

LHA TelexTester

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Chapter 1 Introduction

General

This manual details the contents of the TelexTester documentation. This documentation describes in detail the functions of the TelexTester package running on an IBM or compatible personal computer and is intended for anyone who will be installing the package, running it for the first time, loading the correspondent testkey data, using or supervising the system.

There are 5 main sections that make up this documentation:

This **Introduction Section** details Installation instructions, software registration and keyboard use.

The **Supervisor Section** contains information on Reporting, Grid Maintenance, Start of day operation and File maintenance.

The **Table Maintenance Section** details how to add change and delete correspondent testkey tables.

The **Operator Section** details the specific instructions for testing incoming messages (decoding) and calculating the test for outgoing messages (encoding and verifying).

The **Security Section** details how to set up your users on the system and setting the System Parameters to establish your required security levels.

In addition there are several Appendices as detailed here:

Appendix A, **Sample testkey** gives an example for training purposes of a Testkey table.

Appendix B, **Telextester Files** lists the files and gives a short explanation of their contents.

Appendix C, **System messages and error codes** details some of the messages and their explanations which may be produced by the system.

Appendix D, **Specialist Keys** details specific instructions for unusual testkey algorithms.

Appendix E, **Systems Maintenance**, gives instructions for generating copies of TelexTester for issue to your Corporate customers.

Appendix F, **Limited System Generation**, gives instructions for generating copies of TelexTester for issue to your Corporate customers.

Appendix G, **Testkey Management System**, gives instructions for automating Testkey table issues.

Appendix H, API Documentation, gives details of the Application Program Interface.

Please read all of the Sections before embarking on the installation of the package so that you have an understanding of what the system can do. With this approach there should be no questions that you cannot answer. Any problems not covered can always be referred to LHA.

Getting Started/Installation

Suggested Learning Sequence

After scanning through the Sections to help familiarize yourself with the system layout and all user functions, follow the installation procedure if this has not already been done for you.

Then you can run the system, sign on and select the Correspondent Maintenance option from the **'Table Maintenance Section'** Make up a fairly simple dummy correspondent with say 'Day of week', 'Currency', 'Amount', and 'Sequence Variable' tables. Or, you can enter the correspondent Demo Bank as illustrated in the Tables maintenance Section. The manual will tell you what to do at each stage of adding a new correspondent so you may use it as a tutorial.

Next, you can select the Testkey Messages option of the Supervisor Menu and encode several messages. You should reference the **'Operator Section'** for this exercise. Try using the analysis option to see how the test was calculated and check this against your own manual interpretation.

Select the decode option and enter a couple of tests making the second test 1 position out of sequence, i.e. message 3, and see what happens.

You can access the Grid Maintenance option from the Supervisor Menu to display the grid for the correspondent you created and the messages that you tested. The instructions for this are in the **'Supervisor Section'**.

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By now you should be fairly comfortable with the system so add your most commonly used correspondent and table set, and repeat some old tests to ensure that all is well.

At this stage you should be ready to start the rest of your table data entry so you will need to attend to the Master Currency Table. The system has been issued with the ISO currency codes but you will need to change them if you have your own coding system. See Master currency maintenance in the '**Supervisor Section**' for details on this.

Before you start entering information and table data for each correspondent, check which use the same table set, i.e., common tables with just the fixed numbers varying. Enter the common ones first then add the correspondents that reference them by completing the Use Tables field. Also, remember that tables which are marginally different may be copied using the '**Copy**' option.

Depending upon the procedure you will follow for loading your correspondents, you should reference the Security Section, either before or after, to register all users and set those security parameters that you require.

Installing TelexTester

Introduction

This testkey package has taken many years to develop, it incorporates over 60,000 lines of COBOL code. To provide all the necessary features, the package consists of many modules which are contained within several libraries, for example, Testkey1 and Testkey2. Further details on the programs and data provided on the issue disks are given in the appendices.

Installation of the package is normally carried out by LHA staff prior to initial training, but if you have been supplied with a system to install yourself, the following procedure assumes that you are familiar with the DOS operating system commands.

System configuration

Computer RAM

The TelexTester program requires about 500k Bytes of memory to be available.

