United States Environmental Protection Agency
Office of Air Quality Planning and Standards Research Triangle Park NC 27711
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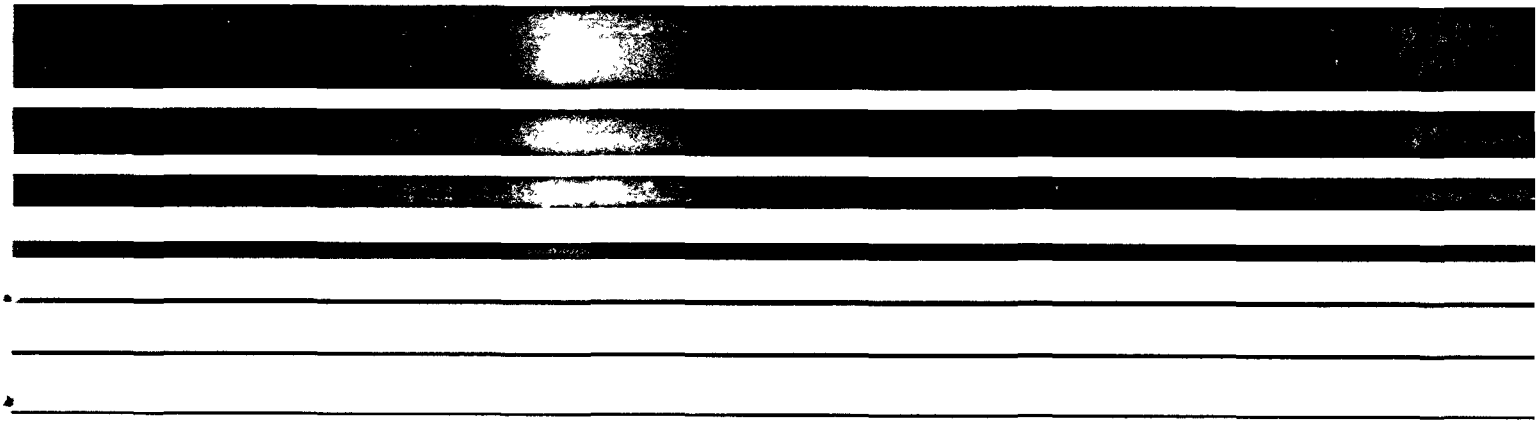
Air

EPA

Office of Air Quality Planning and Standards (OAQPS) Technology Transfer Network (TTN)

User's Manual



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Office of Air Quality Planning and Standards (OAQPS) Technology Transfer Network (TTN)

User's Manual

Prepared for
U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Technical Support Division (MD-14)
Research Triangle Park, NC 27711
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OAQPS TECHNOLOGY TRANSFER NETWORK
USERS MANUAL

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

SECTION 1

INTRODUCTION

The Office of Air Quality Planning and Standards (OAQPS) has been charged by Congress under the Clean Air Act to protect and enhance the quality of the Nation's air resources to promote public health and welfare. OAQPS is responsible for developing national programs, technical polices, regulations, guidelines and criteria for air pollution control. OAQPS supports activities by State and local governments for the prevention and control of air pollution.

The Office of Air Quality Planning and Standards (OAQPS) Technology Transfer Network (TTN) is an electronic bulletin board system that is used to facilitate communications and disseminate technical information among EPA staff, EPA Regional Offices, and State and local agencies. The TTN also provides communication and information services to private industry, environmental consultants, educational institutions and individuals engaged in environmental issues and projects.

This guide describes how to access the OAQPS TTN and explains the commands and features of the system. The most recent version of this manual is always available for downloading from the System Utilities Menu of the TTN under the menu item "TTN User's Manual". It is located in the file MANUAL.ZIP.

1.1. WHAT IS AN ELECTRONIC BULLETIN BOARD SYSTEM?

A Bulletin Board System (BBS) is a computer system comprised of hardware and software that receives telephone calls from other computers. The BBS concept began as a means for users to enter messages and read messages addressed to them by other users. Today's BBS performs a variety of services that include the exchange of programs, software, databases and files of all descriptions. The most important function of a BBS is to expedite and promote the exchange of information through easy and friendly access. Users are free to visit at their own convenience to scan messages and pick those that are of particular interest and exchange information over long distances and at high speeds. The configuration of each BBS is unique because of the variety of computers, communications equipment and software available to develop a system.

1.2. WHAT IS THE OAQPS TTN?

The OAQPS Technology Transfer Network (TTN) is a multiple bulletin board system offering the caller access to several technically oriented bulletin boards by dialing only one phone number. The network is designed to facilitate communications and provide access to information and technology related to air pollution. The purpose of the network is to foster technology transfer among all parties interested in the solution of the nation's air pollution problems. The network is also designed to be user-friendly and readily accessible from anywhere in the country. It is a forum for technical interchange at the working level among EPA, State and local agencies and the private sector.

The OAQPS TTN runs on an AT class microcomputer. The computer runs at 33 megahertz clock speed and has over 800 megabytes of disk storage provided by two hard disk drives. The hard disks are controlled by a Small Computer System Interface (SCSI) disk controller. The TTN software is the 32 line version of The Bread Board System (TBBS), by eSoft, Inc. The system can support 32 users at one time simultaneously downloading the same software, sharing the same files and messages on the system. The system has the capability of executing online and sharing programs written and compiled using a subset of data base computer language code.

Presently, the Technology Transfer Network is comprised of the following bulletin boards:

OAQPS - Office of Air Quality Planning and Standards

EMTIC - Emission Measurement Technical Information Center

SCRAM - Support Center for Regulatory Air Models

CHIEF - Clearinghouse for Inventories and Emission Factors

CAAA - Clean Air Act Amendments

APTI - Air Pollution Training Institute

CTC - Control Technology Center

The following are bulletin boards that are planned for the near future:

AMTIC - Ambient Monitoring Technical Information Center
To be implemented late 1991.

AIRS - Aerometric Information Retrieval System
Planned for the future.

NSR - New Source Review
Planned for the future.

See Appendix D, Bulletin Board Descriptions, for a more detailed description of each BBS presently in the TTN.

1.3. MAJOR FEATURES OF THE TTN

The TTN is a multi-board system that supports complete and separate BBS systems. The user has access to many BBS systems by simply dialing one telephone number. The TTN provides utility features that are applicable to all boards but each BBS within the TTN has certain features that are unique. The major features of the OAQPS TTN include:

- File Transfer: Each BBS within the TTN has a variety of files, programs and databases that can be downloaded to a PC. You can transfer these files from the TTN by using an appropriate communications software program and a modem. You can also upload files to the TTN for use by others.

- Electronic Messages: E-MAIL messages are exchanged with other TTN users. Private messages can be exchanged with specific individuals that only the sender and receiver can see. Most TTN boards also provide public messages that all can read in order to promote open discussions for anyone interested in responding to technical questions and issues pertaining to a particular board.

- Utilities: A number of utilities are provided that make life easier and fun for the TTN user. Such things as a online registry search, recent callers, top downloads, who else is on the system and many more items of interest are available.

- Online Conferencing: Callers can communicate online with other callers who are currently logged on to the system. Public and private online conferences are provided.

- Data Base Online Applications: A number of applications are provided that can be executed and shared online by TTN users. These applications are data base programs that are written and compiled for real time execution on the TTN.

- Subject Conferencing: On some bulletin boards, conferences are provided that are dedicated to a specific subject area. You may exchange messages of interest with other members of the conference.

1.4. WHAT YOU NEED TO ACCESS THE TTN

There are three basic components that you will need in order to access the TTN. You will need the following:

- Personal Computer or Terminal: Almost any computer or terminal will suffice, as long as it can connect via a modem to a telephone line. Using a computer is preferable to using a terminal since it will allow additional capabilities such as transferring files between your computer and the TTN. An AT compatible computer is recommended for the highest compatibility with the TTN.

- Modem: A modem is used to connect your computer or terminal to the telephone line. Almost any 1200 or 2400 baud modem will work. Cables and telephone jacks are required to connect your modem to your computer or terminal and to the telephone system. Service is also provided for 9600 baud modems that adhere to the V.32 standard for 9600 baud modems.

- Communications Program: Communications software is necessary if you are using a computer to connect to the TTN. Terminals have built-in communications programs. You need to make sure that the communications program you select is compatible with your computer and modem. For the highest compatibility with the TTN, choose a program that can support Xmodem, Ymodem, Kermit or Zmodem file transfer protocols. In order to display PC graphics and colors properly your program should support VT100 or VT102 terminal emulation.

SECTION 2

HOW TO USE THE OAQPS TTN

Before connecting to the OAQPS TTN, you must first set certain parameters in your terminal or communications program so that your system speaks the same language as the TTN. Most communications programs have a "setup" or "communication parameters" screen that allows you to make these settings.

2.1. CONFIGURING YOUR SYSTEM

You must set your system to operate at 1200, 2400 or 9600 baud (depending upon your modem's capabilities), 8 data bits, 1 stop bit and no parity. If you dial up the TTN and receive unintelligible character strings or cannot get further than the initial prompts for the name and location you are calling from, then it is very likely that one or more of these parameters have not been set correctly in your system. If this happens, hang up, reset these parameters and dial again. The following table lists the required and optional parameters for getting the most out of the TTN display:

1) Name	OAQPS TTN	Optional; name in your dialing directory.
2) Number	(919) 541-5742 (919) 541-1447	Required; 1200/2400 baud Required; 9600 baud Use area codes, "9" or "8" prefix where appropriate.
3) Data Bits	8	Required
4) Parity	None	Required
5) Stop Bit	1	Required
6) Emulation	VT100	Optional; required to display PC graphics and colors, if your system supports it.
7) Duplex	Full	Required

There are often many other settings that can be made on a terminal or in a communications program. The other settings will most likely depend on your computer, modem or your own personal preferences.

Computer communications is often confusing and frustrating even for the experienced computer user. It is far beyond the scope of this document to cover the cryptic vocabulary, profusion of parameters and diversity of equipment possible in this field. If you are a novice or have trouble getting your equipment or software to work correctly, we suggest that you find someone in your office who can help you get through the first session.

2.2. MAKING A CONNECTION

Once you have made the settings as described in the above section, "Configuring Your System", you are ready to dial up the TTN. Be sure to set your modem to call (919) 541-5742 for 2400/1200 baud or (919) 541-1447 for 9600 baud.

If your modem allows you to monitor the call, you will hear the number being dialed, one or two rings, then the phone being answered, a high-pitched tone (the carrier signal from the TTN modem) and another high-pitched tone (your own modem's carrier signal). If you cannot hear what is going on, then wait patiently; it usually takes several seconds for a connection to be made.

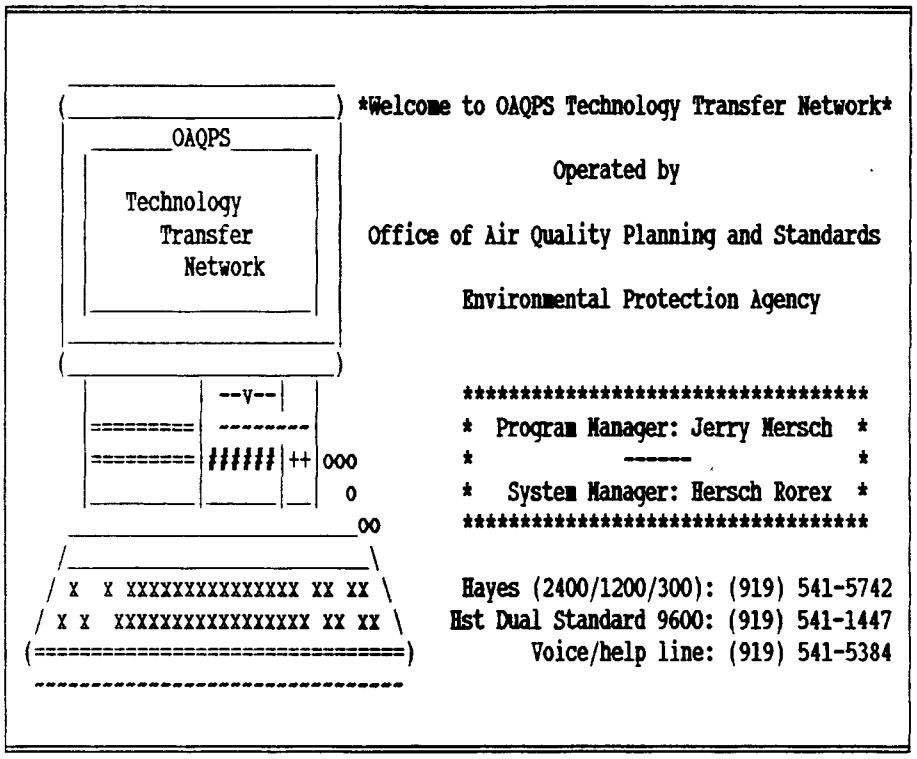
As soon as a connection is made, your computer will usually notify you with the message "CONNECT" or "CONNECT 2400". If nothing happens within a reasonable period of time, then hang up and return to the "Configuring Your System" section above to make sure your communications parameters are set correctly. You might also check to see if you are using the right type of cable to connect your modem to your computer or terminal and that the modem is properly connected to the telephone system.

