



**COMMUNICATIONS
WITH VIEWDATA**

FOR USE WITH ENSOFT COLOUR MICRO COMPUTER

KUMMA

ISBN NO 07457-0161-2

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Tatung Einstein Viewdata Package

Requires:

32K Tatung Einstein microcomputer
Prism Modem 1000,
BT Jack Socket on telephone line

Provides:

Prestel \oplus Terminal Emulation
Downloading of telesoftware to disk
Access to other systems such as Telecom Gold \oplus
RAM disk for saving, viewing and printing frames
Off-line message preparation and saving facilities
TAB up to 26 pages for instant return
Use of function keys to save key strokes
Saving frames to disk
Printing current or stored frames

\oplus Prestel and Telecom Gold are registered trade names of British Telecom

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This powerful package gives you access to hundreds of thousands of pages of information by turning your Tatum Einstein microcomputer into a complete Prestel terminal.

But it also gives you access to an ever increasing number of computer programs for your amusement and education, as well as for help with your household records, your profession and your hobbies.

You can "download" programs over the telephone lines and save them on your own disk.

To use the package, you need to join Prestel and optionally Prestel Microcomputing, who supply you with an Identity Number and Password as well as full information on how to find your way around Prestel. Prestel can be contacted in working hours by dialling 100 and asking for FREEPHONE Prestel sales who can advise you on joining Prestel and how to obtain a telephone jack socket for your modem if you do not already have one.

You can connect to Prestel as easily as making a phone call. You connect to a huge database of information, and you can then use your microcomputer as an intelligent Prestel terminal.

The keyboard can be used to complete messages and response frames.

Interesting frames can be saved on your disk or computer memory for subsequent reviewing, and can also be printed out if you have a printer.

Included in Prestel Microcomputing's database are telesoftware pages - microcomputer programs which can be read onto your disk for subsequent execution.

The following pages tell you how to set up and use this package in detail, assuming a basic knowledge of the operation of your Tatum Einstein microcomputer.



This section tells you how to set-up your Tatum Einstein system in order to access Prestel. Make sure you are familiar with at least the theory of operation of your Tatum Einstein microcomputer, of Prestel and of your modem by studying this User Guide and manuals supplied.

2.1 Initial set-up of the Computer

Connect your Einstein to the modem with the cabling provided. The modem should be set to M/NET or 1200/75. If you have a printer this should now be connected to the Einstein. For future use leave these parts connected. Place disk provided into drive. Power up all components. When "0:" appears type XBAS and once loaded type RUN"PRESTEL. You are then asked to choose either 300/300 or 1200/75 baud rates. After a few seconds the main menu should appear. You are now ready to call Prestel.

2.2 Connecting to the Telephone

Your modem has a lead to connect it to the telephone socket. You can then plug your telephone into the socket on your modem. Make sure the telephone is within easy reach. Always make sure that nobody else is using the telephone before attempting to call Prestel.

3 THE MAIN FEATURES

3.1 The Main Menu

This KIMA program is a software package to support the many attractive features of the Prestel system, using your Tatung Einstein microcomputer to your full advantage. The program is easy to use because it's "menu driven". This means that possible options are listed on the screen. To select any option you just type in the number shown opposite. The function you have selected will then either take place or another menu of options will be displayed. With a menu driven system you do not need to remember how to drive the system: the menus are a constant reminder. The bottom line of the main menu is where any status/error messages appear.

The options available from the main menu are:

- 0: Automatic Log on
This option allows you to log on to Prestel with ID number stored in the program, which can be altered - see 5.7
- 1: Manual Log on
This option allows you to log on to Prestel with a new ID number, typed in by you each time.
- 2: Prestel Terminal
Once logged on, you can re-enter Prestel
- 3: Log off
Automatic log off from Prestel
- 4: Save Prestel Frames
Any displayed frames may be saved on disk or to computer memory
- 5: View Prestel Frames
This option will fetch saved frames from disk or memory to be viewed when required, and also display the disk directory.
- 6: Print Prestel Frames
As option 5, but instead of being displayed, frames are printed
- 7: Download a program
This option will download a telesoftware program from Prestel and save it on disk
- 8: Message handler
This option gives support to the mailbox facilities on Prestel. Messages may be prepared at any time and sent when required.