Computer Disk

The TelexTester programs occupy about 2 MBytes of space, in addition, data files will take up space dependent on the number of tests in the history files and the number of correspondents held.

CONFIG.SYS

Before you begin the installation procedure, you should make sure that your config.sys file includes the following instruction:

files=99 (*minimum figure, yours may be greater than this*)

If you are using Windows NT/2000, the file is called CONFIG.NT and can be found in the WINNT\SYSTEM32 directory.

Backup disks

You should make backup copies of the original TelexTester disks to use for the installation procedure and store the originals in a safe place.

Installation

Programs

Installation is automated by an installation program. The program is call 'SETUP'.

Access the operating system (DOS) prompt.

Insert the Testkey installation disk in the drive.

Access the installation disk, usually drive 'A'. Type the command:

<A:> and press the <Enter> key.

Run the installation program by typing the command:

<SETUP> and press the <Enter> key.

Follow the prompts on the screen to continue the installation. You will be asked to enter the 'Installation Drive' and 'Directory'. Press <Enter> to accept the defaults, or correct them if required.

The installation program will indicate the disk space required and available. If insufficient space is available on the selected drive, the installation will not proceed.

Files will be copied from the installation disk. Press the <Enter> key when requested. If further disks have been supplied, insert them when requested.

When all disks have been copied, you will be prompted to press the <Esc> key and then instructed to run the data file Build program.

Data files

From the operating system prompt, after the SETUP program has completed, type the following command to create the empty data files:

<TKBUILD ALL> and press the <Enter> key.

Starting TelexTester the first time

While TelexTester can be installed and configured to start automatically when your system is turned on, from a proprietary menu, or with a STARTUP disk, the following is how you start the program for the first time after the installation procedure described in the previous section.

Make sure the DOS prompt is set to the testkey directory then type:

<Testkey> and press the <Enter> key.

Registration Details

The following copyright screen will appear when the system is first run:

```
TELEXTESER PROGRAM REGISTRATION
-----

THIS COMPUTER PROGRAM IS PROTECTED BY INTERNATIONAL COPYRIGHT LAWS AND
IS LICENSED ONLY TO THE ORGANISATION SPECIFIED ON THE FOLLOWING
REGISTRATION SCREEN.

PLEASE ENTER THE REQUESTED INFORMATION ON THE FOLLOWING SCREEN.  WHEN
THE INFORMATION HAS BEEN CHECKED, LOAD A SHEET OF PLAIN PAPER INTO YOUR
PRINTER AND SELECT THE PRINT OPTION.  THE PRINTED DETAIL SHOULD THEN BE
SENT TO LHA AT ONE OF THE FAX NUMBERS BELOW.

      WORLDWIDE EXCLUDING                NORTH AMERICA, SOUTH
      AMERICAN CONTINENT                AMERICA AND CANADA

      LHA - ENGLAND                      LHA - UNITED STATES
      (44) 181 399 6227                 (1) 203 358 3944

THE INFORMATION REQUESTED IS IMPORTANT, IT WILL ENABLE US TO REGISTER
INSTALLATION AND PROVIDE THE VERY BEST LEVEL OF SOFTWARE SUPPORT AND
UPGRADES.

                                     Press <PgDn> for next screen.
```

Press the <PgDn> key and a screen similar to the following will appear:

```
TELEXTESER PROGRAM REGISTRATION
-----

Please complete this form and fax it to the appropriate LHA office.

Bank Name: [LHA BANK LTD, LONDON                ]

      Address: [23 LEAVENTHALL AVE                ]
               [LONDON _____]
               [                                ]
               [                                ]

      Contact names: [                            ] [                            ]
                    [                            ] [                            ]

      Telephone number: [                        ]
      Fax number:      [                        ]

      Type of installation: [                    ] (Single/Multi user)
      Supplier: [                    ] (LHA/MCI/AT&T/TRT)

                                     Press <F2> to exit, <F7> to Print
                                     <PgUp> for previous screen.
```

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This screen is used to enter your installation details which can then be notified to LHA to enable us to provide support to your installation. Please complete the details on the screen, then, when a printer is attached, press the <F7> key to print the details.