If you hear a busy signal when you dial in, then all of the phone lines to the TTN are already in use by other callers. Try calling back in a few minutes.

If the phone does not answer when you dial in, then the Board is most likely not available, either due to routine maintenance or because of some unexpected malfunction. TTN routine maintenance occurs every Monday morning from 8:00 AM to 12:00 Noon eastern time. This time is reserved for system maintenance and backup.

2.3. LOGGING ON FOR THE FIRST TIME

Once you have successfully connected to the TTN you will see the TTN "welcome" screen similar to the following:



This screen contains information that identifies the Program and System managers, telephone numbers for the various modem speeds and where to call for help.

After the welcome screen you will see the prompt:

First Name?

Respond to this prompt with your real first name. Company or generic names are not permitted. Do not use made up names or "handles". Not following these guidelines could cause your registration to be rejected. Press return after you have entered your first name.

The next prompt you see is:

Last Name?

Enter your real last name. It is important that you enter both your first and last names accurately and use exactly the same name every time you logon to the TTN. Otherwise, the TTN will not find you in the user log of authorized callers. For example, if you logon the first time as William Smith and the next time as Bill Smith, the TTN will take Bill Smith as a new and unregistered user.

The next prompt is:

Calling from (City,State)?

Enter the city and state you are calling from. This information is stored by the system and is presented for verification each time you logon.

Because this is your first time to logon, you will be asked to supply information about your computer. The "provided" answers to the following questions assume an IBM PC or clone:

 # Chars per line on screen(10-132)? 80

The following video terminal options are presented. Enter F if you have an IBM PC or compatible.

<A>VIDTEX <B>TRS-80 1/3 <C>VT-52 <D>ATARI
<E>H19/H89/Z19 <F>IBM PC <G>TELEVID 925 <H>VT-100

Enter letter of your terminal, <CR> if not listed: F

The System sets default values for various parameters based on the terminal or computer type that was selected in the previous question. If <F> was selected, the following defaults are set and printed as follows:

Terminal Profile Set to:
ANSI codes Allowed
IBM Graphics Allowed
Upper/Lower Case
Line Feeds Needed
0 Nulls after each <CR>

If these values are correct for your computer, then answer the next question as follows:

Do you wish to modify this? N

For computers or communications software that do not support ANSI graphics or IBM graphics, answer the previous question with a "Y". As a result of answering "Y" to the above question, a further list of questions will follow. Answer each of the following questions appropriately for your particular computer:

Can your terminal display ANSI codes?

Can your terminal display IBM Graphics Characters?

These settings may be changed at any time from the Systems Utilities menu by selecting <C>hange Terminal Configuration.

The next two questions determine how menus and text are presented on the screen. The TTN menus are designed for 24 line screen displays. Answer the following questions as follows:

Do you wish to have a pause after each display page (Y/N)? Y

How many lines per Display page (10-80)? 24

The next prompt provides for a password of your choosing that will be required each time you logon to the system. The prompt is as follows:

Please Enter a 1-8 character Password to be used for future logons. This password may contain any printable characters you wish. Lower case is considered different from upper case and imbedded blanks are legal. REMEMBER THIS PASSWORD. You will need it to log on again.

Your Password?

After you have entered your password, a message appears stating that you are caller number "nnn" and that you are authorized 30 minutes for this call. Unregistered users are given 30 minutes per call. A welcome letter will now be displayed, followed by the TTN operating schedule.

2.4. NEW USER REGISTRATION

After having completed the events described in the above section "LOGGING ON FOR THE FIRST TIME", you will be in the Unregistered User's Main Menu. As an unregistered user, access is limited to viewing the descriptions of each TTN BBS, and browsing in the Systems Utilities Menu. Registering as a new user is actually a two-step process.

First, you must provide the system with some basic information that it keeps on all callers. Enter <R> from the Unregistered User's Main Menu and respond to the prompts for Name, Address, Zip, Telephone, Company, and Board of primary interest. Please, only specify one board that you have a primary interest in for your specific needs. This gives the systems operators some idea of the interest that is generated for each BBS. Once registered you will have full and unlimited access to all BBSs within the TTN usually the next business day following registration. Please do not register more than one time. Company or generic names are not allowed and will not be registered. When responding to the prompt for name, enter the same name under which you logged onto the TTN.

Second, all registrations are subject to review by the systems operator. Registrations are reviewed each working day morning following the registration day. Once registration has been approved, you will have full access to the TTN.

2.5. LOGGING ON AS A REGISTERED USER

The sequence of events when Logging onto the TTN as a registered user are much different than the first time as a new user. You will see the same "Welcome" screen that identifies the Program and System manager, telephone numbers for the various modem types/speeds and where to call for help. You will respond to the following prompts:

First Name?

Last Name?

Calling from (City,State)?

Password?

The TTN will recognize you as a registered user, indicate where you are calling from and ask you to verify your location. You will then be informed if you have any messages waiting and at this time be given the opportunity to read the messages or wait until accessing a private E-MAIL area in one of the TTN bulletin boards. You will then be placed in the OAQPS TTN Registered Users TOP Menu. This is the menu in the system that provides access to all TTN Bulletin Boards and the Systems Utilities Menu.

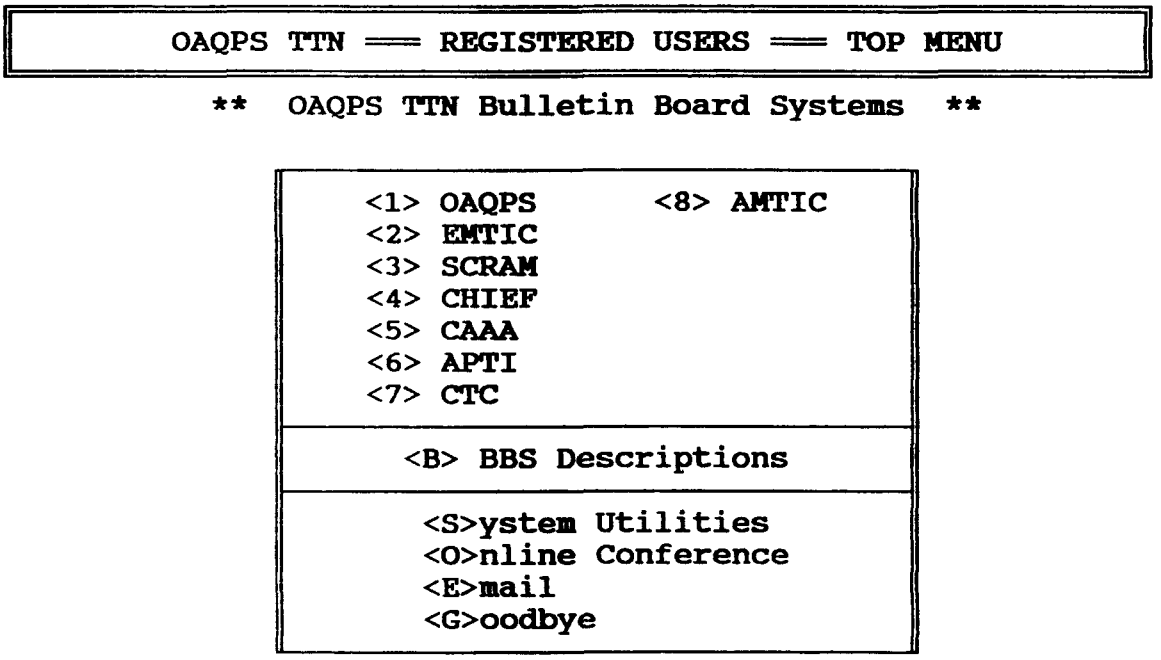
SECTION 3

SYSTEM FEATURES

The TTN has many features that a beginner will not be familiar with unless he or she has some experience accessing electronic bulletin boards, especially bulletin boards using TBBS software from eSoft, Inc. The commands available in bulletin board software are not exactly the same for every system in today's market. However, once familiarity has been gained with one particular system, commands can be related to those of another.

3.1 MULTIPLE BULLETIN BOARD SYSTEMS

The TTN is a multiple bulletin board system. The system is presently comprised of seven BBSs. Not all of the features described in this section are supported within each BBS since some may not be appropriate to the functions of a specific BBS. The TTN provides access to all BBSs under one telephone number. The TTN Top Menu provides access to each BBS within the TTN and the structure of the menu is as follows:



The Structure of this TOP MENU will change as new bulletin boards are added to the TTN.

3.2. FILE TRANSFERS

Transferring files between your computer and TTN is called "downloading" and "uploading". Downloading occurs when you request TTN to send a file "down" to your computer. Uploading occurs when you send a file from your computer "up" to TTN.

3.3. FILE TRANSFER PROTOCOLS

File transfer protocols (methods) defined and available in communications software programs provide a means for transferring files while communicating with various other computers. Protocols provide a common denominator for file transfer. Both sending and receiving computers must use the same protocol for transferring files. The TTN provides the following commonly used file transfer protocols:

XMODEM
YMODEM
KERMIT
SuperKERMIT
ZMODEM *

* Note: ZMODEM to be incorporated in the next version of TBBS software due in the fall of 1991.

See Appendix A, BBS Commands, under "File Downloading Commands" for a description of each file transfer protocol option and the use of each protocol that is available on the TTN.

3.4. FILE DOWNLOADING

There are two steps involved in file downloading. The first step involves setting up the TTN to send a file you have chosen to download.

The second step involves setting your communications software to receive the file. The second step is unique to your software. The keystrokes involved in setting up your software to receive a file vary according to the particular communications software you are using to connect to the TTN. Consult your communications software manual for instructions.

The two steps required for downloading are outlined below:

Step 1 - Setting TTN to send a file

Select a file you wish to download from one of the TTN download directories. The following download directory is a typical directory from which a file can be downloaded:

Regulatory Models

Programs and instructions for dearchiving compressed files can be found via <S>ystems Utilities from the Top menu under <A>rchivers/dearchivers.

NAME	Bytes	Date	Description
BLP.ARC	290682	3/30/90	PC version EXE included.
CALINE3.ZIP	52564	6/13/91	PC version EXE included.
CDM2.ARC	113441	5/08/89	PC version EXE included.
CRSTER.ARC	141579	2/21/90	PC version EXE included.
EKMA1.ARC	175440	6/06/90	EKMA source/test cases.
EKMA2.ARC	143737	3/27/90	EKMA PC EXE file.
EKMA3.ARC	286553	6/06/90	EKMA Input Generator.
ISCLT.ARC	240408	1/10/90	PC version EXE included.
ISCST.ARC	199685	2/12/91	PC version EXE included.
MPTER.ZIP	109979	4/16/91	PC version EXE included.
RAM.ARC	210913	1/24/90	PC version EXE included.

<D>ownload, <P>rotocol, <E>xamine, <N>ew, <H>elp, or <L>ist Selection or <CR> to exit:

Before downloading a file you must choose a download protocol as discussed in section 3.3. If you wish, you may set a download default protocol such that each time you download a file the TTN will not ask what protocol to use and will always use your default protocol. Default protocols can be set from the Systems Utilities Menu under "<C>hange Terminal Configuration". All of the user profile configuration commands are discussed in Appendix A, BBS Commands, under User Profile Configuration Commands.

If you have already set a default protocol for downloading, simply type the name of the file you want to download and the TTN will give an estimate of the time required to download the file and will be ready for a start signal from your communications software. If not, type the name of the file and TTN will present the following protocol menu from which you must choose a protocol that your software supports:

```
Select from the following transfer protocols:

1 - TYPE file to your screen
2 - ASCII with DC2/DC4 Capture
3 - ASCII only, no Control Codes
4 - XMODEM
5 - YMODEM/YMODEM-g
6 - YMODEM/YMODEM-g Batch
7 - SEALINK
8 - KERMIT
9 - SuperKermit (Sliding Windows)

Choose one (Q to Quit)? 4
```

The above example shows XMODEM as the download protocol selected as a result of entering "4". TTN provides command stacking, which means that multiple commands can be entered on the same line separated by spaces. This eliminates some of the keystrokes involved in setting up files for downloading when a default protocol has not been set. The following statement is an example of command stacking that will prepare the TTN to download a file using the XMODEM protocol when a default protocol is not in effect:

```
<P 4 Filename.ext>
```

The "P" in the above command line is the command for a transfer protocol selection from the protocol menu. The 4 selects protocol number 4, which is XMODEM, from the protocol menu.

