Synchronet System Operator Documentation

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Synchronet BBS Software (Synchronet) Version 3 is comprised of several documentation,

library, executable, and source code files, all of which are covered by the GNU General Public License with the exception of the following portions covered by the GNU Lesser General Public License: SMBLIB and XSDK.

Synchronet Version 2 (for DOS and OS/2) and its source code was released to the Public Domain by Digital Dynamics in 1997 and remains Public Domain software today. Synchronet Version 3 is not Public Domain software.

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For the complete Copyright Information please read the Copyright Documentation .

Synchronet BBS
Multinode Bulletin Board System Software

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Synchronet Features

General

- Designed from the ground up as a reliable and feature rich multi-node BBS
- Up to 250 simultaneous nodes with multi-node chat and external program (door) support
- Sysop inter-node control (remote or local):
  Interrupting - hang up on any node
  Locking - only sysops can logon a locked node until the lock is removed
  Rerunning - re-executes BBS, reinitializing configuration, etc.
  Downing - shutdown a node from another remote node or local console
- Real-time user database:
  Amazingly complete user edit function
  Remote changes to online-user data are immediately effective
  Disk image is always current for enhanced system fault tolerance
  Linked free-form data file for every user
  International address and phone number support
- ***RIPscrip*** and ***WIP*** graphical user interfaces and mouse support!
- Online, sysop configurable, chatting artificial intelligence engine
  Multiple personalities available for your users to experience
- Pay BBS features:
  Time credits, user expiration dates, credits, and 900/976 billing

Security

- ***ARS*** (*Access Requirement String*) security provides the most flexible, comprehensive, and user friendly security available in the BBS software industry
- Post/Call ratio, connect rates, time of day, and other user data fields can be elements of any *ARS* security field
- Impenetrable to remote hackers
- 100 security levels with 104 sysop configurable flags per user
- Sysop can allow or disallow users to choose their own passwords
- Sysop can force periodic password changes (uniqueness is also forced)

Customization

- Programmable Command and Menu Structure:
  Includes free Baja shell/module compiler
  Users can select a shell of their choice including emulations of other BBS packages
  Several shells included with Baja source code

- The most configurable BBS available today:
  Powerful object oriented menu driven configuration program
  All menus, text, and colors are sysop configurable without source code
  New User Questionnaire is available and customizable
  All standard new user questions can be disabled individually
  Over 120 message variables (@-Codes) supported

Messaging

- Hierarchical bi-level message areas with an unlimited number of messages groups and an unlimited number of sub-boards within each group

- QWK message off-line reader and networking support built-in
  Off-line file requests
  Off-line new message scan configuration and pointer adjustment
  Send *FidoNet* or Internet NetMail from QWK REP packet
  32-bit CRC duplicate message checking
  Multiple compression formats supported
  File attachments optionally automatically included

- Inter-node message services:
  Current node status - user online, action, connect rate, and more
  User activity - credited downloads, mail activity, logons, and logoffs
  Users can list active nodes and send private messages from any prompt
  (even between external programs and the BBS)
  Multi-channel multi-node chat with optional channel password protection
  Private real-time node to node character by character chat with remote split screen support
  Users can send telegrams, single line messages, or enter private chat from any prompt
  User information (gender, age, location, etc) can be included in node status display

- Extensive networking capabilities:
  Internal QWK network hub and node support with file transfer ability
  FidoNet EchoMail and NetMail support
  Send/Receive File Requests from within Synchronet
  UTI drivers for *PostLink* Networks (RIME, ILink, etc)
  Sub-boards can force real names
  Allow/disallow/force private posts and anonymous posts per sub-board
  Supports color codes for *WWIV*, *PCBoard*, *Wildcat*, and *Celerity*
  Support for multiple networks of the same or different network technologies with different addresses and tag/origin lines
  Duplicate message checking using 32-bit CRC for QWK and *Fido* Networks

File Transfers

- Unlimited external transfer protocols with optional DSZLOG support
- Batch uploads, downloads, and bidirectional file transfers
- Transfer credit system is completely configurable
- File viewing, extraction, and partial downloading of archives
- Content rating, multi-disk numberings, and file upload dates can automatically be added to file descriptions
- ***FILE_ID.DIZ*** and ***DESC.SDI*** files can be automatically imported into extended file descriptions
- Personal user to user file transfers
- Optional batch download file flagging for user convenience
- Support for offline directories
- Multiple sysop file removal/move/edit search criteria
- Directories can be sorted by filename or date, ascending or descending
- Complete CD-ROM (single and multi-disk changer) support
- Optional forced upload directory can be invisible to users
- Optional allowance of blind (unsolicited) batch uploads with automatic DIZ importation
- Download events available for adding files/comments just before download (i.e. CD-ROM)

External Programs/Doors

- Unlimited number of external programs
- Multi-user or single user programs
- Programs that use DOS I/O (don't use COM port directly) supported
- 12 door file formats supported for an incredible level of compatibility including: ***DOOR.SYS***, ***PCBOARD.SYS***, ***USERS.SYS***, ***CHAIN.TXT***, ***DORINFO#.DEF***, ***EXITINFO.BBS***, ***SFDOORS.DAT***, ***TRIBBS.SYS***, ***CALLINFO.BBS***, ***DOORFILE.SR***, and ***UTIDOOR.TXT***
- Supports native ***WWIV*** color code expansion
- Free Software Development Kit (SDK) available for program development
- Comes with multiplayer Synchronet Blackjack game (with C source code)
- No batch file editing/programming necessary!
- Configurable credit cost on a per program basis
- Separate access requirements to see the program and execute
- Multiple Timed and Fixed Events:
  Logon and logoff events
  New user events
  Upload events (integrity testing, adding of comments, virus scan, etc.)
  Node and system daily events
  Timed events with support for forced exclusive execution

Version 3 (for Win32) Features

General

- All "nodes" run in a single multi-threaded process
  - Minimal resource requirements and improved performance
  - DOS Windows are automatically opened/closed for external DOS programs/doors
  - It's never been easier to run a 10+ node system (with DOS door support) on one computer
- Professional GUI *Synchronet Control Panel* (SBBSCTRL) to monitor all clients and servers simultaneously
  - Replaces old "*Waiting for call*" screen
  - Launch configuration and editor dialogs directly
  - New Sysop Availability toggle button (replaces v2.3 Scroll-Lock function)
- GUI User Editor
- Local and Remote Node Control/Spying
- Optionally plays sysop's choice of ***.WAV*** file on user connect/disconnect

Internet

- Supports Telnet logins only (no more direct-dial user support)
  - No third-party FOSSIL/Telnet driver (SIO/VMODEM, NetModem, COM/IP) required
  - Full FOSSIL/DOS/WWIV/XSDK program/door support (easy setup!)
  - Outbound Telnet module included for external MUDs/BBSs
  - Automatically detects and logs client IP and hostname
  - Optional auto-logon via IP address (requires V exemption)
- Integrated FTP server
  - Supports Anonymous (Guest) logins
  - Virtual directory structure mimics BBS filebase hierarchy
  - User security settings enforced
  - Supports long/mixed-case filenames
  - Dynamically generates index (description) files
  - Supports blind upload and sysop directories
  - QWK/QWKnet packet uploads and downloads
  - Upload description support
  - Transfers included in BBS and user upload/download statistics
  - Time/Credit system enforced
  - Custom login/hello/goodbye messages
  - Optional connect/disconnect sounds (.WAV files)
  - File aliases supported
    - Put links in your FTP root directory to often access files
    - Link to files on your local hard disk or your BBS filebase
    - Use general alias names to point to often-changing versioned filenames
  - Complete access to local file systems for remote sysops
- Integrated Mail (POP3/SMTP) server
  - Check BBS mailbox using standard Internet mail clients (Eudora, Outlook)
  - SPAM Filters supported: RBL, RSS, DUL
  - Configurable alias list

  - Optionally receive mail by user number (1@yourbbs.com)
  - Optional inbound/outbound sounds (.WAV files)
  - Optional DNS/MX record lookup (no SMTP Relay Server required)
- Outbound Telnet/RLogin gateway function to run external MUDs, BBSs, and TWGS
  - Includes any-time ^] menu to see who is on the BBS, send messages, etc.
- IP/hostname filter/trashcan files (ip.can/host.can) for all Internet servers/services

Online Programs

- 16-bit DOS Door Support
  - Windows 95/98/ME FOSSIL/DOS Interrupt driver (sbbsexec.vxd)
  - Windows NT/2000 FOSSIL/DOS Interrupt driver (sbbsexec.dll)
- 32-bit/WinSock Door Support
  - Duplicate socket handle passed in ***DOOR32.SYS*** drop file (new standard)
  - Duplicate socket handle passed on command line via %H specifier
  - Support for external programs written with 32-bit XSDK (v3+)
- Most popular DOS doors fully supported
  - Users can be ;INTERrupted while running ANY external program
  - Non-exclusive events do not take any nodes off-line
  - No more hassling with baud rates and initialization strings
  - DCDWATCH no longer necessary to support WWIV/DOS externals

Version 2 (for DOS) Features

- Enhanced *DESQview*, *Windows*, and *OS/2* operation modes
- Runs under DOS 3.0 or higher on any 80x86 compatible computer with 450k free RAM
  - BBS can shrink to 288 bytes to execute external programs
- Interrupt driven COM I/O for the fastest through-put possible
  - even with multiple nodes per CPU via a DOS multi-tasker
- Any COM port configuration supported (Intelligent and Non-Intelligent Boards)
  - Direct UART support as well as DigiBoard, FOSSIL, and PC BIOS int 14h drivers
  - Automatic modem configuration for most modem brands and types
- DTE rates up to 115,200 baud
- Caller-ID support with optional trash-can file
- 48 Local macros and sysop function hot-keys

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[1.0] - Synchronet Installation Instructions

Finding the Latest version of Synchronet

You can find the latest released public distribution of Synchronet at http://www.synchro.net.

Versions and Supported Platforms

Synchronet is currently available in two separate major versions:

- **Version 2.3 for DOS and OS/2**
  Supports serial/modem and local logins
  Native 16-bit and 32-bit console mode executables
  Single node per instance (up to 250 total)
  Version-specific features are noted with: ***(v2 Only)***
- **Version 3.0 for Win32 (Windows 95/98/ME/NT/2000)**
  Supports TCP/IP logins only
  Native 32-bit DLLs and GUI front-end application
  Up to 250 nodes per instance
  Version-specific features are noted with: ***(v3+ Only)***

All configuration and data files are compatible between version 2.3 and 3.0 so you can combine instances of different versions to create a single "hybrid" BBS.

Upgrading to a Newer Version of Synchronet

Because of the many variances when changing to a different version or revision of Synchronet, this topic is not covered here. When upgrading an existing Synchronet installation to a newer version or revision, you should **ALWAYS** consult the upgrade documentation included with the distribution (usually in the form of an UPGRADE.TXT file). Upgrade-only distributions are usually made available in a more compact archive form (e.g. **sbup300c.zip**).

Windows 95/98/ME/NT/2000 Installation

After downloading the Synchronet distribution file (e.g. **sbbs300c.zip**), you will need to extract the archive file that you downloaded into a temporary directory on your hard drive. You will need WinZip or an equivalent archive program to uncompress and extract the installation files.

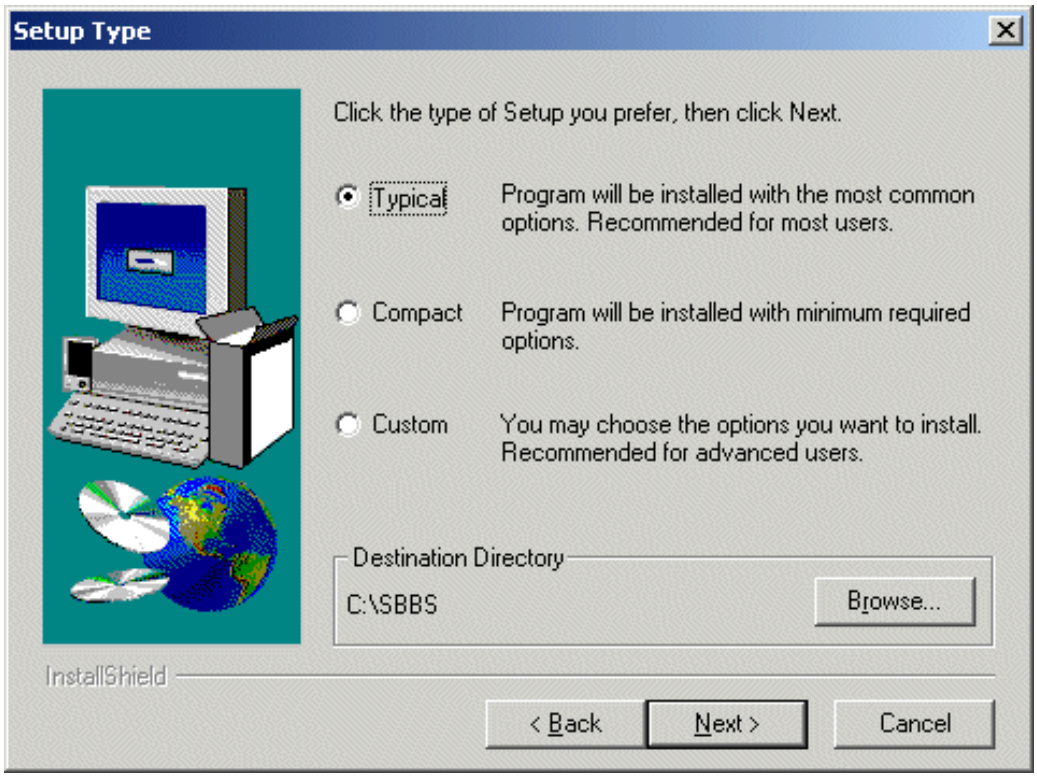
Once you've extracted the installation files, go to the directory you extracted the compressed files to and run **SETUP** to start the installation.

The default installation directory is recommended for most users. If you choose to change the installation directory, it is **critical** that you **DO NOT** use a path with long filenames or spaces as Synchronet still relies on some 16-bit DOS utilities which require DOS-compatible 8.3 file and directory names to function. It is recommended you use a directory named *SBBS* off of the root directory on one

of your hard drives (e.g. **C:\SBBS**).

You should now be at the Setup Type Installation menu. Choosing a *Custom* setup from this menu, will allow you to select the items that you want (or don't want) installed. If you are upgrading an existing installation of Synchronet (v2.3 or v3.0), it is advised that you choose *Custom* Setup and disable the following installation components:

- Configuration Files
- Text and Menu Files
- External Programs

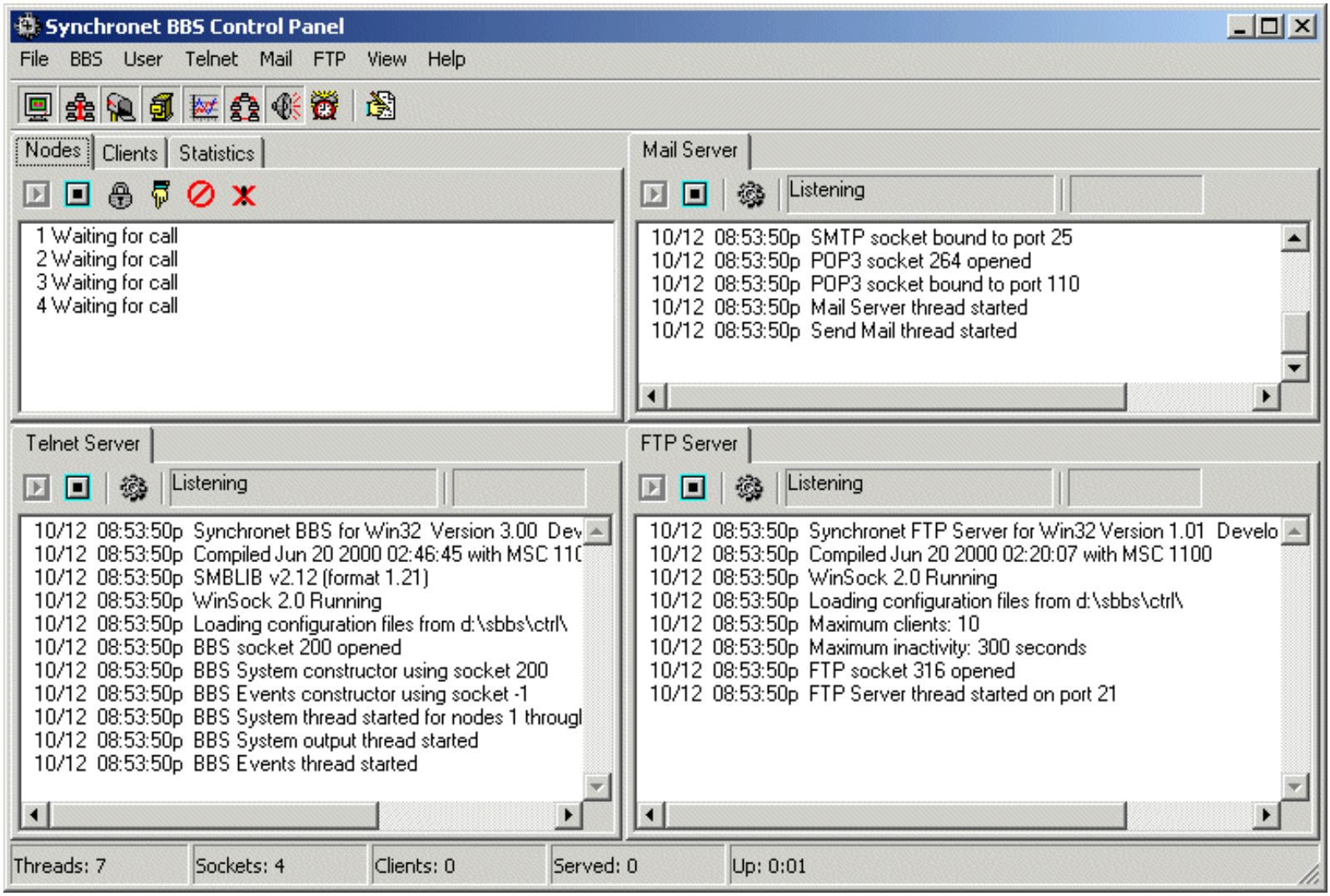


After completing your selection and the installation is completed you will find a new Icon on your Desktop and in your StartUp Folder in your Start Menu. If you do not want Synchronet to start automatically during boot, you may safely delete the Synchronet shortcut from your StartUp Folder.

[1.1] - Getting Started

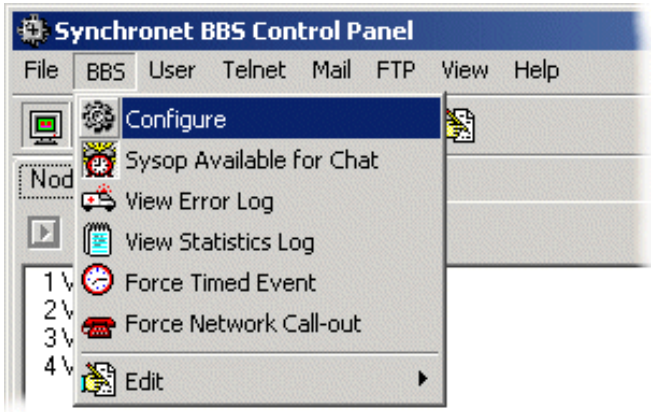
Getting Started with v3.0 for Win32

Upon Executing Synchronet the screen will look something like the one below.



After starting Synchronet for the first time there will be several pop-up windows that are running programs and events required before the system can be used.

The last window that opens will start the Synchronet Configuration Program (SCFG). To run SCFG again later you can load it from the *Synchronet Control Panel* (SBBSCTRL) by selecting *BBS* and then *Configure* from the menu bar.



Before putting the system online you should configure your BBS with SCFG to set your system options and settings according to your preferences. It is recommended you spend some time reading and becoming familiar with your configuration and the many options available.

After completing configuration you should then follow the proper steps to add a sysop account. Once you create the account you should become familiar with the Synchronet User Editor and set the security settings for the account(s) you have created.

Once you have completed the initial setup of your system and sysop account, you have a basic functioning Synchronet BBS System. Please refer to the rest of the documentation to finish the setup of your new BBS System.

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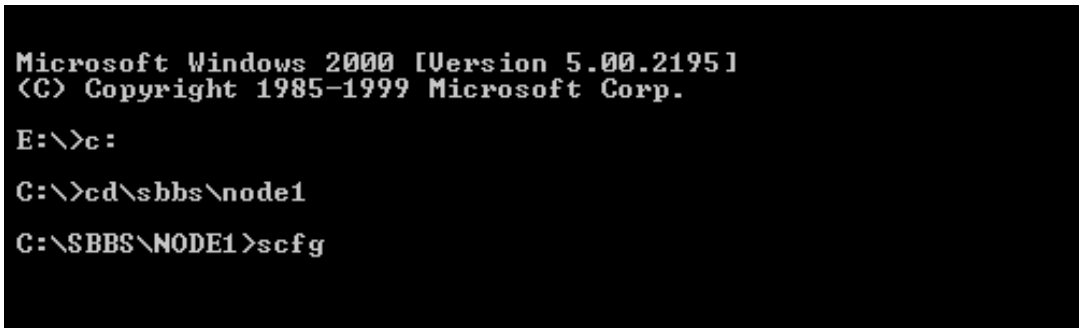
Getting Started with v2.3 for DOS and OS/2

Before putting the system online you should configure your BBS with SCFG and set your system options and settings according to your preferences. It is recommended you spend some time reading and becoming familiar with your configuration and the many options available.

SCFG is the Synchronet Configuration Utility which can be executed from the "*Waiting for call*" screen by hitting '**C**', or from DOS by typing **SCFG** from any node directory. Example:



After completing configuration you should then follow the proper steps to add a sysop account. Once you create the account you should become familiar with the Synchronet User Editor and set the security settings for the account(s) you have created.

Once you have completed the initial setup of your system and sysop account you have a basic functioning Synchronet BBS System. Please refer to the rest of the documentation to finish the setup of your new BBS System.

Copying Utilities

Synchronet has a specific sub-directory for executable programs (**EXEC**). You need to copy all utilities that the BBS will run into this directory (this does not mean Doors or Online Games). For example, you need to copy *PKZIP.EXE* and *PKUNZIP.EXE* into your EXEC directory. If you plan on supporting other archive/compression programs on your BBS, you should copy these programs into the *EXEC* directory as well. Any file transfer protocol programs need to be copied into your *EXEC* directory. Synchronet comes with an unregistered copy of *FDSZ* (*DSZ* for the DOS and OS/2 versions). If you have a registered version of *DSZ/FDSZ*, copy it into the *EXEC* directory as well.

[1.2] - How to Get Help

There are a number of avenues that can be used to find help on Synchronet.
This list is but a small one of the available resources:

Synchronet Homepage : http://www.synchro.net

Support BBS (Vertrauen) : telnet://vert.synchro.net

Echomail support:
FidoNet (zone 1) : **SYNC_SYSOPS** - Synchronet BBS Software Discussion

[1.3] - About this manual

This manual is an ongoing work in progress. As Synchronet is constantly evolving, so is this manual. This manual will give you comprehensive information about installing, configuring, updating, and maintaining your Synchronet system.

The manual is currently maintained in an Open Source manner. If you have any questions or concerns about the manual, please direct them to : syncdocs@wasteland-bbs.com

Updates for this manual can be found periodically on http://vert.synchro.net/docs or at the Synchronet Documentation Project (http://wasteland-bbs.com/syncdocs/).

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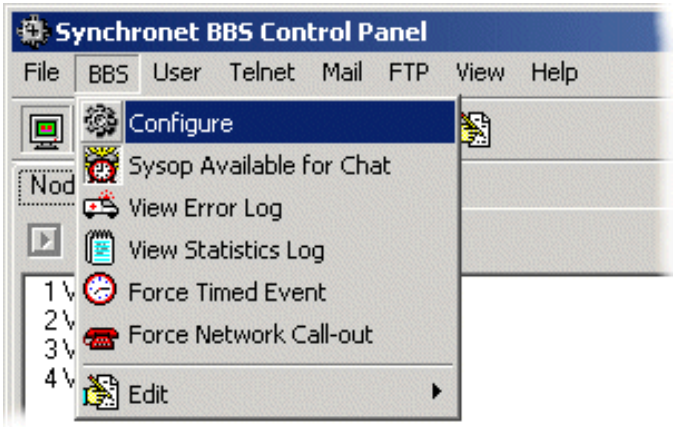
[2.0] - System Configuration

SCFG is the Synchronet Configuration Utility. It is a stand-alone console mode application currently available in the following forms:

- SCFG.EXE - 16-bit DOS application
- SCFG32.EXE - 32-bit extended-DOS/Win32 application
- SCFG4OS2.EXE - 32-bit OS/2 application

To run SCFG from Synchronet for Win32 Control Panel, select *Configure* from the *BBS* sub-menu on the menu bar.



SCFG can be executed from the **v2** "*Waiting for call*" screen by hitting '**C**' or from DOS by typing **SCFG** from any node directory. Example:

```
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-1999 Microsoft Corp.

E:\>c:

C:\>cd\sbbs\node1

C:\SBBS\NODE1>scfg
```

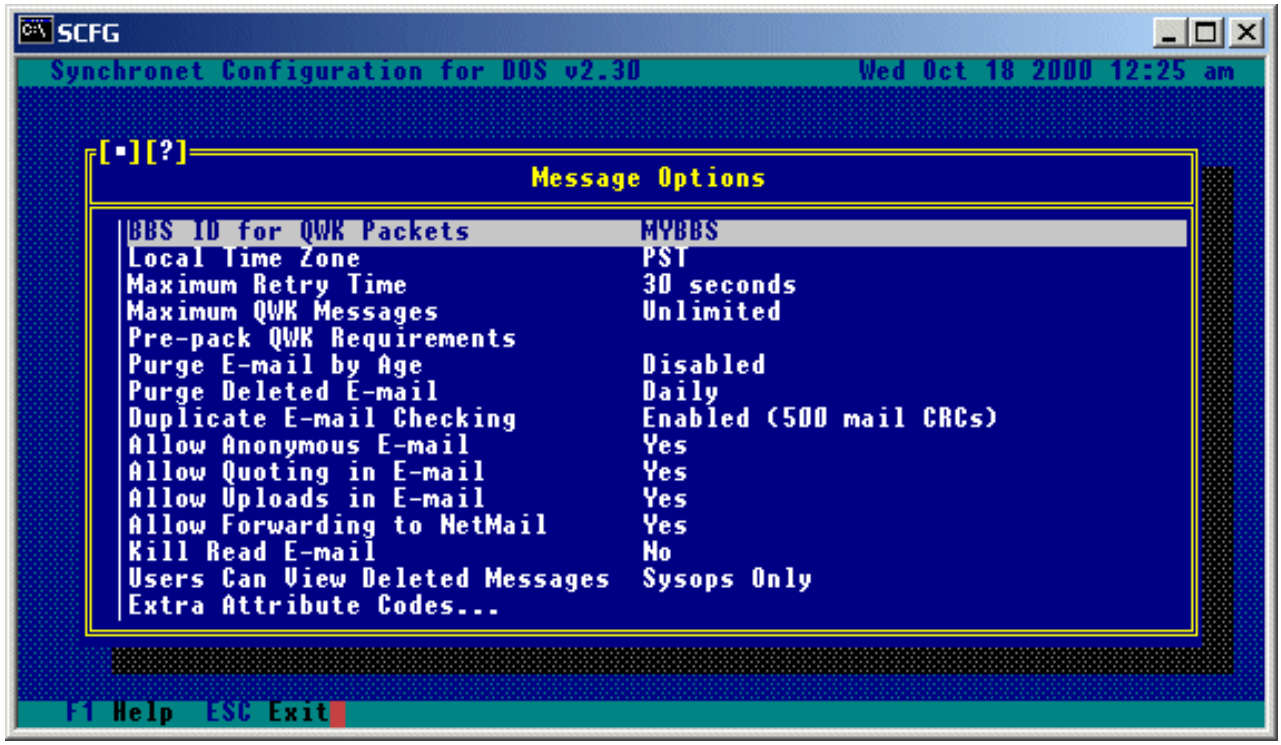
Once SCFG has initialized, you will see a main menu titled "Configure" which looks something like this:

To manipulate the light-bar, use the *UP* and *DOWN ARROW* keys or type a letter or number in the option you wish to highlight. To highlight the first option of the menu, hit the *HOME* key. To highlight the last option of the menu, hit the *END* key. You'll notice that if you hit *UP ARROW* key when the light-bar is at the first option of the menu, the last option will become highlighted. This wrap effect also occurs when hitting the DOWN ARROW key when the light-bar is at the last option of the menu. To select the current highlighted option, hit *ENTER*. To exit SCFG, hit the *ESC* key.

Under "System", set your system's name (BBS Name), the sysop's name (You), the system location (City, State), and system password. The system password you enter here will be required for any remote sysop operations and is prompted for with an "**SY:**" prompt. Under "Message Options", set your system's QWK ID (Up to 8 character BBS name abbreviation). Under "Toggle Options" set "Allow Aliases" to "Yes" or "No" depending on if you want users to be known by their real names on your BBS or a personal alias.

Remember that at any time within SCFG, you can hit the *F1* key to get online help about the current configuration window. Following is a more specific list of the commands available in the SCFG under System options.

[2.1] - Message Options



BBS ID for QWK Packets:
This is the ID that will be used in QWK packets. It is important that you set this to an abbreviation of your BBS name before users start using the QWK functions of your BBS. Only valid DOS filename characters can be used and the ID must begin with an alphabetic character. This ID will also serve as your system's QWK Network address, should you choose to join a QWK message network.

Local Time Zone:
This should be set to the time zone where your BBS is located.

Maximum Retry Time:
This is the maximum number of seconds the Synchronet message base library will wait for a locked message base to become unlocked. Under normal conditions, message bases are only left locked for an extremely short period of time.

Maximum QWK Messages:
This is the maximum number of messages which will be packed when a QWK packet is created. If the number of new messages to be packed exceeds this, the packing will be stopped after packing this number of messages. Setting this value to 0 sets the number of messages per packet to unlimited. Private e-mail is not included in the total number of messages and QWK network nodes are automatically exempt from this maximum.

Pre-pack QWK Requirements:
If this option is used (not blank), Synchronet will pre-pack any new messages into a QWK packet in the DATA\FILE directory for each user that meets this requirement. When that user calls to download their packet, it will automatically extract the pre-packed QWK (if it exists) and append to it. It is mainly intended for QWKnet nodes that feed from your BBS, but can also be used for long distance users that

wish to save connect time and always read their messages via QWK.

Purge E-mail by Age:
This will allow electronic mail for your users (stored in DATA\MAIL.*) to be purged after a specific number of days (read or unread).

Purge Deleted E-mail:
This option can be set to "Daily" or "Immediately". If set to "Immediately", e-mail marked for deletion will be physically removed from the e-mail database immediately after the user exits the reading mail menu. If set to "Daily" (the suggested setting), e-mail is marked for deletion isn't physically removed from the database until the automatic daily event executes (sometime after midnight).

Duplicate E-mail Checking:
This option allows the setting of a number of message CRCs to be kept to check e-mail to insure that it is not a duplicate of another piece of e-mail. This option should be set to 0 (disabled) unless you specifically want duplicate e-mail disallowed, in which case a value of 2000 should be sufficient.

Allow Anonymous E-mail:
Setting this option to Yes will allow users with the 'A' exemption to send anonymous e-mail.

Allow Quoting in E-mail:
To allow users to quote from e-mail, this option should be set to Yes.

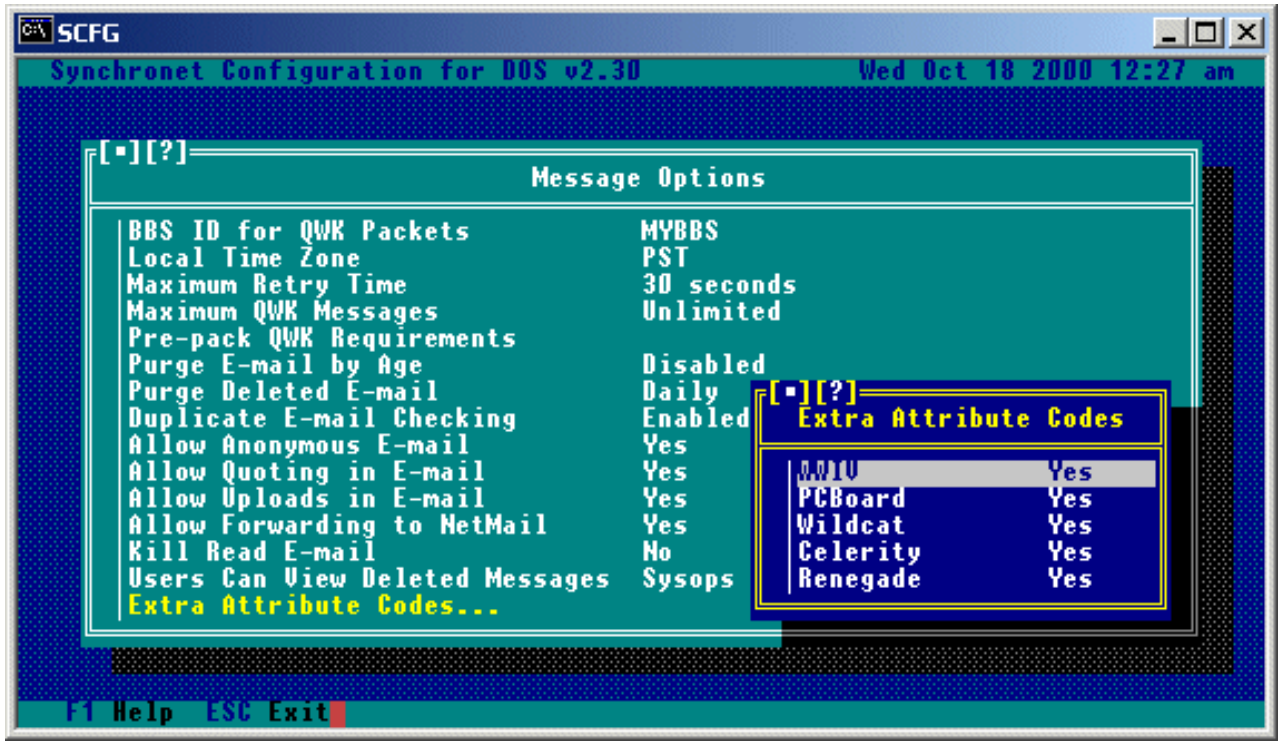
Allow Uploads in E-mail:
To allow users to attach files to e-mail, this option must be set to Yes.

Allow Forwarding to NetMail:
If you allow users to send NetMail on your BBS and want to allow your users to set their account to forwarding their e-mail to a NetMail address, set this option to Yes.

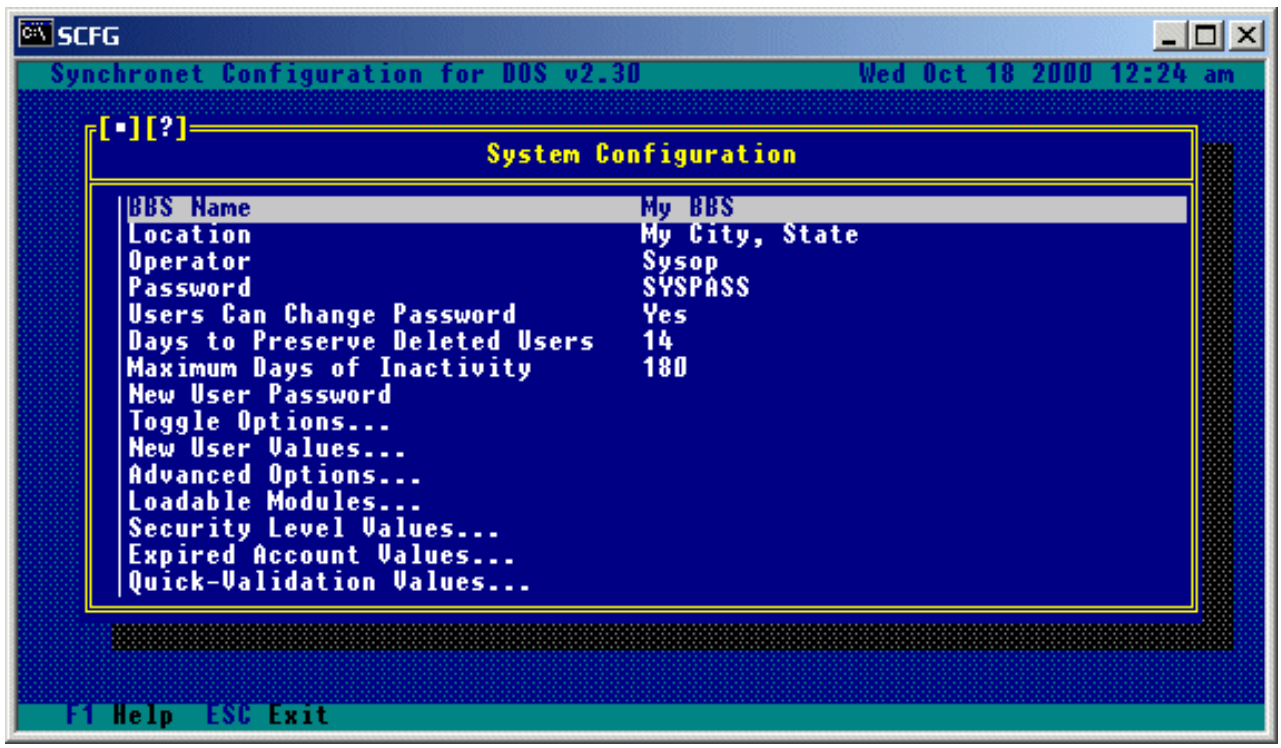
Kill Read E-mail:
If you would like to have any e-mail that has been read by the recipient automatically deleted by the message base maintenance program (SMBUTIL) set this option to yes.

Users Can View Deleted Messages:
This option allows all users or sysops/sub-ops the ability to view messages (posts/e-mail) marked for deletion (and optionally undelete them) before they are permanently removed from the message base.

Extra Attribute Codes...:
This option will give you a sub-menu of toggle options. These options tell Synchronet whether or not it should interpret color codes which are supported by other BBS packages.



[2.2] - System Options



BBS Name:
This is the name of the BBS.

Location:
This is the city, state and/or other pertinent location information.

Operator:
This is the name of the system operator. Doesn't have to be the same

as user #1.

Password:
This is the super-secret system password that only sysops should know.

Users Can Change Password:
If you want enhanced system security, it is suggested that you force users to keep the original randomly generated password they were assigned by setting this option to No. If you do allow users to change their passwords, you can make them change their password periodically with this selection.

Days to Preserve Deleted Users:
If a user is deleted, his slot will be preserved for this many days since his last logon date. Preserved slots will not be written over by new users. Preserved slots may be undeleted by the sysop.

Maximum Days of Inactivity:
If you wish that users that haven't logged on in a certain number of days be automatically deleted, set this value to the maximum number of days a user can be inactive before he is deleted. Users can be exempted from the automatic deletion with the 'P' exemption. Setting this value to 0 disables this feature (Unlimited inactivity).

New User Password:
If this field has a value, new users will have to enter this password correctly before being able apply for access.

[2.3] - System Toggle Options

Selecting this option will bring you to the following sub-menu:

Allow Aliases:
If you wish the users of the BBS to be allowed to use aliases publicly,

set this option to Yes.

Allow Time Banking:
Set this option to Yes to allow users to store their time in a time bank, or to convert their credits to time via the BBS.

Allow Credit Conversions:
Setting this option to Yes will allow users to be able to convert credits to time.

Allow Local Sysop Access *(v2 Only)*:
To be able to perform sysop actions locally, this option should be set to Yes.

Allow Remote Sysop Access:
To be able to perform sysop actions remotely, this option should be set to Yes.

Echo Passwords Locally *(v2 Only)*:
If this option is set to No, all BBS passwords will not be displayed locally (characters will be replaced by an X). This includes passwords entered during logon, passwords in the user editor, as well as passwords normally displayed on the status line.

Require Passwords Locally *(v2 Only)*:
If this option is set to No the BBS will not ask for a password to be entered when performing local operations.

Short Sysop Page:
If set to Yes, this sysop page will be a short series of beeps, otherwise a continuous sysop page will be used.

Sound Alarm on Error:
If the above option (beep locally) is toggled off, but you still wish to have errors produce an audible alarm, you should toggle this option to Yes.

Include Sysop in Statistics:
It is suggested that you set this option to No, so that the sysop's activity on the BBS is not included in the usage statistics.

Closed to New Users:
If you wish to disallow access to any new users, set this option to Yes.

Use Location In User Lists:
If you wish the location (City, State) of the user to be displayed in user listings instead of the user note, set this option to Yes. Setting this option to No will display the user's note (sysop created) if one has been created. The option should be set to Yes if using Caller-ID since the user's note may contain their phone number.

Military (24 hour) Time Format:
Use this option to toggle your BBS between 12 and 24 hour time formats.

European Date Format (DD/MM/YY):
This option should ONLY be toggle to Yes if you are in a European country which uses this date format. All countries using the MM/DD/YY format should leave this option set to No. If your BBS has been running for any length of time with this option set to No, you should NOT change it to Yes.

User Expires When Out-of-time:
Useful for BBSs which charge users based on time, this option, when set to Yes, will set a user to the expired account values once the user's time runs out.

Quick Validation Hot-Keys *(v2 Only)*:
If this option is set to No, the quick validation hot keys will be disabled.

[2.4] - New User Values

This option allows you to modify the security values assigned to a new user after he completes his validation feedback. You can also set the number of credits and minutes new users start off with. If you have configured an alternate command shell or external editors, you may select one of these as the default for new users. See User Edit for more information about user account values.

The 'Default Toggles' are used to set the account defaults that users will have when they log on to the system as a new user. These account defaults can be changed by the user at logon, or while on the system from the user defaults menu.

The 'Question Toggles' are used to enable/disable the different questions which new users will be asked when logging on to the BBS. The 'Force Unique...' question toggles are used to force users to pick a string that is not being used by any of the other users currently in the system user list.

[2.5] - Advanced Options

New User Magic Word:
If this field has a value, it is assumed the sysop would have put some reference to this "magic word" in NEWUSER.MSG and the user will be prompted for this after he enters his own assigned password. If he doesn't enter it correctly, it is assumed he didn't read the text displayed to him and he is disconnected.

Data Directory:
This is the path to the directory where all the data files for SBBS are stored. This value should not be changed unless necessary.

Index Directory:
This is the path to the directory where all the index files for SBBS are stored. This value should not be changed unless necessary.

Executables Directory:
This is the path to the directory where all the executable files for SBBS are store. This value should not be changed unless necessary.

Input SIF Questionnaire:
This is the name of a SIF file that resides the text directory that all users will be prompted to answer upon logging on the first time. See SIF for more information.

Output SIF Questionnaire:
This is the name of the SIF file that is used by the sysop to view the users' answers to the input SIF questionnaire. If this value is left blank, the input SIF questionnaire is used. This output SIF questionable should be identical to the input SIF with the exception of the text content. See SIF for more information.

Credits Per Dollar:
This is the monetary value of a credit (How many credits per dollar). This value should be a power of 2 (1, 2, 4, 8, 16, 32, 64, 128, etc.) since credits are usually converted by 100 kilobyte (102400) blocks. To make a dollar worth two megabytes of credits, set this value to 2,097,152 (a megabyte is 1024*1024 or 1048576).

Minutes Per 100k Credits:
This is the value of a minute of time online. Credits can be converted to minutes by the user if allowed by the command shell. Credits are only converted in 100k (102400) blocks. This field is the number of minutes to give the user in exchange for the 100k credit block.

Maximum Number of Minutes:
This value is the maximum total number of minutes a user can have. If the user has this number of minutes or more, he will not be allowed to convert credits into minutes. A sysop can add minutes to a user's account regardless of this maximum. If this value is set to 0, the user will have no limit on the total number of minutes he can have.

Warning Days Till Expire:
When a users account is about to expire, the BBS will begin sending expiration warning messages to the users notifying them this many days in advance.

Default Status Line *(v2 Only)*:
This is the number of the status line that will be displayed by default at the bottom of the screen while the user is online.

Last Displayable Node:
This is the number of the last node that will be viewable by the users. Any nodes which exist above this number will be "invisible" nodes and cannot be seen by anyone.

First Local Auto-Node *(v2 Only)*:
When using the AUTONODE utility, this is the node number to begin searching at for an available (offline) node.

Phone Number Format:
This is the format which users will be required to use when entering their phone numbers.

Sysop Chat Requirements:
Any user meeting the criteria set here will be able to page the sysop regardless of the status of the sysop availability (Scroll Lock in v2.3).

[2.6] - Loadable Modules

The Loadable Modules options are used for loading Baja .BIN modules during various stages of the BBS operation. Selecting one of the functions will prompt you for the name of the Baja module to be used when that event occurs. See DOCS\BAJA.DOC for details on creating/modifying loadable modules.

Following is a brief description of when each of the Loadable Modules occur during the BBS operation:

Login:
This module is **REQUIRED** for remote and local logins. Occurs when a user is connected, immediately after the Synchronet copyright notice is displayed.

Logon Event:
Occurs immediately after Login (above).

Sync Event:
This is a Synchronization Event and occurs each time the BBS performs a node synchronization (e.g. when node messages are received, node status is read, etc...basically continuously while a user is online).

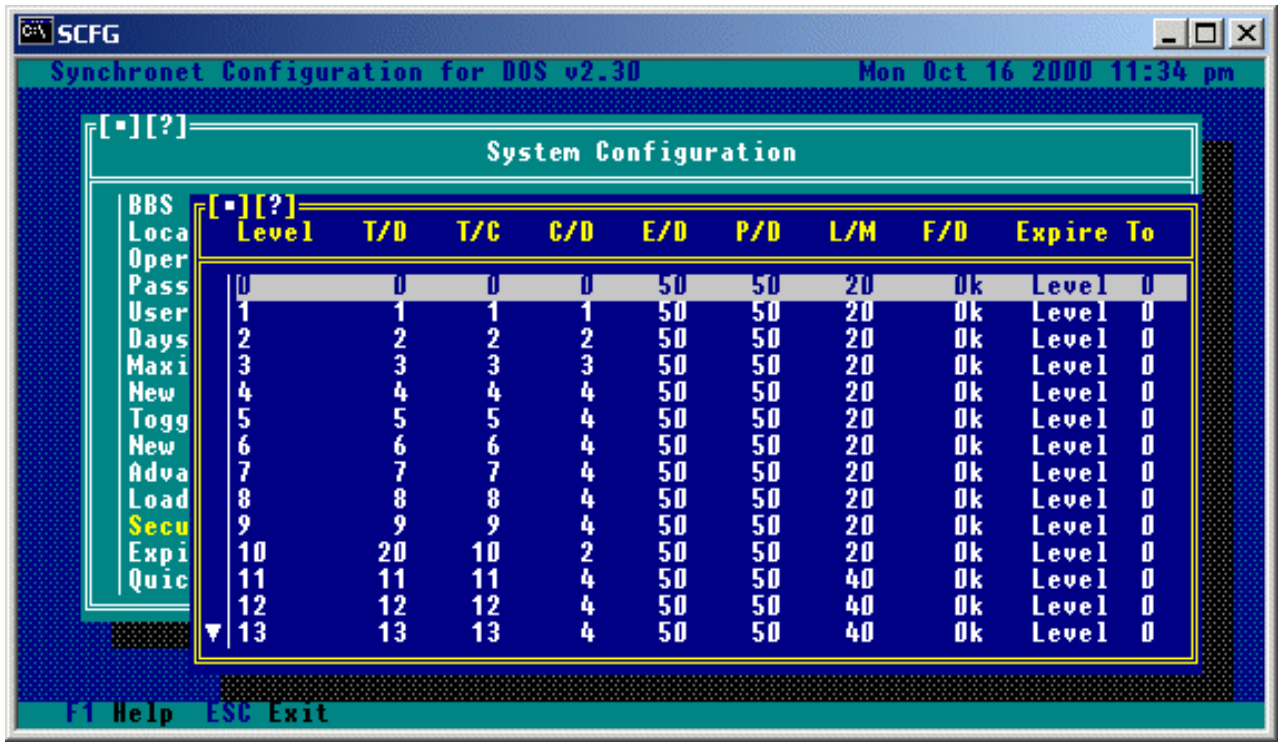
Logoff Event:
Occurs ONLY when a user does a slow logoff. Does NOT occur when users hang up on the BBS or do a fast logoff.

Logout Event:
This is an offline event that occurs after a user has disconnected from the BBS, either by logging off or hanging up.

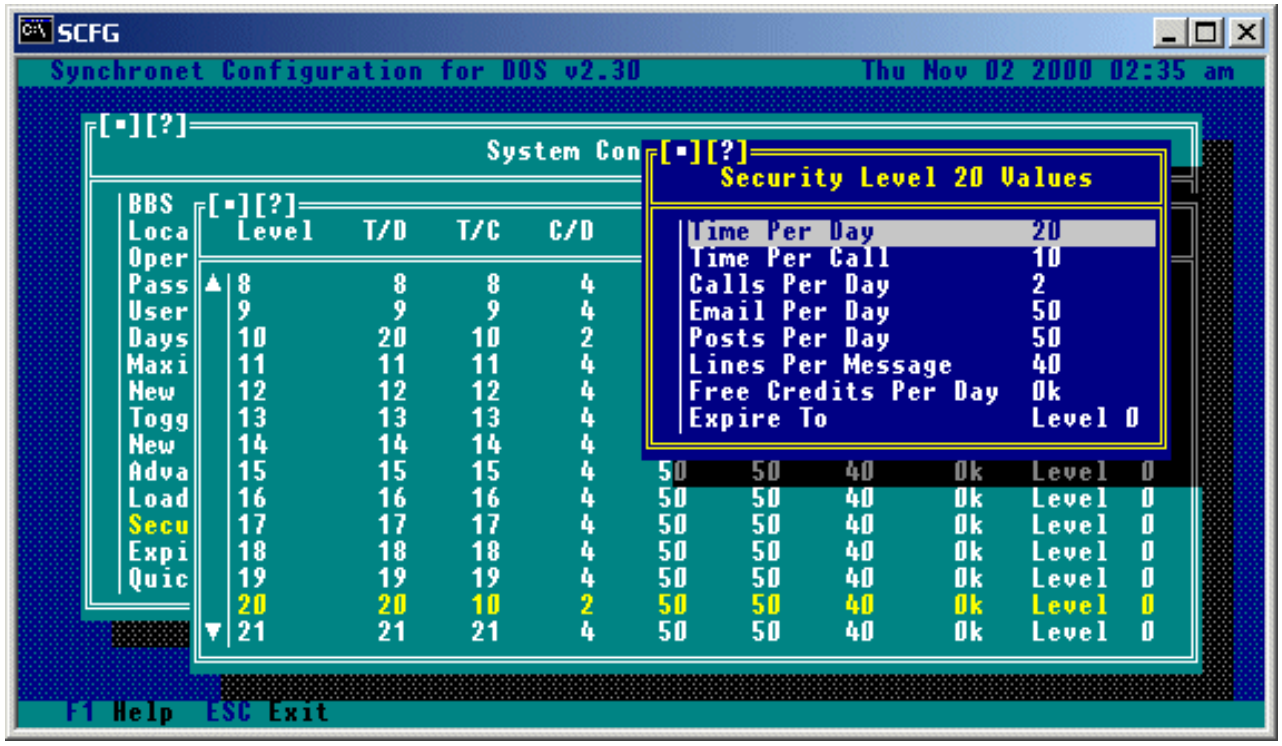
New User Event:
Occurs at the end of a new user procedure (e.g. after the user has logged on, left new user feedback, and anything else that is required of a new user).

Expired User:
This is an offline event that occurs during Synchronet's internal daily event (after the first caller at the beginning of a new day).

[2.7] - Security Values



This option allows you to define the values of the Security Levels (0-99). Selecting the desired security level will bring you to another menu similar to the following:



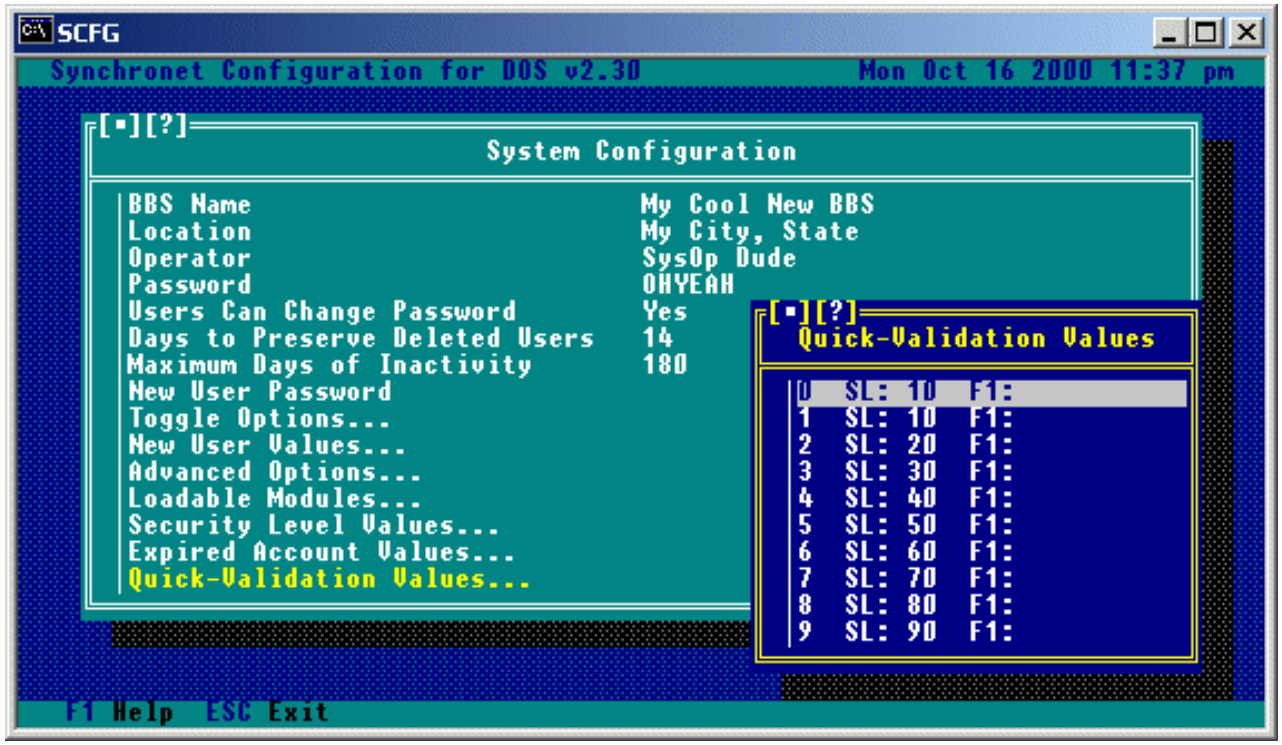
Here you can modify the corresponding values for that particular security level. These values will be given to ALL users who have the selected security

level. Many of these values may be overridden by giving certain users the necessary exemptions (if required).

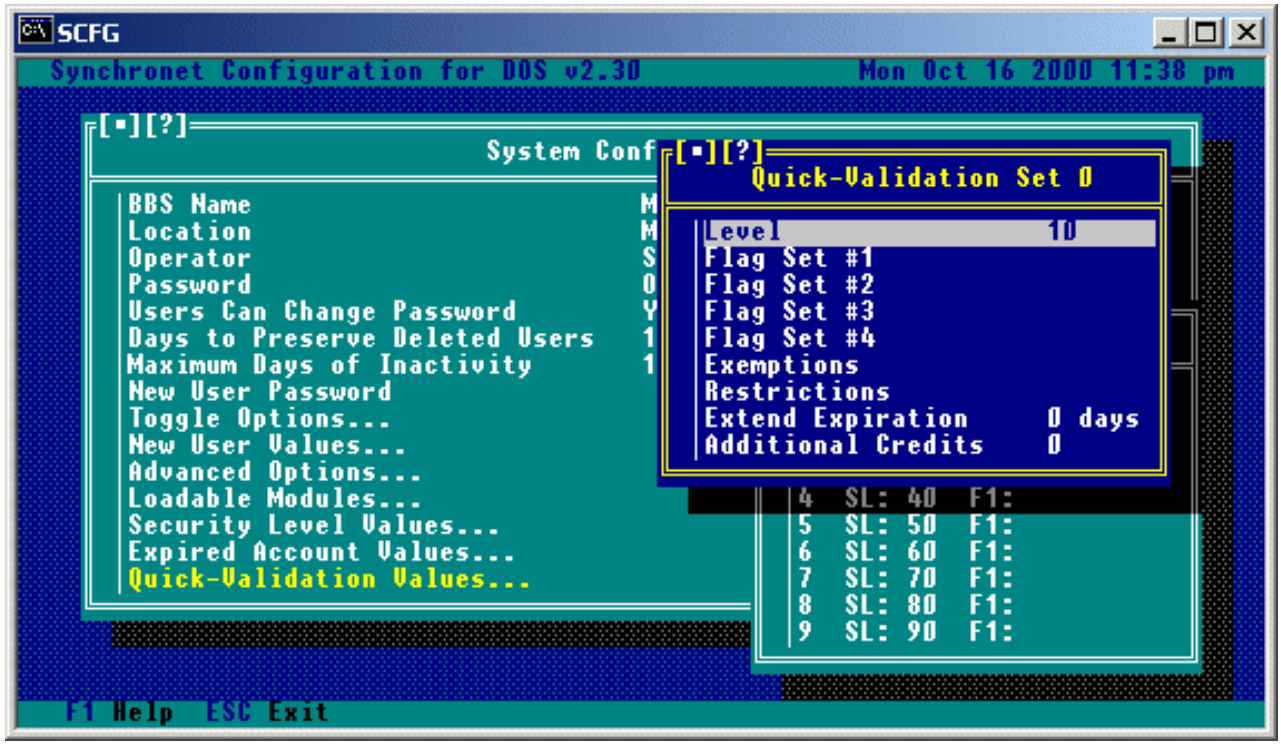
[2.8] - Expired Account Values

This sub-menu contains the account values for expired user accounts. When a user account expires, the information contained here will be applied to that user account.

[2.9] - Quick Validation Values



This is where you define the values of the quick-validation sets (0-9). Selecting a level from this list will bring you to another menu similar to the following:



These are used to quickly set a user's Level, Flags, Restrictions and Exemptions, as well as extend their expiration date and add credits to their account. A user can be quick-validated by hitting Alt-(0-9) while the user is online, or with the 'V' command from User Edit.

[2.10] - Creating User Accounts Locally *(v2 Only)*

Exit the configuration program and run SBBS from your NODE1 directory. When you get a menu that says "Synchronet Version xx" (Wait For Call screen), hit SPACE BAR to logon. Answer 'Y' to the Logon (Y/N) prompt. At the NN: prompt, enter "NEW" to create a new account. Answer the questions until you get to the BBS main menu and then logoff the BBS.

Repeat this process for any other user accounts you wish to create. Be sure to give out high access levels and exemptions very carefully.

[2.10.1] - Creating a Sysop Account

Follow the above steps to create a user account. Once you are back at the WFC (Wait For Call) screen, press 'U' and go to the account that you've created. You should give this account (the main sysop account) all of the different flags and exemptions (no restrictions), and a level of 99 (use '?' to help find the keys to select the different options).

NOTE: Users with levels of 90 and above have SYSOP access.

TIP: To logon from the wait for call screen quickly, hit SPACE, then 'F' for fast sysop (user #1) logon.

TIP: To keep your logons from being written to the logon list, turn "Default to quiet mode" on from the Default Configuration menu. If you want users to see that you're online, you can toggle quiet mode off/on with the ";QUIET" sysop command from the Synchronet main menu.

[2.10.2] - Creating a Guest Account

Follow the above steps to create a user account. Once you are back at the WFC (Wait For Call) screen, press 'U' and go to the account that you've created to be used as your Guest account. Change the Real Name field of the account to 'Guest', and give this account the access that you feel is necessary for a Guest user to have (along with any Restrictions that may be necessary). Select the Password field, and make it blank (this will allow Guests to log on by simply entering GUEST at the NN: prompt without the need for a password).

If you have certain areas on your BBS which are restricted by age, you may wish to modify the Birth-date field of the Guest account as necessary.

You may also wish to (from the SCFG program under Nodes->Node#->Logon Prompt) modify the logon prompts of your nodes to read something along the lines of 'Enter Name, Number, New, or Guest', so that users will be aware that there is a Guest account available for them to use. You can also place a note informing users of the Guest account in your BBS's ANSWER screen.

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Synchronet BBS
Multinode Bulletin Board System Software

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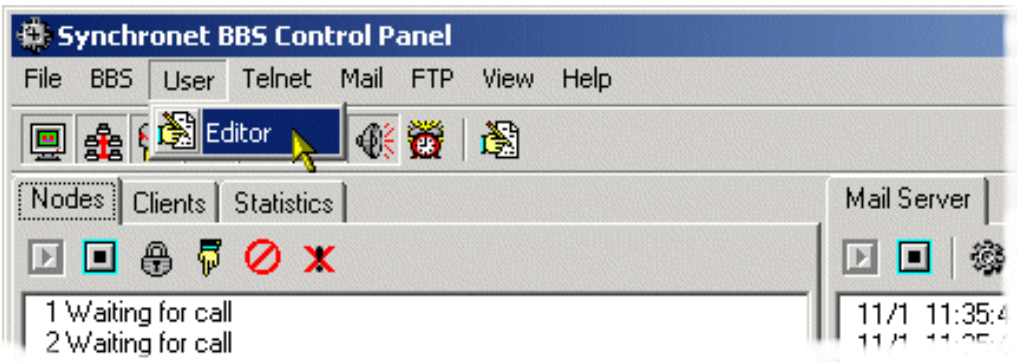
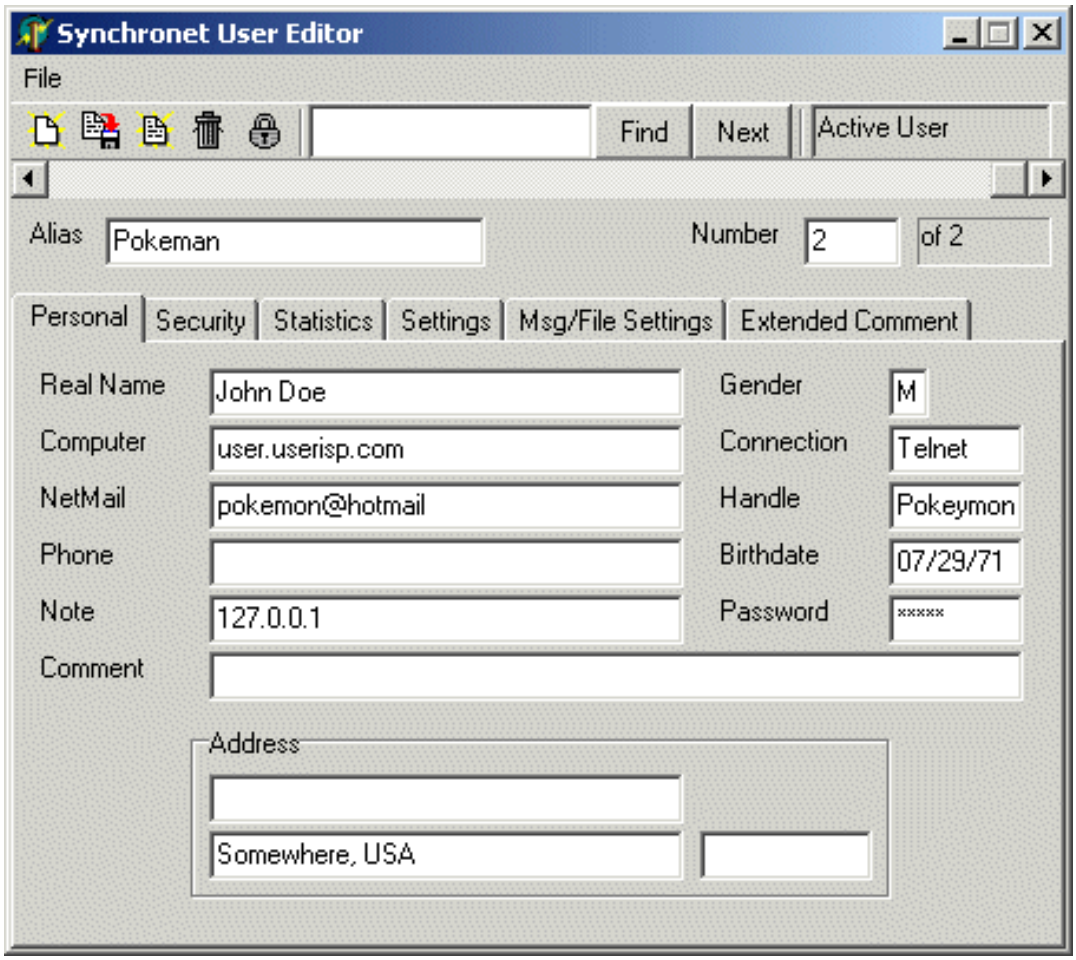
[6.1] - Using User Edit Locally

Graphical Synchronet User Editor ***(v3+ Only)***

The User Editor application can be executed from the menu bar of the Synchronet Control Panel as shown below.



Below is a screenshot of the GUI User Editor with a sample user and data shown. How this screen looks will vary depending upon your configuration and what data you decide to collect from new users. There are many options and settings available in the User Editor and you should spend some time getting familiar with this feature.



Online Synchronet User Editor

Alt-U ***(v2 Only)***

The sysop can locally hit Alt-U at any time within Synchronet to bring up the User Edit function with the user that is online as the current user to edit. After exiting User Edit, the sysop will return to the place where he was prior to hitting Alt-U.

U

At the Reading Mail or Reading All Mail prompts, hitting 'U' will pop the sysop into User Edit with the author of the previous message as the current user. Hitting 'U' at the Waiting for call screen will start User Edit. Hitting 'U' from the Reading Messages (O)perator menu will start User Edit too.

;UEDIT

Typing ';UEDIT' at either the Main or Transfer prompts will also pop the sysop into User Edit and if a user number or name is specified (e.g. ;UEDIT 20 or ;UEDIT BOB), then that user will be the current user.

[6.2] - Using User Edit Remotely

When a remote sysop initiates User Edit (with the U or ;UEDIT command), User Edit functions a little differently than when a local sysop initiates it. A remote sysop cannot raise any user's Level above his own and can't give a

user any Flags or Exemptions that he/she doesn't have. A remote sysop can not edit any information of any users with a Level higher than his own and their passwords, real names, and phone numbers aren't displayed to him/her.

User Edit Screen Example:

```
Alias     : The Albatross                  Password     : MYPASS    10/12/91
Real Name : Joe Schmoe                     Phone number : 714-555-1212
Address   : 404 N.S. West Ln.              Age/Sex/BD   : 31 M 03/08/61
Location  : Irvine, Ca                     Zip Code     : 90001
Note      :                                Handle       : J Schmoe
Computer  : 386DX-25 ISA SVGA 4 60 ST506   Modem type   : 14.4/V32

First on  : 07/19/91  Expire    : 12/18/95  Last on   : 09/12/92  20:13
Time on   : 2831      Today     : 0   105   Last call : 9   90    Extra : 0
Logons    : 156       Today     : 0   6     Posts    : 39  24    Today : 0
E-mails   : 22        To sysop  : 3         Waiting  : 0         Today : 0

Uploads   :         3,085 bytes in 1 files
Downloads :    90,389,401 bytes in 282 files
Credits   :     4,007,324 free: 0 (0 per day)
Minutes   :             0

Sec Level :
Flags #1  :   CD       L N              Flags #3  : AB  E
Flags #2  :       G                     Flags #4  :      F H
Exemption :                             Restricts :
```

User Edit Screen Explanation

The 1st line contains either the alias (if aliases are allowed) or the name of the user, the user's password, and the date the password was last modified.

The 2nd line contains the user's real name and the user's phone number.

The 3rd line contains address of the user, the user's age, sex, and birthday in the form MM/DD/YY or DD/MM/YY if European Date format is enabled.

The 4th line contains the user's location (normally City, State) and Zip (or postal) code.

The 5th line contains a public note about the user and the user's chat handle.

The 6th line contains the user's computer description and modem type.

The 7th line contains the user's private comment - only readable or editable by a sysop. If there is a '$' after the "Comment" label, then this user has a message file currently attached and is view/editable with the '$' command. If the comment is blank and there isn't an extended comment, this line is blank.

The 8th line contains the date the user was first on, the user's expiration

date, and the date and time the user was last on. Dates are in the form MM/DD/YY or DD/MM/YY if European date format is enabled.

The 9th line contains the total time (in minutes) the user has been online, how much time today, the maximum time he is allowed per day, amount of time on his most recent call, the maximum time he is allowed per call, and any extra time the user may have accumulated through file uploads.

The 10th line contains the total number of logons for this user, the number of logons today, the maximum number of logons this user is allowed per day, total number of messages posted by this user, the user's current post/call ratio, and total posts today.

The 11th line contains the total number of e-mails sent by this user, total number of e-mails sent to user #1, number of e-mails currently in user's mailbox, and the number of e-mails this user has sent today.

The 12th line contains the user's NetMail forwarding address. If the user doesn't have a NetMail forwarding address specified, this line is blank.

The 13th line contains the total number of bytes uploaded by this user and the total number of files.

The 14th line contains the total number of bytes downloaded by this user and the total number of files. If the user has had any suspected leech downloads, the number of leech downloads is displayed here too.

The 15th line contains the number of credits this user currently has. The free credits are given on a daily basis as determined by the sysop.

The 16th line contains the amount of time credits this user has (in minutes).

The 18th line contains the user's Security Level.

The 19th line contains the user's Flag Sets 1 and 2 (if any).

The 20th line contains the user's Flag Sets 3 and 4 (if any).

The 21st line contains the user's Exemption and Restriction Flags that are set (if any).

The 23rd line contains the User Edit command prompt which contains the number of the current user and the total number of user slots on the system.

If the current user is deleted or inactive, then the 1st line will contain a string that specifies this status and all other lines will be shifted down one.

[6.3] - User Edit Commands

As with most Synchronet command prompts, hitting '?' will display a menu of commands.