9: Set Parameters You can configure the system to suit yourself

ESC: You are returned to BASIC

3.2 Logging-on

Before accessing Prestel you must first log on. During the logging on procedure the screen may request you to enter your customer identity, which will have been supplied to you by Prestel, depending which log-on procedure you have selected. Pick up your telephone receiver and check for a dialling tone. If you do not hear this tone replace the receiver and try again. When you dial, use one of the telephone numbers supplied to you by Prestel and wait for a continuous high-pitched tone. If you do not hear this tone, but hear a "ringing" or "engaged" or "unobtainable" signal then replace the receiver before calling again, this time using an alternative number.

If you hear the high-pitched tone, then switch your modem on-line and replace the receiver within 5 seconds, provided the modem carrier light is on.

If your call is successful and your personal identity has been correctly received by the system, you will be asked for your password.

If the system fails to recognise you as a known user, a message is displayed to this effect and you may be asked to re-enter your Prestel ID. If you still fail to get through, contact Prestel via the telephone.

If when entering your password you experience "scrambling" of the display, then you are suffering from "line noise" or interference on the telephone network. If this is very noticeable it is usually worth logging off and starting again.

There are two methods of logging on to Prestel using the program. The first method, known as "Automatic", sends the identity number stored in the program. This is the "default" number. If you wish to use an alternative number for any reason, a second method is provided. This method is known as "manual logon"; when selected via the main menu you are requested to type in the new identity number. In both cases the identity number is sent automatically to the Prestel computer. If you want to logon without your identity number being visible anywhere, use the following method: with either manual or automatic logon as described above, enter 10 * * characters as your ID. When you logon Prestel will ask you to type in your ID but it will not appear on the screen.

At all times pressing ESC returns you to the main menu
NB DEL = Prestel * and "Enter Key" = # (control/E switches between # and enter functions)

3.3 Logging off Prestel

Logging off Prestel involves disconnecting the telephone line between your modem and the Prestel computer. This is best achieved using the program option, but you can also switch your modem off-line. When you choose the option from the main menu, the program sends *90# to Prestel to request the sign-off page. If there are new messages for you, the system will inform you.

3.4 Using Prestel

To access Prestel you must first log on. This is covered in sections 3.2 and 4.1. Once logged on your microcomputer becomes a Prestel terminal. At all times you can return to the main menu by pressing ESC. Otherwise any key pressed will result in the corresponding character being sent to Prestel. The character will either be echoed back and displayed on the screen or the Prestel command represented by that character will be carried out.

With only the numbers 0 to 9, and the characters * (star) and # (hash) available, it is possible to access much of the information on Prestel. When on-line to Prestel, the ENTER key acts as the # symbol, and the DEL key acts as *.

Generally, each Prestel frame offers you a number of choices, indicated by the numbers 0 to 9 and/or the character #. You select from the options available by pressing the appropriate key. If you want the number of a particular page you can go straight to it by keying * followed by the page number followed by #. If you want to (go backwards) return to the last page you saw key *#. If you make a mistake ** cancels your last instruction. Other useful commands are *00 for repeat page, and *0# to go to your main index.

Whilst in this mode certain other keys of your Tatumg Einstein microcomputer have special functions which are detailed in section 4.3.

3.5 Saving, Viewing and Printing Prestel Frames

Once a Prestel frame has been displayed on your screen it may be saved. The procedure for saving frames, either to disk or computer memory, or disk is given in section 4.4.

Saved frames may be retrieved from disk or computer memory and displayed on the screen. Retrieving frames in this manner is handled in section 4.5. Any frame, either the current one or one stored, may be printed onto your printer. Details are given in section 4.6 and you may wish to refer to section 5.2 for further technical details on printer codes etc.

3.6 Downloading telesoftware

Programs stored on Prestel may be downloaded to your computer using the downloading function. The program you want must be selected using the normal Prestel operation function via the main menu.