Step 2 - Setting your software to receive a file

After step one has been completed, you will be given an estimate of the time required to download at the baud rate you are connected. A message will indicate that the download process is awaiting a start signal from your communications software:

(Awaiting Start Signal)

At this point you **must** prepare your communications software to receive a file using the same protocol that you selected from the TTN protocol menu or your default protocol. The procedure for doing this requires familiarity with your software. You should refer to your documentation, user's guide or reference manual for instructions pertaining to your particular software.

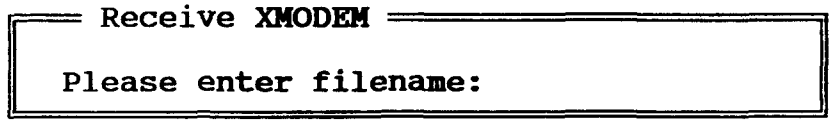
The following are provided as examples of the keystrokes required for setting up PROCOMM or PCPLUS and CROSSTALK (XTALK) to receive files:

***** THE KEYSTROKES REQUIRED TO DOWNLOAD FOR PROCOMM OR PCPLUS:**

<Page down> Press the "page down" key on your keyboard. The PROCOMM protocol menu is displayed. Select the same protocol you selected from the TTN protocol menu and press <Enter>.

If you have chosen KERMIT as your transfer protocol, the download begins and upon completion the file will appear in the PROCOMM or PCPLUS directory of your computer.

If you have chosen **XMODEM** or some other protocol that allows file renaming or file redirection, you will be prompted for a file name. At this time, if you wish, you can enter a path to direct the file to some other drive or directory. The following prompt appears:



The following statement would direct the file to your floppy drive A:

<A:Filename.ext>

***** THE KEYSTROKES REQUIRED TO DOWNLOAD USING CROSSTALK ARE:**

<HOME> Press the Home Key on your keyboard

CROSSTALK responds with a command prompt at the bottom of your screen in the form of a question: "COMMAND?"

<RX> CROSSTALK command to receive using XMODEM
or
<RK> CROSSTALK command to receive using KERMIT

If you have chosen KERMIT as your transfer protocol, the download begins and upon completion the file will appear in the CROSSTALK directory of your computer.

If you have chosen XMODEM as your download protocol, you will be prompted for a file name and you can specify another drive or directory by including a drive letter and/or directory name. For example: a:\mydir\file.ext.

See Appendix A, BBS Commands, under "File Downloading Commands" for a description of each file downloading command.

3.5. FILE UPLOADING

There are two steps involved in uploading a file from your computer to the TTN. The first step involves setting up the TTN to receive a file you want to upload.

The second step involves setting up your communications software to send the file. The second step is unique. The keystrokes involved in setting up your software to send a file varies according to the particular communications software you are using to connect to the TTN.

The two steps required for uploading are outlined below:

Step 1 - Setting up the TTN to receive a file

You must use one of the appropriate upload areas provided on the TTN. Each BBS that permits uploads has provided a menu key for uploading. Press the appropriate key provided on the upload menu in order to activate the upload process. The following prompt will be displayed on your screen:

"Enter a 1-12 character file name:"

At this prompt enter a name that you want your file to have when uploaded to the TTN. The file name must conform to the DOS file naming convention of not more than 8 characters for the file name and not more than 3 characters for the extension name, (example: myupload.txt). The TTN will now prompt for a description of the file you are uploading. The following prompt will be displayed on your screen:

"Description of file (40 characters max)"

After you have entered the description, the TTN protocol menu will be displayed if you have not set a default protocol for uploading files. You will then choose the protocol you wish to use for the upload. This must be a protocol that your software supports.

Select from the following transfer protocols:

1 - Prompted ASCII
2 - ASCII, XON after <CR> rcvd
3 - ASCII, XOFF/XON flow control
4 - XMODEM - Checksum
5 - XMODEM or YMODEM - CRC
6 - YMODEM Batch
7 - SEALINK
8 - KERMIT
9 - SuperKermit (Sliding Windows)
A - YMODEM-g Batch

Choose one (Q to Quit)? 4

The above example shows XMODEM as the upload protocol selected as a result of entering "4".

Step 2 - Setting your communications software to send a file

At this point the following message will be displayed:

File open, ready to receive
(Ctrl-X to abort)

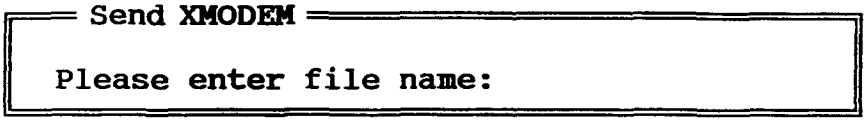
You are now ready to prepare your communications software to send a file using the same protocol that you selected from the TTN protocol menu. The procedure for doing this requires familiarity with your software. You should reference your documentation, user's guide or reference manual for instructions pertaining to your particular software.

The following are provided as examples of the keystrokes required for setting up PROCOMM or PCPLUS and CROSSTALK (XTALK) to send files:

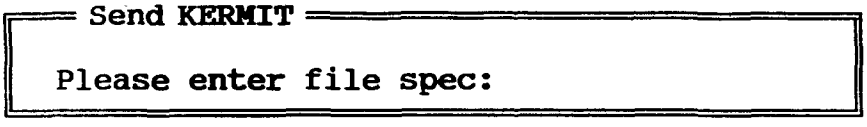
***** THE KEYSTROKES REQUIRED TO UPLOAD FOR PROCOMM OR PCPLUS:**

<Page up> Press the "page up" key on your keyboard. The PROCOMM protocol menu will be displayed. Select the same protocol you selected from the TTN protocol menu.

If XMODEM was selected, the following prompt will appear:



If KERMIT was selected, the following prompt will appear:



<c:\d\f> Enter the drive, directory and name of the file you are uploading, where c=drive, d=directory, f=filename. For example, c:\ulist\ups.rpt will upload the file ups.rpt from your C drive in your ulist directory.

***** THE KEYSTROKES REQUIRED TO UPLOAD USING CROSSTALK ARE:**

<HOME> Press the Home Key on your keyboard

CROSSTALK responds with a command prompt at the bottom of your screen in the form of a question: "COMMAND?"

<XX> CROSSTALK command to send a file using XMODEM
or
<XK> CROSSTALK command to send a file using KERMIT

If you have chosen **KERMIT** as your transfer protocol, the following prompt will appear:

(KERMIT) Enter name of file to transmit:

If you have chosen **XMODEM** as your transfer protocol, the following prompt will appear:

Enter name of file to Xmodem transmit:

Enter the drive, directory and name of the file you are uploading to the TTN.

3.6. MESSAGES

Message service is provided for TTN users in the form of electronic mail. Both private and public messages can be exchanged between TTN users. Private messages are exchanged between two registered users that only the sender and receiver can see. Public messages can be read by any registered user of the system. See Appendix A, BBS Commands, under "Message Entry Commands" and "Message Retrieval Commands" for a complete set of commands covering message options.

3.6.1 PRIVATE MESSAGES

Private E-MAIL is universal to the TTN and can be sent to any registered user regardless of which board (SCRAM, EMTIC, etc.) the user finds of primary interest. E-MAIL menus are accessible from the main menu of each BBS that provides E-MAIL service, usually under "PUBLIC COMMUNICATIONS". E-MAIL can also be sent or read from the TTN Top Menu. The keys for selecting e-mail options may vary from BBS to BBS, but will have a similar appearance as follows:

```
ELECTRONIC MAIL

<S>can Mail
<R>ead Mail
<L> Send Mail
<G>oodbye
<-> Return to Main menu
```

Scanning Private E-MAIL

To scan E-MAIL enter <S> and the system will respond with a list of scan options as follows:

Scan Electronic Mail:
<T>o you
<F>rom you
<B>oth To and From you
<A>bort Scan

Which One?

You can scan messages addressed to you, messages sent from you or both by entering the appropriate letter as indicated above. A scan will display who the message is from, who it is to and the subject. When you select a scan option the system responds with:

Mark for later Retrieval?

If your response is **"N"**, the system displays your messages according to the option you have selected.

If your response is **"Y"**, the system will ask an additional question after each message is displayed as follows:

Mark(Y/N/S)?

You then have the option to mark the message by entering **"Y"** or not marking the message by entering **"N"** or stop and exit the message display mode by entering **"S"**.

Reading Private E-MAIL

To read private E-MAIL enter <R> and the system will respond with a list of options as follows:

Read Electronic Mail:
<T>o you
<F>rom you
<B>oth To and From you
<M>arked Mail
<A>bort Reading Mail

Which One?

The <M> option will display marked messages. Messages are marked either manually by the "Mark" option on a scan as discussed under "Scanning Private E-MAIL" above or automatically if you receive a "message waiting" notification at logon. Marks remain for the entire online session.

Note the options available for private mail are addressed to you or from you. This differs from the public message board where all messages can be read in forward or reverse order.

After a message has been read, the following command options are available as follows:

<F>wd, <D>elete, <A>gain, <R>eply, <N>ext, or <S>top?

<F>wd - forwards the message to another registered user on the TTN E-MAIL message board "MAILBOX" or choose from a list of public message boards
<D>elete - deletes the message
<A>gain - displays the message again
<R>eply - responds to the author of the message
<N>ext - goes to the next message
<S>top - stops reading your messages

Sending Private E-MAIL

To send Private E-MAIL to another user enter <L> and the system will respond with:

Who is the message to?

Enter the registered user's name for whom you want to send mail and the next prompt from the system is:

What is the subject?

Enter the subject of the message. The system will then echo the information you just entered, for example:

To: JOHN SMITH
Subj: EMAIL

The system will then ask if the information is correct and provide an opportunity to change your inputs.

Is this correct(Y/N)?

Once you have verified the information is correct, the system will ask if your message has been prepared off-line and you want to upload it rather than composing it on-line. The prompt is as follows:

Submit Prepared Text(Y/N)?

If you have already prepared text for a message, for example on a floppy disk, you can upload that text into the message area. The text must be in ASCII format. If you have prepared text and respond with "Y" to the above question, the TTN will prompt you for an upload protocol as follows:

Select from the following transfer protocols:

1 - Prompted ASCII
2 - ASCII, XON after <CR> rcvd
3 - ASCII, XOFF/XON flow control
4 - XMODEM - Checksum
5 - XMODEM or YMODEM - CRC
6 - YMODEM Batch
7 - SEALINK
8 - KERMIT
9 - SuperKermit (Sliding Windows)
A - YMODEM-g Batch

Choose one (Q to Quit)? 8

Protocol=KERMIT

File open, ready to receive
(Ctrl-X to abort)

At this point, prepare your communications software to upload a file just as you would with a normal upload. If you are using PROCOMM, for example, press the "PAGE UP" key on your keyboard. PROCOMM will respond with a protocol menu. Select the same protocol that you have chosen from the BBS, in this example case, KERMIT. You will then be asked to enter the location of the file you want to send from your computer.

If you want to compose a message on-line, which is usually the case, enter **"N"**, and the system invokes the message editor as follows:

Enter text of message
<CR> by itself ends input

01:

The system provides word wrapping very similar to a word processor. Compose your message and enter <CR> by itself on a blank line and the system responds with the following prompt:

<L>ist, <V>iew, <C>ont, <E>dit, <R>cpt, <F>ile, <S>ave, or <Q>uit?

These options are explained in detail in Appendix A, BBS Commands, under "Message Entry Commands". However, to be notified that the recipient of the message has read the message, enter <R> for a return receipt.

To send your message enter <S> and your message will be saved on the system disk and the person to whom you addressed the message will be notified the next time he/she logs on that a message is waiting to be read.

**** Note: If <S> is not entered the message will not be sent and the person to whom you addressed the message will not be notified. In future upgrades to the system, this prompt will be changed to <S>end.

Sending Carbon Copies (CCs)

You can send the same message to more than one registered user by using the CC command. The CC command does not appear as an option on the prompt line. Rather, it must be typed on the first line of the message.