A	Alias and Chat Handle	S	Sex (Gender)
B	Birthday	T	Set Text Search String
C	Computer	U	Upload/Download Stats
D	Delete/Deactivate/Restore	V	Validate User
E	Exemptions	W	Password
F	Flags	X	View Extended Comment
G	Go to a User	Y	Copy User to Another Slot
H	Edit/Create Extended Comment	Z	Restrictions
I	Inspect/Edit User's Defaults	]	Go Up One User
J	Edit Minutes	[	Go Down One User
K	Edit Dates	}	Search Up
L	Location and Address	{	Search Down
M	Security Level	/	Set ARS Search String
N	Note	~	Set Leech Download Counter
O	Comment	+	Adjust Credits
P	Phone Number	*	Adjust Minutes
Q	Quit to Main Menu	$	Edit Credits
R	Real Name	#	View User Questionnaire

The available commands are listed below with explanations.

A - Alias and Chat Handle:

This command will let you edit the user's alias - a 25 character field that must start with a non numeric character. You can also edit the user's chat handle (an 8 character field) with this command.

B - Birthday

You can edit the user's birthday with this command. The form of the date is forced as either MM/DD/YY or DD/MM/YY (depending on the setting of the European date option).

C - Computer Description:

You can edit the user's 30 character computer description field with this command.

D - Delete/Deactivate/Restore/Activate:

If the current user is at normal status (not deleted or inactive), hitting this command will prompt you if you wish to delete or inactivate this user. If you delete a user, his account will be saved for number of days since his last logon. This number of days is specified by the sysop in the SCFG. After this number of days, a new user may obtain this slot. Inactive slots are the same as deleted ones, except that they are reserved and can't be used by new users.

If the current user is deleted or inactive (as specified by the 1st line of the screen), this command will allow you to restore the user to normal status.

E - Exemption Flags:

Exemptions are used by the sysop to give user's extended privilege to the system. For example, you might want to give a trustworthy user the right to remove, move, and edit descriptions of all files in the Transfer Section. Normally users can only remove or edit the description of a file they've uploaded, but a user with the 'R' exemption can move any file, remove any file, or edit any file description in the Transfer Section. This ability is normally only given to sysops.

Using this command you can toggle the state of an Exemption Flag by hitting the corresponding letter. To view a menu of the available exemptions, hit '?' or [ENTER] to stop editing the Exemption Flags.

The following is a list of the available exemptions and their descriptions ($ indicates that sysops have this capability):

A - Anonymous
Allows user to post and send e-mail anonymously.

C - Chat $
Allows user to page the local sysop with the ;CHAT command regardless of the sysop availability state (Scroll-Lock).

D - Download
Allows user to download files even when the user doesn't have enough credits.

E - Expire by Time
Prevents user account from expiring when the user runs out of time and the SCFG->System->Toggle Options->User Expires When Out of Time is set to YES.

F - FidoNet Crash/File Request/Return Receipt NetMail
Allows user to send NetMail using title specifiers:
"CR:" to over-ride default crash status to ON
"FR:" to send file requests (FREQ)
"FA:" to send file attachments
"RR:" to request a return receipt
See Sending FidoNet NetMail for more information.

G - Multiple Nodes $
Allows user to be logged on to more than one node at a time. This exemption is useful for Guest accounts.

I - Interrupt Nodes $
Allows user to interrupt (hang up on) other nodes with the ;INTR command.

J - Chat Channel Cost
User will not be charged credits to change chat channels.

L - Logons per day
Allows user to logon the system an indefinite number of times per day.

M - Modem Rate $
Allows user to logon any node at any modem speed regardless of what the minimum modem speed for that node is.

N - Node Locking $

Allows user to toggle the lock status of any node with the ;LOCK command and log on a locked node.

P - Permanent
This user account will not be automatically deleted because of inactivity.

Q - Quiet/Anonymous Node $
Allows user to toggle the quiet or anonymous state of his node with the ;QUIET or ;ANON commands respectively. Nodes that are in quiet mode appear to be "Waiting for call" to the other nodes. Anonymous modes appear to have "UNKNOWN USER" online.

R - Remove/Move/Edit Descriptions of Files $
Allows user to remove, move, or edit the descriptions of any file in the Transfer Section that the user has access to.

S - Send NetMail Cost
User will not be charge credits for sending NetMail.

T - Time Online
Allows the user to remain online indefinitely - no time limit. The inactivity timer remains active.

X - External Programs
User will not be charged credits to run external.

F - Flags:

This command lets you toggle the state of all Flags. Hitting a number will allow you to edit that particular flag set. Hitting '?' will display a menu that is used to remind the sysop of the meaning of each Flag. These menus are located in the TEXT\MENU directory and names are FLAGS1.ASC, FLAGS2.ASC, FLAGS3.ASC, and FLAGS4.ASC. Hitting [ENTER] will end the editing of the flags.

The Flags in conjunction with the Level can by used by the sysop to limit access to Message Groups, Sub-boards, External Programs, General Text File Sections, Transfer Libraries, and Directories.

G - Go to a User:

This command will let you change the current user into another user by entering the user's name, partial name, or number. It should be noted that the fastest way to change the current user is to type the number of the user directly at the User Edit prompt.

H - Edit/Create Extended Comment:

This command will let the sysop edit or view an existing extended comment or create a new one. An extended comment is a free-form message file that a sysop creates that contains information pertaining to this user. A '+' after the "Comment:" string on the 5th line of the User Edit screen specifies that an extended comment already exists.

I - Inspect or Edit User's Default Settings:

This command will bring up the current user's default settings for ANSI terminal emulation, screen length, screen pausing, spinning cursor, auto new file scan, clear screen after messages, auto menu display, and default QUIET mode (if the user has the 'Q' exemption).

J - Edit Minutes:
This command allows the sysop to edit the current user's minute field.

K - Edit Date Fields:
The command will let you edit the date fields for this user's last logon, first logon, expiration date, and password modification date. All dates are forced to the form MM/DD/YY or DD/MM/YY if European date format is enabled.

L - Location:
This command will allow the sysop to edit the user's address, location, and zip/postal code fields.

M - Security Level:
The sysop can edit the user's Security Level with this command. The user's Level is a decimal number in the range 0 to 99. Higher levels indicate higher access. Users with a level of 90 or higher are considered to be sysops. The sysop can use the Level in conjunction with the Flags to limit access to Message Groups, Sub-boards, General Text File Sections, External Programs, Transfer Libraries, and Directories. The Level also determines the user's maximum time online per day, per call, maximum logons per day, and maximum number of lines per message (post or e-mail).

N - Note/Name:
If aliases are allowed on the system, this command will allow the sysop to edit the user's public note. This field is displayed next to the user's alias in user listings and the logon list.

If aliases are not allowed, this command allows the sysop to edit the user's name. The user's name is a 30 character field that must begin with a printable non-numeric character. The first letter of each word in the user's name is forced uppercase.

O - Sysop Comment:
This command allows the sysop to edit the private 60 character comment field regarding this user.

P - Phone Number:
The sysop can edit the user's phone number.

Q - Quit User Edit:
Exits the User Edit function and returns the sysop to where he was prior to initiating User Edit.

R - Real Name (if aliases are allowed):
This command allows the sysop to edit the user's real name - a 25 character field. The first letter of each word in this field is forced uppercase.

S - Sex:
A single uppercase character is used to describe the sex of the user

(normally 'M' or 'F'), but can be changed to any uppercase character with this command.

T - Set Text Search String:
Use this command to set the text string to search for (using the { and } commands).

U - Upload/Download Statistics:
The sysop can edit the user's upload and download statistics with this command. The statistics are the number of bytes and files uploaded and the number of bytes and files downloaded. These are numeric fields.

V - Quick-Validate User:
This command will display the ten quick-validation sets (0 to 9) for quickly setting the user's Security Level, Flags, Exemptions, Restrictions, Expiration Date, and/or Credits. The Quick-Validation sets are set by the sysop in SCFG->System->Quick-Validation Values.

W - Password:
Use this command to change the user's password. The password modification date doesn't change when using this command (use 'K' to change the password modification date).

X - View Extended Comment:
This command allows the sysop to the user's extended comment if it exists.

Y - Copy User to Another Slot:
This command will copy the user data of the current slot to another valid slot. This will overwrite any user information in the destination slot.

Z - Restriction Flags:
A sysop can give a user restrictions from certain sections or features of the BBS by setting one or more valid Restriction Flags. Typing the letter of a restriction will toggle its status, '?' will display a menu of the valid restrictions and [ENTER] will end the flag editing procedure. The valid restrictions and their descriptions follow:

A - ANSI and Ctrl-A Codes
User can't write messages containing either ANSI escape sequences or Ctrl-A attribute codes.
B - Beep
User can't put beeps (Ctrl-G, ASCII 7) into messages (posts, mail, or chat).
C - Chat
User can't use any chat functions.
D - Download
User can't download files.
E - E-mail
User can't e-mail other users (can still e-mail sysop).
F - Forward Mail

User can't forward mail.

G - Edit Defaults
User can't edit their default settings.

J - Quoting
User can't use internal message quoting.

K - Read Sent Mail
User can't read/kill sent mail.

L - Logon Once a Day
User will only be allowed to logon a maximum of once a day regardless of what his Level allows normally.

M - Networked Mail
Can't send NetMail.

N - Networked Subs
User can't post on networked sub-boards.

P - Post
User can't post messages on Sub-Boards.

Q - QWK Network Node
This user account is used for a QWK Network Node BBS system. This restriction automatically puts the user at the QWK prompt upon logon and no other sections of the BBS are accessible. This restriction also allows the user to upload REP packets containing messages that are from users other than the current user.

R - Remove/Edit Descriptions of Files
User can't remove or edit file descriptions of files he has uploaded.

S - E-mail Sysop
User can't send e-mail (feedback) to user #1.

T - Transfer Section
User can't access the Transfer Section at all.

U - Upload
User cannot upload files to the Transfer Section.

W - Auto-message
User cannot write to auto-message.

X - External Programs
User can't access the external program menu ('X' from Main Menu).

Y - Are you sure (y/N) ?
The user will be forced to answer Yes prior to performing any function from the Main or Transfer Sections.

] - Move Up One User Slot:
Increment the current user number by one. If the current user is the last user, the current user will become user number 1 (wrap).

[- Move Down One User Slot:
Decrement the current user number by one. If the current user is the first user, the current user will become the last user (wrap).

(Number) - Change to User Number:
Entering a user number directly at the User Edit command prompt will make that user the current user.

/ - Set Search String:
Use this command to set the AR string to search for (using the { and } commands). See the ARS Security chapter for explanation of AR string.

} - Search Forward:
Searches from the current user to the last user for the string set by the '/' (ARS) or 'T' (text) command.

{ - Search Backward:
Searches from the current user to the first user for the string set by the '/' (ARS) or 'T' (text) command.

~ - Set Leech Download Counter:
Every time a user downloads a file and the BBS detects the possible use of a 'leech' protocol, a counter is incremented and the value is displayed on the Downloaded Bytes and Files line if it is not zero. To change the value of this counter, use the '~' command.

+ - Add or Subtract Credits:
This command will let you add or subtract credits to/from a user's account. Putting an 'M' after the number will multiply the amount by one megabyte (1,048,576) or a 'K' will multiply the amount by one kilobyte (1024). Placing a '$' will multiply with the number by the number of credits per dollar in the current system configuration. Placing a minus sign before the number will perform a subtraction of credits.

*** - Add or Subtract Minutes:**
This command will let you add or subtract time from the user's minute field. Putting an 'H' after the number will multiply the amount by 60 minutes (an hour). Placing a minus sign before the number will perform a subtraction of minutes.

$ - Edit Credits:
This command allows you to edit the amount of credits of the current user.

 # - View SIF Questionnaire:
If the sysop has specified a SIF questionnaire in the SCFG and the current user has answered the questionnaire, this command will allow the sysop to view the answered questionnaire. An output SIF (usually an abbreviation of the input SIF) will be used if specified in the SCFG, if not specified the output SIF will be used for viewing.

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[7.1] - Introduction to ARS Security

ARS stands for Access Requirement Strings. Access requirement strings are used to specify the requirements of a user to have access to features/sections of a Synchronet BBS. The string can consist entirely of English key words and numbers or use short-hand symbols to fit a large number of security requirements into the 40 character space allowed for access requirement strings. Short-hand symbols and key words may be used interchangeably and combined in the same string. For clarity, it is suggested you use the key words whenever possible. The string syntax is as follows:

usage: [not] [parm] [not] [equal] <value> [or] [and] [...]

where: **not** is the word "NOT" or the symbol '!' to specify reverse logic
parm is one of any keywords (or short-hand symbols) that specifies a specific required parameter (default is LEVEL)
equal is the word "EQUAL", "EQUALS", the words "EQUAL TO", or the symbol '=' to specify exact equality required
value the required value (for either minimum requirement or equality)
or the word "OR" or the symbol '|' used to specify that ANY of two or more parameter values MAY be met to match the requirement
and the word "AND" or the symbol '&' may be used for clarity in reading when specifying that two or more parameter values MUST be met to match the requirement

[7.2] - Key words and Symbols

Key word	Symbol	Description
AND	&	More than one requirement (optional)
NOT	!	Logical negation (e.g. NOT EQUAL)
EQUAL	=	Equality required
OR	|	Either of two or more parameters is required
AGE	$A	User's age (years since birthdate, 0-255)
ANSI	$[	User has ANSI terminal (no value argument)
BPS	$B	User's current connect rate (bps)
CREDIT	$C	User's number of credits in Kilobytes (0-65535)
DAY	$W	Day of the week (Sun, Mon, Tue, etc. or 0-6)
DIR	$J	Current file directory (Internal code or 1-65535)
DOS		Current node is running SBBS4DOS (no value argument)
EXEMPT	$X	Exemption flag (A-Z)

EXPERT		User is in expert menu mode (no value argument)
EXPIRE	$E	Days till user account expires (0-65535)
FILE_CMDS		Number of executed file menu commands (0-65535)
FLAG	$F	User's flag (1-4) and (A-Z)
GROUP	$M	Current message group (1-65535)
LASTON	$Y	Days since last logon (0-65535)
LEVEL	$L	User's level (0-99)
LIB	$I	Current file library (1-65535)
LOCAL	$G	Logged on locally (no value argument)
MAIN_CMDS		Number of executed main menu commands (0-65535)
NODE	$N	Current node (1-250)
OS2		Current node is running SBBS4OS2 (no value argument)
PCR	$P	User's post/call ratio (0-100)
QUIET		User is in quiet mode
RANDOM	$Q	Random number between 0 and value argument (0-65535)
REST	$Z	Restriction flag (A-Z)
RIP	$*	User has RIP terminal (no value argument)
SEX	$S	User's sex/gender (M or F)
SUB	$H	Current message sub-board (Internal code or 1-65535)
SYSOP		User has level 90 or temp sysop (no value argument)
TIME	$T	Time of day (HH:MM, 0-23:59)
TLEFT	$R	User's time left online (minutes, 0-255)
TUSED	$O	User's time online this call (minutes, 0-255)
UDR	$K	User's upload/download ratio (0-100)
UDFR	$D	User's upload/download file ratio (0-100)
USER	$U	User's number (1-xxxx)
WIP		User has WIP compatible terminal (no value argument)

[7.3] - ARS General Usage Examples

General Example #1

LEVEL 60

This string specifies that only users with a level of 60 OR HIGHER meet this requirement. The space between the level and the required value is optional:

LEVEL60

is functionally equivalent, but doesn't read as well. You may also use short hand symbols in place of key words to save space:

$L 60

is also functionally equivalent. Once again, the space between the short hand symbol and the required value is optional. If a parameter is not specified, the requirement is assumed to be LEVEL. So the following string:

60

is also valid and evaluates the same as the above strings.

General Example #2

NOT LEVEL 60

This string specifies that only users with a level BELOW 60 will meet the requirement. The "NOT" key word can be include before or after the parameter:

LEVEL NOT 60

evaluates identically to the first string in this example.

Short-hand symbols may be used to abbreviate the string:

LEVEL !60

$L!60

!60

have exactly the same meaning as the first string in this example.

General Example #3

LEVEL EQUAL 60

This string specifies that only users with a level EQUAL TO 60 will meet this requirement. The key word "EQUALS" or the combination "EQUAL TO" may be used in place of "EQUAL" if preferred:

LEVEL EQUALS 60

and

LEVEL EQUAL TO 60

are both functionally equivalent to the first string in this example. Again, short-hand symbols may be used to make the string shorter:

LEVEL = 60

evaluates identically to the above example strings and the space on either side of the '=' symbol are also optional:

LEVEL=60

is valid and may be preferred by some sysops. Since level is the default parameter type, the following string is also valid:

=60

General Example #4

LEVEL 60 AND FLAG 1A

This string indicates that the user must have a level of 60 or higher AND have the flag 'A' from flag set #1. The user must meet both requirements in order to be considered as meeting all the requirements of the string. The "AND" portion of the string is only included for clarity in reading and is optional:

LEVEL 60 FLAG 1A

has the same meaning, but may be confusing when read. When specifying a flag from flag set #1, the set number may be eliminated:

LEVEL 60 AND FLAG A

is functionally the same and is the preferred method of referring to flags from flag set #1. When specifying the flag set, spaces can be on either side of the number, or eliminated entirely:

LEVEL 60 AND FLAG1 A

and

LEVEL 60 AND FLAG 1 A

and

LEVEL 60 AND FLAG1A

have the same meaning as the first string in this example, but are probably not as easy to read as the second string in this example.

The following strings all have the same meaning as the first string in this example but have been shortened using symbols and other short-cuts:

LEVEL 60 & $F A

$L60 AND $FA

$L60$FA

60$FA

but for reasons of clarity, the first string is preferred if space allows.

General Example #5

SEX F OR LEVEL 90

This string specifies that the user must be of FEMALE gender OR have a level of 90 or higher. The following strings are functionally equivalent to the above:

SEX F | LEVEL 90

SEXF|LEVEL90

$SF | $L90

$SF|$L90

General Example #6

USER NOT EQUAL TO 20

This string specifies that user #20 will not meet the requirement.

Shortened using symbols:

$U!=20

General Example #7

BPS 9600 OR NOT TIME 19:00

This string specifies that the user must be connected at 9600bps or higher, OR the time of day must be before 7pm. The value for the TIME parameter is in the format 24 hour format of HH:MM. If the specified time is on an even hour, then ":00" portion may be omitted:

BPS 9600 OR NOT TIME 19

has the same meaning.

You may also omit the "00" from the BPS value to shorten the string:

BPS 96 OR NOT TIME 19

Shortened versions:

$B 9600 OR NOT $T19

BPS9600|!TIME19

$B96|!$T19

General Example #8

BPS 9600 OR TIME NOT 18:00 OR TIME 21:30

This string specifies that the user must be connected at 9600bps or higher, OR the time of day must be before 6pm, OR the time of day must be after 9:30pm.

When specifying multiple parameters of the same type consecutively (in this example, two of the required parameters are "TIME"), the parameter does not need to be restated. For example, the string:

BPS 9600 OR TIME NOT 18:00 OR 21:30

has the same meaning as the first string in this example.

Shortened versions:

$B 9600 OR NOT $T 18 OR 21:30

$B96|$T!18|21:30

General Example #9

FLAG A OR FLAG B OR FLAG C OR LEVEL 90

The above string specifies that a user must have flag A, flag B, flag C, (all from flag set #1) or a level of 90 or higher to meet the requirement. Using the "sticky" parameter type feature of AR Strings, we can shorten the line:

FLAG A OR B OR C OR LEVEL 90

Utilitizing symbols, we can shorten it even further:

FLAG A|B|C OR LEVEL 90

Taking it to extremes:

$FA|B|C|$L90

General Example #10

USER EQUALS 145 OR LEVEL 90

This string indicates that user number 145 will meet the requirement and all users with level 90 and higher (sysops).

Best shortened as:

USER=145 OR LEVEL 90

For ultimate compression:

$U=145|$L90

General Example #11

LEVEL 60 AND FLAG X AND FLAG Y AND FLAG Z

Compressed examples:

LEVEL 60 AND FLAG X AND Y AND Z

LEVEL 60 AND FLAG X Y Z

LEVEL 60 FLAG XYZ

LEVEL60 FLAGXYZ

$L60 $FXYZ

60$FXYZ

General Example #12

FLAG 2A OR FLAG 2B OR FLAG 4Z

This string specifies that the user must have either flag 'A or 'B' from flag set #2, or flag 'Z' from flag set #4. Using the "sticky" parameter type feature, this could be shortened to:

FLAG 2A OR B OR FLAG 4Z

If the flag set is not #1, you MUST specify the flag set number when using the FLAG keyword.

Example:

FLAG 2A OR FLAG B OR FLAG 4Z

is NOT the same as the first two strings in this example. The second flag (B) would be considered as from flag set #1, since a flag set number was not specified.

Correct and shortened version:

FLAG2A|B OR FLAG4Z

$F2A|B|$F4Z

Note: Multiple flag sets were developed for advanced sysops who found that the 26 flag limitation (A-Z) was insufficient and requested additional flag capabilities. Most sysops will probably not find it necessary to use more than 26 flags, and therefore have no need for flag sets 2 through 4.

General Example #13

```
NOT FLAG 2G
```

This string specifies that the user most not have flag 'G' from flag set #2. The NOT keyword can appear in several places in this string while keeping the exact same meaning:

```
FLAG NOT 2G

FLAG 2 NOT G
```

Condensed versions:

```
!$F2G

$F!2G

$F2!G
```

[7.4] - Nesting Expressions

All of the above string examples have been single expressions that evaluate to either true of false. Sometimes, you may wish to require access to an area using "nested" logic.

Example: If the user is level 90+, OR the user has the A flag, AND is 21+ years of age or older.

The above example could be read two ways.

1: The user must have level 90+, and either the A FLAG or be 21+ years old.

2: The user must be 21+ years old and have either the A FLAG or level 90+.

To clarify which of the above methods were intended, we use parentheses to separate the two true/false expressions.

```
1: LEVEL 90 OR (FLAG A AND AGE 21)

2: (LEVEL 90 OR FLAG A) AND AGE 21
```

Strings 1 and 2 are interpreted differently and correlate to the above two English logic statements.

Whenever using a combination of AND and OR logic, nested expressions are required. The following string:

```
LEVEL 90 OR FLAG A AND AGE 21
```

is INVALID and would most likely NOT produce the desired results.

Expressions may be nested, using parenthesis, as deep as is required.

Example:

((LEVEL 80 OR FLAG S) AND AGE 18) OR LEVEL 90

is a VALID string that would evaluate with the following:

User with level of 80 and age 17 would not qualify
User with level of 80, flag S and age 17 would not qualify
User with level of 80 and age 18 would qualify
User with flag S and age 18 would qualify
Any user with level 90+ would qualify regardless of age or flags

[7.5] - ARS Nested Logic Examples

Nested Example #1

BPS 9600 OR (BPS 2400 AND TIME NOT 15:00)

User must be connected at 9600bps or higher, OR be connected at 2400bps or higher and the time of day being before 3pm. 9600bps and higher callers would always meet this requirement. 2400-7200bps callers will only meet this requirement between 12:00 midnight and 3pm in the afternoon. 1200bps and slower callers would never meet this requirement.

Note, that when nesting expressions, the parameter type DOES NOT stick from one expression to another. Example:

BPS 9600 OR (2400 AND TIME NOT 15:00)

Is an INVALID string. The 2400 would be interpreted as a LEVEL requirement since it is as the beginning of a new expression and LEVEL is the default parameter type.

The first (correct) string in this example, can of course also be shortened using symbols (and eliminating the AND key word):

$B9600|($B2400$T!15)

Nested Example #2

(SEX M AND AGE 21) OR (SEX F AND AGE 18)

This string specifies that only male users of 21 years and older and female users of 18 and older will meet the requirement.

Shortened Example:

(SMA21)|(SFA18)

The logic of the above string is more verbose than necessary and could be reduced to:

AGE 21 OR (SEX F AND AGE 18)

producing the same results.

Nested Example #3

(BPS 2400 AND PCR 20) OR LEVEL 90

This string would indicate that users of any level will have access if they are connected at 2400bps and have a Post/Call ratio of 20% or higher - OR the users has as least level 90 (sysop).

Utilizing the default parameter type of level, the LEVEL key word can be omitted:

(BPS 2400 AND PCR 20) OR 90

to create a functionally equivalent, though more confusing, AR string.

A better way to shorten the string would be to eliminate the AND keyword and use symbols:

($B 2400 $P 20) | $L 90

Eliminating the spaces creates an even more compact string:

($B2400$P20)|$L90

Nested Example #4

NOT (USER=1 OR USER=20)

All users will meet this requirement accept user #1 and user #20.

The above string could also be stated in a non-nested format with the same results:

NOT USER=1 AND NOT USER=20

though the meaning is not quite as clear, they are functionally the same.

Note: The second method requires 2 bytes less in raw logic storage because it is not nested and will be interpreted slightly faster (by a matter of microseconds). Just in case you were wondering...

Nested Example #5

```
LEVEL 90 OR (TIME 12:00 AND TIME NOT 18:00)

Users with level 90 or higher will always meet this requirement. Users with
levels below 90 will only meet this requirement between 12 noon and 6pm.

Re-arranged:

(TIME 12:00 AND TIME NOT 18:00) OR LEVEL 90

the string has exactly the same meaning. Eliminating the unnecessary occurrence
of the second "TIME" parameter shortens the string while keeping it easily
readable:

(TIME 12:00 AND NOT 18:00) OR LEVEL 90

Maximum compression:

($T12!18)|90
```

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Multinode Bulletin Board System Software

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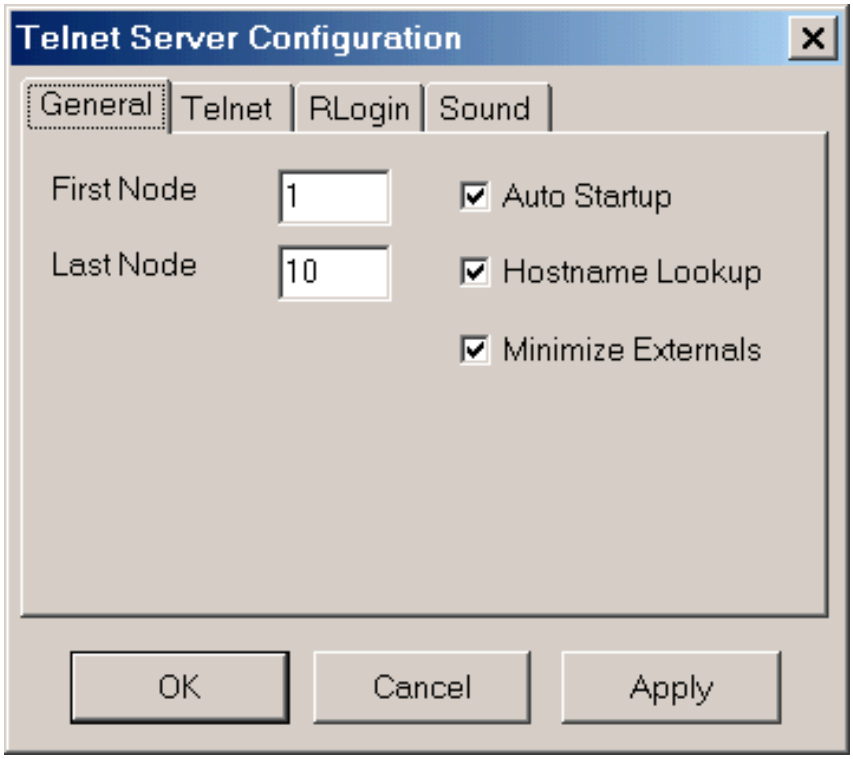
[3.0] - Adding Nodes

Run SCFG. Select Nodes from the main menu. Hit INS (insert key) to create additional nodes. Each added node will have the configuration options copied from the last node. Make any configuration changes (including modem/com port configuration) necessary.

v2 Only: Copy *.BAT from your NODE1 directory into each added node directory.

v3 Only: If you'd like all nodes to be available for telnet logins, set the **Last Node** in the telnet configuration dialog to your highest configured node number.

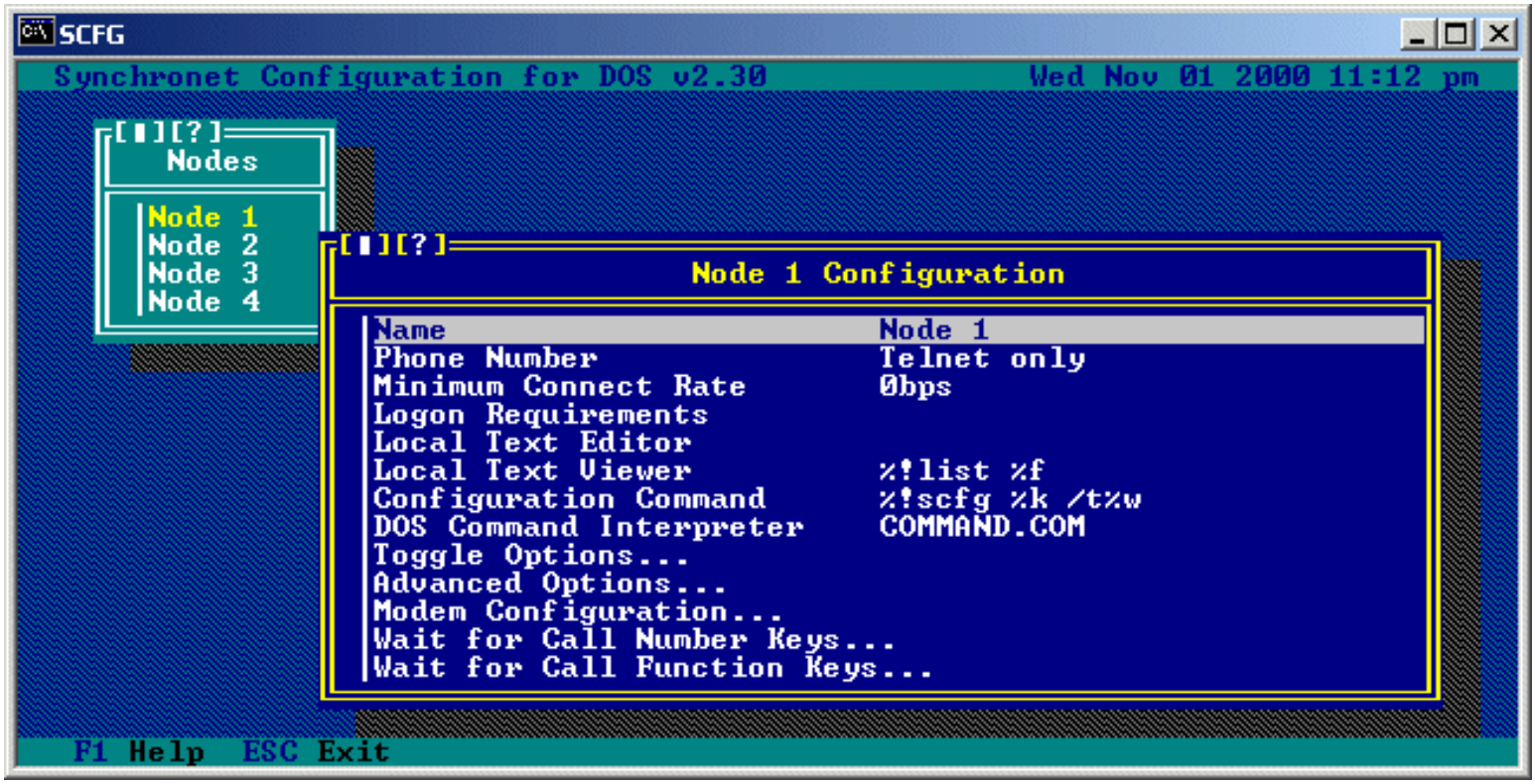


All nodes controlled by the same instance of SBBSCTRL will use the configuration information for the node specified as the **First Node** in the telnet configuration dialog.

[3.1] - Configuring Nodes

You can configure any node from within SCFG regardless of what computer (or virtual computer) you're using. To configure a node, select "*Nodes*" from the SCFG "*Configure*" menu. You will then see a list of all the nodes installed

on your system. You will also see the bottom line of the screen now has two additional key commands added, *INS* (Insert) and *DEL* (Delete). INS and DEL are used to add and delete nodes from the system. If you select one of the nodes listed, you will receive another menu as follows:



We will now discuss the options of this menu.

Name *(v2 Only)*:
This is the name of the node. This parameter is not used for anything but documentary purposes in the BBS.

Phone Number:
This is the phone number (or IP address/host name) of this node.

Minimum Connect Rate *(v2 Only)*:
This is the minimum modem connection rate that will be allowed. Callers can still connect and attempt to logon, but without the 'M' exemption, they will be told what minimum connect rate is and disconnected.

Logon Requirements:
Use this option to set specific requirements to logon this node.

Local Text Editor *(v2 Only)*:
This is the command line to use when editing text files or messages locally. This command line is not used when posting or sending e-mail unless the above option is set to 'Yes'. If this option is not specified, the default editor for the current user will be used. An example (using Qedit as the editor) would be:
q.exe %f

Assuming ***Q.EXE*** is in the DOS search path. If it isn't, you can specify

the location of the program. Example:
c:\qedit\q.exe %f

The **%f** parameter will expand to the path and filename of the file to edit.

Text Viewer *(v2 Only)*:

This is the command line to use to view text files locally. Currently, this command line is only used to view the system log files. You should use a program that allows the text scrolling up and down as well as string searches. A popular program for this use is Buerg's LIST.
If you are running multiple nodes and the program you wish to use leaves the file open while viewing, you should use a batch file that actual copies the file to view and then views the copy.
Example (if program name is LIST):
LISTIT.BAT:

```
@echo off
copy %1 list.tmp
list list.tmp
del list.tmp
```

An example for this field (using the LISTIT batch file) would be:
%!listit.bat %f

The **%!** parameter specifies that the batch file is located in the EXEC directory. If is not located there, you can remove the **%!** so that the DOS search path will be searched for the batch file or specify its location.

The **%f** parameter will expand to the path and filename of the file to view.

Configuration Command *(v2 Only)*:

This is the command line to use to execute the Synchronet configuration program from the WFC screen. The simplest command line to use is "SCFG" (this will execute SCFG.BAT or SCFG.CMD from the current node directory). Alternate command lines:

If this node is running Synchronet for DOS:

%!scfg %k /t%w

This command lines has the added advantage of passing the timeslice configuration of the current node (enabling Win/OS2 idle API calls or disabling DESQview/DOS idle API calls).
This flavor of SCFG supports user mouse control.
This flavor of SCFG can only use conventional DOS memory for configuration items (EMS is automatically used, if available, for executable overlay caching - improving performance but not increasing the maximum number of configured items).

To use the extended-DOS/Win32 version of SCFG:

%!scfg32 %k

This flavor of SCFG can access all of your installed memory (no memory limitations under Win32).
This flavor of SCFG does not support any timeslice API calls (may consume more timeslices than necessary when run under a non-Win32 multitasking environment).

If this node is running Synchronet for OS/2:

%!scfg4os2 %k

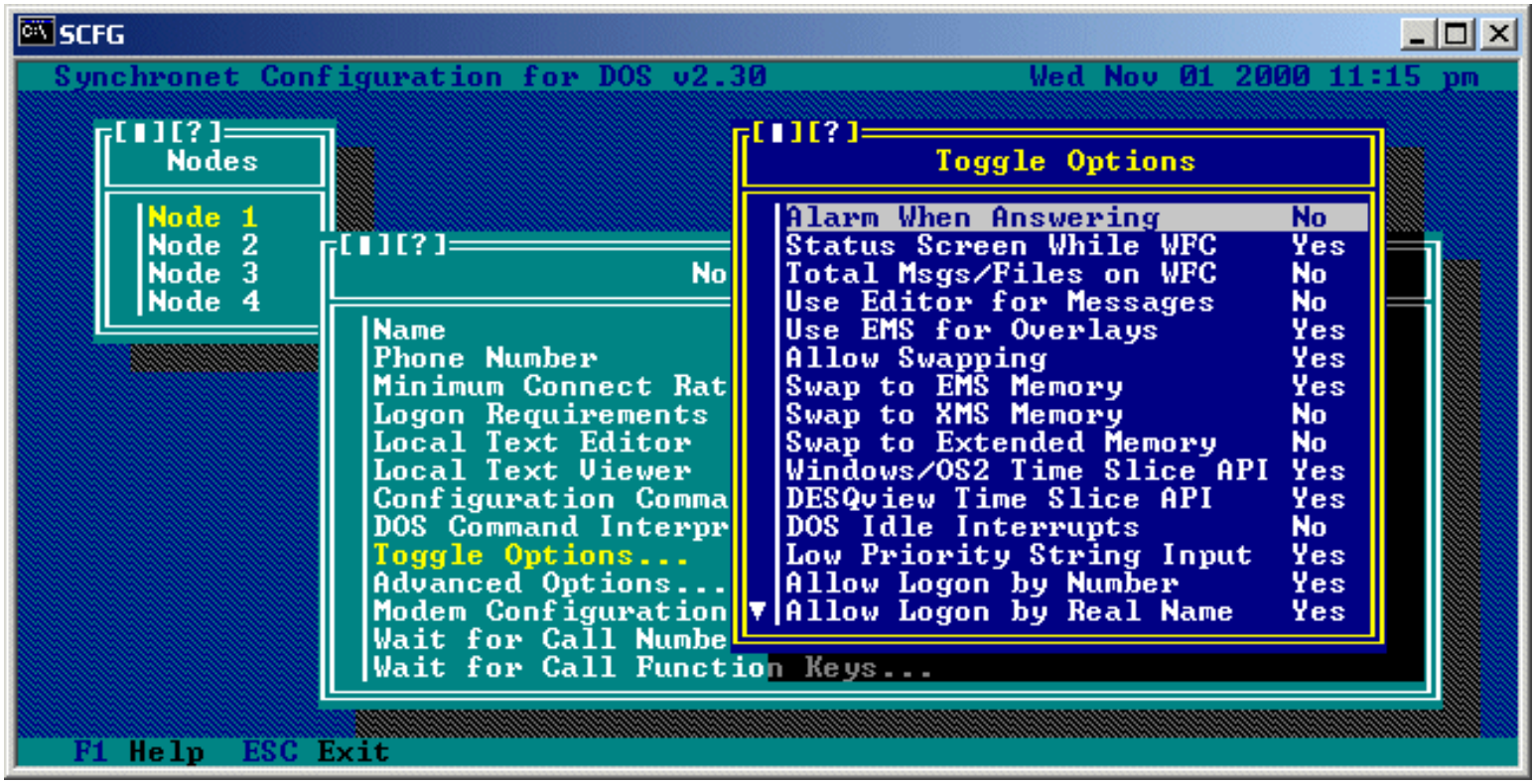
This flavor of SCFG has no memory limitations.

DOS Command Interpreter ***(v2 for OS/2 Only)***:
If this node is running Synchronet for OS/2, this is the path to your command interpreter for OS/2 virtual DOS machines. Example:

C:\OS2\MDOS\COMMAND.COM

This option is only used when running Synchronet for OS/2.

[3.2] - Node Toggle Options



Alarm When Answering ***(v2 Only)***:
If you would like have the BBS sound an alarm when answering the phone, set this option to Yes.

Status Screen While WFC *(v2 Only)*:
This node will display a screen with system usage statistics and the current status of all active nodes.

Total Msgs/Files While WFC *(v2 Only)*:
If you have the system statistics displayed while WFC, and you wish to include the total number of messages and files in the display, set this option to Yes. The retrieval of statistics is faster when set to No.

Use Editor for Messages *(v2 Only)*:
If this option is set to 'Yes' and you have specified a Local Text Editor, when logged on locally this editor will be used for the creation of all messages.

Use EMS for Overlays *(v2 for DOS Only)*:
Set this option to 'Yes' to have this node to use EMS memory for overlay files. Setting this option to 'Yes' can help increase the performance of the BBS significantly if enough EMS memory is available (about 360K).

Allow Swapping *(v2 for DOS Only)*:
Set this option to 'Yes' to allow this node to swap when necessary. If you do not have EMS, XMS, or Extended memory available, and you do not wish to have Synchronet swap to disk, you should set this option to 'No'.

Swap to EMS *(v2 for DOS Only)*:
When set to 'Yes', Synchronet will attempt to swap to EMS memory when executing a program that is in your "Global Swap List".

Swap to XMS *(v2 for DOS Only)*:
When set to 'Yes', Synchronet will attempt to swap to XMS memory.

Swap to Extended Memory *(v2 for DOS Only)*:
When set to 'Yes', Synchronet will attempt to swap to Extended memory. This option should always bet set to 'No' when running under a DOS multitasker.

Windows/OS2 Time Slice API *(v2 for DOS Only)*:
Set this option to 'Yes' if you are running Synchronet under OS/2. You may experience poor performance if this option is set to 'Yes' and you are running Synchronet under Microsoft Windows v3.x. If this occurs, set this option to 'No'.

DESQview Time Slice API *(v2 for DOS Only)*:
Set this option to 'Yes' if you are running Synchronet using DESQview. Since Synchronet auto-detects DESQview it will not hurt anything to leave this option set to 'Yes' if you are not running DESQview.

DOS Idle Interrupts *(v2 for DOS Only)*:
This option defaults to 'Yes'. You should not change this setting.

Low Priority String Input:
Normally Synchronet does not give up time-slices under multi-taskers when waiting for string input from the user. Setting this option to 'Yes' will for Synchronet to give up time-slices when waiting for string input, this may cause "jerky" keyboard response but will improve overall system performance under multi-taskers. This option should normally be set to 'Yes'.

Allow Logon by Number:
Setting this option to 'Yes' will allow users to logon by typing their user number at the login logon prompt.

Allow Logon by Real Name:
When set to 'Yes' this option allows users to enter their real name (or company name) at the login prompt to logon to the BBS.

Always Prompt for Password:
When set to 'Yes' this option will cause the user to ALWAYS be prompted for a password at logon, even if they have entered an incorrect (non-existent) name at the login prompt.

Disable Local Inactivity *(v2 Only)*:
If you wish to disable the user inactivity warning and auto-logoff for local logons, set this option to 'Yes'.

Disable Local Keyboard *(v2 Only)*:
If this option is set to 'Yes', the local keyboard will be completely disabled when Synchronet is run. The only way to exit Synchronet would be to down the node from another process or reboot the machine.

Local System Protection *(v2 Only)*:
If you wish to require the system password for WFC commands and local sysop Alt-key combinations, set this option to 'Yes'.

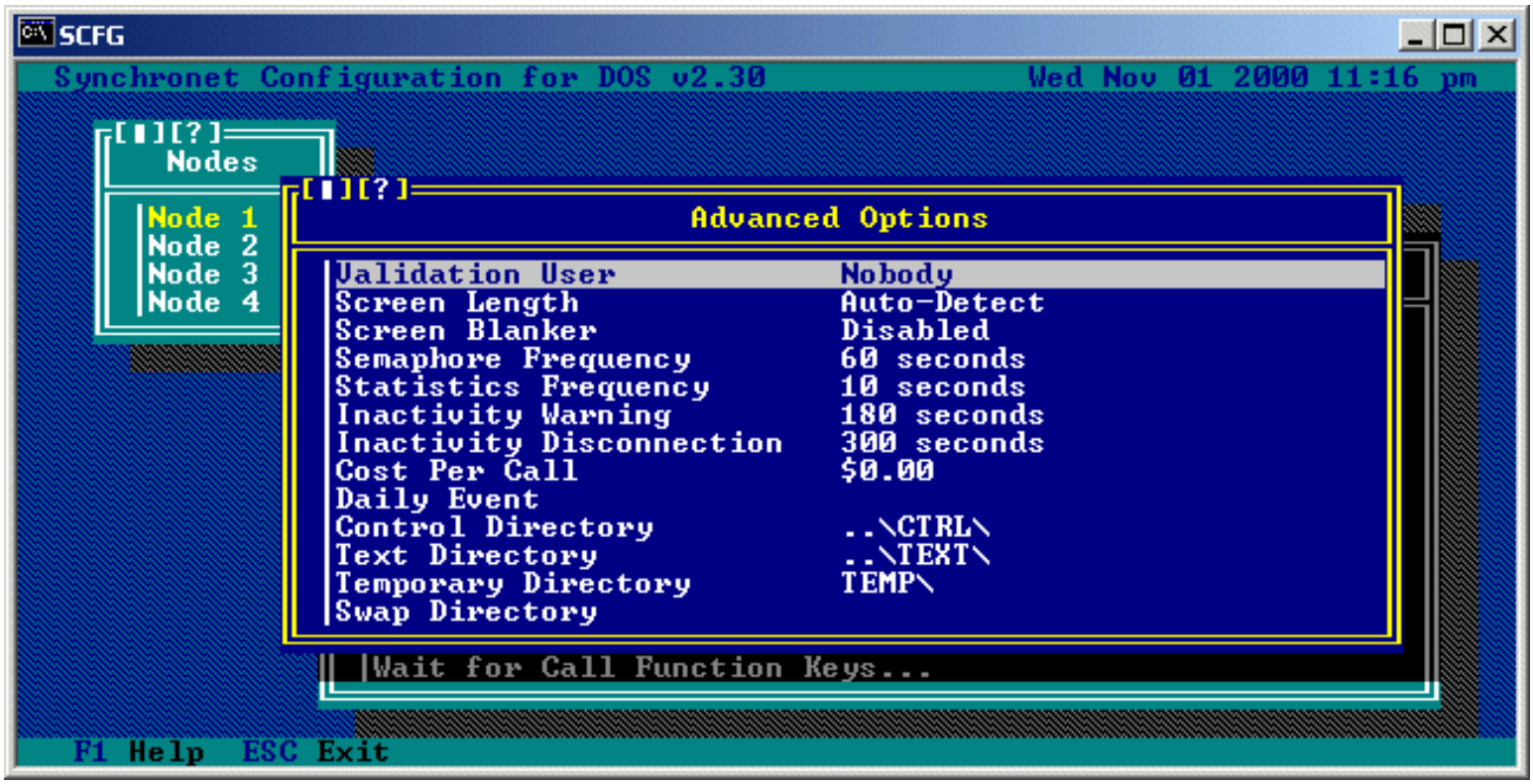
Beep Locally *(v2 Only)*:
To disable the local speaker of this node for online beeps, set this option to 'No'.

Allow 8-bit Remote Logons:
To allow E-7-1 terminals to use this node, set this option to 'No'. This will also eliminate the ability of 8-bit remote users to send IBM extended ASCII characters during the logon sequence.

Reset Video Between Calls *(v2 Only)*:
If this option is set to 'Yes', Synchronet will reset the current node console's video mode before each WFC cycle. This option should be set to 'No' for most configurations.

[3.3] - Node Advanced Options

When selecting this option, you will be brought to a sub-menu of options as follows:



Validation User:
This is the number of the user to whom validation feedback is sent. This value will usually be set to 1 (the sysop). If this value is set to 0, then new users will not be required to enter validation feedback.

Screen Length *(v2 Only)*:
This is the length of the system screen or video window. This should be set to "Auto-Detect" always, unless you have a specific reason to force Synchronet to think the screen length is a certain value.

Screen Blanker *(v2 Only)*:
When enabled, this will cause the screen for this node to blank out when waiting for a caller after the configured amount of inactive time.

Semaphore Frequency *(v2 Only)*:
This option specifies how often (in seconds) this node should perform semaphore checks (e.g. checks to see if an event should be run, the node should be downed, etc.).

Statistics Frequency *(v2 Only)*:
This options specifies how often (in seconds) this node should check system statistics (calls per day, logons today, etc.). Used when updating the WFC statistics display.

Inactivity Warning:
This is the number of seconds of user inactivity before a warning (typically: "Username, are you still there?") is displayed to the user.

Inactivity Disconnection:
This is the number of seconds of user inactivity before the user is automatically disconnected.

Cost Per Call:
This option should only be set to something nonzero for a billing node. A billing node is a node attached to special phone line that will automatically charge the caller a predetermined amount (usually area code 900 or prefix 976 numbers). Set this value to the amount that the caller will be billed after the initial 30 seconds. The user doesn't actually access the BBS through this phone number as 900/976 services charge the sysop by the minute an unrealistic amount. The user just enters his or her name/alias and password and their account is credited with the amount of credits per dollar specified in the System options multiplied by this field (Cost per call) and the user is hung up on. The user then calls the normal BBS nodes and has instant access to their purchased credits.

Daily Event:
This is the command line to execute when the first caller after midnight logs off. If the program is located in the EXEC directory, this command line should start with the %! specifier.

Control Directory:
This is the path to the control directory where all the shared configuration (.CNF) files for SBBS are stored. TEXT.DAT (the editable ASCII file that contains almost all of the color and text that SBBS displays) and a few miscellaneous binary data files are also stored in this directory. All nodes of the system must have the same control directory and this directory should not be located on a RAM disk.

Text Directory:
This is the path to the text directory. This is where all menus, macros, SIF files, QWK files, system information, and other text files are stored. All data beneath this directory branch is READ ONLY as far as Synchronet is concerned, so changing this directory to a RAM drive would enhance performance and wouldn't risk data loss. If you do change this path, be sure to copy all the files and subdirectories of the original text directory there. If you do change this path to a RAM drive, you will need automate the copying of all of the files and subdirectories there upon system startup (possibly AUTOEXEC.BAT) with a sequence of commands like this:

```
md r:\text
xcopy c:\sbbs\text\*.* r:\text /S
```

Temporary Directory:
This is the path to the directory that this node will use for

temporary file storage. This directory must point to somewhere unique and nonvolatile. All the files in this directory are deleted upon execution of the BBS, so do not store any files you want to keep in this directory. Each node must have its own temp directory. For increased performance on batch uploads, it is best if this directory is on the same disk drive as the majority of your file transfer directories.

In v3+, this option should always be set to "TEMP\".

Swap Directory *(v2 Only)*:
This is the path to the directory that this node will use for swapping to disk if "Allow Swapping" is set to 'Yes' and Swapping to EMS, XMS, and Extended memory is either disabled or not enough memory is available.

Modem Configuration *(v2 Only)*

This sub-menu and the options contained within it are discussed in another section of this manual. Consult the 'Modem Set-Up' section of this manual for more information.

[3.4] - Wait for Call Number Keys *(v2 Only)*

This option lets you configure what command line will be executed for each number key (0-9) while waiting for call. These commands will generally be simple things that don't require much memory, such as listing the ERROR.LOG, listing the GURU.LOG, editing a file, or any other simple functions. For large program functions, see Wait for Call Function Keys.

[3.5] - Wait for Call Function Keys *(v2 Only)*

This option lets you configure what command line will be executed for each function key (F1-F12) while waiting for call. These commands can execute just about any program because Synchronet will shrink to 16k before executing it. Popular uses for these shrinking commands would be running a terminal program or other large applications.

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[4.1] - Using UART Serial Cards/Internal Modems *(v2 Only)*

If you are using a shared IRQ or non-UART serial card, you should skip this section and go to the section on 'Using a Shared IRQ or Non-UART Serial Card'.

If you are using an internal modem, note that all references to serial boards are the same as referring to an internal modem. Also note that most internal modems only have support for up to 4 different IRQ's and I/O addresses.

Prior to installing your serial board, you should insure that neither the IRQ or the I/O address of any of the ports on the board are being used by any other devices in your system. Following is a list of IRQ's and I/O addresses which are commonly used by devices (those marked with a minus sign (-) may never be used by a serial board):

Device	IRQ	I/O Address
-Timer	0	040 - 05F
-Keyboard Controller	1	060 - 06F
*EGA/VGA Cards	2	
Serial Port 2	3	2F8 - 2FF
Serial Port 1	4	3F8 - 3FF
Parallel Port 2	5	278 - 27F
Floppy Drive	6	3F0 - 3F7
Parallel Port 1	7	378 - 37F
-Real Time Clock	8	070 - 07F
*Same as IRQ 2	9	
-Co-processor	13	0F0 - 0F1
Fixed Disk Controller	14	1F0 - 1F8

*NOTE: IRQ's 2 and 9 may never be used at the SAME time.

The following are suggested IRQ and I/O address settings for using up to 8 serial ports:

Device	IRQ	I/O
Serial Port 1	4	3F8
Serial Port 2	3	2F8
Serial Port 3	5	3E8

Serial Port 4	2	2E8
Serial Port 5	10	1F8
Serial Port 6	11	1E8
Serial Port 7	12	1A8
Serial Port 8	15	2A8

An additional 2 serial ports may be added using the following IRQ and I/O addresses:

Device	**IRQ**	**I/O**
Serial Port 9	7	400
Serial Port 10	14	408

Refer to the documentation provided by the manufacturer of your particular serial board for information on how to select IRQ and I/O addresses.

After you have the ports on your serial board set up to fit your system requirements, you should write down the IRQ and I/O address information for future reference. Once you have determined the IRQ and I/O address that each node on your system will use, you must run the SCFG program and go to the Nodes->Node #->Modem Configuration and set the COM Port, UART IRQ Line, and UART I/O Address. Each node, when running on the same machine, should have a unique COM Port number.

Notes on UARTs

If you are using an external high-speed modem, you may require a buffered UART chip on your serial board for error-free transmissions. 8250 and 16450 UARTs DO NOT have buffers and are usually insufficient for high-speed modems. 16550AFN UARTs have a 16 byte FIFO UART which allows error-free transmissions with high-speed modems, particularly necessary when multi-tasking. Almost all internal high-speed modems come with a built-in 16550 UART.

[4.2] - Using a Shared IRQ or Non-UART Serial Card

If you are using a serial card which allows the use of shared IRQ's or has a non-standard UART interface, you will need to use a device driver to interface this card with Synchronet. Usually, such a driver would be included with the serial card from the manufacturer. Third party drivers are also available (such as COMM-DRV and X00).

Synchronet supports three driver interfaces, all using Int 14h services. The supported driver interfaces are:

FOSSIL (Fido/Opus/SEAdog Standard Interface Layer Version 5)
Functions 0 through 6, and Fh
Example FOSSIL drivers: X00, BNU, and COMM-DRV

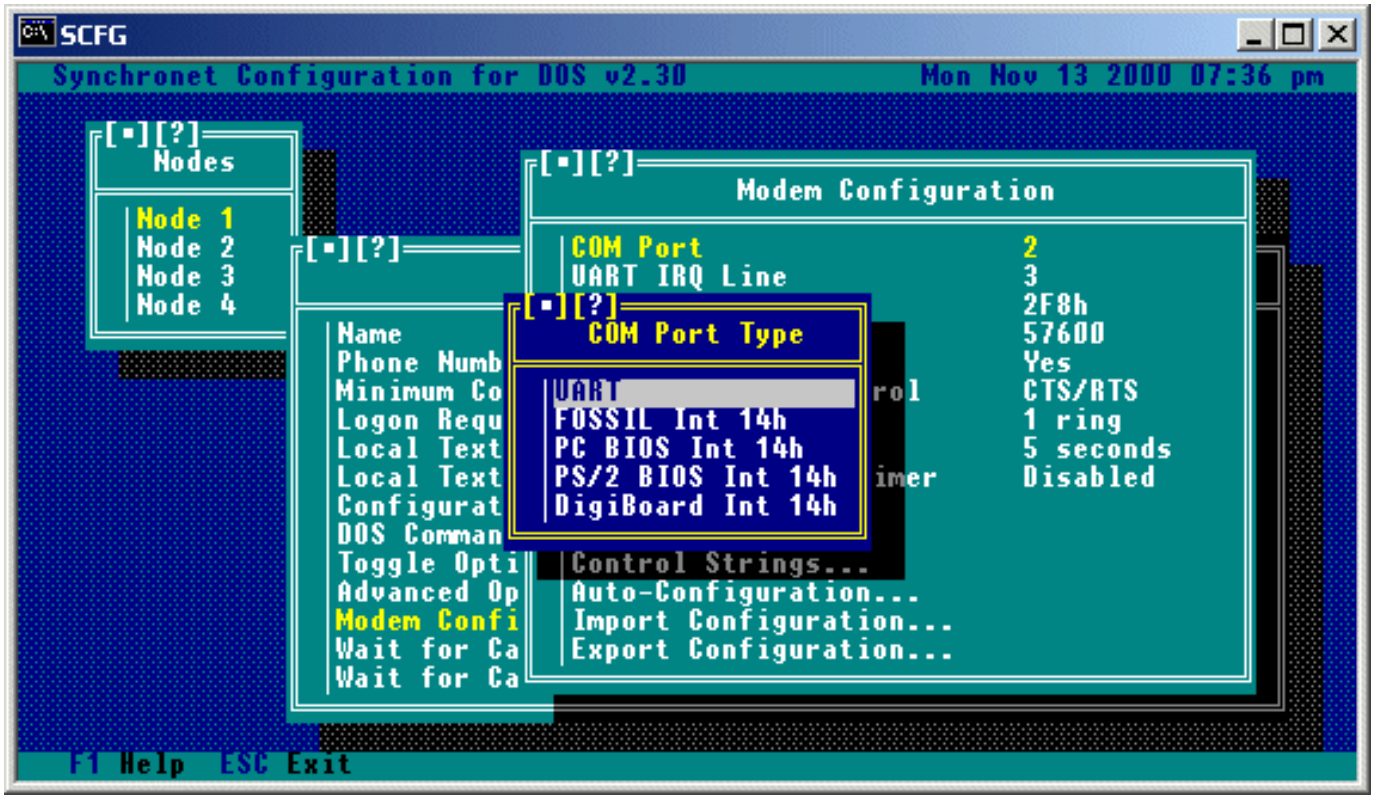
PC BIOS

Functions 0 through 3

PS/2 BIOS
Functions 1, 2, 4, and 5

DigiBoard
DigiCHANNEL PC/Xi and PC/Xe DOS driver

When setting the COM port in SCFG->Nodes->Node #->Modem Configuration, you will be prompted for the COM port type:



If you are NOT using a special shared IRQ or non-UART serial card, then you should select "UART" and ignore the rest of this section.

When selecting a non-UART COM port type, the "Channel" will automatically be set to the COM port number minus one. This is the zero-based COM port that will be used when communicating with the device driver (i.e. COM port 1 is channel 0, port 2 is channel 1, etc). You should NOT change the channel number unless you have a specific reason for doing so and understand exactly what you are doing.

If you are using an Intelligent DigiBoard and are using the DigiBoard supplied device driver, then select "DigiBoard Int 14h".

If the card you are using has a FOSSIL compatible device driver, this should be your preferred selection unless you wish to use baud rates greater than 38400, in which case a "PS/2 BIOS" compatible driver would be a better choice. The COMM-DRV/Universal Serial Communications Driver supports both FOSSIL and PS/2 BIOS interfaces.

You should only select "PC BIOS" in a last case scenario (i.e. Your card's device driver does not support any other Int 14h interface). The PC BIOS interface does not support DTR, so if you use such a limited driver, you must set "Drop DTR to Hang Up" to "No" under "Modem Toggle Options", set the "Hang Up String" to "~~~\1\1\1~~~ATH" and change "S2=128" to "S2=1" in your "Initialization String".

Int 14h drivers can also be used to communicate with non-UART serial devices such as Packet Assembler/Disassemblers (PADs), Network Redirectors, HAM Radio Packet Servers, etc.

[4.3] - Dumb (NULL) Modem Connection

If you are connecting a Synchronet node to another computer or terminal through a serial port WITHOUT the use of a modem, you must set SCFG->Nodes->Node # ->Modem Configuration->Toggle Options->Dumb Modem Connection to "Yes". This disables all modem commands (Init, Special Init, Answer, Off-hook, etc.) and causes Synchronet to only log a user on when the DCD serial line is raised.

If your serial connection or terminal does not support the correct use of the DCD line, then you must run SBBS with the 'D' command line switch to force Synchronet to assume that DCD is always high. If this is the case, then there is no way to "hang up" on the BBS.

[4.4] - Modem Configuration

Now that you've set up your serial card, the easiest way to finish setting up the rest of the options for your modem is to run the SCFG program and go to the Nodes->Node #->Modem Configuration->Auto-Configuration, and select your modem model from the list of available choices. If your modem is not listed, you may select Generic 2400 for unlisted 2400bps Hayes compatible modems, Generic 9600, Generic 14400, or Generic 28800 for unlisted high speed modems. You may also import .MDM configuration files (located in your control directory) if you receive an updated or new version of a configuration file for your modem from Digital Dynamics or a third party.

Following is a list of remaining options and a brief description of each for those of you that wish to manually alter the modem settings.

UART (DTE) Rate is the data transfer rate between your computer and your modem, for non-data-compressing, non-high-speed modems, you should set this to your modem's highest DCE rate (e.g. a 2400bps modem should use a 2400bps DTE rate). If you have a data-compressing or high-speed modem, this value should be set to the highest DTE rate your modem supports (consult your modem manual). If you plan on using a FOSSIL driver for any external programs or doors, the DTE rate you set for your FOSSIL driver should be the same number you use for this option.

Hardware Flow Control should be set to Transmit and Receive (Both) if your modem supports CTS/RTS hardware flow control (usually data-compressing or

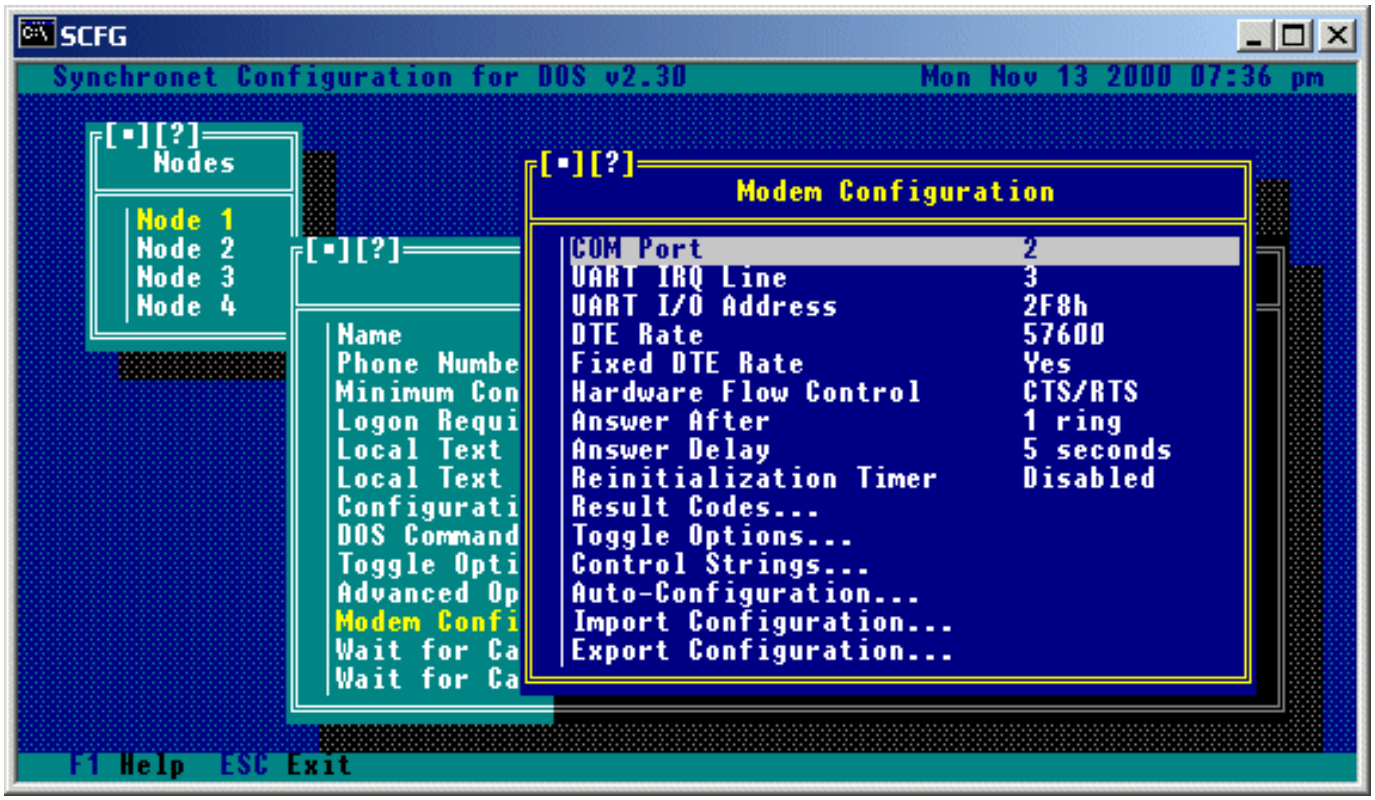
high-speed modems).

Answer delay is the number of seconds to pause after a connection is established and before the terminal detection string is sent. It is suggested that this delay be set to a minimum of 5 seconds to allow for accurate terminal type detection. If the callers on your BBS are experiencing inaccurate terminal type detection, you may want to increase this number.

Answer after (# rings) is the number of rings the bbs should wait for before answering the phone, the minimum is 1 ring.

Reinitialization Timer is used to automatically reinitialize the modem periodically to make sure it is functioning correctly. If you find that your modem works most of the time, but occasionally will not answer the phone or functions incorrectly, you may wish to use this feature. Setting this value to 0 will disable periodic modem reinitialization.

Example (for Generic 28.8k Modem on COM 2):



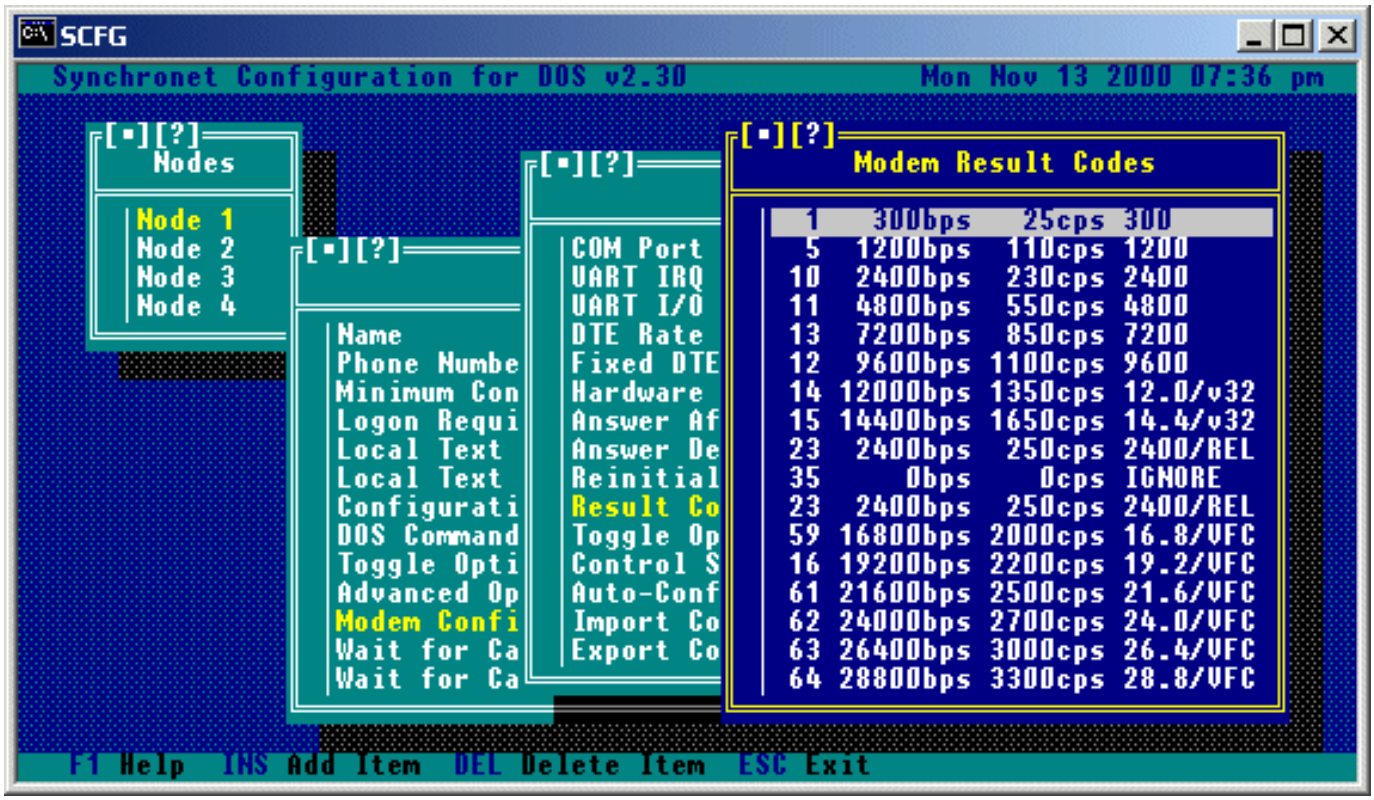
[4.5] - Result Codes

Result Codes is a list of numeric result codes (connect codes) supported by your modem. If you have set "Use Verbal Result Codes" to 'Yes' in your the SCFG modem toggle options for this node, this list is not used.

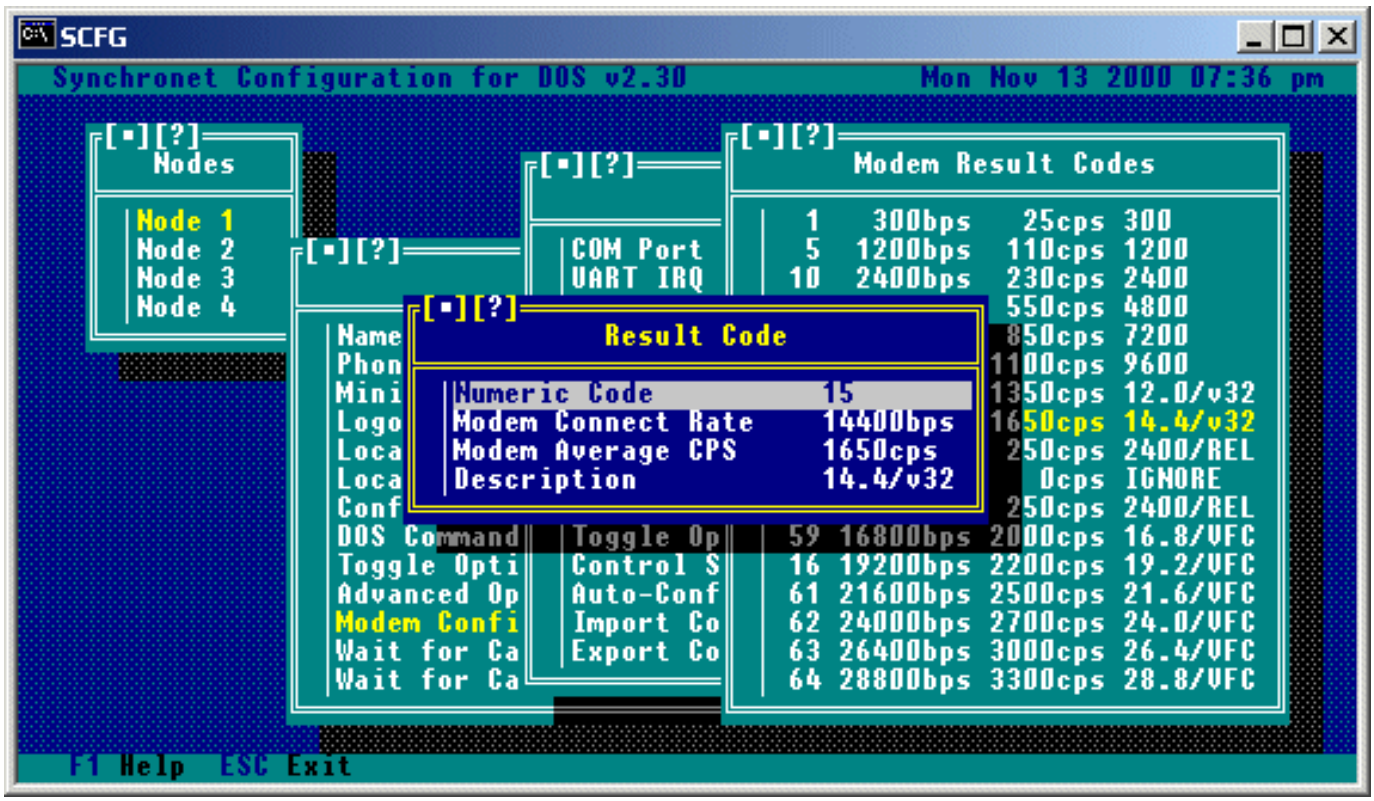
You would use this list to add result codes that your modem supports, but are not currently in the list or to remove codes that are in the list but are not supported by your modem. For each result code, the actual numeric code, the DCE (connect) rate, estimated file transfer CPS, and an 8 character description

of the connection type are stored. A complete list of result codes supported by your modem should be given in your modem manual.