Instructions are provided on-line, but the important thing is to attempt downloading once the "header frame" has been displayed under normal Prestel operation. The "header frame" is usually the "c" frame of the program and its length. If the "header frame" is not the "c" frame, you must inform the downloading software. For more information see section 4.7. Do not attempt to download programs if you have a noisy environment or a crackling telephone line as this will cause errors. The system will make up to 5 attempts to download each frame. If a frame fails to download successfully within 5 attempts, the system returns to the main menu with an error message.

3.7 Sending Messages

You can send messages on the Prestel system to other Prestel subscribers. This is called "Mailbox". Special frames are available to send messages both to other users and information providers. Once a Mailbox response frame is displayed, you may type in your message. The information is then stored in the frame and the whole frame can be sent to the subscriber of your choice.

Messages can be prepared when off-line from Prestel, so saving telephone connect charges, and stored on disk for future use. Messages can of course be prepared at any time whilst on-line and sent as required. The program will send the message automatically when you wish.

Note this facility can be used in any response frame, be it Mailbox or Telex or an IP response frame. For more details see section 4.8.

4 USER INSTRUCTIONS

4.1 How to Log on

Step 1: Display main menu by pressing ESC in necessary
Step 2: Press 0 if automatic log on required
Press 1 if manual log on required and then type in your ID

Step 3: Phone the computer using one of the telephone numbers supplied by Prestel. When the computer answers and you hear the high-pitch tone, switch your modem on-line and replace receiver when carrier light is on.

Step 4: When requested, type in your personal password

Note: At any time pressing ESC returns you to the main menu and log on procedure is stopped.

4.2 How to Log off

Step 1: Press ESC to display main menu

Step 2: Press 3 to log off

Step 3A: If there are no new messages for you, the main menu will reappear when the line to Prestel disconnects.

Step 3B: If there are new messages for you, the screen will give you further instructions. If you choose to read the messages, then you are back in Prestel terminal mode and you will have to start again at step 1 to log off.

Note: At any time switching your modem off-line disconnects you from Prestel and you are returned to the main menu with the message "line break". However the system does not check new messages for you.

4.3 Normal Prestel Operation

Step 1: Press ESC to display main menu, if necessary
Step 2: Press 2 to start Prestel operation

Step 3: Use keyboard to send characters to Prestel

Notes: The ENTER key is used to send # to Prestel. The DEL key is used to send a * to Prestel. Both the normal keys for these characters work of course. The arrow keys act as you would expect and the CONTROL key provides the normal control codes; Prestel accepts CTRL L for clear screen and CTRL ↑ for cursor home. You can use the function keys as normal; they can be redefined - see section 5.3. The INS key is special; it does not send any characters to Prestel, but the program uses it to provide a custom index for you. You have 26 entries in your index, one to each alphabetical character A to Z. The index can be displayed from the main menu - see section 5.3. When you press the INS key, the program waits for you to press a key. If it is not A to Z or a to z that you press, it is ignored and you are back on-line to Prestel. If it is A to Z then the page number of the currently displayed frame is stored under the index of the key pressed. If it is a to z then the page whose number is stored under the key pressed will be displayed. This special index is only maintained during the time it is created until you turn your

computer off. If you want to keep a permanent index you are advised to use the function keys and alter their initialisation in the program - see section 5.3. The CTRL B key does have a special use; if you aren't bothered don't press it but if you are see section 5.1. CAPS LOCK works as normal. BREAK and SHIFT BREAK have no effect in Prestel Terminal mode but when you return to the main menu, which is run in BASIC, then normal considerations apply; there is an ON ERR handler in the program. Graph has no effect. As throughout, ESC returns you to the main menu. Two special keys when in terminal mode are:

CTRL 0

This toggles between local and on-line modes of transmission. When started it is on-line that is connected to the modem. Local mode disconnects the modem and characters are echoed to the screen. This mode can be used to prepare messages and store them for subsequent transmission.

CTRL S

This toggles a scrolling facility as opposed to Prestel type screen handling. It would be used when connected to computers which do not offer the Prestel type screen handling. However because of time considerations it is only recommended for use at 300 baud.

4.4 Saving Prestel Frames

Step 1: Press ESC to display main menu, if necessary
Step 2: Press 4 to display Save Frames menu.

