



PHILIPS

TTY
USER GUIDE



Preface

PREFACE

This manual contains all the information that you need for the installation and operation of your Teletype software.

Teletype lets you send information from your computer, over a cable or telephone line, to another machine, whether that machine is the same model or not.

Sometimes you may find a word which is unfamiliar. If that is the case, you can look it up in the Glossary of Computer Terms.



Contents

TABLE OF CONTENTS

	page
PREFACE	iii
CONTENTS	v
1 FEATURES OF TELETYPE SOFTWARE ON THE P2000C	1-1
2 REQUIRED EQUIPMENT	2-1
3 INSTALLATION AND CONFIGURATION	3-1
4 USING TELETYPE	4-1
APPENDIX A: V24 PIN CONNECTIONS (P2000C - P2000C)	
APPENDIX B: V24 PIN CONNECTIONS (P2000C - MODEM)	
APPENDIX C: EXAMPLE OF TYPICAL CONFIGURATIONS	



1 FEATURES OF TELETYPE SOFTWARE ON THE P2000C

The most important feature of this software is that it transforms your personal computer into a teletype terminal. So, data which you type on your computer will be transmitted to another computer, whether that machine is another personal computer or a mainframe.

Some typical applications of Teletype are:

- . Inquiry/Response - the request from a terminal for information from a database, and the return of that information to the operator.
- . Record Update - the modification and/or deletion of a record in a database.
- . Data Entry - the creation of new records.
- . Data Collection - the gathering of transmitted information for subsequent update in the database.

Another aspect of Teletype is its ability to transfer files between two machines. That means that after you have collected data from a remote site, and processed that data, it is a simple matter to send it back.



Required Equipment

2 REQUIRED EQUIPMENT

To run Teletype, you will need a P2000C personal computer, which includes the CP/M 2.2 operating system and a V24 serial interface. Depending on the type of communication, you will need the following:

SHORT RANGE

- a V24 cable, of maximum length 100 metres, for a direct connection between two personal computers. This is also called a hard-wired connection. Appendix A contains details of the connections.

MEDIUM RANGE

Normally an in-house connection of more than 100 metres. You need:

- a modem eliminator, one on either side of the connecting cable.
- A V24 cable on either side of the connection, linking each computer to the modem eliminator. Appendix B contains details of the connection.
- a cable between the modem eliminators.



Required Equipment

LONG RANGE

A connection made over a telephone line. You need:

- two modems, one at each end, or an acoustic coupler and a modem.
- A V24 cable on either side of the connection, linking each computer to its modem or acoustic coupler.

The Post Office will give you any advice on modems and acoustic couplers that you need.

It would be a good idea to have a telephone connected to the same line as your modem. So, if there is anything that you have to discuss with your partner at the other end, you can talk directly.



Installation and Configuration

3 INSTALLATION AND CONFIGURATION

Now that you have all the necessary equipment, it must be installed before you can start to use Teletype.

With a direct connection, it is simply a matter of connecting the cable into the V24 interface connector (↔) at the back of each computer.

For transmissions over a longer distance, you must connect your modem, your modem eliminators or your acoustic couplers to the relevant cables and computers.



Installation and Configuration

The next thing to do is make a work copy of your Teletype disk. (You should have already made a work copy of your CP/M disk. If you have not, do so now. The CP/M User Guide has all the details.)

- Put the work copy of your CP/M disk into drive 1.
- Put an empty disk into drive 2.
- Press the RESET button on the front panel of the machine and, after the CP/M prompt A> has appeared, type the name of the program, 'UTIL', and press the carriage return key.

Next, you will see the first menu of the UTIL program. Follow these instructions:

- Take the CP/M work copy out of drive 1.
- Put a write-protect tab on the original disk that contains your Teletype program and put it into drive 1.
- Choose option 3, 'Copy Floppy Disk'. You will see a series of prompts. Proceed as follows.
- 'Enter source drive' - 1
- 'Enter destination drive' - 2
- 'Do you wish to verify?' - y



Installation and Configuration

- 'Select source disk type'. Your response will depend on the type of disk and type of computer you have. There are two choices:
 - 1) If your original disk is 160K (with a yellow label) and your computer has 640K disk drives (a P2012), press 2 . You will then see another prompt: 'Which System?' Press 1 to select the CP/M system.
 - 2) If your original disk is 160K and your computer has 160K disk drives (a P2010), or if your original disk is 640K (with a blue label) and your computer has 640K disk drives, press 1 .
- When you are ready, press any key for the copy job to start. At the end, you will have a work copy of your Teletype disk.
- Take the original Teletype disk out of drive 1 and put it away.
- Put your CP/M work copy into drive 1.
- Press the Reset button.



Installation and Configuration

The next step is to configure your program. This configuration will depend on the way that you intend to use Teletype (for instance, if you will use a modem or not). Appendix C gives some typical configurations. The important thing is that both you and your partner must have the same configuration.