Here is an example of what the result code list would look like for a Generic 28.8k modem:



Selecting result code 15 from this menu would result in a sub-menu as follows:



If "FAX" is used for the result code description, Synchronet will exit with an error level of 100 when this result code is returned. This feature is used

for FAX/Modems that can auto-detect FAX and DATA calls and return a numeric result code for FAX connections. If a different error level is preferred, use "EXIT nnn" (where nnn is a numeric value) for the description. If a verbal "FAX" or "+FCON" result code is returned, Synchronet automatically exits with an error level of 100 (see FAX/Modem setup later in this chapter).

If your modem returns any result codes PRIOR to the actual connection result code (and this behavior cannot be disabled), then add these result codes to the result code list and enter "IGNORE" for the result description, thus causing Synchronet to ignore this result code and wait for another result code to determine the actual connection type. This step is only necessary for modems that insist on returning multiple result codes during a connection.

[4.6] - Toggle Options

Selecting this option gives a menu of available modem toggle options:

Caller Identification:
This is used for toggling the ability to use Caller-ID. Consult the section on caller identification for more information.

Dumb Modem Connection:
This option should be set to 'Yes' if you are using a dumb (null) modem cable to connect a computer to your BBS.

Drop DTR to Hang Up:
This is normally set to 'Yes', but some modems do not support the dropping of DTR to hang up the modem. If your modem is one of those, you should toggle this option to 'No'.

Use Verbal Result Codes:

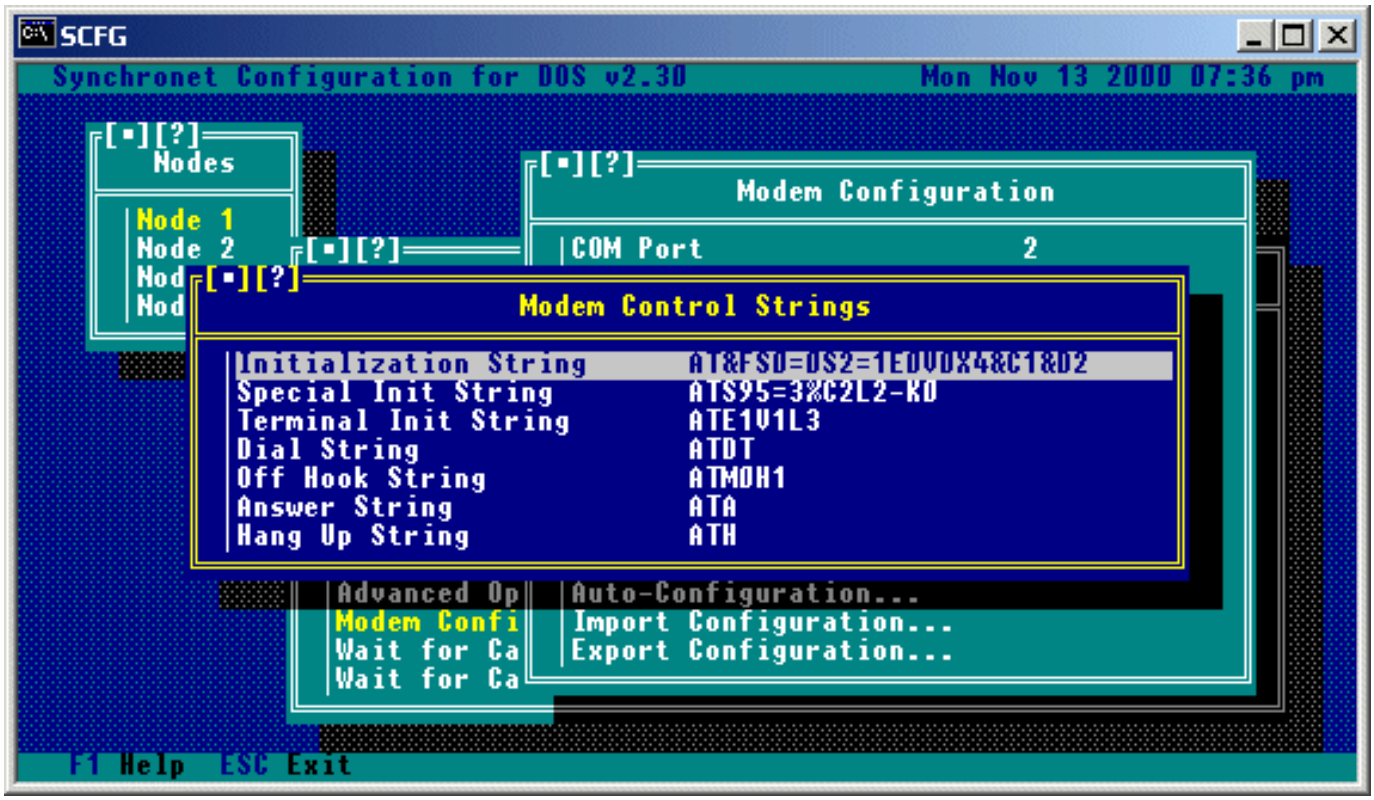
This option should be set to 'Yes' for the easiest configuration of your modem. When this option is set to 'Yes', SBBS will automatically parse the CONNECT message received by the modem to determine the connect (DCE) rate and estimated CPS of the call. If "ARQ", "V42", "LAPM", "MNP", or "REL" are contained in the connect string, hardware error correction is assumed to be in effect and the estimated CPS rate is increased appropriately. Setting this option to 'Yes' has the added advantage of allowing DCE rates above 64000. Result codes not recognized as CONNECT messages (e.g. PROTOCOL, CARRIER, etc) are ignored. Result codes with "FAX" or "+FCO" cause SBBS to exit with an error level of 100 (for the execution of FAX receive software).

Allow Unknown Result Codes:

If "Use Verbal Result Codes" is set to 'No', then numeric result codes returned by the modem are then looked up in the configured result code list. If the result code is not found and the "Allow Unknown Result Codes" option is set to 'No', the call is immediately disconnected and an error message is logged for the sysop's attention. If the result code is not found and the "Allow Unknown Result Codes" option is set to 'Yes', then the connection information (DCE rate, estimated CPS rate, etc) is taken from the last configured result code and an error message is still logged for the sysop's attention.

[4.7] - Control Strings

Modem Control Strings are the strings which are sent to your modem at various times during BBS operation. Normally the default strings are sufficient for proper operation, but occasionally you may wish to modify one or more of these settings.



Initialization String is the basic modem initialization for Synchronet. You should not modify this unless you are unhappy with any of the settings and are familiar enough with the AT command set to understand what each command does. Placing a tilde '~' anywhere in this string will produce a 500 millisecond (half second) pause. Synchronet requires that the modem NOT echo characters back and return numeric result codes. So "E0" and "V0" must be included in the init string. Since Synchronet manually detects incoming calls from the modem, the modem's auto-detect feature must be disabled with "S0=0". If you do not want to hear the connection progress sounds, add "M0" to the end of your modem initialization string to disable the modem's speaker.

Special Init String is where additional initialization commands are placed for specific modem types, usually error-correcting, data-compressing, or high-speed modems.

Terminal Init String is the initialization string sent to the modem when you enter Synchronet's terminal mode ('T' from the waiting for call screen).

Dial String is the command sent to the modem for making outbound calls. Currently only used by the Synchronet Callback Verifier.

Off Hook String is the command sent to the modem to take the phone off-hook (busy).

Answer String is the command sent to the modem when a ring is detected by Synchronet.

Hang Up String is the command sent to the modem to hang up the phone and is only used if Drop DTR To Hang Up modem toggle option is set to No.

[4.8] - Auto-Configuration

The auto-configuration contains a very long list of modem types. Using this list is the EASIEST way to configure your modem to work with Synchronet. All you need to do is select your modem from this list and most everything will be configured for you. If you do not see your modem in this list, you can normally select a 'Generic' model from the list.

If someone later creates an .MDM configuration file specifically for your modem, you can use this configuration file simply copying the .MDM file into your control directory and then selecting the 'Import Configuration' option from the menu and typing in the name of the .MDM file.

If you create a new configuration you would like to make available to people, you can export the configuration information into an .MDM file by selecting the 'Export Configuration' option from the menu.

[4.9] - Caller Identification

If your modem supports one of the Caller-ID formats listed below and you have Caller-ID service enabled on your phone line, you can have Synchronet log Caller-ID information and disallow specific numbers. First, add the appropriate commands to SCFG->Nodes->Node #->Modem Configuration->Special Init String to enable Caller-ID on your modem (see your modem's manual for details). Then set SCFG->Nodes->Node #->Modem Configuration->Toggle Options->Caller Identification to "Yes".

If you are using a Front-End (e.g. FrontDoor) on your BBS, the CID information can be passed to Synchronet on the SBBS command line with the 'Z' command line switch (e.g. sbbs c14400 z01-09_11:15_7145295313). The Caller-ID information must be ONE string with no spaces.

The user's phone number will be placed in the user's note field for your records and logged for each call in the system log. If you wish to disallow access for a specific number, create the file CID.CAN in your TEXT directory and enter one phone number per line to disallow that number. If you want a message to be displayed to the user who calls with a disallowed number, create the message file BADCID.MSG in your TEXT directory.

Supported formats:

Single Line:

```
MM-DD HH:MM Number
```

Three Line:

```
TIME:
CALLER NUMBER:
```

```
                CALLER NAME:

        Four Line:

                DATE =
                TIME =
                NMBR =
                NAME =
```

[4.10] - FAX/Modem Setup for Receiving FAXes

In order for Synchronet to be able to receive incoming FAXes, there are a few requirements that must be met, these are:

1) Your modem MUST be able to return either a verbal or numeric FAX result code (verbal results must contain "FAX" or "+FCO").

2) Your modem MUST be able to auto-detect FAX and DATA calls.

3) You MUST have a command line receive FAX program that works with your FAX modem.

If all of the above requirements can be met, then you will need to modify the SBBS.BAT/SBBS.CMD file in the directory of the node(s) to be used for receiving incoming FAXes as follows (using a ZyXEL FAX/Modem setup on COM 2 as an example):

```
-----------------------------------[ Begin ]-----------------------------------
@echo off
:top
..\exec\sbbs %1 %2 %3 %4 %5
if not errorlevel 100 goto end
c:
cd \zfax
rcvfax 2 /p:1
echo Incoming FAX! >> c:\sbbs\data\msgs\0001.msg
c:
cd \sbbs\node1
goto top
:end
-----------------------------------[ End ]-------------------------------------
```

Change the 'c:' on the 5th line to the drive letter where your receive FAX program resides.

Change the 'cd \zfax' on the 6th line to the name of the directory where your receive FAX program resides.

Change the 'rcvfax 2 /p:1' on the 7th line to match the name and command line options of the receive FAX program for your modem.

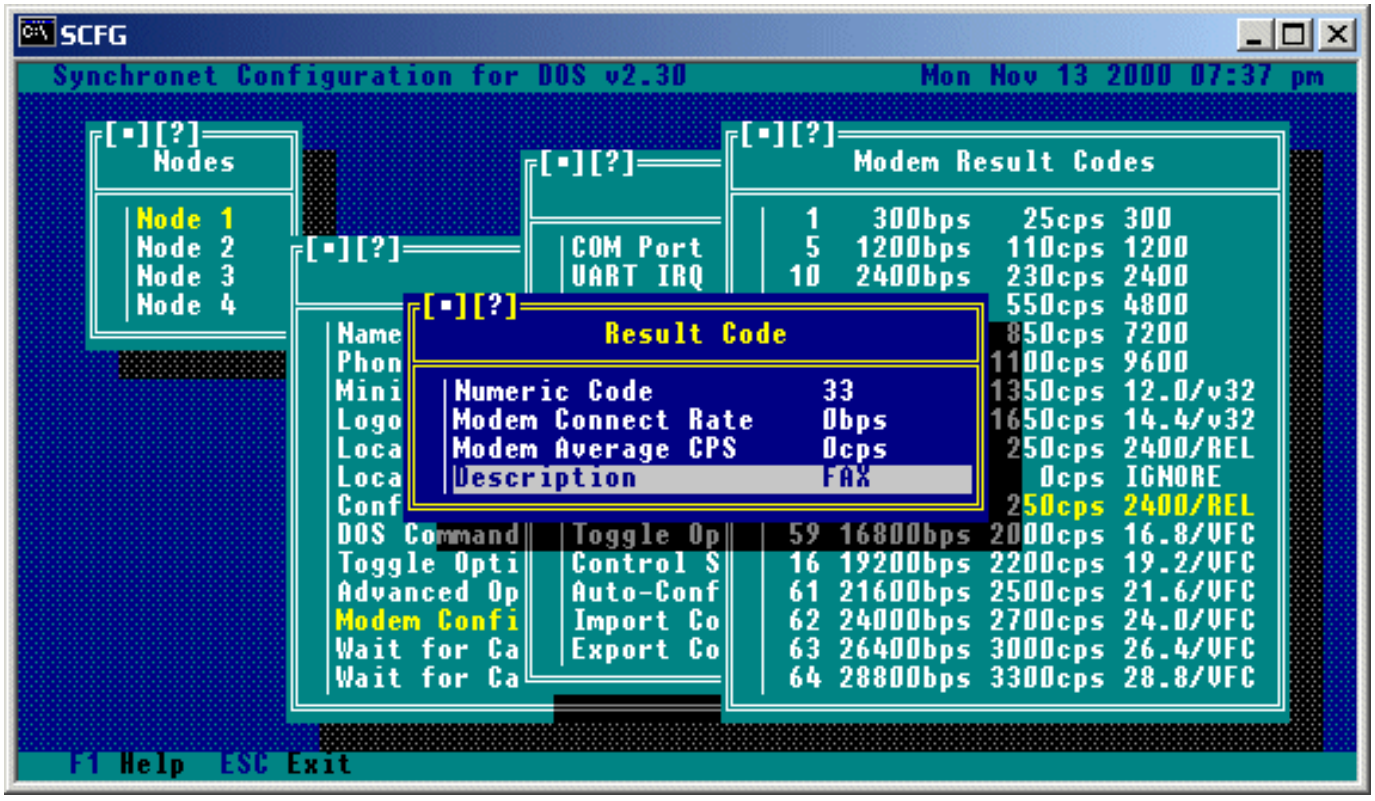
Change the 'c:\sbbs\data' portion of the 8th line to match the location of your Synchronet data directory.

Change the 'c:' on the 9th line to the drive letter where you have Synchronet installed.

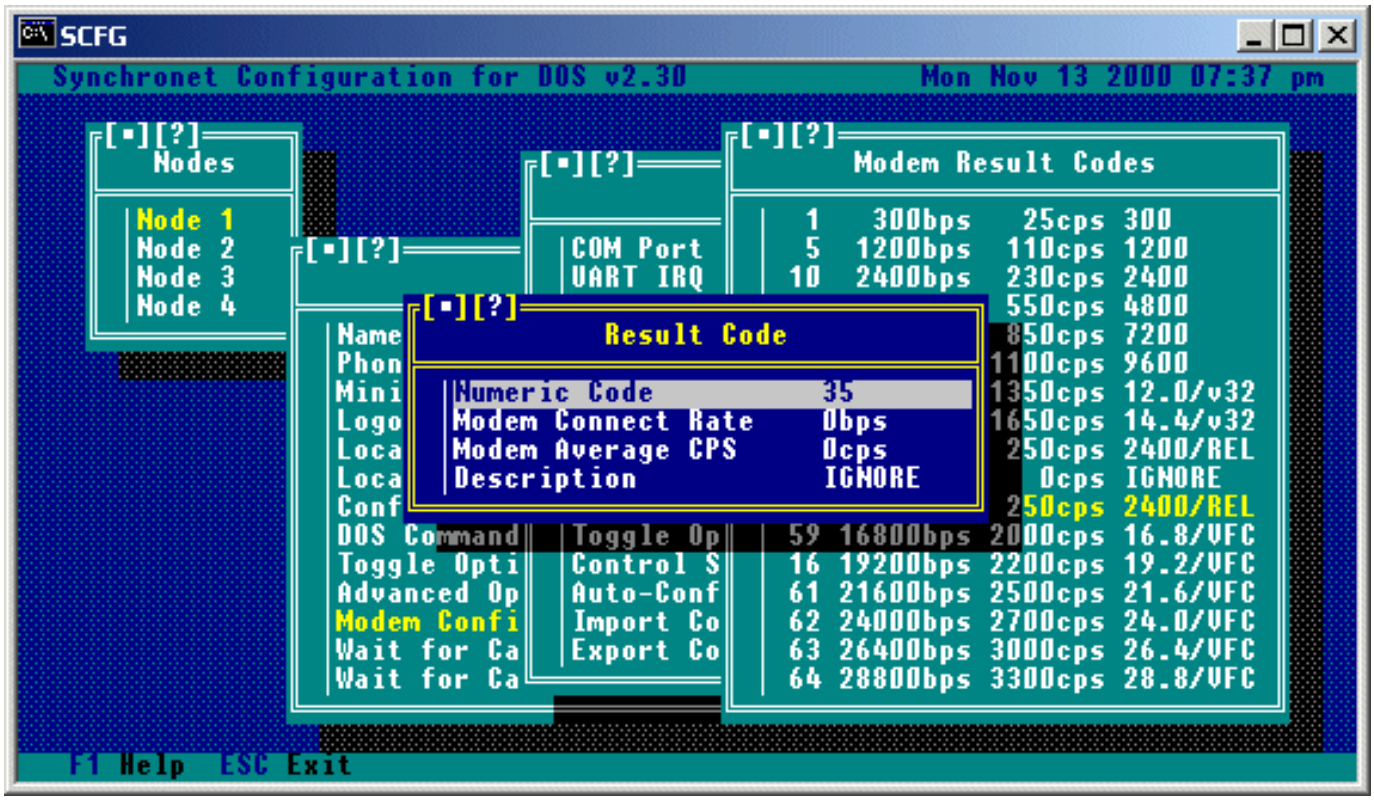
Change the 'cd \sbbs\node1' on the 10th line to match the directory of the node(s) that will be set up for receiving FAXes.

Check your modem manual to find out if your modem responds with a verbal "FAX" (e.g. ZyXEL) or "+FCO" (e.g. Practical Peripherals) result code or a numeric FAX result code (e.g. Hayes). If a numeric result code is returned, then run SCFG from your node directory and go to Nodes->Node #->Modem Configuration->Result Codes and add the numeric result code your modem returns for a FAX connect and enter "FAX" for the result description. If your modem returns a numeric "DATA" result code when in auto-detection mode (e.g. Hayes) then add this result code to your result code list in SCFG and enter "IGNORE" for the result description.

Example numeric FAX result code (using Hayes Optima 288):



Example numeric DATA result code (using Hayes Optima 288):



If there are any commands needed to enable FAX auto-detection, add these commands to the end of your Special Init string in SCFG->Nodes->Node #->Modem Configuration. If there is an auto-configuration entry listed for your modem with FAX enabled, this step is not necessary.

Now you are ready to receive FAXes! When your modem returns a FAX result code to Synchronet, the receive FAX program specified in this batch file will be executed. FAXes will be placed into the directory that your FAX program uses for received FAXes.

FAXes CANNOT be sent to specific users on the BBS, this option is only for the convenience of being able to receive FAXes without the need of a dedicated FAX machine and phone line. However, the ability to allow users to FAX on demand or to upload files to be sent out as FAXes can be accomplished by using one of the add-ons (Domain FAX) from Domain Entertainment.

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[5.1] - Sysop Definition

There is usually one sysop (System Operator) per BBS - the owner and operator of the hardware which Synchronet is running on and accepting remote users. Quite often systems require more than one sysop and Synchronet is flexible in this respect. Within Synchronet, a sysop is defined as any user with a main level of 90 or above. Any user that qualifies as a sysop, is prompted with an "**SY:**" to enter the system password at logon. Any time a sysop attempts to perform a sysop function that may breach the system security, he is prompted with an "**SY:**" to enter the system password before he can proceed. Users with sysop access can cause serious damage to the system. Give out this ability with caution.

[5.2] - Multiple Sysops

As stated above, any user with a security level of 90 or greater can perform sysop functions, "So why have levels 91-99?" you might ask yourself. Well, you can still restrict a user with sysop access from accessing Message Groups or Sub-boards or File Libraries or Directories by setting the minimum required level above that user's level. For example: If you have a remote sysop with a security level of 90, you can still have a Message Group or Sub-board with a minimum required level of 91. Now this remote sysop will not be able to access that Group or Sub-board. While it is true that sysops can edit their own and subordinate user's accounts, they can not edit a sysop of higher level's account (when calling remotely). A remote sysop can't raise any user's level above his own, or add flags or exemptions that he himself doesn't have.

[5.3] - Local Sysop Commands *(v2 Only)*

Most sysop functions will be performed locally, while some sysop functions can only be performed locally. The following special key combination are only available while online locally (not from the Waiting for Call screen).

Macros:

All the function keys (F1-F12) and combinations with Shift, Ctrl, and Alt (48 macros total) are available for the sysop. A macro is a short way to enter many keystrokes. Each macro is stored in a separate file in the TEXT directory with a MAC extension. The name reflects which key combination will initiate the macro. For regular F1 through F12, the name is F1.MAC through F12.MAC respectively. For Alt-F1 through Alt-F12 the name is ALT-F1.MAC through ALT-F12, Ctrl-F1 through

Ctrl-F12 are named CTRL-F1.MAC through CTRL-F12, and Shift-F1 through Shift-F12 are named SHFT-F1.MAC through SHFT-F12. Each file is a basic ASCII text file with one exception; an extended key combination (such as Alt-D) can be entered by placing a Ctrl-@ (ASCII 0, NULL) in the file followed by the scan code of the key you wish to use.

Alt-key combinations:

Alt-U (User Edit)
At any place within Synchronet, pressing Alt-U at the local keyboard will pop the local console into User Edit while the remote side (if there is a remote user) will see [WAIT]. Alt-U is available while using the terminal mode as well. See User Edit for more information.
See UEDIT command below.

Alt-# (Quick Validation)
Pressing Alt and then any of the numbers 0-9 will change the current users level/flags/exemptions/restrictions/credits and extend their expiration date to the settings for that quick-validation slot set in the system configuration. SCFG->System->Toggle Options->Quick Validation Hot Keys must be set to 'Yes' for this feature to work.

Alt-S (Crazy Cursor Toggle)
Pressing Alt-S will toggle the state of the crazy (spinning) cursor, but doesn't change the current user's default settings regarding it.

Alt-E (Local I/O Only)
If a user is on remotely, this allows the local console to use the BBS while the remote user just sees [WAIT]. Pressing Alt-E again re-enables the remote console.

Alt-L (Capture)
This starts and stops the local capture of text to a file. If capture is active the status line will reflect this state with a blinking 'C' as the far left character. The file the BBS opens to capture to will be appended if the file already exists. The filename to capture to is prompted for when capture is started. The filename defaults to CAPTURE.TXT in the current node's directory. To direct output to the printer, change the filename to PRN.
See ANSCAP command below.

Alt-Q (Quiet Remote User)
If a user is connected remotely, hitting this key will disable him from being able to enter any keystrokes into the BBS . The user will see all the BBSs output, but any characters sent from his side will not be accepted as input. Hitting Alt-Q again enables remote input again.

Alt-P (Sysop Page Off)
If someone is currently paging the local sysop (annoying sounds at the local console), hitting Alt-P will turn them off. Scroll-lock toggles local sysop availability.

Alt-H (Disconnect)
Hangs up on the current user immediately.

Alt-I (Interrupt)
Hangs up on the current user after displaying a message the node has been closed for maintenance.
See INTR command below.

Alt-A (Sysop Alert)
When the current user logs off the BBS, the local sysop will be alerted by a message and a continuous alarm.

Alt-R (Rerun Node)
When the current user logs off the BBS, this node will automatically rerun itself.
See RERUN command below.

Alt-X (Down Node After User Logs Off)
Hitting this key combination while the user is in the BBS will toggle the down status of this node. When a node is to be downed, it will be automatically shutdown when the current user logs off.
See DOWN command below.

Alt-- (Subtracts 5 Minutes)
Subtracts 5 minutes from the users time allowed online this logon.

Alt-+ (Add 5 Minutes)
Add 5 minutes to the user's time allowed online this logon.

Alt-N (Lock Node)
Pressing this key will disallow any non-sysops or users without the 'N' exemption from logging on after the current user logs off.
See LOCK command below.

Alt-T (Temp Sysop)
Gives the current user sysop status temporarily for this logon. Hitting Alt-T again removes the temp sysop status. This doesn't actually raise the security level of the user to 90, but gives him access to all sysop functions. The status line reflects Temp Sysop state with a blinking asterisk to the far left of the status line.

Alt-G (Guru Chat)
Pops the user in and out of apparent local chat with the system's guru.

Alt-C (Local Chat)
Pops the user into chat with the local console.

Alt-D (DOS Shell)
Pops the local console into DOS. If a user is on remotely, he sees [WAIT] till the local console exits the shell. The sysop can use the 'D' command to shell to DOS from the wait for call screen.
See DOS command below.

Alt-Z (Local Key Menu)
Displays the local key menu.

Status Line:

The status line displays one line of user information at any given time. To change the current line, use CTRL and the UP and DOWN arrow keys to scroll through different information lines, or CTRL-HOME to go to the default (1st) or CTRL-END to go to the last.

The available status lines are:

```
 0: UserName SecLevel Password ModemType Birthday Age Sex Phone
 1: UserName SecLevel RealName/CompanyName "Alt-Z for help"
 2: UserName SecLevel RealName/CompanyName Age Sex Phone
 3: UserName SecLevel Location Phone
 4: UserName SecLevel Note/Caller-ID Phone
 5: UserName SecLevel Flags1 Age Sex Phone
 6: UserName SecLevel Flags1 Expiration
 7: UserName SecLevel DateFirstOn DateLastOn Expiration
 8: UserName SecLevel Credits Minutes Expiration
 9: SecLevel Flags1 Flags2
10: Exemptions Restrictions
11: ComputerType ModemType ChatHandle
12: Address Location ZipCode
13: UploadBytes UploadFiles DownloadBytes DownloadFiles LeechCount
14: Posts EmailSent FeedbackSent EmailWaiting TotalLogons TotalTimeOn
15: NetMailForwardingAddress
16: SysopComment
```

You can set the default status line number in SCFG->System->Advanced options. This will be the default status line that appears until manually scrolled.

There are status flags on the status line that indicate specific status items. They appear blinking on the left or right edges of the status line. They are defined as:

```
C       Local text/ANSI capture is on
*       Temporary sysop status
A       Alert sysop when user logs off
R       Rerun this node when user logs off
D       Down this node when user logs off
E       Run node daily event when user logs off
L       This node is locked for sysop logons only
```

[5.4] - Extra Online Sysop Commands

Most of the additional commands available to sysops online (local or remote) are initiated from the main or transfer sections. A menu of the available commands can be viewed with the '!' command from the main or transfer sections

with the Synchronet Classic command shell. Additional sysop commands are available in many other sections of the BBS and are displayed after the normal menu with the '?' command. All sysop commands from the main or transfer sections of the Synchronet Classic command shell begin with a semicolon (';') character, end with CR (ENTER), and some have optional parameters (shown in square brackets). Users with certain exemptions can use some of these commands and have access to the menus via the '!' command using the Synchronet Classic command shell.

UEDIT [x] **(User Edit)**
This command initiates the User Edit function. If 'x' is specified and is a valid user number, that user will be the current user when User Edit starts, otherwise the user online will be the current user. This command is also available from the transfer menu. Locally, Alt-U is the preferred method of initiating User Edit.
See the chapter on User Edit for more information.

SPY [n] **(Spy on Another User)** ***(v3.00c+ Only)***
This command allows the sysop to remotely monitor or control another node running in the same instance as the node the sysop is logged into.

CHUSER **(Change into Another User)**
This command allows the sysop to temporarily change to another user account. If changing to an account with a higher level, the password of that user must be given. Changing to an account of non-sysop status automatically enables Temp Sysop mode so that the sysop can change back to his/her own account before logging off (a suggested action).

ANSCAP **(Toggle ANSI Capture Mode)** ***(v2 Only)***
Normal ANSI escape sequences are not written to the capture file. The sysop can use this command to enable all characters (including ANSI escape sequences) to be written.

LOCK [x] **(Lock Node)**
The sysop can use this command to prevent users logging onto a node until the lock is removed. If 'x' is specified, that node's lock status will be toggled, otherwise a list of all nodes is given and the sysop is prompted for the node to lock or unlock. Sysops and users with the 'L' exemption can use this command and log onto locked nodes. A locked node will have an 'L' in parenthesis after the node information in the node listings.

INTR [x] **(Interrupt Node)**
This command allows a sysop (or user with the 'I' exemption) to hang up on a user on another node. If the user is currently executing an external program (editors and transfer protocols included), he will not be disconnected until control returns to Synchronet. A message will be displayed telling the user that the node has been temporarily closed for maintenance before carrier is dropped. If 'x' is specified that node's interrupt status will be toggled, otherwise a list of all nodes is displayed and the sysop is prompted for the node who's interrupt state he wishes to toggle. The current interrupt status of a node is reflected by an 'I' in square brackets following the node information

line in the node listings.

DOWN [x] (Down Node)
A sysop can toggle the down status of a node with this command. When a node has the down status (noted by the [D] flag on the node status line) it will be shutdown immediately after the user logs off. If a user is not online, it will shutdown immediately.

ANON (Anonymous)
This command makes the current node anonymous. Sysops and users with the 'Q' exemption have access to this command. To a sysop, an anonymous node appears normal with the addition of an 'A' in square brackets following the node information line.

QUIET (Quiet Mode)
Using this command, a sysop (or user with the 'Q' exemption) can make his node appear to be "Waiting for call" to other users of the system. Users with this ability can also make this state their default state upon logon in the user defaults section. Local users can logon in this state with the WFC command SPACE, then 'Z' or user number 1 can logon fast and quiet with the WFC command SPACE, then 'Q'.
To a sysop, a node in this state appears normal with the addition of a 'Q' in square brackets following the node information line.

RERUN [x] (Rerun Node)
This command allows a sysop to rerun any node on the system by specifying the node number on the command line. If there is a user on the node that is to be rerun, the node will not rerun until that user logs off. A node that is going to be rerun is noted with an 'R' in square brackets following the node information in node listings.

DOS (Shell to DOS)
Using this command, a sysop can go straight to the DOS command line locally or remotely. If the sysop is on locally, ALT-D is the preferred method of shelling to DOS. If a local sysop wishes to shell to DOS from the wait for call screen, he can use the 'D' command.

EDIT [s] (Edit Text/MSG File)
A sysop can edit any ASCII text (and MSG format) files on the system with this command. If 's' is given, it will be used as the filename to be opened or created if it doesn't exist. If 's' is not specified, the filename will be prompted for.

LOG (Today's Detail Log)
A sysop can view today's detailed log file with this command. This command views the same file as the 'L' wait for call screen command.

YLOG (Yesterday's Detail Log)
A sysop can view yesterday's detailed log file with this command. This command views the same file as the 'Y' wait for call screen command.

NS [x] (Node Statistics)

This command will give today's statistics for node 'x' if specified, or the current node.

SS (System Statistics)
This command will give today's statistics for all nodes combined.

NLOG [x] (Node Statistics Log)
A sysop can view the history of statistics information for any node on the system. If 'x' is specified, that will be the node who's statistics are viewed, otherwise the current node. Same as 'N' from the wait for call screen.

SLOG (System Statistics Log)
Using this command, a sysop can view the history of statistics information for the system. Same as 'S' from the wait for call screen.

MEM (Available Memory) ***(v2 for DOS Only)***
This command displays the amount of memory available to Synchronet and any external programs it executes (without swapping).

LIST [s] (View Text/MSG File)
A sysop can use this command to view any ASCII text (or MSG format) file on the system. If the filename 's' is not specified, it is prompted for.

GURU (View Guru Log)
A sysop can use this command to view the GURU.LOG file which contains discussions that users have had with the system guru (GURU.DAT). See GURU.DAT for more information.

MAIL (Read All Mail)
Using this command (or 'M' from the WFC screen) a sysop can read all the e-mail on the system.

BULKMAIL (Send Mass Mailing)
Use this command to send a single e-mail message to multiple users.

CALL [Hub-ID] (Force QWKnet Call-out)
Forces a QWKnet call-out to the hub "Hub-ID" the next time the call-out node is at the WFC screen. Example: CALL VERT

EXEC [Command] (Execute a DOS program or Baja module)
Execute internal DOS commands (DIR, TYPE, etc.) by prepending "command /c" to your command line. Execute Baja modules by prepending "*" to the command line. Baja modules must be located in your EXEC directory. Command line specifiers (see appendix A) may be used.

CHAT
Users with the 'C' exemption can use this command to page the sysop.

OLD (Search for Files not Downloaded Since New-Scan Date)
A sysop can use this command to remove, edit, or move files that were

uploaded before the new-scan date (set with the '&P' transfer section command) and have not been downloaded since.

OLDUL (Search for Files Uploaded Before New-Scan Date)
A sysop can use this command to remove, edit, or move files that were uploaded before the new-scan date (set with the '&P' transfer section command).

CLOSE (Search for Files Currently Open)
If there are no users online and all nodes are running, there should be no file records open. A sysop can check for open file records with this command. Any file records that are left open erroneously, can be closed with this command. This circumstance should not happen.

ALTUL [x] (Alternate File Path Uploads)
If there are alternate file paths configured, a sysop can use this command to set the current upload path to one of the alternate file paths. All subsequent upload commands will use the alternate upload path as the storage directory regardless of the storage path specified for the directory being uploaded to. This is a useful command for those who wish to have one directory with files listed from multiple CD-ROMs.
See CD-ROM for more information on creating alternate file paths.

UPLOAD (Bulk Local Upload)
This command searches for files that are on disk, but not in the database of the directory. If any are found, a description is prompted for and the file is then added to the database.

RESORT (Re-Sort and/or Compress)
A sysop can use this command to re-sort a directory if he has changed the sort order in the directory configuration or can use this command to remove deleted file records from the database to conserve memory and disk space. If there are many deleted files in the database of a directory, performance will also be affected. Deleted file records are used by new uploaded files, but if a substantial amount of files have been removed from a directory, a sysop may wish to use this command.

OFFLINE (Search for Offline Files)
This command will search the disk for files that are in the database of a directory but not actually on the disk. The sysop can then remove, edit, or move these files to another directory. Offline directories are ignored in this search.

DIR [s] (Directory of Files)
This command displays a DOS directory of the path specified. If no path is specified, a directory of the current file transfer directory is displayed.

GET [s] (Download File From Anywhere)
A sysop can download a file from any drive or directory on the system

by using this command. The file does not have to be in the file database.

PUT [s] (Upload File to Anywhere)
A sysop can use this command to upload a file to a local disk without having to add it to the file database.

Note: The Baja source code file for these commands is: **exec/str_cmds.src**

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Synchronet BBS
Multinode Bulletin Board System Software

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[8.0] - Message Base

The Synchronet message base is used for storing messages from a user or sysop to other users or a specific user. The messages are divided into sub-boards where each sub-board has a unique message topic. Sub-boards are grouped together into message groups.

Sysops can control which users have what level of access to each group and sub-board. If a user doesn't have access to a specific group or sub-board, the user won't even know the specific group or sub-board exists.

The following is an example group/sub-board configuration:

Group Name	**Sub-boards**
Main	Sysop Notices
	General Discussion
	Debate
	Entertainment
	Advertisements
Adult	General Discussion
	Entertainment
	Singles Only
Technical	Hardware Help
	Software Help
	Programming

The Synchronet configuration program (SCFG) is used for adding, deleting, and configuring message groups and sub-boards.

[8.1] - Electronic Mail (E-mail)

Synchronet has a separate private personal mailbox for each user on the system. Users may receive local E-mail, NetMail, and Attached Files in their mailbox. Upon logon, each user is asked if they wish to read any mail in their box. Mail will stay in the user's box until it is deleted. Mail in a user's box may only be viewed or deleted by the receiving user, the sending user, or a sysop.

E-mail is preferred over Private Posts (on a sub-board) for sending private messages to users on the same BBS. Private posts are only useful for sending private messages on message networks that do not support or allow NetMail.

An E-mail file attachment may be uploaded by a user if SCFG->System->Message Options->Allow Uploads in E-mail is set to Yes. When reading E-mail with a file attached, the receiving user will be prompted if he or she wishes to download the attached file at that time. If the user downloads the file, the file is

deleted. If the message is deleted without the file being downloaded, the file is deleted as well.

Users with the 'A' exemption may send Anonymous E-mail if SCFG->System->Message Options->Allow Anonymous E-mail is set to Yes.

When replying to another message in E-mail, the original message may be quoted if the SCFG->System->Message Options->Allow Quoting in E-mail is set to Yes.

[8.2.1] - Internet (SMTP/POP3) Mail Server *(v3+ Only)*

Set-up:

1. Set SCFG->Networks->Internet->Address to your system's Internet address (domain name or static IP).
2. Set SCFG->Networks->Internet->Allow Sending of Netmail to "Yes".
3. Set SCFG->Networks->Internet->Allow File Attachments to "No" (File attachments from the BBS are not supported at this time).
4. Set SCFG->Networks->Internet->Send NetMail using Alias however you wish (Users can receive e-mail to their Alias OR real-name regardless of this setting).
5. Set SBBSCTRL->Mail Server->Configure->*DNS Server* to the address of your ISP's Primary DNS server (run "**ipconfig /all**" from the Windows command line to display your ISP's Primary DNS server) OR set *Relay Server* to the address of your ISP's SMTP server (check your e-mail program for your configured SMTP server hostname).

Notes:

Users will be able to send Internet e-mail from your BBS now (if you have a customized **TEXT.DAT** make sure you have updated line 62, "*InternetMailing*").

Your users will be able to receive e-mail at your BBS using any of the following ways:

First.Last@your.bbs.domain
First_Last@your.bbs.domain
RealFirst.Last@your.bbs.domain
UserNumber@your.bbs.domain (if ***RX By User Number*** **is toggled on)**
"First Last"@your.bbs.domain
"RealFirst Last"@you.bbs.domain

E-mail user names are not case sensitive (e.g. Digital.Man and digital.man are both valid user names). In order for users to receive mail via user number, that option must be checked in SBBSCTRL->Mail->Configure.

E-mail sent to "**SYSOP**", "**POSTMASTER**", your BBS's QWKID, or the sysop name (as configured in SCFG) will automatically go to user #1 on the BBS.

Additional aliases can be configured by creating the text file **ctrl/alias.cfg** with the following syntax:

```
------------------------------[ Begin ]-------------------------------------
; This is a comment
;
; Alias                 User Name or number
root                    sysop
sysadmin                sysop
webmaster               sysop
```

```
great.drummer           Rob Swindell
--------------------------------[ End ]-------------------------------------
```

If a user has their account configured to forward their e-mail to an Internet address and they receive an Internet e-mail, it will automatically be forwarded to the configured address.

The sysop of QWKnet nodes can receive e-mail at their QWK-ID @ their hub's Internet domain/ip address. Example: If YOURBBS (QWK-ID) polls VERT for QWKnet, you (the sysop) can receive e-mail at yourbbs@vert.synchro.net.

You (or any of the user's on YOURBBS) can send Internet e-mail from YOURBBS through VERT by sending a QWKnet NetMail message to NETMAIL@VERT with the actual destination Internet address as the first line of the message.

Relaying:

As of v1.10, the Synchronet Mail Server can be used to relay e-mail to external servers. Due to the security (SPAM) risks of opening the SMTP server up to just anyone, you must specify which hostnames or IP addresses you wish to allow to relay mail. You do this by creating the file **text/relay.can** and list the IP addresses or host names of the systems you wish to give relay access to. If you wish to allow relay access to all hosts (not recommended), simply create a **relay.can** with one line containing "**.~**".

[8.3] - Setting Up the Message Base

[8.3.1] - Creating Message Groups:

Run SCFG and select "*Message Base*" from the SCFG main menu and add any additional message groups you want. A message group is a group of message sub-boards that have a similar subject matter or other common element. It is common to put all of your local sub-boards in one group and your networked sub-boards (where messages are shared with other BBSs) into other groups. An example configuration that separates local and networked sub-boards into groups:

Group	**Sub-boards**
Local	General
Local	Sports
Local	Debate
Local	Literature
Local	Technology
Local	Advertisements
DOVE-Net	General
DOVE-Net	Advertisements
DOVE-Net	Entertainment
DOVE-Net	Debate
DOVE-Net	Hardware/Software
DOVE-Net	Programming
DOVE-Net	Synchronet
DOVE-Net	Synchronet Sysops
FidoNet	Interuser Discussion
FidoNet	Politics
FidoNet	Unix
FidoNet	OS/2

FidoNet DESQview

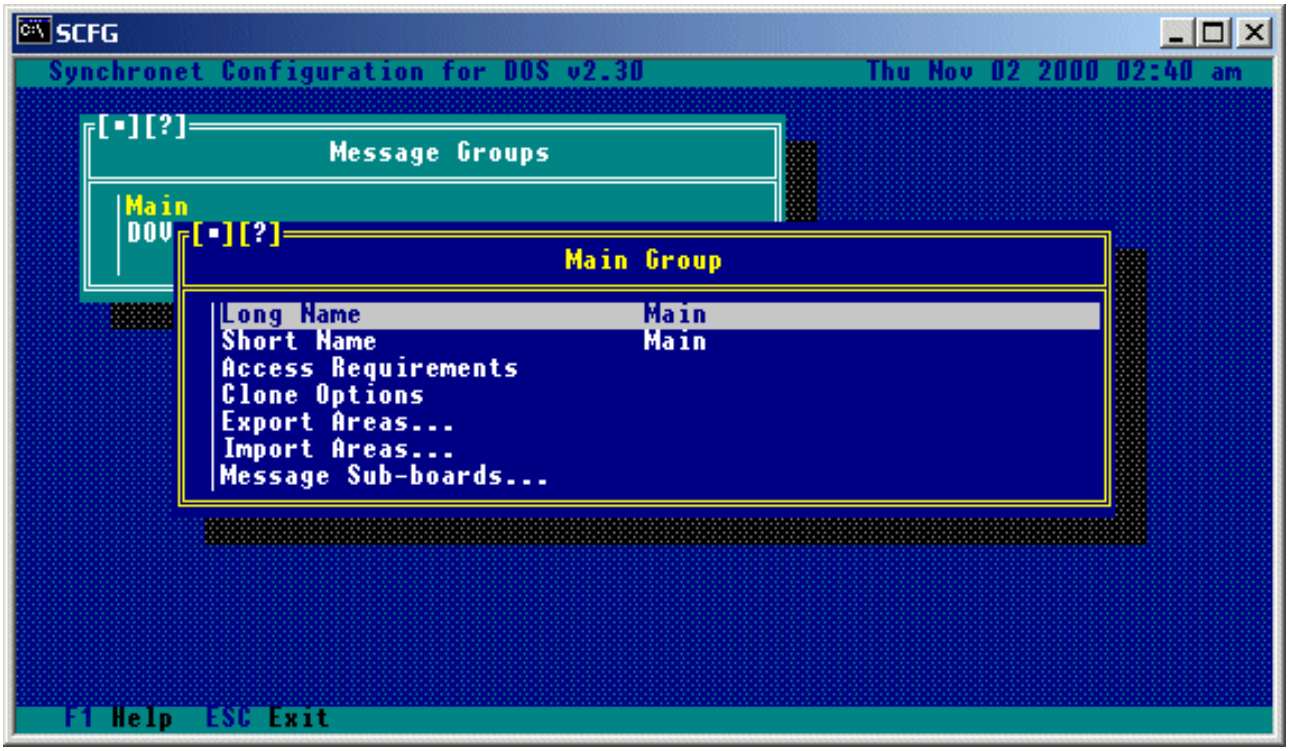
Another use of message groups is to group sub-boards of similar topic together:

Group	**Sub-board**
Main	Sysop Messages
Main	General
Main	Debate
Main	Entertainment
Main	BBS Ads and ANSI
Technical	Software Help
Technical	Hardware Help
Technical	Programming
Adult	General
Adult	Singles Only
Adult	Dear Abby
Adult	Jokes
Adult	Financial

And you certainly can mix the two examples of message group utilization given above or invent your own. Or, you can just have one message group for all of your sub-boards - forgoing the organizational advantages of using multiple groups.

To add message groups, select the position you want the new message group to be in with the arrow keys. If you want the new message group to be the first group, highlight the top line. If you want the message group to be added to the end of the group list, highlight the bottom line. Hit *INS* (insert key) to add a new message group, or *DEL* (delete key) to remove an existing one. Following is a list of options available when creating or modifying a message group.

[8.3.2] - Message Group Options



Long Name:
This is a description of the message group which is displayed in message group listings.

Short Name:
This is a description of the message group which is used for prompts.

Access Requirements:
Use this option to set specific user requirements for access this message group.

Clone Options:
Use this option to "copy" the options from the first message sub-board in this group to all other existing sub-boards in this group.

Export Areas:
If you wish to export the area information of all the sub-boards in the current message group to a text file, use this option.

Import Areas:
If you wish to import message area information from a text file, use this option.

Message Sub-boards...:
Select this option to get a list of, and be able to edit, the sub-boards within this group.

[8.3.3] - Creating Message Sub-boards:

To create sub-boards, hit enter on the message group you want to add the sub-boards to, then select "Message Sub-boards". Adding sub-boards is very similar to adding groups except you will be prompted for an internal code. The internal code should be a short description (name abbreviation) for the

sub-board. To configure the particulars for the sub-board, select it by hitting enter on it from the sub-board list. Following is a list of options available when creating or modifying a message sub-board.

[8.3.4] - Sub-board Main Options

Long Name:
This is a description of the sub-board which is displayed in sub-board listings.

Short Name:
This is a description of the sub-board which is used for prompts.

QWK Name:
This is the name of the sub-board used for QWK off-line readers.

Internal Code:
This is an internal code for SBBS to distinguish this sub-board from the others on the system. This should be a unique name of up to 8 valid DOS filename characters.

Access Requirements:
These are the requirements that a user must meet to be able to access this sub-board.

Reading Requirements:
Use this option to set the security requirements to read messages on this sub-board.

Posting Requirements:
Use this option to set the security requirements to post on this sub-board.

Operator Requirements:

Use this option to set the security requirement to be a sub-op on this sub-board (note: sub-op is a sysop of a sub-board).

Moderated Posting User:

Users meeting the criteria set here will have their posts "moderated" when posting on this sub-board. Moderated messages cannot be read by users or exported until validated by a sub-op or sysop.

Maximum Number of Messages:

This is the maximum number of messages that will be allowed on the sub-board. This number is used by SMBUTIL to maintain the message base and remove the oldest messages when this limit is exceeded.

Purge by Age:

This is the maximum length of time (in days) that old messages will be kept in a sub-board.

Duplicate Checking:

Use this option for duplicate message checking (comparing a new message against those previously imported to detect a duplicate message created by program or user error). Enabling duplicate message checking requires you specify a maximum number of CRCs. This is the number of previously imported messages to keep track of (using CRC calculation). This number, if used, should be set to about one weeks worth of messages. Large numbers in this field will slow down message importing.

[8.3.5] - Toggle Options

Allow Private Posts:

If you want to allow users to post private messages to another user on the sub-board, set this option to Yes. Since Synchronet has an internal e-mail system, this option is usually only set to Yes on

networked sub-boards that allow private posts. You can also force private posts on this sub-board by setting this option to Only.

Allow Anonymous Posts:
If you want to allow users that have the 'A' exemption to be able to post anonymously on this sub-board, set this option to Yes. You may also force anonymous posts by any one (with or without the 'A' exemption) by setting this option to Only.

Post Using Real Names:
If you wish posts on this sub-board to be posted using the real name of a user instead of his/her alias, set this option to Yes. Many networks require BBSs that allow aliases to force real names on networked sub-boards.

Users Can Delete Posts:
You may allow users to delete their posted messages by setting this value to Yes. You may allows users to delete their messages only if it is the last message on the sub-board by setting this value to Last.

Default On for New Scan:
If this option is set to Yes, this sub-board will default to 'On' when a user does a new message scan on this sub-board for the first time.

Forced New Scan:
If this option is set to Yes, the sub-board will not be skipped in new message scans even if the user has configured his or her new scan to not contain this sub-board.

Default On for Your Scan:
If this option is set to Yes, this sub-board will default to 'On' when a user does a new message scan for personal messages on this sub-board for the first time.

Public 'To' User:
If you wish all posts to be prompted for a 'To' user, set this option to Yes. Many networks do not allow private messages on networked sub-boards, so the only way to send a message 'To' someone is to send it publicly with a 'To' field. Normally, 'To' users are only prompted for on private posts.

Allow Message Quoting:
If you wish for users to be able to quote from other messages on this sub-board, set this option to Yes.

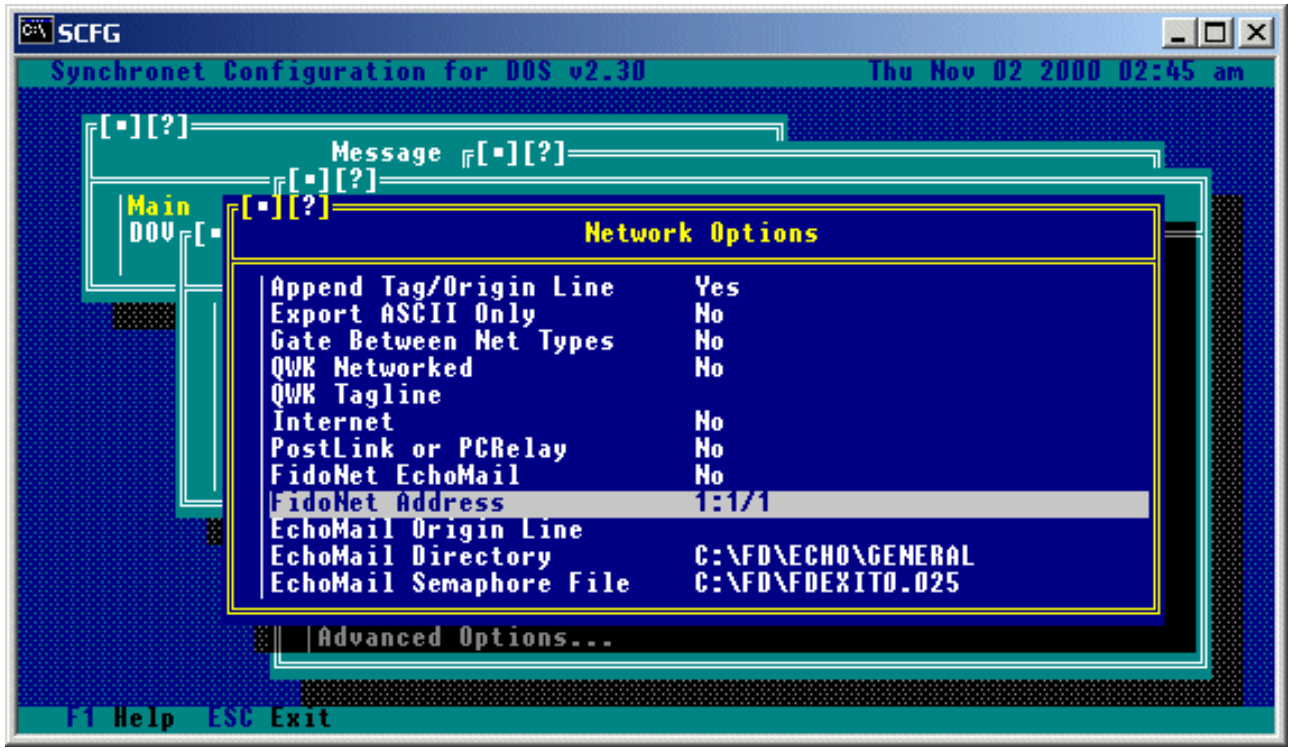
Permanent Operator Msgs:
Setting this option to Yes will cause messages posted by the Sysop (or sub-op) to be marked as permanent (will not be deleted by normal maintenance).

Kill Read Messages:
If you wish for messages to be deleted after the recipient has read the

message, set this option to Yes. To delete only those messages marked as private after they've been read, set this option to Private.

Compress Messages (LZH):
When this option is set to 'Yes', the BBS will utilize the LZH compression method when storing messages. This will cause message importing to be slower, but can conserve disk space (30% to 50%) which can mean tens or even hundreds of megabytes of extra space on BBSs with large message bases.

[8.3.6] - Network Options



Append Tag/Origin Line:
If you want a tagline (QWK network) or origin line (FidoNet) to be appended to messages sent out on the network from this sub-board, set this option to Yes.

Export ASCII Only:
Set this option to Yes if this sub-board should only be exporting ASCII characters to message networks.

Gate Between Net Types:
If this sub-board is simultaneously networked with multiple networks using different network technologies, and you want messages imported from one network to be exported to the other network(s), you must set this option to 'Yes'. Gating messages between networks usually requires specific authorization from the moderator of each network. Do not set this option to 'Yes' unless you are absolutely sure you understand the consequences.

QWK Networked:
Setting this option to Yes will limit posted message titles to the QWK packet limitation of 25 characters and allow QWK network accounts

to upload and download messages to/from this sub-board.

QWK Tagline:
This is an optional tagline that will be used for this sub-board. If this field is blank, the default tagline will be used. If "Append Tag/Origin Line" is set to No, then no tagline will be used.

Internet:
If this sub-board is networked via the internet, this toggle option should be set to 'Yes'.

PostLink or PCRelay:
If this sub-board is networked via PostLink or PCRelay, set this option to Yes.

FidoNet EchoMail:
If this sub-board is networked via FidoNet, set this option to Yes.

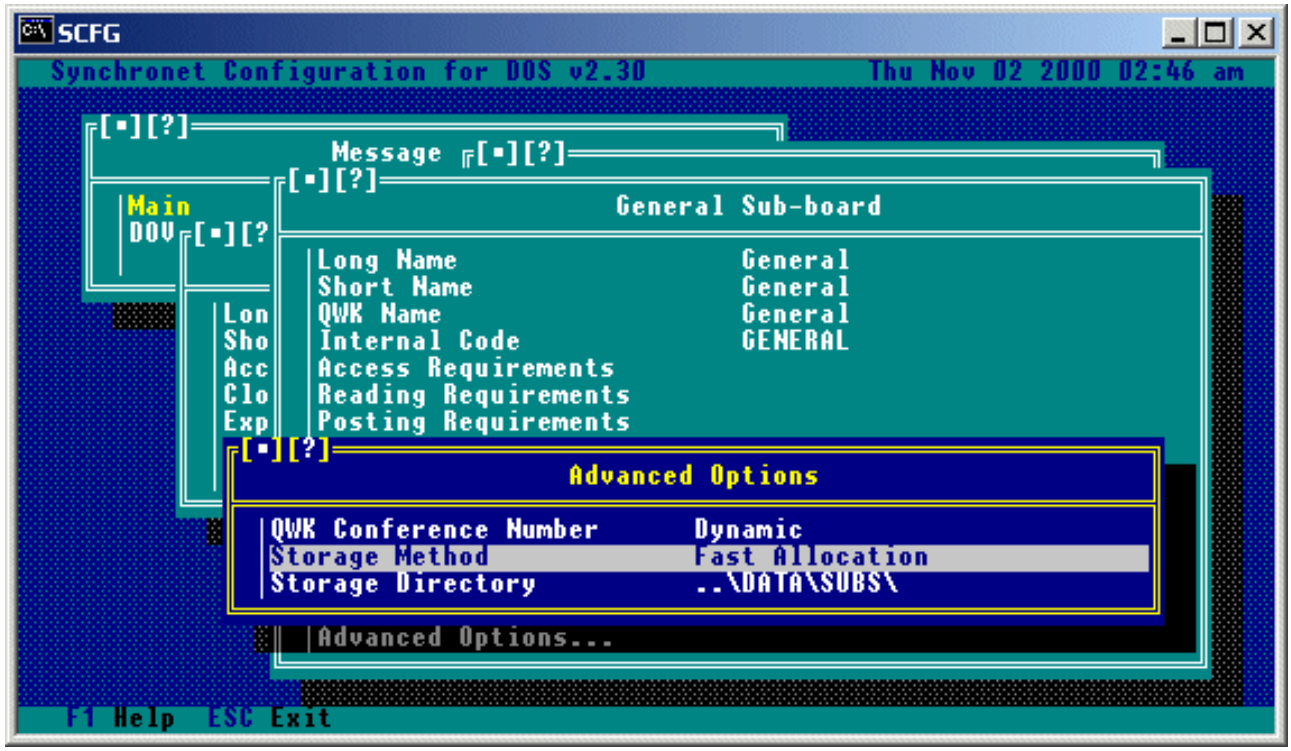
FidoNet Address:
This is the FidoNet address used for this sub-board.

EchoMail Origin Line:
This is an optional origin line that will be used for this sub-board. Do not include the FidoNet address in this line. Synchronet automatically adds the " * Origin: " and "(Zone:Net/Node.Point)". If this field is blank, the default origin line will be used. If "Append Tag/Origin Line" is set to No, then no origin line will be used.

EchoMail Directory:
This is the storage directory where FidoNet style (FTS-0001 stored message format) messages are imported from and exported to for this sub-board (using SBBSFIDO a defunct method of importing/exporting FidoNet echomail). If this option is blank, then the EchoMail base directory is used with the internal code of this sub-board as the sub-directory where the FidoNet messages are stored.

EchoMail Semaphore File:
This is the path and filename of a file that should be created to trigger your front-end mailer to export FidoNet EchoMail.

[8.3.7] - Advanced Options



QWK Conference Number:

This option allows you to use a Dynamic (automatic) or Static (hard-coded) numbering for the QWK conference number of each sub-board. Dynamic numbering gives "as is" conference numbers, where sub-board 1 in group 1 would be 1001, and sub-board 1 in group 2 would be 2001, etc. Static numbering allows you to give each conference whatever number you prefer, which is extremely useful because it allows you to add and remove conferences without altering the numbers of other sub-boards.

Storage Method:

This is the method which will be used for storing messages when a new message is posted on this sub-board. There are three message storage methods. Their advantages and limitations are as follows:

Self-packing:

Self-packing is the most efficient message storage method because it looks for and uses deleted message blocks for new in-coming messages. Because of this behavior, it is the slowest storage method, but eliminates the need to run "SMBUTIL P" on the message base regularly. It is suggested however, that you do run "SMBUTIL P" on Self-packing message bases that have accumulated a large number of deleted message blocks. This can happen if you lower the maximum number of a messages for a message base and then run "SMBUTIL M" or import a large number of networked messages into this message base, far exceeding the maximum, and then running "SMBUTIL M". Under these circumstances, you will be wasting disk space on deleted message blocks that will not likely be used again unless you reach that number of messages again.

An example:

A Self-packing sub-board is set to maximum of 500 messages. The

sub-board has 500 messages in it taking up approximately 2MB of disk space. A large network message packet is imported containing 200 messages for this sub-board. The sub-board now has 700 message in it taking up approximately 3MB of disk space. "SMBUTIL M" is run and the oldest 200 messages are deleted, bringing the total messages down to 500 again, but still taking up 3MB of disk space. The sub-board will not increase in size (disk consumption) again unless the total number of messages exceeds 700. If this is not likely to happen, then running "SMBUTIL P" on this sub-board will save you approximately 1MB of disk space.

Fast Allocation:

Fast Allocation storage method is faster than Self-packing because it does not search for deleted message blocks to use for new messages, it always adds to the end of the message base. Because of this behavior, the message base will continually grow in size (consuming disk space) until "SMBUTIL P" is run. Since the idea of using Fast Allocation is speed, it is also a good idea to speed up your "SMBUTIL P" event by specifying a minimum number of packable kilobytes before actually packing a message base. This will cause SMBUTIL to analyze the message base before actually packing it. This is be done by specifying the number of kilobytes on the SMBUTIL command line. If for example, you only want it to pack the message base if it can save 500k or more of disk space, then use "SMBUTIL P500" for a command line. This will keep SMBUTIL from packing the message base every time it is run (which can be time consuming) even if only a small amount of disk space will be saved from the operation.

You can switch between fast Fast Allocation and Self-packing storage methods at any time. You can even have one program importing into a message base using Self-packing and another using Fast Allocation and no harm will be done to the message base.

Hyper Allocation:

Hyper Allocation is much like Fast Allocation, except it is much faster because it does not update the message base allocation files necessary to be downward compatible with the Self-packing storage method. For this reason, you cannot change a message base from Hyper Allocation to Self-packing or Fast Allocation without first deleting all the messages in the message base (SCFG will do this for you). You must also be sure that all programs that write to this message base support the Hyper Allocation storage method (as defined in v1.20 of the SMB specification). If you are using any third party message import programs, do NOT use this storage method unless you are positive the program supports it. Ask the developers if you are not sure.

Like Fast Allocation, you must run "SMBUTIL P" on Hyper Allocated message bases regularly. The minimum packable kilobytes analysis feature of SMBUTIL (i.e. "SMBUTIL P500") takes longer with a Hyper Allocated message base but the actual packing operation is much faster.

To get the fastest importing/writing speed, disable Duplicate Message

checking and LZH compression for the message base.

Retrieving messages (exporting/reading them from the message base) is the same speed with all storage methods. LZH compressed message bases will export slower than non-compressed message bases.

Storage Directory:
Where Synchronet should place the data files for this sub-board. Normally this option should be left BLANK unless it is required that the data be placed on a different drive letter.

[8.4] - Importing QWK Packet from Previous BBS Software

If you are upgrading to Synchronet from another BBS package and have your messages in QWK packet format, you can import them into Synchronet as follows:

1. Create message groups and sub-boards under Synchronet to accept the messages from your old system.
2. Write down the conference numbers for each of your message areas from the old system.
3. Rename your exported QWK packet to TEMP.QWK and copy it into your DATA directory.
4. Add a QWK network hub in SCFG using TEMP for the QWK ID.
5. Add each of your sub-boards to the list of Networked Sub-boards and enter the conference number from the old system. Select "Strip-out" for Ctrl-A handling. Set Node 1 for the call-out node.
6. Run SBBS from your NODE1 directory and your messages should be imported immediately.
7. Run SCFG and delete the TEMP QWK network hub.

[8.5] - Posting a Message

When posting a message on a sub-board, users or sysops can specify that the message is NOT to be distributed across a message network (kept local only). This is done by starting the message title with "NE:" which stands for "No Echo" (only useful on networked sub-boards).

[8.6] - Remote QWK Functions

Following are examples on how to perform various functions remotely via QWK. Note that some of these functions are intended only for users who are using QWK mail doors to retrieve their messages from the BBS, and not for BBSs which are QWK netted together, these commands are noted as being for users only. Although intended for users, some of the user commands will work properly on a QWK netted BBS (e.g. FILES would place the resulting file list into the BBSs inbound directory), but some will not (e.g. the YOURS function).

In order to invoke the various remote QWK functions via a QWK network, you must post a message to SBBS on one of the conferences which you are receiving from your QWK hub. Note that the ADD and RESET functions are conference specific, meaning that your message MUST be posted on the conference where the function is to take effect.

NOTE: In the following examples, 'ptr' is a pointer indicating the message

number to start at (e.g. specifying 100 would set the message pointer to message number 100), '-msgs' sets the message pointer to a number of messages from the end (e.g. -100 to set the pointer to 100 messages from the last message), and 'mm/dd/yy' sets the message pointer to the date specified (e.g. 01/01/90 sets the message pointer to January 1, 1990).
The '|' symbol shown in the options means OR. Function parameters in square brackets '[]' are optional, parameters in less than/greater than symbols '<>' are required. Specifying an ON/OFF function without the ON or OFF parameter will toggle the function OFF.

Examples:

To: **SBBS** (All messages must be sent to SBBS)

Subj: **DROP [conf#]**
Note: Drop current conference (or specified conference #) from future packets.

Subj: **ADD [YOURS] [ptr | -msgs | mm/dd/yy]**
Note: Add current conference to future packets and optionally set the message pointer.
If "YOURS" is specified, only mail addressed to you will be packed for this conference.
The YOURS option is for users only.

Subj: **YOURS [ptr | -msgs | mm/dd/yy]**
Note: Same as "ADD YOURS".
For users only

Subj: **RESET [ptr | -msgs | mm/dd/yy]**
Note: Set message pointer for current conference.

Subj: **SUBPTR [ptr | -msgs | mm/dd/yy]**
Note: Same as "RESET".

Subj: **RESETALL [ptr | -msgs | mm/dd/yy]**
Note: Set message pointers for all conferences.

Subj: **ALLPTR [ptr | -msgs | mm/dd/yy]**
Note: Same as "RESETALL".

Subj: **FREQ <filename>**
Note: File Request from file transfer database (not attachments). QWK netted BBSs will receive the requested file into their hubs IN sub-directory, normally located in the \SBBS\DATA\QNET directory

Subj: **FILES [ON | OFF | mm/dd/yy]**
Note: Include files list in packet and/or specify new-scan date.
Specifying files with the date only will turn this option ON.
For users only

Subj: **ATTACH [ON | OFF]**
Note: Include file attachments in packet automatically (e-mail only).
For users only

Subj: **OWN [ON | OFF]**
Note: Include messages from you (affects all conferences).
For users only

Subj: **MAIL [ALL | ON | OFF]**
Note: Include private mail-box (ALL includes previously read mail).
For users only

Subj: **DELMAIL [ON | OFF]**
Note: Automatically delete mail-box after successful packet download.
For users only

Subj: **CTRL-A [KEEP | EXPAND | STRIP]**
Note: Ctrl-A color/attribute codes - leave-in, expand to ANSI, or remove.

Subj: **NDX [ON | OFF]**
Note: Include index (.NDX) files (not necessary for Synchronet QWKnet)

Subj: **CONTROL [ON | OFF]**
Note: Include control files (DOOR.ID, CONTROL.DAT, NETFLAGS.DAT, etc)

Subj: **VIA [ON | OFF]**
Note: Include message path (@VIA) line in messages.

Subj: **TZ [ON | OFF]**
Note: Include time zone (@TZ) line in messages.

Downloading Files in QWK

If there are any files in the batch download queue when a QWK packet is created, they will be added to the QWK packet automatically. This is what makes the FREQ control command so useful. A user (or QWK network node) just posts a message (on any sub-board) to SBBS with the title "**FREQ FILENAME.EXT**" (where FILENAME.EXT is the filename and extension of the file to download). When the REP packet is extracted, the requested file (if found) is added to the batch download queue. Then when a QWK packet is created, the file is automatically included. Multiple file requests can be made and all files will be included in the QWK packet.

Sending Netmail via QWK

If a user wishes to send netmail via a QWK packet generated from his offline mail reader, he must post a message in the E-mail conference (number 0) with the name and address of the recipient in the TO field of the message.
(e.g. John Doe @1:103/715 would be a valid Fidonet netmail address, or jdoe@easyst.com would be a valid Internet netmail address).
This will not work if the user does not have the ability to send netmail.

If the entire netmail address is too long to fit into the TO field (up to 25 characters), the user can alternately place the word "NETMAIL" in the TO field, and place the netmail address (name@addr) of the recipient on the FIRST LINE of the message body. Note that the '@' symbol MUST be present in a netmail address if used in the 'to' field.

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Synchronet BBS
Multinode Bulletin Board System Software

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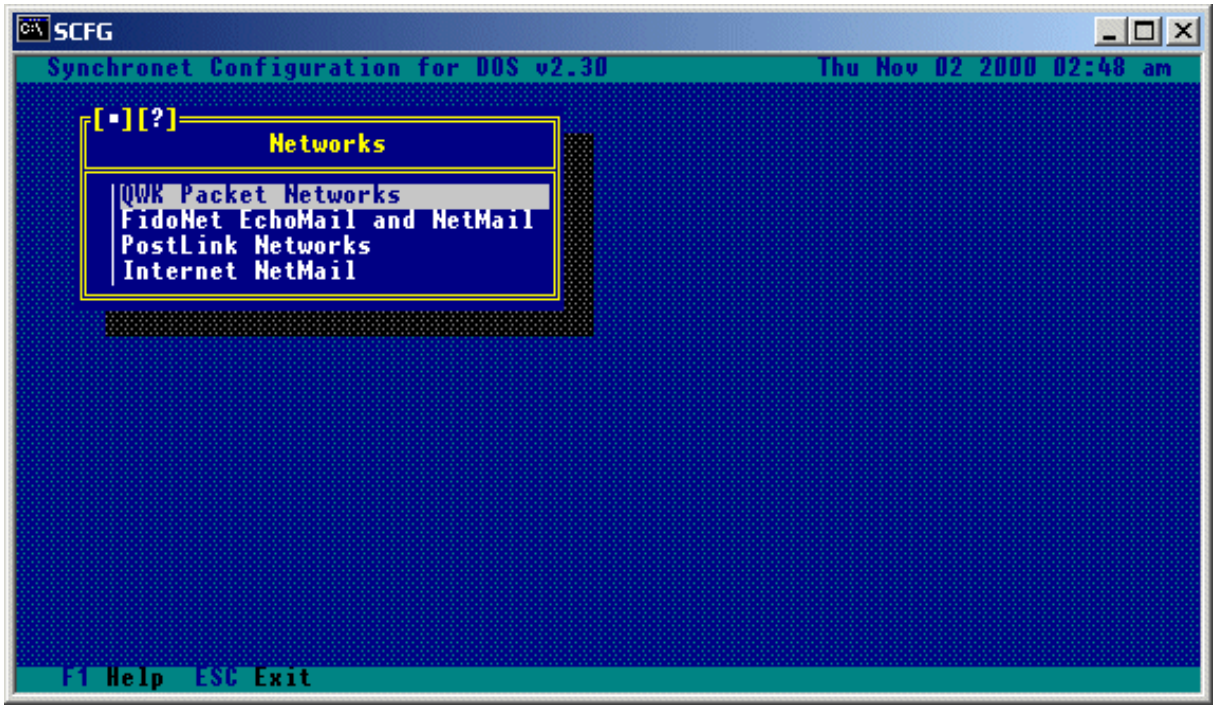
[9.0] - Networking

Selecting the Networks option from the SCFG will produce a list of available network technologies.