To Save Current Frame to Disk:

Step 3: Press 0
Step 4: Type in a file name in response to prompt; max length 8 characters. Set disk ready

To Save Current Frame to Computer Memory:

Step 3: Press 1
Step 4: Type in a to z or A to Z to identify frame in memory. Note if you have already stored another frame under the same key, it will be overwritten.

4.5 Viewing Prestel Frames

Step 1: Press ESC to display main menu, if necessary
Step 2: Press 5 to display View Frames Menu

To View Current Frame:

Step 3: Press 0
Step 4: Press any key to return to main menu.

To View Frame Stored on Disk:

Step 3: Press 1
Step 4: In response to prompt, enter file name, set ready and press RETURN.

Step 5: Once displayed, press any key to return to main menu.
Note: CONTROL STOP will abort operation

To View Frame Stored in Computer Memory:

- Step 3: Press 2
- Step 4: Enter frame required by a to z or Z to Z - the same key the frame was stored under
- Step 5: Press any key to return to main menu
- To display directory:
- Step 3: Press 3
- Step 4: Once displayed, press any key to return to main menu.

4.6 Printing Prestel Frames

- Step 1: Make sure your printer is connected, switched on and operational.
 - Step 2: Press ESC to display main menu, if necessary.
 - Step 3: Press 6 to display Print Frames Menu
- The procedure is now the same as for viewing Prestel frames except that the frames are printed rather than displayed! After printing the main menu is displayed. If the printer misbehaves, CONTROL STOP will abort operation.

4.7 Downloading Programs

Note: Before attempting to download a program stored on Prestel frames, first select the program to be downloaded using normal Prestel operation. When the program has been selected, find the frame containing the header block (see section 3.6). When displayed check the frame subscript letter. If this letter is not the same as the default ie "c" then use the Change Start Frame function via the downloader menu (key 1). Of course if you change the start frame subscript then it is with this that you must subsequently check any further header block frame subscripts; the default only becomes "c" again when the program is rerun.

Using the Downloader Functions:

- Step 1: Press ESC to display main menu, if necessary
- Step 2: Press 7 to display downloader menu.
- To change Start Frame:
 - Step 3: Press 1
- Step 4: Enter required subscript; only valid character is a to z
- To Download a program:
 - Step 3: Press 0
 - Step 4: Enter file name and set disk ready. You may enter a null file name ie type no characters. If you do this then the downloader will take the file name from Prestel. Press RETURN to start downloader.

Note: After downloading you are still logged on to Prestel. During downloading, Prestel frames are displayed which are then de-coded and written to your disk.

4.8 Sending Messages

Messages are prepared using terminal mode in a "null-modem" fashion. This means you set your modem to test so that it echoes the characters you type. In this way you can create up to a frame of text. You should then store this either in a RAM disk or normal disk file. The message handler will then transmit the frame when requested. You can type CTRL P to put an invisible end of frame marker so that only characters up to that point will be transmitted. Messages are thus stored and viewed using normal operations previously described.



5 APPENDICES

These are supplied to enable you to get more out of this package. Of necessity they do require a certain technical knowledge, but don't let that put you off!

5.1 Telecom Gold

With this package you can access Telecom Gold. You will of course need to have registered with Telecom Gold in order to get on the system. They will also tell you the telephone numbers to ring instead of the Prestel numbers. You can access the system at different speeds; they vary with the telephone number you dial. Also your modem will have to support these additional speeds. If you choose one other than 1200/75 ie standard Prestel then you must alter your modem speed and also the Tatum Einstein speed; for the latter see section 5.3. Remember to change them back before accessing Prestel! The main difference between Gold and Prestel is that Gold uses ENTER (13) as the character to the computer to tell it to accept data entered, whereas Prestel uses # (95). To make life easy, the program uses the ENTER key to send both these characters; the value is toggled by pressing CTRL E in terminal mode. Thus when you start, ENTER would send character 95. When in terminal mode, press select and ENTER will now send character 13 and so on. Prestel does accept character 13 but it merely means put the cursor at the start of the row.