First, type **B:** and press the carriage return key. This action selects the drive that has your Teletype Work Copy.

To start the configuration program, type **TTYCONF** and press the carriage return key. You will see the following:

VERSION x.x

CONFIGURATION OF TELETYPE PARAMETERS

PHILIPS P2000C

=====

BAUDRATE:	0:	9600 BAUD
-----	1:	4800 BAUD
	2:	2400 BAUD
	3:	1200 BAUD
	4:	600 BAUD
	5:	300 BAUD

YOUR CHOICE:



Installation and Configuration

You will see that one option in every menu is displayed in inverse video. That is the value that the system has given to each parameter at the outset. These values will be typically used by a P2000C which is connected to a database host (see Appendix C). If you want to keep these values, press the carriage return key. Otherwise, select the number of your choice.

The first thing to do is choose your baud rate. This is the rate at which data is transmitted, measured in bits per second. Roughly, the smaller the baud rate (or, the slower you transmit), the more accurate will be the transmission. There is a lesser chance of data error if you transmit at 300 baud instead of 9600.

The choice of baud rate will also depend upon the type of modem you have. Your modem manual will have all the information you need.

After you have selected your baud rate, the next parameter (the next prompt in the series) will appear:

```
PARITY:      0:    NO PARITY
-----      1:    ODD PARITY
              2:    EVEN PARITY           YOUR CHOICE:
```



Installation and Configuration

Parity is the check you keep on data which is being transmitted. Every 'on' bit ('1' bit) in every byte that is received will be counted. If you have specified odd parity; for example, and an even number of 'on' bits is counted, you will get an error.

Note that if you opt for 8 bits per character, then you should select 'no' parity.

```

STOPBITS      0: 1.5 STOPBITS
-----      1:  1 STOPBIT
              2:  2 STOPBITS      YOUR CHOICE:
  
```

Next is the bits per character option:

```

BITS/CHAR     0:      7 BITS
-----      1:      8 BITS      YOUR CHOICE:
  
```



Installation and Configuration

You have two options here. For example, your choice can depend upon whether you are using the ASCII code, which is 7-bit, or the EBCDIC code, which is 8-bit. Or, say, you want to transmit a character set of 256 characters. In this case, you must use 8 bits per character.

The next prompt:

```
ECHO:          0:          REMOTE
-----        1:          LOCAL          YOUR CHOICE:
```

The default is 'local', which assumes that there will be no echo from your partner. If characters are echoed, you will see on your screen a duplication of the characters that you typed. In this instance, you should select 0, 'remote'.

The next prompt:

```
CR-IMPLIES LF: 0          NO
-----         1          YES          YOUR CHOICE:
```



Installation and Configuration

'CR' means carriage return and 'LF' means line feed. 'NO' means that your partner will send both characters (CR and LF) at the end of each line of text. If this selection is wrong, all the text will be written on the same line, i.e. it will overwrite itself.

'YES' means that a carriage return will be issued at the end of each line of text. If this selection is wrong, an extra empty line will appear between normal text lines.

The next prompt is to choose the type of transmission line: half-duplex or full-duplex.

```
DUPLEX:      0: HALF-DUPLEX
-----      1: FULL-DUPLEX      YOUR CHOICE:
```

Half-duplex means that you can send and receive data alternately, and full-duplex means that the process is simultaneous. Again, your choice will depend on the modem you are using.

You will finally be prompted to decide if you want to change the values of the transmission control characters XON and XOFF. Normally, you will not need to do this, except in the case of special file transfers.



Installation and Configuration

Then, at the end of the configuration program, you will be returned to the operating system.

The last thing to do is copy your Teletype program files onto your CP/M system disk, unless you already have both Teletype and CP/M systems on one disk.

REMEMBER TO USE ONLY THE WORK COPIES OF YOUR CP/M AND TELETYPE DISKS - THE ORIGINALS SHOULD BE KEPT IN A SAFE PLACE

You should already have your CP/M work copy in drive 1 and your Teletype work copy in drive 2.

- Press the RESET button. When you see the CP/M prompt A , type **pip** .
- After the '*' prompt, type **A:=B:TTY.COM [V]** and press the carriage return key.
- At the end of this first copy, you will see again the '*' prompt. Type **A:=B:TTYPAR.SYS [V]** Press the carriage return key. After this second copy, press carriage return and you will return to the standard system prompt.

So, you have done everything necessary. You have made a work copy of the Teletype disk, configured the system, and 'prepared' your system disk by putting your Teletype files on it. Keep the original Teletype disk and the configured work copy in a safe place. You will need both for back-up purposes, and you will also need the configured disk should you want to re-configure your system.