Select the network technology of your interest and refer to the following section that pertains to your selected network technology.

[9.1] - QWK Packet Networking

Let's start with some basic definitions. A QWK netted BBS is either a node, a hub, or both. A node is a BBS that calls another QWK net hub to transfer packets (receiving QWK and sending REP). A hub is a system that receives calls from other nodes and transfers packets (sending QWK and receiving REP).

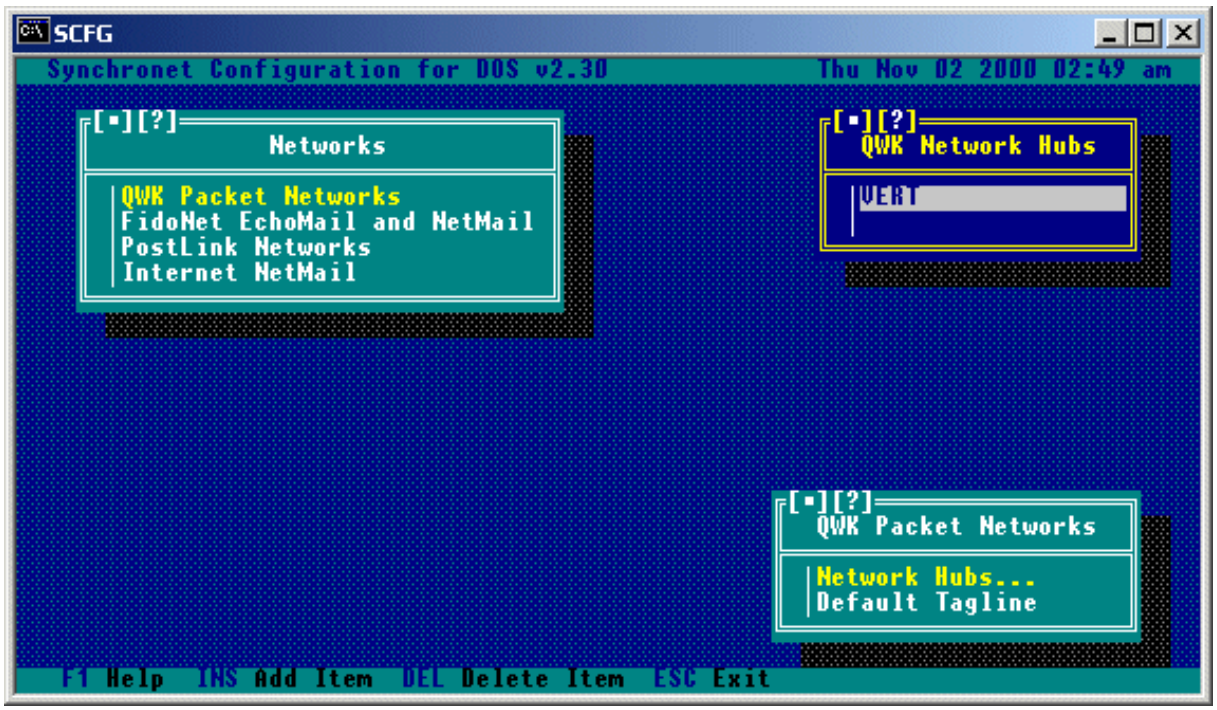
There are two options from the QWK Packet Networks menu, Network Hubs and Default Tagline. Selecting the Default Tagline will allow you to create or edit the tagline that will be used for messages that are sent out on the network from your QWK netted sub-boards. Individual sub-boards can have a different tagline to override this one, or use no tagline at all. Ctrl-A codes can be used in taglines so that other Synchronet systems will see the tagline in your preferred color scheme. The beginning of the tagline is not configurable. It consists of a tear line and the Synchronet product name:

```
---
 þ Synchronet þ
```

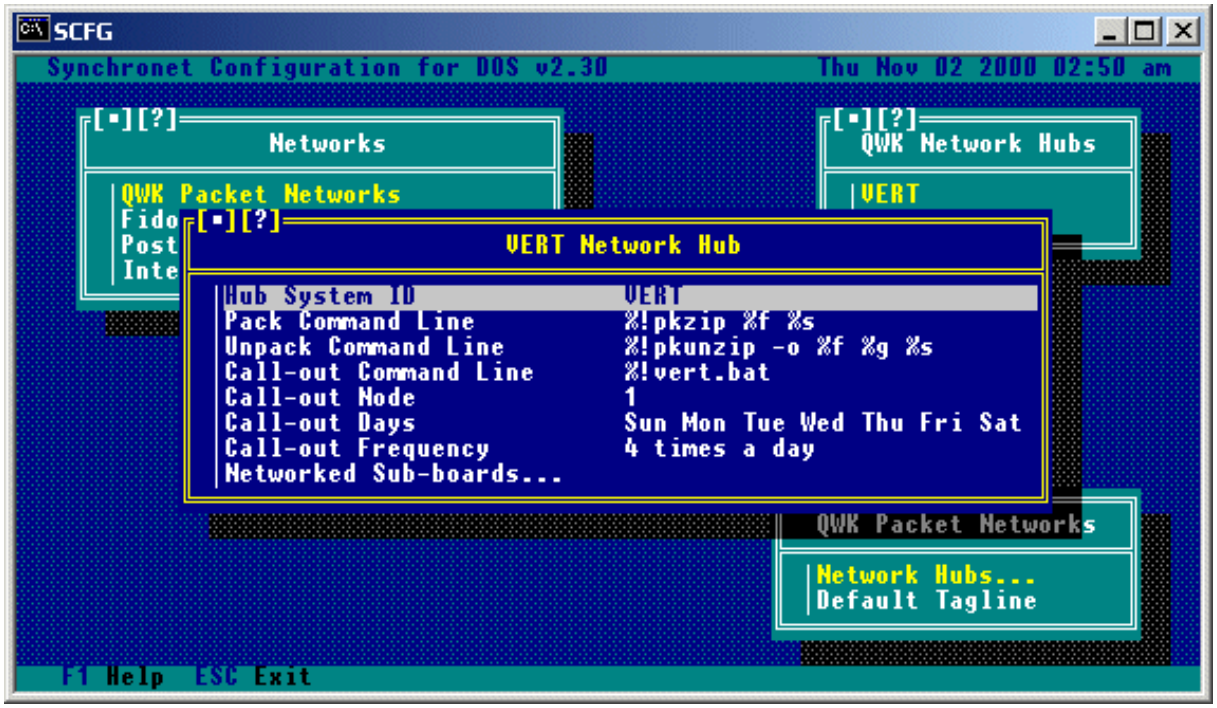
The configured tagline text will be attached to the end of the above tagline.

[9.1.1] - Network Hubs

Selecting this option produces a list of configured hubs that your system calls to upload REP packets to and download QWK packets from. If a system calls your system for messages, it is a node and your system is the hub and you should not have that system listed as a hub. If you do not call any systems for networked messages, then your system is a hub and the only configuration you need to do is set your taglines and the network options for each of your netted sub-boards. Use INS to add hubs and DEL to delete hubs from this hub list.



Selecting a hub from the list of available hubs will produce a sub-menu:



Hub System ID:
This is the QWK system ID of the hub BBS.

Pack Command Line:
This is the command line to execute to pack messages.

Unpack Command Line:
This is the command line to execute to unpack messages.

Call-out Command Line:
This is the command line to execute to perform the call-out.

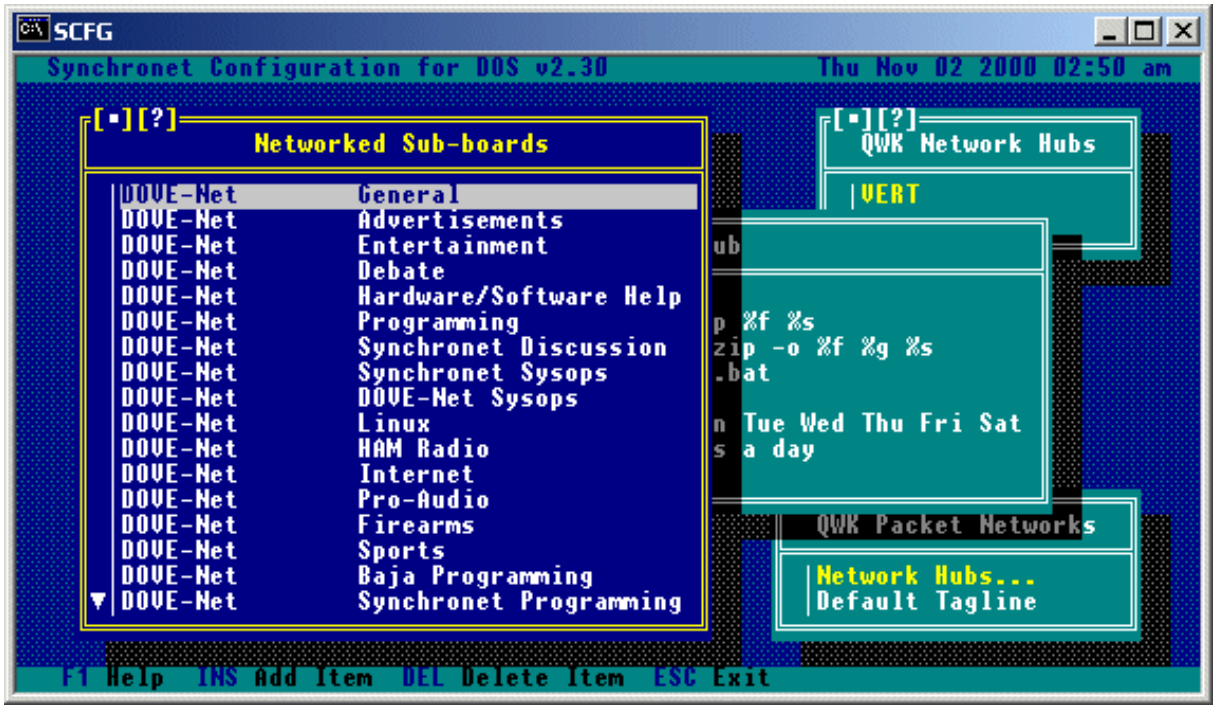
Call-out Node:
This is the number of the node which should perform the call-out.

Call-out Days:
These are the days to perform the call-out.

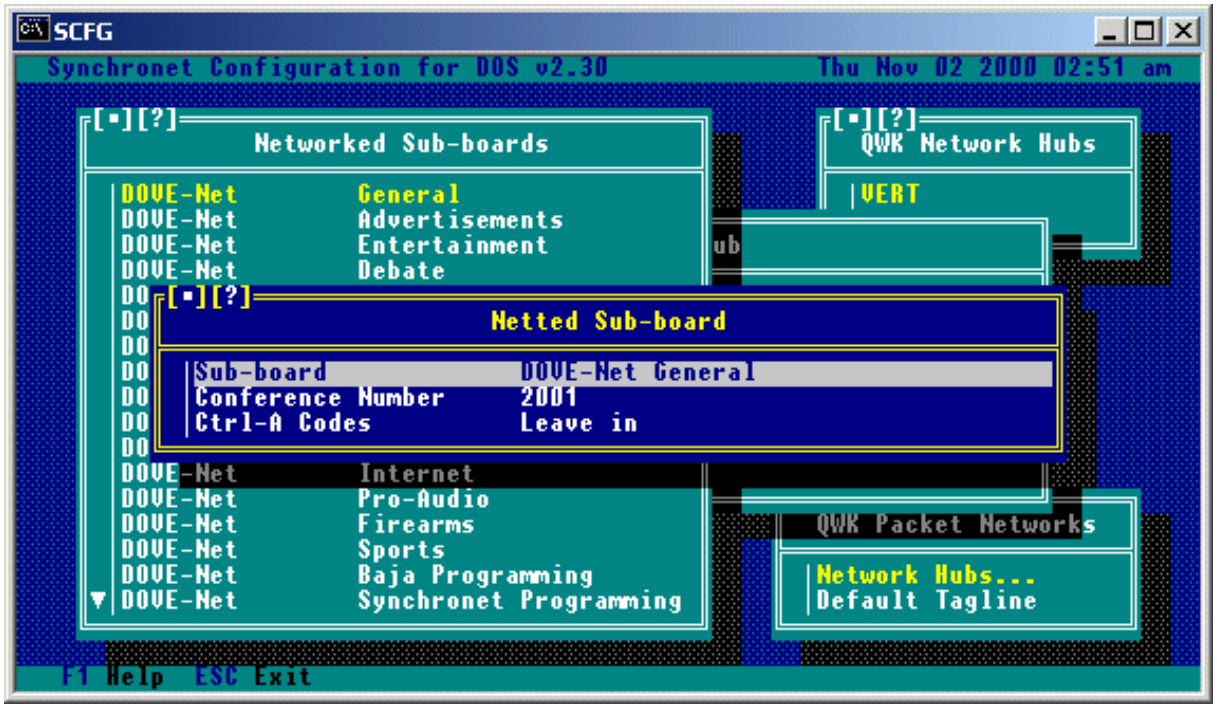
Call-out Time/Frequency:
This is either the specific time to call-out, or the number of times per day to call-out.

[9.1.2] - Networked Sub-boards

Selecting this option will give a sub-menu containing a list of networked sub-boards that will look something like this:



For each sub-board the following options are available:



Sub-board:
Which sub-board is to be networked (Group and Sub-board name).

Conference Number:
This is the conference number of the sub-board on the HUB system. If the hub is a Synchronet version 2 BBS and the sub-board is the second sub-board in the first group, the conference number is 1002; if the sub-board is the first sub-board in the third group, the conference number is 3001, etc. The conference numbering scheme for BBS programs other than Synchronet is usually just 1, 2, 3, etc.

Ctrl-A Codes:
This option allows you to determine how to handle Ctrl-A codes in messages. If the hub is a Synchronet BBS, you will want to set this to "Leave in". If the hub is not a Synchronet BBS, you will almost always want to set this to "Strip out". If the hub is not a Synchronet BBS, but allows ANSI escape sequences in messages, set this option to "Expand to ANSI".

[9.1.3] - Configuring Your BBS as a QWK Node

In the SCFG program, you'll need to specify your system's tagline (usually the system name and phone number), the hubs to call, when to call, what node will do the calling, and which sub-boards to carry for each hub (a sub-board can send and receive messages from more than one hub!).

The hub's System ID is important and must match the System ID of the hub BBS. For each hub, you can specify a list of sub-boards to network. For each sub-board, you must also set the conference number for the sub-board on the hub BBS. In Synchronet, conference numbers are based on the Group/Sub-board relationship. Group 1 / Sub 1 is conference number 1001, Group 2 / Sub 3 is conference 2003, etc. (Note: this is NOT the conference number for the sub-board on your BBS. It is the conference number on the hub BBS.) Also, for each sub-board you must set the method of Ctrl-A code handling. If the hub system is a Synchronet BBS, you'll want to leave Ctrl-A codes in. If it is not, you'll probably want to strip them.

You'll need to decide which node will do the calling-out and configure it so. You'll also need to decide if you want your BBS to call-out multiple times per day at any given time based on a total number of calls per day (usually, if all your hubs are local) or if you wish the BBS to call-out at a specific time every day (usually if one or more hubs are long distance).

You also need to set the command line to execute to perform the call-out. If your hub is a Synchronet BBS, use the included QNET module (*QNET), otherwise you probably use a batch file to execute a scripted terminal program. Example scripts for Telix, Robocomm, and Qmodem are included in the EXEC directory (SBBSQNET.*).

[9.1.4] - Configuring Your BBS as a QWK Network Hub

Being a QWK network hub, just means that other QWK network compatible systems are going to logon to your system and upload and download messages. All you have to do is create a user account for each QWK network node that is going to call your system. The user name/alias should be the QWK system ID of the node BBS. The account needs to have the 'Q' restriction.

The 'Q' restriction is used only for QWK network node accounts. An account with this restriction will receive the QWK: prompt immediately upon logon and can't access any other facility of the BBS. This restriction also allows that account to send messages that are from other users as well as receive private posts that are to other users.

In addition to the 'Q' restriction, the 'L' (logons per day) and 'T' (time per day) exemptions may be helpful, depending on how many times the node will call your system a day and the time per call/day and logons per day allowed by the level you've given the account.

Be sure to give all node accounts sufficient access to read and write messages on the sub-boards networked between the node and your BBS.

[9.2] - Transferring Files Through QWK Network

Synchronet allows the transferring of files between a QWK network node and hub with great simplicity. If you wish to send a file to a QWK network hub (your system calls directly) or QWK network node (their system calls yours directly), create a DOS subdirectory of DATA\QNET\QWKID.OUT, where QWKID is the QWK ID of the system to which you are sending the file. Copy any files you wish to send to this system into this directory. The next time the systems network with each other, the files will be sent.

If your system is a QWK network node, you may request a file from your hub by posting a private message to SBBS on any of the networked sub-boards you get from your hub. The title of the message must contain "FREQ FILENAME.EXT" where FILENAME.EXT is the filename and extension of the file to download.

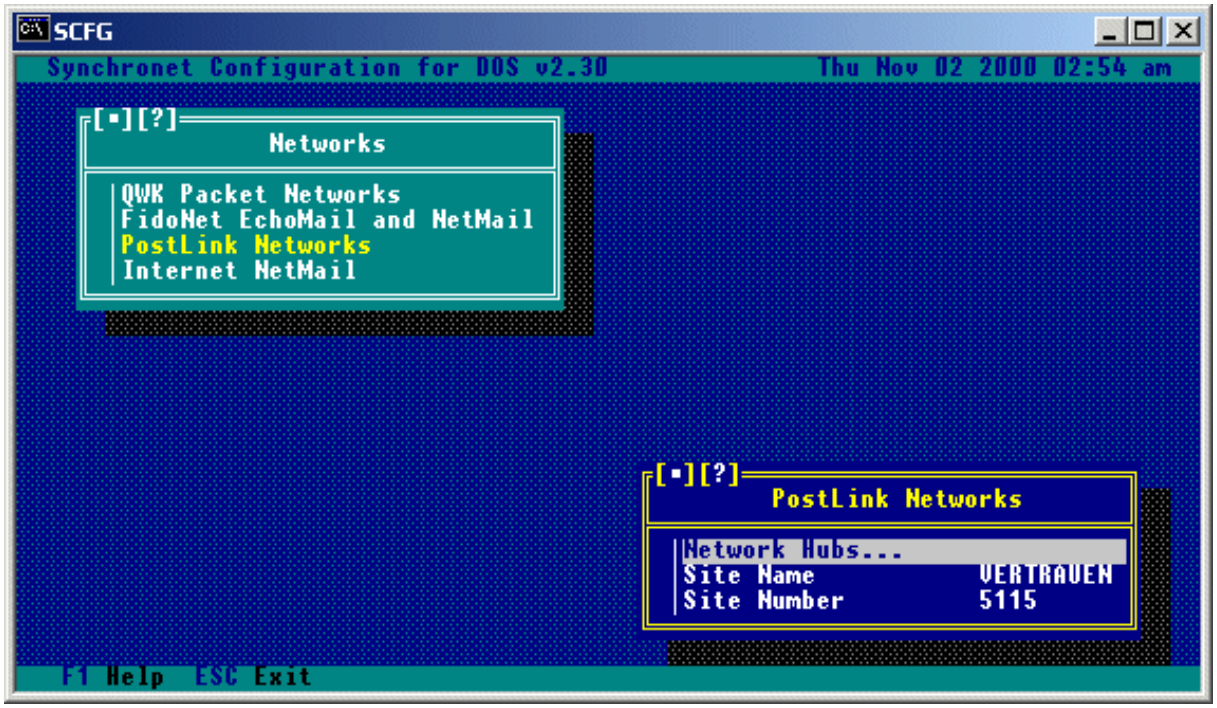
When files are received through a QWK network, the sysop is notified of the received file upon next logon. The file will be automatically placed in the subdirectory DATA\QNET\QWKID.IN, where QWKID is the QWK ID of the system that sent the file.

The transferring of files can be made automated for other programs to share data over the network. One popular use for this is Online Games that support

inter-BBS play. One such game is Barren Realms Elite (BRE), see the external programs section for more information on this.

[9.3] - PostLink Networking

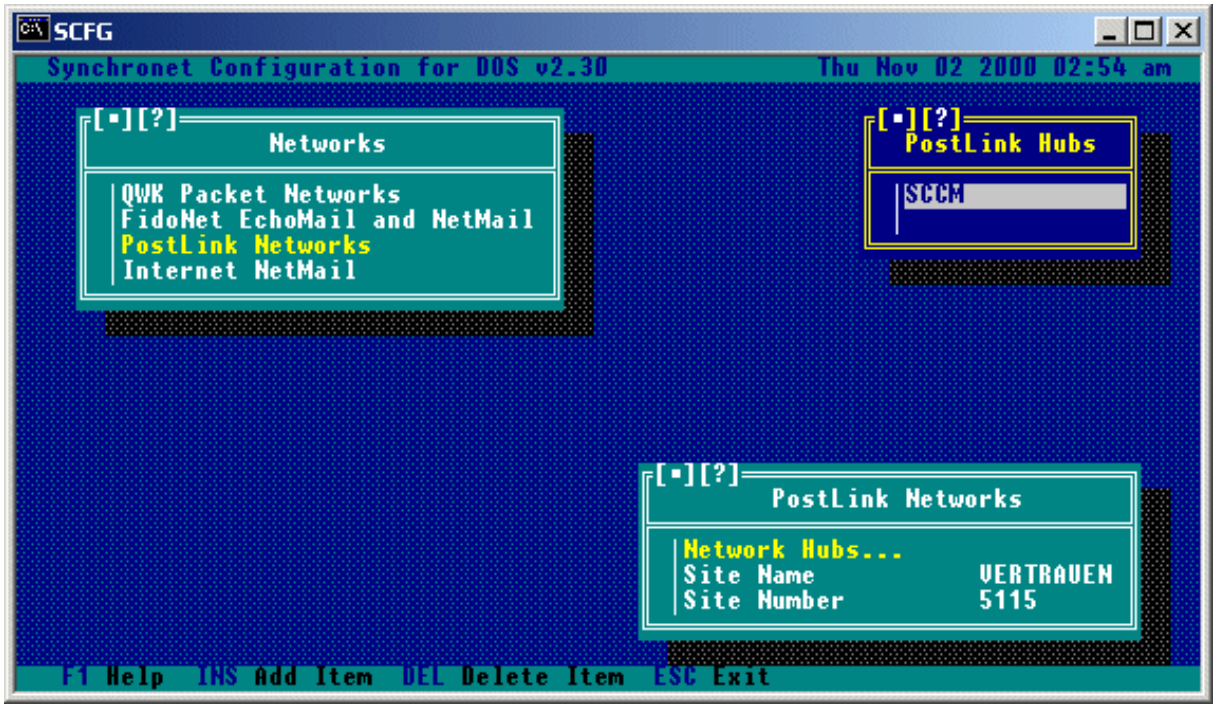
PostLink is a message networking program written by Kip Compton and available for purchase from Bonnie Anthony (see Contacts Appendix). It is a derivation from PCRelay software. RelayNet (AKA RIME), headed by Bonnie Anthony, ILink and a few other networks use this technology. Selecting this option from the networks menu will bring up the following sub-menu:



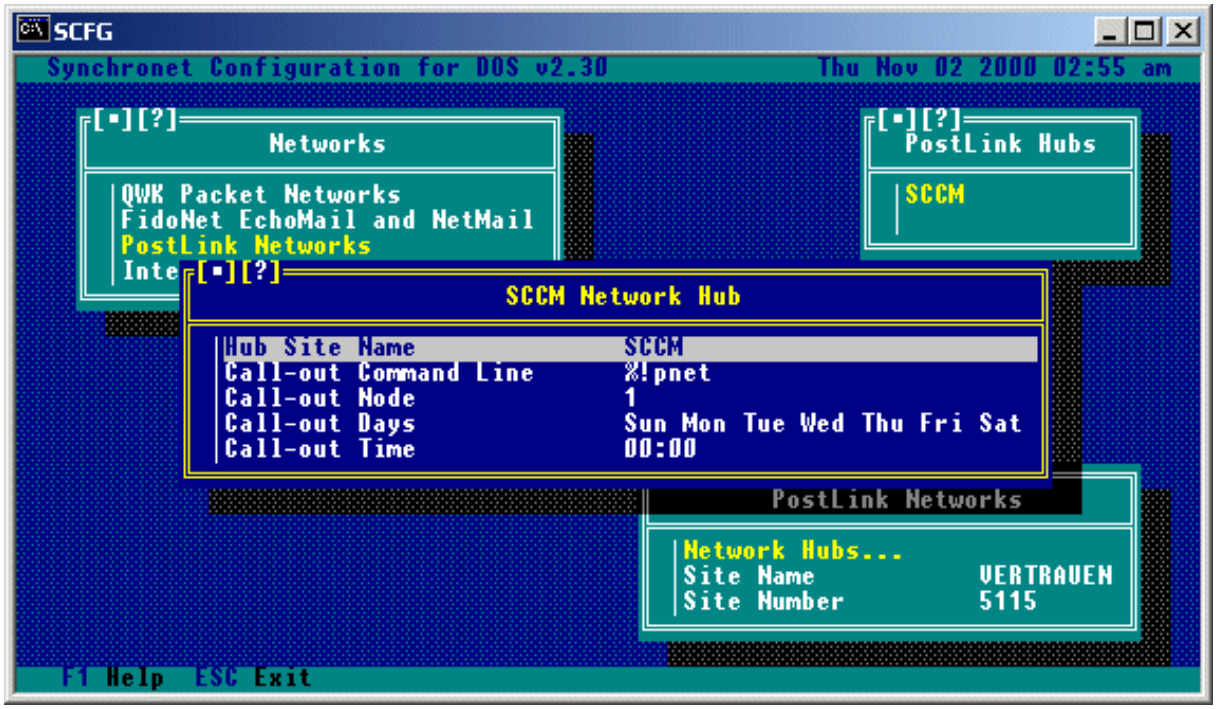
Site Name:
This is the site name to be used for your BBS.

Site Number:
This is the site number which is assigned to you by the network coordinator.

Selecting Network Hubs from this menu will display a list of available hubs. Hubs can be added and/or removed from this menu.



Selecting one of the available network hubs from this list will allow you to configure the call-out information for that hub.



Hub Site Name:
This is the name of your network hub.

Call-out Command Line:
This is the command line which will be executed to perform the call-out for this hub.

Call-out Node:
This is the number of the node which will perform the call-out for this hub.

Call-out Days:

This allows you to select the days on which call-outs to this hub will occur.

Call-out Time:
This allows you to select the time when call-outs to this hub will occur.

Synchronet supports PostLink by letting the sysop configure the call-out schedule and which node will perform the call-out. Multiple PostLink networks are supported simultaneously by specifying multiple hubs. The Site ID entered in SCFG is only used for documentary purposes. Synchronet includes a UTI (Universal Text Interface) driver for PostLink. It is a set of 6 programs (UTI*.EXE) included in your EXEC directory. See the Utility Reference for more information on the Synchronet UTI Driver.

Be sure to set the "PostLink Networked" Network Option to 'Yes' for each of your PostLink networked sub-boards.

[9.4] - FidoNet Networking

FidoNet is both a network technology (referred to as FTN) and an actual message network. The technology was developed specifically for FidoNet, but is used by many other networks today as well. These non-FidoNet networks are referred to as FTNs (FidoNet Technology Networks) because they share the same technology, but don't necessarily have anything more in common with FidoNet.

Setting up a FidoNet is likely the most complex task a sysop could attempt. There are many steps associated with joining a FidoNet and most of the steps involve new terminology to even the most experienced sysop.

The first step is to find a FidoNet Front-end mailer program. This program will need to be run to make and accept FidoNet mail calls. It is usually run 24 hours a day, but is usually only required during a certain period (called Mail Hour and defined by the individual networks). The most popular of these programs are FrontDoor, D'bridge, InterMail, and Binkley. Both FrontDoor and Binkley will require the use of a FOSSIL (serial communications) driver as well. The most popular FOSSIL drivers are BNU and X00 (many DOORs require FOSSIL drivers as well).

When running Synchronet from the Front-end, you will need to pass the current connect rate, tell Synchronet to quit after the call, and possibly pass the minutes till the next event.

Example: SBBS Q C14400 E60

The above command line tells Synchronet that someone is currently connected (at 14400bps), to quit back to DOS after the caller logs off, and that the next scheduled event is in 60 minutes. See Appendix B for all the available switches for running Synchronet.

SBBSecho is an included Synchronet utility (registered separately) to import/export NetMail and EchoMail bundles/packets.

NetMail will be exported to and imported from the directory specified in the Networks configuration in SCFG. EchoMail will be imported to and exported from the EchoMail path specified for that sub-board, or off the base EchoMail directory specified in SCFG Network options in a subdirectory named after the

internal code of the sub-board.

[9.4.1] - Step-by-Step instructions for setting up FidoNet using SBBSecho and InterMail *(v2 Only)*

One of the most difficult tasks that the novice sysop will encounter is the setting up of FidoNet. These instructions will take you step by step through the process of setting up FidoNet on your BBS. Be warned that these steps are very basic, just enough to get FidoNet up and running on your system, but it may still be necessary for you to refer to the documentation which accompanies the programs referred to in these steps. For any advanced operations you will definitely need to refer to the documentation of programs referred to in these steps. If you know of anyone who is already on FidoNet that is willing to help you out, by all means ask them for their help!

NOTE that while it doesn't cost anything to have a node number (for sending and receiving netmail) or to receive local conferences, there is usually a nominal fee (called "cost recovery") to receive conferences from the FidoNet backbone or files from the FidoNet filebone.

1) First of all you will need to obtain a copy of FidoNet's Policy 4 document (the filename is usually POLICY4.ZIP or POLICY4.TXT), a recent nodelist (usually named NODELIST.???), AND a front-end mailer program. All three of these can normally be downloaded from any local BBS which carries FidoNet (if not, an e-mail to the sysop of a FidoNet BBS can usually point you in the right direction). There are several front-end mailers available such as FrontDoor, InterMail, D'Bridge, SEAdog, Dutchie, BinkleyTerm, and Portal of Power to name a few (the latter two are referred to as "FLO-Style" mailers and the others are referred to as "Attach-Style" mailers). Most front-end mailers offer a limited evaluation version which you can try out before you decide to purchase the program.

2) Read the Policy 4 document, it will give you information about FidoNet as well as some specifics on how to obtain a node number for your system.

3) If you do not plan to run InterMail (or FrontDoor which is very similar) you must set up the front-end mailer you plan to use by following the directions which accompany the program and then skip to step number 9. The documentation will also tell you how to "compile" the nodelist file you've downloaded so that your front-end mailer can use it. Use the temporary address specified in Policy 4 when specifying your node address in the front-end mailer.

Setting up InterMail v2.xx or FrontDoor v2.xx

4) Install InterMail per IM.DOC (included with InterMail).

   a) If using FrontDoor, follow the FD.DOC file and substitute the letters FD where ever you see an IM in this section.

5) Copy the MAILER.BAT included with SBBSecho and the EXEBBS.BAT from the Synchronet DOCS directory into the InterMail directory (C:\IM).

6) Change into the InterMail directory, run IMSETUP, and perform the following:

   a) Under Global->Address->Main, enter your FidoNet address (or the temporary address specified in Policy 4 until such time as you have

received your own address).

b) Under Global->Filenames, verify that the paths are set similar to the following:

```
ÉÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ Filenames and paths »
º                                                                              º
º System    C:\IM\SYSTEM\       (or C:\FD\ for FrontDoor)                      º
º Netmail   C:\IM\MAIL\                                                        º
º Files     C:\IM\INBOUND\                                                     º
º Sec Files C:\IM\INBOUND\                                                     º
º*Packets   C:\IM\PACKETS\                                                     º
º*Log file  C:\IM\IM.LOG                                                       º
º Banner                                                                       º
º Nodelist  C:\IM\NODELIST\                                                    º
º In-event                                                                     º
º Hudsonfmt                                                                    º
º Wildcat!                                                                     º
º Swapping  C:\IM\                                                             º
º Semaphore C:\IM\                                                             º
º                                                                              º
º * = Must be unique for each Mail Server                                      º
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¼
```

c) Under Modem->Advanced Setup->Connect Strings set ALL "BBSexit" levels to 100. (For FrontDoor under Mailer->Errorlevels set all baud rates to 100, Received Mail to 50, and Create .BAT file to Yes).

d) Under Manager->Events, make sure all your events are set to exit when mail is received (under Event Behavior). This allows for the immediate importation of new messages into the BBS.

e) Under Manager->Events, add the following event:

```
ÉÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ Edit »
º Tag         X                                                                º
º Days        -------A                                                         º
º Modifier    Ignore eventbase (*)                                             º
º Start time  04:30                                                            º
º Length      00:01                                                            º
º Errorlevel  75                                                               º
º Not used                                                                     º
º Behavior                                                                     º
º Use alias   1:103/705                                                        º
º Retry delay 0                                                                º
º Comment     Synchronet exclusive event                                       º
ºÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄº
º Event tag A..YZ - eXternal event, errorlevel is required                     º
ÈÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¼
```

f) Under Mailer->Misc, set "Trigger exit upon receipt of netmail" and "Upon receipt of ANY file" to Yes. This will allow for the immediate importation of NetMail and any File Distribution Echoes you may carry.

g) Under Modem->Hardware, set "Lower DTR when busy" to "No".

h) Under Modem->Command strings, set the "Down" string to "ATM0H1|".

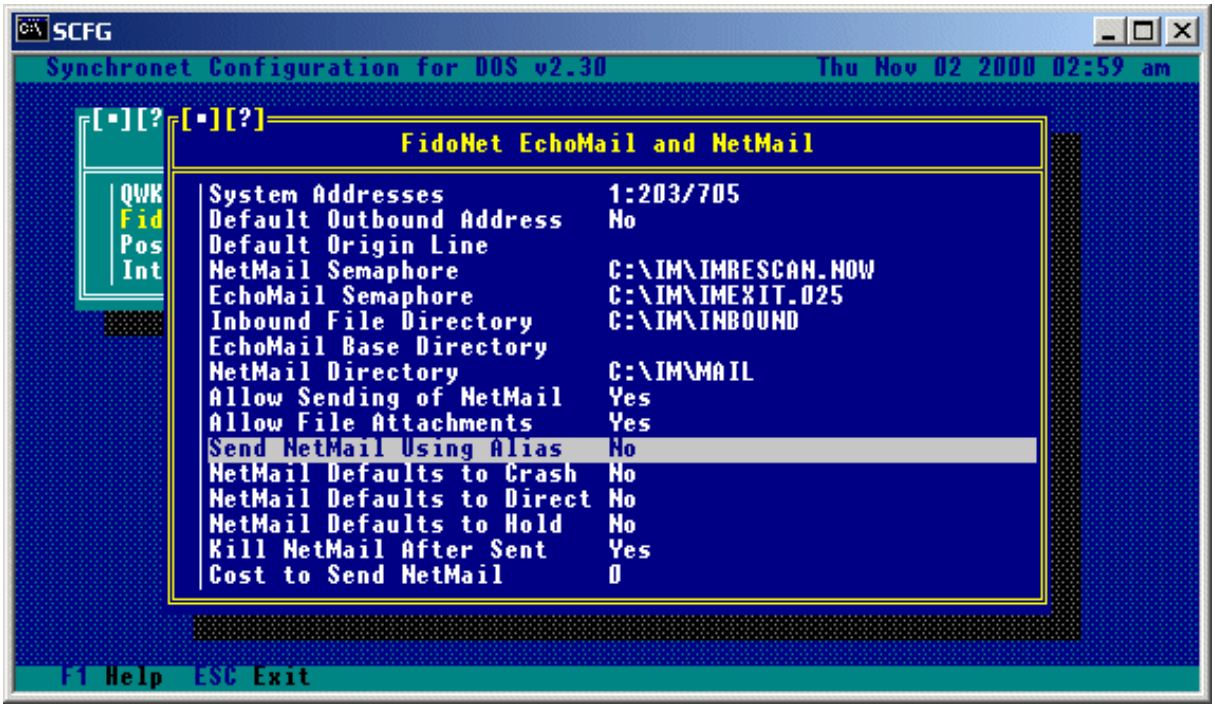
i) Exit IMSETUP.

7) Unarc the nodelist file (NODELIST.???) that you downloaded previously into your nodelist directory.

8) Now run IMNC to compile the nodelist.

Setting up FidoNet in SCFG

9) Run SCFG from one of your node directories, or hit 'C' from the waiting for caller screen. Then select Networks->FidoNet EchoMail and NetMail. You'll then be brought to a menu that should be set up similar to this:



a) For FrontDoor the NetMail Semaphore file should be set to C:\FD\FDRESCAN.NOW and the EchoMail Semaphore file should be set to C:\FD\FDEXIT.025.

b) For FrontDoor version 2.11, the EchoMail Semaphore file should be set to C:\FD\FDXIT.025.

c) For FrontDoor version 2.20 (commercial, multinode), the EchoMail Semaphore file should be set to C:\FD\FDXIT#.025, where # is the node number (0 based).

10) Set your address to your system's FidoNet address (or the temporary address specified in Policy 4 until such time as you have received your own address). This is the address used for sending and receiving NetMail. It will also be used as the default address for message sub-boards.

11) Create an origin line for your system that most likely contains your BBS name and phone number.

12) Following is an overview of the remaining options available on this menu:

a) System Addresses:
This option will bring you to a sub-menu to allow you to configure

different addresses (AKAs) for your system. Following is an example for a BBS configured for two fido type networks.

b) Default Outbound Address:
When a user sends netmail, this is the 'send to' address that is used as a default (useful for FidoNet<->Internet gateways).

c) NetMail Semaphore:
This is the name of the trigger file which will cause your front-end mailer to exit and scan for outgoing netmail.

d) EchoMail Semaphore:
This is the name of the trigger file which will cause your front-end mailer to exit and scan for outgoing echomail.

e) Inbound File Directory:
This is the name of the directory where your front-end mailer stores incoming files.

f) EchoMail Base Directory:
This is the base directory for your echomail subdirectories

g) NetMail Directory:
This is the name of the directory where your front-end mailer looks for and places netmail.

h) Allow Sending of NetMail:
When set to 'Yes' users can send netmail from your system.

i) Allow File Attachments:
When set to 'Yes' users can send netmail file attachments from your system.

j) Send NetMail Using Alias:
When set to 'Yes' the user alias will be used (rather than their real name) on outgoing netmail.

k) NetMail Defaults to Crash:
If set to 'Yes' netmail sent from your system will default to crash status (send immediately and directly).

l) NetMail Defaults to Direct:
If set to 'Yes' netmail sent from your system will default to direct status (send directly).

m) NetMail Defaults to Hold:
If set to 'Yes', netmail sent from your system will default to hold status.

n) Kill NetMail After Sent:
Setting this to 'Yes' will delete outgoing netmail after it has been sent.

o) Cost to Send NetMail:
This is the cost (in credits) that a user will be charged when sending netmail.

13) Setup SBBSecho by running the ECHOCFG program and reading the documentation for information on the available options.

a) Under Paths...->Outbound Directory be sure to enter the path where outgoing mail packets and bundles should be placed (i.e.: C:\IM\OUTBOUND).

b) Select the appropriate Mailer Type.

c) Enter your registration number (if you are a registered owner of the SBBSecho program).

14) Once you have done this you must now run the file MAILER.BAT (if using an Attach-Style mailer) to use Synchronet with your front-end mailer. MAILER.BAT must be run from your front-end mailer's directory (e.g. C:\IM). You will no longer run the file SBBS.BAT to start this node (if you run a multi-node system, you will still use SBBS.BAT to start those nodes which are not using a front-end mailer).

a) If you are NOT using InterMail as your front-end mailer, be sure to modify your MAILER.BAT file to reflect the front-end mailer that you are using.

15) Follow the instructions given in the Policy 4 document to determine who you should send netmail to in order to obtain your own node number.

16) Now, from your front end mailer, send a netmail to this person following the instructions contained in the Policy 4 document. Once you have done this and the netmail has been sent, you should patiently await a netmail reply containing your node number and the node number of your hub (where you will send/receive your echomail and netmail to/from).

17) Once you have received your node number, you'll want to replace the temporary node number you used in your front-end mailer as well as in SCFG->Networks->FidoNet Echomail and Netmail->System Addresses to it.

18) Send your hub a message with the Area Manager (for the backbone <echomail>) and Areafix (for the filebone <files>) passwords you wish to use on their systems. You will need to remember these passwords as you will be using

them to do remote maintenance (such as adding and removing conferences and file areas that you wish to receive).

19) Your hub should respond with Area Manager instructions and a list of areas available for you to connect to. If not, contact your hub for more information.

20) Look through the list of areas available to you and determine which conferences you'd like to carry. In SCFG->Message Areas create a message group(s) for the conferences you'd like to carry. When setting up a sub-board for a conference, be sure to use the "Area Tag" name given in the area list as the sub-board Short Name.

    a) Under Network Options... for each sub-board toggle the FidoNet Echomail option toggled to YES.

    b) If the conference requires a different address, configure the address under Network Options...

    c) If you allow aliases on your system, under Toggle Options... set Use Real Names to YES.

    d) If you are unfamiliar with adding message groups and/or sub-boards, consult that section of the Synchronet System Operator's Manual.

    e) For a more complete list of conferences available on the FidoNet backbone you may wish to download the file FIDONET.NA from either your hub or a local FidoNet BBS. This file contains a list of ALL conferences carried on the backbone.

21) Once you have set up all of the conferences you'd like to carry, you'll need to go to SCFG->Message Areas-><group>->Export Areas...->AREAS.BBS (SBBSecho) to create an AREAS.BBS file for SBBSecho to use.

22) Now following the Area Manager instructions, send a message to your hub's Area Manager and turn on all of the conferences you wish to carry. Note that there are some administrative conferences for FidoNet that your users shouldn't be able to read or post on, and some that even you shouldn't post on, there is also usually a "test" conference which you may want to set up to post messages on and insure that echomail is being sent and received properly.

23) That's about all there is to it. You are now set up on FidoNet and should be able to send and receive FidoNet echomail and netmail.

Examples for Receiving File Echoes via TICK (third party file echo program)

Example TIC.CFG:

```
---------------------------------[ Begin ]-------------------------------------
IN c:\fd\file
ZONE 1 c:\fd\-mailout
NET 2
NODE 3
HOLD c:\fd\tickhold
QDIR c:\fd\tickqdir
FDLog
```

```
AREA j:\fido\backbone BACKBONE
1:2/1 xxxxx *

AREA j:\fido\SOFTDIST SOFTDIST
1:2/1 xxxxx *
---------------------------------[  End  ]---------------------------------------
```

In MAILER.BAT, at the end of the ":inmail" block, before "goto top":

```
---------------------------------[ Begin ]---------------------------------------
set tz=PST8EDT
tick >> fd.log
set tz=
%sbbs%\exec\addfiles * /diz
---------------------------------[  End  ]---------------------------------------
```

Setting up ALLFIX (third party file echo program) with Synchronet BBS Software

In ASETUP->System data->Global Options:

```
ÕÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ Global options ¸
³                                                                              ³
³ Keep original file date Yes              Replace extension       No          ³
³ Mailer rescan           FrontDoor        Max age of requests     0           ³
³ Log style               FrontDoor        Keep exported messages  No          ³
³ Mailer mode             FrontDoor        Days to keep on hold    30          ³
³ Download counters                        Size of stat file       0           ³
³ Update DESCRIPT.ION     No               Max TIC archive size    0           ³
³ Date format             mm-dd-yy         Max size to pack        0           ³
³ Min HD space to import  1024             UTC offset              -8          ³
³ Process local requests  No               Max Msg size            0           ³
³ MSG compatibility       Fido                                                 ³
³ Dupe checking           Filename                                             ³
³                                                                              ³
³ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ³
³                                                                              ³
³ LongDesc character                       One line LongDesc       No          ³
³ Filter LongDesc         No               Max len of LongDesc     0           ³
³ Spaces to indent        1                Add tag to desc         No          ³
³                                                                              ³
ÔÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ¾
```

Edit your MAILER.BAT:

Search for "set sbbs="
Add "set allfix=c:\allfix"

Search for ":inmail"
Add "%allfix%\allfix file mgr"
Add "%sbbs%\exec\addfiles * /diz"

Search for ":outmail"
Add "%allfix%\allfix file"

[9.5.2] - Sending FidoNet NetMail

Once you have a FidoNet address and have your Front-end mailer functioning properly, you may send NetMail messages and allow, if you wish, your users to send NetMail. You can set a NetMail cost in credits for users in SCFG->Networks->FidoNet EchoMail and NetMail->NetMail Cost. Sysops and users with the 'S' exemption will not be charged credits when sending NetMail. Users with the 'M' restriction are not allowed to send NetMail. Users will not be allowed to send NetMail at all, if the sysop has set SCFG->Networks->FidoNet EchoMail and NetMail->Allow Sending of NetMail to No.

Users can optionally set a NetMail forwarding address for their account using the "Account Defaults" menu. If the user has a NetMail address specified, any E-mail set to that account will be automatically forwarded to the NetMail address if the sending user wishes. This is useful for users who can receive FidoNet NetMail on a "home" BBS system and prefer to receive their E-mail there instead of on this particular system.

Sysops and users with the 'F' exemption can also perform other special functions with NetMail. If NetMail Defaults to Crash status is OFF, sysops and 'F' exempted users can override this by starting their NetMail title with "CR:" setting the Crash status ON for that NetMail message.

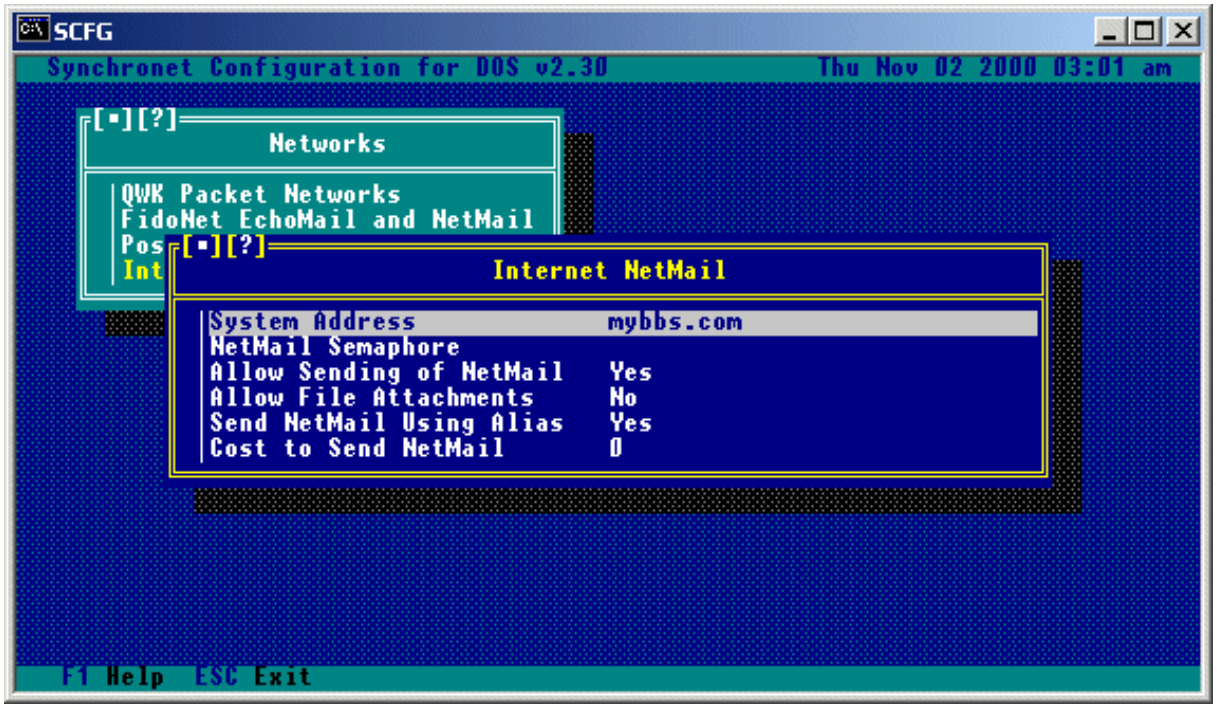
Sysops and 'F' exempted users may also send File Requests by starting the title with "FR:" and then the filename(s) being requested follow on the title. If multiple filenames are requested, they must be separated by a space.
Example: "FR: FILE1.EXT FILE2.EXT".

Sysops and 'F' exempted users may also send File Attachments from anywhere on the system (potentially dangerous) by starting the title with "FA:" and then the filename(s) to attach to the netmail message. This allows the sysop to send a file attachment to multiple users without creating multiple copies of the attachment or requiring the attachment to be copied into the Synchronet DATA\FILE\xxxx.OUT directory of the sending user. Since the sending user (sysop or 'F' exempt) can attach ANY file on the system, the 'F' exemption and sysop security level (90+) should given out with extreme caution.

Sysops and 'F' exempted users can also request a return receipt by starting the title with "RR:". "CR:", "FR:", "RR:", and "FA:" may be used in combination with one another, but must be specified in that order.
Example: "CR: RR: This is my title".

The "xx:" specifiers and an optional trailing space are eliminated from the final title for the NetMail message.
Example: "CR:Hello" or "CR: Hello"
Becomes: "Hello" before it is sent out by Synchronet.

[9.5] - Internet Networking



System Address:
This is the Internet address for your BBS.

NetMail Semaphore:
This is the name of the trigger file which will cause your Internet mail program to exit and scan for outgoing netmail.

Allow Sending of NetMail:
When set to 'Yes' users can send Internet netmail from your system.

Allow File Attachments:
When set to 'Yes' users can attach files to the Internet netmail that they are sending.

Send NetMail Using Alias:
When set to 'Yes' the user alias will be used (rather than their real name) on outgoing Internet netmail.

Cost to Send NetMail:
This is the cost (in credits) that a user will be charged when sending Internet netmail.

(v2 Only)

In order for your BBS to support Internet networking (including such things as sending/receiving Internet netmail and newsgroups, FTP, Telnet, etc.) it is required that you obtain a third party program such as NetXpress or BBSNet. It is also possible (but not recommended) to use a Fido->Internet or a QWK->Internet gateway (usually available as shareware software).

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Synchronet Version 2 (for DOS and OS/2) and its source code was released to the Public Domain by Digital Dynamics in 1997 and remains Public Domain software today. Synchronet Version 3 is not Public Domain software.

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http://www.synchro.net

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[10.0] - File Transfer Section

The Synchronet file transfer section is used for transferring data and program files between the BBS and the remote user. Files are stored in a logical hierarchy of libraries and directories. A library is a group of directories that contain files of a similar subject matter.

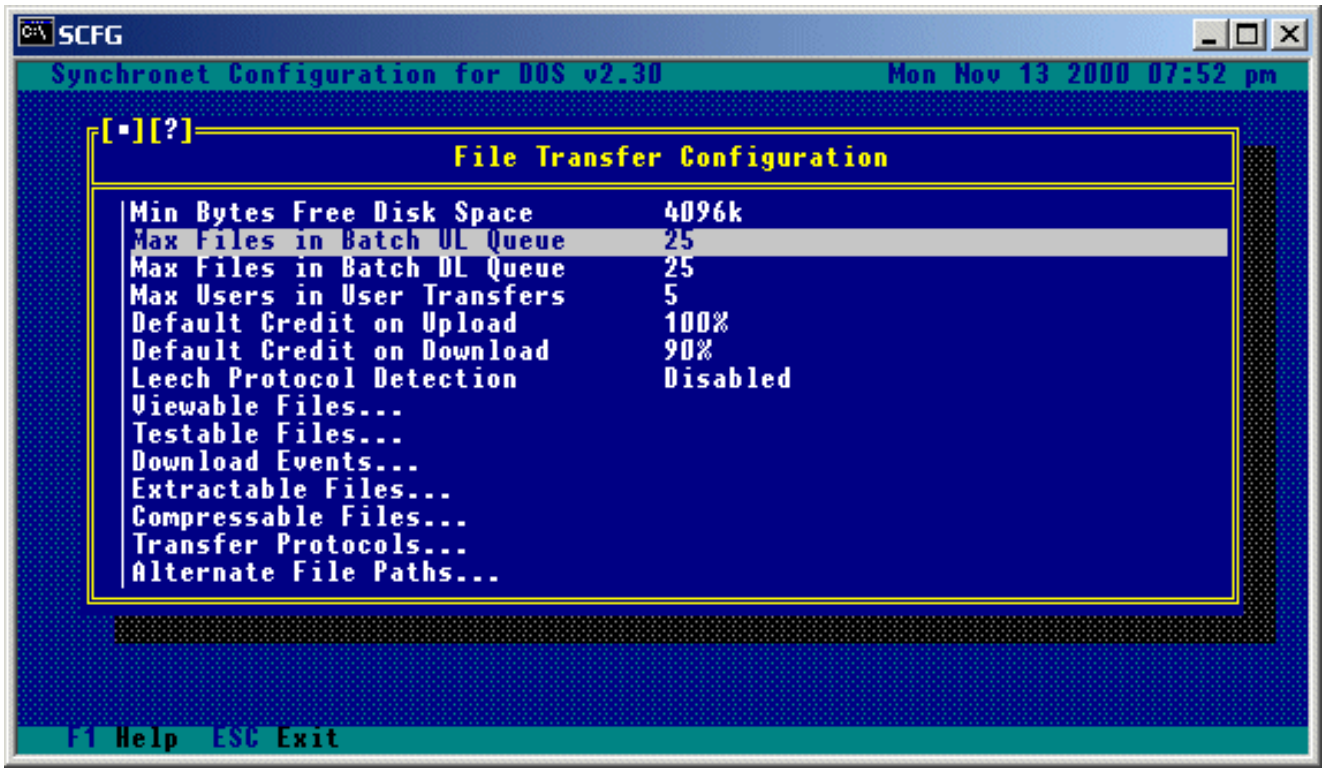
An example file library/directory configuration:

Library Name	**Directory**
Main	Text
	Utilities
	Business
	Graphics
	Games
	Communications
	Miscellaneous
Adult	Text
	Animation
	GIF files
	TGA files
DOS CD-ROM	Utilities
	Device Drivers
	Business
	Games
	Communications
	Programming
Windows CD-ROM	Utilities
	BMP files
	WAV files
	Device Drivers
	Games
	Desktop Publishing
	Fonts

[10.1] - Setting Up the File Transfer Section

Run the SCFG utility, and select File Options from the menu. Following are example screens and the options available from the File Options sub-menu.

[10.1.1] - File Options



Min Bytes Free Disk Space:
This is the minimum about of disk space (in kilobytes) that is necessary for a user to be allowed an upload.

Max Files in Batch UL Queue:
This is the maximum number of files that can be stored in the batch upload queue. The definite maximum is 500 files.

Max Files in Batch DL Queue:
This is the maximum number of files that can be stored in the batch download queue. The definite maximum is 500 files.

Max Users in User Transfers:
This is the maximum number of destination users in user to user transfers. The definite maximum is 500 users.

Default Credit on Upload:
This is the default amount used for newly created directories.

Default Credit on Download:
This is the default amount used for newly created directories.

Leech Protocol Detection Percentage:
This value is the sensitivity of the leech protocol detection feature

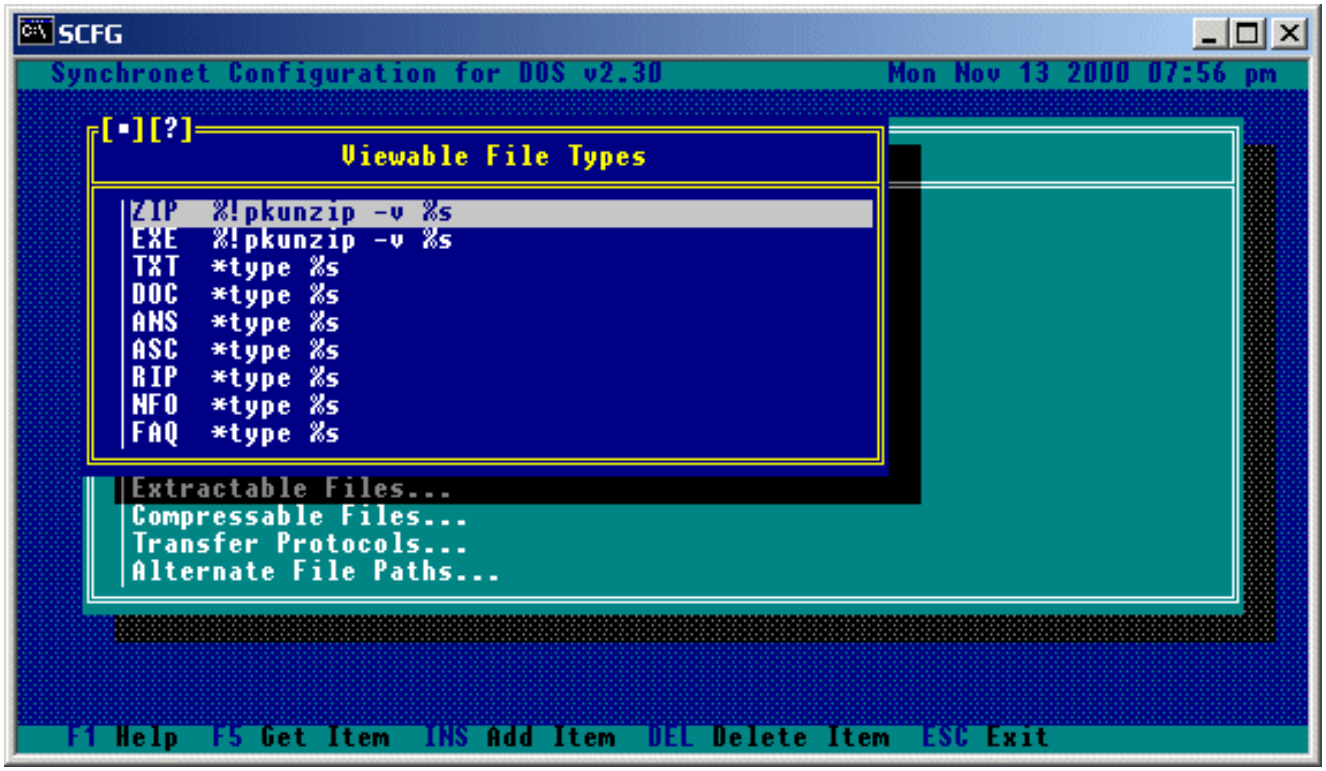
of Synchronet. If the transfer is apparently unsuccessful, but the transfer time was at least this percentage of the estimated transfer time (based on the estimated CPS of the connection result code), then a leech protocol error is issued and the user's leech download counter is incremented. Setting this value to 0 disables leech protocol detection. This option also allows you to set the minimum amount of elapsed transfer time to be considered for a possible leech download.

Leech protocol programs are file transfer programs (usually using Zmodem technology) that attempt to "fool" the BBS into thinking the file was not successfully transferred, when in reality it was. This is accomplished by the transfer program requesting a reposition (ZRPOS) after the last successful block and then aborting (ZCAN). A file transferred in this manner will not be considered a successful transfer by Synchronet, but will be caught as a possible leech download and notify the sysop (if this option is used).

This feature is also useful for detecting the partial download of image (GIF) files. If you charge your users credits for downloads, this can be a very useful feature in detecting dishonest users. If the user accumulates a large number of leeches (as displayed in User Edit) and the user never successfully downloads a file previously logged as a possible leech download, the user is probably trying to get something for nothing, though this is hard to prove without actually watching the file transfer in progress.

[10.2] - Viewable Files

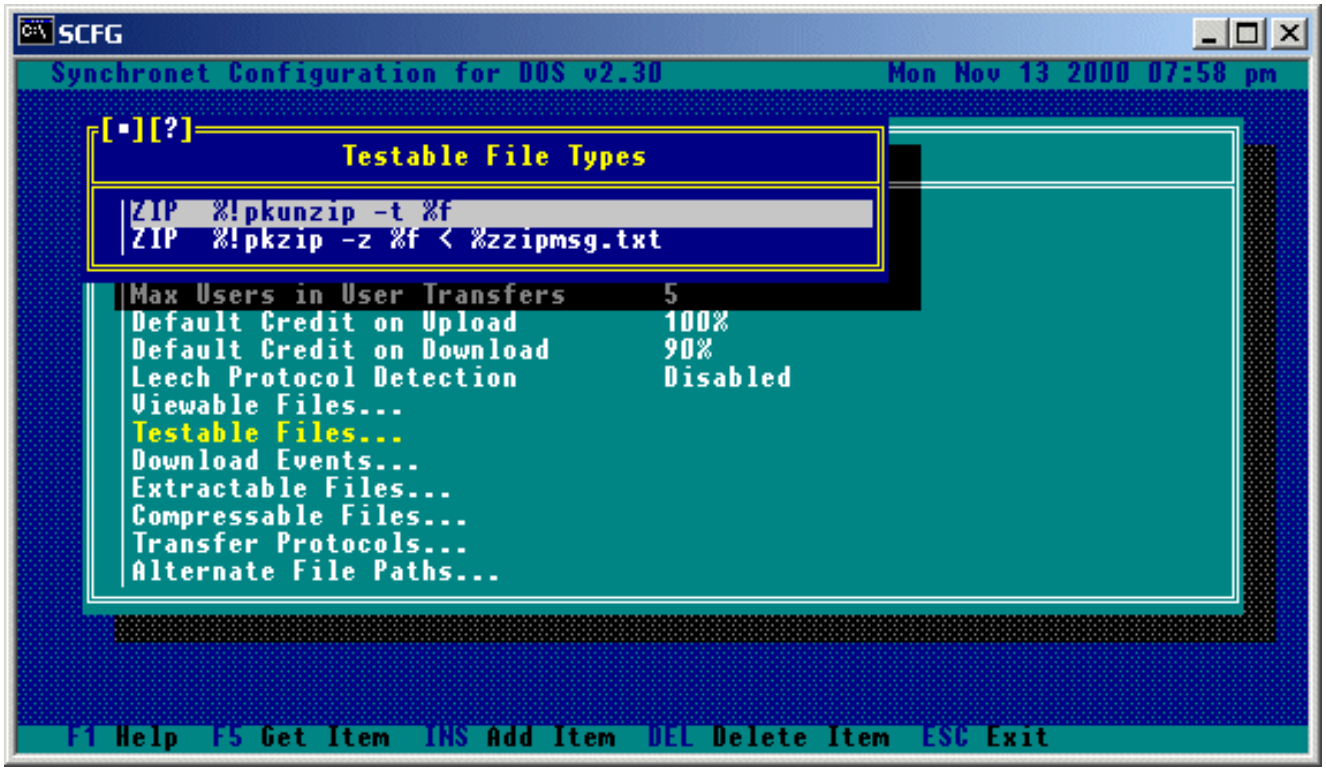
This is a list of file types that have content information that can be viewed through the execution of an external program or Baja module. Here are a couple of command line examples for a few file types.



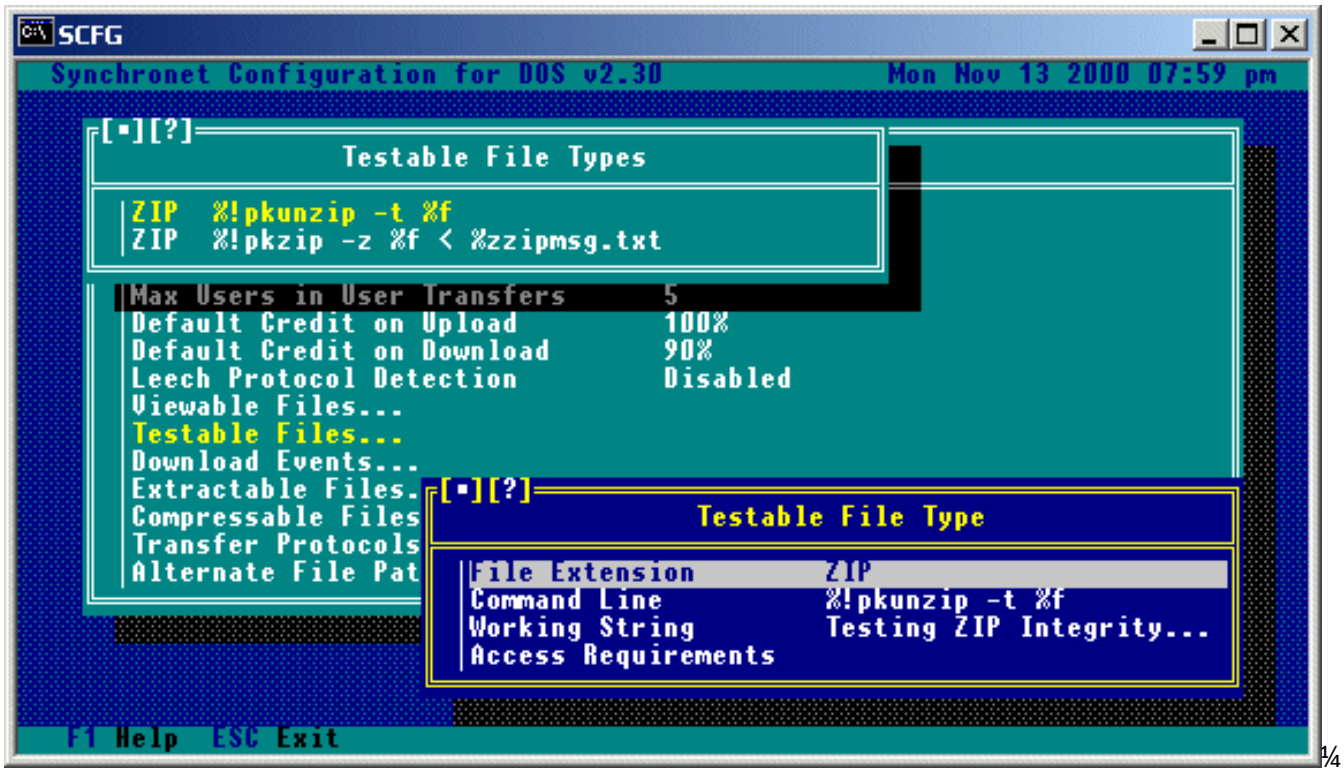
NOTE: When you select a file type from this list, you will be given one additional option (Access Requirements) which is not shown here. Users not meeting any access requirements which are set will not be able to perform, or be affected by, that function.