How to log on to Gold:

Dial the computer. When you get the tone, switch your modem on-line and replace the receiver. Then select option 2 from the main menu. Press CTRL E if necessary to set ENTER to character 13. Wait about 5 seconds or so and press ENTER until you get the Gold log on message and proceed. Once logged on you are advised to type immediately TERM TYPE PRESTEL WRAPS. This helps to present the information in a readable manner.

How to log off Gold:

Either type at Gold command level 10 or switch modem off-line.

5.2 Printers

The slight problem here is that printers have different interpretations of the same codes; this is a particular difficulty with the PRESTEL character set as it is not ASCII standard. The print routines supplied only sends standard ASCII characters to the printer, with a '*' instead of Prestel graphics; it just outputs the screen 40 characters at a time with characters 10,13 in between each line. If this does not work for your printer or you cannot set your printer up to behave properly with these codes, then you can write your own print routine. This is not as difficult as it might appear. All the screens, be they current, stored or stored in RAM are held in RAM buffers. You need to PEEK these and just print the characters you find, suitably interpreted for your printer together with line feeds etc. You will find details of the addresses of these

buffers for the various cases by studying the BASIC program supplied.

5.3 Set Parameters

This section deals with option 9 from the main menu. This concerns mostly variables in the program which you can alter to suit yourself. The program tells you if you have already used a particular option before, when necessary.

5.3.1 Baud Rates

If you use Telecom Gold or any other system you may wish to change the speed of data transmission. This is achieved by pressing 0 and 1 from the Set Parameters menu. Simply follow the prompts. Remember to alter your modem to the same speeds and change back to access Prestel.

Note other comms parameters are fixed at 8 data bits, 1 stop bits and no parity; to alter these see section 5.5.

5.3.2 Cursor characteristics

You can choose the cursor character and blink rate. Simply press 2 and 3 from the Set Parameters menu. The default values are cursor character code 127 and blink rate 1280.

5.3.4 Function keys

Options 4 and 5 from the Set Parameters menu are self-explanatory.

5.3.5 Colour

Option 6 from the Set Parameters menu enables you to set the colour of all the screens. The numbers are as per TCOLL command with the default 15,4.

5.3.6 TAB settings

Option 7 from the Set Parameters menu displays the 26 index entries that are currently held; for further details see section 4.3.

5.4 Cable Connector

5 way	25 way
5 RX	3
3 TX	2
2 DCD/CTS	8
1 Earth	7

5.5 RS232 Parameters

You can already choose the required baud rate under program control. As previously stated, the RS232 interface is set at 8 data bits, 1 stop bit and no parity. However this can be changed if needed. You can or course use MOS and the 'B' command or you can change the program as follows. Either POKE 67E20,xy:DOKE:7E21,wzz:CALL:67000 or do the same poke/doke then SAVE"ZCOMSO.OBJ",67000,67FFF. The former will have only temporary effect whilst the latter permanent. The values for xy ww and zz are taken from pages 18 to 20 of the DOS/MOS manual with defaults: xy=650 and wzz=66E37
Note if you use the SAVE option you must already have run the initialisation procedure and should do so afterwards.

5.6 Making Copies of the program

The files that are needed are:

PRESTEL.XBS	contains the initialisation procedure
ZCOMSO.OBJ	contains the 280 subroutines for 1200/75
XBAS.COM	BASIC!
PR75.XBS	contains the 1200/75 version of the program
PR300.XBS	contains the 300/300 version of the program
ZCOMS1.OBJ	contains the 280 subroutines for 300/300

Thus these files need to be copied to a formatted disk and the new disk is ready.

5.7 Hints and Tips

A short-cut to loading the program is to type XBAS PRESTEL after 0: This loads XBAS and automatically executes PRESTEL.XBS

Automatic Logon:
Change IDS="*****" IN LINE 1010 OF THE BASIC program PR75 or PR300 to IDS="1234567890" for example and then SAVE the program. You may also change the function key.in the program for permanent use.

Warnings:

Messages

Remember to use CTRL P otherwise note that 960 characters takes over 2 minutes to transmit at 75 baud.

Teleoftware

It is recommended to only download ASCII Basic program files. Furthermore the software assumes that in the header-block the block size parameter is three ASCII digits and will only download if that is so. This is standard Prestel use, but if necessary you can always use local mode to edit the header-block frame appropriately.