The printed details should be faxed to the number specified on the first screen.

The registration screens will not appear again once they have been printed.

Press the <F2> key to exit the registration screen.

Copyright Banner

Before the system runs, the following copyright screen will be displayed for a few seconds or until any key is pressed. This screen contains useful telephone numbers and addresses for contacting LHA.

```
THIS PROGRAM IS PROTECTED BY INTERNATIONAL COPYRIGHT LAWS
LICENSED ONLY TO THE ORGANISATION SPECIFIED ON THE SCREEN

DEMONSTRATION VERSIONS ARE VALID FOR 30 DAYS FROM THE INSTALLATION DATE.
A SUBSTANTIAL REWARD WILL BE PAID FOR ANY INFORMATION LEADING TO THE
IDENTIFICATION OF ANY UNAUTHORISED COPIES OF THIS SOFTWARE.

      TelexTester
      Is a trademark of LHA.

For more information or assistance please contact:

LHA TelexTester                               Presence Corporation
Lucknow House, 1A St Leonards Road             5 Hillandale Avenue
Surrey, KT6 4RL                               Stamford, CT 06902-2800
England.                                       United States of America.

Tel: (44) 181 390 4200                         Tel: (1) 203 358 3950
Fax: (44) 181 399 6227                       Fax: (1) 203 358 3944

      Or your local supplier
```

Start of day prompt

The first time you run the program the Start of day prompt will appear. This allows the system to set the initial date. Enter <Y> to the question 'Run start of day'.

The system now prompts for the user identification name and password. Instructions for signing on to the system are contained in Section 1 of the Operators Section. The system is initially built with a User id of <*> and password <*>. The password for User id <*> should be changed to prevent unauthorized access.

Supervisor menu

The following screen now appears displaying the Supervisor Menu. The options available reflect the system configuration and user profile.

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester                               Supervisor Menu
|
+User is:
STEPHEN-----11/09/01--+

                1 - Correspondent Maintenance
                2 - Reports menu
                3 - Grid Maintenance
                4 - Messaging menu
                5 - Correspondent Utilities
                6 - Daily reports Procedure
                7 - Utilities menu