[10.3] - Testable Files

This is a list of file types that will have a command line executed to test the file integrity upon their upload. The file types are specified by extension and if one file extension is listed more than once, each command line will be executed. The command lines must return a DOS error code of 0 (no error) in order for the file to pass the test. This method of file testing upon upload is also known as an upload event. This test or event, can do more than just test the file, it can perform any function that the sysop wishes. Such as adding comments to an archived file, or extracting an archive and performing a virus scan. While the external program is executing, a text string is displayed to the user. This "working" string can be set for each file type and command line listed. Shown is an example list of file types, and their respective sub-menus and configurations:

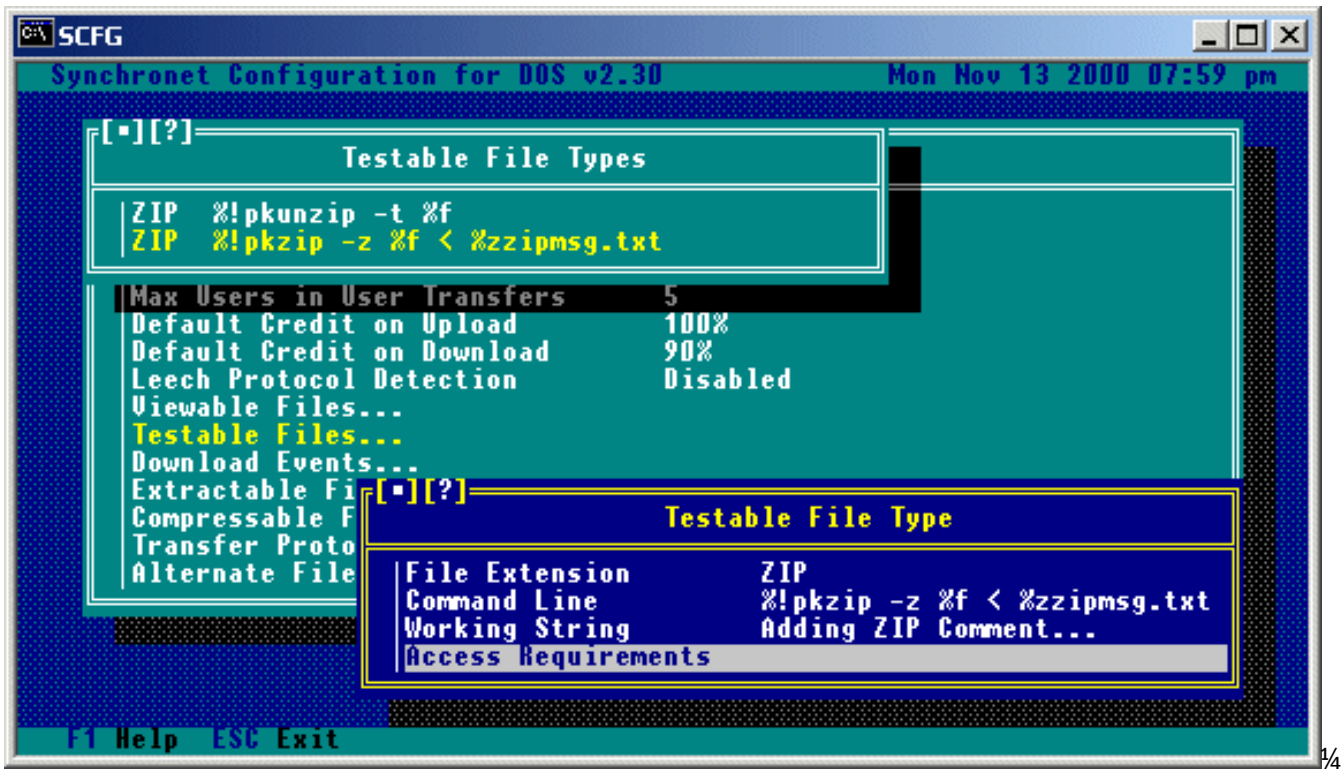


ZIP type files:



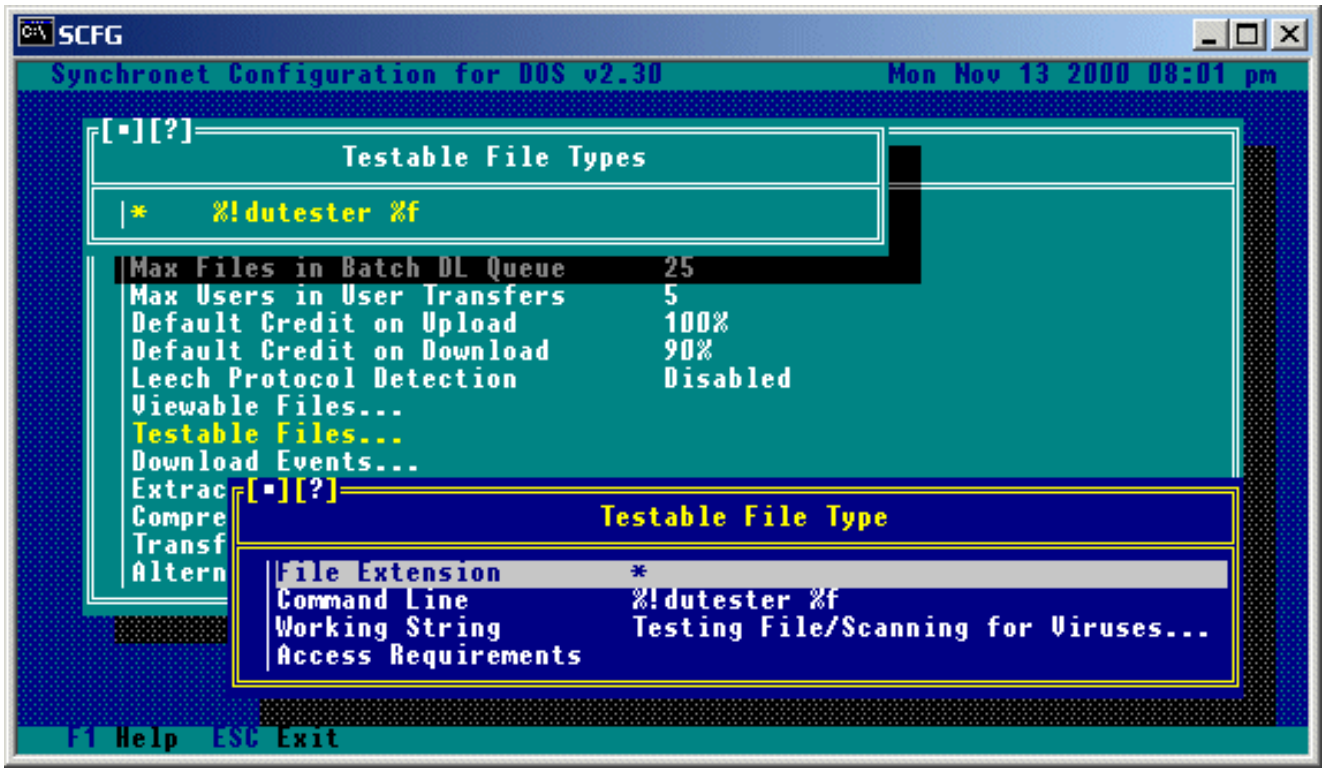
¼

To add a ZIP comment to a ZIP type file:



¼

If an extension of '*' is specified, all files uploaded will be tested with this command line. An example would be when using Domain Upload Tester from Domain Entertainment:

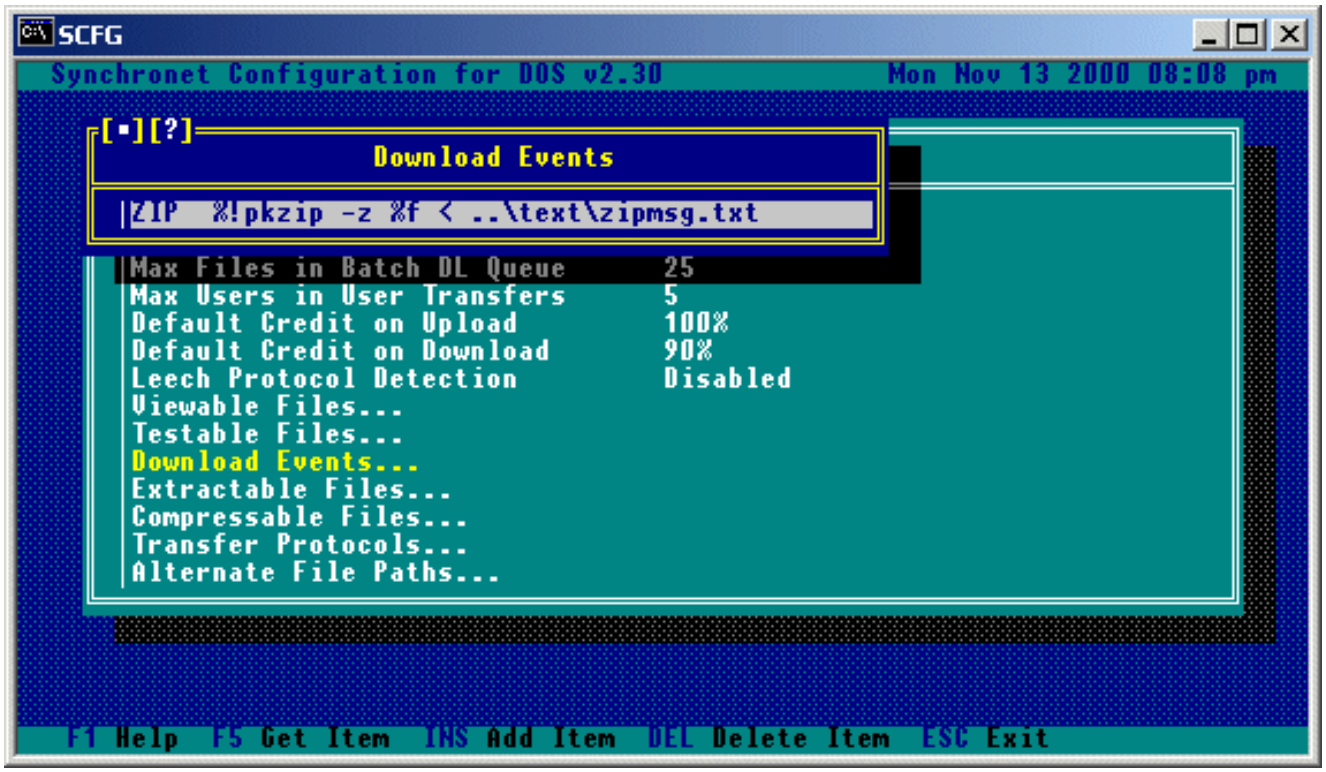


NOTE: Users not meeting any access requirements which are set will not be able to perform, or be affected by, that function.

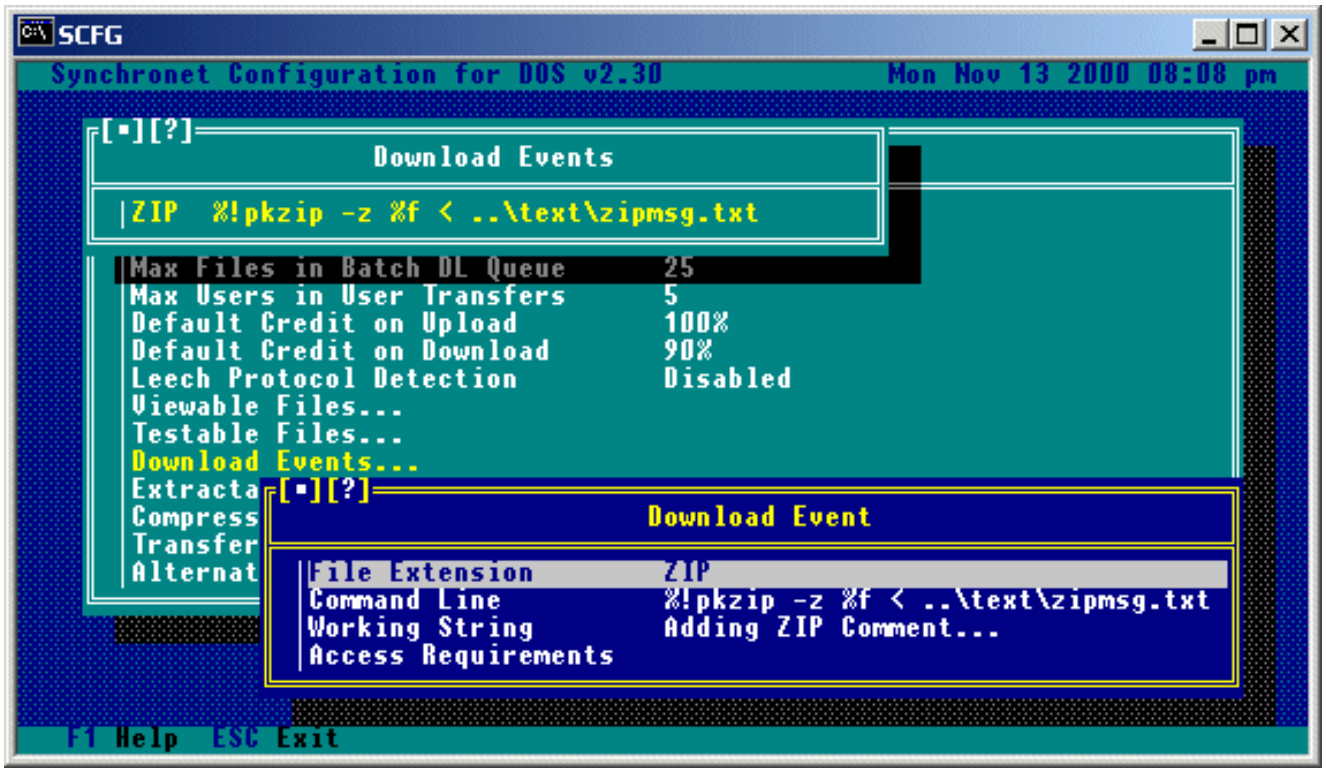
[10.4] - Download Events

Download events are an event that you wish to have executed before a user downloads a file from your BBS. This can be useful adding a comment to a file from a CD-ROM before it gets sent to the user (as the example shows), or to perform a virus scan, or any other function you can think of.

Here is an example showing how to change the comment in ZIP type files when a user attempts to download a file.

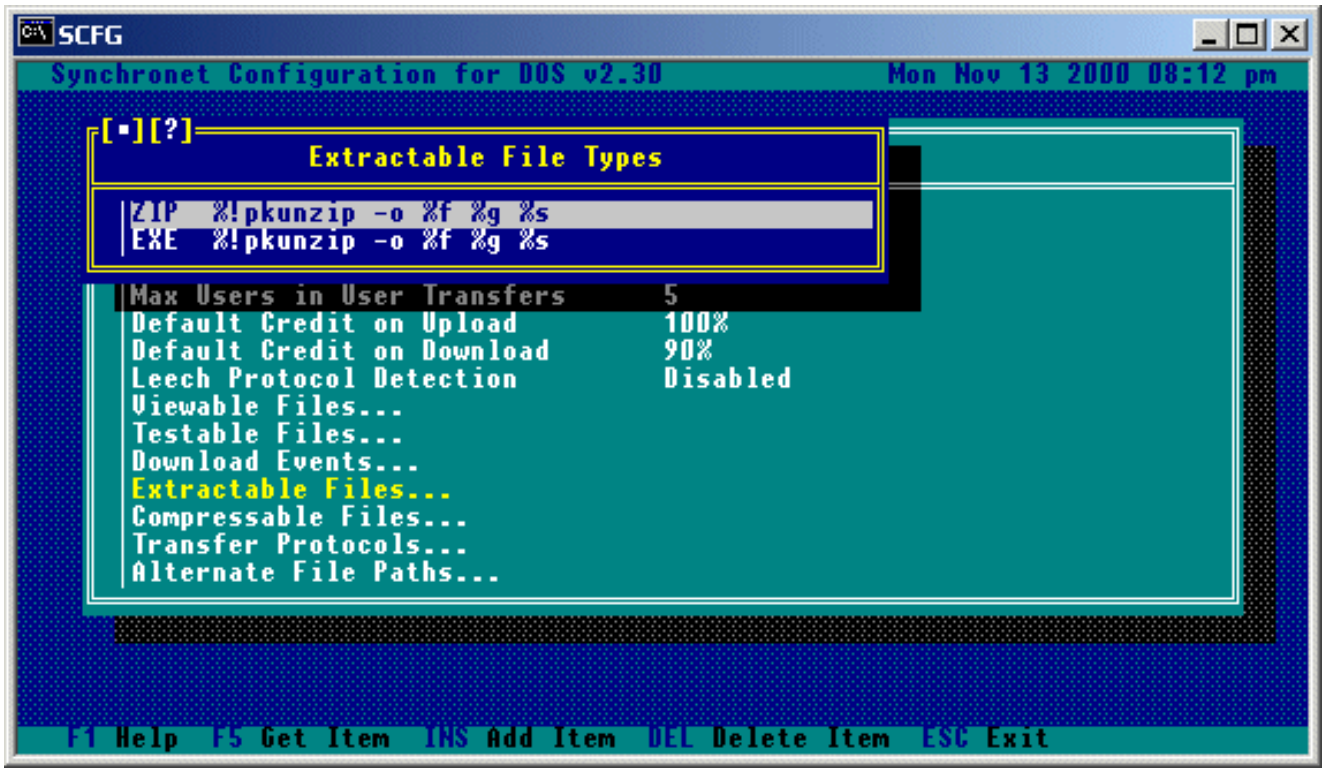


Selecting the available event will allow you to edit the options available.



[10.5] - Extractable Files

This is a list of archive file types that can be extracted to the temp directory by an external program. The file types are specified by their extension. For each file type you must specify the command line used to extract the file(s). Here are some example command lines for extracting various files:



NOTE: When you select a file type from this list, you will be given one additional option (Access Requirements) which is not shown here. Users not meeting any access requirements which are set will not be able to perform, or be affected by, that function.

Notes on command lines syntax:

The use of conversion specifiers are supported in all command lines within SCFG. Conversion specifiers are proceeded by a percent (%) symbol and are not case sensitive. The above command line examples use the following specifiers:

%! EXEC directory:

If the program you are executing with this command line is not located in your EXEC directory, you can specify the directory where the program is located or, if the program is in your search path, start the command line with just the program name (no prefix). We suggest specifying the location of the program for security reasons.

%f Filename:

This is the filename of the archive that is to be extracted.

%g Temp Directory:

This is the path to the temp directory. In the above command lines, it is the destination of the extracted files.

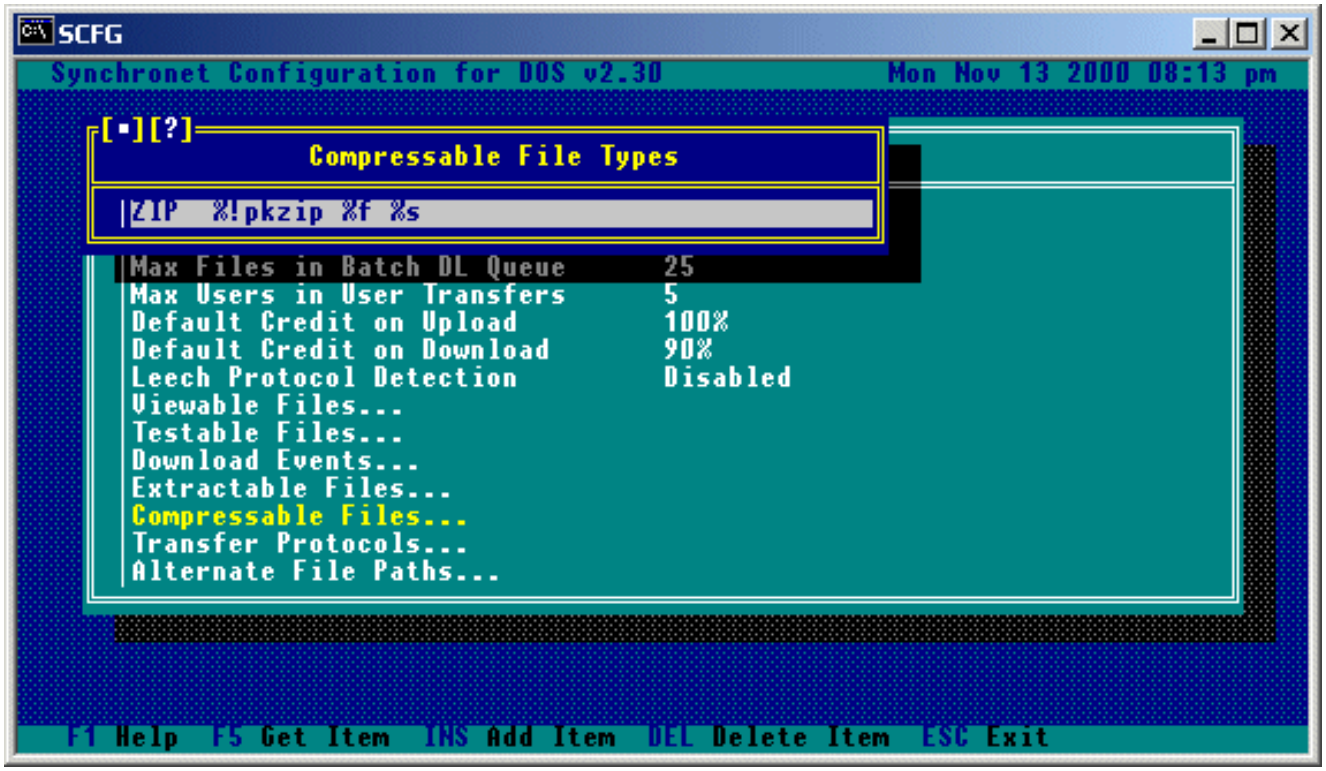
%s File Specification:

This is the file specification to extract from the archive.

See Appendix A for a complete list of the available specifiers.

[10.6] - Compressable Files

This is a list of archive file types that can be created for QWK packets and temporary archives for download. The file types are specified by their extension. For each file type you must specify the command line used to create the archive. Here are some example command lines for various compression types:



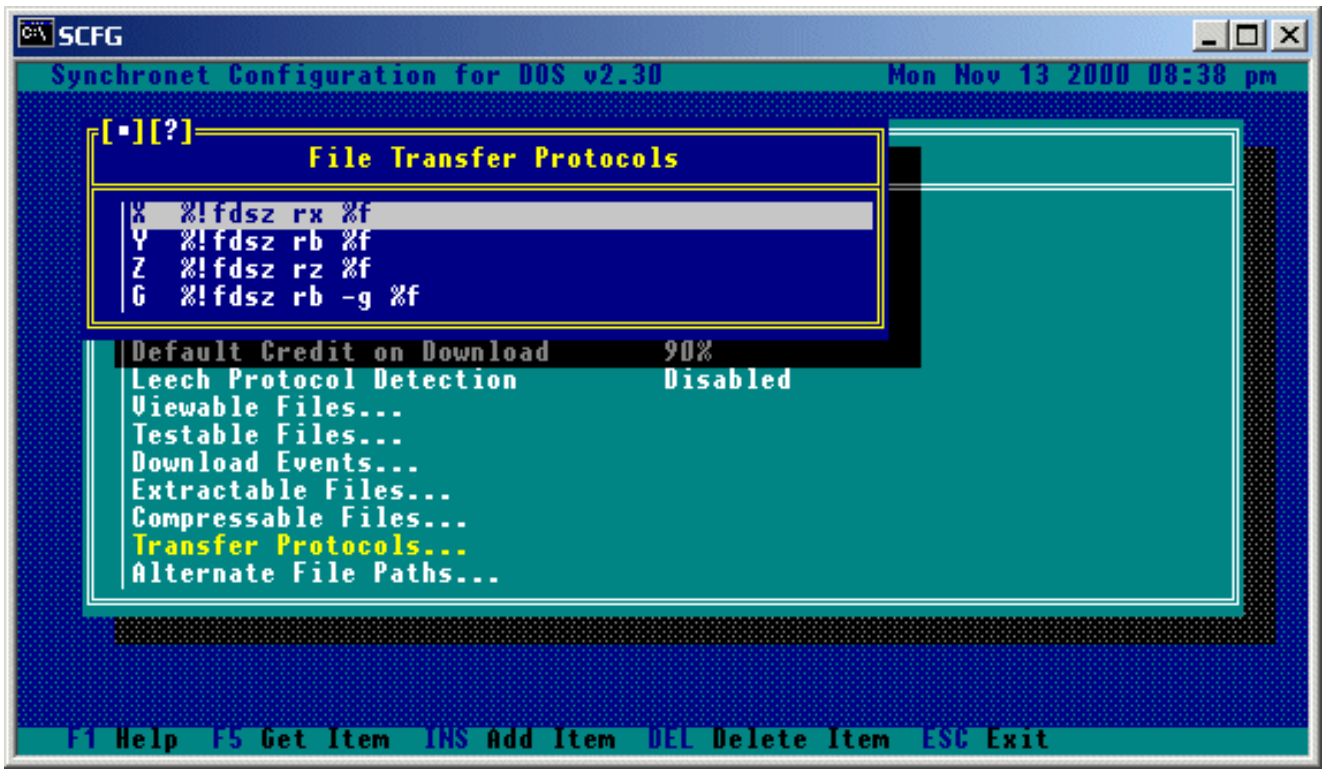
For these compression command lines to work, you must have the appropriate executable files (PKZIP, ARJ, and LHA) in your EXEC directory.

[10.7] - Transfer Protocols

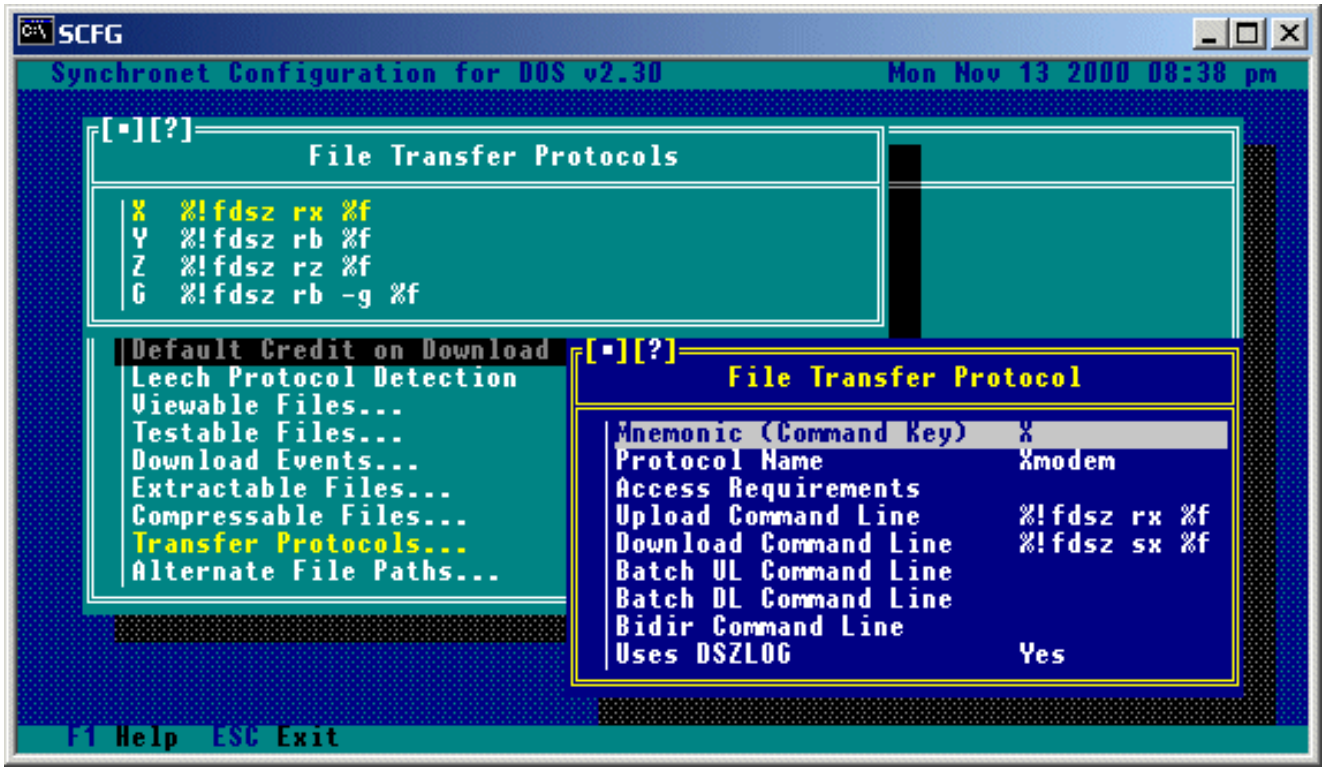
This is a list of file transfer protocols that can be used to transfer files either to or from a remote user. For each protocol, you can specify the mnemonic (hot-key) to use to specify that protocol, the command line to use for uploads, downloads, batch uploads, batch downloads, bi-directional file transfers, and the support of DSZLOG. If the protocol doesn't support a certain method of transfer, or you don't wish it to be available for a certain method of transfer, leave the command line for that method blank. Be advised, that if you add or remove any transfer protocols, you will need to edit the protocol menus (ULPROT, DLPROT, BATUPROT, BATDPROT, and BIPROT) in the TEXT\MENU directory accordingly. The '%f' command line specifier is used to represent the filename or batch file list. The following is an example list of protocols and their respective sub-menus and options:

[10.7.1] - Version 3.0 (Win32 / Telnet) using FDSZ :

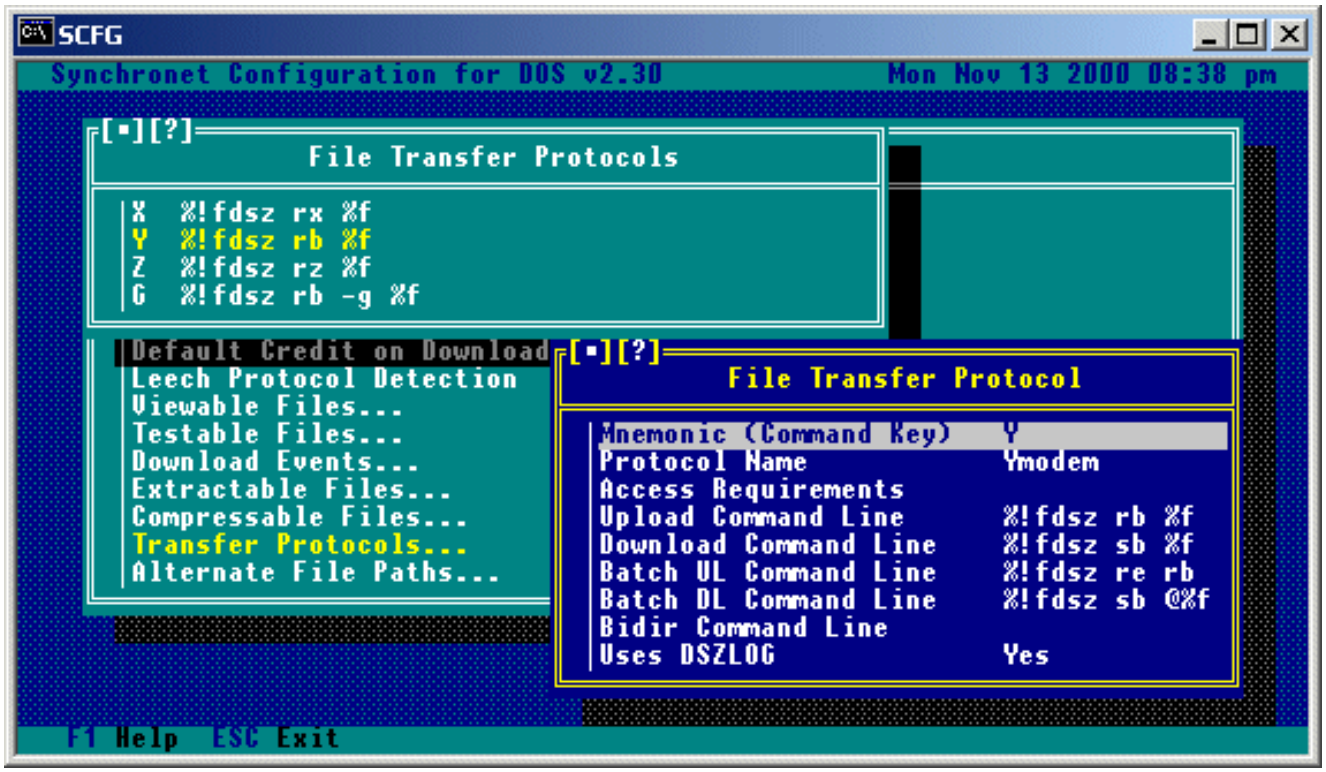
IMPORTANT: If you are running Synchronet as a Telnet Server then you must use a Protocol that supports FOSSIL Communications such as FDSZ or CEXYZ. Synchronet v3.0 comes pre-configured for use with FDSZ.



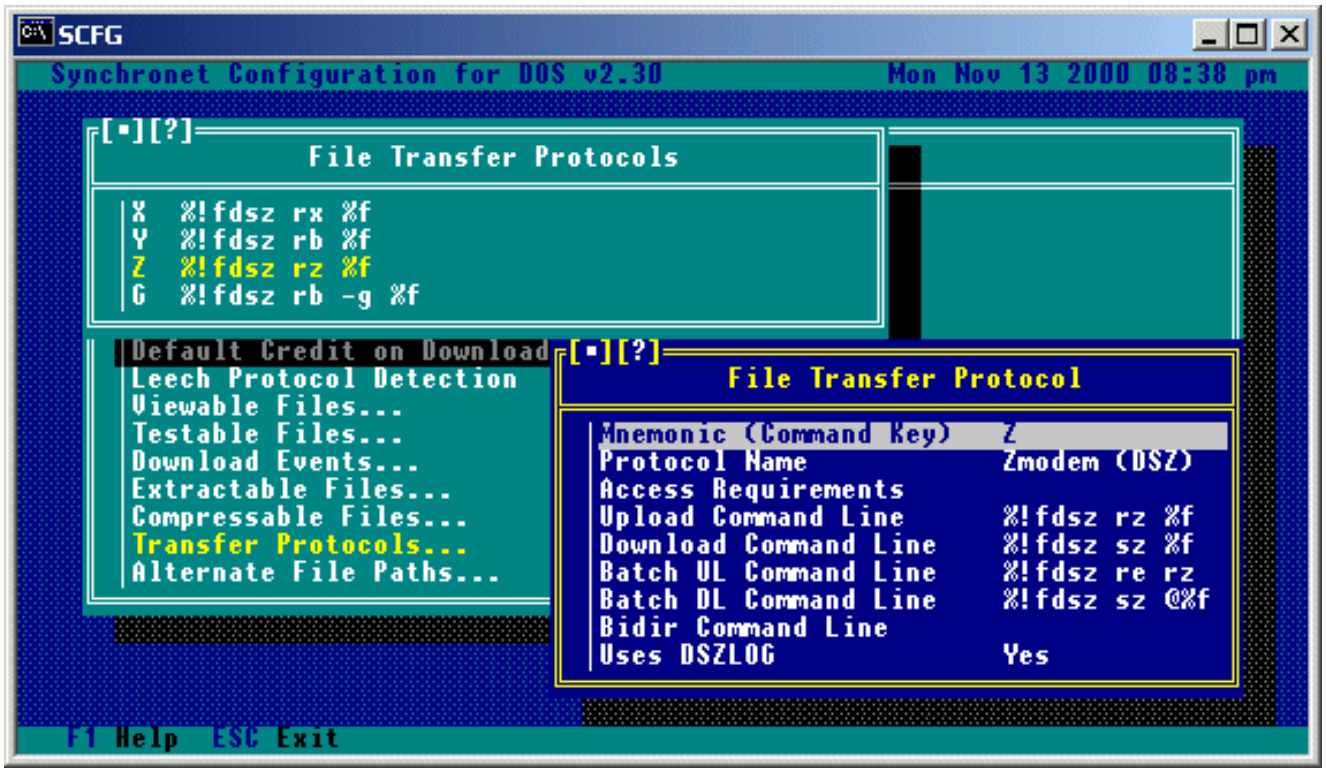
FDSZ Xmodem



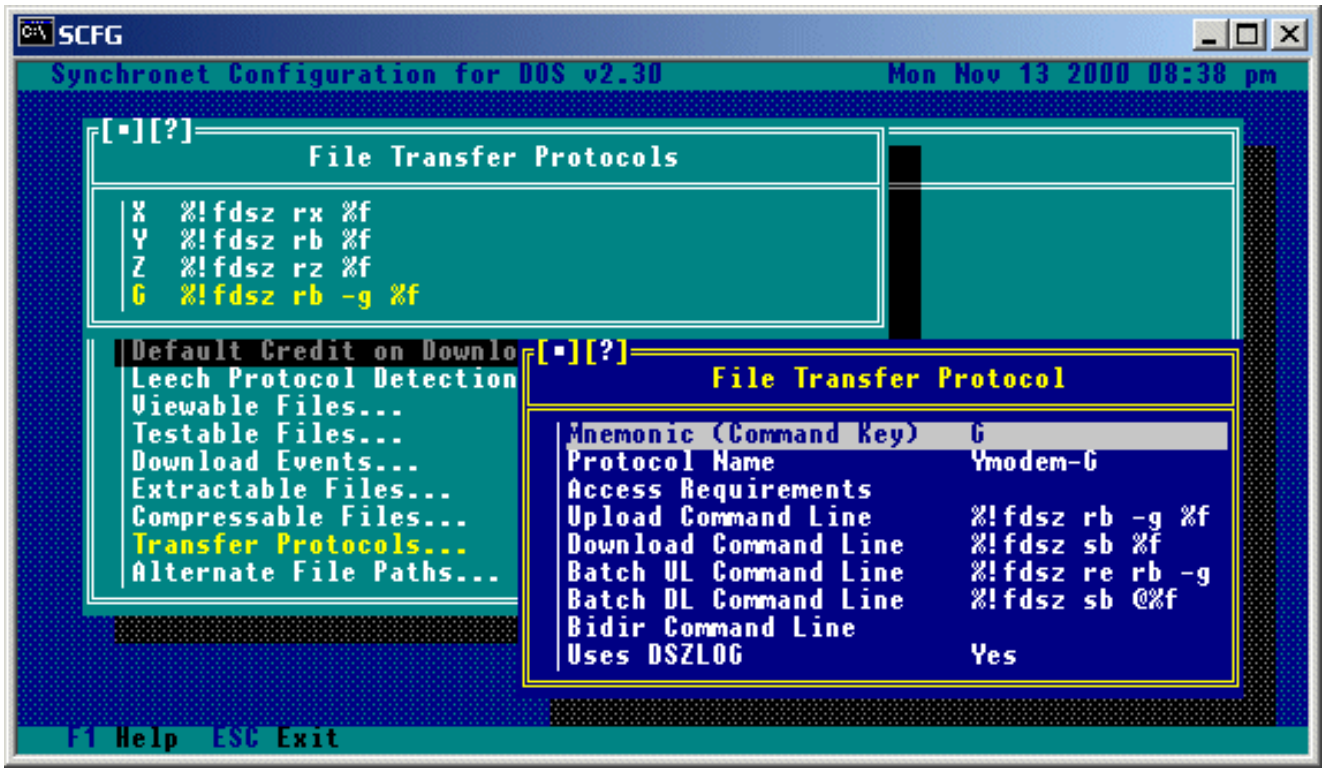
FDSZ Ymodem



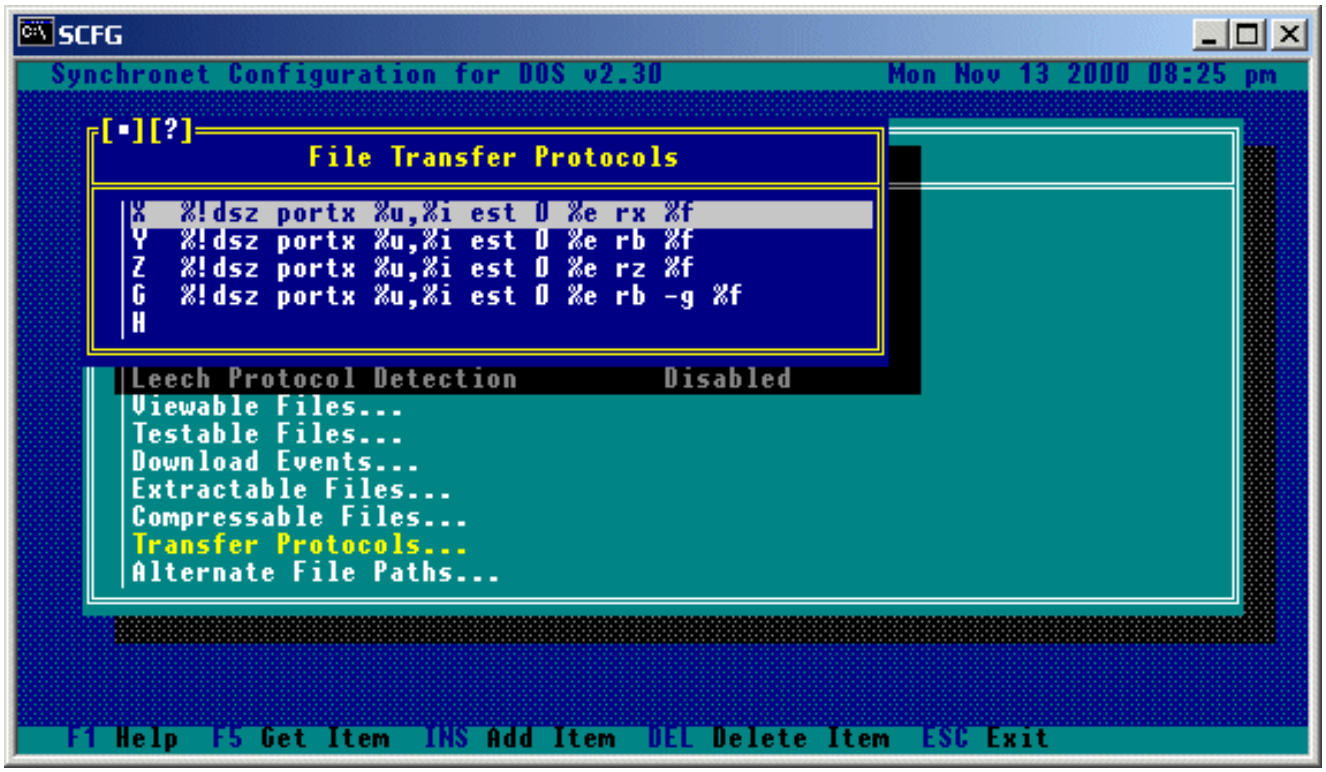
FDSZ Zmodem



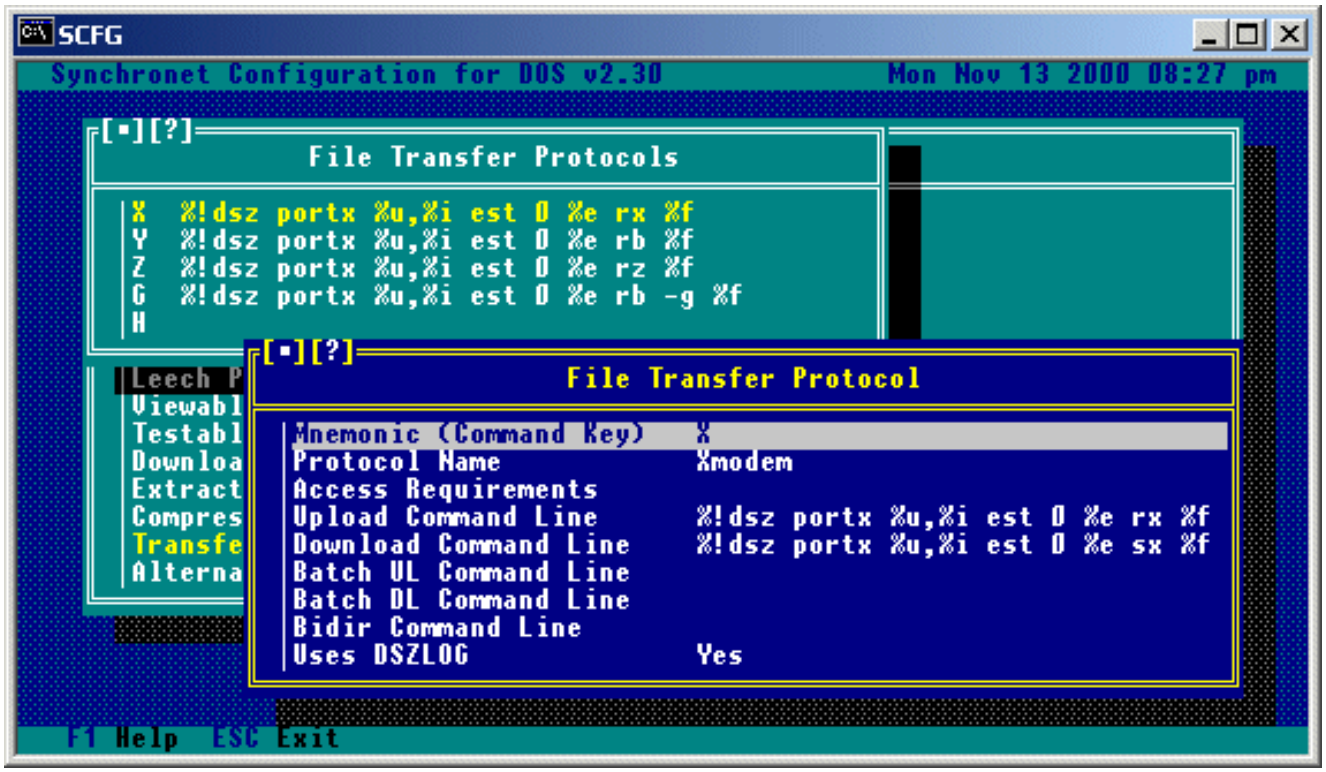
FDSZ Ymodem-G



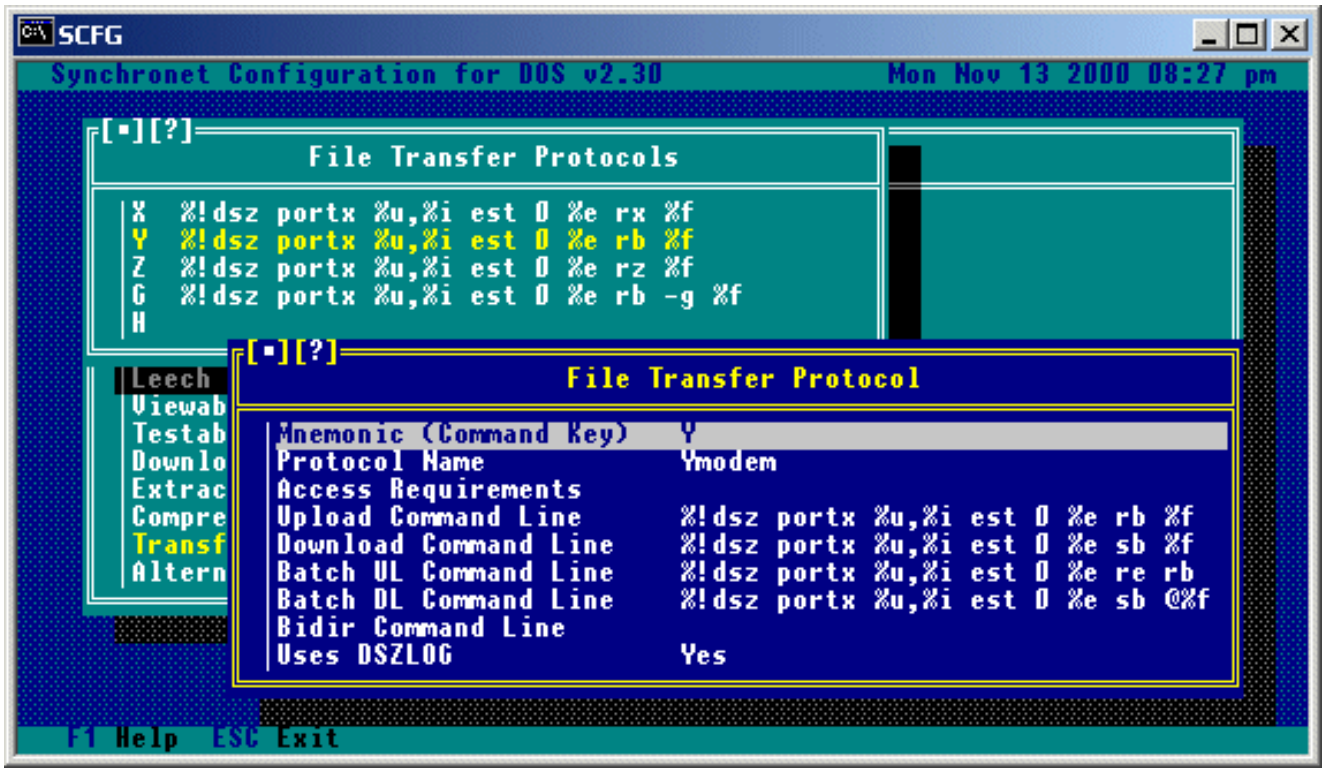
[10.7.2] - Version 2.30 (DOS/OS2) using DSZ :



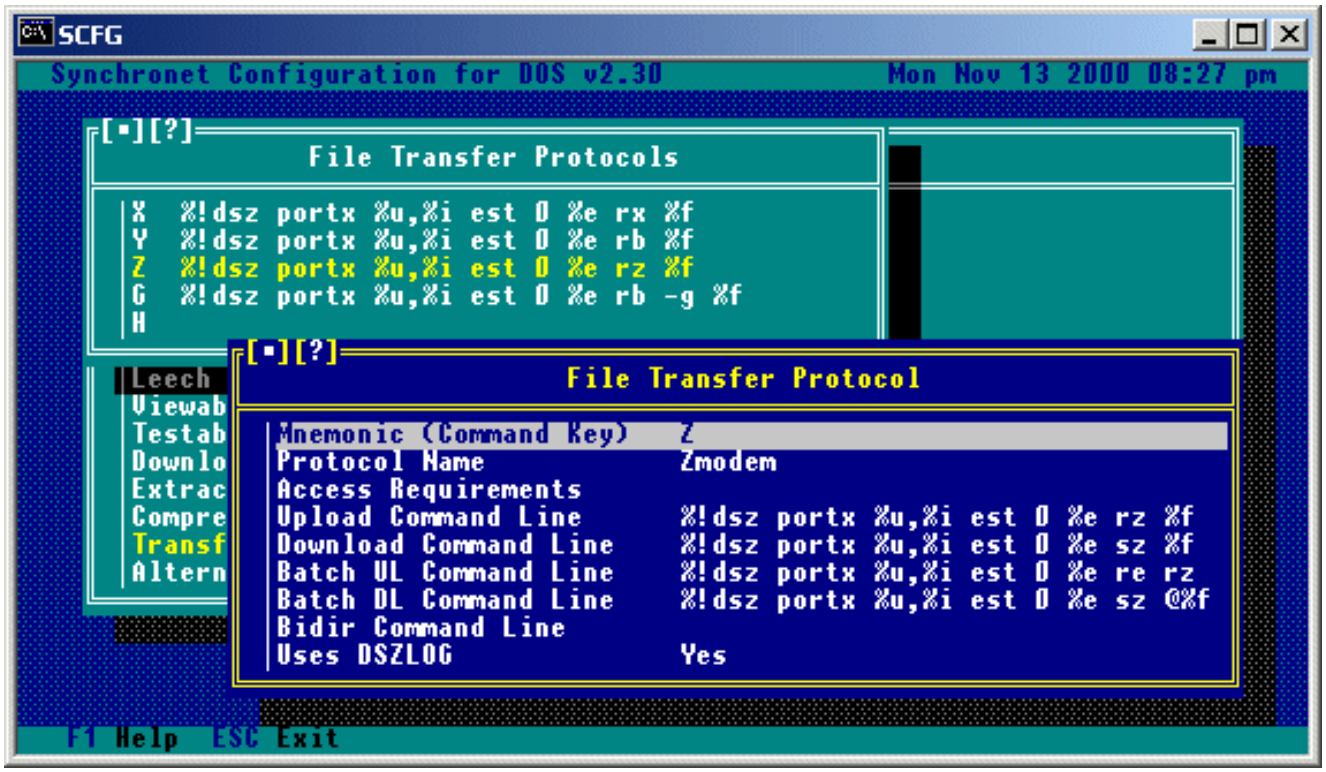
DSZ Xmodem:



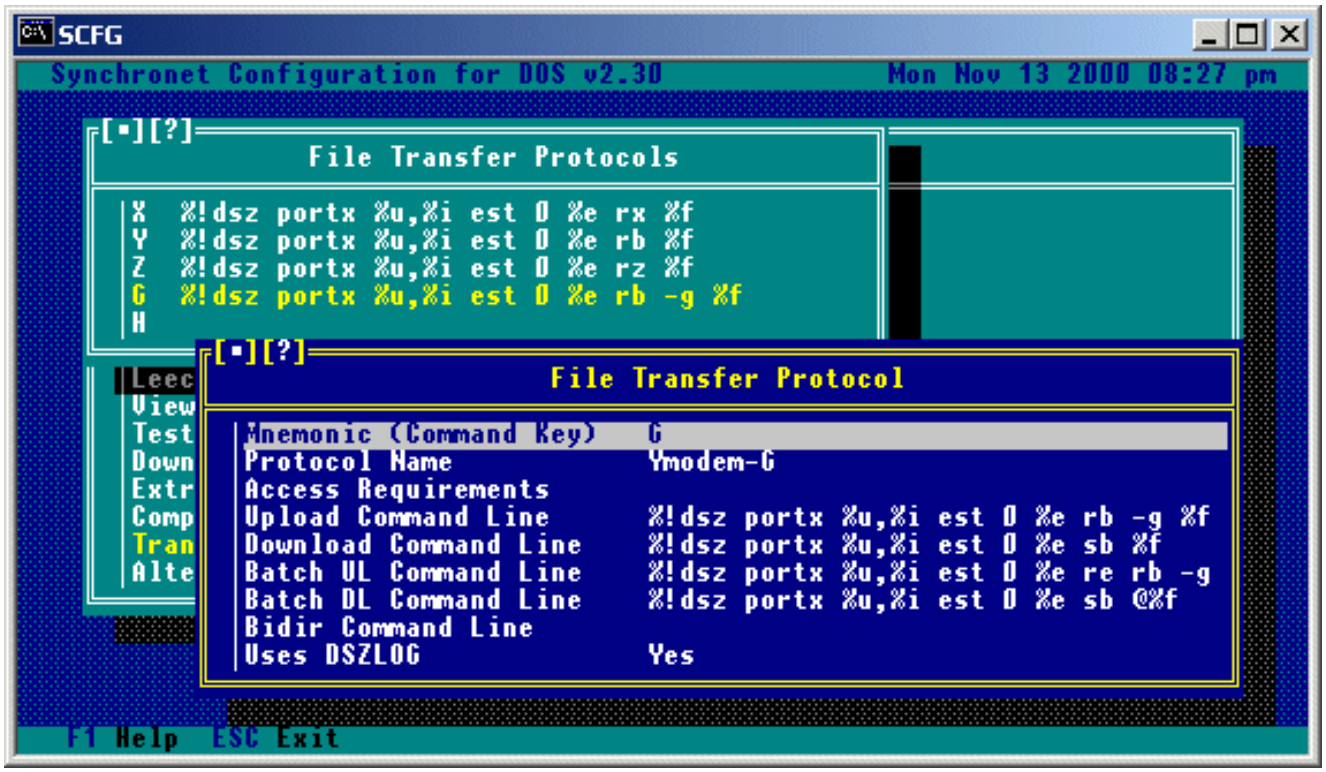
DSZ Ymodem:



DSZ Zmodem:

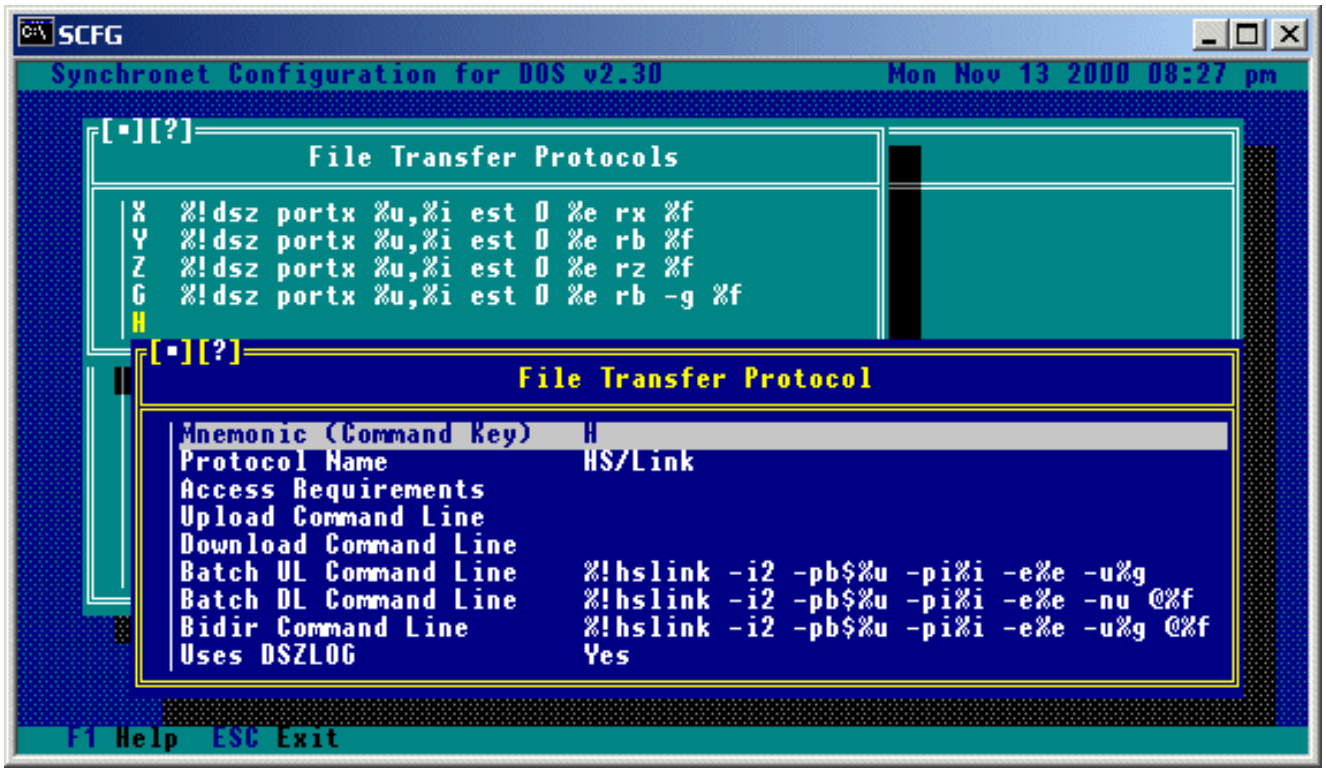


DSZ Ymodem-G:



[10.7.3] - Version 2.30 (DOS/OS2) using HS/Link :

HS/Link Bi-Directional Transfers:



NOTE: Users not meeting any access requirements which are set will not be able to use that protocol.

IMPORTANT: If you have Synchronet set to use anything other than UART you will not be able to use the DSZ transfer protocols and will need to locate a set of protocols that will work with your setup. If you are using a UART serial board, there is no reason why Synchronet should not be set to use UART. Just because a front-end mailer or door game requires a FOSSIL driver, it does NOT mean that you must also set Synchronet to use a FOSSIL.

[10.8] - Creating File Libraries

Select "File Transfers" from the SCFG main menu. Then select "File Libraries". Hit INS (insert key) to create a file library. File libraries are groups of file directories that have a similar subject matter or other common element. File libraries are often used to separate Program files and Data files or files stored on a Hard disk and files stored on CD-ROM. An example configuration that separates programs from data:

Library	Directory
Programs	Games
Programs	Utilities
Programs	Business
Programs	Communications
Programs	Graphics Programs
Programs	Programming
Data Files	Text (Documentation, Stories, Cheats)
Data Files	Program Source Code (C, ASM, PAS, BAS)
Data Files	Still Pics (GIF, PCX, TIF)

Data Files	Animation (FLI, GL, DL)
Data Files	Sound (MOD, WAV, MID)
Data Files	Other

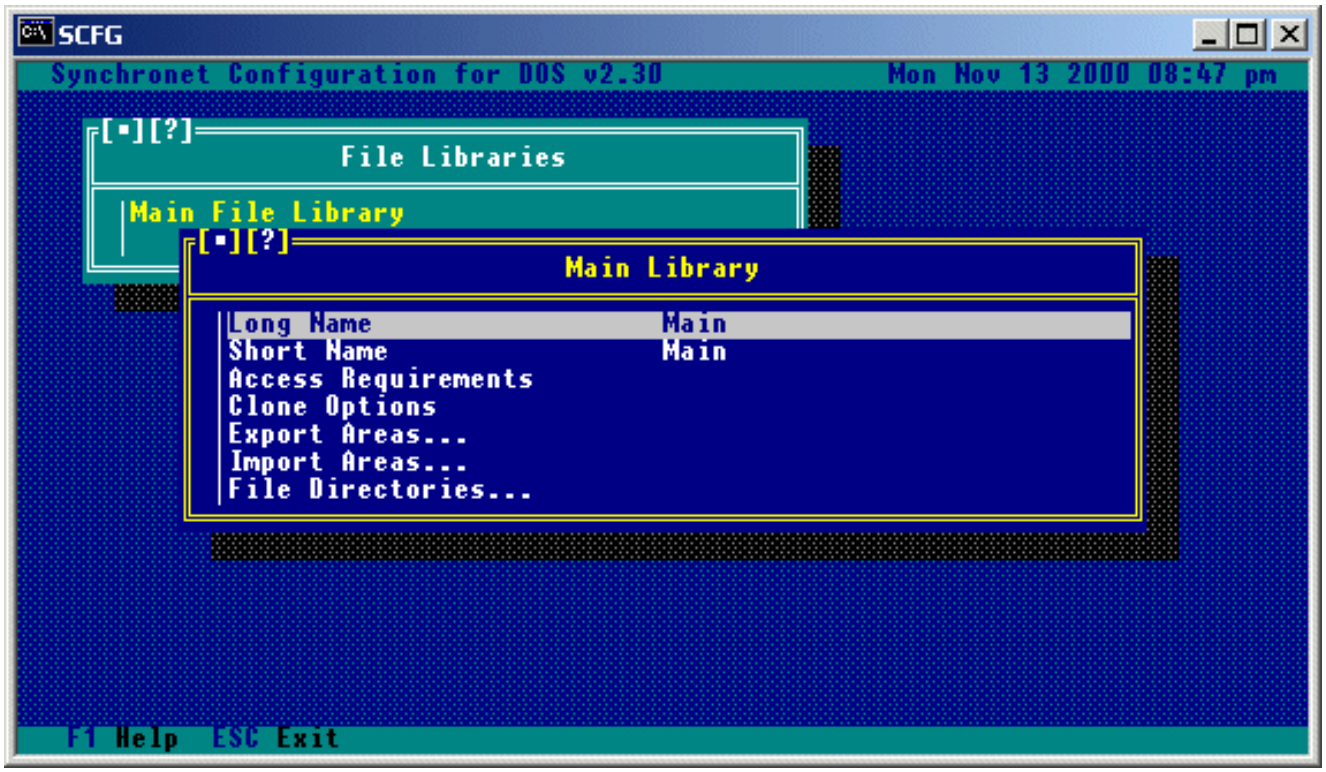
Example configuration that separates hard disk directories from CD-ROM directories:

Library	**Directory**
Hard Disk	Text
Hard Disk	Games
Hard Disk	Utilities
Hard Disk	Business
Hard Disk	Graphics
Hard Disk	Communications
Hard Disk	Graphics Programs
Hard Disk	Programming
Hard Disk	Graphics, Animation, and Sound
GIF CD-ROM	G Rated
GIF CD-ROM	G Rated 640x480
GIF CD-ROM	G Rated 800x600+
GIF CD-ROM	R Rated
GIF CD-ROM	R Rated 640x480
GIF CD-ROM	R Rated 800x600+
GIF CD-ROM	X Rated
GIF CD-ROM	X Rated 640x480
GIF CD-ROM	X Rated 800x600+
PD/ShareWare CD-ROM	Games - Mono, CGA, EGA
PD/ShareWare CD-ROM	Games - VGA
PD/ShareWare CD-ROM	Utilities
PD/ShareWare CD-ROM	Communications
PD/ShareWare CD-ROM	Graphics and Desktop Publishing
PD/ShareWare CD-ROM	BBS Software and Utilities
PD/ShareWare CD-ROM	Programming
PD/ShareWare CD-ROM	Windows Programs, Fonts, Icons, etc.

You must have at least one file library and one file directory for anyone to be able to use the file transfer section. Following is a list of options available when creating or modifying a file library.

[10.8.1] - Library Options

Selecting a library name from the list of available libraries will give you a sub-menu of options for that library.



Long Name:
This is a description of the library displayed in library listings.

Short Name:
This is a description of the library displayed at prompts.

Access Requirements:
These are the requirements which must be met by a user account in order to access this library.

Clone Options:
Use this command to copy the options of the first directory in this library to all the other directories in the library.

Export Areas:
If you wish to export the area information of all the directories in the current file library to a text file, use this option.

Import Areas:
If you wish to import a text file of area information into the current file library, use this option.

[10.9] - Creating File Directories

After you have created at least one file library, you need to create directories for the library. Creating a file directory is much like creating a file library except that you will be prompted for an internal code to use. The internal code should be an abbreviation of the name of the directory or something else that specifies the contents of the directory.

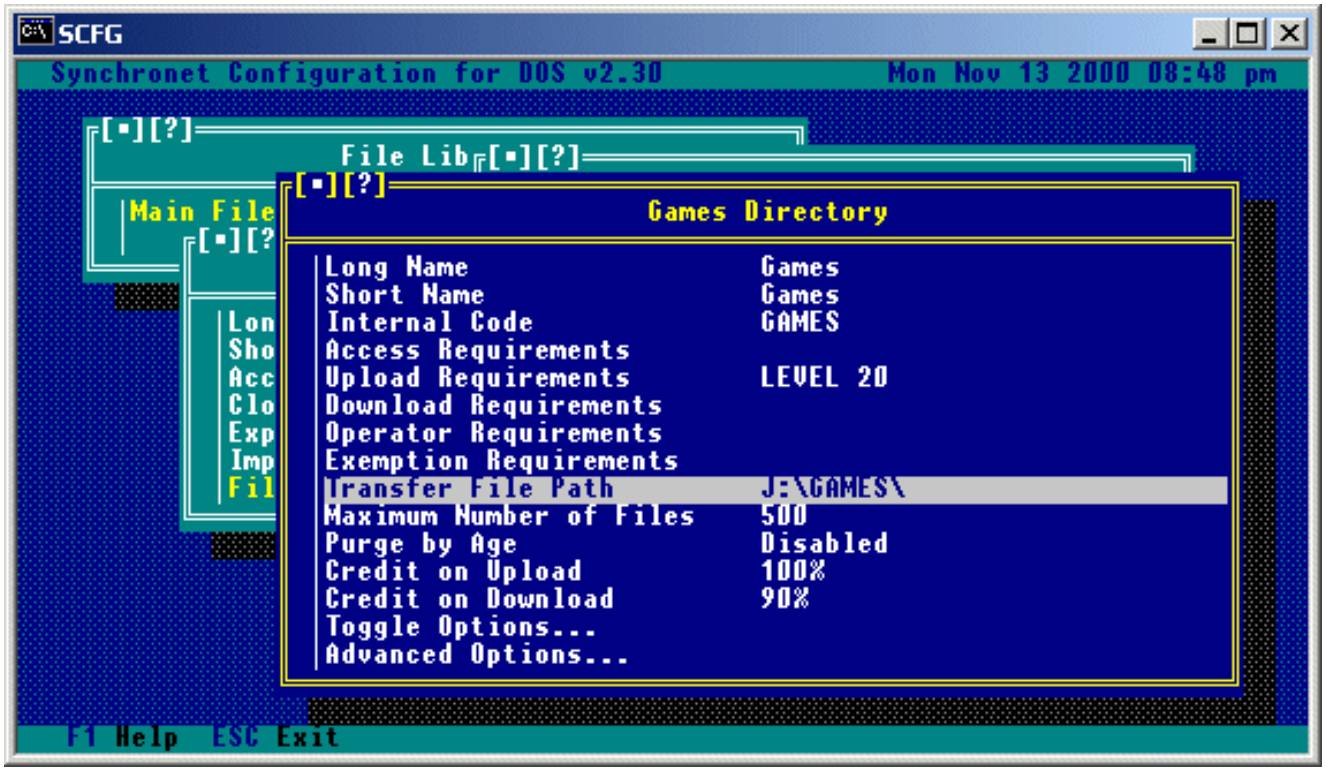
For each directory, you need to specify the file storage path. This is where

the files are actually located (Drive and directory) on your system. If you do not specify a storage path, a sub-directory will be created off of your DATA\DIRS directory with the directory's internal code as the name of the sub-directory. If you wish to use the default storage path (DATA\DIRS\<code>), you'll need to move any files that you wish to be added to the BBS file database to that sub-directory.

If you are adding CD-ROM directories, be sure to set the "Check for file existence" and "Search for New Files" toggle options to "No", and "Slow Media Device" to "Yes" for each of your CD-ROM file directories.

Following is a list of options available in the SCFG when creating or modifying a file directory.

[10.9.1] - Main Directory Options



Long Name:
This is a description of the file directory that is displayed in directory listings.

Short Name:
This is a description of the file directory that is displayed at prompts. Some short names have a predetermined meaning:

Temp:
This short name is reserved and cannot be used.

Offline:
This short name specifies that this directory is to hold offline files for the selected library and is treated a bit differently than other directories. It will not be included

in new-scans and will be the default location of files that are removed or moved. A directory with this short name should have the upload level set to 90 and the access level and flags set the same as the library. There can only be one directory per library with this short name.

Sysop:

This short name specifies that this directory will be the destination for files uploaded by users with the 'Z' command from the transfer section. There should only be one directory with this short name and it should belong to the most accessible library. A directory with this short name should have the access level set to 90 and the upload level and flags set the same as the library.

User:

This short name specifies that this directory will be the storage point for user to user transfers. There should only be one directory with this short name and it should belong to the most accessible library. Users can upload a file to another user or group of users with the '/U' transfer section command. Users download files sent to them with the '/D' transfer section command. A directory with this short name should have the access level set to 90 and the upload level and flags set the same as the library or at whatever level the sysop wishes to allows users to use the user to user transfer facilities.

Uploads:

This short name specifies that this directory will be used for uploads if the user attempts to upload to a directory where he or she does not have sufficient upload access.
If you wish all uploads to automatically go into one specific directory, set the required upload level for all other directories to 90 or higher (Sysop). If you don't want users to be able to see the files in this directory or download them until they are moved by the sysop, set the required access for your "Uploads" directory to level 90 or higher. Creating an "Uploads" directory also allows "Blind" batch uploads from the users (files need not be added to the upload queue first).

Internal Code:

This is an internal code for SBBS to distinguish this directory from the others on the system. This must be a unique name of up to 8 valid DOS filename characters. The code TEMP is reserved and cannot be used.

Access Requirements:

This is a list of security requirements to access this directory.

Upload Requirements:

This is a list of security requirements to upload to this directory.

Download Requirements:

This is a list of security requirements to download from this directory.

Operator Requirements:
Any users meeting these criteria will be able to perform Sysop type activities for this directory.

Exemptions Requirements:
Any users meeting these criteria will be considered exempt from credit deductions when transferring files from this directory.

Transfer File Path:
This is the actual path for the storage of the files that belong to this directory. If no path is specified, the directory DATA\DIRS\CODE, where CODE is the internal code for this directory, will be used to store the files.

Maximum Number of Files:
This is the maximum number of files that will be allowed in this directory. Once this number of files is reach, no uploads will be allowed.

Purge by Age:
This is maximum age of files (in days) to keep in this directory. The DELFILES utility (included with Synchronet) must be run as a timed event to automatically purge old files from your file areas.

Credit on Upload:
If Credit Uploads is set to Yes in the toggle options for this directory, users will be credited with this percentage of the file size (in bytes) in credits when uploading a file to this directory.

Credit on Download:
If Credit Downloads is set to Yes in the toggle options for this directory, users will be credited this percentage of credits for subsequent downloads of any file that they upload to this directory.

[10.9.2] - Toggle Options

Check for File Existence:

If this option is set to 'Yes', when files are listed in the transfer section, each file is checked to see if it actually exists in the DOS directory. If the file doesn't exist, the credit value is displayed in high intensity blinking and is followed by a minus symbol. Setting this option to 'No' speeds up the file listings, but files not actually on disk will appear just as the others. Directories with a short name of Offline should have this value set to 'No' as they should solely contain files that aren't actually in the DOS directory. Directories that are stored on CD-ROM or other slow random access device should have this option set to 'No'.

Slow Media Device:

If this option is set to 'Yes', files will be copied from the normal storage directory into the temp directory and downloaded from there. This option is helpful in reducing the overhead associated with multiple simultaneous user access to a slow media device such as CD-ROM.

Force Content Ratings:

If this option is set to 'Yes', when a user uploads a file he is prompted to rate the content of the file with a single character (usually G, R, or X), and the file description will begin with the rating letter contained in brackets.

Upload Date in Listings:

Setting this option to 'Yes' will cause Synchronet to place the date that a file was uploaded onto the first line of the file description, similar to the Multiple File Numberings option.

