the details on page 38 of the handbook issue 18 " ..... BACS .... would not accept new users of Synchronous Comms" were misleading; it is now clear that it is only the V26 Comms which is unsupported.

MODTECH M5032/42b

This modem is set into synchronous mode from its factory default setup by using the following command:-

AT&M2&S2&X2S31=4

The specified BACS phone number must be saved in location 0 of the modem's number store using the following command:-

AT&Z0="*phone number*"

The new configuration should be saved in user profile 0 and the modem should be set to load profile 0 when it is reset or switched on by using the following command:-

AT&W0&Y0

As a final check, reset the modem and use the `AT\V`, `AT\S` and `AT&Z?` commands to check the settings have been saved correctly. If this modem is correctly programmed as above then it will start to dial as soon as the comms software raises the DTR line from the bisychronous comms interface card. This will happen when the Global Communications option is chosen in Global BACS.

MIRACOM COURIER V.32

This modem is set into synchronous mode from its factory default setup by using the following command:-

AT&M1S13=8&S1&X2

The specified BACS phone number must be saved in position 0 of the modem's number store using the following command:-

AT&Z0=*"phone number"*

The new configuration should be saved in the modem's non-volatile RAM by using the following command:-

AT&W

As a final check, use the ATI5 command to check the settings have been saved correctly. If this modem is correctly programmed as above then it will start to dial as soon as the comms software raises the DTR line from the bisychronous comms interface card. This will happen when the Global Communications option is chosen in Global BACS.

MIRACOM COURIER V.32bis FAX with ASL

This modem is set into synchronous mode from its factory default setup by using the following command:-

AT&ZC=&M1&S1&X0DT*"phone number"*

Where "phone number" is the specified BACS phone number. The modem is now programmed to execute the above sequence when the front panel button is pressed.

ATS32=9

The new configuration should be saved in the modem's non-volatile RAM by using the following command:-

AT&W

As a final check, use the ATI5 command to check the settings have been saved correctly.

These sequences put the modem into synchronous communication mode when the button on the front is pressed. The modem only communicates via the RS232 port in synchronous mode when the command has been executed by pressing the front button; the user must power the modem off and on again to restore it to asynchronous mode.

When using this modem with Global BACS:

- Choose the Communications option from the BACS menu.
- Wait until this message is displayed at the bottom of the screen: "Connect computers and press any key to continue".
- Press the button on the front of the modem, which then dials the stored number.
- Wait until the modem makes the connection, then press a key on the computer.

Under some circumstances the screen may display a message beginning "Sending block ... " before you have pressed the front button on the modem. If this happens press the button on the front of the modem immediately.

If the front button on the modem is pressed while it is connected to the BACS computer, it will immediately disconnect and go on-hook.

U.S. ROBOTICS COURIER V.34

The programming for this modem is described in the Courier User's Manual for the Courier V34; see Appendix F (Synchronous and Dedicated and Leased line operations). The Global Comms 2780 product uses the modem in the Online Synchronous mode (see page F-9) and should be programmed for Dialling out (page F-12).

AT&ZC=&F&X1&M1DT*"phone number"*

ATS32=9

The new configuration should be saved in the modem's non-volatile RAM by using the following command:-

AT&W

These sequences put the modem into synchronous communication mode when the button on the front is pressed. The modem only communicates via the RS232 port in synchronous mode when the command has been executed by pressing the front button; a user must power the modem off and on again to restore it to asynchronous mode.

When using this modem with Global BACS:

- Choose the Communications option from the BACS menu.
- Wait until this message is displayed at the bottom of the screen: "Connect computers and press any key to continue".
- Press the button on the front of the modem, which then dials the stored number.
- Wait until the modem makes the connection, then press a key on the computer.

Under some circumstances the screen may display a message beginning "Sending block ... " before you have pressed the front button on the modem. If this happens press the button on the front of the modem immediately.

If the front button on the modem is pressed while it is connected to the BACS computer, it will immediately disconnect and go on-hook.

TCL DATABLAST MODEM

This modem is set into synchronous mode from its factory default setting by using the following commands.

Reset the modem and set up the phone number.

AT&F

AT&Z0=*"phone number"*

Put the modem into Synchronous mode and store the mode etc. in the modem's non-volatile RAM.

AT&C1&D2&Q2&M2&S1&R0&X0S0=0

AT&W0&Y0

Although these sequences put the modem into synchronous communication mode, the modem only communicates via the RS232 port in synchronous mode when it is online to another modem. Thus a user can always connect an asynchronous terminal to the modem's RS232 port, and reprogram it, when it is "on-hook".

The programming listed above will cause the modem to dial the number stored in directory zero when the Global Communications option is chosen in Global BACS.

COMMS CABLE

The cable required for connection between the IBM bisynchronous communications card and the modems is a male to female RS232 cable with the following pins connected straight through:-

Pins: 1,2,3,4,5,6,7,8,15,17,20

COMMS SETUP

The Comms configuration screen should be set up as follows:-

GLOBAL COMMUNICATIONS - CONFIGURATION PARAMETERS

PROTOCOL PARAMETERS

Protocol Used	2780/E	Sync or Async (S/A)	S
Half or Full Duplex (H/F)	H	Data Buffer Size	400

LINE CONTROLLER PARAMETERS

First Device Address	0003A0	Second Device Address	000000
First Interrupt Vector	00002C	Second Interrupt Vector	000030
Controller Parameter A	000000	Controller Parameter B	000000

TIMING PARAMETERS (T=Ticks S=Secs)

Receiver Active Timeout	30 (T)	Connect Timeout	40 (S)
Transmit Complete Timeout	5 (S)	Receiver Idle Timeout	5 (S)
Clear to Send Timeout	20 (T)	Length of Break Signal	10 (T)

LINK PARAMETERS

Transmitter Bit Rate	9600	Receiver Bit Rate	9600
Parity (Odd, Even, 1, 0, None)	N	Number of data bits	8
Number of Stop Bits/SYN's	3	Break (None, Main, Reverse)	N
Connection (Local 2 or 4 wire)	2		

Note that some of these parameters, particularly the timing parameters may need to be modified for the particular requirements on site.

The Options screen is not established since it has no function in normal Synchronous Comms.

USER NOTES

Note-1 A debug version of the BC2780 synchronous communications program is available on the BBS (as file BC2780.ZIP). This file, can be downloaded and used instead of the standard version. It is switched into "debug mode" by setting any one of the communications options in the Options screen to "D". When the debug version of the 2780 Comms controller is operating in "debug mode" it will create a large log file ($$BCLOG) on the Global Comms program unit. This log file will contain a series of status messages that describe the status of each block sent/received during the Global Comms session. The log file can be examined to determine the cause of any errors encountered during the Comms session;

Note-2 Global Comms will not function under any versions of Microsoft Windows. If you wish to use Global Comms you must exit from Windows and run Global System Manager and Global Comms under MS-DOS;

Note-3 Problems have been reported when using Global Comms on fast, Pentium-based computers. A Synchronous Comms controller for fast computers is available on Autozaps as zap BC6207.