Daily reports were last done 06/09/01

TelexTester, Copyright (c) 1985 to 2001 LHA.
```

Using The Keyboard

The following is a listing and description of the keys and conventions used within the TelexTester system.

Cursor: Every computer uses a 'cursor' to show where the next character typed will appear on the screen. The cursor is displayed normally as a small line and flashes so that it is easily distinguished on a full screen.

Enter: The <Enter> key is most often labeled with a bent left arrow and like the return key on a typewriter, it is used to mark the end of a line. In general,

the TelexTester system does not know what you have typed until you press this key so, remember that you end a command by pressing <Enter>.

- Backspace:** The <Backspace> key is labeled with a long left arrow. It erases the last character you typed, use it to correct typing errors.
- Del:** Pressing the key erases the character at the present cursor position.
- Shift:** The <Shift> keys are labeled with open arrows, or the word Shift. Like Shift keys on a typewriter they have no effect by themselves, they shift the keyboard to upper case letters and special characters.
- Tab:** You can use the <Tab> key or <Shift><Tab> keys to move the cursor back and forth from field to field.
- Home:** You can press the <Home> key to move the cursor to the beginning of a field or to the top field in a screen.
- End:** Pressing the <End> key moves the cursor to the last field in a screen.
- Ins:** The <Ins> key is a toggle switch between the insert mode (what you type is inserted at the current cursor position) and overstrike (what you type replaces what is at the current cursor position). When the system is in insert mode, and I appears in the lower right hand corner of the screen.
- Lock:** The <Caps Lock> key is a toggle switch between upper case and lower case letters, unlike a typewriter it has no effect on the number keys.
- Num Lock:** Short for Numeric Lock. This key toggles the effect of the keys in the calculator - style number pad at the right side of the keyboard between cursor movement and numbers. This key is most useful when entering the original testkey numeric data. The key is not present on some keyboards which have separate keys for cursor movement.

PrtSc: Short for Print Screen. This key is used with the shift key to print the contents of the screen. Useful if you require a print out of testkey data for checking.

Function keys: Several keys labeled F1, F2, F3 and so on which have been pre-programmed to perform special functions and are described in those sections where they are applicable to an option or operation.

Abbreviations: Abbreviations for Billions, Millions and Thousands up to 2 decimal places are provided as standard and may be used in the encode/decode and verify screens when prompted for the tested amount.

For example:	1.75B	1,750,000,000
	1.23M	1,230,000
	57.5T	57,500
	1HT	100,000

General Edit options

Introduction

The TelexTester system includes a screen editor which is used in various places.

These instructions apply to the functions available when the editor is active.

Shift F1

Pressing the <Shift> key together with the <F1> key will display any further prompts which may be available.

Delete Line

Press the <Alt> and <D> keys together to delete the current line. The line will disappear but can be recovered by using the Insert line feature.

Insert Line

Press the <Alt> and <I> keys together to insert a line. If a line has been deleted, it will be reinserted at the current position. These features allow lines to be reordered. If no lines have been deleted, a blank line will be inserted.

Save file

Press the <Alt> and <S> keys together to save the current edit in a file for subsequent retrieval.

You will be prompted for a file name, enter the name and press the <Enter> key.

Load file

Press the <Alt> and <L> keys together to load a previously saved file into the current file.

You will be prompted for a file name, enter the name as it was entered when the file was saved.

Chapter 2 Supervisor Section

Introduction

This Section describes in detail the supervisory functions of the TelexTester package and is intended for anyone who will be loading the correspondent testkey data or supervising the system.

Supervisor menu

After successful sign on as an operator with Supervisor status, the following screen appears displaying the Supervisor Menu. The options available may be different, they reflect the system configuration and user profile.

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester                               Supervisor Menu
|
+User is:
STEPHEN-----11/09/01---+

          1 - Correspondent Maintenance
          2 - Reports menu
          3 - Grid Maintenance
          4 - Messaging menu
          5 - Correspondent Utilities
          6 - Daily reports Procedure
          7 - Utilities menu

Please select option [ ] - Enter 'EX' or <F2> to Exit

Daily reports were last done 06/09/01

TelexTester, Copyright (c) 1985 to 2001 LHA.
```

You should note that the rest of the chapters in this Section cover options on the Supervisor Menu, except for those covered in the other Sections included with the TelexTester documentation.

Correspondent maintenance (see Table maintenance Section).

Messaging menu (see the Operator Section).

Utilities (see the Security Section for details on the User Maintenance and System Parameters options presented on the sub-menu that appears when you select this option).

Reports

Introduction

Most reports are run from within the 'Reports' option of the Supervisor menu. In addition, there are report prompts within specific options such as User maintenance.

The Daily audit report can include other reports using default parameters.

Common report prompts

Introduction

Most reports have certain common options which are detailed here.

Correspondents.

The correspondent field can be left blank, this will cause all correspondents to be included in the report. If anything is entered in this field selection will be limited to those correspondents whose short code matches. For example, entering 'A' in the field will produce a report including only those correspondents whose short code begins with the letter 'A'.

Note that for the Table Print only a single correspondent can be processed at once.

Output to.

This option defines where the report is to be sent. Enter one of the following options:

S To display the report on the screen, a narrow format report will always be produced.

- F To put the report in a disk file. A valid file name must be specified for this option. Enter the file name in the next field.
- P The report will be directed to the printer. The system parameter 'Redirect printer to disk' will cause this option to print to disk.

F1 to confirm, etc

When all options are entered correctly, press the <F1> key to execute the report. Press the <F2> to abandon the report.

Audit Log

Introduction

This applies only if the relevant options are configured in System Parameters --- 'write log to disc' and 'print log at start of day', etc. For further details, see the Security Section.

The log can be printed during operation of the system, during the Start of day procedure or at any other time.

The View/Print log option can be used to view the log on screen and to print it.

Operation

In the most commonly used setting which is to 'write log to printer' all events are recorded on the printer as they happen rather than waiting for Start of Day to be run, you should note that in order for the system to operate properly, the printer must be switched on, on-line and with an adequate supply of paper for the printing of the daily audit report.