The proper CC command format is: cc: name1,name2,...., where name1, etc. is the name of the intended recipient(s) of your message. Please note that you must leave a space before the first name. The first line of your message could look like this:

01: cc: **Jimmy Smith,John Doe**

Enclosing a file with a message

The <F>ile option provides a method of enclosing or attaching a file with your private message. The file can be any type of file, ASCII or non-ASCII. In order to use this feature, prepare a message as described under "Sending Private E-MAIL" above and select <F>ile from the prompt line. An example of the questions with typical answers is given as follows:

```
Enclose a file with this message(Y/N)? Y
Enter 1-12 char full file name: MYFILE.TXT

Select from the following transfer protocols:

1 - Prompted ASCII
2 - ASCII, XON after <CR> rcvd
3 - ASCII, XOFF/XON flow control
4 - XMODEM - Checksum
5 - XMODEM or YMODEM - CRC
6 - YMODEM Batch
7 - SEALINK
8 - KERMIT
9 - SuperKermit (Sliding Windows)
A - YMODEM-g Batch

Choose one (Q to Quit)? 8

Protocol=KERMIT

File open, ready to receive
(Ctrl-X to abort)
```

At this point, prepare your communications software to upload a file just as you would with a normal upload. If you are using PROCOMM, for example, press the "PAGE UP" key on your keyboard. PROCOMM will respond with a protocol menu. Select the same protocol that you have chosen from the BBS, in this case, KERMIT. You will then be asked to enter the location of the file you want to send from your computer. The prompt and response will look similar to the following:

```
Please enter file spec: C:\MYDIR\MYFILE.TXT
```

After the upload is complete, you must then enter <S> for save (send) the message that will carry your enclosed file.

The next time the addressee logs on to the TTN, he will be notified that a message is waiting similar to the following example:

```
Msg#:  887 *MAILBOX*
08/13/91 14:54:35
From: John Brown
  To: Jim Smith
Subj: Data Case
Jim, I have enclosed the data case you requested, hope this
will solve the problem.   -John-

*Enclosed File: myfile.txt

<F>wd, <D>elete, <E>nclosure, <A>gain, <R>eply, <N>ext, or
<S>top?
```

The addressee enters <E> and the TTN download protocol menu appears as follows:

```
Select from the following transfer protocols:

1 - TYPE file to your screen
2 - ASCII with DC2/DC4 Capture
3 - ASCII only, no Control Codes
4 - XMODEM
5 - YMODEM/YMODEM-g
6 - YMODEM/YMODEM-g Batch
7 - SEALINK
8 - KERMIT
9 - SuperKermit (Sliding Windows)

Choose one (Q to Quit)? 8
```

Select a protocol, for example, KERMIT and the TTN will respond as follows:

```
Protocol=KERMIT    File myfile.txt,     500 Bytes
Est. Time:    0 mins, 02 secs at 2400 bps

Awaiting Start Signal
(Ctrl-X to abort)
```

At this point, prepare your communications software to download a file. If you are using PROCOMM, for example, press "PAGE DOWN" and the enclosed file will be downloaded to your PC.

3.6.2 PUBLIC MESSAGES

Public messages differ from private e-mail in that they can be read by all registered users and the addressee does not have to be a registered user. For example, a public message can be addressed to "ALL" or "ANYBODY". It is not restricted to a certain individual. Public message menus are also accessible from the main menu of each BBS usually under "PUBLIC COMMUNICATIONS". The keys for selecting public messages may vary from BBS to BBS, but will have a similar appearance as follows:

```
PUBLIC MESSAGES

<S>can Public Message Headers
<R>ead Public Messages
<L>eave Message on Public Board
<G>oodbye
<-> Return to Main menu
```

Scanning Public Mail

To scan public mail enter <S> and the system will respond with a list of scan options as follows:

```
<F>oward Scan
<R>everse Scan
<N>ew Message Scan
<S>elective Scan
<A>bort Scan

Which One?
```

You can scan messages in a forward direction (oldest first), reverse direction (latest first), new messages since the last time you were on TTN or selective by (from, to or subject). A scan will display who the message is from, who it is to and the subject.

<F>oward Scan	- Scans message headers beginning with the first message
<R>everse Scan	- Scans message headers beginning with the latest message
<N>ew Message Scan	- Scans message headers after your last time on TTN
<S>elective Scan	- Scans message headers selected by <F>rom, <T>o, or <S>ubject
<A>bort Scan	- Exit Scan options

Public messages can also be marked manually by the "Mark" option on a scan as discussed under "Scanning Private E-MAIL" and then read using the <M>arked Messages command when reading public mail.

Reading Public Mail

To read public mail enter <R> and the system will respond with a list of options as follows:

<F>orward or <R>everse Multiple
<N>ew Messages
<M>arked Messages
<S>elective Retrieval
<I>ndividual Message(s)
<A>bort Retrieve

Which One:

<F>orward	- reads messages starting with the first message on the board
<R>everse Multiple	- reads messages starting with the latest message
<N>ew Messages	- reads messages after your last time on TTN
<M>arked Messages	- reads messages marked using the mark feature during a scan
<S>elective Retrieval	- reads messages selected by fields: (from, to, subject or text string)
<I>ndividual Message	- displays a message by specifying the message number

Sending Public Mail

To leave a message on the public message system enter <L> and the system will respond with:

Who is the message to?

The response can be a registered user's name or some generic name such as "ALL", "EVERYONE", "ANYONE" since the message can be read by all users. The next prompt from the system is:

What is the subject?

Enter the subject of the message. The system will then echo the information you just entered, for example:

To: ALL
Subj: ENVIRONMENTAL PROBLEMS

The system will then ask if the information is correct and provide an opportunity to change your inputs.

Is this correct(Y/N)?

Once you have verified the information is correct, the system will ask if your message has been prepared off-line and you want to upload it rather than composing it on-line. The prompt is as follows:

Submit Prepared Text(Y/N)?

If you have already prepared text for a message, for example on a floppy disk, you can respond with **"Y"** and the TTN will prompt you for an upload protocol and you can upload text that you have previously prepared for your message.

If you want to compose a message on-line, which is usually the case, enter **"N"**, and the system invokes the message editor as follows:

Enter text of message
<CR> by itself ends input

01:

Compose the message and enter a <CR> by itself on a blank line. The system responds with the following prompt:

<L>ist, <V>iew, <C>ont, <E>dit, <S>ave, or <Q>uit?

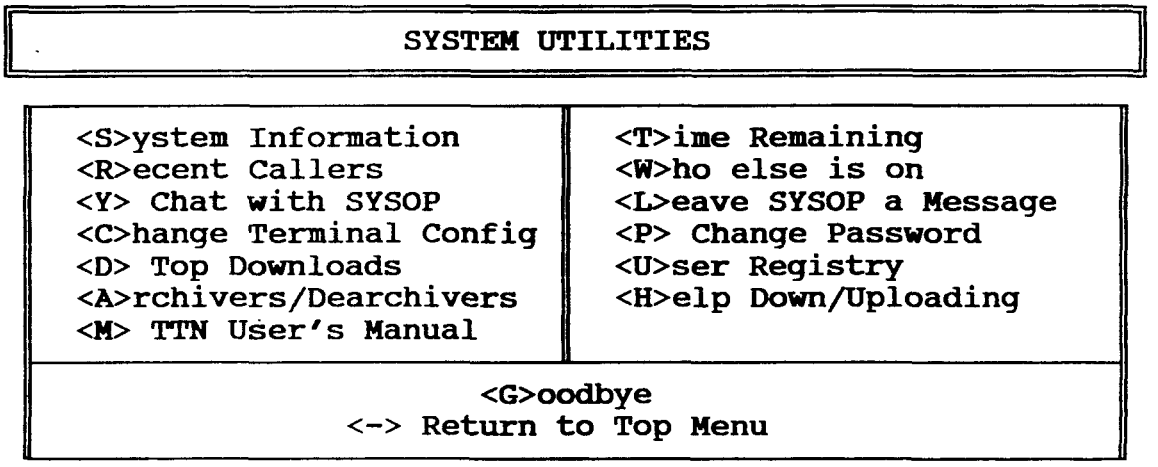
These command options are explained in detail in Appendix A, BBS Commands, under **"Message Entry Commands"**.

To send your message enter <S> and your message will be saved on the system disk.

**** Note: If <S> is not entered the message will not be sent. In future upgrades to the system, this prompt will be changed to <S>end.

3.7. UTILITIES

A special menu accessible from the TTN TOP Menu entitled SYSTEM UTILITIES, provides a number of useful utility options that make the TTN user friendly, and fun to operate. Key an 'S' from the TTN TOP Menu and the System Utilities Menu appears as follows:



The utilities that are available and their selection keys are presented with a brief description as follows:

<S>ystem Information

Displays the hardware and software configuration of the TTN.

<R>ecent Callers

Displays the last 127 callers to the system.

<Y> Chat with SYSOP

Pages the SYSOP; if he is available he will respond, and you can communicate online.

<C>hange Terminal Config

This option allows you to change your user profile. Refer to Appendix A, BBS Commands, under "User Profile Configuration Commands" for a complete detailed description of options that can be modified.

<D> Top Downloads

Displays the most frequently downloaded files from the TTN. This display is updated weekly.

<A>rchivers/Dearchivers

Displays instructions and provides the programs necessary to dearchive files that are downloaded from the TTN in our archived (compressed) format.

<M> TTN User's Manual

TTN user's manual in WordPerfect format.

<T>ime Remaining

Displays the time remaining in your current session.

<W>ho else is on

Displays other users who are currently on the system.

<L>eave SYSOP a Message

Provides the option for sending a message to the TTN SYSOP. In order to send a message to a sysop of a particular BBS within TTN, address the message to the person whose name appears at the top of the main menu for that BBS.

<P> Change Password

Change and verify your password.

<U>ser Registry

Displays or searches the system file of registered users. This file is updated weekly.

<H>elp Down/Uploading

Displays help screens for downloading and uploading with instructions for two leading communications software programs, Procomm and Crosstalk.

3.8. ONLINE CONFERENCING

Online conferencing provides TTN users with the capability to communicate with other TTN users who are currently using the system. A conference area is provided where users can talk to each other by typing from their keyboard rather than the spoken words. You can access the online conference menu by entering <O> from the TTN TOP Menu. The online conference menu will appear as follows:

ONLINE CONFERENCE

This area of the TTN provides callers with online conferencing capabilities. Callers can communicate with other callers currently online. Conferences can be either public or private. BEFORE JOINING A CONFERENCE FOR THE FIRST TIME, READ AND PRINT (PRINT SCREEN) THE INFORMATION PROVIDED UNDER <1> "HOW TO JOIN A CONFERENCE" AND <2> "CONFERENCE COMMAND DESCRIPTIONS". Entering <3> will place you in a conference area that requires a /Quit command to exit.

<1> How to Join a Conference
<2> Conference Command Description
<3> Join a Conference

<G>oodbye
<-> Return to Top Menu

You can join a conference by entering <3> from the above menu for online conferencing. This places you in a public conference. The commands available to you in a conference must be preceded by the / character. To leave a conference enter /q.

Example: Entering the conference area and inviting another user to join in a conference.

Enter <3> from Conference Menu.

Your are now in the public conference area.

Enter: </w>

This command lists the names of those users currently in the public conference area. At this time, if you so desire, you can begin to communicate with those conferees. If no one is currently in the public conference then the system will provide a list of the names and line identifications for all users presently on the system. This provides you with the information necessary to invite one of these users into a public conference with you.

Suppose your name is Bob Blake and you are currently on line 3 of the TTN. The system will present the information to you in a form similar to the following:

Line 1: JOHN SMITH; AUSTIN, TX
Line 2: JIM JONES; NEW YORK, NY
Line 3: BOB BLAKE; DURHAM, NC

You see that John Smith is on line 1 and you would like to talk about a modeling issue. Send John a message similar to the following where the "s" stands for "send" and the "1" identifies the line he is on:

Enter: /s,1 Hi John, would you like to join me in a conference? Let's talk about models. Just enter the online conference area from the TTN Top Menu.

At this point John needs to enter the online conference area by pressing 3 from the TTN TOP Menu. He is immediately in the public conference area with you.

When John enters the conference area, you will see a message that John has entered the public conference. Anything that you type, John will see prefixed by your line number and name.

Example:

(3:BOB BLAKE) John, I see you are in the conference area.

Anything that John types you will see prefixed by his line number and name.

Example:

(1:JOHN SMITH) Hi Bob, What issue do we need to discuss?