Using Teletype

4 USING TELETYPE

This is how you start up the Teletype system. In response to the CP/M prompt 'A>', type: TTY and press the carriage return key. You will now see the Teletype main menu. It looks like this:

VERSION x.x

TELETYPE PROGRAM

PHILIPS P2000C

=====

- 1: TERMINAL MODE
- 2: SEND FILE
- 3: RECEIVE FILE
- 4: END OF PROGRAM

Before you use Teletype, you should get in touch with your partner and decide which method of transmission you are going to use.

First of all, we shall look at Terminal Mode.



Using Teletype

TERMINAL MODE

The typical use of Terminal Mode is a connection between a personal computer and a mainframe. In this way, the P2000 becomes a 'terminal'.

Select '1' from the main menu, and you will see this prompt:

ENTERING TERMINAL MODE

You must dial up your partner, make the modem connection, and go through the appropriate logging-on procedure. Now you are ready to start the communication.

If you want to interrupt the transmission, press the C key on the numeric keypad. You will still be in terminal mode if you wish to start another job.

To quit Terminal Mode, press the two keys CTRL and T together. You will then be returned immediately to the main menu.



Using Teletype

SEND FILE AND RECEIVE FILE

A typical use of this feature is to send a file from one P2000C to another - for example, 'electronic mail' from one workstation to another. The first thing is to decide who shall send and who shall receive. When you have done that, the receiver should select option 3 and he will see this message:

P2000 DESTINATION FILENAME

Before the receiver answers this prompt, he should be sure that he has enough space on his disk to receive the file. He should also remember to prefix his file name with A: or B: depending on where he wants his file to be - for example, 'B:INVOICE' could be an invoice file on the disk in drive B.

He should be careful to choose a unique name, unless he wants to overwrite an existing file, in which case he will be asked to confirm his intention. One last point: he does not have to use the same name as his partner. So, if the sender transmits a file called 'DEBIT', the receiver can name it 'CREDIT' if he wishes.

Now, the sender can start. He selects option 2 and sees this message:

P2000 SOURCE FILENAME



Using Teletype

After he has typed in the file name, the transmission will start.

At the end of the transmission, the sender will be automatically returned to the main menu. The receiver, however, must press CTRL and Z before he is taken back to the main menu.

If either partner wants to break the transmission for any reason, he must press the keys CTRL and Z together. He will then be taken back to the main menu. If the receiver breaks the transmission, he should inform the sender.

The fourth option, 'End Of Program', returns you to the operating system.

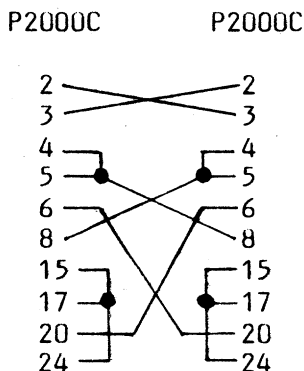
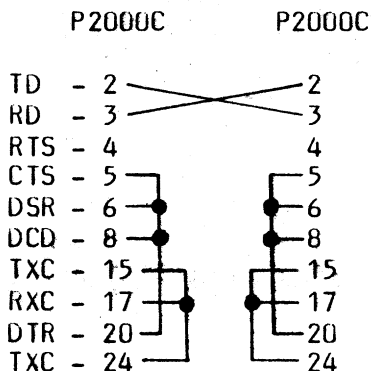


Appendix A

APPENDIX A: V24 PIN CONNECTIONS (P2000C - P2000C)

Full Duplex

Half Duplex





Appendix B

APPENDIX B: V24 PIN CONNECTIONS (P2000C - MODEM)Full and Half Duplex

P2000C	MODEM	Function
2	2	TD - Transmitted data
3	3	RD - Received data
4	4	RTS - Request to send
5	5	CTS - Clear to send
6	6	DSR - Data set ready
8	8	DCD - Data carrier detected
20	20	DTR - Data terminal ready
15		TXC - Transmission signal element timing (DCE)
17		RXC - Receiver signal element timing (DCE)
24		TXC - Transmit signal element timing (DTE)



Appendix C

APPENDIX C: EXAMPLE OF TYPICAL CONFIGURATIONS

	Typical Selection for Terminal Transaction	Typical Selection for Send/ Receive P2000C/P2000C
BAUDRATE (*)	300	9600
PARITY	ODD	NONE
STOPBIT	2	2
BITS/CHAR	7	8
ECHO	LOCAL	LOCAL
CR IMPLIES LF	NO	NO
DUPLEX (*)	FULL	FULL
XON/XOFF	NO	NO

(*) modem-dependent



Manual Status Control Sheet

P2000C Teletype User Guide

12NC: 5103 993 12621

This issue comprises the following updates:

No updates



Manual Comment Form

P2000C Teletype User Guide

12NC: 5103 993 12621

Including updates(s) _____

Originator:

Name

Address
.....
.....
.....

Comment (if possible, add a copy of the page(s) affected by the comment, marked with the proposed changes)

Please return this form to:

Philips Austria
Personal Computer Division EFW-M
Breitenseerstr. 116
A-1141 Vienna
AUSTRIA