It is possible to configure the log print to include all operations or only those protected by the Audit passwords.

Format

The report will detail events on the system in time order. It includes details of all activity, for example, table maintenance, each test performed including whether incoming or outgoing, the date, time, user ID correspondent code, test key calculation, prefix and prefix variable used as well as the status of the user and outcome of the operation, such as test or verification successful.

You have the capability to modify the report, such as suppressing the printing of the calculated testkey and/or writing the audit trail to a log file. This is also covered in the Security Section.

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For example, the following sample shows the user USER1 signing on to the system, choosing the Correspondent Maintenance option and making a change to the correspondent Demo Bank. He then runs the correspondents report, Grid maintenance and signs off.

Entry	Date	Time	User	Correspondent	Function	Status
1339	*****			***RUN TESTKEY***		
1339	USER1			***System Sign-on***	S	
1339	USER1			CPARTY	1	
1339	USER1		DEMO BANK	Day of Week Tables.	C	
1339	USER1		DEMO BANK	Correspondent Maint.	C	
1339	USER1			REPCOR	1	
1339	USER1		All Corr	Correspondents repor	S	
1339	USER1			REPCOR	1	
1339	USER1		All Corr	Correspondents repor	S	
1339	USER1			MAGRID	10	
1339	USER1		DEMO BANK	Grid Maintenance	I	
1339	USER1		DEMO BANK		O	
1339	USER1		DEMO BANK	Next row now: 2	O	
1339	USER1			***System Sign-off**	S	

View/Print Log

This option is available from the Utilities menu, 'Additional Utilities'. It will show the log on screen. The number of entries available is configured from the System parameters option.

Correspondent Report

Introduction

This is used to produce lists of correspondents in various orders. It can include many of the fields from the correspondent database, including the Fixed numbers or the dates the correspondent was last used for testing. Fixed numbers will only be available to users whose profile allows this.

The fields included in the reports, and their position can be varied to any degree by the use of custom report formats.

Selection Screen

The selection screen for this report is as follows:

LHA TelexTester

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester                                Correspondents
Report|
+User is:
STEPHEN-----11/09/01--+

ShortCodes:[_____ ] Leave blank to include all correspondents
Marked only:[ ] Enter <Y> to include only 'Marked' items.
  Group:[      ] Correspondent group to limit selection.
  Country:[    ] Country code to limit selection.

Order by:[S ]      S)hortCode, C)ountry, N)ame, L)ocation
                  D)ate last used, B)IC, I)dentifier, G)roup
                  Fixed #: FI)ncoming, FO)utgoing, FB)ranch

Format:[DEFAULT]  Enter name of report layout.
                  (DEFAULT, FIXED, ROUTE, INFO or NAME)

Unused:[Y]        Y to include unused correspondents.

Output to:[S] [    ] S)creen, F)ile, P)rint and file name if relevant.