If you want complete privacy between you and John so no one else can see what you type, then you both must use the /private command.

You would:

Enter: </p,1>

John would:

Enter: </p,3>

If you want to be assured that you will receive no messages from a particular line, then use the /ignore command.

Example:

Enter: </i,2 on

No messages sent from the person on line 2 will be seen by you, whether that person used the SEND command or is a part of a conference.

If you and John want to move to a channel, not necessarily private because others could also choose to join the same channel, you can select a channel from 1 to 40 for your online communications. If you would like to communicate on channel 19:

You would:

Enter: </channel 19

John would:

Enter: </channel 19

When your conference is complete, you exit the conference area and return to the menu from which you called the conference by using the /q command as follows:

Enter: </q>

See Appendix A, BBS Commands, under "Online Conference Commands" for detailed descriptions of all online conference commands.

3.9. DATA BASE ONLINE APPLICATIONS

The TTN provides a platform from which data base compiled programs can be executed and shared online by TTN users. Some of the Bulletin Boards Systems within TTN have data base applications. These applications are data base programs that are written and compiled for real time execution on the TTN. Within the Control Technology Center (CTC) BBS there are examples of these applications. This BBS provides an online data base program that users can interactively fill in an electronic form for ordering CTC documents.

3.10. SUBJECT CONFERENCING

Subject conferences are special areas where callers with special interests can maintain a continuing dialogue. This is an open forum for the exchange of information, a place to seek help on special topics. Subject conferences are provided in a form similar to, or in the same structure as a public message area for anyone who has a special interest. Messages are left for others to read and respond to at a later time. This differs from online conferencing which allows one to talk, by typing, to someone else who is currently logged onto the TTN. These subject conferences are sometimes referred to as Special Interest Groups (SIGS) on some BBS systems. The SCRAM BBS, for example, has subject conferences for a variety of subjects covering modeling issues such as Air Toxics, Complex Terrain, etc and is found in the Public Communications Section of the BBS under Modeling Conferencing.

3.11. HELP/INFORMATION

A major source of help and information on the TTN is in special bulletins. Most boards provide bulletins in the form of text files that may be read on line or downloaded for future reference. A variety of special bulletins are available to provide current information on a wide range of topics such as computers, software, hardware, models, test methods, emission factors and training.

News items are provided so the caller can discover what is new on each BBS. News items include schedules of conferences, meetings, workshops, technical news and newsletters. You can register for newsletters and mail from each BBS that provides publications on a regular basis. Ordering information is available for technical publications that includes EPA document and publication numbers.

Files containing personal contacts are available to keep the caller informed concerning who has responsibility, or who is a key person that can be contacted for certain technical areas. These files can be printed on the screen or downloaded for future reference.

An Alert Section is provided at the beginning of some of the bulletin boards that get your attention and point you to bulletins that give more detail on the help and information that should be conveyed to you in order to keep you abreast of the changes that may have taken place since your last session.

Help can be selected from any command line where <H>elp is a part of that command line. There are two other important help files that are accessible from the Systems Utilities Menu. The first contains instructions for dearchiving files downloaded from the TTN that are archived (compressed) in order to save space and time. This help file is entitled "DEARCH.TXT" and is presented in a download directory when you select <A>rchivers/Dearchivers from the Systems Utilities Menu. The second help file contains instructions for downloading files from the TTN using two of the leading communications software programs. This file is printed to your screen when you select <H>elp Downloading/Uploading.

SECTION 4

TTN TIME SAVING TECHNIQUES

After you gain familiarity with the commands on the TTN, you will discover ways to optimize your time and minimize your long-distance charges. Some of the time saving techniques that are available are provided to you in the form of archived files, stacked commands and high speed modems.

4.1. ARCHIVED FILES

Many of the files available in the downloading directories are compressed to conserve space and reduce transmission time. In most cases, multiple files are packed into a single library archive. These file have the file extension names of "ARC" or "ZIP". When you download them, they must be unpacked and restored, an operation that requires a utility program "ARCE.COM" for "ARC" files and "PKZ110.EXE" for "ZIP" files. These dearchivers are found in the Systems Utilities Menu under <A>rchivers/Dearchivers. The dearchiving instructions included in the help file "DEARCH.TXT" are presented below:

Dearchiving Instructions

Files available for downloading from TTN that are identified as ZIP or ARC by their file name extension have been archived (compressed) to save space and time during downloading. After a archived file has been downloaded it must then be dearchived (decompressed) on your system, before the programs and/or data comprising that file can be used.

The program that is needed to dearchive "ARC" files is named "ARCE.COM". The documentation for "ARCE.COM" is in a file named "ARCE.DOC". The "ARCE.COM" program can be downloaded and used as often as necessary to dearchive "ARC" files downloaded from the TTN.

The program that is needed to dearchive "ZIP" files is inside a file named "PKZ110.EXE". This file is different from ARCE.COM because it is itself an archived file. After downloading "PKZ110.EXE" to your hard drive, type PKZ110 at the DOS prompt and the programs and documentation included in "PKZ110" will be generated on your hard drive. You will find a program named "PKUNZIP.EXE" among the files generated on your hard drive. This is the program needed to dearchive "ZIP" files. Also, documentation and other supporting programs are generated on your hard drive as a result of the execution of PKZ110.EXE. The "PKUNZIP.EXE" program can be used as often as necessary to dearchive "ZIP" files downloaded from the TTN.

Once you have "ARCE.COM" and "PKUNZIP.EXE" stored on your system, you are ready to dearchive any compressed files downloaded from the TTN. For example, if you have downloaded a file named "ISCST.ARC" and a file named "BLP.ZIP" from the TTN and they reside in the same DOS drive and directory as the "ARCE.COM" and "PKUNZIP.EXE" you would dearchive each file as follows:

```
ARCE iscst.arc

PKUNZIP blp.zip
```

If the files are not in the same DOS drive and directory, a path must be included to point to the location of the files. For example, if "ISCST.ARC" and "BLP.ZIP" are downloaded to your "A:" floppy drive, you would dearchive each file as follows:

```
ARCE a:iscst.arc

PKUNZIP a:blp.zip
```

*** ARCE is a copyrighted product of Systems Enhancement Associates, Inc.

*** ZIP is a copyrighted product of PKware, Inc.

EPA has a site license to distribute ARCE and ZIP for use by registered bulletin board users for dearchiving files downloaded from the TTN.

File Naming Conventions

The files on the TTN conform to the DOS file name convention that includes a name and three character extension. The extension serves to identify the type of file as presented below:

.ARC - Files that have been archived using the ARC archiver. ARC'ed files can contain any type of file or mixture of various types of files. ARC'd files are dearchived using the ARCE dearchiver.

.ZIP - Files that have been archived using the ZIP archiver. ZIP'ed files can contain any type of file or mixture of various types of files. ZIP'ed files are dearchived using the ZIP dearchiver.

.TXT - ASCII text files that can be read on the screen or downloaded and processed with a word processor or text editor. (unarchived).

.WPF - WordPerfect files. (unarchived)

.TIF - Graphics files for graphics compatible programs such as Lotus, Freelance, WordPerfect, Aldus Pagemaker, etc. (unarchived)

.BAS - Basic programs. (unarchived)

.WK1 - Lotus 1-2-3 worksheet files. (unarchived)

.DOC - Text file of documentation for a program or system. (unarchived)

.FOR - Fortran source code. (text format, unarchived)

.EXE - A PC executable module that can be executed after downloading by typing the file name. (unarchived) *

.COM - A PC executable module that can be executed after downloading by typing the file name. (unarchived) *

* Note: EXE or COM may also be self-extracting archived files

4.2. COMMAND STACKING

Another way to save time is to "stack" commands. You can stack requests for downloads when operating in a download directory. For example, if you want to download the ISCST Air Quality Dispersion Model you can simply enter:

P 8 ISCST.ARC

In this way you can download the file using the KERMIT protocol and avoid receiving the menu of protocols and receiving an additional prompt for File Name?. In the above example, note that the "D" for download is missing. The "D" is assumed and can be omitted.

You can display a text file to your PC screen from a download directory by simply entering:

P 1 FILE.TXT

This will avoid receiving a menu of protocols, from which you would select protocol number 1 that types the text file to your screen.

4.3. HIGH SPEED MODEMS

The TTN utilizes modems that range in speed from 300/1200/2400/9600 baud. If you are currently using a 1200 baud modem but have access to a 2400 baud modem, you should consider using the higher speed modem. The higher speed is especially valuable when downloading lengthy files. If you have a 9600 baud modem or have plans to purchase one, be sure that it conforms to the V.32 standard for 9600 baud modems.

4.4. Hot keys, Pause and Stop

The TTN incorporates a "hot key" feature, which means that you can enter a command at any time and TTN will immediately obey. A menu item can be accessed by pressing the appropriate menu key without having to also press "enter". You do not have to wait for TTN to finish displaying a menu before you give your next command.

Several "hot key" commands can be given at one time. For example, rather than go through multiple layers of menus to reach the SCRAM BBS public message board, simply type <3SCP> [<3> for the SCRAM BBS, <S> to abort the alerts display, <C> continue on to SCRAM, <P> to enter the SCRAM public message area] and you will immediately find yourself in the desired area.

Two other commands provide the ability to pause or abort the remainder of a display if you have set your terminal configuration to pause after each display page. This prevents nonstop scrolling. These options are in effect when you see **"TYPE P to Pause, S to Stop Listing"** in the upper left hand corner of your screen. The <P> key causes text that is being displayed on the screen to pause. The <S> key stops the rest of the display.

SECTION 5

GETTING HELP

Help is available from several sources, including online, telephone, messages and bulletins.

When you are connected to the bulletin board, help is available on command lines that include the option <H>elp. Help with downloading is available from the Systems Utilities Menu along with the archivers/dearchivers that are required for compressed files.

During business hours (8:00 am to 5:00 pm ET), someone will usually be available to answer questions concerning the operation of the board. The voice help line is (919) 541-5384. If someone is not available at the time you call, you can leave a taped message at this number. If you are having trouble connecting to the board, check to see if the you are calling with the correct parity, number of bits and terminal emulation (see Section 2.2). If you do not understand how to use a command, first try the help options. If you are having trouble downloading, first consult the documentation for your particular communications software.

If you have a question or would like to make a suggestion regarding the use of the board, you can leave a message to SYSOP from the Systems Utilities menu or from any EMAIL message board, by addressing the "MESSAGE TO:" SYSOP.

If you have non-bulletin-board related questions, or questions regarding an application within one of the Boards, the best course of action is to leave a message on the public message board of that particular board addressed to "ALL". In most cases, someone will return a message to you or you can browse the public board to review the questions and answers of other users.

If you are a new user, be sure to pay close attention to the alerts for the board you are working with, because they contain the most up-to-date information about what is available on the board and also point to bulletins that describe in detail those things that have changed or those things that are new.

You may obtain the most recent version of this document by downloading the file **MANUAL.ZIP** from the Systems Utilities Menu.

APPENDIX A

BBS COMMANDS

APPENDIX A: BBS COMMANDS

USER PROFILE CONFIGURATION COMMANDS

TTN permits you to easily change your user profile. This profile tells TTN how wide it should display messages, the type of default file transfer method you prefer, and other information that will make your use of TTN more enjoyable. User profiles can be changed via the Systems Utilities Menu by pressing the <C>hange Terminal Configuration key. The following commands are used to change user profile:

A: Set ANSI codes on/off	G: Set IBM Graphics on/off
W: Set Terminal Width	T: Set New Terminal Type
L: Set Line Feeds on/off	C: Set Lower Case on/off
N: Set # of Nulls	M: Set Message Entry Prompt
U: Set File Upload Protocol	D: Set File Download Protocol
P: Set Page Pause (-more)	S: Show Current Settings

1. ANSI codes & IBM Graphics

These settings control whether TTN sends you special effects. ANSI codes provide highlights, color and cursor positioning. IBM graphics display line drawing and boxes. If you answer <Y>es to IBM graphics, you must have your communications program set to 8 data bits, no parity.

2. Terminal (or Terminal Emulator) Attributes

These settings define to TTN how your computer or terminal emulator program is configured. These options are:

Terminal Width: This option tells TTN how many characters print on a single line on your computer so it can process text for the best appearance on your display. This number is usually 80.

Line Feeds: This option varies from computer to computer. Try setting it to <Y>es to begin with, as this is usually the correct setting. If everything appears double spaced, then set the option to <N>o. If everything appears on a single line on your screen, then you have this option set to <N>o when you need it set to <Y>es.