Multiple File Numberings:

If this option is set to 'Yes', when a user uploads a file he is asked if the file he is uploading is part of a set of files. If the user answers 'Yes', he is then prompted for the total number of files, the number of the file he is uploading, and the file description will end with the numbering in the format "[n/t]", where n is the file number and t is the total number of files.

Search for Duplicates:
If this option is set to 'Yes', this directory will be searched for duplicate filenames when a user attempts to upload a file.

Search for New Files:
When this option is set to 'Yes' this directory will be included in new file scans (for those users than have access). Set this option to "No" for CD-ROM directories or directories that will not be receiving new files on a regular basis.

Search for Auto-ADDFILES:
When this option is set to 'Yes' this directory will be searched for FILES.BBS by the ADDFILES program when using the auto-add feature.

Import FILE_ID.DIZ:
When set to 'Yes', Synchronet will attempt to import the FILE_ID.DIZ or DESC.SDI of any files uploaded to this directory into the file description.

Free Downloads:
If you want all files downloaded from this directory to be free for the downloader (not cost any credits regardless of the credit value), set this option to 'Yes'.

Free Download Time:
If you do not want time spent during downloading to be subtracted from the users time online, this option should be set to 'Yes'.

Deduct Upload Time:
If you want the time spent uploading a file to be subtracted from the users available online time, this option should be set to 'Yes'.

Credit Uploads:
If you want users who upload files to this directory to get credit for their upload based on the "Credit on Upload" percentage, set this value to 'Yes'.

Credit Downloads:
If you want users who upload files to this directory to get credit for subsequent downloads of the file based on the "Credit on Download" percentage, set this value to 'Yes'.

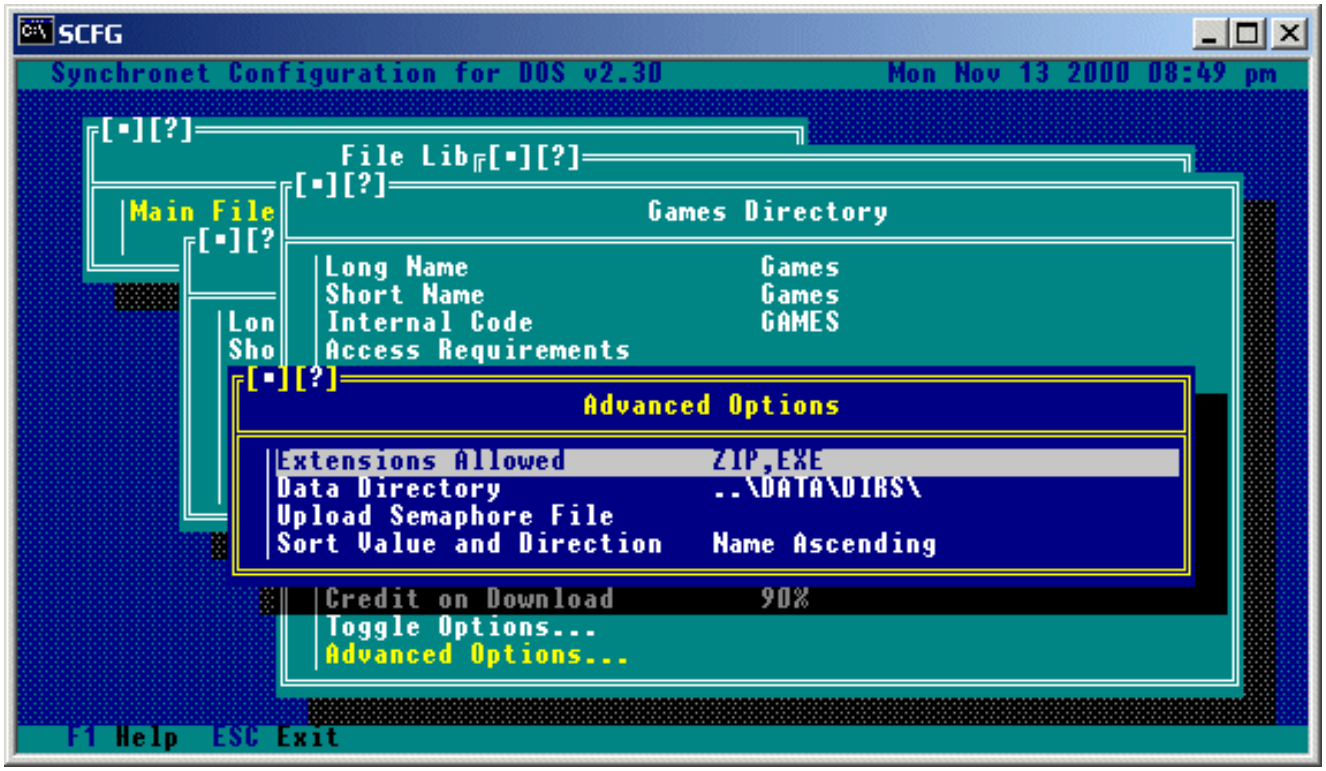
Credit with Minutes:
Setting this option to 'Yes' will cause the uploading user to receive time (in minutes) for their upload rather than credits. The minutes a user receives will be based upon the percentage awarded multiplied by the time it took for the recipient of the file to download it.

Anonymous Uploads:
If you want users with the 'A' exemption to be able to upload file anonymously to this directory, set this option to 'Yes'. If you want all uploads to this directory to be automatically forced anonymous, set this option to Only.

Purge by Last Download:
This option is for use in conjunction with the Synchronet DELFILES program. When deleting files from the filebase, if this option is set to 'Yes', it will compare the maximum age specified by the "Purge by Age" field to the date the file was last downloaded. If set to 'No', the maximum age will be compared to the date the file was uploaded.

Mark Moved Files as New:
If this option is set to 'Yes', then when a file is moved from this directory to another, it's upload date will be reset to the current date/time automatically.

[10.9.3] - Advanced Options



Extensions Allowed:
This is a list of file extensions (separated by commas) that are allowed to be uploaded to this directory.

Data Directory:
This is the path where the data for this directory will be located.

Upload Semaphore File:
This is the path and name of a semaphore file used to trigger your front-end mailer when a file is uploaded.

Sort Value and Direction:
Directories can be sorted either by filename or upload date in an ascending or descending order. This option selects the value to sort on and in which direction.

[10.10] - IMPORTANT - Adding files to the BBS database

Now that you've created at least one file library and one file directory inside that file library, any files located in the storage path for that directory are not automatically available for users to download. The file has to be added to the BBS file database first.

Manual Upload

Logon to the BBS as yourself (most likely, user #1), go to the file transfer section. Select the file area you wish to add the file to and hit 'U' for upload. Now enter the filename. If the file is already in the storage directory that you specified in SCFG you will be prompted for file descriptions and other questions about the file. If the file is not already in the storage directory, you will be prompted for the path from where to copy the file.

ADDFILES

If you have an ASCII list of your files with descriptions (often called FILES.BBS or DIR##), you'll want to use the Synchronet ADDFILES program to import this file and description information into the BBS file database. This is usually only the case for CD-ROMs and when converting a file database from another BBS. See the Utility Reference Chapter for more information on ADDFILES.

Bulk Upload

To add the files that are located in the storage paths of your configured directories, exit the configuration program, logon to the BBS as yourself (User #1), go to the file transfer section ('T' from the main menu), and type ";UPLOAD ALL" then hit ENTER. If there are any files that are in your storage paths, but not already in the BBS file database you will be prompted to enter a description for each file.

[10.10.1] - Creating Offline File Directories

Each library can have an offline file directory. This is where you can place files that have been removed from the system, but the file information (name, description, uploader, etc.) remains in the database. Offline directories are treated special. They are not scanned for new files and are automatically used as an optional destination for the file information when a file is removed by a sysop. Offline file directories are specified by having the short name of "Offline" (not case sensitive). Only one offline directory can be specified per library. Offline file directories should have the "Check for file existence" toggle option set to "No". The minimum security level to upload should be set to 90 so that users will not be allowed to upload to this directory.

[10.10.2] - Creating a Sysop Directory

A sysop file directory is a directory that users can upload to, but they can not see nor download from. You can only have one sysop directory on the system and it can belong to any one of the file libraries. A sysop file directory is specified by the short name of "Sysop" (not case sensitive) and will be used as the destination directory for uploads with the 'Z' (upload to sysop) transfer section command. The minimum security level to access should be set to 90 or higher so that only sysops can view the directory and download from it and the upload access level should be set to 0 (or higher, if you want to restrict the number of users who can upload to the sysop dir).

[10.10.3] - Creating a User-to-User Transfer Directory

A user-to-user transfer directory is used for users to send a file directly to another user (or group of users) with only that user (or group of users) being able to see the file and download it. It's like a private e-mail file directory. Users send files to other users with the "/U" command and download files from other users with the "/D" command. This feature is only enabled if the sysop creates a user-to-user transfer directory. This directory can belong to any library on the system, but must have a short name of "User" (not case sensitive). The minimum security level to access should be set to 90 or higher so that only sysops can view the directory and download any file they wish from it and the upload access level should be set to 0 (or higher, if you want to restrict the number of users who can upload user-to-user files). This directory should have the "Allow extended descriptions" toggle option set to "Yes" so that the uploader of the file can attach a more detailed description if he or she wishes.

[10.10.4] - Creating a Default Upload Directory

A default upload directory is used if you want all uploads to go to a single directory. If you wish to use this feature, you must create a directory with the short name up "Uploads" (not case sensitive). Set the minimum level to access to 90 or higher if you do not wish to allow users to see this directory. Set the upload access level to 0 (or higher, if you want to restrict the number of users who can upload to this directory). You should set the required upload access level of all other directories in the library to 90 or higher so that all upload attempts to those directories will force the file uploaded into this directory.

[10.10.5] - Supporting Blind Batch Uploads

Some sysops would like for their users to be able to do a batch upload of files to a directory without having to enter the files into an upload queue before hand. These are called Blind Batch Uploads. In order for this feature to work, you MUST have created a default upload directory (see the section above describing this procedure). Once you have created a default upload directory, the user need only go to the Batch Transfer menu and begin his upload.

[10.11] - CD-ROM and Other Slow Media Devices

It is assumed that you have already installed your CD-ROM drive and any necessary device drivers so that it can be accessed as a DOS device (like a hard disk or floppy disk).

Explore your CD-ROMs directories to find out what directories contain what kind of files. Make notes of the directory paths and a description you would like to give that directory. Example:

Path	**Description**
D:\G-GIFS	G Rated GIFs
D:\GAMES	Games
D:\UTILS	Utilities

Now find the ASCII description lists on the CD-ROM for the individual directory contents and note which description files are for which directories. If multiple list formats are supplied, use the format that most closely matches this (FILES.BBS format):

```
FILENAME.EXT  This is a file description
```

or the DIR## format:

```
FILENAME.EXT    530114  07-16-91  This is a file description that will be too
                                | long, so it wraps to the next line.
```

Example for file list notes:

File List	**Description**
D:\DESC\GIFS.LST	GIFs
D:\DESC\GAMES.LST	Games
D:\DESC\UTILS.LST	Utilities

Or preferably:

File List	**Description**
D:\GIFS\FILES.BBS	GIFs
D:\GAMES\FILES.BBS	Games
D:\UTILS\FILES.BBS	Utilities

Now run SCFG from your node directory. Go to "File Transfers", then "File Libraries". Hit the INS key to add a new file library. Name it "CD-ROM" or a description of what the CD-ROM contains. Now hit ENTER on the new library and select "File Directories". Hit INS to add each directory specifying the name and file storage path for each. Example:

Long and Short Name	**Internal Code**	**File Path**

```
-------------------------------------------------------
GIFs                    CD-GIFS                 D:\GIFS
Games                   CD-GAMES                D:\GAMES
Utilities               CD-UTILS                D:\UTILS
```

Now hit HOME and ENTER to edit the first directory. Select "Toggle Options" and hit enter. Set "Check for File Existence" and "Search for New Files" to "No" and set "Slow Media Device" to "Yes". Hit ESC three times to go back to the "CD-ROM File Library" menu. Select "Clone Options" and hit ENTER. Answer "Yes" to clone the options of the first directory into the rest of the library.

Now exit SCFG and save changes.

From the DOS prompt, type:

```
SET SBBSNODE=C:\SBBS\NODE1
```

But use the correct path for your NODE directory. If you installed Synchronet into a directory named "BBS" on drive D:, then you would type

```
SET SBBSNODE=D:\BBS\NODE1
```

Now run ADDFILES (from your EXEC directory) for each of your CD-ROM file description lists (or only once if a FILES.BBS exists in each directory). See the Utility Reference chapter for specifics on how to use ADDFILES. Example (assuming description lists are in DIR## format):

```
ADDFILES CD-G-GIFS +D:\DESC\G-GIFS.LST 33 13
ADDFILES CD-R-GIFS +D:\DESC\R-GIFS.LST 33 13
ADDFILES CD-X-GIFS +D:\DESC\X-GIFS.LST 33 13
ADDFILES CD-GAMES +D:\DESC\GAMES.LST 33 13
ADDFILES CD-UTILS +D:\DESC\UTILS.LST 33 13
```

The following command will search ALL configured directories for FILES.BBS lists and import the files from them:

```
ADDFILES *
```

If you have a FILES.BBS format list which has a different filename, this will search ALL configured directories for that file and import the files from them:

```
ADDFILES *FILES.LST
```

These will add the file descriptions to your Synchronet file database.
Now you should be able to run SBBS and have users download files from your CD-ROM.

[10.11.1] - Alternate File Paths

Since a CD-ROM disk is "read only", you cannot alter the physical organization of files and directories on the CD-ROM. Normally, you would have one logical Synchronet file directory for every physical DOS directory. But for CD-ROMs that have their files spread across a large number of directories, you may not

want your logical directory structure to mimic the physical structure. Synchronet can store roughly a thousand files per directory and many CD-ROMs have far less than that per directory to accommodate BBS software that have a lower maximum number of files per directory. Each logical directory in Synchronet takes up memory so it is advantageous to keep the number of directories to a minimum when working with large quantities of files.

Synchronet's alternate file paths allow the sysop to add files from multiple physical directories into one logical directory on the BBS. Every logical directory on the BBS has a default storage path where uploaded files will be received and downloaded files are sent from. If you wish to add files to an existing logical directory that are not stored in the default storage path, then you will need to add an alternate file path that points to the location of these files. Then either use ADDFILES with the ".altpath" switch or use the ;ALTUL and ;UPLOAD sysop transfer commands to add the files. You will need to know the number of the alternate file path for which you are adding files from, so note which alternate path number you are uploading from before running ADDFILES or ;UPLOAD.

Alternate file paths are useful for grouping files of a similar subject from different CD-ROMs into a single logical directory in Synchronet, thus freeing the sysop to organize the files based on content rather than physical storage location.

[10.12] - Internet FTP Server *(v3+ Only)*

FTP Filename Aliases

You can create a list of file aliases that will appear in your FTP root directory for:

- Quick and easy access to often downloaded user files
- Static filenames that corresponds to a dynamically changing filenames
  e.g. ftp://vert.synchro.net/sbbs_for_dos.zip always points to the current versioned filename of Synchronet for DOS (e.g. SBBS230B.ZIP)
- Download access to files on the local disk not in the BBS file database

How? Edit the file **CTRL/FTPALIAS.CFG** (*SBBSCTRL->FTP->Edit->Alias List*). The format is similar to that of the Synchronet Mail Server **ALIAS.CFG**, one alias per line in the format:

alias path description

The alias is not case-sensitive and may not contain spaces. This is the filename that will appear in your FTP root directory.

The path element is either the full path and filename to a file on a local file system (e.g. **C:\DOCS\MYFILE.TXT**) or a virtual path to a file in the BBS file database. Virtual paths are specified as "**bbs://lib/dir/filename**" where lib is the library short name, dir is the directory internal code and filename is the actual filename of the referenced file (may be the long filename, but may not contain spaces).

The description is the optional description of the file that will be used in the dynamically generated Auto Index file (if you have this option enabled).

Lines beginning with a ';' are considered comments and are ignored.

Example Alias:

sbbs_for_dos.zip bbs://main/sbbs/sbbs230b.zip Current version for SBBS for DOS

Sysop Access

To login with system operator access, you must login with a user account that has a security level of 90 or higher (user #1 usually has level 99) and enter your password as "**pass:syspass**" where pass is your personal password and syspass is the system password.

A successful sysop login will generate a login message stating "**Sysop access granted**". Logging in with just your personal password will give you normal (non-sysop) access.

Sysop access allows you to mount local file systems and will enable secure BBS database features in the future (such as deleting/renaming files).

Local File System Access

This is a powerful new feature that allows the sysop to access any and all locally accessible files and file systems via FTP (very convenient for remote administration). The "*Local File System*" checkbox must be checked in the FTP configuration dialog in SBBSCTRL to enable this feature.

To access local file systems, you must first login with sysop access (see "Sysop Access" for details). Once logged in with sysop access, you may mount the local file system. There are two ways to mount the local file system (and subsequently to revert to the BBS file system):

SMNT (Structure Mount)

Sysops may use the FTP "**SMNT**" command to mount the local files system. Since most FTP clients do not support the **SMNT** command, you'll probably need to use the "quote" feature of your FTP client to send the command to the FTP server.

The syntax is "**SMNT new_dir**" where *new_dir* is the file system specifier for the new directory used in the FTP hierarchy. Example: "**SMNT C:**" would make the root directory of your local C drive your new current FTP directory (for Windows' command-line ftp, type "**quote SMNT C:**").

You can access shared drives on other machines on your local area network by using "**SMNT \\othersys\drive**" where *othersys* is the name of the other computer and drive is the share name of the desired drive.

To switch back to (mount) the BBS file database, use "**SMNT bbs:**"

CD (Change Directory)

Sysops can mount the local file system using a special case of the **CD** (**CWD**, **XCWD**) command. By prefixing "local:" to the new directory, the local file system will be automatically mounted. Example: "**cd local:c:**".

Once the local file system is mounted, you can switch between drives and shared drives with the CD command (the "**local:**" specifier is not needed). Example: "**cd d:**".

To access a shared drive on other machines: "**cd \\othersys\drive**".

To switch back to (mount) the BBS file system, use "**cd bbs:**".

Since some FTP clients do not support the **SMNT** command, nor allow users to enter verbatim FTP commands, the CD method is the easiest and most reliable method of accessing the local file system.

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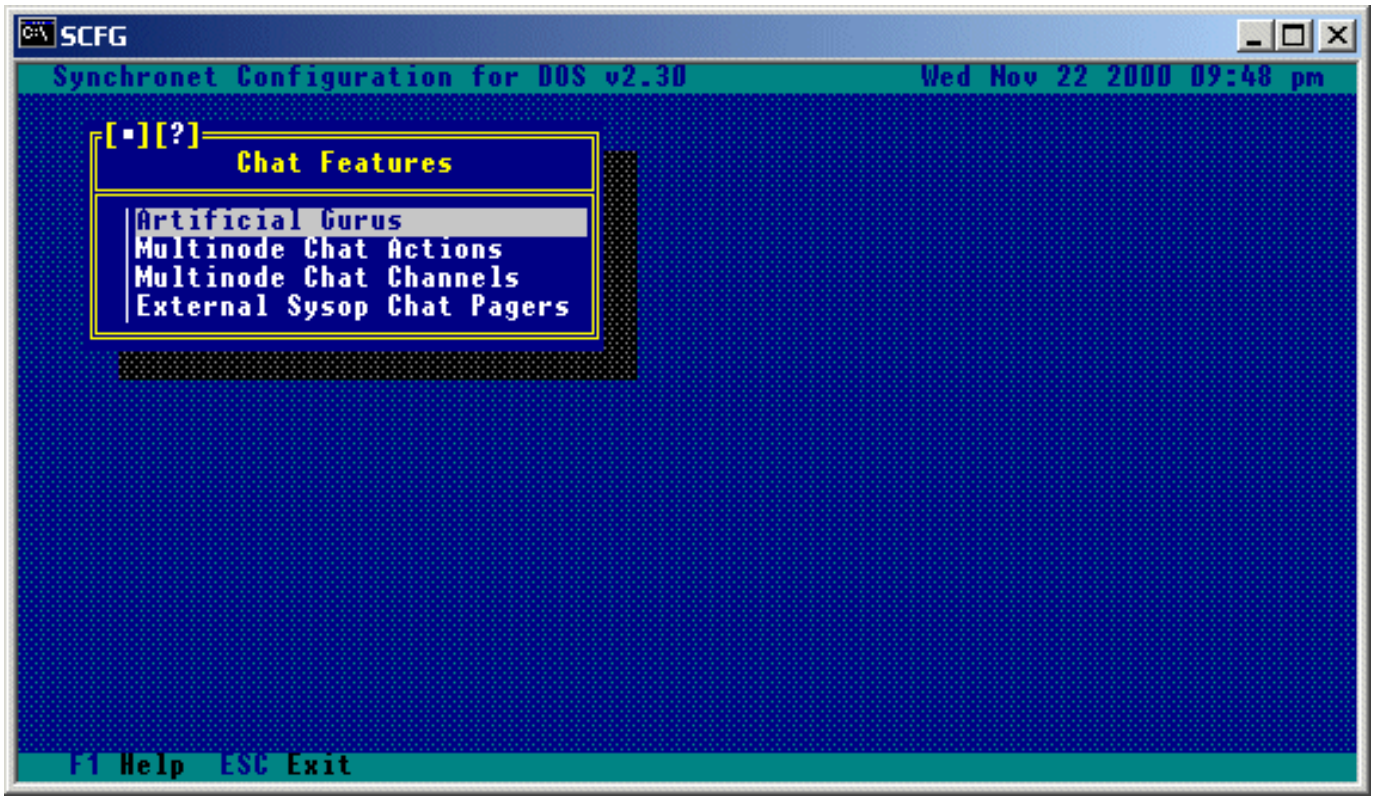
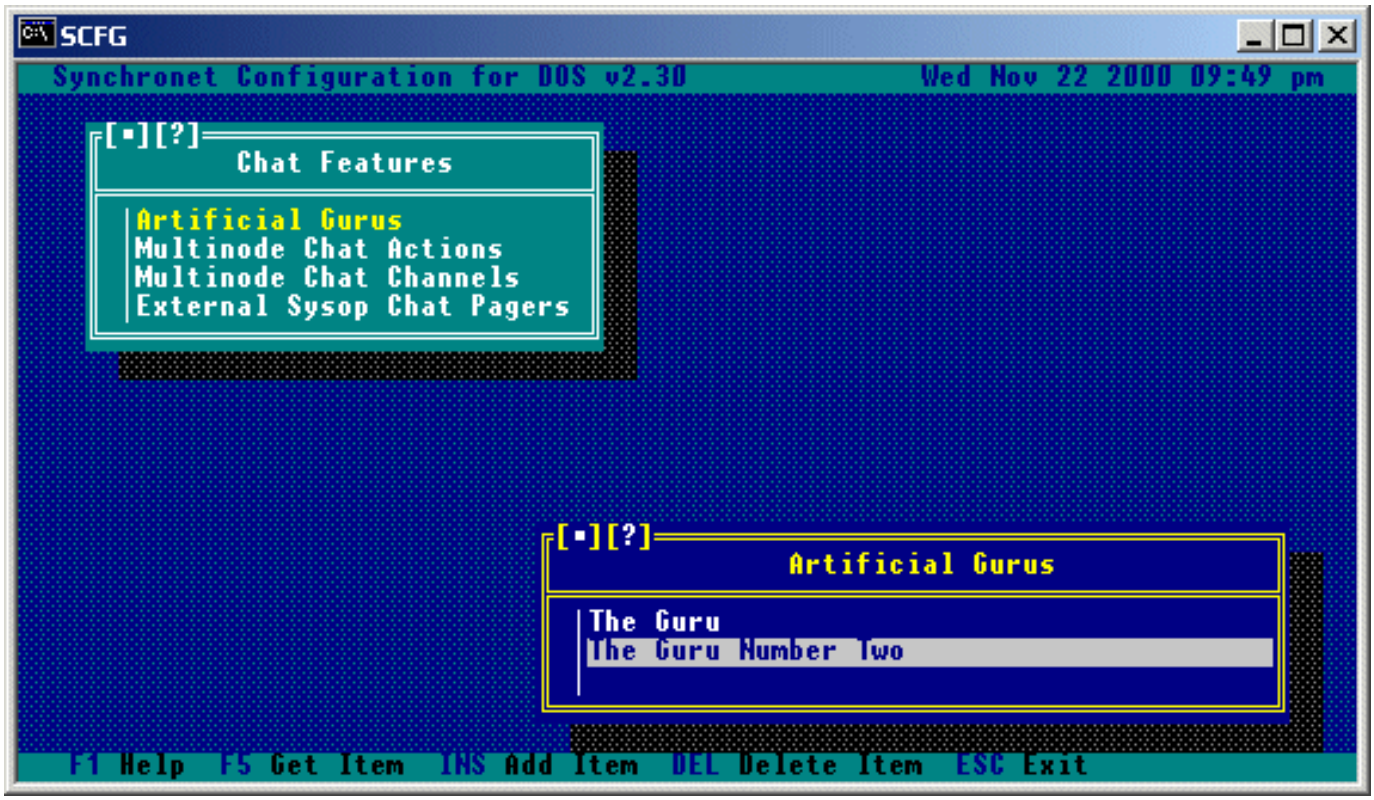
[11.0] - Chat Features

Selecting the Chat Features option from the SCFG will bring you to the following sub-menu, an explanation of the options shown here follow.

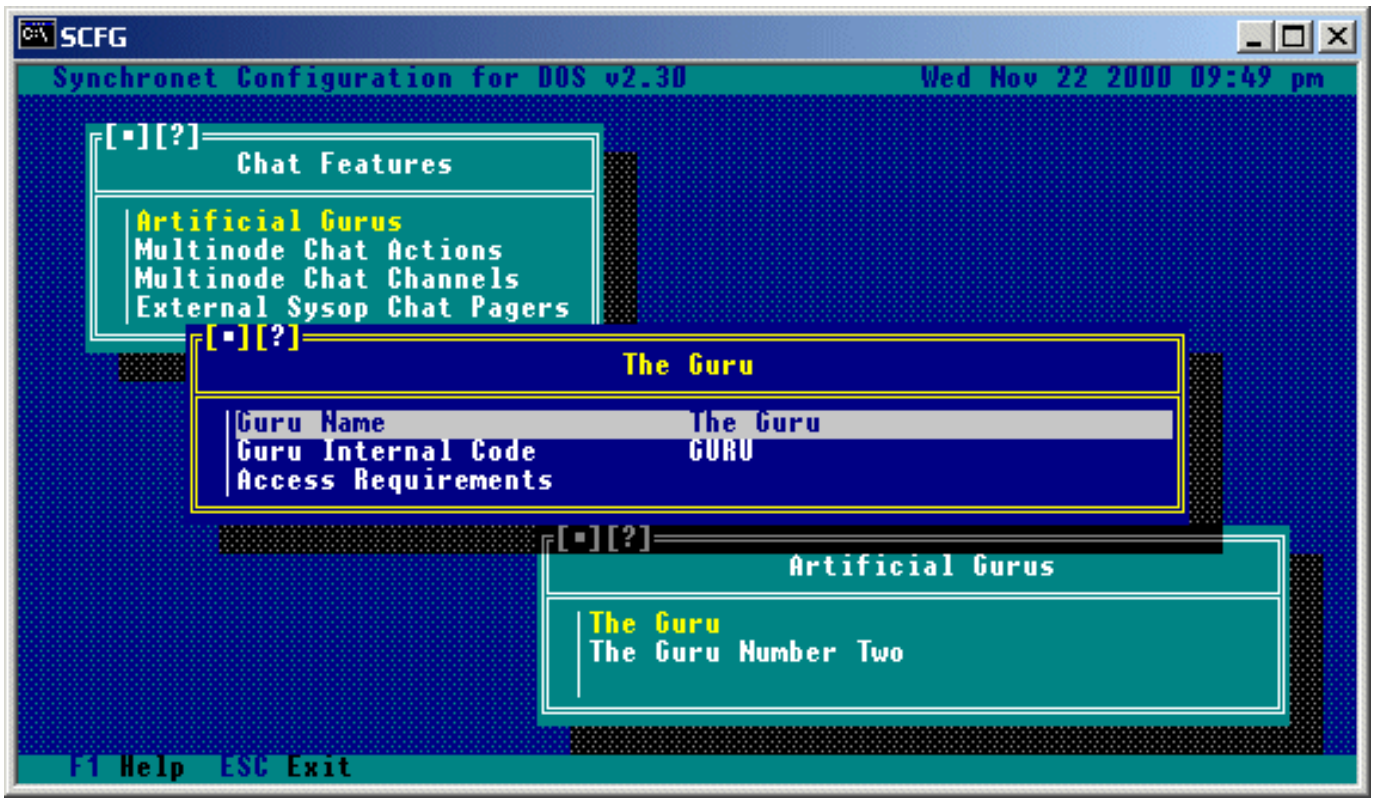


[11.1] - Artificial Chat Gurus

This selection will give you a sub-menu with a list of available artificial gurus, here you can insert and delete gurus.



Selecting a guru from the menu will bring you to a menu allowing you to configure that guru.



Guru Name:
The name users will see when chatting with this artificial guru.

Guru Internal Code:
This is an 8 character code used internally by Synchronet and should be

unique for each guru. This is also the filename which will be used for the intelligence engine for this guru (with the .DAT extension, located in your CTRL directory). See the section on customization for information on customizing chat gurus.

Access Requirements:

Only users meeting the criteria set here will be able to chat with this guru.

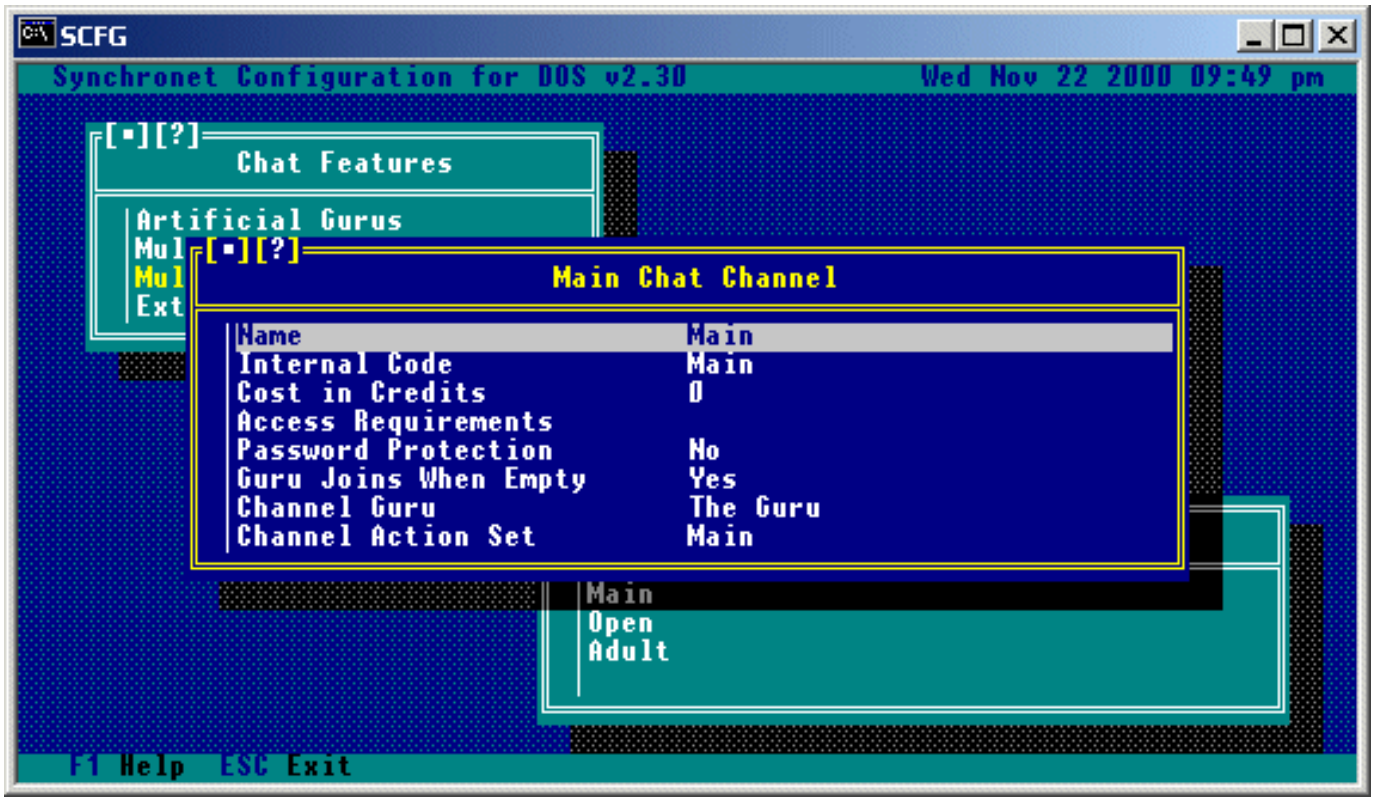
[11.2] - Chat Actions

Selecting this option will show a list of available chat action sets where you can insert and delete action sets. Selecting an action set from this menu will display a list of the actions contained within that set.

Synchronet comes with a default chat action set, which you can modify, or use as a reference for creating your own action set. Each command response should have two '%s' fields contained in the line, the first will be replaced with the name of the user performing the action, the second with the name of the user to which the action is directed.

[11.3] - Multinode Chat Channels

Selecting this option will give you a sub-menu. An example of how a chat channel might be set up, along with the options available, is shown:



Name:

This is the name of this chat channel, and what will be displayed to users when viewing a list of available chat channels.

Internal Code:
This is an internal code for SBBS to distinguish this chat channel from the others on the system. This must be a unique name of up to 8 valid DOS filename characters.

Cost in Credits:
This is the amount of credits which will be deducted from the users account when joining this particular chat channel.

Access Requirements:
A user must meet the criteria set here in order to be able to use (or even see) this chat channel.

Password Protection:
If you wish to allow users to be able to lock this channel with a password (only users knowing this password can enter the channel), you should set this option to Yes.

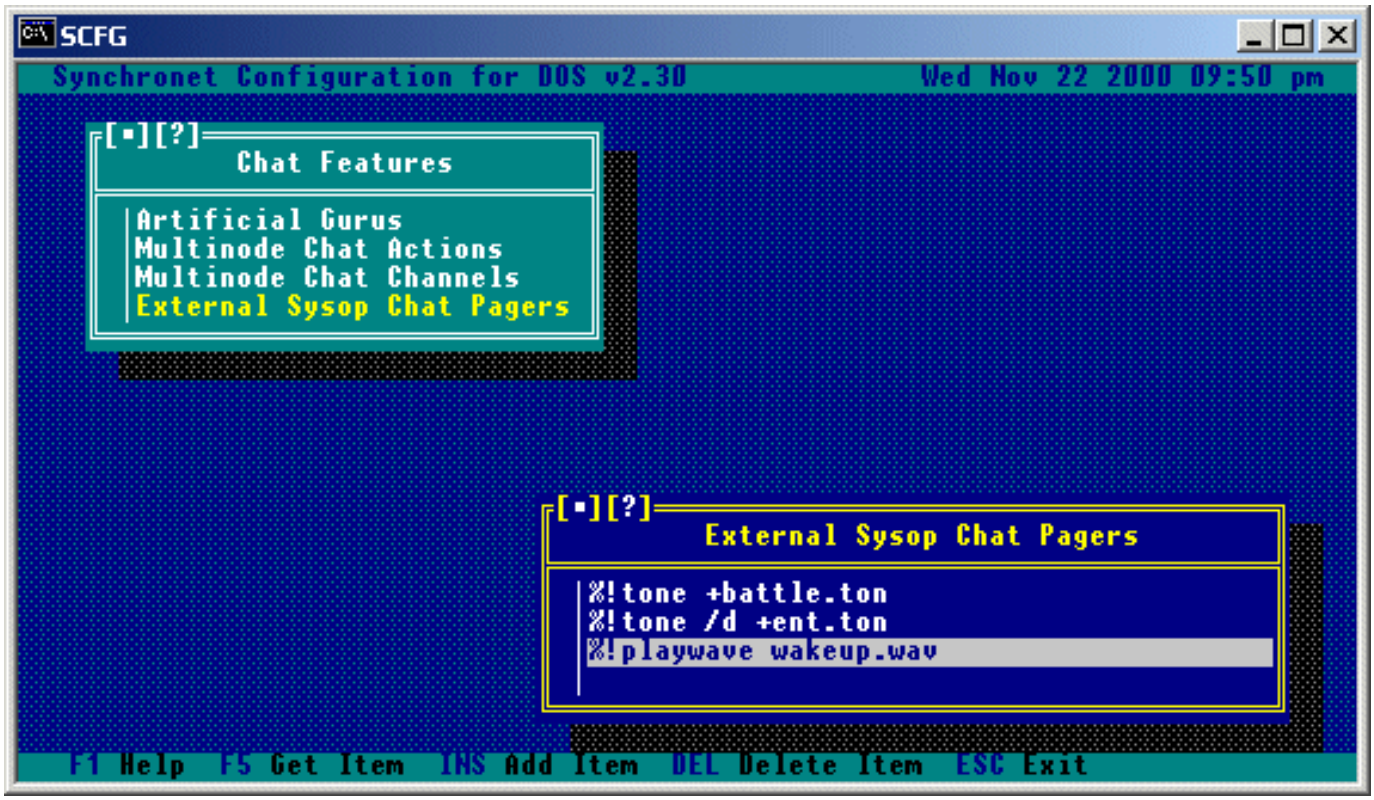
Guru Joins When Empty:
Set this option to Yes to have the selected chat guru enter this chat channel when there is only one user in the channel.

Channel Guru:
This is the guru which will join this channel (if the above option is set to yes). Selecting this option will give you a list of available chat gurus to choose from.

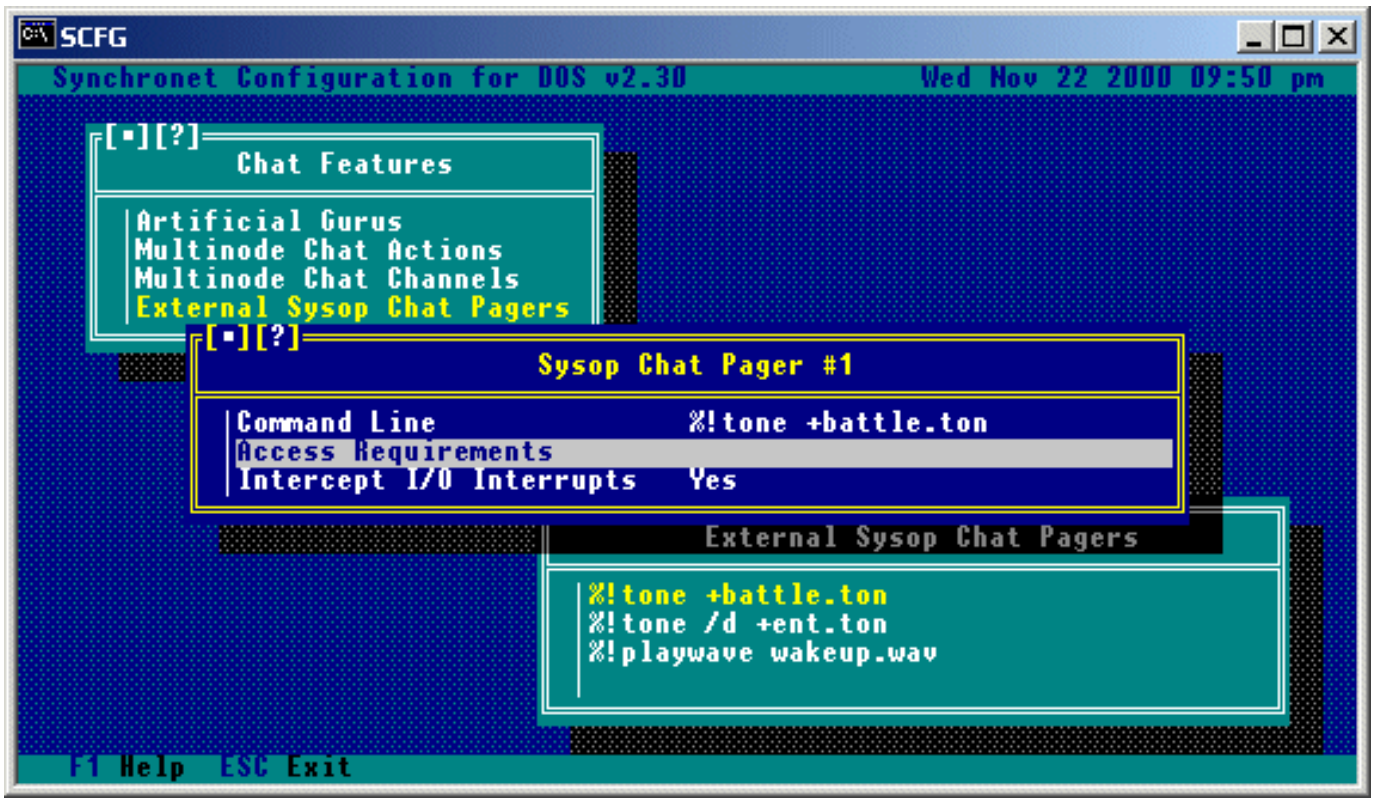
Channel Action Set:
This is the chat action set which will be available to users in this channel. Selecting this option will give you a list of available chat action sets.

[11.4] - External Sysop Chat Pagers

This option allows for sysops to have custom chat pages (external to what is available in Synchronet). Sysops can have .TON files played when certain or all users page, or if a sound card is installed, the sysop may have a .WAV or .VOC file play. Selecting this option will give you a list of currently configured chat pagers.



Selecting a pager from the above menu will give you other options for this chat pager.



Command Line:
This is the command line necessary to invoke the chat pager.

Access Requirements:
This is the list of criteria a user must meet for this pager to

affect them.

Intercept I/O Interrupts:

If the chat pager specified produces screen output that the user should see (or a series of beeps that the user should hear), this option should be toggled to Yes.

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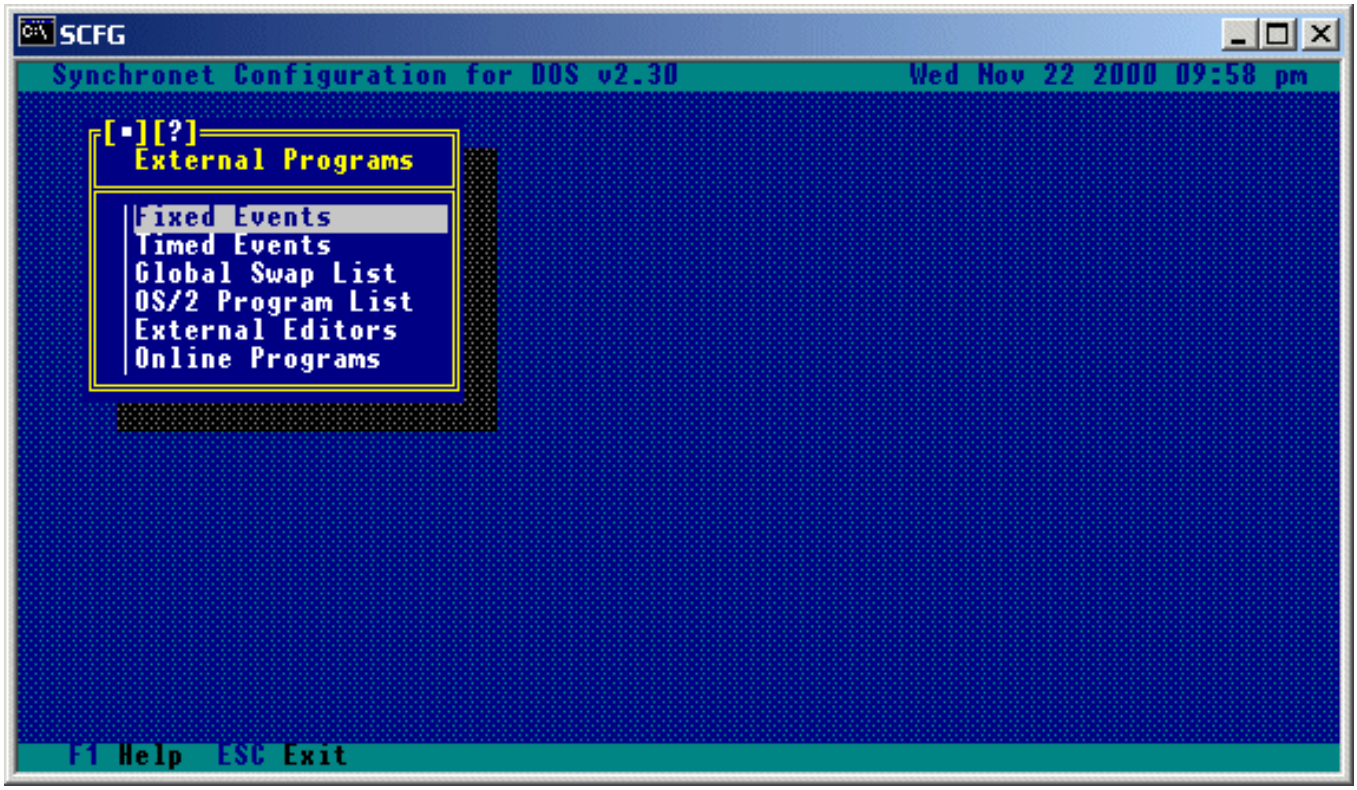
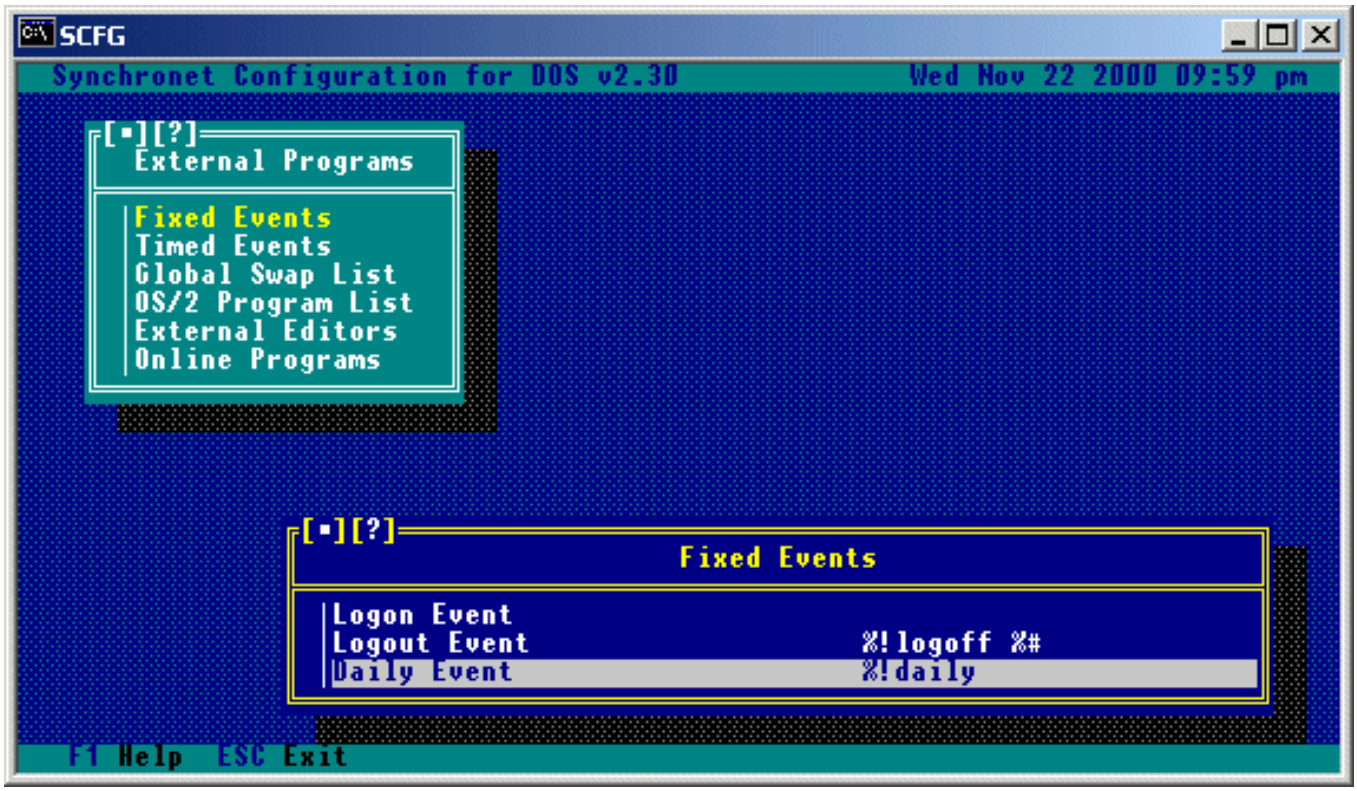
[12.0] - External Program Configuration

Selecting the External Programs option from the SCFG will bring you to the following sub-menu, an explanation of the options shown here follow.



[12.1] - Fixed Events



Logon Event:

This is the command line for a program that will execute during the logon sequence of every user. The program cannot have user interaction. The program will be executed after the LOGON message is displayed and before the logon user list is displayed. If you wish to place a program in the logon sequence of users that includes interaction or requires account information, you probably want to use an online external program configured to run as a logon event.

Logoff Event:

This is the command line for a program that will execute during the logoff sequence of every user. This program cannot have user interaction because it is executed after carrier is dropped. If you wish to have a program execute before carrier is dropped, you probably want to use an online external program configured to run as a logoff event.

Daily Event:

This is the command line for a program that will run after the first user that logs on after midnight, logs off (regardless of what node).

[12.2] - Timed Events

Selecting Timed Events from the External Programs menu will give you a list of currently configured timed events. Following is an example of a timed event called MAIN, and the options available for timed events.

Internal Code:
This is an internal code for SBBS to distinguish this event from the others on the system. This must be a unique name of up to 8 valid DOS filename characters.

Start-up Directory:
This is the directory where the event execution should take place. Synchronet will change to this directory before executing the command line for this event.

Command Line:
This is the command line for a program that will run on the specified times and days.

Execution Node:
This is the node that will execute the event.

Execution Days:
These are the day(s) when this timed event will be executed.

Execution Time:
This is the time (in 24hr format) for the above mentioned program to execute.

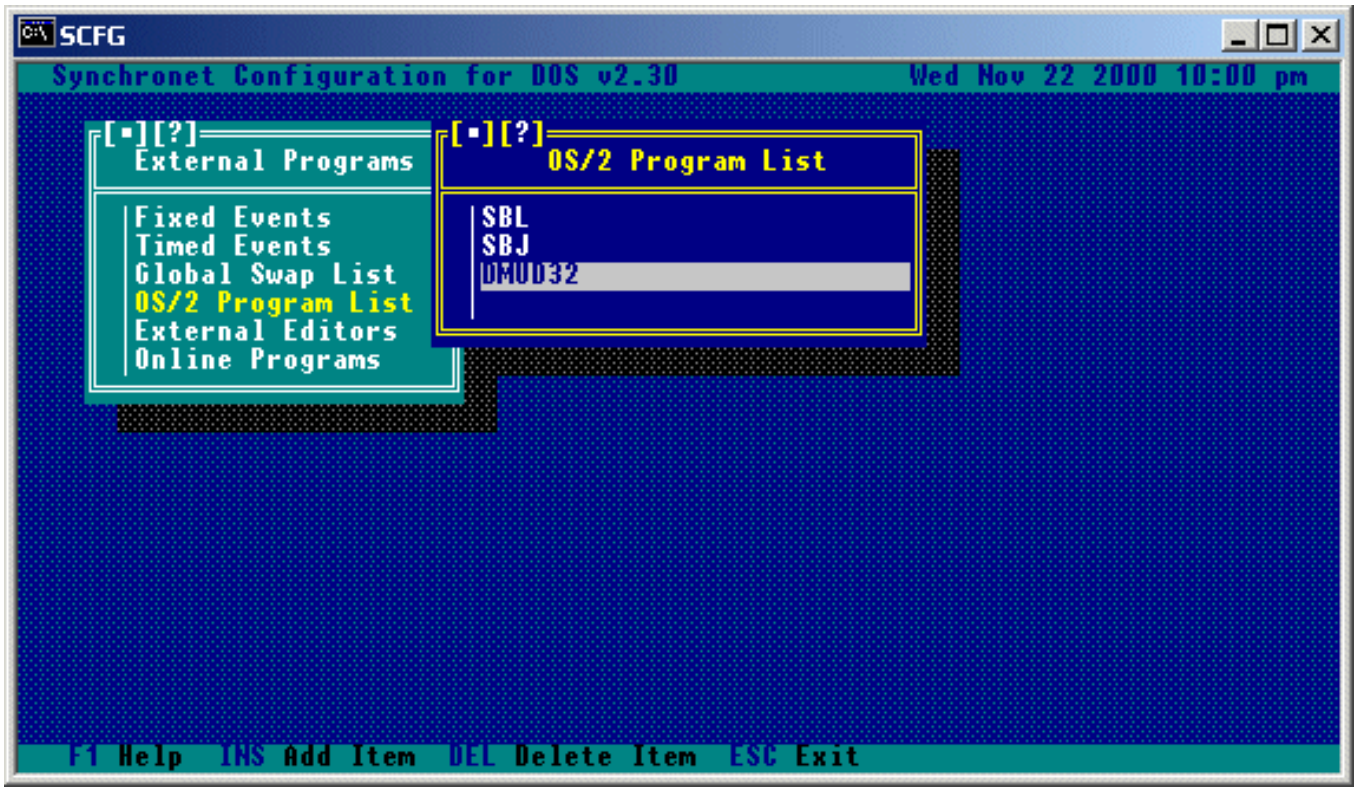
Requires Exclusive Execution:
You may set this event to run exclusively (all other nodes inactive or taken offline) by selecting this option.

Force Users Off-line For Event:
Setting this to Yes will cause the BBS to force users offline for this event.

[12.3] - Global Swap List *(v2 for DOS Only)*

This is a list of programs which, when run, will cause Synchronet to swap out of memory. This is useful for large executables, or programs which have the possibility of Utilitizing a large amount of memory. Shown is an example of what might be in your swap list. Notice that it is not necessary to specify an extension for the programs unless an extension is specified on the command line to be executed. If a file extension is specified (EXE, COM, or BAT) the extension must be specified on the command line for the program to be found in the swap list.

[12.4] - Native (32-bit) Program List



When running a node with Synchronet for OS/2 or Win32, all external programs (doors, editors, file viewers, etc) will be assumed DOS programs and executed inside a virtual DOS machine (VDM) automatically unless the program's name is included in this list. Only CMD.EXE (OS/2 command interpreter) should be included with an extension (e.g. .EXE) unless you actually configure your external program command lines in SCFG with extensions (note ZIP and UNZIP do not have specified extensions). All native Win32 and OS/2 programs that you wish to execute from the BBS must be added to this list.

[12.5] - External Editors

This selection will bring up a list of external editors that are available as alternatives to the Synchronet built-in editor. Editors can be added and deleted with the INS and DEL keys. Selecting an editor allows you to view and edit its settings. The available settings are (example given is for SyncEdit):

Internal Code:

This is an internal code for SBBS to distinguish this editor from the others on the system. This must be a unique name of up to 8 valid DOS filename characters.

Local Command Line:

This is the command line to use when the user is online locally.

Remote Command Line:

This is the command line to use when the user is online remotely.

Access Requirements:

These are the requirements that a user must meet to be able to use this external editor.

Intercept I/O Interrupts:

If the editor relies on Synchronet for intercepting I/O interrupts, this option should be set to Yes. When set to Yes, you will be able to specify whether or not the editor uses WWIV color codes.

Quoted Text:

If you want all the message text to be automatically entered into the message edit/quote file (INPUT.MSG or MSGTMP), set this option to 'All'.

If you want the user to be prompted for which lines to quote before running the editor, set this option to 'Prompt User'.

If you want none of the lines to be automatically quoted, set this option to 'None'. This option is mainly for use with editors that support the QUOTES.TXT drop file (like SyncEdit v2.x).

QuickBBS Style (MSGTMP):
If this editor was designed to run on QuickBBS, Remote Access, or SuperBBS (uses a MSGTMP file for editing), set this option to Yes. This option will also create a MSGINF file automatically as well.

Expand Line Feeds to CRLF:
If this editor stores new lines as a single line feed character, set this option to Yes.

BBS Drop File Type:
If this editor requires a BBS drop file (DOOR.SYS, DORINFO#.DEF, etc) use this option to select the drop file format.

[12.6] - Online Programs

This selection will generate a list of configured external program sections. You can add and remove external program sections from this list with the INS and DEL keys. To edit an external program section or the external programs within that section, select it with the arrow keys and hit ENTER.

For each external program section, you can set the Name, Internal Code, and Access Requirements. Selecting "Available External Programs" will give a list of external programs contained in this external program section. Synchronet has been designed to eliminate the need for batch files and drop file conversion programs to run external programs (doors) on your BBS. Synchronet supports many different drop file types (often referred to as drop files) listed below.

[12.7] - Supported Dropfile Types:

Software	Write File(s)	Read File(s)
DOOR32 **(v3+ Only)**	DOOR32.SYS	
GAP	DOOR.SYS	DOOR.SYS
WWIV	CHAIN.TXT	
PCBoard 14.x	PCBOARD.SYS and USERS.SYS	USERS.SYS
RBBS/QuickBBS	DORINFO#.DEF and EXITINFO.BBS	EXITINFO.BBS
Wildcat! 2.x	CALLINFO.BBS	
SpitFire	SFDOORS.DAT	
TriBBS	TRIBBS.SYS	
MegaMail	UTIDOOR.TXT	
Solar Realms	DOORFILE.SR	
Synchronet	XTRN.DAT	MODUSER.DAT

[12.8] - Call-back Verifiers

Call-back verification and user upgrade programs for other BBS packages may be used, as long as the program supports the DOOR.SYS, EXITINFO.BBS, USERS.SYS, or MODUSER.DAT file format. In general, Call-back verifiers written for

PCBoard, GAP, QuickBBS, or Synchronet will work. To allow a program to modify the user data, you must set the option "Modify User Data" to "Yes". The following user data items may be updated with the following formats:

```
DOOR.SYS:       Security level, Flag Set #1, Expiration Date, Minutes,
                Total Files/Bytes Downloaded, and Credits
EXITINFO.BBS:   Security level and Flag Set #1
USERS.SYS:      Security level and Expiration Date
MODUSER.DAT:    Security level, Flag Set #1-#4, Exemptions, Restrictions,
                Expiration Date, Credits, and Minutes
```

[12.9] - Installing a New External Program

Install your new external program into a sub-directory off your XTRN directory.

Example: C:\SBBS\XTRN\TRADEWAR

If your program asks you to provide the directory where the BBS software is installed or where the drop file will be located, enter the directory where you have installed the program (C:\SBBS\XTRN\TRADEWAR). Note: this is usually only required for programs that do NOT support multiple nodes.

The full path and file name of the drop file can be specified on the command line by using the %f command line specifier in SCFG.

[12.10] - Configuring a New External Program

Run SCFG from any NODE directory (or hit 'C' at the Waiting For Call screen). Select "External Programs" and hit enter. Hit END and ENTER for the External Program Sections menu and select an External Program Section to add this new program to. Select "Available External Programs" and hit the Insert key. Enter a description for your new external program.

Now your new external program appears in the list. Hit ENTER to edit the configuration for this program. Synchronet BBS List is given as an example.

Name:

This is the name of the external program that will be shown to users.

Start-up Directory:

The start-up directory will be the current directory when the program is started. Move the lightbar down to "Start-up Directory" and hit ENTER. Enter the path to the directory where you've installed the program.

Command Line:

This is the command required to execute your external program. If the path and filename for the BBS drop file is required on the command line, use %f to represent the path and filename. See Appendix A for a full list of available command line specifiers.

You can launch a Baja module in place of a DOS executable by prepending an asterisk (*) to the name of the Baja module (e.g. "*MYMOD"). The module .BIN file must be located in your EXEC directory.

Some programs, when set to SWAP, require ".\" to be prepended to the command line (e.g. ".\MYDOOR") to function properly.

Clean-up Command Line:

If your external program requires a clean-up command line (usually only multi-user programs), select "Clean-up Command Line" and enter the required command line for your program. Note: Most programs do NOT require this option.

Cost in Credits:

If you wish your users to be charged credits when running this program,

you should enter the amount to charge the users here. Users with the 'X' exemption will not be charged.

Extra Minutes:
This option will allow you to give extra time to users for use in the external program they are entering. For example, with this option set to 10, a user having 15 minutes left on the BBS will end up having 25 minutes in the external program they enter. This is especially useful in conjunction with the 'Suspended (Free) Time' option.

Suspended (Free) Time:
Setting this option to "Yes" will cause a user's time left online to suspend (not countdown) when they enter the external program. The user's time allowed in the external program, however, will be what they had left on the BBS. To give them more time in the external program, use the above 'Extra Minutes' option.

Access Requirements:
If you wish to limit which users have access to (can see) this program, use this option to set those requirements.

Execution Requirements:
If you wish to have some users see but not be able to execute this program, use this option to determine what requirements must be met to run the program.

Multi-user:
If this program supports multiple simultaneous users, set this option to "Yes".

Intercept I/O Interrupts:
If this program does NOT have it's own modem communications I/O and does NOT use a FOSSIL driver, select "Intercept I/O Interrupts" and set it to "Yes". Note: Most programs require this option be set to "No". Programs written specifically for WWIV or Synchronet BBS software, should usually have this option set to "Yes". Consult the documentation for the program if you are unsure. If you do set this option to "Yes", and the program was not written specifically for Synchronet, you'll need to place the following string at the BEGINNING of your command line: "%!dcdwatch %&". You will also be able to select whether or not the program uses WWIV color codes when setting this option to Yes.

Without the use of DCDWATCH, the program will not exit if a user drops carrier (hangs up) while using the program (unless specifically written for Synchronet). Some programs time-out eventually, and exit back to the BBS, but not all.

Swap BBS out of Memory:
If this program requires a large amount of free memory, set this option to 'Yes' and Synchronet will swap to XMS, EMS, Extended Memory or Disk (see "Node Toggle Options" for Swap Type selection) to make room for this program to execute. Setting this option to 'Yes'

has this same effect as adding this program to the "Global Swap List", but is available as a toggle on this menu for your convenience.

Modify User Data:

If this program can modify the current user's data through one of the supported drop file types (see Call-back Verifiers above), set this option to Yes.

Execute on Event:

If you want this program to run automatically during user logon, logoff, new user application, or a user's birthday, use this option.

BBS Drop File Type:

If your program requires a BBS drop file (most do), use this option to select the type of drop file to create.

Place Drop File In:

This is the directory where the drop file will be created. In general, for multi-user programs or programs that can have the path and filename of the drop file included on the command line or in a config file, select "Node Directory". For single user programs that require the drop file to be in the current directory, select "Start-up Directory".

Time Options...:

Selecting this option will bring you to a sub-menu similar to the following:

Extra Time:

This option allows you to give users an extra amount of time (in minutes) which can be used only within this online program.

Maximum Time:
This option allows you to set the maximum amount of time a user should be able to spend in this online program (in minutes) PER execution (not per day or per call).

Suspended (Free) Time:
When this option is set to 'Yes', a users' time is suspended while they are within the online program. That is, if they enter the door with 60 minutes remaining on the BBS, when they get back to the BBS they will still have 60 minutes of time remaining.

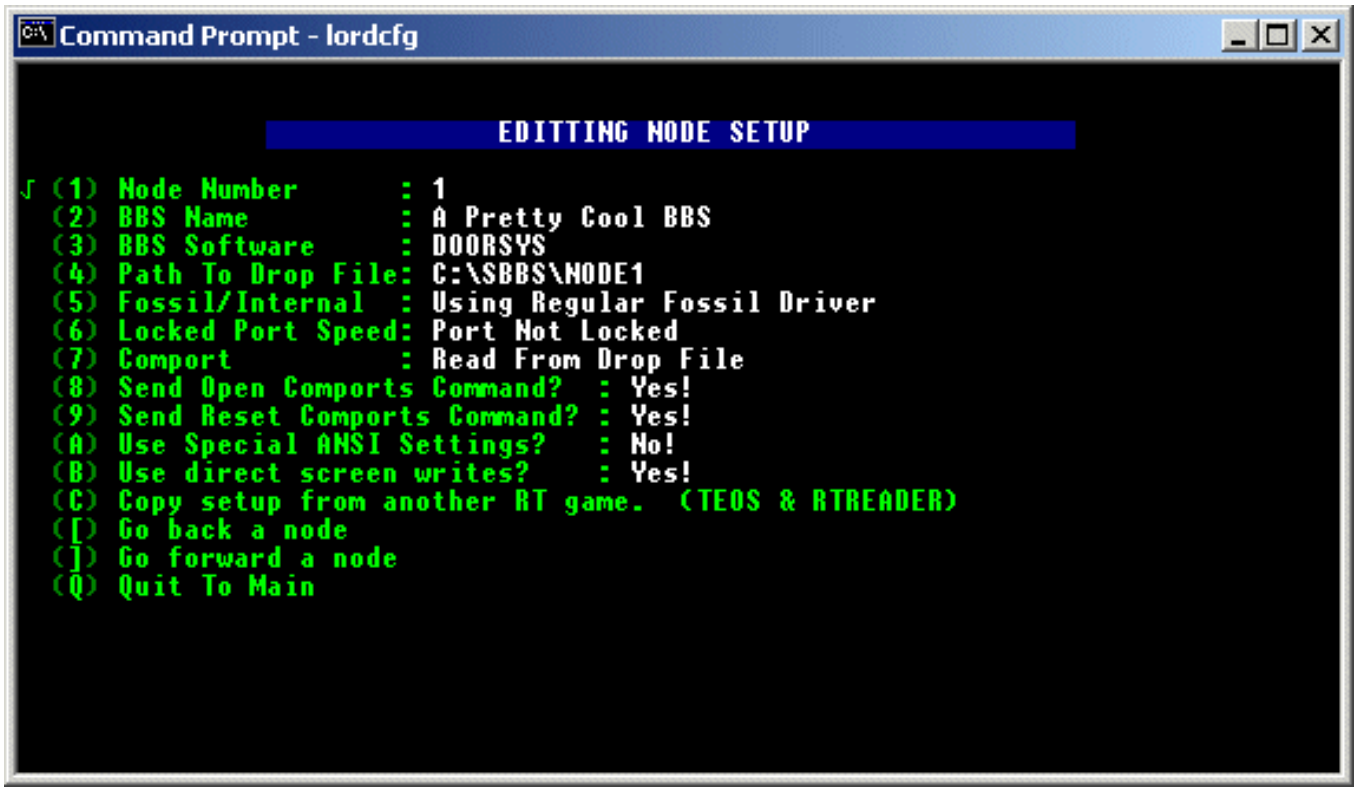
[12.11] - Examples for some popular programs

It is advised to install all your doors off the SBBS\XTRN directory (e.g. C:\SBBS\XTRN\BRE) if it's not too late. This will help keep all your doors in an easy to reference point. Also, this is where the pre-configured doors (SBL,SMM) are installed by default.

When configuring your Doors it is best whenever possible to place the dropfiles in your SBBS\NODE# directories and configure the game to look there for the file. This ensures smooth Multinode usage if your door supports multiple users at the same time.

[12.11.1] - Legend of the Red Dragon (LORD)

From the LORDCFG program your configuration should look something like this:



You will need to do this for each of your nodes. Be sure to set the 'Path To Drop File' to the node directory of the node you are configuring. The reason we set the 'Locked Port Speed' to 'Port Not Locked' is because you

should be locking the speed of your FOSSIL when you load it, once that's done, it can't be altered.

*** Be Sure to edit **START.BAT** and check for proper paths and filenames!

Now go into your SCFG program and create a new external program. It should look like this when it's all setup:

[12.11.2] - Usurper

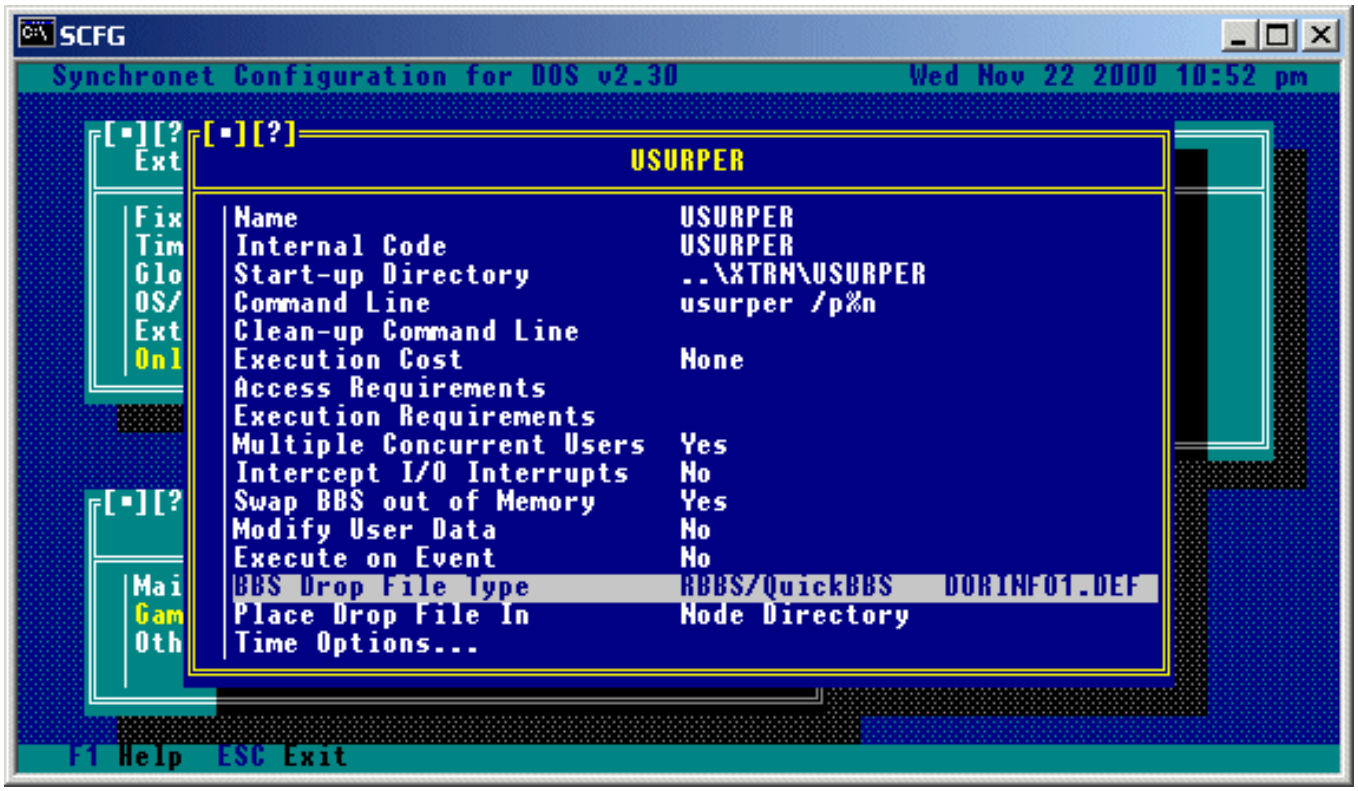
You MUST use a fossil driver in order to use this program. Follow the Usurper documentation for getting the game going.