# of Nulls: This option determines whether delays are used after each line is displayed. The normal setting is "0" since modern computers don't need delays. If the first characters of each line are missing on your monitor, then set the nulls equal to the number of missing characters.

Lower Case: If your computer cannot properly handle lower case characters then set this option to <N>o. Otherwise, answer <Y>es (default) to get normal Upper and Lower case displays.

Page Pause (-more-): If you set this option to <N>o, then TTN will not pause when displaying text files to your screen. Files that are displayed will scroll continuously to the end of the file. If you wish TTN to pause for you, then set this option to <Y>es, and tell TTN how many lines your computer can display on a single screen. The number of lines per screen should be set to 24 for the best performance. A <Y>es, allows you to display one page at a time and inserts a "-more-" at the bottom of the screen at the end of each page. Pressing a key will cause the next page to appear.

Terminal Type: If you select this option, a series of pre-defined computer types are displayed. If your computer is shown, then you can configure all of the above options properly for your computer by selecting that option.

3. Protocols and Message Entry Settings

These settings determine how the following items default every time you logon to the system:

File Download Protocol: If this is set to "Default", then TTN will ask you the first time you download a file on each call which file transfer protocol you wish to use. It will also always ask in those areas where you don't have a set protocol command available. However, if you set a protocol here, then TTN will always use that protocol and will never ask. If you override that protocol in a file area, the new protocol will only be used for that call and the next call will revert to the protocol set here.

File Upload Protocol: If this is set to "Default", then TTN will ask you on every Upload command which protocol you wish to use. If you set a protocol here, then TTN will always use that protocol and will never ask you what protocol you want to use on uploads. This protocol will also be selected automatically if you ask to upload prepared text during message entry.

Message Entry Prompts: This entry defines how TTN will act when you are inputting a message. The following options are available:

a. Prepared Text Entry: If this is set to <N>o, you will not be asked about prepared text entry when sending an e-mail or public message. If you never want to upload prepared text into messages, then setting this option to <N>o will save you the time answering this question on every message. If this is set to <Y>es, you will be asked on each message you enter if you want to submit prepared text or type it in online.

b. Prompt Type: This will configure how TTN will prompt you during manual message text entry as follows:

0 = Each line is prompted for with the edit line number only.

1 = Each line is prompted for with the byte count left in the input buffer plus the edit line number.

2 = Each line is prompted for with a ">" character only.

FILE DOWNLOADING COMMANDS

<A>rea	[area #]	Change to specified File Area.
<D>ownload	[filelist]	Download a file or files.
<P>rotocol	[protocol]	Set or change default transfer protocol.
<E>xamine	[filelist]	Examine and Produce a directory of an archived file. ZIP or ARC.
<N>ew	[date]	Produce a list of files newer than a given date.
<H>elp	[help]	View a download help listing.
<L>ist	[string]	produce list of all files you may download or optionally only those that contain a selection string in their name or description.
<CR>		Press "Enter" or "Return" key alone to exit.

<A>rea

This command will only appear as an option when you are working in a File Area on TTN. Examples of file areas are found in the SCRAM BBS where meteorological surface data, mixing height data and model clearinghouse data are offered. This command allows you to select which file area is currently active. If you press enter from the file area menu without making a selection, you are set to File Area #1. You may download from that area until you select another area. When you enter the "A" command by itself, a list of all available file areas is produced. You then may select the area you choose. If you already know what area you want, you may place the area number on the same line as the A command. Examples:

a

This command will produce a list of areas. Select the one you wish, or press <Enter> alone to remain in the current area.

a 7

Will select file area 7 (if one is defined). If you select an invalid area number, TBBS will list all the areas and prompt you for a valid file area selection.

<CR>

This command means to press "enter" or "return" key alone to execute or exit.

<D>ownload

This command downloads one or more files. You may enter the letter "D" followed by one or more file names. The "D" is optional, and you may just enter the file names at the select prompt if you wish. Example:

d file1.txt

Will download a single file.

file1.txt file2.txt file3.txt

Will download multiple files. Wild cards may be used in file specifications. For example, file1.* or file??.doc. If more than one file is selected, you must be using a protocol capable of multi-file transfers.

Note: TTN will halt a file transfer between files where you would otherwise exceed byte and/or time limits.

<E>xamine (Archive Files Only)

This command allows you to obtain a directory of all of the files which are stored in an ARCed or ZIPed file. It will produce a directory of the files and their date, time, and size which are contained in the specified archived files, (e.g., E FILENAME.ZIP).

e *.ZIP

will produce a directory of all ZIP files.

e file1.arc file2.arc

will produce a directory of both specified .ARC files.

<H>elp

This command will produce a help listing on the screen that applies to your current area. If you are in a download directory and press <H>elp you will get help for downloading.

<L>ist

This command will produce a listing of files available to you in a download section. If there are no arguments it will list all the files that are available. You may optionally put a string after the list command. If you do, the listing will only show those files where the name or description contains the specified string. Note: this string is literal, and doesn't honor wild card characters ? and *.

Example:

```
l
```

List all Files in the directory

```
l remm
```

List all entries where the string "remm" is contained in the file name or description. Search strings may have any printable characters and may include imbedded spaces.

<N>ew

This command provides a listing of files posted which are newer than a given date. This command has the format:

```
n [date]
```

If the date is omitted, the date of your previous logon to the system is used. Date is specified in the same format as it is shown in the directory listing. Example:

```
n 08-10-88
```

Will list all files newer than 8-10-88.

<P>rotocol (Set or Change)

This command will allow you to set a default download protocol or to change the protocol you wish to use for the remainder of this call. The first time you download a file, you will be asked for a protocol to use, and after that the same protocol will be used for each download for the remainder of this call. If you wish to avoid being asked for a protocol, or if you wish to change the protocol you have been using to a different one, then use this command. You may use the number of the protocol to select if you know it.

Example:

p

This command will produce a menu of protocols as follows:

```
1: TYPE file to your screen
2: ASCII with DC2/DC4 Capture
3: ASCII only, no Control Codes
4: XMODEM
5: YMODEM/YMODEM-g
6: YMODEM/YMODEM-g Batch
7: SEAlink
8: KERMIT
9: SuperKERMIT(sliding windows)
```

TYPE file

This protocol method will cause the contents of a "text" (ASCII) file to be displayed on the screen. It is effectively a download to your screen. You can read the text file online and not have to actually download the file to your computer before you can read the document. Only those files on the TTN that have a file extension name of "TXT" or "DOC" can be displayed on the screen. Command stacking will allow you to display a text file on the screen by entering <p 1 name.txt>.

ASCII Protocols

These protocols should be use as a last resort with non-intelligent terminals and dedicated word processors, etc. ASCII protocol transfers will only work with non-binary text files. These protocols should, for the most part never be used. There is no error checking.

XMODEM

This is the oldest and most widely used error resistant protocol in the PC community. There are two variations: CHECKSUM and CRC. CRC is more reliable at detecting errors and should always be used if you have a choice. When downloading, TTN can automatically tell if you pick CHECKSUM or CRC, while for uploading you will have to tell TTN which method to use.

YMODEM

This protocol is essentially a CRC XMODEM with 1024 byte (1K) packets and is efficient at higher modem speeds on telephone lines that are relatively trouble free. It cannot transfer names or exact file size. YMODEM-Batch should be used if possible.

YMODEM-Batch

This is the same as YMODEM except that it allows file name and exact size of the file to be transferred. The transfer speed and characteristics of this protocol are identical to the YMODEM protocol.

YMODEM-g and YMODEM-g Batch

These variants of the YMODEM and YMODEM-Batch protocols provide the fastest possible speed of file transfer if used with high speed error correcting modems.

SEAlink

This is a variation of XMODEM that overcomes transmission delays caused by satellite links or packet switched networks. Such delays can slow XMODEM transfer rates by as much as 700%.

KERMIT and SuperKERMIT

KERMIT is the only protocol that handles both 7 and 8 bit links. The protocols mentioned above all require a full 8 bit link to operate correctly and are often not available on mainframes and minicomputers. KERMIT was developed to address this problem. It will also adjust automatically to complement features available on networks and other computer systems.

SuperKERMIT adds sliding windows to eliminate link delays and automatically adjusts to regular KERMIT if it is not supported by both the link and calling terminal program.

ZMODEM

ZMODEM is a fast and efficient protocol with innovative features such as variable packet sizing, failed transfer restart, complete file information, 16-bit or 32 bit CRC error checking, automatic download start-up (receiver dictated) and a pseudo-streaming full duplex nature.

Select the protocol you wish to use (or select the <Q>uit option if you don't want to select a new default download protocol).

p 7

Will select SEAlink protocol as the default.

MESSAGE ENTRY COMMANDS

TTN supports two forms of message entry: "Line" mode and "Off Line prepared text" mode. "Line" mode or manual mode, the most common type, allows you to type your message online. You will be prompted for each line of input. The overflow of one line will be wrapped around to the next line down. How TTN will prompt you during your manual message text entry is defined in your User Profile Configuration (see section 3.5 User Profile Configurations). The "Off Line prepared text" mode allows you to upload a file (which you prepared off line) as a message.

The command options for entering private e-mail differ slightly from the command options for public messages. Private e-mail provides two additional options, <R>cpt and <F>ile that are not provided for public messages.

***** PRIVATE E-MAIL ENTRY COMMAND OPTIONS *****

After entering a private e-mail message you will be given the following options:

<L>ist, <V>iew, <C>ont, <E>dit, <R>cpt, <F>ile, <S>ave, or <Q>uit?

These options are explained below:

<L>ist

Displays your entered text without word wrap and with each line numbered. The numbers are used for editing if you wish, or you can edit strings as described below. Remember TTN will word wrap your message when it finally displays it so the lines may not come out exactly as you expect them.

<V>iew

Displays your message with word wrapping applied. This allows you to see how it will look when it is read by the recipient. Then, if need be, you can edit the message before sending (saving) it.

<C>ont

This will place you in the line mode at the end of your message so you may continue your message.

<E>dit

This allows you to edit a string of characters in your message. You will be asked for a line number or/string. There are two editing options:

1. Enter the number of the line you wish to change and that line will be displayed. Either re-type this line as you want it or enter <-> followed by a <CR> to delete the line.

2. Enter a </> followed by a search string (note: the </> is needed only if the string has only numbers). You will be prompted for a replacement string. Either enter a new string, or <CR> to delete the string. The edited string and 15 characters preceding it are displayed for your approval. To quit, press <S> and TTN will abort the replacement operation.

<R>cpt

If selected, you will be asked to confirm your desire to have a return receipt generated when the message is read by your addressee.

<F>ile

If you select this option TTN will first ask: "Do you want to enclose a file in the message (Y/N)?", If "<y>es" TTN will prompt: "Enter the 1-12 character file name:"

TTN will then ask you to upload your file as described in section 3.5 "File Uploading" with the exception that a description of the file is not required. After your upload is complete, the message "*Enclosed file xxx" (where xxx is the name you gave the file) will appear every time the message is read. The file may be retrieved by anyone who can read the message.

<S>ave

Your message will be saved to the TTN message base and the person or persons to whom it is addressed will be notified the next time they logon to the TTN.

<Q>uit

You will be prompted with: "QUIT (Y/N)?" If you press <N>, you will be returned to the prompt line. If you press <Y>, your message will be aborted.

***** PUBLIC MESSAGE ENTRY COMMAND OPTIONS *****

After entering a public message you will be given the following options:

<L>ist, <V>iew, <C>ont, <E>dit, <S>ave, or <Q>uit?

These options are explained above for private e-mail. They are identical to the options for private e-mail, the only difference is that the <R>cpt and <F>ile command options are not available for public messages.

***** OPTIONAL ENTRY COMMANDS *****

There is an optional command that does not appear on a prompt line. This is the Carbon Copy command as explained below:

Carbon Copy

You may send messages to more than one person on the TTN. The carbon copy command does not appear on the prompt line. Rather, it must be typed on the first line of the message.

The carbon copy command format is: cc: name1,name2,...., where name1 and name2 are the intended recipients of your message. Note: You must leave a space before the first name.

MESSAGE RETRIEVAL COMMANDS

TTN supports the message retrieval methods that are described below. Remember, you can use TTN's "hot keys" to <p>ause, <s>top, go to the <n>ext message, or use any of the other commands described below instead of waiting for an unwanted message to completely display.

The command options available for retrieving messages from public messages boards differ slightly from the commands available for retrieving messages from private e-mail boards. However, some commands apply to both public and private.

*** PUBLIC MESSAGE RETRIEVAL COMMAND OPTIONS ***

<F>orward

If you respond with <CR>, the retrieval will begin with the first message on the board. You can give a starting message number and all messages on the board with numbers equal to or higher than the specified one will be displayed.

<R>everse

This works the same as forward except the Display proceeds in reverse from the number you specify towards the first message in the system.

<N>ew messages

Messages left after your last time on TTN are retrieved.

<M>arked messages

Displays marked messages. Messages are marked either manually by the "Mark" option on a scan, or automatically if you receive a "message waiting" notification at logon. Marks remain for the entire online session.

<I>ndividual message

Displays a message by specification of the message number.

<S>elective retrieval

Messages are selected by fields: <F>rom, <T>o, or <S>ubject and text string. After you pick one, you will be asked for a text string to match. This string may be a partial one and any message which contains the specified string will be displayed.

Example: If you specify <S>ubject and a text string of IBM, then the following subject fields would all match:

IBM PC USER'S GROUP
ALL IBM PC OWNERS
IBM/AT OWNERS

The string will be searched for anywhere in the specified field. After the string is specified, you will be asked for a starting message number so you can restrict the search time if you wish.

***** PRIVATE E-MAIL MESSAGE RETRIEVAL COMMAND OPTIONS *****

<F>wd

If you select this option, you will be asked who to forward the message to and you will be asked to enter the board on which you wish to place the message. For private EMAIL, select the message board named "MAILBOX".

<D>elete

If a message is either from you or to you, you can press <D> to delete it.

<E>ncl

This prompt indicates that a displayed message has a file enclosed in it (the file name also is displayed), Press <E> to enter a download sequence identical to normal file download as described in section 3.2 to receive the enclosed file.

*** PUBLIC AND PRIVATE E-MAIL RETRIEVAL COMMAND OPTIONS ***

<M>arked messages

Displays marked messages. Messages are marked either manually by the "Mark" option on a scan, or automatically if you receive a "message waiting" notification at logon. Marks remain for the entire online session.

Pause between messages

On all retrievals except individual, you will be asked: "Pause After Each Msg(Y/N)?". If you enter <Y>, then this prompt always follows a displayed message:

<A>gain, <R>eply, <N>ext, or <S>top?

<A>gain

Pressing A will cause the message to be displayed again.

<R>eply

Pressing R will allow you to enter a Reply to the message you have just seen displayed. This reply will be chained to the message for future retrieves.

<N>ext

Pressing either N or <CR> will display the next message in the retrieve.

<S>top

Pressing S will stop(abort) the retrieve.

Reply Chain Reading

If a message is part of a subject chain, then one or both of these prompts may be displayed: "<*>replies and <->". If you press *, you will get the next message forward in the reply chain. If you press -, you get the preceding message in the chain. The <N>ext prompt now changes to indicate the next message forward in the chain. At the end of the chain in the forward direction, you will receive the message: "End of

replies, add yours (Y/N)?. <Y>es allows you to add a message to the chain. <N>o drops you out of the chain and back into the regular message base. Note: The <*> command is a short cut. If you overlook the <*> option and press <N>ext, you will be prompted with: "Message has replies, read now(Y/N)?. Selecting <Y>es is the same as if you had initially pressed <*>. If you enter <N>o, then the next sequential message is retrieved.

No Pause Between Messages

If you answer N to the pause question, you will be prompted for a reply if an unread message is addressed to you. Also, if a message is either from or to you, you may delete it at any time and help conserve disk space. When you select <N>o to the pause question you will further be asked:

```
For reply chains:
<1> Ask on each
<2> Always follow
<3> Never follow
<?> Help
```

If you select 1, then every time a message is encountered which is part of a chain, you will be asked:

```
Message has replies, read now(Y/N)?
```

Answering Y, will read all related messages in order before proceeding with the next message. Answering <N> will read messages in strict numeric order.

If you select 2, the messages will always be retrieved by subject group.

If you select 3, the messages will always be retrieved in strict numeric order.

Note: Even in the No Pause mode, you may still use the <N>ext message or <S>top message hot keys.

ONLINE CONFERENCE COMMANDS

Brief Command Descriptions

Note: The characters in brackets are optional.

	Command	Description
1)	/w[ho]	Lists who else is on
2)	/s[end],n message	Sends message to any active line
3)	/i[gnore][,n] on	Do not receive messages from other lines
4)	/i[gnore][,n] off	Receive messages from other lines
5)	/p[rivate],n	Set up private conference with another line
6)	/channel n	Go to a CB simulator channel
7)	/q[uit]	Exit conference area, return to conference menu

Detailed Command Descriptions

W[ho]

This command will list all other lines which are in the conference you are now a part of. If you are not currently in any conference, then this command will list all other lines logged on at this time, no matter what they are doing.

/s[end],n message

The characters in brackets [] are optional and do not need to be entered. This sends the text of the message to line n prefaced by your line number and name. If that line is in a download or upload, then you will get a message saying "try again later". You will also get this message if that line has an ignore flag set for your line.

/i[gnore][,n] ON or
/i[gnore][,n] OFF

This command sets the ignore flag ON or OFF for the specified line. If no line is specified then all ignore flags are set either on or off. If an ignore flag is set ON for a particular line, then nothing that line sends to you either via a SEND command, or as part of a conference will be received by you.

/P[rivate],n

This command allows you to set up a private conference with line n. That line must also enter a corresponding private,n command where n is your line. At that time, you and line n are in a totally private one on one conference.

/Channel n

This command allows you to go to channel n of the CB simulator. Note: n must be in the range 1 to 40. You may use this command to change channels as often as you like. If you were in a private conference when you issued this command, you will exit that private conference automatically.

/Q[uit]

This command will exit you from any Private or CB conference, and return you to the public conference. If you are already in the public conference then this command will return you to the online conference main menu.

APPENDIX B

ACCESS THRU ETHERNET AND PORT SELECTORS

APPENDIX B: ACCESS THRU ETHERNET AND PORT SELECTORS

The TTN is available as a node on the NCC ETHERNET LAN. This service is available from various locations in the local Triangle area such as ERC, CATAWBA, and MUTUAL. Wiring is provided in these buildings that allows connectivity to the ETHERNET ring. Communications software is required in order to use the service. The following instructions are provided for ETHERNET access using CROSSTALK, the EPA standard for communications software.

ETHERNET LAN access using XTALK

Access to TTN on ETHERNET is accomplished thru XTALK using a special ETHERNET command file. This command file is available from the TTN Central SYSOP if it is not in your XTALK directory.

There are some key parameters in the ETHERNET command file to check and/or set accordingly:

SPeed 9600 PArity None DUplex Full DAta 8

STop 1 EMulate VT-100 INfilter Off

The ETHERNET command file is activated by entering the number corresponding to your ETHERNET file. The system will print: "Local link now active" momentarily at the bottom of the screen.

```
<ENTER>                          <== Hit enter, "Local>" prompt
                                     appears
Local> SET BREAK LOCAL           <== Sets break key for terminal
                                     session
Local> C SCRAM                   <== Command to connect to TTN
<ENTER>                          <== Hit enter key, TTN comes up
```

For downloading, the server must be set for binary transfer. This must be done after the TTN session has been established. It cannot be done prior to the TTN connection. The following sequence will provide downloading capability:

Note: The following 4 entries can be omitted if KERMIT is used as the download protocol.

<END>	<== Hit end, the XTALK break key
<ENTER>	<== Hit enter, "Local>" prompt appears
Local> **SET SESSION PASSALL**	<== Sets server port for binary transfer
Local> **RESUME**	<== Goes back to Host (TTN) prompt

After leaving TTN using the <G>oodbye command:

<END>	<== Hit end, the XTALK break key
<ENTER>	<== Hit enter, "Local>" prompt appears
Local> **LO**	<== Logout Ethernet session
Local> **USER NAME**	<== Enter your user name or initials

Exit from XTALK:

<HOME>	<== Switch to XTALK command mode
<QUIT>	<== Exit XTALK

Note: The following prompt may or may not appear:

Enter username> **XXX**	<== Enter a character or initials

ETHERNET LAN access using PROCOMM PLUS

There are some key parameters in PROCOMM to check and/or set accordingly:

Speed 9600 Parity None Duplex Full Data 8

Stop 1 Emulate VT-102 Translate Table Off

Access PROCOMM through AUTOMAX or directly from the PROCOMM directory using DOS:

<ENTER>	<== Hit enter, "Local>" prompt appears
Local> **SET BREAK LOCAL**	<== Sets break key for terminal session
Local> **C SCRAM**	<== Command to connect to SCRAM
<ENTER>	<== Hit enter key, TTN comes up

For downloading, the server must be set for binary transfer. This must be done after the TTN session has been established. It cannot be done prior to the TTN connection. The following sequence will provide downloading capability:

Note: The following 3 entries can be omitted if KERMIT is used as the download protocol.

<ALT, B>	<== Press ALT, B the PROCOMM break key and the "Local>" prompt appears
Local> **SET SESSION PASSALL**	<== Sets server port for binary transfer
Local> **RESUME**	<== Goes back to HOST (TTN) prompt

After leaving TTN using the <G>oodbye command:

<ALT, B>	<== Press ALT, B the PROCOMM break key and the "Local>" prompt appears
Local> **LO**	<== Logout Ethernet session
Local> **USER NAME**	<== Enter your user name or initials

Exit from PROCOMM:

<ALT, X>	<== Press ALT, X and enter Y

Note: The following prompt may or may not appear:

Enter username> **XXX**	<== Enter a character or initials

Access through NCC Port Selector

Access to TTN is available from the NCC port selector through a telephone line or from a LAN. NOTE: This service is not available through a dedicated IBM 3270 terminal line. Consult with your computer personnel or LAN administrator for instructions on gaining access to the port selector from your particular location. This connection requires a 7 bit link and your communications software must be set accordingly:

Parity = E
Data Bits = 7
Stop Bits = 1

KERMIT is the only Protocol that can be used for downloading using this access method, since KERMIT is the only Protocol that handles both 7 and 8 bit links.

The port selector will have the following appearance:

Welcome to the Environmental Protection Agency National Computer Center

Please enter one of the following selections:

IBMPSI for IBM
TCP for IBM 3270 EMULATION
VAXA for VAX SYS A
VAXB for VAX SYS B
EMAIL for EMAIL

Enter selection:

At the enter selection prompt enter **"ENET"**

The following messages and prompts will appear with slight variations:

Connected.

DECserver 200 Terminal Server V3.0 (BL33F) - LAT V5.1

Please type help if you need assistance

Enter username>

At the Enter username prompt enter your **"name or initials"**

You should now see the following prompt:

Local>

Respond to the Local prompts as follows:

Local> **SET BREAK LOCAL**
Local> **C SCRAM**

You should now be in a TTN session. If your TTN configuration is set with IBM graphics capability turned on, the lines that normally surround the menus will appear as letters. You can improve the appearance of the menus by going to the Systems Utilities Menu and under <C>hange terminal configuration, set IBM Graphics to "no". The menu lines will now appear as dashes.

After entering <G>oodbye from the TTN, you must now enter the appropriate break key for your communications software. The following are break key sequences for XTALK and PROCOMM (PCPLUS):

XTALK	-	**<END> <ENTER>**
PCPLUS	-	**<ALT> B**
PROCOMM	-	**<ALT> F7**

APPENDIX C

GLOSSARY OF COMMUNICATIONS TERMS

APPENDIX C: GLOSSARY OF COMMUNICATIONS TERMS

ANSI

American National Standards Institute. ANSI refers to a standard set of escape sequences for controlling special features on a video terminal. In the MS-DOS operating system, the driver is called "ANSI.SYS" and is usually installed by the computer user. Most EPA IBM microcomputers have ANSI.SYS already installed. Such features as cursor positioning, color, bold and blinking lights are provided by ANSI escape sequences.

ASCII

American Standard Code for Information Interchange. A standard character set and coding scheme to represent numbers, symbols, alpha characters and other control codes. ASCII codes 32-127 constitute the 96 printable characters (52 upper/lower case letters, "space", 10 numbers and 33 punctuation marks and symbols. Microcomputers commonly use an 8-bit format that provides up to 256 combinations known as extended characters. ASCII is often used as an adjective describing computer files that only contain the 96 printable characters.

Asynchronous Communications

A way of transmitting data in which start and stop bits are used to frame each character. Data is sent and received at irregular intervals of time.

Baud

A measure of transmission rate in bits per second (bps). Baud is interchangeable with BPS by common usage, although technically incorrect.

BBS

Electronic bulletin board system.