Next, bring up the USURPER.CFG into a text editor and edit the first few lines (or you can do it through the EDITOR program that comes with Usurper). It should end up looking something like this:

```
Sysop Name Goes Here
BBS Name Goes Here
C:\SBBS\XTRN\USURPER\
DORINFO1.DEF
```

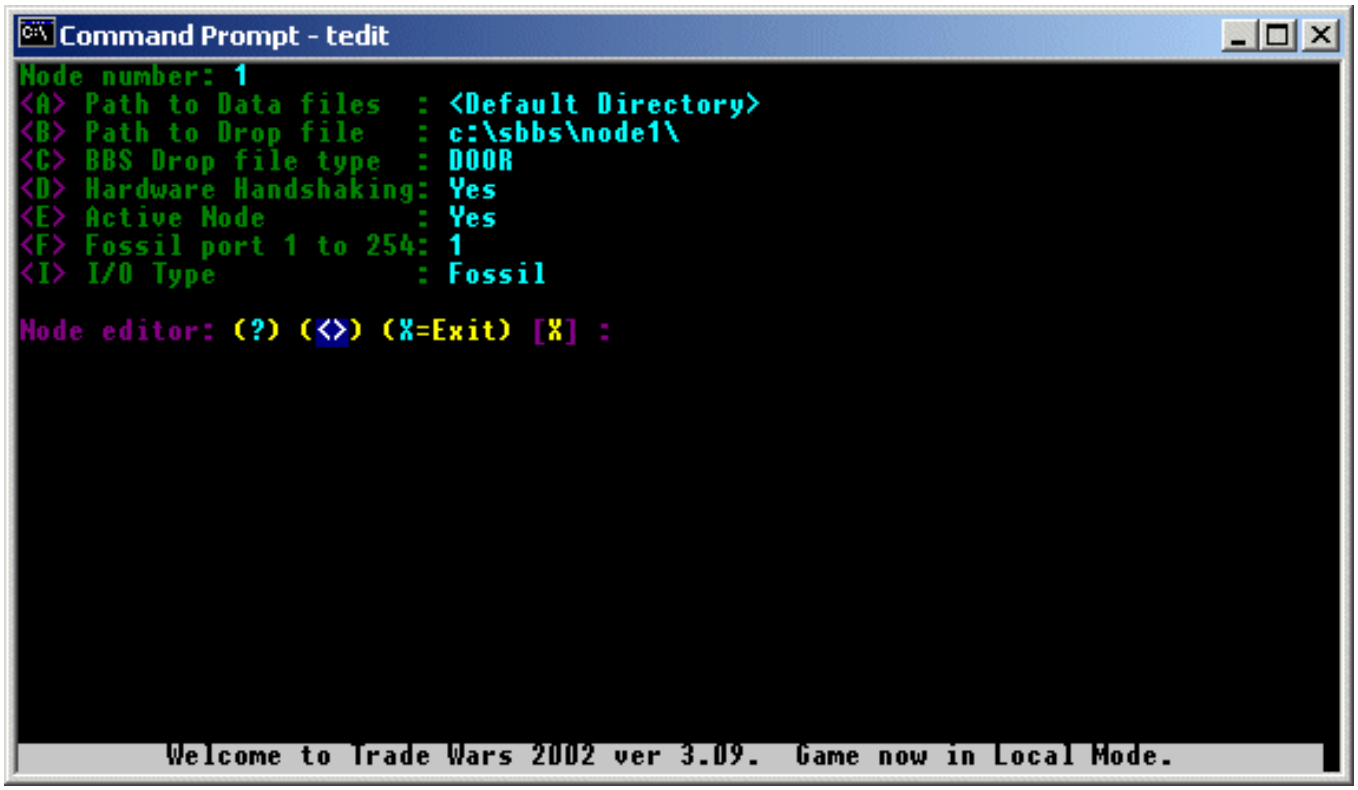
The important things are line 3 and line 4. Line 3 MUST be the path to your Usurper directory (with a trailing backslash) and line 4 must be the type of drop file (I used DORINFO1.DEF like the Usurper documentation recommends).

Now you'll need to go into your SCFG program and add an external program. Set it up to look something like this:



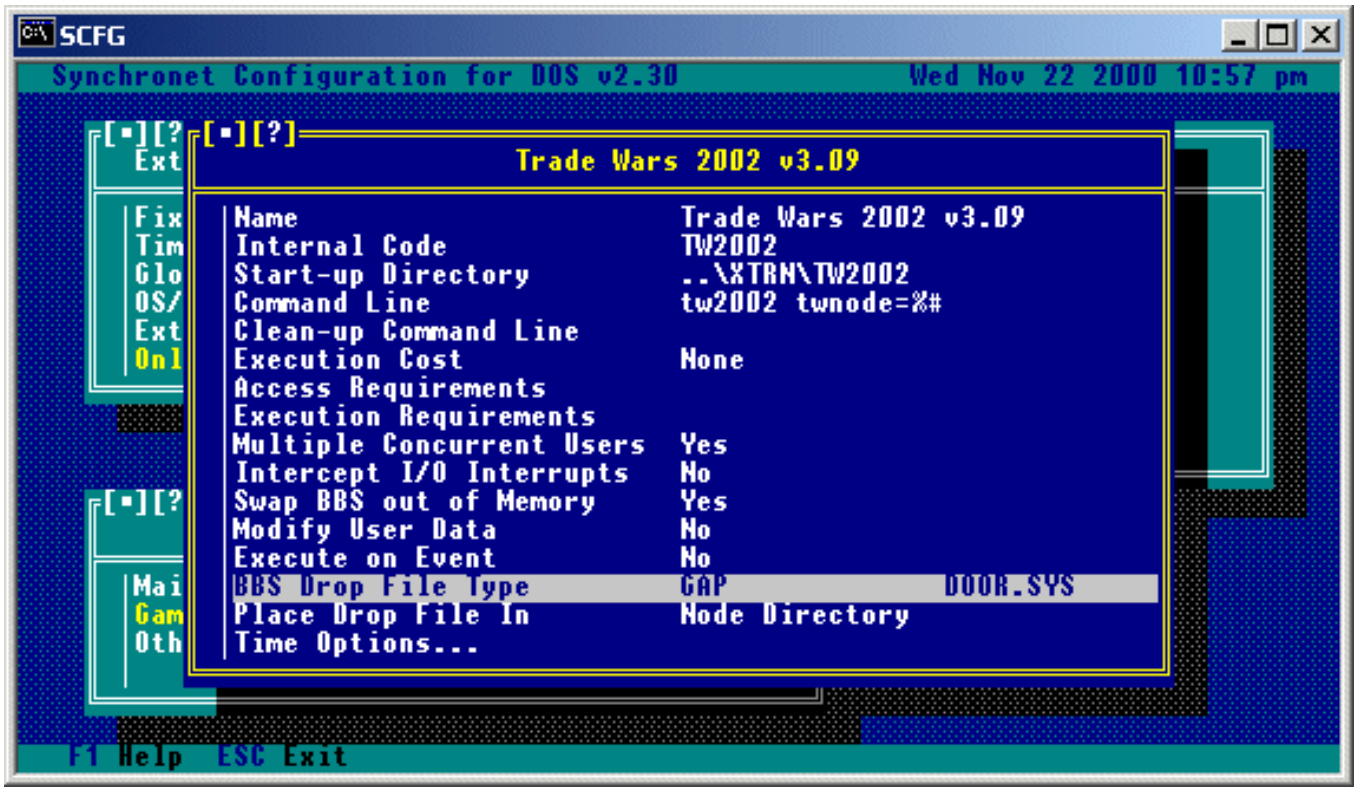
[12.11.3] - Trade Wars 2002

From the TEDIT program your configuration should look something like this:



You will need to do this for each of your nodes. Be sure to set the 'Path To Drop File' to the node directory of the node you are configuring.

Now go into your SCFG program and create a new external program. It should look like this when it's all setup:



[12.11.4] - Barren Realms Elite (BRE)

Install and Configure BRE per the instructions in the BRE documentation.

Now go into your SCFG program and create a new external program. It should look like this when it's all setup:

BRE and the other SR / John Daily games are easy with Synchronet since it supports SR Games native DOORFILE.SR . Just place the DOORFILE.SR in BRE's directory and all is well.

** Note: BRE is not Multiplayer and can only be used on one node at a time. However, we can leave Allow Multiple Users ON in SCFG as BRE will inform the player the game is in use by itself.

[12.12] - Internet Gateways

This allows users on your system to be connected to other TCP/Telnet services on the Internet through your BBS. Typically, these services would be other telnetable BBSs and MUDs, although really, you can gate to any single-port TCP service (i.e. POP3, but not FTP).

TELNET_GATE <"str" || str_var> [mode]

The str or str_var argument is the destination address in the format:

<addr>[:port]

If port is not specified, the default is 23 (telnet), or 513 (when the **TG_RLOGIN** mode is used).

Examples:

"*vert.synchro.net*"
"*24.0.193.46*"
"*retromud.org:3000*"

The valid mode bits (multiple may be **|**'d together) are:

TG_ECHO	Turn on telnet echo
TG_CRLF	Expand sole CR to CRLF
TG_LINEMODE	Send entire lines only
TG_NODESYNC	Call Nodesync, get msgs, etc.
TG_CTRLKEYS	Interpret ^P ^U ^T, etc locally
TG_PASSTHRU	Pass-through telnet commands/responses
TG_RLOGIN	Use BSD *RLogin* protocol

This function can be called from any module or shell, but will most likely be used from the external programs menu (even though the telnet gate isn't technically an external program). The following modules are included (in your **EXEC** directory): **TELGATE.BIN**, **MUDGATE.BIN**, **UNIXGATE.BIN**, and **RLOGIN.BIN**. Use them as follows:

To set-up an external gateway to another BBS:

Command line: "***telgate vert.synchro.net**"

To set-up an external gateway to a MUD:

Command line: "***mudgate batmud.bat.org**"

To set-up an external gateway to a Trade Wars Game Server (TWGS):

Command line: "***rlogin twgs.someserver.com"**

While using the telnet gateway (and not currently in telnet "Binary" mode), users can press ctrl-] for a menu of telnet gate commands including: Disconnect, Toggle Echo, List Users, and Private Message.

[12.13] - Troubleshooting External Programs

This section will explain common reasons why an external program may not be functioning properly and what can be done to get the program functioning properly. It is impossible for Digital Dynamics to be familiar with every available external program, therefore if you continue to have problems with a program after reading this section, you should contact the company that wrote the external program you are working with.

IMPORTANT NOTE: Some games will not work properly if you do not put a PATH on the command line (see the L.O.R.D. example), others will (see the Usurper example). If your game is not working at all, try using a path on the command line (e.g.: .\GAMENAME).

PROBLEM : The external program works, but displays the wrong user name.
SOLUTION: Check to see that the program is looking in the proper place for the drop file. Usually you will need to specify the path to look for the drop file on the command line or in the program's setup program or config file(s).

PROBLEM : The program works fine locally, but when people call in they cannot see anything.
SOLUTION: If the game uses a FOSSIL driver, make sure that you have a FOSSIL driver loaded and make sure that you've locked the baud rate at the same rate that you've locked Synchronet's com ports.
If the game uses it's own internal com routines (no FOSSIL required), you should be able to pass it IRQ and I/O Address information (either through configuration files, or on the command line) otherwise the game probably will not work on anything other than the standard COM1 and COM2.
NOTE : Normally only games written for Synchronet or WWIV will ever require the 'Intercept I/O Interrupts' option to be set to YES. If a game has it's own internal com routines or uses a FOSSIL set this option to NO.

PROBLEM : The program works fine locally, but when people call in they only see garbled information.
SOLUTION: If the game is using a FOSSIL driver, make sure the locked rate of the FOSSIL is the same as the locked rate in Synchronet.
If you are running Synchronet under OS/2 and you have "Intercept I/O" set to "Yes" for this program, make sure you are using the SVDMANSI program for ANSI under OS/2.

PROBLEM : The program works fine when only one user is playing, but when a second user tries to enter it doesn't function properly.
SOLUTION: The program is probably not intended for multiple simultaneous users. Be sure to set the 'Multiple Concurrent Users' option to NO if this is the case.

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[13.0] - Text File Sections

Run the SCFG utility, and select the Text File Sections option from the menu. This selection will produce a list of text file sections that the sysop has created for users to freely view text files. It is requested that all sysops make some or all of the Synchronet documentation available in a text file section. At the very minimum, TEXT\SBBS.MSG should be available for users to review. You can add and remove sections with the INS and DEL keys. The following configuration options are available for each section:

[13.1] - Text File Options

Name:
This is a description of the text file section.

Access Requirements:
Use this option to set the security requirements to access this file section.

Internal Code:
This is an internal code for SBBS to distinguish this text file section from the others on the system. This must be a unique name of up to 8 valid DOS filename characters.

[13.2] - Adding Text Files

To add files to a text file section, you'll need to log on to the BBS and enter the section you would like to add files to. Here you'll be given a choice to add files to the section, you will be prompted for the title of the file, and the path/filename. If you do not enter a path for the file, the default path is the Synchronet DATA\TEXT directory PLUS the internal code of the text file section.

[13.3] - 976/900 Number Billing

There are several methods of implementing 976/900 billing support.

One method, which is internal to Synchronet, is to set up a billing node. This method of support requires that you have your own in house 976 or 900

phone number. Set up your 976/900 service to bill a lump sum of money (e.g. $10.00) after the first 30 seconds of use. In SCFG, under Nodes->Node#-> Advanced Options->Cost per Call you would enter this charge (where Node# is the number of the node which will be attached to the 976/900 line). When a user calls this billing node, he/she will be informed that they will be charged for the call if they do not hang up, they will then be asked for their user name and password. Once they've entered their account information, the account will be credited with a number of credits (determined by the value in System-> Advanced Options->Credits per Dollar). They can now call back on a node which is connected to a standard phone line, and they will be able to make use of the credits.

Another method, which is cheaper and more popular, but external to Synchronet is to use a third party 976/900 service. Once such service is called TABS. This method consists of having your users dial a 976/900 line supplied by the service. Initially, you are given an external program and a list of codes for your BBS. When a user calls the 976/900 service they will be given a code to use on your BBS. They then call your BBS, run the external program, and enter the code that they were given. Upon entering a valid code, their account is immediately credited with a number of credits. You are then periodically mailed a check for the accounts which have used the service for account upgrades.

The final method, which is very expensive and very unrealistic, is to simply attach all of your pay nodes to a 976/900 number and charge the user by the minute for access to the BBS.

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[14.0] - Multinode Configuration *(v2 Only)*

Synchronet Version 2.x runs under DOS v3.0 or greater and SHARE (or NetWare). A DOS process is required for each node on a Synchronet system (unless running Synchronet for OS/2). You can run multiple nodes on one cpu with DOS multitaskers such as DESQview, Windows, or OS/2 or you can run one node per CPU and let the CPU's share the same data on a common hard disk via Local Area Network (LAN).

[14.1] - LAN Method

Using one CPU per node is by far the fastest way to run multiple Synchronet nodes. Since SBBS4DOS runs in 8086 real mode, any IBM PC can run Synchronet with sufficient speed. The minimum equipment necessary for each node would be a power supply, motherboard, at least 450k free memory, a network interface card (NIC), floppy drive and controller (or just a boot PROM for the NIC), and a modem. Some BIOS's require a video controller and/or a keyboard as well, but they are not necessary for the execution of Synchronet.

To link these computers together, you will need some form of networking software. DOS based networks (Lantastic, NetWare Lite, CBIS Network O/S, MainLAN etc.) are the cheapest and don't require a dedicated CPU as a file server, but they lack the speed of a dedicated file server and network operating system. The most popular Network Operating System (NOS) is Novell NetWare. The disk performance on a dedicated NetWare file server is often preferable over a local hard disk (especially on XT's) due to NetWare's high speed file system and dedicated memory for intelligent disk caching. Synchronet will run on any NOS that allows multiple CPU's running DOS to access data on a common disk.

[14.2] - Multitasker Method

Any program that allows the simultaneous execution of multiple DOS programs should be able to run multiple SBBS4DOS nodes per CPU. To reliably and efficiently run multiple DOS sessions on one CPU, you will probably need an 80386 CPU (the faster, the better), and at least 2 megabytes of memory (the more, the better). Different multitaskers will have different hardware requirements, but the common denominator seems to be an 80386 and extended or expanded memory.

IMPORTANT NOTE: When multitasking using Windows or OS/2, it is suggested that you have a minimum 80486/33mhz CPU with a minimum of 8 megabytes of memory. This is due to the requirements of the operating environment, not the requirements of Synchronet.

You will need a separate IRQ line and UART I/O address for each COM port in the computer. It is recommended that you use high speed, buffered 16550A UARTs rather than the non-buffered 16450 UARTs which some I/O cards use. If you wish Synchronet to always use BIOS calls for screen output, you need to include the B parameter on the SBBS command line. Normally, Synchronet uses direct video for block text which can conflict with some multitaskers that manage a split screen for multiple DOS sessions.

Generally, the faster the machine, the more nodes you can run. But how many for what kind of performance is not an easy question to answer. It depends heavily on the multitasking software, modem speed, and hardware I/O. Under any configuration, expect some amount of performance degradation when running multiple nodes per CPU.

[14.3] - Is it Safe?

Many Sysops will worry how reliable the system is with multiple simultaneous users. Rest assured that Synchronet was designed from the ground up for multiple simultaneous users. Data integrity and system fault tolerance is never sacrificed when adding nodes to a Synchronet system.

Users can post on the same sub-board, e-mail the same user, download the same file, run the same external program, perform virtually any system function simultaneously. Note: External programs must support multiple simultaneous users if the program has been configured for multi-user access from Synchronet.

Considerations and precautions have been taken where user data is concerned to allow changes to the real-time database to take place immediately - even if the user is online on a node other than the one that performed the data update. Any security, configuration, or statistics changes made remotely will take effect immediately.

The transfer section disallows simultaneous uploading of the same filename to the same directory and prevents a file that is currently open (being downloaded or just added to a user's batch download queue) from being moved, removed, or edited while allowing simultaneous downloads.

As a general rule, no data files or records are allowed exact simultaneous access if one of the nodes will modify the data. Simultaneous read only access is allowed. Collisions (simultaneous write access requested of a file by two or more nodes) are logged along with the retry count. There is a retry maximum count (or time-out) that will deny access to the requesting node and log a critical error for that node. This situation should not occur, but provisions are made for it in case of hardware failure of a node with a file or record

open with write access.

[14.4] - Multinode: DESQview

How many nodes?

The answer to this question depends on the speed of your machine. Here is a table to estimate the maximum number of nodes you should run on any given machine under DESQview:

CPU	Nodes
386-16	1
386-25	2
386-33	3
386-40	4
486-25	5
486-33	8
486-50	10

Note: You can run more than the suggested number of nodes, but performance will decrease with each additional node.

How much memory?

You will need roughly 500k of available expanded memory for each node. When running multiple nodes, a disk cache is required. Around 1 to 2 MB should be used in most situations. Here is another table of estimated total system memory required in megabytes (assuming a 1MB disk cache is used):

Nodes	MB of RAM
2	3
3	4
4	4
5	5
6	5
7	6
8	6
9	7
10	7

To save memory for each node, you can reduce the "Maximum program memory size" to something like 450k or so. If you get memory allocation errors when running SBBS, you'll need to increase this number. You can raise it beyond 640k and actually get more than 640k free in some situations. This number is the amount that DESQview will give this node if it can, or if not possible, as much as it can. The "Memory Size" parameter is the minimum amount the program will require.

If you have VGA, you may want to change the Video mode to 80x50 or 80x60 with the "Rearrange" menu, and change the "Window Positions" under DVSETUP (advanced) and/or the "Window Position" information for the each SBBS node under "Change a Program Advanced Options". This way you can display multiple

80x25 windows simultaneously.

Don't forget to have a batch file execute DVANSI.COM before running Synchronet if you have external programs that access the COM port themselves and use DOS for output. Example: Trade Wars uses the BIOS for output so DVANSI is not required. Global War uses DOS for output and uses the COM port directly, so DVANSI is required.

You must have "Close on exit" to [N] if you are going to execute SBBS from a batch file that executes other programs before SBBS. Here is an example batch file which will run dvansi, then Synchronet, and closes the window after exiting Synchronet. This example file is called SBBSDV.BAT:

```
--------------------------------[ Begin ]-----------------------------------
@echo off
c:\dv\dvansi
c:\sbbs\exec\sbbs %1 %2 %3 %4 %5
if errorlevel 1 pause
exit
--------------------------------[  End  ]-----------------------------------
```

This batch file (SBBSDV.BAT is just an example name), can be used to execute any of the Synchronet nodes, because the "Directory" parameter determines which node is going to run. You would have to change the "Program" parameter to "C:\BAT\SBBSDV.BAT" if you created SBBSDV.BAT in the C:\BAT directory.

Start-up Scripts

If you want your nodes to be automatically loaded up when running DESQview, see "Learning Scripts" and "Start-up Scripts" in your DESQview manual.

Here is an example script (in text format) that loads two Synchronet nodes (assuming the Open Menu keys are S1 and S2):

DESQVIEW.TXT:

```
--------------------------------[ Begin ]-----------------------------------
{Learn {Alt-\} "!startup"}
{DESQ}os1
{DESQ}os2
{Finish}
--------------------------------[  End  ]-----------------------------------
```

Here is an example script (in text format) that uses the Big DOS program to load two Synchronet nodes:

DESQVIEW.TXT:

```
--------------------------------[ Begin ]-----------------------------------
{Learn {Alt-\} "!startup"}
{DESQ}obd
```

```
dvansi{Enter}
cd \sbbs\node1{Enter}
sbbs{Enter}
{DESQ}obd
dvansi{Enter}
cd \sbbs\node2{Enter}
sbbs{Enter}
{Finish}
--------------------------------[  End  ]-----------------------------------
```

To use this script, you MUST modify the Big DOS program parameters to match the program setup examples given at the top of this chapter.

To use either script, you must first convert it to DESQVIEW.DVS by running the DESQview CONVSCR program.

IMPORTANT: When running under DESQView you will be required to load DOS's SHARE program. Be sure that you do NOT load SHARE into high memory (or allow any memory managers to do so)!

[14.5] - Multinode: OS/2

System Requirements

The OS/2 operating environment requires a faster CPU and more system memory (compared to DESQview) to run efficiently. Because of this, there are greater system requirements for running SBBS4DOS using OS/2. First, the number of nodes which can be run on a given CPU is approximately one half of the number which can be run on an equivalent CPU using DESQview. Next, it is recommended that an 80486 CPU of 33mhz (or greater), with 8 megabytes of memory (or more) be used.

The default OS/2 communications driver is not sufficient for high speed modem communications, it is recommended that you replace the default drivers with a third party driver (such as SIO by Ray Gwinn). It is also recommended that you have buffered 16550 UARTs on your I/O cards rather than the non-buffered 16450 UARTs.

You cannot use a standard DOS FOSSIL driver with OS/2. If you require the use of a FOSSIL driver, you must use a FOSSIL driver which has been written for use with OS/2 (such as VX00).

See the contacts reference appendix for contacting Ray Gwinn, author of SIO and VX00 serial communications drivers for OS/2.

When running Synchronet under OS/2, be sure that you do NOT use any additional timeslice programs such as TAME or OS2SPEED.

You should have the Win/OS2 time slice API option set to 'Yes' for all nodes running in an OS/2 DOS session (in each node's toggle options).

Following are example settings for OS/2, you will find these settings by clicking on the DOS Settings box for the DOS window. Settings which are not listed should be left as default. You must run each node in its own DOS session, consult your OS/2 user guide for more information on running multiple DOS sessions.

DOS Settings
~~~~~~~~~~~~

COM_DIRECT_ACCESS	ON
COM_HOLD	ON
COM_SELECT	ALL
DOS_BREAK	OFF
DOS_BACKGROUND_EXECUTION	ON
IDLE_SECONDS	0
IDLE_SENSITIVITY	100
HW_TIMER	ON
INT_DURING_IO	ON

[14.6] - Multinode: Windows 3.x

System Requirements

The Windows operating environment requires a faster CPU and more system memory (compared to DESQview) to run efficiently. Because of this, there are greater system requirements for running Synchronet using Windows. First, the number of nodes which can be run on a given CPU is approximately one half of the number which can be run on an equivalent CPU using DESQview. Next, it is recommended that an 80486 CPU of 33mhz (or greater), with 8 megabytes of memory (or more) be used.

Following are example settings for Windows. Settings which are not listed should be left as default. A setting with (check) next to it means the box for that setting should be marked, and (no check) means the setting should not be marked.

386 Enhanced Mode Settings
~~~~~~~~~~~~~~~~~~~~~~~~~~
All com ports should be set to Never Warn.

Set the Minimum Timeslice to 15.

Exclusive in Foreground (no check).

PIF Settings
~~~~~~~~~~~~

Program Filename	: SBBS.BAT
Startup Directory	: C:\SBBS\NODE1 (modify as required)
Video Memory	: (Text should be checked)
~~~~~~~~~~~~

```
Memory Requirements
        KB Required     : 450
        KB Desired      : 640

*EMS Memory
        KB Required     : 360
        KB Limit        : 1024

*XMS Memory
        KB Required     : 360
        KB Limit        : 1024

*NOTE: EMS and/or XMS memory will need to have a value if you wish to allow
       Synchronet to swap using either of these.

Display Usage
        Windowed        : (check)

Execution
        Background      : (check)


PIF Settings - Advanced Options
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Multitasking Options
        Background Priority     : 70
        Foreground Priority     : 70
        Detect Idle Time        : (no check)

Memory Options
        EMS Memory Locked       : (check)
        XMS Memory Locked       : (no check)
        Uses High Memory Area   : (no check)
        Lock Application Memory : (check)

Display Options
        Emulate Text Mode       : (check)
        (all remaining options) : (no check)

Other Options
        Allow Close When Active : (check)
```

IMPORTANT: These are settings to get you started! Different machines and configurations require different settings, and it may take some trial and error with different memory and timeslice settings to get everything working as you desire. Also note that the default windows communications driver probably will NOT be sufficient for high speed modems, and you will probably want to purchase a third party communications driver that can handle higher baud rates under windows. When running windows, be sure to load SHARE before you run windows!

[14.7] - Multinode: Windows 9x

System Requirements

The Windows 95 operating environment requires a faster CPU and more system memory (compared to DESQview) to run efficiently. Because of this, there are greater system requirements for running Synchronet using Windows 95. You should follow the recommendations included with Windows 95 for your system and memory requirements, we recommend a minimum 80486 CPU of 33mhz with at least 8 megabytes of memory.

Basically Windows 95 straight out of the box will run Synchronet without any problems. Following is some information to help you get Synchronet set up under Windows 95 and to help get it running a little more efficiently.

First we want to set up an ICON for each of the Synchronet nodes you plan to run under Windows 95. The following steps will guide you through adding one:

1) From Windows 95 Explorer go to the directory of the node you are setting up, (e.g. for node 1 this would normally be C:\SBBS\NODE1).

2) On the right side of Explorer you'll see SBBS.BAT, click on it with your RIGHT mouse button.

3) Go to NEW and click on SHORTCUT.

4) Click on BROWSE, find the SBBS.BAT file in the sub-directory for this node and DOUBLE CLICK on it.

5) Click on NEXT.

6) Click on CHOOSE ICON and select the ICON you wish to use for this node.

7) Click FINISH.

That's all there is to creating an ICON (shortcut) for Synchronet. Do this for each of your Synchronet nodes. Now there are a couple of settings you'll want to change for better efficiency:

1) For each node set the IDLE SENSITIVITY to it's lowest (all the way to the left-hand side).

2) In SCFG under each node, set the toggle option 'Windows/OS2 Time Slice API' to 'YES'.

[14.8] - Multinode: LAN

Most of the information necessary for setting up your nodes on a LAN will be provided by the documentation for your Network Operating System. All that Synchronet requires is that each node have access to the SAME drive for data storage. ALL Synchronet directories must be accessible by ALL nodes as the SAME drive letter (if multiple drives are in use). If one drive is used for all BBS data, then simply remove all drive letters from the configured paths in SCFG (and each workstation can use different drive letters if necessary).

You may mix the LAN multinode method with the multitasker method to get more than one node on each workstation.

NOTE: When using Netware 3.x or 4.x you should create a SHELL.CFG or NET.CFG in the directory where your workstation loads your network files. In the SHELL.CFG or NET.CFG file you should have the line: SHARE=OFF. You will also need to load the SHARE program that comes with DOS. Most other networks also require that you use the SHARE program that is included with DOS.

****** IMPORTANT ******

Do not give ANY of the files associated with Synchronet a sharable file attribute. Synchronet uses file and record locking to handle multiple simultaneous file access requests and maintain data integrity. "Flagging" a file "sharable" overrides these locking methods and will cause Synchronet to corrupt your data in a multinode system.

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[15.1] - CHKSMB - Checks mail/message base for validity

```
usage: chksmb [/opts] <filespec.SHD>

opts:
       s - stop after errored message base
       p - pause after errored message base
       q - quiet mode (no beeps while checking)

WARNING: All BBS nodes should be DOWNed (offline) or inactive when utilizing
         the CHKSMB utility.

The purpose of the CHKSMB utility is to insure that mail and/or message bases
are valid.  If you suspect that your mail, or one of your message bases has
become corrupted, you can run CHKSMB.  This will inform you of any possible
corruption, and display information which may be useful in determining the
cause of the corruption.

Example command line:

        CHKSMB \SBBS\DATA\MAIL \SBBS\DATA\SUBS\*.SHD

to check your e-mail and sub-board data files for possible corruption.

Most mail and/or message bases which are corrupted can be reconstructed
(fixed) using the SMBUTIL program with the pack option.

Message bases with corrupted index files must be fixed with the FIXSMB program.
```

[15.2] - FIXSMB - Rebuild Synchronet Message/Mail Base

```
usage: fixsmb [/opts] <smb_file>

 opts:
       m - mail format instead of sub-board format

   ex: FIXSMB /M C:\SBBS\DATA\MAIL
   or: FIXSMB C:\SBBS\DATA\SUBS\DEBATE

Use the FIXSMB utility whenever CHKSMB shows that a message base has become
corrupted due to problems with the index.
```

[15.3] - SMBUTIL - Synchronet Message Base Utility

usage: smbutil [/opts] cmd <filespec.SHD>

```
cmd:
       l[n] = list msgs starting at number n
       r[n] = read msgs starting at number n
       v[n] = view msg headers starting at number n
       k[n] = kill (delete) n msgs
       i<f> = import from text file f
       s    = display msg base status
       c    = change msg base status
       m    = maintain msg base - delete old msgs and msgs over max
       p[k] = pack msg base (k specifies minimum packable Kbytes)
opts:
       a    = always pack msg base (disable compression analysis)
       f    = fast msg creation mode
       d    = disable duplicate message checking
       z[n] = set time zone (n=min +/- from UT or 'EST','EDT','CST',etc)
```

The SMBUTIL can be used for several things, but most importantly, it must be used for maintaining your Synchronet message base (using the 'm' command). This command causes SMBUTIL to mark old messages, and messages over the maximum sub-board limit, as deleted so that their spaces can be used by new messages. If you are using the 'Hyper Allocation' or 'Fast Allocation' method for your message bases, you must also use this utility to pack your message bases (using the 'p' command) periodically. The pack command causes SMBUTIL to compress the message bases removing any unused spaces (messages marked as deleted).

SMBUTIL maintenance and/or packing should be done using your daily event (or after importing from a network such as FidoNet). If your message base is using the 'Fast Allocation' or 'Hyper Allocation' storage methods, you should run maintenance before packing (there is no reason to pack if you do not run maintenance!). If your message base is set up for the 'Self Packing' method, you do NOT need to use SMBUTIL to pack, only to perform maintenance.

Example batch file lines for SMBUTIL would read:

for maintenance and packing (100k or more per sub):

```
SMBUTIL mp100 \sbbs\data\subs\*.shd
```

for maintenance only (self-packing sub-boards):

```
SMBUTIL m \sbbs\data\subs\*.shd
```

WARNING: All BBS nodes should be DOWNed (offline) when using SMBUTIL with the pack option! To do this, set the SMBUTIL event to be 'Exclusive' in

the SCFG program.

When using the pack command, SMBUTIL will check to see if it is necessary for you to pack your message base, if you want to skip this checking and have it unconditionally pack the message base (useful when attempting to repair a corrupted message base), you should add the '/a' switch to the command line:

SMBUTIL /a p \sbbs\data\subs*.shd

The maintenance and pack commands are likely all that you will ever need to SMBUTIL for.

[15.4] - SMBACTIV - Checks Synchronet Message Base Activity

SMBACTIV.EXE is used to create a list of the number of users that are currently reading each message area (sub-board) on your BBS. If a message area has a very low number of active users, then it may be a waste of disk space and memory on your BBS.

Before SMBACTIV is run, you must have your SBBSNODE environment variable set to point to a valid node directory. Example:

SET SBBSNODE=C:\SBBS\NODE1

SMBACTIV can be run with no parameters to display a list of all your sub-boards and the number of active users. If you wish to keep this list for reference, it is a good idea to redirect the output to a file or printer. Example:

SMBACTIV > PRN

You can also specify a maximum number of active users to include in the list of sub-boards as a paramter. Example:

SMBACTIV 50

would create a list of all sub-boards that have 50 or less active users. To create a list of sub-boards that have no active users, you would use:

SMBACTIV 0

[15.5] - ADDFILES - Adds Files to Synchronet File Database

usage: addfiles code [.alt_path] [/opts] ["*user"] +list [desc_off] [size_off]

or: **addfiles code [.alt_path] [/opts] ["*user"] file "description"**

```
available opts:

       a    import ASCII only (no extended ASCII)
       d    delete list after import
       e    do not import extended descriptions
       f    include file date in descriptions
       t    include today's date in descriptions
       i    include added files in upload statistics
       n    do not update information for existing files
       o    update upload date only for existing files
       u    do not update upload date for existing files
       z    check for and import FILE_ID.DIZ and DESC.SDI
       k    keep original short description (not DIZ)
       s    search for files in directory (no file list)
       *    use * in place of code for Auto-ADD of FILES.BBS
            use *filename to Auto-ADD a different filename

example for importing FILES.BBS format:
       addfiles games +c:\lists\files.bbs

example for importing DIRxx format:
       addfiles games +c:\lists\dir01 33
```

SBBSNODE DOS Environment variable:

The environment variable SBBSNODE must be set prior to running ADDFILES. Add the following line to your AUTOEXEC.BAT:

SET SBBSNODE=C:\SBBS\NODE1

Where, the path to NODE1 reflects the complete path of your NODE1 directory.

Parameter Explanations:

dir_code:

The dir_code parameter is the first argument and is the internal code of the Synchronet file directory you are adding the files to. This parameter is not case sensitive. The dir_code parameter is required. Use * for Auto-ADD.

.alt_path:

If the files are located on an alternate file path, you can specify the alternate file path number by using the ".x" paramter, where 'x' is the number of the alternate path.

/opts:

If desired, you may specify a list of options. The available options are:

A - Import ASCII character only (ignore any extended ASCII or control chars)

D - If you want ADDFILES to delete the file list after importing it
E - If you want ADDFILES to NOT import extended descriptions
F - Automatically include the file date in the beginning of the description
T - Automatically include the today's date in the beginning of the description
I - Include files that are added in the system's upload statistics
N - Do not update any information for files already in the database
O - Only update the upload date for files already in the database
U - Do not update upload date for files already in the database
Z - Check for and import FILE_ID.DIZ and DESC.SDI as extended description
K - Keep original short description (don't override with DIZ)
S - Search for files in directory (no file list for names and descriptions)

***user:**

The *user parameter sets the name of the uploader of the files to the string following the asterisk. An example would be: "*Digital Man". If an uploader is not specified, files will be added with "-> ADDFILES <-" as the uploader. The quotation marks are only necessary for uploader names of more than one word. The quotation marks are not used as part of the actual name. Example:

```
*Joe            is OK
*Joe Doe        is NOT OK
"*Joe Doe"      is OK
```

Multiple uploader names can be used if more than one file or file list is being added. Example:

ADDFILES GAMES "*Bob" +FILES.BBS "*John Doe" TICTAC.ZIP "tic-tac-toe"

The above command line would add the files listed in FILES.BBS using "Bob" as the uploader, and then add TICTAC.ZIP using "John Doe" as the uploader.

file "description":

You can specify individual filename and description pairs on the command line to add. The filename is NOT case sensitive and the description IS. The quotation marks are only necessary for descriptions of more than one word. Example:

```
TICTAC.ZIP Tic-Tac-Toe          is OK
TICTAC.ZIP Tic Tac Toe          is NOT OK
TICTAC.ZIP "Tic Tac Toe"        is OK
```

+list [desc_off] [size_off]:

An ASCII text file list can be specified for adding to the database. The format of the file must be as follows (FILES.BBS lists work best):

Filename and description on single line. Number of spaces between filename and description doesn't matter.

```
Filename must contain a period (.).
        Example: TICTAC.ZIP      is OK
                 TICTAC ZIP      is NOT OK
                 TICTAC  .ZIP    is OK
Lines beginning with control characters or extended ASCII characters
        are ignored (this includes blank lines).
Up to 58 characters of description are used.
Lines following a filename/description line that begin with space are
        used as additional information for the description, and the entire
        description is used as an extended description for the file as well.
```

The name of the file list is specified on the command line after the plus (+) character. Example:

ADDFILES GAMES +FILES.BBS

If the file list is not located in the current directory, you must specify the complete path to the file list:

ADDFILES GAMES +C:\LISTS\FILES.BBS

If no filename/description pairs are given on the command line and no +list parameter is given, ADDFILES will attempt to use a file list with the dir_code as the filename and .LST as the extension.
Example:

ADDFILES GAMES

Would add files to the GAMES directory using GAMES.LST as the file list. If GAMES.LST is can not be found, it will look for FILES.BBS in the current directory or in the directory's storage path.

If a file list is specified on the command line, but is not found in the current directory, the storage path for that directory is searched. If the file list exists, it will be imported from there.

desc_off:

If a filelist is specified on the command line, a description offset can be specified as the next argument. If used, this parameter will specify at what column to start importing the descriptions. For PCBoard DIR file format, you should specify a description offset of 33. Example:

ADDFILES GAMES +DIR10 33

This offset is also used for the importing of any extended description lines.
size_off:

If a filelist is specified on the command line with a description offset, a file size offset can be specified too. If a file size offset is specified, the disk does not need to be searched for the size of the file to determine

the credit value. This is useful for adding lists of files from a CD-ROM drive as it speeds up process since the CD does not need to be scanned for the file size. This parameter is also useful for importing off-line file lists, where the file doesn't actually exist on the drive. For PCBoard DIR file format, this offset should be set to 13. Example:

ADDFILES GAMES +DIR10 33 13

[15.6] - FILELIST - Generate Synchronet File Directory Listings

Description:

This utility creates an ASCII text file list of the files in a Synchronet file transfer database. This utility is useful for creating file lists for users to download, exporting into other programs, or for easy statistics reporting by the sysop.

The default output is compatible with the FILES.BBS standard format. Options are available for enhancing the output for your needs.

Understand that this is an EXPORT utility and is not necessary for the normal execution of Synchronet. This utility exports from the binary indexed file databases of Synchronet into ASCII text. If you are looking for a program to IMPORT files from ASCII into Synchronet, you need to look for the ADDFILES utility for Synchronet. If you are just trying to ADD files to your Synchronet database, then you need to read Sysop Commands - specifically the ";UPLOAD" sysop transfer section command.

Syntax:

usage: FILELIST [dir_code] [switches] outfile

```
switches: /LIB name All directories of specified library
          /ALL      All directories in all libraries
          /NOT code Exclude specific directory
          /CAT      Concatenate to existing outfile
          /PAD      Pad filename with spaces
          /HDR      Include directory headers
          /CDT      Include credit value
          /ULN      Include uploader's name
          /ULD      Include upload date
          /DFD      Include DOS file date
          /DLD      Include download date
          /DLS      Include total downloads
          /NOD      Exclude normal descriptions
          /NOE      Exclude normal descriptions, if extended exists
          /EXT      Include extended descriptions
          /JST      Justify extended descriptions under normal
          /+        Include extended description indicator (+)
```

```
/-        Include offline file indicator (-)
/*        Short-hand for /PAD /HDR /CDT /+ /-
```

Parameter Descriptions:

Either the "/LIB name", "/ALL", or <dir_code> parameter must be included for a list to be generated. If you want to create a list of files for a single file directory, use that directory's internal code as the first parameter on the command line. If you want all directories in a certain library to be in the list, use the "/LIB name" switch - where "name" is the short name of the library you want to list. If the library short name is more than one word, you most puts quotes around the name (e.g. /LIB "short name"). If you want to include all the directories on your system in the list, use the "/ALL" parameter.

If you want to exclude a specific directory from a library (when using the "/LIB" or "/ALL" parameters), use the "/NOT" switch and follow the switch with the internal code of the directory to NOT include in the list. If you wish to exclude multiple directories, you must use multiple "/NOT" switches.

If you want the list to be appended to an existing file rather than overwrite the original file, include the "/CAT" switch on your command line.

The default format for file names is non-padded (FILE.EXT). If you want the list to have the filename and extension in separate columns (like the file listings inside Synchronet), use the "/PAD" switch, so that "FILE.EXT" will be displayed as "FILE   .EXT".

If you want a small header to be placed at the beginning of each directory, include the "/HDR" switch. The header contains the library short name, the directory long name, and the total number of files in the directory.

If you want the credit value of the file (normally the same as the file size) included in the listing, include the "/CDT" switch on the command line.

If you want the name of the uploader of each file to be included in the list, use the "/ULN" switch on the command line.

If you want the date of the upload (in MM/DD/YY format) to be included in the list, use the "/ULD" switch on the command line.

If you want the DOS file date to be included in the file listing, use the "/DFD" switch on the command line.

If you want the date of the most recent download (in MM/DD/YY format) to be included in the list, use the "/DLD" switch on the command line.

If you want the total number of downloads for each file included in the list, use the "/DLS" switch on the command line.

If you DO NOT want the normal (58 character) description included in the file

list, include the "/NOD" switch on the command line.

If you want the normal description to be excluded only if an extended description exists, then use the "/NOE" switch. This is useful for generating file lists from a directory where the original descriptions were imported from an ASCII file list using ADDFILES. When using this switch, you do not have to include the "/EXT" switch.

If you want extended descriptions to be included in the file list, use the "/EXT" switch on the command line.

If you want extended descriptions to be automatically justified under the normal description, include the "/JST" switch on the command line. You do not have to include the "/EXT" switch if you use this switch.

If you want the '+' identifiers for extended descriptions to be included in the list, use the "/+" switch.

If you want the existence of each file to be verified and non-existent (offline) files to be indicated by a '-', use the "/-" switch. This switch should NOT be used for CD-ROM directories.

To generate a list most closely resembling the internal Synchronet file listing format, use the "/*" switch. It is the same as including the "/HDR", "/CDT", "/PAD", "/+", and "/-" switches.

SBBSNODE Environment Variable:

Prior to running FILELIST you must set the SBBSNODE environment variable to the path of one of your NODE directories.

Example:

SET SBBSNODE=C:\SBBS\NODE1

Examples:

FILES.BBS

If you want to create a simple FILES.BBS format listing of your GAMES directory (and the directory's internal code is "GAMES"), then use the following command line:

FILELIST GAMES FILES.BBS

This command line would create the file "FILES.BBS" in your current DOS directory with a list of the filenames and descriptions in your Synchronet GAMES file directory. This file could then be imported into another BBS package or used by another FILES.BBS compatible program for searching, sorting, moving or other file maintenance.

FILELIST.TXT

If you want to create a list of all the files on your BBS that closely matches the format of the internal Synchronet file listings, use the following command line:

FILELIST /* /ALL FILELIST.TXT

This command line would create the file "FILELIST.TXT" in your current DOS directory with a list of the filenames, credit values, and descriptions of all the files in your Synchronet file transfer database. A header for each file directory would be included and the filenames would be padded with spaces for easier viewing.

To generate the same list, but include any extended descriptions as well, add the "/EXT" switch after the "/ALL" parameter.

FILESTAT.TXT

If you wanted to create a list of all the files on your BBS with detailed statistical information, you may want to use a command line similar to the following:

FILELIST /* /ALL /NOD /ULN /ULD /DLD /DLS FILESTAT.TXT

This command line would create a list of the files with the uploader's name, the date the file was uploaded, the date of the most recent download, and the total number of downloads. The "/NOD" switch would cause the descriptions to be excluded from the list. This list could then be used for statistic reports. It would be a fairly simple programming task to create a utility that read in this generated file and created file popularity graphs or a list of the most valued uploaders. The possibilities are endless.

NOTE:

The functionality of creating file lists is not limited to only this utility. There are commands to generate file lists (of both New files and All files) from the Temp Directory menu in the Synchronet transfer section. Users can use these commands to generate lists for download immediately. Also, QWK packets generated in Synchronet contain a file named "NEWFILES.DAT" - an ASCII text file containing a list of files uploaded since the user's last logon.

The main advantages of this utility over the internal file list generation capabilities of Synchronet are its output format flexibility and compatibility with the FILES.BBS standard.

[15.7] - DUPEFIND - Synchronet Duplicate File Finder

DUPEFIND.EXE is used to find duplicate file names in your Synchronet file database. This is most useful for CD-ROM installations, where files may be duplicated on the CD-ROM and your hard disk. Duplicate files can be a waste of memory and disk space on your BBS.

Before DUPEFIND is run, you must have your SBBSNODE environment variable set to point to a valid node directory. Example:

SET SBBSNODE=C:\SBBS\NODE1

DUPEFIND can be run with no parameters to search all of your file directories in Synchronet for duplicate file names. If you wish to keep this list for reference, it is a good idea to redirect the output to a file or printer. Example:

DUPEFIND > PRN

You can also specify a starting and ending library number to limit the search to certain libraries. Example:

DUPEFIND 1 3

would only search file libraries 1 through 3 for duplicate file names.

[15.8] - DELFILES - Removes Files from Synchronet File Database

usage: DELFILES <dir_code or * for ALL> [switches]

```
switches: /LIB name All directories of specified library
          /NOT code Exclude specific directory
          /OFF      Remove files that are offline (don't exist on disk)
          /NOL      Remove files with no link (don't exist in database)
          /RPT      Report findings only (don't delete any files)
```

Examples:

If you wanted to remove ALL files that are offline (don't exist on disk) you would use the command line:

DELFILES * /OFF

To remove files that exist on the disk but not in the Synchronet file database you would use:

DELFILES * /NOL

Or to simply remove files that match the criteria specified in the SCFG program you would use:

DELFILES *

The /NOT parameter is used to exclude certain directories:

DELFILES * /NOT GAMES /NOT TEXT

Or you can specify a library name rather than a directory name:

DELFILES /LIB <library name>

Appending /RPT to the command line will cause DELFILES to generate a report of files that would have been removed, but it will not actually remove any files.

[15.9] - Synchronet MLABELS Utility

The MLABELS utility is used to generate a list of mailing labels from a Synchronet user database. Two basic label forms are supported, single column (e.g. Avery 4145) and double column (e.g. Avery 4143). Specific groups of users to print labels for can be specified by level, flags, exemptions, or restrictions. If the BBS is real name based (no aliases), and the "Company Name" new user question is toggled on in SCFG, then the company name will appear at the top of the address and an ATTN: <User's Name> can optionally be added to the end of the address (with the use of the "/A" command line switch).

Syntax:

MLABELS C:\SBBS\DATA\USER [-required] [/options] <output>

User Data Path

The first parameter is the path to your USER.DAT file. The example given is the default location of the USER.DAT file ("\SBBS\DATA\USER").

Requirements

The second parameter, "-require" is optional. Use this parameter to specify a security requirement for the users to be included. Multiple "-require" parameters can be specified, and the syntax is as follows:

```
-L#             set minimum level to # (default is 0)
-M#             set maximum level to # (default is 99)
-F#<flags>      set required flags for flag set # (Default is flag set #1)
-E<flags>       set required exemption flags
-R<flags>       set required restriction flags
```

The syntax of the -require option is identical to the ALLUSERS utility, so please see the chapter on ALLUSERS for examples of how to use this parameter.

Options

The next parameter, if specified, are one or more valid option characters following the slash '/' character. The available option characters are:

```
D               Double column labels
A               Add ATTN: <Alias/Real Name> to the labels
```

Output

The last parameter is the name of the output file. If you want the output to go immediately to the printer, specify "PRN" as the output file.

Example:

MLABELS \SBBS\DATA\USER PRN

If you wish to view the labels before you print them, specify a filename.

Example:

MLABELS \SBBS\DATA\USER LABELS.TXT

Complete Example

MLABELS \SBBS\DATA\USER -L50 -M59 -FP /DA PRN

The above command line would create a double wide mailing list containing all users with security levels between 50 and 59 and flag 'P' from flag set #1, and send the output directly to the printer, adding "ATTN: <Alias/Name>" to the end of each label.

Example label:

```
John Doe
555 Main St.
Small Town, Ny 01234
ATTN: Mr. Anonymous
```

[15.10] - Synchronet QWKNODES Utility

usage: qwknodes [/opts] cmds

```
 cmds: r  =  create ROUTE.DAT
       u  =  create USERS.DAT
       n  =  create NODES.DAT
```

```
 opts: f  =  format addresses for nodes that feed from this system
       a  =  append existing output files
       t  =  include tag lines in NODES.DAT
       l  =  include local users in USERS.DAT
       m# =  maximum message age set to # days
```

The QWKNODES utility is used to scan through all the messages in all of your QWK networked sub-boards and create one or more lists:

ROUTE.DAT

The DATA\QNET\ROUTE.DAT file is automatically created and maintained by SBBS. It includes the routing necessary to get netmail from your BBS to any other QWKnet BBS (using Synchronet's QWKnet extensions) in your QWK network. Entries are automatically added, modified, and removed (when out-dated). You can use QWKNODES to create this file (by scanning your QWK networked message bases), but it isn't normally necessary.

If you are a QWKnet hub and wish to create a ROUTE.DAT for your QWKnet nodes (other BBSs that call your BBS for QWKnet messages), you must include the /F command line option when creating the file (and DO NOT put that ROUTE.DAT in your DATA\QNET directory as the routing information will be incorrect for your system). This is a convenience for your QWKnet nodes which allows them to immediately send routed QWK netmail (without waiting for SBBS to create the ROUTE.DAT automatically while parsing incoming echomail).

USERS.DAT

The DATA\QNET\USERS.DAT file (if it exists) is used by SBBS to look-up user names on other BBSs in your QWK network when attempting to send e-mail to an unknown user name. The QWKNODES utility must be used to create this file (most likely via timed event). If the /L command line option is specified when this file is created, it will include the names of users that posted from YOUR BBS as well as all others in the network (not of any use to SBBS, but informative if you wish to create a list of ALL active users in your QWK network). Only users who are active in the message bases (on any of the BBSs) will appear in the USERS.DAT file.

NODES.DAT

While this file is informative (list of all QWKnet nodes that have generated messages in your QWKnet sub-boards) it is not used by SBBS currently. If the /T command line option is specified when this file is created, it will include a copy of each node's tagline in the list in addition to their QWK-ID and routing details.

/A

The /A option is used to append (concatenate) an existing output file. If this option isn't specified any existing output file (ROUTE.DAT, USERS.DAT, or NODES.DAT) will be truncated and overwritten.

/M#

The maximum message age option is used to specify a maximum age of messages (in days) to include in the list of messages scanned to obtain user/node /routing information from (example: /M90 to specify a maximum age of 90 days causing QWKNODES to ignore any messages older than 90 days). The default behavior is all messages (no maximum age).

Note: Output files are created in the current directory.
While it is possible to create all three output files from one execution of QWKNODES, the U command will cause duplicate entries in the NODES.DAT and ROUTE.DAT files. So it is best to create the USERS.DAT in a separate execution of the QWKNODES utility. Example:

```
QWKNODES RN     -> To create ROUTE.DAT and NODES.DAT
QWKNODES U      -> To create USERS.DAT
```

[15.11] - Synchronet ALLUSERS Utility

ALLUSERS can allow a sysop to modify the security settings for a large number of users with one command line. If you're a Synchronet sysop, you may have found yourself at one time or another going through the internal User Editor searching for users with a certain flag or exemption and changing their level, removing an exemption, adding a restriction, etc. The User Editor's ARS search facility is very quick and flexible, but having to hand modify each user, even with the use of macros, can be very tedious with a large user database.

This program attempts to eliminate the monotony of such a task. With a single command line, you can change security levels, add/remove flags, exemptions, or restrictions to some or all of the users in your database. The syntax is pretty simple:

Syntax

ALLUSERS C:\SBBS\DATA\USER -require /modify

User Data Path

The first parameter, "C:\SBBS\DATA\USER" is the directory where your USER.DAT file is located. The example given is the default location of the USER.DAT file. If the USER.DAT is in the current directory, the path should be simply "." for current directory. This parameter is not optional.

Requirements

The second parameter, "-require" is optional. Use this parameter to specify a security requirement for the modifications to follow. Multiple "-require" parameters can be specified, and the syntax is as follows:

```
-L#             set minimum level to # (default is 0)
-M#             set maximum level to # (default is 99)
-F#<flags>      set required flags for flag set # (Default is flag set #1)
-E<flags>       set required exemption flags
-R<flags>       set required restriction flags
```

Examples:

```
-L20  indicates that only users with a level of 20 or higher will be modified
-M80  indicates that only users with a level of 80 or lower will be modified
-FC   indicates that only users with flag 'C' from flag set #1 will be modified
-F3G  indicates that only users with flag 'G' from flag set #3 will be modified
-RA   indicates that only users with the 'A' restriction will be modified
```

If multiple requirement parameters are specified, they must each begin with a dash '-' character and be separated by at least one space.

Examples:

```
-L50 -M59  indicates that only users between level 50 and 59 will be modified
-RB -F2M   indicates that only users with the 'B' restriction and flag 'M' in
           flag set #2 will be modified
```

Multiple required flags may be specified as well.

Example:

```
-F4AC      indicates that only users with both the 'A' and 'C' flags from
           flag set #4 will be modified
-EPLM      indicates that only users with the 'P', 'L', and 'M' exemptions
           will be modified
```

Modifications

Next on the command line are one or more modification parameters. Each modification parameter begins with the slash '/' character. The available modification parameters are as follows:

```
/L#                    set level to #
/F#[+|-]<flags>        add or remove flags from flag set #
/E[+|-]<flags>         add or remove exemption flags
/R[+|-]<flags>         add or remove restriction flags
```

Examples:

```
/L20  indicates that all users' levels will be changed to 20
/FA   indicates that flag 'A' from flag set #1 will be added to all users
/F3-G indicates that flag 'G' will be removed from flag set #3 for all users
/E+L  indicates that exemption 'L' will be added to all users
/R-N  indicates that restriction 'N' will be removed from all users
```

Flag set #1 is the default, so "/F1+A" and "/F+A" are equivalent.
Addition of flags (+) is the default, so "/F+A" and "/FA" are equivalent.
Flags and parameters are not case sensitive, so "/FA" and "/fa" are equivalent.

Multiple modification parameters can be used.

Example:

/L40 /F2-Z indicates that all users will be set to level 40 and have flag 'Z' from flag set #2 removed

Multiple flags per modification may be specified.

Example:

/RAB indicates that both 'A' and 'B' restrictions will be added to all users.

Complete Examples

To change all level 20 users to level 30, use the following command line:

ALLUSERS C:\SBBS\DATA\USER -L20 -M20 /L30

To give all QWKnet node users the 'M' exemption, use the following command:

ALLUSERS C:\SBBS\DATA\USER -RQ /EM

To give all users below level 90, the 'B' restriction, use the following:

ALLUSERS C:\SBBS\DATA\USER -M89 /RB

To give all users with level 50 or higher, the 'M' and 'L' exemptions:

ALLUSERS C:\SBBS\DATA\USER -L50 /EML

To remove flag 'C' from flag sets #1 and #2 from all users:

ALLUSERS C:\SBBS\DATA\USER /F1-C /F2-C

[15.12] - Synchronet AUTONODE Utility

The AUTONODE utility is used for automatically finding an available local node for logon and running that node. You set the first local node number in SCFG->System->Advanced Options->First Local Auto-Node.

In order for the AUTONODE utility to run, you must first set the SBBSCTRL and SBBSNODE environment variables. Add the lines:

```
SET SBBSCTRL=C:\SBBS\CTRL
SET SBBSNODE=C:\SBBS\NODE1
```

to your AUTOEXEC.BAT file. If your CTRL or NODE1 directories are in a different locations, then specify the correct paths accordingly.

This utility is useful for systems that have more than one local node. This eliminates the need for those users to change into an unused node directory and run SBBS. It will automatically find the first unused local node and take them to the logon prompt. When they logoff, they will return to the DOS prompt.

If for some reason, you do not wish the user to automatically go to a logon prompt or to exit back to DOS after logoff, you can specify which command line to use when running SBBS. The default is "SBBS L Q", which tells Synchronet to take the user straight to the logon prompt and then quit back to DOS.

[15.13] - Synchronet Node Display/Control Utility

The NODE utility can be used to display or control the status of nodes from the DOS prompt or via batch files.

usage: node [/debug] [action [on|off]] [node numbers] [...]

actions (default is list):

```
list        = list status
anon        = anonymous user
lock        = locked
intr        = interrupt
down        = shut-down
rerun       = rerun
event       = run event
nopage      = page disable
noalerts    = activity alerts disable
status=#    = set status value (definition of status values at end of section)
useron=#    = set useron number
action=#    = set action value (definition of action values at end of section)
errors=#    = set error counter
conn=#      = set connection value
misc=#      = set misc value
aux=#       = set aux value
extaux=#    = set extended aux value
```

Before the NODE utility can be run, the SBBSCTRL environment variable must be set to point to your CTRL directory. Example:

```
SET SBBSCTRL=C:\SBBS\CTRL
```

Place this line in your AUTOEXEC.BAT file to automatically set this variable at boot-up. It is necessary for the NODE utility to find the shared node control files. If your CTRL directory is in a different location, use the correct path for the SET command.

If you want to be able to run the NODE utility from any directory, you must have the NODE.COM program in one of your DOS search directories. Either copy this file into a directory already in your DOS search path, or add your Synchronet EXEC directory to your search path in your AUTOEXEC.BAT. Example:

SET PATH=C:\DOS;C:\UTIL;C:\SBBS\EXEC

(DOS and UTIL directory are included for example only).

Running NODE

To run the NODE utility, you must type the word "NODE", an action (ex: "LOCK"), then a list of nodes to take the action on (ex: "1 2 4 5"). If no node numbers are specified, it is assumed you wanted to perform the action on ALL nodes.

Some actions can have an option "ON" or "OFF" state specified. Typing "NODE LOCK 1" would toggle the "locked" state of node 1. If it were previously off, it would be set to on. To be sure you are setting the state to either on or off rather than toggling, you may specify on or off (e.g. "NODE LOCK ON 1" would set the locked state of node 1 to on).

Some actions are setting a value for the node status. These actions are listed with "=#" after the action word. This indicates that you must specify a numeric value for that status option (e.g. "NODE USERON=1 5" would set the current user number on node 5 to 1).

The optional "/debug" switch can be used to view the current numeric values associated with the node status.

Example Usage

Example #1: To list the status of all your nodes, type

NODE LIST

Example #2: To lock node 1, type

NODE LOCK ON 1

Example #3: To unlock nodes 1 and 2, type

NODE LOCK OFF 1 2

Example #4: To set the status of node 3 to "Offline", type

NODE STATUS=5 3

Example #5: To interrupt and lock node 4, type

NODE INTR ON 4 LOCK ON 4

Example #6: To clear the error counter of all nodes, type

NODE ERRORS=0

Example #7: To toggle the "rerun" status of all nodes, type

NODE RERUN

Example #8: To down node 2, type

NODE DOWN ON 2

Definition of Numeric Values

Possible Node Status Values:

0 Waiting for call
1 At logon prompt
2 New user applying for access
3 User online
4 User online in quiet mode
5 Offline
6 Networking
7 Waiting for all nodes to become inactive before running timed event
8 Running timed event
9 Waiting for timed event node to finish running event

Possible Node Action Values:

0 Main Prompt
1 Reading Messages
2 Reading Mail
3 Sending Mail
4 Reading G-Files
5 Reading Sent Mail
6 Posting Message
7 Auto-message
8 Running External Program (aux=program number)
9 Main Defaults Section
10 Transfer Prompt
11 Downloading File (aux=estimated time of transfer completion)
12 Uploading File
13 Bi-directional Transfer (aux=estimated time of transfer completion)
14 Listing Files
15 Logging on
16 In Local Chat with Sysop

```
17      In Multi-Chat with Other Nodes
18      In Local Chat with Guru
19      In Chat Section
20      Sysop Activity
21      Transferring QWK packet
22      In Private Chat (aux=node chatting with)
23      Paging another node for Private Chat (aux=node being paged)
24      Retrieving file from a sequential device (aux=device num)
```

Bits Used in Node Misc:

```
0       Anonymous User
1       Locked for sysops only
2       Interrupted - hang up
3       Message is waiting for user
4       Paging disabled
5       Activity Alert disabled
6       User data has been updated by another node
7       Re-run this node when logoff
8       Must run node event after logoff
9       Down this node after logoff
10      Reset private chat
11      Message is waiting for node
```

[15.14] - UTI Driver

This UTI driver complies with UTI Driver Specification Rev 2.1 by Kip Compton. This driver is for use with PostLink v1.05+ and possibly MegaMail.

Copy the UTI driver files:

```
        UTIVER.EXE              Returns UTI version number (2)
        UTILIST.EXE             Generates list of conferences (sub-boards)
        UTIHIGH.EXE             Returns highest message number in a conference
        UTILSTRD.EXE            Generates list of message pointers for a user
        UTIIMPRT.EXE            Imports messages into a conference
        UTIEXPRT.EXE            Exports messages from a conference
```

into your PostLink directory, or another directory that is in your DOS search path.

The UTIDOOR.EXE program is not part of this driver set, since Synchronet can generate a UTIDOOR.TXT file internally.

You may need to know that the conference identifiers, as well as the name of each conference, is the same as the Synchronet internal code for each conference. This allows you to modify your message base configuration in Synchronet without having to immediately "Update" the network or mail software conference list to avoid a catastrophe. However, you should still "Update" the network or mail software to avoid configuration confusion - especially when

deleting sub-boards.

ERROR LEVELS

If one of the UTI driver programs exits with an error level, you can define the error with the following table. If the UTI driver program exits with an unlisted error level, please contact Digital Dynamics.

Level	Description
1	Syntax error on command line
2	Cannot open/create UTI text file
3	Memory allocation error
4	Too many messages in a conference to import
5	Cannot open Synchronet message data file
6	Cannot open Synchronet message index file
7	Unrecognized Synchronet sub-board code
8	Cannot open Synchronet user name data file
9	Cannot find user name in Synchronet user database
10	Cannot open Synchronet message pointer index

If you get an error 2, 5, 6, 8, or 10, you may want to double check the number of files handles you are reserving in your CONFIG.SYS file (FILES=# statement) and try increasing it.

If you get an error 3, then you need to make more DOS memory available to the UTI driver and the parent program (i.e. PostLink).

[15.15] - System/Node Statistics Log Viewing Utility

Usage: slog [path]

where path is the directory where CSTS.DAB is located. If your SBBSCTRL environment variable is set and no path is specified, it will use the system's statistics file located in the CTRL directory. To set your SBBSCTRL environment variable, add the following line to your AUTOEXEC.BAT:

SET SBBSCTRL=C:\SBBS\CTRL

Make sure the path is the correct path for the Synchronet CTRL directory in your configuration.

If you want to list the statistics of a specific node on your system (same as using the ;NLOG command from the main menu, or the 'N' WFC command), specify the path for that node on the command line. Example:

SLOG C:\SBBS\NODE1

If a path is not specified and the SBBSCTRL environment variable is not set, the current directory will be searched for CSTS.DAB.

The output of SLOG can be redirected to a file or printer for easy viewing. Example:

SLOG > PRN

or

SLOG > SLOG.TXT

[15.16] - Daily Statistics Editor Documentation

Description:

DSTSEDIT (Daily Statistics Editor) is used to edit the statistic values of your BBS that are stored in the DSTS.DAB file in your CTRL directory. There is also a separate DSTS.DAB file in each node directory which stores the statistic values for that individual node. This utility can be used to edit either of the two statistic types: System or Node.

Usage:

To edit your system's statistics, you can either run DSTSEDIT with your CTRL directory as the current directory, or run DSTSEDIT with the path of the CTRL directory as an argument.

Example: **DSTSEDIT C:\SBBS\CTRL**

To edit an individual node's statistics, you can either run DSTSEDIT with the node's directory as the current directory, or run DSTSEDIT with the node's directory as an argument.

Example: **DSTSEDIT C:\SBBS\NODE1**

[15.17] - TOTALS: External Programs Credit Gain/Loss Log Totaling Utility

The TOTALS.COM utility is used to generate a total gain/loss of multiple log files created by SBBS external programs that adjust user credits and log the adjustments in text files. Each file containing one line that contains the gain/loss value in credits. It is a positive value if it had net winnings (took more credits than it gave), and negative value if it had a net loss (gave away more credits than it took). The Synchronet external programs that currently generate such logs (by running the program with the /L option) are Synchronet Blackjack, Dice War, and Domain Poker.

usage: totals <log files [...]>

examples:

```
totals *.log
totals 06*.log 07*.log 080192.log
```

[15.17] - ANS2MSG

ANSI to Synchronet Ctrl-A message format conversion utility

This utility will convert basic non-animated ANSI files into Synchronet Ctrl-A code files that can be displayed to color or monochrome ansi users with attractive results as well as non-ansi users. This allows you to use an ANSI drawing program (such as TheDraw) to create your menus in ANSI and convert the ANSI file to Ctrl-A message format for your .ASC or .MSG version. Or you can use the converted file for all users by keeping the ANSI (.ANS) version in a directory other than TEXT\MENU.

If, for example, you create a main menu with an ANSI drawing program that you want your ASCII and monochrome ANSI users to see with attractive output, use ANS2MSG to create the .MON and .ASC versions.

Type: **ANS2MSG MAIN.ANS MAIN.MON**
in your TEXT\MENU directory to create the monochrome version.

Type: **ANS2MSG MAIN.ANS MAIN.ASC**
in your TEXT\MENU directory to create the ASCII version.

If you rename MAIN.ANS or move into a directory other than TEXT\MENU, then you will not need the .MON version as the .ASC version will be used for all terminal types.

This utility is also useful for creating colorful system, newuser, feedback and other Synchronet .MSG files for display. For example, create TEXT\SYSTEM.ANS with your favorite ANSI editor and then convert to .MSG by typing: **ANS2MSG SYSTEM.ANS SYSTEM.MSG**

Be aware that ANSI animation codes are NOT supported since there aren't Ctrl-A equivalents. The following ANSI codes (preceded by <ESC>[) are supported:

ANSI Code	Ctrl-A Code	Explanation (* indicates not supported by IBM)
2J	L	Clear Screen
#C	7Fh-FFh	Move cursor right # columns
0m	N	Normal attribute
1m	H	High intensity
2m	N	Low intensity *
3m	I	Italic *
4m	I	Underline *
5m	I	Blink
6m	I	Rapid Blink *
7m	H	Reverse Video *
8m	E	Concealed text *

30m	K	Foreground black
31m	R	Foreground red
32m	G	Foreground green
33m	Y	Foreground yellow
34m	B	Foreground blue
35m	M	Foreground magenta
36m	C	Foreground cyan
37m	W	Foreground white
40m	0	Foreground black
41m	1	Foreground red
42m	2	Foreground green
43m	3	Foreground yellow
44m	4	Foreground blue
45m	5	Foreground magenta
46m	6	Foreground cyan
47m	7	Foreground white

[15.18] - MSG2ANS

Converts Synchronet Ctrl-A file to ANSI escape sequences.

This utility allows you to convert files that use Ctrl-A codes into ANSI files. (the opposite of the ANS2MSG utility).

The syntax is: **MSG2ANS infile.ext outfile.ext**

The extension for the input file will most likely be .ASC or .MSG and the output file should be .ANS.

This utility is also useful for viewing files with Synchronet Ctrl-A codes from the DOS prompt.

Example: **MSG2ANS MAIN.ASC CON**

This will read from the Ctrl-A file MAIN.ASC and write to your screen using ANSI escape sequences.

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[16.0] - Troubleshooting

Before contacting Digital Dynamics about any problems you encounter, you should check to see if your problem is listed here, as well as do a review of the manual.

If you are having problems with a program which is external to Synchronet (e.g. doors, add-ons, memory managers, multi-taskers, mail tossers, front-end mailers, hardware, etc.) you should contact the manufacturer of that particular product.

If all else fails, and you must call Digital Dynamics for help in solving your problem, be sure that:

1) You are at your BBS machine.
2) You can duplicate the problem.

Problem : *Ymodem-G doesn't work.*

Solution: Synchronet is distributed with an unregistered shareware copy of DSZ.COM to allow the beginning to sysop to start out with the three basic protocols, Xmodem, Ymodem, and Zmodem. To use Ymodem-G, you must use a registered copy of DSZ.COM (or EXE).
See DSZ.DOC for more information on registering DSZ.

Problem : *Can't create QWK packets or temporary archive files.*

Solution: Synchronet comes configured for PKZIP as the temporary file (and QWK packet) compression method. In order for this to function correctly, you must have a copy of PKZIP.EXE in your SBBS\EXEC directory, or change the Temporary Archive Command Line to exclude the '%!' specifier (short hand for the exec directory), or specify the directory where PKZIP.EXE resides. See Configuration Reference for more information.