Bit

The smallest unit of information. A bit can have only two states, "on" and "off". A binary digit.

Block

A standard unit of information sent by one computer before it pauses to learn if the other computer has received it without error. The common block size for microcomputer communications protocols is 128 bytes.

Byte

A binary character, commonly eight bits. A byte can have 256 possible combinations. Every ASCII character or code is uniquely defined by a particular byte. Bytes are also a measure of a computer's memory, usually expressed in terms of "kilobytes", or Kb. There are 1,024 bytes in a kilobyte. Conventional memory in a microcomputer is 640Kb. Eight-bit bytes in PCs are truncated to seven bits during transmission to other computers if a seven-bit data transfer protocol is used.

Download/Upload

Retrieving a file from a BBS and sending a file to a BBS. Most users will be retrieving (downloading) files more than sending (uploading) files.

Duplex

In communications, duplex is often used to control, or indicate, who has control of the responsibility to echo text. When operating at full duplex, characters you type are sent to the remote, who then echoes them back to you, where they are displayed. When using half duplex, on the other hand, characters you type are echoed locally by the software you are using and characters sent to the remote are not echoed. If you see double characters on your screen, then you should set duplex to full; if there should be characters printing on your screen but there are not, then set duplex to half.

Local Area Network (LAN)

A system by which many microcomputers and peripherals may be linked together, accessing common files from a single computer called a "file server". The file server is usually a PC with a large fixed disk. The file server may contain data bases, software and files that can be shared simultaneously.

Logon/Logoff

Establishing and breaking a communications link. When a telephone link is made, the BBS will identify itself and prompt the caller to "logon". The callers name, location, and password constitute a unique identifier.

Modem

MOdulator/DEModulator. The modem converts binary electrical signals (positive and negative charges) to voice frequency (analog) signals. Binary impulses are a series of on/off switches or clicks, while voice frequency signals are more like waves, up and down, increasing and decreasing pitch. The modem "modulates" the signals put out by the computer, converting them from digital to analog form, then, at the other end, "demodulates" the analog signals, converting them back to digital form.

Parity

Because there can be garbled data, particularly on telephone lines where the loss of a single bit is almost to be expected, there must be some way to flag possible errors so the sending computer can know that the data were not correctly received. Parity is a relatively rough way of checking to assure that each byte is properly transmitted. The normal ASCII set (first 128 characters) can be represented with just seven bits for each character. The eighth bit can be ignored or used as a "parity bit". The parity bit is used to indicate whether there is an even or an odd number of 1's in the byte transmitted. In most early personal computers, only seven bits were used and the eighth bit was either ignored or used for parity. Now, however, with DOS and the extended ASCII character set, all 8 bits are used to represent the 256 extended ASCII characters and no parity is used. With the eighth data bit being used to store data, other means of checking transmission integrity is used such as error-checking protocols.

Protocols

Standardized send/receive commands that are part of most microcomputer communications software. Both the sending and receiving computer must run the same protocol. Protocols use methods that are far more complex than simple parity checks for error correction and the reliability is far greater, so

they are especially useful for transmission of programs rather than mere text. The software sends a block of data and a coded query. The receiving software notes the query and sends back a bit pattern depicting the data block received. If the sending computer recognizes the response as identical to the coded query, it proceeds to the next block. If there is an error, the system resends the same block. The most common protocols are XMODEM, YMODEM, KERMIT, and ZMODEM.

APPENDIX D

BULLETIN BOARD DESCRIPTIONS

AIR POLLUTION TRAINING INSTITUTE (APTI) BBS

The Air Pollution Training Institute (APTI) offers the widest scope of air pollution training in the United States. Funded by the U.S. Environmental Protection Agency, APTI develops instructional material for and provides technical assistance to training activities conducted in support of the nation's regulatory programs of air pollution abatement.

EPA-sponsored lecture and laboratory courses, using APTI materials, are scheduled at several locations across the country. Self instructional courses, providing opportunities for individual training at home or in place of employment, are obtainable from APTI. Training material is continually updated, and individual courses undergo periodic major revision.

APTI publishes a "Chronological Schedule of Air Pollution Training Courses"; generally once a year. This publication describes the training being offered with a description of the APTI courses and how to obtain the training.

If you would like a copy of "Chronological Schedule of Air Pollution Training Courses" contact the Registrar at (919) 541-2497.

CLEAN AIR ACT AMENDMENTS (CAAA) BBS

The Clean Air Act Amendments Bulletin Board System (CAAA BBS) is designed to provide access to information on the Clean Air Act amendments of 1990. Through this electronic information dissemination vehicle, the CAAA BBS allows regulators, the regulated community and members of the general public to easily obtain access to that information that is relevant to the 1990 Clean Air Act amendments (CAAA). In this manner, the task of understanding, implementing and complying with the requirements of the new law will be made easier.

In addition to providing easy access to important information on the CAAA, the CAAA BBS serves as a forum for technical interchange at the working level among EPA, State and local agencies and the private sector. The communications section of the main menu allows users to send and receive information from other users of the bulletin board.

The information that can be retrieved through the CAAA BBS is organized according to the following fifteen sections:

* Purpose of the CAAA Bulletin Board
* Index
* General
* Clean Air Update
* Title I
* Title II
* Title III
* Title IV
* Title V
* Title VI
* Title VII
* Title VIII
* Title IX
* Title X
* Title XI

Although the subject of each of these sections is generally self-evident, the type of specific information that can be located in each section may not be. Consequently, the information that may be located in each of these sections is described below. Because of the similarity of the sections dealing with the various Titles of the CAAA, these are discussed together.

Purpose of the CAAA Bulletin Board - This section explains the purpose of the bulletin board.

Index - This section contains an index to the bulletin board. This index is useful to users of the bulletin board who may be interested in a specific topic, but may not be sure where information is located on the bulletin board.

General - This section contains information relating to the CAAA and which are not specific to any one Title of the CAAA. For example, definitions of terms, a listing of acronyms, and summaries of specific topics (e.g., dispersion modeling, ambient monitoring, certain source categories, etc.).

Clean Air Update - This section contains the full text of a publication entitled "CLEAN AIR UPDATE" issued on a monthly basis by EPA. The publication contains listings of: 1) the times and locations of upcoming public meetings on Clean Air Act programs, 2) upcoming regulatory actions, including a contact person, 3) reports that have been recently released that relate to the implementation of the Clean Air Act, and 4) major Federal Register notices that were published in the month preceding the publication of the Clean Air Update.

Titles I - IX - These sections contain information specific to a Title of the CAAA. If a user of the bulletin board selects a particular Title, a listing of three submenu items will be seen on the screen. These submenu items are the same for all Titles and include the following: (1) Clean Air Act text and summaries, (2) Policy/Guidance documents, and (3) Status of rules and other projects. The information that is contained within each of these subsections is described below.

(1) Clean Air Act text and summaries - This subsection contains actual text of each Title of the CAAA. The text is presented in a variety of formats to allow the user to select the form that best fits their specific needs. For example, summaries of each Title are included for those users that are only interested in a cursory review of a particular Title. This subsection also contains information that allows the user to better understand the contents of the CAAA. For example, table of contents and summaries of regulatory requirements that are contained within each Title are included.

(2) Policy/Guidance documents - This subsection contains those policy and guideline documents that have been developed by EPA as a result of the CAAA. This subsection will assist bulletin board users in identifying and obtaining copies of the various documents that have been developed by EPA in assisting State and local air pollution control agencies in understanding and complying with the programs established by the CAAA.

(3) Status of rules and other projects - This subsection contains information relating to those regulatory development projects and other projects that are being implemented as a direct result of the CAAA and allows the user to obtain an understanding of the status, scope and timing of Federal implementation activities. Parties interested in a specific rulemaking activity will be able to find information on that rulemaking activity within this subsection.

CONTROL TECHNOLOGY CENTER (CTC) BBS

The CTC is a cooperative effort for engineering assistance to State and local air pollution control agencies (and private companies to an extent) by the Air and Engineering Research Laboratory and the Office of Air Quality Planning and Standards. It is a cooperative effort with the State and Territorial Air Pollution Program Administration (STAPPA) and the Association of Local Air Pollution Control Officials (ALAPCO).

The CTC provides three levels of assistance:

* HOTLINE - (919) 541-0800
  (FTS) 629-0800
* Engineering Assistance
* Technical Guidance

The CTC's goal is to provide technical support to State and local agencies and EPA's Regional Offices in implementing air pollution control programs. The CTC assists regulatory and permitting agencies, but does not provide policy guidance and compliance advice which is the responsibility of the EPA Regional Office. CTC services are available at no cost to State and local air pollution control agencies and EPA Regional Offices. Other government agencies may use the HOTLINE for technical assistance or to order CTC documents.

CLEARINGHOUSE FOR INVENTORIES AND EMISSION FACTORS (CHIEF) BBS

The CHIEF BBS provides access to tools for estimating emissions of air pollutants and performing air emission inventories. Some of the tools provided by CHIEF are as follows:

SPECIATE - Speciation factors are used to estimate emissions of air toxics from emission factors or estimates of total volatile organic compounds (VOCs) or particulate matter (PM).

XATEF - A data base management system that contains crosswalk data and air toxic emission factors.

SIMS - The Surface Impoundment Modeling System (SIMS) is a personal computer software package for estimating air emissions from surface impoundments or wastewater collection devices.

AFSEF - AIRS/Facility Subsystem Emission Factors (AFSEF) allows the user to access the AIRS/AFS Source Classification Codes and Emission Factor listing on PC diskette for use with the Aerometric Information Retrieval System (AIRS) Facility Subsystem, the computer data base for criteria pollutant point source data.

CHIEF serves as EPA's central clearinghouse for the latest information on air emission inventories and emission factors. Emission estimation data bases, newsletters, announcements, and guidance on performing inventories are included in CHIEF.

EMISSION MEASUREMENT TECHNICAL INFORMATION CENTER (EMTIC) BBS

The EMTIC BBS provides technical guidance on stationary source emission testing issues, particularly to people who conduct and/or oversee emissions tests in support of the development and implementation of emission standards, emission factors, and State implementation plans.

The Emission Measurement Technical Information Center BBS was formed to function as a major component of EMTIC's technical information exchange network focusing on emission test methods with the purpose of promoting consistent and accurate test method application in development and enforcement of national, state, and local emission prevention and control programs.

EMTIC offers computer programs, stack testing information, test methods, regulations, EMTIC documents, the latest changes to methods, bulletins, news, contact names and phone numbers within EMTIC that have particular responsibilities, public domain software and E-MAIL service.

OFFICE OF AIR QUALITY PLANNING AND STANDARDS (OAQPS) BBS

The Office of Air Quality Planning and Standards (OAQPS) is responsible for the development of national programs, technical policies, regulations, guidelines and criteria for air pollution control. The OAQPS Bulletin Board is an information board that provides the organizational structure of OAQPS along with the organizational structure of the four Divisions within OAQPS. Information relative to services rendered by OAQPS is also available from this BBS.

SUPPORT CENTER FOR REGULATORY AIR MODELS (SCRAM) BBS

The SCRAM BBS is the Agency's primary source for the acquisition of the computer code for the regulatory air models. Changes to the models, including updates, corrections, and new regulatory codes are main features of the SCRAM. We encourage FREQUENT ACCESS to determine "what's new?". Significant announcements and new information will always be indicated in the SCRAM ALERTS section of the BBS.

In addition to code, model related news and important bulletins concerning model modifications, status, etc. are provided. An especially important feature is the "Model Change Bulletin" (MCB) provided for each model/program. MCB#1 lists information on the initial status of that model; new MCB's are posted for each model as required when models are updated. A model status report is provided that lists all of the models available along with the latest model change bulletin and indicates if documentation is available on the SCRAM BBS.

Other features provided by the SCRAM BBS include:

* Surface meteorological data
* Mixing height meteorological data
* Model clearinghouse memos and information
* Subject conferences concerning modeling issues

TECHNICAL REPORT DATA
(Please read Instructions on the reverse before completing)

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15. SUPPLEMENTARY NOTES

EPA Project Manager: Jerome B. Mersch

16. ABSTRACT

The office of Air Quality Planning and Standards (OAQPS) Technology Transfer Network (TTN) is a network of electronic bulletin boards that provide information and technology exchange in areas related to air pollution control such as, air quality modeling, emissions testing, control technology, emissions inventories and factors, training and the Clean Air Act Amendments. This manual describes the functions of the system and provides instructions for operating the system.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Air quality modeling Emissions inventories Clean Air Act Amendments Air pollution training Emissions measurements	User's Manual Technology transfer	

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