Problem : *Can't view ZIP files online and can't upload files because they fail the ZIP integrity test. Can't extract QWK REP packets.*

Solution: You must copy PKUNZIP.EXE into your SBBS\EXEC directory, or change

the command lines to reflect the actual location of PKUNZIP.EXE. See Configuration Reference for more information.

Problem : *HS/Link and BiModem don't work. "Bad command or filename" is displayed when a user tries to use them.*

Solution: You need to copy HSLINK.EXE and BIMODEM.COM into your SBBS\EXEC directory. BiModem must have a BIMODEM.CFG file in each node directory. Run BICONFIG to create/change the configuration information stored in BIMODEM.CFG. Refer to the BiModem documentation for more information on this file and using BICONFIG. One important note for BiModem configuration is that "Allow remote file requests" be set to "NO".

Problem : *Get a "Removing" file error when starting up SBBS, at logon, and at logoff sometimes when another node is active.*

Solution: You have more than one node using the same directory as the temp directory. You must have a unique temp directory for each node. Configure a unique temp directory for each node in the config program (type SCFG from the node directory or hit 'C' at the wait for call screen). See Configuration Reference for more information.

Problem : *When answering calls, Synchronet displays "Unknown result code: xx" where xx is a decimal number, and hangs up on the caller.*

Solution: Add this result code to your node's result code list in the config program (type SCFG from the node directory or hit 'C' at the wait for call screen). DO NOT add result codes 0, 2, 3, or 4. Refer to your modem's manual for the connect speed and average transfer CPS for the new result code. See Configuration Reference for more information.

Problem : *When using the ;DOS sysop command, the cursor position does not follow your keystrokes properly.*

Solution: Remove DOSKEY or other DOS command line TSR program from memory. Many DOS command line utilities redirect DOS output to the BIOS - which in turn bypasses Synchronet's interception of the DOS output functions. Some ANSI drivers may also cause this problem. Use the standard DOS ANSI.SYS for your console driver.

Problem : *When running external programs under OS/2 that require intercepted I/O to be displayed remotely (like PKZIP, Synchronet Blackjack, FEdit, etc) the output does not appear at all remotely and ANSI escape sequences display as garbage.*

Solution: OS/2's DOS console driver has a DOS compatibility bug. Run

SVDMANSI.COM (from the EXEC directory) and remove ANSI.SYS from your CONFIG.SYS and DOS settings. See SVDMANSI.DOC for more information.

Problem : *At the WFC screen, Synchronet shows that a node has errors, and I can't get them to stop showing.*

Solution: You must log on to the BBS, and at the main menu prompt type ;ERR, the errors will be displayed to you, and you will be asked if you want to clear the critical error counter, answer YES to clear the errors.
You may also clear the errors using the Synchronet node utility, by typing NODE ERRORS=0 at the DOS prompt.

Problem : *One of the BBS nodes will run fine, and then after one or two callers the modem won't reinitialize (Synchronet returns NO RESPONSE).*

Solution: Be sure that the com port on that node is NOT using the same IRQ or I/O address as any other com port or device in your computer. Some motherboards have com ports built onto the board itself, if your motherboard is like this, and you are not using those ports, you should make sure they are disabled.

Problem : *My users see garbage when Synchronet runs from my front-end mailer, or when they run an external door.*

Solution: Check to make sure that the DTE rate that you have set in your front end mailer or door matches what you have configured for Synchronet. If you are using a FOSSIL driver, the DTE rate you have set up for the FOSSIL must be the same as what you have set up for Synchronet (e.g. if your FOSSIL rate is locked at 38400, then that Synchronet node must have its port locked at 38400).

Problem : *I am running a program as a door that was not written to be a BBS door. It functions fine locally, but when someone runs the program remotely their screen remains blank.*

Solution: Make sure you have set 'Intercept I/O' turned on for that program, if there is still nothing displayed to the user, it's likely that the program uses direct screen writes, which would require the use of a doorway program for it to be usable via modem. If the program uses graphics, it is most likely that you will not be able to use it remotely.

Problem : *When posting a message or sending email, the BBS immediately responds with 'ABORTED' right after I enter a title for the message.*

Solution: You have an external editor defined, and that editor is not working properly. A couple of reasons an external editor may not function properly is either not enough memory available for it to run, or you have used an improper command line for that editor.

Problem : *I am trying to add another BBS node using DesqView, when I try to open another window for that node, I get the message 'A Non-Swappable Window is in the Way'.*

Solution: You do not have enough memory available on this machine for another window to be opened. You should attempt to make more EMS available.

Problem : *I am running under Windows, when the board runs it says 'Share Installed' but it then says 'File Locking Failed'.*

Solution: You MUST run share from the DOS prompt BEFORE running Windows.

Problem : *I am receiving sharing violations while Synchronet is running.*

Solution: Disable 'Swap to XMS' in the advanced settings for each node using the SCFG program.

Problem : *I am receiving errors with an action of "opening" and a doserr of 04h (as shown in the ERROR.LOG).*

Solution: You need to increase the number on the FILES= statement in your CONFIG.SYS. FILES=20 should be plenty for Synchronet.

Problem : *I (or a co-sysop) lost carrier while shelled to DOS remotely and the BBS didn't return to waiting for a call.*

Solution: Create two batch files (2.BAT and 3.BAT) in a directory that is in your DOS search path with one line containing the word "EXIT".

Problem : *When typing ;DOS, ;SLOG, or ;NLOG from the main menu I get "Incorrect DOS version" or nothing at all.*

Solution: Make sure the COMMAND.COM for the version of DOS you are running is in your DOS search path. If multiple copies of COMMAND.COM exist on your disk drive, make sure they are all for the same version.

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Synchronet BBS Software (Synchronet) Version 3 is comprised of several documentation, library, executable, and source code files, all of which are covered by the GNU General Public License with the exception of the following portions covered by the GNU Lesser General Public License: SMBLIB and XSDK.

Synchronet Version 2 (for DOS and OS/2) and its source code was released to the Public Domain by Digital Dynamics in 1997 and remains Public Domain software today. Synchronet Version 3 is not Public Domain software.

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[17.1] - Customization: Menus and Text Files

One of the easiest and possibly the most obvious ways to customize or personalize your BBS is to change the look of the menus. Menus are merely ASCII text files (with optional ctrl-a codes or ANSI escape sequences) stored in the TEXT\MENU directory. The filenames are descriptive of the menu subject and the extensions represent the content of the file. The possible extensions and their meanings are:

RIP Contains RIPscrip escape sequences for use with RIPterm
WIP Contains WIP escape sequences for use with DC-Term
ANS Contains ANSI escape sequences suitable for color display
MON Contains ANSI escape sequences suitable for monochrome display
ASC Contains no ANSI

All of the above file types can contain ctrl-a codes, and only the ASC file must exist. If a user has color ANSI, the ANS file will be displayed; if it doesn't exist the ASC file will be displayed. If a user has monochrome ANSI, the MON file will be displayed; if it doesn't exist the ANS file will be displayed; and if it doesn't exist the ASC file is then displayed.

A user without ANSI will always be displayed the ASC file.

To edit files with ANSI escape sequences, it is usually preferable to use a utility designed for such a task. TheDraw is quite popular for this use.

To edit files with ctrl-a codes, you can use any editor that allows the input of ctrl characters, but you won't see the attributes till you view the file within Synchronet. You can, however, use the Synchronet internal editor (;EDIT from the main menu) and it will display the attributes as you edit the file. The Synchronet editor limits the line length to 79 characters which may not be sufficient for lines with multiple ctrl-a codes.

The best way to edit files with Ctrl-A codes is to first convert them to ANSI with MSG2ANS.EXE (see the Utility reference for more information). Then edit with an ANSI editor (such as TheDraw). Then convert back to Ctrl-A format using ANS2MSG.EXE (see the Utility reference for more information).

Menu Files	Description
ALLMAIL	Sysop's reading all mail on system menus

ATTR	Ctrl-A code menu for use within the Synchronet internal editor
BATCHXFR	Batch transfer menu
BATDPROT	Batch download transfer protocols
BATFLAG	Batch flag command key menu
BATUPROT	Batch upload transfer protocols
BIPROT	Bidirectional transfer protocols
CHAT	Chat section menu
DLPROT	Download transfer protocols
E-MAIL	E-mail section menu
EDITOR	Synchronet internal editor commands and line editing keys
EXEMPT	Exemption flag descriptions for use within User Edit
FLAGS1	Flag set #1 descriptions for use within User Edit
FLAGS2	Flag set #2 descriptions for use within User Edit
FLAGS3	Flag set #3 descriptions for use within User Edit
FLAGS4	Flag set #4 descriptions for use within User Edit
LOGOFF	Logoff ('O' command) screen
LOGON	Logon screen (LOGON2, LOGON3, ... LOGON9 also supported)
MAILREAD	Reading mail menu
MAIN	Main section menu
MAINCFG	Main configuration menu
MAININFO	Main information menu
MSGSCAN	Message reading/scanning menu
MULTCHAT	Multinode chat menu
PRIVCHAT	Private node-to-node chat menu
QWK	QWK Packet menu
RESTRICT	Restriction flag descriptions for use within User Edit
SENTMAIL	Reading sent mail menu
SYSMAILR	Sysop additional commands while reading mail
SYSMAIN	Sysop additional commands for main section
SYSMSCAN	Sysop additional commands while message reading/scanning
SYSSMAIL	Sysop additional commands while reading sent mail
SYSXFER	Sysop additional commands for transfer section
TEMPXFER	Temporary directory commands menu
TRANSFER	Transfer section menu
UEDIT	User Edit menu
ULPROT	Upload transfer protocols
WFC	Waiting for call menu
XFERCFG	Transfer section configuration menu
XFERINFO	Transfer section information menu

Optional Menus

The following files must be created in the TEXT\MENU directory if you wish to use them.

GRPS	Message Group listing
SUBSx	Message Sub-board listing, 'x' is the group number
LIBS	File Library listing
DIRSx	File Directory listing, 'x' is the library number
XTRN_SEC	External Program Sections
XTRNx	External Program listing, 'x' is the section number

```
TEXT_SEC        Text File Section listing
TEXTx           Text File listing, 'x' is the text file section number
CHAN            Multinode Chat Channels
TMESSAGE        Displays when the user enters the transfer section
TPOLICY         Transfer policy (&T transfer section command)
```

Other Optional Message Files

If you want to have an information file displayed for sub-boards when using the 'I' scanning command and 'IS' main menu command, create a file for the sub-board in the DATA\SUBS directory using the internal code for that sub-board as the name and .MSG as the extension. Example:

DATA\SUBS\GENERAL.MSG

If you want to create in information file for file directories to be displayed with the 'ID' transfer section command, create a file for the directory in the DATA\DIRS directory using the internal code as the name and .MSG as the extension. Example:

DATA\DIRS\GAMES.MSG

If you want to create a custom file listing header for a file directory, create a file in the DATA\DIRS directory using the internal code as the name and .HDR as the extension. Example:

DATA\DIRS\GAMES.HDR

Colors

To modify some of colors of the BBS you can edit the ATTR.CFG file which is located in the CTRL directory. The file contains one color per line and is commented as to the use of the color. The colors are represented with ctrl-a code attribute letters/numbers. The number of colors you can change with this method is very small.

Text Files

There are some text files that are displayed to users at different points in the system. The locations and descriptions follow (* indicates optional):

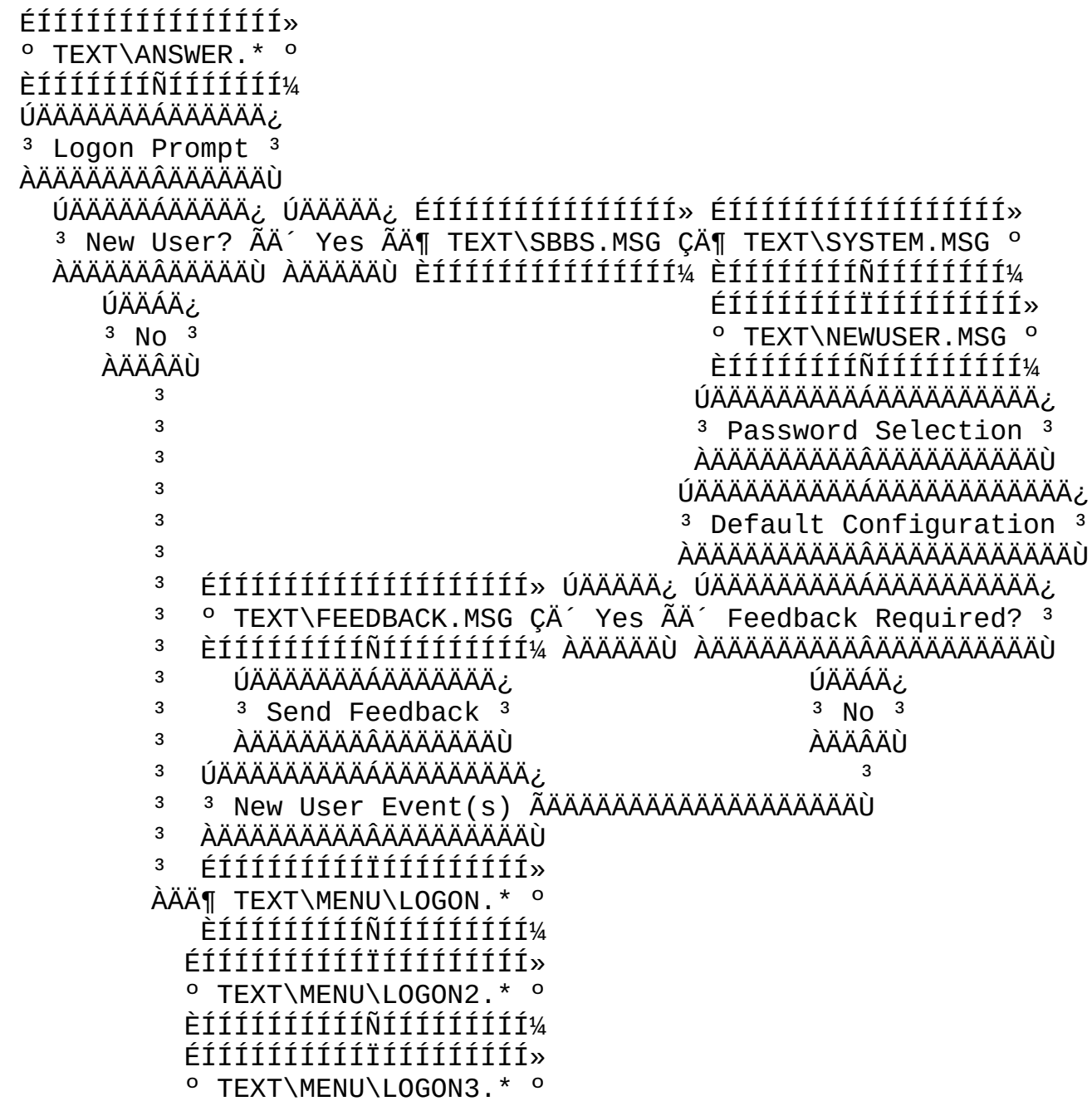
TEXT\ANSWER.ANS	Answer message for ANSI users
TEXT\ANSWER.ASC	Answer message for non-ANSI users
TEXT\ANSWER.RIP	Answer message for RIP users
TEXT\SYSTEM.MSG	Description of the system and its configuration
TEXT\NEWUSER.MSG	Displayed to new users (usually system rules)
TEXT\FEEDBACK.MSG	Displayed before new users write validation feedback
TEXT\NUPGUESS.MSG	*Displayed to callers attempting to guess the NUP (after failing to guess correctly)
TEXT\TOOSLOW.MSG	*Displayed to users logging onto a node at less than the minumum configured connect rate for that node
TEXT\BADCID.MSG	*Displayed to users calling from a number contained in

	CID.CAN
TEXT\BADNAME.MSG	*Displayed to new users trying to use a name contained in NAME.CAN
TEXT\BADPHONE.MSG	*Displayed to new users using a number contained in PHONE.CAN
TEXT\BADFILE.MSG	*Displayed to user trying to upload filename contained in FILE.CAN
TEXT\QWK\HELLO	*Included in QWK packets
TEXT\QWK\BBSNEWS	*Included in QWK packets
TEXT\QWK\BLT-0.?	*Included in QWK packets (? must be number)

Logon Message Flow Chart

Displayed filenames are in upper case.

(Note: LOGON*.* are not displayed for local logons)



```
ÈÍÍÍÍÍÍÍÍÍÑÍÍÍÍÍÍÍÍ¼
          ...

ÉÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍÍ»
º TEXT\MENU\LOGON9.* º
ÈÍÍÍÍÍÍÍÍÍÑÍÍÍÍÍÍÍÍ¼
  ÚÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄ¿
  ³ Logon Event(s) ³
  ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
```

[17.1.1] - Text/Colors

Virtually all the text and color that the BBS displays is stored in the file TEXT.DAT in the CTRL directory. The syntax of this file is VERY specific and extreme caution should be taken when editing it. Knowledge of the C language would be very helpful in producing the desired results. If all you want to do is change colors of a certain text line, take care not to disturb the arrangement of the other characters on the line. Ctrl-a codes can be preceded by an embedded ctrl-a character (usually a black happy face) or by a '\1' (the printf() equivalent of ctrl-a).

The syntax of the characters between the double quotations is identical to the C language printf() format string with one exception: \xxx where x are digits (0-9) represents a decimal number, not an octal number. The range is 0 to 255. If you wish to set a background color using \1 for the ctrl-a code, you may need to pad the attribute number with zeros. For example; to set the background to blue, you might try to use the sequence "\14" which won't work. You could either embed the actual ctrl-a character (which is preferred) or use "\0014".

Some of the strings have characters preceded by a tilde ('~'). These strings are referred to as mnemonics. The tilde precedes a character that is to be highlighted for users supporting ANSI and enclosed in parenthesis for non-ANSI users. Usually used for prompt strings that contain the valid key commands. The colors to use for the highlighted characters, normal characters, and the command character are specified in the CTRL\ATTR.CFG file.

The order of the % specifiers (if they exist) in a TEXT.DAT line cannot be altered. The display of %s specifiers can be suppressed by changing the '%s' to '%.0s'. Another way to suppress the display of specifiers is to enclose them between Ctrl-A(and Ctrl-A). Any text between Ctrl-A(and Ctrl-A) would only be displayed to users of level 90 or higher. To suppress the display to all users, put the text/specifiers between Ctrl-ACtrl-Z and Ctrl-A) (assuming that the Z flag from flag set #1 is not set on any user accounts).

** WARNING **
Make a backup of the TEXT.DAT file before you edit it. If you damage the file syntax when editing it, Synchronet may execute erroneously or even fail to initialize.

[17.1.2] - Node Action Text

The node action text can be over-ridden by editing the NodeAction lines in the TEXT.DAT file (see previous section for details on TEXT.DAT). The node action text is what is displayed on the node status line when a node is in use. (i.e. instead of "Node 1: So-and-so uploading at 14400bps", you could make it say whatever you like).

You can also include the following optional specifiers (in this order):

%s User's name or alias
%u User's security level
%u User's age
%c User's sex (gender, M or F)
%s User's computer type
%s User's note
%s Date user was first online
%u Auxiliary value (chat channel, door number, paged node, etc)
%u Connection rate (in bps)

If you include any of the above specifiers, you must also include any of the specifiers above it. The order of the specifiers cannot be changed. If you wish to suppress the display of a %s specifier, use "%.0s" instead of "%s". To suppress other specifiers, see the previous section for details.

[17.1.3] - Trash Can Files

Trash can files are used to be able to reject text during certain sequences on the BBS. For example, if you don't want a user to be able to log on with a certain name or use a certain phone number, you would place the information you don't want them to use into the appropriate trash can file. Synchronet looks for trash can files in the \SBBS\TEXT directory, certain ones may already exist, others will need to be created if you wish to use them. The names of the various trash can files and their function are as follows:

TEXT\CID.CAN You MUST have caller ID capabilities in your area (as well as a modem which can support those capabilities) in order to use this file. When a call comes in to the BBS who's caller ID phone number matches a phone number in this file, the call will be rejected.

TEXT\NAME.CAN When a user attempts to use a name contained in this file as the name for their user account, they will be told that s/he cannot use that name.
If the file **TEXT\BADNAME.MSG** exists, this will be displayed to the user.

TEXT\FILE.CAN When a user uploads a file to the transfer section who's filename matches one of the names contained in this file, the user will be told that s/he cannot upload the file.
If the file **TEXT\BADFILE.MSG** exists, this will be displayed to the user.

TEXT\PHONE.CAN When a user attempts to use a phone number contained in this file as a phone number for their user account, they will be told that s/he cannot use that phone number. This file can also be used by the Synchronet Callback Verifier program. If the file **TEXT\BADPHONE.MSG** exists, this will be displayed to the user.

The trash can files also allow special key characters to be used within them, the tilde '~' character means "contained within" and the carrot '^' character means "beginning with". For example:

sysop in the name.can would mean users could not use the name "sysop".

sysop^ would mean users could not use names beginning with the word "sysop", like "sysopa" or "sysops" etc.

sysop~ would mean users could not use names that have the word "sysop" anywhere in them, like "imthesysop" or "mesysophere".

These key characters can be used in any of the trash can files.

[17.2] - Customization: Message Variables

Using Message Variables

Message Variables (also called @-Codes) are a way to customize text files in Synchronet to display information about the user online or the BBS.
If Synchronet encounters an @-Code in a text file (i.e.: TEXT.DAT, menus, etc.), it will replace the @-Code in the file with the information that it corresponds with. @-Codes in e-mail messages and posts will only be expanded if they were posted locally (not networked) by user #1. TEXT.DAT lines that have % specifiers will not expand @-Codes unless the % specifiers are removed.

For example, placing the following line in a text file displayed to a user named Fred Jones living on 100 Maple Street:

Hi @ALIAS@, you live at @ADDR1@ don't you?

Would result in the user seeing:

Hi Fred Jones, you live at 100 Maple Street don't you?

It's that simple. The following is a list of the @-Codes that Synchronet will recognize. Remember that the Code NAME must begin and end with an @ symbol. The two columns after the description of the @-Code show which other BBS programs also support that @-Code (either PCBoard or Wildcat).

The @-Codes with "[...]" following the name indicate that you can have the variable displayed with padding. If the @-Code name ends in "-L" the variable will be left justified and "-R" indicates it will be right justified. If for

example, the user's name is Bob, the text string "___@NAME-L@___" would display to the user as "___Bob   ___" and the text string "___@NAME-R@___" would display to as "___   Bob___". If you want the string to be padded longer, you can add extra characters to the end of the @-Code name and before the terminating '@' sign. So for example, "___@NAME-L#####@___" would display as "___Bob   ___" (the "___" segments of the above text examples are only to demonstrate where the padding begins and ends).

*** Synchronet Supported @-Codes ***
(* Indicates Synchronet specific)

Note: All codes must be uppercase and sandwiched between @ symbols
      (e.g. @USER@).

System Information

Code	Description	Ver
BBS	Name of BBS	
BOARDNAME	Name of BBS	
CONF	Name of current Group and Sub-board	
CONFNUM	Number of current Group and Sub-board	
CONN	Connection description (modem type, "Telnet", "Local")	**2.3c**
DATE	Current system date	
DIR	Current file directory short description	
DIR-L[...]	" " padded and left justified	
DIR-R[...]	" " padded and right justified	
DIRL	Current file directory long description	
DIRL-L[...]	" " padded and left justified	
DIRL-R[...]	" " padded and right justified	
DN	Number of current file directory	
DL	" " padded and left justified (4 chars wide)	
DR	" " padded and right justified (4 chars wide)	
FIDOADDR	System's primary FidoNet address	**2.3c**
FREESPACE	Free disk space available for uploads	
GRP	Current message group short description	
GRP-L[...]	" " padded and left justified	
GRP-R[...]	" " padded and right justified	
GRPL	Current message group long description	
GRPL-L[...]	" " padded and left justified	
GRPL-R[...]	" " padded and right justified	
GN	Number of current message group	
GL	" " padded and left justified (4 chars wide)	
GR	" " padded and right justified (4 chars wide)	
INETADDR	System's Internet Address (as configured in SCFG)	**2.3c**
LASTCALLERNODE	Name of user last on this node	
LASTCALLERSYSTEM	<same as LASTCALLERNODE>	
LIB	Current file library short description	
LIB-L[...]	" " padded and left justified	
LIB-R[...]	" " padded and right justified	
LIBL	Current file library long description	
LIBL-L[...]	" " padded and left justified	
LIBL-R[...]	" " padded and right justified	

LN	Number of current file library	
LL	" " padded and left justified (4 chars wide)	
LR	" " padded and right justified (4 chars wide)	
LOCAL-IP	System's IP address	**3.0b**
LOCATION	System location (city, state)	**2.3c**
NOACCESS	Why user was denied access (last false ARS)	
NODE	Number of current node	
NODE###	Status of node number ###	
NUMCALLS	<same as STATS.LOGONS>	
NUMDIR	Number of current library and directory	
PREVON	<same as LASTCALLERNODE>	
QUESTION	Current Yes/No question (for TEXT\MENU\YESNO.*)	
QWKID	System's QWK BBS-ID	**2.3c**
REV	Software revision (single letter)	
STATS.LOGONS	Total logons during history of system	**3.0b**
STATS.LTODAY	Total logons today	**3.0b**
STATS.TIMEON	Total time used during history of system (in minutes)	**3.0b**
STATS.TTODAY	Total time used today (in minutes)	**3.0b**
STATS.ULS	Total uploads today	**3.0b**
STATS.ULB	Total bytes uploaded today	**3.0b**
STATS.DLS	Total download today	**3.0b**
STATS.DLB	Total bytes downloaded today	**3.0b**
STATS.PTODAY	Total posts today	**3.0b**
STATS.ETODAY	Total e-mails sent today	**3.0b**
STATS.FTODAY	Total feedbacks sent today	**3.0b**
STATS.NUSERS	Total number of new users today	**3.0b**
SUB	Current message sub-board short description	
SUB-L[...]	" " padded and left justified	
SUB-R[...]	" " padded and right justified	
SUBL	Current message sub-board long description	
SUBL-L[...]	" " padded and left justified	
SUBL-R[...]	" " padded and right justified	
SN	Number of current message sub-board	
SL	" " padded and left justified (4 chars wide)	
SR	" " padded and right justified (4 chars wide)	
SYSDATE	Current system date	
SYSOP	Name of System Operator	
SYSTIME	Current system time	
TCALLS	Total number of logons for system	
TFILE	Total number of files on system	
TIME	Current system time	
TMSG	Total number of messages on system	
TNODE	Total number of nodes on system	
TUSER	Total number of user slots on system	
VER	BBS version number	
WHO	Display status of all active nodes	

User Information

Code	Description	Ver
ADDR1	User's street address	

ALIAS	User's name or alias	
BAUD	User's connect rate (DCE) in bps	
BDATE	User's birthdate (MM/DD/YY)	
BPS	<same as BAUD>	
BYTELIMIT	User's free credits per day	
BYTESLEFT	User's total credits	
CALLS	Total number of logons for user	
CID	Caller's Caller-ID info or IP address	**2.3c**
CITY	User's city	
COMPANY	User's company name or real name	
CPU	User's computer type (v2.x) or hostname (v3.x)	
DATA	<same as PHONE>	
DATAPHONE	<same as PHONE>	
DAYBYTES	Number of free credits used today by user	
DLBYTES	Total bytes downloaded by user	
DLFILES	Total files downloaded by user	
DLKLIMIT	User's total credits (in kilobytes)	
DOWNK	Total kilobytes downloaded by user	
DOWNS	<same as DLFILES>	
EXDATE	User's expiration date (MM/DD/YY)	
EXPDATE	<same as EXDATE>	
EXPDAYS	Days left before user expires	
FIRST	User's first name/alias	
FIRSTREAL	User's first real/company name	
FROM	User's location (City, State)	
HANDLE	User's chat handle	
HOMEPHONE	<same as PHONE>	
HOST	<same as CPU>	**2.3c**
IP	<same as CID>	**2.3c**
KBLEFT	User's total credits (in kilobytes)	
KBLIMIT	User's free credits per day (in kilobytes)	
LAST	User's last name (alias)	
LASTDATEON	Date of user's last logon (MM/DD/YY)	
LASTNEW	Date of user's last new file scan (MM/DD/YY)	
LASTON	Date and time of user's last logon	
LASTTIMEON	Time of user's last logon (HH:MM am)	
LASTREAL	User's last real/company name	
LEFT	<same as MINLEFT>	
MAILW	Number of mail messages waiting for current user	
MAILW:x	Number of mail messages waiting for current user #x	
MAILP	Number of pending mail messages sent by current user	
MAILP:x	Number of pending mail messages sent by current user #x	
MAXDK	<same as KBLIMIT>	
MEMO	Date of user's last password modification	
MEMO1	User's note	
MEMO2	<same as COMPANY>	
MINLEFT	User's time left in minutes	
MSGLEFT	Total number of messages posted by user	
MSGREAD	Number of messages read by user this call	
MSGSLEFT	<same as MSGLEFT>	
NAME	User's name or alias	
NAME-L[...]	User's name (padded and left justified)	

NAME-R[...]	User's name (padded and right justified)
NEWFILETIME	Date and time of user's last new file scan
NUMTIMESON	<same as CALLS>
PHONE	User's phone number (###-###-####)
REAL	User's real first name
SEC	User's security level
SECURITY	<same as SEC>
SINCE	Date of user's first call (MM/DD/YY)
STATE	User's state (from location)
TIMELEFT	<same as MINLEFT>
TIMELIMIT	Maximum time per call in minutes
TIMEON	Time used this call in minutes
TIMEUSED	<same as TIMEON>
TLEFT	Time left (H:MM:SS)
TPERC	Time allowed per call (H:MM:SS)
TPERD	Time allowed per day (H:MM:SS)
TUSED	Time used this call (H:MM:SS)
UPBYTES	Total bytes uploaded by user
UPFILES	Total files uploaded by user
UPK	Total kilobytes uploaded by user
UPS	<same as UPFILES>
USER	User's name or alias (same as ALIAS)
ZIP	User's zip/postal code

Display

Code	**Description**		**Ver**
AUTOMORE	Toggle automatic pausing		
BEEP	Generate a beep		
BELL	<same as BEEP>		
CLS	Clear screen		
CRLF	Carriage return/line-feed pair		**3.0b**
MENU:filename	Display a menu file (from TEXT\MENU directory)		
MSGREPLY	Command key to reply to last message		**3.0b**
MSGREREAD	Command key used to re-read last message		**3.0b**
NOPAUSE	<Same as POFF>		
MORE	<same as PAUSE>		
PAUSE	Immediately produces a [Hit a key] prompt		
PON	Toggles automatic screen pause for everyone		
POFF	Toggles automatic screen pause for everyone		
TYPE:filename	Display a specific filename		
UP	Move cursor up one row	(ANSI)	**3.0b**
UP:n	Move cursor up n rows	(ANSI)	**3.0b**
DOWN	Move cursor down one row	(ANSI)	**3.0b**
DOWN:n	Move cursor down n rows	(ANSI)	**3.0b**
RIGHT	Move cursor right one column	(ANSI)	**3.0b**
RIGHT:n	Move cursor right n columns	(ANSI)	**3.0b**
LEFT	Move cursor left one column	(ANSI)	**3.0b**
LEFT:n	Move cursor left n columns	(ANSI)	**3.0b**
GOTOXY:x,y	Move cursor to x/y (1-based)	(ANSI)	**3.0b**
PUSHXY	Save current cursor position	(ANSI)	**3.0b**

POPXY Restore saved cursor position (ANSI) **3.0b**

Miscellaneous

There a few special Synchronet specific @-Codes which require a parameter (following the colon and before the terminating @ symbol):

Code	Description
HANGUP	Immediately disconnect user
SETSTR:STR	Sets the current Baja command string to STR
EXEC:MODNAME	Execute a loadable (Baja) module, EXEC\MODNAME.BIN
TYPE:FILENAME	Display a specific filename (must specify path and file ext.)
MENU:FILENAME	Display a menu file (from TEXT\MENU with automatic file ext.)

Synchronet command line specifiers may be used in the FILENAME parameter to the TYPE: @-Code allowing symbolic replacment for specific Synchronet directories (%!, %z, %k, %j, etc).

Examples:

```
@EXEC:MYMOD@
@TYPE:%zSYSTEM.MSG@
@MENU:YESNO@
```

[17.3] - Customization: Message Color Codes

Synchronet supports six different Color Code formats. When Synchronet encounters one of these Color Codes in a message, it changes the text following the Color Code to the specified color. Support of the formats which are not native to Synchronet (WWIV, Celerity, Renegade, PCBoard, and Wildcat) can be toggled on and off from the Synchronet Configuration utility (System->Message Options->Extra Attribute Codes). The non-Synchronet color codes (Extra Attribute Codes) only affect the text that is displayed on the SAME LINE. When using Synchronet color codes, the new color is retained from line to line until another color code is processed or the end of the text is reached.

Synchronet Format

The native Synchronet Color Code format (preferred) consists of a Control-A followed by a singe character. The following is a list of valid Control-A Color Codes:

	Foreground	Background
Black	K	0
Red	R	1
Green	G	2
Yellow	Y	3
Blue	B	4
Magenta	M	5
Cyan	C	6
White	W	7

Attribute		Description
High	H	High Intensity
Blink	I	Blinking
Normal	N	No Special Attributes (Normal)
Pause	P	Insert a Pause Prompt into message
Pause Reset	Q	Reset the line counter for the auto screen-pause
Delay	,	Insert a Tenth Second Delay into message
Delay	;	Insert a Half Second Delay into message
Delay	.	Insert a Two Second Delay into message
Date	D	Display the system date
Time	T	Display the system time
Cls	L	Insert a Form Feed (Ctrl-L, Clear Screen) into message
Clreol	>	Clear to End of Line (leave cursor in current position)
Bckspc	<	Non-destructive backspace (Ctrl-H)
CR	[	Carriage return (Ctrl-M)
LF	]	Line feed (Ctrl-J)
Ctrl-A	A	Send an actual Ctrl-A character
Sync	S	Synchronize output with remote system
EOF	Z	End of displayable text in this file
Normal	- (minus)	Same as 'N' but only sends ANSI codes if the High Intensity, Blinking, or Background attribute is set.
Normal	_ (underscore)	Same as 'N' but only sends ANSI codes if the Blinking or Background attribute is set.

Synchronet also supports Special Control-A codes used to hide text from users not meeting certain criteria (i.e.: Security Level or Flags from Flag Set #1). The following is a list of Special Control-A codes, and a brief description of each code's usage:

Code	Description
^A thru ^Z	Only display the following text to users with the corresponding flag A through Z turned on (from Flag Set #1).
!	Toggle the text display off/on for users of less than level 10.
@	" " 20.
#	" " 30.
$	" " 40.
%	" " 50.
^	" " 60.
&	" " 70.
*	" " 80.
(	" " 90.
)	Restore the displaying of text to ALL users.
"<filename>	Display contents of <filename> (from your TEXT directory)

High Bit (greater than ASCII 127) Used for cursor right positioning.

WWIV Format

Synchronet also supports Color Codes which are native to WWIV BBS software.
These codes consist of a Control-C followed by a number (0 through 7):

Code	Color
0	Normal
1	High Intensity Cyan
2	High Intensity Yellow
3	Normal Magenta
4	High Intensity White with Blue Background
5	Normal Green
6	High Intensity Blinking Red
7	High Intensity Blue
8	Low Intensity Blue
9	Low Intensity Cyan

Celerity Format

Synchronet also supports Color Codes which are native to Celerity BBS software.
These codes consist of a pipe symbol '|' followed by a letter (case sensitive):

Code	Color (foreground)
k	Normal Black
b	Normal Blue
g	Normal Green
c	Normal Cyan
r	Normal Red
m	Normal Magenta
y	Brown
w	Normal White
d	High Intensity Black
B	High Intensity Blue
G	High Intensity Green
C	High Intensity Cyan
R	High Intensity Red
M	High Intensity Magenta
Y	Yellow
W	High Intensity White
S	* Swap foreground and background

Example: "|b|S|W" would set the current color to high intensity white on a blue background.

Note: Due to conflicting escape sequences (namely, the pipe character), Celerity color codes are not supported when using RIP terminal mode.

Renegade Format

Synchronet also supports Color Codes which are native to Renegade BBS software. These codes consist of a pipe symbol '|' followed by a number (0-23):

Code	Color
0	Normal Black
1	Normal Blue
2	Normal Green
3	Normal Cyan
4	Normal Red
5	Normal Magenta
6	Brown
7	Normal White
8	High Intensity Black
9	High Intensity Blue
10	High Intensity Green
11	High Intensity Cyan
12	High Intensity Red
13	High Intensity Magenta
14	Yellow
15	High Intensity White
16	Background Black
17	Background Blue
18	Background Green
19	Background Cyan
20	Background Red
21	Background Magenta
22	Background Brown
23	Background White

Example: "|15|17" would set the current color to high intensity white on a blue background.

Note: Due to conflicting escape sequences (namely, the pipe character), Renegade color codes are not supported when using RIP terminal mode.

PCBoard/Wildcat Format

Two of the Color Code formats which Synchronet supports (PCBoard and Wildcat) use similar, yet cryptic, methods of displaying colors. The PCBoard method uses the format "@X<Background><Foreground>", and Wildcat uses the format "@<Background><Foreground>@". The following is a list of the Background and Foreground choices available:

<Background>	Color	Attribute	<Foreground>	Color	Attribute
0	Black	Normal	0	Black	Normal
1	Blue	"	1	Blue	"
2	Green	"	2	Green	"

3	Cyan	"	3	Cyan	"
4	Red	"	4	Red	"
5	Magenta	"	5	Magenta	"
6	Brown	"	6	Brown	"
7	White	"	7	White	"
8	Black	Blinks Foreground	8	Black	High Intensity
9	Blue	"	9	Blue	"
A	Green	"	A	Green	"
B	Cyan	"	B	Cyan	"
C	Red	"	C	Red	"
D	Magenta	"	D	Magenta	"
E	Brown	"	E	Yellow	"
F	White	"	F	White	"

Example: "@1F@" in Wildcat format and "@X1F" in PCBoard format would set the current color to high intensity white on a blue background.

[17.4] - SIF Questionnaire File

An automatic new user SIF questionnaire can be specified in SCFG->System. If a newuser SIF is specified, all users who logon and don't have a copy of the answered questionnaire data in their user file will be given the questionnaire upon logon. The sysop can view the answered questionnaire from User Edit with the '#' command. For convenience, the sysop can create a second (abbreviated) SIF file for his own use in viewing user's answers. The two SIF files (input and output) should be identical with the exception of what is in the 'text' portion.

format:

<STX>text<ETX>mode[mod][l][r][x][.n]["str"]

element descriptions:

STX is the ASCII code for start of text (ASCII 2 / Ctrl-B)
ETX is the ASCII code for end of text (ASCII 3 / Ctrl-C)

text is any number of ASCII characters - Synchronet Ctrl-A codes supported

mode text input mode desired for this field. Possible mode values are:
- c single character
- s string of characters

mod optional mode modifier. Possible mode modifiers are:
- n numeric characters only
- u input converted to uppercase
- f forced word capitalization ('s' mode only)

l input line will be displayed (inverse bar of maximum input length)

r a carriage return / line feed pair will be appended to this field

in the data buffer. Only use this field if you want the data buffer or file to be more readable. All data is on one line otherwise.

x maximum string length allowed (required for non-template 's' mode)

n minimum string length allowed (only applicable with 's' input mode)

str 1: in 's' modes, a template string that defines what will be displayed at the prompt and what type of characters the user can input. All characters other than 'N', 'A' or '!' are printed at the prompt. Occurances of 'N', 'A' or '!' define which type of character the user can input for each character position. 'N' allows the user only to enter a numeric character, 'A' allows only alphabetic, and '!' allows any character. Popular templates are "NNN-NNN-NNNN" for phone number input or "NN/NN/NN" for date input.

2: in 'c' modes, a string that defines which characters the user will be allowed to input (not case sensitive), usually used for multiple choice answers. Most common allowed characters are "ABCD..." or "1234...". If this string is specified in 'c' input mode, 'u' and 'n' have no effect and input will be converted to uppercase automatically.

Example 1:

```
<BOT>
Enter string: <EOT>sulr8.3
```

Prints the prompt, "Enter string: ", then a line of 8 blue spaces (an input bar, if you like), would convert all of user's input to uppercase, allow the user to input a maximum of eight characters, a minimum of three and append a CRLF onto the end of the data field.

Example 2:

```
<BOT>
A> First Answer
B> Second Answer
C> Third Answer
Which: <EOT>c"ABC"
```

Prints "A> First Answer" "B> Second Answer" etc... then allows the user to input one character, either A,B, or C. No other characters will be accepted as input.

Example 3:

```
<BOT>
Enter phone number: <EOT>s"NNN-NNN-NNNN"
```

Prints "Enter phone number: ", then allows the user to input only numbers in the 'N' character positions, and automatically skips over the '-' characters.

See **EXAMPLE.SIF** in the **SBBS\TEXT** directory for more information.

[17.5] - GURU.DAT

The Synchronet Guru is an artificial intelligence engine that users can chat with for entertainment or educational purposes. You may wish to fool the users into believing the guru is a live human, or tell them up-front that it's just a program.

You may have up to 500 different guru available to chat with on your BBS, each with its own "personality" and "intelligence". You add additional gurus in SCFG->Chat Options->Artificial Gurus. You can specify access requirements (see the ARS chapter for details) for each guru, allowing you to have specific gurus for different groups of users or allow users to choose which guru they want to chat with.

The gurus of your BBS can be "taught" to respond to keywords and phrasing that your users use when chatting with him. The default guru's "brain" is a file named GURU.DAT that is kept in the CTRL directory. It is a special data file that contains logic expressions and lists of responses. Before you edit the GURU.DAT file, be sure you understand exactly what you are doing, as the neuro system that interprets the GURU.DAT file does not handle syntax errors very well. The basic structure of the GURU.DAT is as follows:

(expression)
response
response
(expression)
response
response
()
response
response
response

You may include as many Expression/Response sets as you like, as long as the file size does not exceed 64k or the amount of available memory.
Each expression contains one or more string of characters that The Guru may respond to and logic operators. The string must be in all uppercase and may not contain the following characters: ~^|&()

If the expression just contains one string (e.g. (HELLO)) and that string is used in the users input, The Guru will pick a random response from the list that follows that expression. The Guru will only use one response for each line input by the user, so as soon as a "true" expression is encountered, a response is made and the evaluation of the user's line is complete.

All expressions are evaluated from the top of the file down, so if a true expression is encountered toward the top of the file, all of the remaining

expressions are ignored until the next evaluation. Notice that the last set of responses is preceded by a pair of empty parenthesis. This is an "always true" expression and should always be the last expression in the file. Omitting this fall-through expression is a syntax error. If all the previous expressions are evaluated as false, then a response will be picked from the set following the fall-through expression.

The simplest form of an expression is just a string of uppercase letters (with or without spaces). If the string is followed by a tilde '~', the string will be evaluated as true even if the string is embedded in another string (e.g. if the user types "XhelloX", an expression of (HELLO) would evaluate as false, but an expression of (HELLO~) would evaluate as true).

You can also specify that the string must be the beginning of the users input line by following the string with a caret '^'symbol (e.g. if the user types "I said, Hello!", an expression of (HELLO) would evaluate to true, but an expression of (HELLO^) would be false).

An expression can contain multiple strings connected with logic symbols. The valid logic symbols are & (and) and | (or) (e.g. if you have the expression (HELLO&GURU) the user must type both "hello" and "guru" in the input line in order for the expression to be true. If you have the expression (HELLO|HI), it will be evaluated as true if the users includes either "hello" or "hi" in his input string). Nested evaluations are supported (e.g. the expression, (GURU&(HELLO|HI)) will evaluate as true if the user inputs either "guru" and "hello", or "guru" and "hi").

Expressions may also contain AR strings within square brackets ([and]). The expression (HELLO&GURU&[LEVEL 20]) would evaluate as TRUE only if the user typed the words "HELLO" and "GURU" and had a level of 20 or higher. See the ARS chapter for details on the AR string syntax and possible keywords.

RESPONSES:

Each expression can be followed by up to 100 responses and each response can be up to 512 bytes long. Responses can not contain the characters (or) and may only span several lines if the last character of each continued line is a back-slash '\'. Responses are picked at random from the group below the first expression that is evaluated as true. The more responses you have to each expression, the less likely The Guru is to repeat himself. The Guru can also respond with information about the current user or perform an action. To initiate these special responses, you must precede a valid response variable with a back-quote (`) character. The valid response variables and their definitions are as follows:

```
A       User's alias (name, if Aliases not allowed)
B       User's birth date
C       User's computer type
D       User's download bytes
G       Guru's name
H       Hang up on the user (immediately)
I       System's QWK ID
```

```
J       Current day of the month
L       User's security level
M       Current month
N       User's note (location, if Aliases not allowed)
O       Sysop's name
P       User's phone number
Q       Quit chat
R       User's real name (address, if Aliases not allowed)
S       System name
T       Current time
U       User's upload bytes
W       Current day of the week
Y       Current year
Z       User's zip/postal code
$       User's credits
#       User's age
!       Toggle The Guru's typing mistakes Off/On
_       Pause in response
```

Three of the above response variables only have effect when the user is chatting with The Guru in the "Local" mode and not from multinode chat. These are the 'Q'uit chat (which is the only means of the exiting without hitting Alt-G locally), '!' Toggle typing mistakes, and '_' pause in response.

e.g. The expression/response pair:

```
(HELLO)
Hello there, `a...
```

would display "Hello there, Joey..." if Joey were to say "hello" to The Guru.

See **CTRL\GURU.DAT** for more detailed examples of GURU.DAT programming.

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[18.1] - Appendix A: Command Line Specifiers

Specifiers (argument replacement) for use with command lines in SCFG and many string-related Baja functions.

%a User alias or name (may require surrounding with "'s)
%b Baud (DTE) rate
%c Connect description
%d Connect (DCE) rate
%e Estimated CPS rate*10
%f File path/name (example: C:\SBBS\NODE1\DOOR.SYS)
%g Temp directory (example: C:\SBBS\NODE1\TEMP\)
%h HardWare flow control (Y/N)
%i COM port IRQ line (if UART) or channel number (if Int 14h driver)
%j Data directory (example: C:\SBBS\DATA\)
%k Control directory (example: C:\SBBS\CTRL\)
%l Maximum lines per message
%m Minutes in the user's minute bank
%n Node directory (example: C:\SBBS\NODE1\)
%o Sysop's name (as specified in SCFG)
%p COM port number (0 if local node)
%q System's QWK ID (as specified in SCFG)
%r Rows on user's terminal screen
%s File specification (example: C:\FILES*.ZIP) or current command string
%t Time (in seconds) user has left online
%u UART I/O address in hex or F=FOSSIL, B=PC BIOS, E=PS/2, D=DigiBoard
%v Synchronet version (example: 200a is Version 2.00 Revision a)
%w Timeslice API types supported (decimal bit field)
%x User's command shell (internal code)
%y COMSPEC environment variable or DOS Command Interpreter (if SBBS4OS2)
%z Text directory (example: C:\SBBS\TEXT\)
%! EXEC directory (example: C:\SBBS\EXEC\)
%# Node number (same as SBBSNNUM environment variable)
%* Node number (0 padded to 3 digits)
%$ User's credits
%% Percent symbol
%& Used for DCDWATCH utility
%? Platform descriptions (e.g. Win32 or Linux) ***(v3+ Only)***
%1 User number
%2 User number (0 padded to 2 digits)
%3 User number (0 padded to 3 digits)
%4 etc...

[18.2] - Appendix B: Synchronet (SBBS/SCFG) Command Line Options *(v2 Only)*

The Synchronet BBS program (SBBS.EXE or SBBS4OS2.EXE) can be run with optional command line switches. The switches should be separated by a space. Slash (/) and dash (-) are ignored, so "SBBS B" and "SBBS /B" are equivalent. Case is ignored, so "SBBS B" and "SBBS b" are equivalent. To list the available options from the DOS command line, you may type "SBBS ?". Here is a list of available switches:

B Use BIOS for video instead of direct screen writes
- Older multitasking software may require this switch

M Modem debug output
- This switch is helpful in solving problems with modem initialization

Q Quit after one call
- SBBS will exit back to DOS (phone off-hook) after one user

X Quit after one call (on hook)
- SBBS will exit back to DOS (phone on-hook) after one user

C# Connection already established at # bps
- If user already connected, pass current connect rate (DCE)

E# External event in # minutes
- If there is a non-Synchronet event coming up, pass minutes left

F Force daily event
- Used to force SBBS to execute its internal daily maintenance

L Local logon only
- If you want Synchronet to immediately go to the local logon prompt

I Don't initialize modem
- If you don't want Synchronet to initialize the modem

D Force Synchronet to think DCD is high
- Normally only used for NULL modem connections

Zs Pass Caller-ID string on command line as 's'
- Used in combination with 'C#' option, normally from front-end mailer

O Execute all pending events and immediately exit
- Used with front-end mailers

R# Additional rioctl call
- This switch is for the internal use of Synchronet only (DO NOT USE)

V Version information
- Displays the detailed version and revision information of SBBS

The Synchronet Configuration Utility (SCFG.EXE, SCFG32.EXE or SCFG4OS2.EXE) requires at least one command line switch (hard-coded into the included SBBS.BAT and SBBS.CMD files): the path to your Synchronet CTRL directory (e.g. "SCFG ..\CTRL"). While no other command line options are normally needed, the following command line options may be specified:

/M Show free memory in upper right corner
- Show available memory instead of current time (n/a in SCFG4OS2.EXE)

/N Don't use EMS for overlay caching
- Don't use Expanded Memory if detected (only in SCFG.EXE)

/S Don't check directories

```
        - Don't create directories on the disk(s) if they don't exist
/F      Force save of config files
        - Used by the Synchronet INSTALL program
/U      Update all message base status headers
        - Forces the update of SMB headers to match current config
/H      Don't update message base status headers
        - Don't attempt to update SMB headers to match config (if changed)
/T#     Set supported time slice APIs to #
        - 0=DV if detected(default), 1=Int28, 2=WinOS2, 4=NoDV (SCFG.EXE only)
/B#     Set automatic back-up level
        - Set number of back-up files (*.CN# files) to keep (default=3 max=10)
```

[18.3] - Appendix C: SBBS Environment Variables

During operation, Synchronet may write to several different environment variables which can be utilized by other programs. Some of these environment variables are also used by the utility programs that are included with Synchronet as well as third party programs written for Synchronet. Following is a list of environment variables and a brief explanation of them:

SBBSCTRL This variable contains the path of the Synchronet CTRL directory. This variable is NOT set by (and not required to run) SBBS, it must be set manually prior to running any programs which require it (the Synchronet NODE utility, for example).

SBBSNODE This environment variable contains the path of the node directory of the current node. This variable is set by SBBS at the time it is executed. Some off-line utilities may require this environment variable be set during boot-up (AUTOEXEC.BAT), in which case it should point to your NODE1 directory. SBBS.EXE will automatically reset this variable to point to the current node directory, for any online programs it may execute.

SBBSNNUM This variable contains the NUMBER of the active node. This variable is set by SBBS at the time it is executed.

SBBSFILENAME This variable contains the NAME of the file currently being processed (up to 12 characters including '.', not padded with spaces). This variable is set by Synchronet during 'Testable Filetype' events. The same information is written to the file SBBSFILE.NAM in the current node directory.

NOTE: Upon returning from a 'Testable Filetype' event, Synchronet will read in information contained in the file SBBSFILE.NAM located in the current node directory to determine if the filename has changed during the testing process.

SBBSFILEDESC This variable contains the ONE LINE DESCRIPTION of the file

currently being processed (up to 58 characters). This variable is set by Synchronet during 'Testable Filetype' events. The same information is written to the file SBBSFILE.DES in the current node directory.

NOTE: Upon returning from a 'Testable Filetype' event, Synchronet will read in information contained in the file SBBSFILE.DES located in the current node directory to determine if the file description has changed during the testing process.

DSZLOG This variable is automatically set by Synchronet to point to the file PROTOCOL.LOG in the current node directory. If a transfer protocol has been configured (in SCFG) to support DSZLOG, then this log file will be read in by Synchronet after the transfer is complete, to determine which files were successfully transferred and which files were not.

[18.4] - Appendix D: Wait for Call Status Display *(v2 Only)*

Example:

```
Node #: 5   Mar 11  Space: 162,024k    Laston: Digital Man 14400
Logons: 23/103      Total: 62,610      Timeon: 322/2430    Total: 5,321,900
Emails: 4/265       Posts: 4/12811     Fbacks: 2/17        Users: 1/592
Uloads: 324k        Files: 1/2195      Dloads: 9,308k      Files: 52
```

This status screen will be shown when the node is waiting for call if the sysop (User #1) has EXPERT mode turned ON and this node has Status Screen While WFC set to Yes in SCFG->Nodes->Node #->Toggle Options.

The first line has the current node number, the current month and day, the amount of free disk space on the drive where the TEMP directory is located (should be on the drive where the majority of uploads are received), the user who was last on this node and with what type of connection.

The second line has the number of logons today for this node/system, the total logons for history of the system, the time spent on today (in minutes) for this node/system and total time spent on for history of the system.

The third line contains the number of E-mails sent today on the system/total E-mails currently waiting on the system, total number of Posts made on the system today/total posts in all sub-boards, number of feedbacks (E-mail to #1) sent today/total E-mail waiting for User #1, number of New Users today/total user slots on the system.

The fourth line has the amount of uploads to the system today (in Kilobytes), number of files uploaded/total files in all directories, amount of downloads today (in Kilobytes) and total files downloaded today.

If there are any active nodes or nodes with a critical error count, the status of those nodes will be displayed below the above statistical information.

[18.5] - Appendix E: Node Status Display

Anywhere within Synchronet, you can list the users currently online with the Ctrl-U command.

From the Main, Transfer, Multinode Chat, or Private Chat sections you can list the current status of all the nodes with the '/L' command.

You can display the status of all nodes from the DOS command line (or batch file) with the NODE utility.

If the WFC Status Screen is enabled, the status of all active nodes is displayed.

Node Status Line:

The format of each node status line is as follows:

```
Node n: username action connection (flags) [sysflags]

Where:
         n = node number
  username = user's name
    action = what the user is currently doing
connection = how the user is connected (bps rate if remote)
     flags = letters representing special modes of the node:
                A - Activity Alert Disabled:
                    User of this node will not be notified of
                    other users logging on or off other nodes.
                L - Node is locked for sysop use:
                    Node is temporarily reserved for sysop
                    use only.
                M - Message waiting for node:
                    An unreceived node-to-node message is
                    waiting for this node.
                P - Page disabled:
                    User of this node does not wish to allow
                    users of other nodes to page him for chat
                    or send him node-to-node messages.

  sysflags = modes that are sysop settable/viewable only:
                A - Anonymous:
                    User on this node is in anonymous mode.
                D - Down:
                    This node will be shutdown as soon as possible.
                E - Event:
                    This node will run it's daily event (if one
                    is specified) before waiting for another
                    call.
                I - Node will be interrupted:
```

```
                    Node connection will be terminated as soon
                    as possible.
                Q - Quiet:
                    User on this node is in quiet mode.
                R - Rerun:
                    This node will Rerun when user logs off.
                U - User data update:
                    This user's data has been modified by
                    another node and needs to be read from
                    disk.

If the node is not in use, the possible status are:
        Offline: Node is not currently running Synchronet
        Waiting for Call: Node is waiting for a call.
        Networking: Node is currently executing network functions.
        New User Logging On: A user is logging on as new.
        Waiting for all nodes to become inactive.
        Running external event.
        Waiting for node # to finish external event.
```

[18.6] - Appendix F: Log File Line Type Specifiers

Each line in the daily caller log has a line type specifier (the first 2 characters). The specifiers and their descriptions follow:

```
!! Critical error
!* User auto-deleted
!% User expired
!= New day for statistics
!: Ran event
@  Modem connection established
@- Modem connection terminated
@! Modem error
@* Caller-ID information
@R RIP support detected
@W WIP support detected
++ Logon
+! Logon error
N  New user begins application
N+ New user finishes application
N! New user fails application
S+ Sysop enabling function
S- Sysop disabling function
S! Sysop security error
P+ Posted message
P- Removed message
P! Posting error
E  Read E-mail
E- Deleted E-mail
E+ Sent E-mail
EN Sent NetMail
```

```
E! E-mail error
C  Chat function
U+ Upload
U- Removed Upload
U! Attempted upload
D- Download
D! Attempted download
X- External program execution
T- Read text file
M+ Moved message
Q! QWK error
L! Log already exists (possible crash)
$+ Gained credits
$- Lost credits
*+ Gained minutes
*- Lost minutes
```

To view today's caller log, hit 'L' from the WFC screen or ";LOG" from the main menu. Yesterday's caller log can be viewed by hitting 'Y' at the WFC screen, or ";YLOG" from the main menu. The log files are stored in the DATA\LOGS directory with a file for each day named in the format: MMDDYY.LOG.

[18.7] - Appendix G: File Formats

XTRN.DAT

This is the drop file that Synchronet creates for Synchronet specific external programs. It is an ASCII text file with the format as follows:

Sample Data	**Description**
Digital Man	User name
Vertrauen	System name
digital man	System operator
The Guru	System guru
..\CTRL\	CTRL directory
..\DATA\	DATA directory
5	Total nodes on system
5	Current node number
19448	Time left online (in seconds)
Yes	ANSI ? (Yes/No/Mono)
24	Lines per screen
10770335	Credits
99	Security Level
	-unused-
12/31/69	Birthdate
M	Sex (Gender)
1	User number
714-529-9525	User phone number
0	COM port (0 if no modem or local)
3	COM port IRQ (or channel number) [1]

2f8	COM port I/O address (in hex) [2]
2400	COM port DTE rate
No	Modem uses hardware flow ctrl (Y/N)
No	Modem locked at DTE rate (Y/N)
ATQ0V0E0M1X4&C1&D2H0	Modem initialization string
	Modem special init string
ATV1E1X4	Modem terminal mode init string
ATDT	Modem dial prefix
ATH1M0	Modem off-hook string
ATA	Modem answer string
795154132	Address of Modem Status Register
11	Number of External Programs
Global War	Names of External Programs (or blank
Trade Wars 2002	if user doesn't have access)
Food Fight!	
Pit Fiend][	
Dice War	
Synchronet Blackjack!	
Domain Poker	
Phantasia	
Emperor	
Synchronet Upgrade Door	
Credit Card Order Door	
AB D F J	User's Flags #1
BC G JK N	User's Flags #2
A L T	User's Exemptions
D	User's Restrictions
2b43cfd0	Expiration Date (Unix format in hex)
PO Box 501	User's Address
Yorba Linda, Ca	User's Location
92686	User's Zip/Postal Code
A E	User's Flags #3
B EFG	User's Flags #4
1	Timeslice API types
Rob Swindell	User's real name or company name
14400	User's DCE rate
..\EXEC\	EXEC directory (BBS executable files)
..\TEXT\	TEXT directory (TEXT files)
TEMP\	TEMP directory
VERT	System's QWK ID
22C8	Node toggle options (in hex)

~~~~~~

[1]: IRQ line if UART COM port type or Channel (zero based) if Int 14h type
[2]: I/O base address if UART COM port type or:

- F = FOSSIL
- B = PC BIOS
- E = PS/2 BIOS
- D = DigiBoard
~~~~~~

MODUSER.DAT

This is an optional file created by external programs to modify the data of the current user. It is an ASCII text file with the format:

Sample Data	Description
-500	Credit Adjustment
60	Security Level
	-unused-
AB E I	Flags #1 to add
G	Flags #2 to add
A P T	Exemptions to add
	Restrictions to add
2b43cfd0	Expiration Date (Unix format in hex)
0	Add these number of minutes to bank
XYZ	Flags #3 to add
TUV	Flags #4 to add
J	Flags #1 to remove
L	Flags #2 to remove
	Flags #3 to remove
	Flags #4 to remove
D	Exemptions to remove
A	Restrictions to remove

If any of the lines in the file are blank, that user item is not modified. The security level cannot exceed 89.

NOTE: Technical specifications and C source code for Synchronet configuration and data files can be downloaded from our BBS.

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[19.0] - Glossary

Alias:
False name that a user is known as. The use of Aliases is common on BBSs. Synchronet allows the sysop to disallow the use of them, forcing all users to be known by their real names.

ANSI:
American National Standards Institute. References made to ANSI are actually referring to the ANSI X3.64 terminal definition and the related escape sequences used to change cursor positioning and text attributes.

Archive:
A file that contains multiple (possibly compressed) files, that can be expanded. Archived files usually have a specific extension that specifies what type of archive utility was used to create it.
The most popular archive utilities are PKZIP (.ZIP files), LHARC (.LZH), and ARJ (.ARJ files).

ASCII:
American Standard Code of Information Interchange. A 7 bit binary code used to represent letters, numbers, symbols, and control codes. Supported by almost every computer and terminal manufacturer.
See Extended ASCII.

Baja:
Baja (b„'h„) is a tool used to create command shells and modules for Synchronet multinode BBS software (see DOCS\BAJA.DOC).

Baud:
An obsolete term defining the number of signal-level changes per second. The CCITT now prefers to use "symbols per second". For example a V.22bis connection transfers only 600 symbols per second, but in this protocol each symbol can represent up to four values; thus, you have an effective transmission rate of 2,400 bps. V.32 is a 2,400 symbol-per-second (9,600-bps) modulation protocol.

BBS:
Bulletin Board System. A system configured to accept users via modem or network to access public and private messages. Many BBSs also

incorporate file transfers (the uploading and downloading of program and data files), information services, online entertainment, and more. On a multinode BBS, all nodes must use the same live database for users, messages, and file transfers.

BPS:

Bits Per Second or Bit Rate. The rate of data transmitted between modems. For every byte of data (8 bits), a start and stop bit are added for a total of ten bits per data byte.

Chat:

Online real-time communication between users either in line by line (multinode chat) or key by key (private chat).

COM Port:

RS-232 communications port on an IBM PC compatible computer through which digital signals are exchanged between it and the modem (or other peripheral). The interface is either a 25 or 9 pin male connector.

Command Line:

The complete syntax used for the execution of a program. Includes the program path and name to execute and any parameters that may be required by the program for proper execution. Command lines configured in SCFG can use special command line specifiers for variable parameter replacement. See Appendix A for more information.

Compression:

See Archive.

Conference Mail:

See EchoMail.

Co-sysop:

BBS user with additional privileges to enable partial system maintenance. Co-sysops on a Synchronet system would usually have a security level in the range 80-89 and have an exemption flag for each sysop function he is given rights to.

CR:

Carriage Return. This character represents the end of a line of text and is usually initiated with the ENTER key on most keyboards.

CrashMail:

Referring to FidoNet NetMail being sent immediately and directly (not routed) to the BBS or network address of the destination person. A more accurate term would be Crash NetMail, or NetMail with Crash status.

Decompression:

See Extraction.

Directory:
A section within a file library that contains files for uploading or downloading. Also known as a file area.

Download:
Transferring a file from a BBS or other host system to a remote computer.

DCE:
Data Communications Equipment. Dial-up modems that establish and control the data link via the telephone network.

DCE Rate:
The data transfer rate between two modems.

DTE:
Data Terminal Equipment. The device that generates or is the final destination of data - the computer.

DTE Rate:
The data transfer rate between the computer and the modem.

Echo:
The term "Echo" or "Echo Conference" is often used to refer to a sub-board where messages are distributed across a message network. The term actually comes from FidoNet EchoMail - the technology used to distribute sub-board messages across FidoNet.

EchoMail (Conference Mail):
Sub-board messages echoed across FidoNet in compressed packets.

EchoMail Program:
If the front-end mailer does not directly support EchoMail, an EchoMail program is necessary. TosScan, Squish, GEcho, and FreeMail are examples of EchoMail programs.

E-mail or Electronic Mail:
Private multiple line messages between users that are stored on a BBS until the receiver deletes them.

Escape Sequence:
A sequence of characters usually preceded by a control code to perform attribute changes and cursor positioning on a terminal.
See ANSI.

Exemptions:
Extended privileges given to users to remove access limitations or provide access to certain sysop functions.
See User Edit for more information.

External Programs:

Programs (.COM, .EXE, or .BAT files) that the BBS executes for added functionality. External programs are used for archive manipulation, file transfers, games, databases, text editors, virus scanning, backups, and more. Often referred to as doors or chains.

Extraction:
The splitting (and possible decompression) of an archived file into the original set of multiple files.
See Archive.

File Transfer Protocol:
See Transfer Protocol.

Flag:
One of 26 possible switches labeled A through Z. Flags are used to represent specific security privileges or restrictions for a user. See User Edit for more information.

Front-end Mailer:
An EMSI compatible FidoNet message front-end. FrontDoor, SEAdog, Binkley, and D'bridge are examples of front-end mailers.

Group or Message Group:
A group of message sub-boards with a similar subject matter.

Hardware Flow Control:
The modem's use of the CTS (Clear to Send) line to control the flow of data to from the computer to the modem.

LAN or Local Area Network:
A group of personal computers connected in a local environment for the purpose of sharing data, applications, and peripherals.

Level or Security Level:
A decimal value in the range of 0 to 99 that determines a user's security level on Synchronet BBS. A user's level determines how long he can stay online per call, total time per day, total logons a day, maximum number of lines per message, which Message Groups, Sub-boards, External Programs, General Text File Sections, Transfer Libraries, and Directories the user can access.

Library or Lib:
A group of transfer directories with a similar subject matter.

Logon:
The act of entering a BBS system through a valid user account.

Message:
File stored on the system created by a user that may contain ASCII text ,Ctrl-A codes, and ANSI escape sequences. Messages are either public (posted on a sub-board) or private (E-mail sent to a single user).

Message Network:
Two or more BBSs sharing public message sub-boards (Aka Echoes) where messages posted on one BBS get distributed to the other BBSs on the network. There are many different network technologies used for the distribution of networked messages. Synchronet supports the most popular technologies; QWK, FidoNet, and PostLink.

Multinode:
System that operates with multiple simultaneous access paths to the same database of messages and other resources.

Multitask:
The act of performing multiple tasks seemingly simultaneously.

Modem:
A device that transmits/receives computer data through a communications channel such as radio or telephone lines. Modems modulate, or transform, digital signals from a computer into an analog form that can be carried successfully on a phone line. Modems also demodulate signals received from the phone link back to digital signals before passing them to the receiving computer.

NetMail:
A personal message sent to a specific person on a specific BBS or at a specific network address through a message network. Most commonly used in reference to FidoNet NetMail.

Network:
Connection of two or more computers to facilitate the sharing of resources. See LAN and Message Network.

NUP or New User Password:
A password that the sysop has determined as a requirement before a new user can apply for access.

Online:
The state of a user when he is currently using a BBS.

Offline:
The state of a BBS or BBS Node when it is not able to receive users and the state of a user when he is not currently using the BBS.

Post:
The act of a user writing and saving a message on a sub-board.

Protocol:
A system of rules and procedures governing communications between two or more devices. Protocols vary, but communicating devices must follow the same protocol in order to exchange data. The format of the data, readiness to receive or send, error detection and error correction are

some of the operations that may be defined in protocols. See Transfer Protocol.

QWK Packet:
A single compressed file, usually created by PKZIP, that contains new messages, E-mail, sysop bulletins, and a list of new files that can be downloaded by a user for use with an offline message reader. The filename is the BBS ID followed by a .QWK extension (regardless of the compression method). The developer of this packet format was Mark Herring (Sparky) of Sparkware, for use with his Qmail Door (external program). There are many popular offline message readers that support the QWK format. QWK packets may also be used for message networking.

REP Packet:
A QWK reply packet. Also, a single compressed file, usually created by PKZIP, that contains e-mail or posts from the user that he/she created with an offline message reader. The filename is the BBS ID followed by a .REP extension. The packet must be uploaded by the user before the messages and e-mail can be sent to the destination users or posted.

Restrictions:
Flags that a sysop can place on a user to restrict the user from certain features of a BBS.

RS-232:
Interface standard developed by the Electronic Industries Association (EIA) to define the signals and voltages used when data is exchanged between a computer or terminal and a modem or serial printer. Data is usually transmitted via a cable with a 9 or 25 pin connector.

SCFG:
Synchronet configuration program. This program is run locally by hitting C at the waiting for call screen or by running "SCFG" from any node directory.

Serial Port:
See COM Port.

Sub-board:
A section within a message group that contains multiple messages posted by users on a specific topic. Also referred to as a conference, forum, or special interest group (SIG).

Sysop:
System Operator. A person who participates in the maintenance or management of a BBS. In Synchronet, sysops are defined as users with a security level of 90 or greater.

Text File Sections:
Areas for the storage of text files that the sysop wants users to have the ability to read. Often referred to as general text file sections.

Common text files would be information about the BBS, ANSI art work, and documents on debatable subjects. Text files placed in text file sections do not get purged as public messages do and are not part of the transfer section, so credits and transfer access are not required.

Transfer Protocol:

A protocol designed to govern the transmission of files between two computer systems. BBS transfer protocols are usually specific to modem transmissions. The most common of which are Xmodem, Ymodem, and Zmodem. Most communications programs contain built-in protocol support and stand-alone transfer protocol programs (like Omen Technology's DSZ) are also available.

Throughput:

The effective rate of data flow for a file transfer, measured in bits per second. Throughput depends on the connect rate and the error-control and data-compression protocols, if any.

UART:

Universal Asynchronous Receiver Transmitter. The IC (Integrated Circuit) that controls the serial port I/O. You must have a UART for each COM port in your computer. The most common UARTs for IBM PCs are NS8250s and NS16450s. If you are using a high-speed (9600bps or higher) modem with your COM port and having communication problems, quite often the only solution is to replace your UART for that COM port with a buffered UART, usually an NS16550AFN. More modern UARTs are being integrated with other peripheral controller ICs into a single chip (or chip-set). This design does not allow for the replacement of the actual UART. Internal modems have their own built-in UART.

Upload:

Transferring a file from a remote computer to a BBS or other host system.

User to User Transfer:

An upload that is sent to a particular user or set of users. These transfers are only allowed if the sysop creates a sub-board with a short name of "User". The sysop should set the access level to 90 and the upload level to something in the user range to allow users to upload to the directory, but not be able to list the contents of the directory. A user performs a user to user upload with the '/U' command from the transfer menu, and the destination user(s) can download the file with the '/D' command.

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Synchronet Version 2 (for DOS and OS/2) and its source code was released to the Public Domain by Digital Dynamics in 1997 and remains Public Domain software today. Synchronet Version 3 is not Public Domain software.

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