Narrow:[N]        Y for 80 column output

-----
<F1> to confirm and execute; <F2> to exit; <F3> to modify formats
```

The following explains the report options available.

Selection Options

Marked only

In correspondent maintenance, correspondents can be flagged with a 'Marked' indicator. Enter a <Y> in this field to include only correspondents which currently have the 'Marked' indicator.

Group

In correspondent maintenance, correspondents can be assigned to a group. Enter a 'Group' into this field to include only correspondents currently assigned to this group.

To utilise a 'Group Hierarchy', you can terminate the selected Group with a <?>. For example, enter <ANZ?> will include all correspondents assigned to groups **beginning** with the characters ANZ.

Country

Enter a country code in this field to limit the report to those correspondents in a particular country.

Order by.

This field defines the sort order of the report. Options are:

- S Sorts on the correspondent short codes
- C Sorts on the correspondent country code
- N Sorts on the correspondent name
- L Sorts on the correspondent location
- D Sorts on the date the correspondent was last used for either incoming or outgoing tests. The most recent date is used. Correspondents are listed with those most recently used at the end of the report.
- B Sorts on the correspondent field 'BIC code'
- I Sorts on the correspondent field 'Testkey Identifier'
- G Sorts on the correspondent's 'Group' field
- FI Sorts on the 'Incoming fixed numbers'
- FO Sorts on the 'Outgoing fixed numbers'
- FB Sorts on the 'Branch numbers'

Format

Introduction

This option defines which of the report layouts is to be used.

There are 5 layouts initially available, these layouts can be tailored to suit local requirements or additional layouts can be created. See the Report formats section later for details.

All the initial layouts will include the correspondent short code, Name and Location.

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DEFAULT

This layout will include the 'Last used dates' Incoming and Outgoing for each correspondent.

FIXED

This layout will include the incoming, outgoing and branch numbers.

If your user id is not configured to allow fixed number access, the fields will be displayed as asterisks.

ROUTE

This layout will include the Routing Code.

INFO

This layout will create a multiple lined report for each correspondent, all entries in the 'Information/contact detail fields will be included.

NAME

This layout will only include the Short code, name and location.

Include unused.

When not set to 'Y' this option will cause any unused correspondents to be excluded from the report. An unused correspondent is one who has not been used for incoming or outgoing messages since being added to the system or since the installation of this version of the software whichever is the later date.

Narrow.

This option can be used to produce an 80 column report to disk or printer. Normally a 132 column report is produced. Narrow is the default for screen output. Enter a 'Y' in this field for narrow output.

Examples.

The following is a sample report listing correspondents in 'Short Name' order with the optional usage dates:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Correspondents
Report|
+User is:
STEPHEN-----11/09/01---+

Correspondents limited to D
4 correspondents listed

Short Code   Name                               Date Last Msg
              In                               Out
-----
DD1
DEMO          DEMO
DOFWIO                TEST IN AND OUT ON DOFW TABLE
DUPVARS        NAME OF DUPLICATE VARIABLES AND  DUPLICATE VARIABLES TEST

PgUp/PgDn or Arrows to scroll; <Esc> exits
```

Correspondent Report Formats

Introduction

Pressing <F3> from the Correspondent report selection screen allows special report formats to be defined and the default formats to be altered.

Screen

On selecting the report formats option, a screen similar to the following will be displayed:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester                      Correspondents
Report|
+User is:
STEPHEN-----11/09/01---+
-----
Format names and layouts. Specify the format name first, then the fields
required, each separated by a comma. Fields can be abbreviated to 3 letters.
-----
eg. DATES,CORRESPONDENT,NAME,LOCATION,LAST MSG DATES   or DAT,COR,NAM,LOC,LAS
-----
Available: CORRESPONDENT   NAME           LOCATION           INFORMATION
            FIXED NUMBERS   ROUTING CODE       LAST MSG DATES     IDENTIFIER
            BIC CODE        TELEX NUMBER       ANSWER BACK        GROUP
            COUNTRY        PENDING NUMBERS    TYPE OF KEY
            KEY ISSUE DATE  NUMBER ISSUE DATE  OPERATIVE DATE OF KEY
-----
DEFAULT,COR,NAM20,FIX,LAS
FIXED, CORRESPONDENT, FIXED NUMBERS, PENDING NUMBERS, NUMBER ISSUE DATE
-----
<F1> save/exit, <Esc> to abandon           <Shift F1> more
```

Report Format Options

Edit area

Introduction

The main section of this screen allows you to type report formats.

Each format is defined on a separate line.

Format Name

First, type a name for the format, followed by a comma.

Only the first 8 characters of the name will be used.

You can use the names given to the initial reports, for example, the DEFAULT report can be redefined.

Fields in format

Type each field name to be included in the report following the format name. Separate each with a comma.

The available fields are listed on the screen, you can type the name in full or use only the first 3 letters to save space.

The width required for each of the fields is shown, however, you can specify a width as in the example above for 'NAME', by following the initial 3 letters by a 2 digit number. This feature allows you to compress fields like Name in a screen width report.

If too many fields are specified to fit the screen, automatic trimming of some fields will occur in order to fit the report on the screen.

F1 Save

When all changes have been made, press the <F1> key to save the formats and return to the report selection screen.

Escape abandons

Press the <Esc> key to exit without saving changes to the formats.

You will receive a warning if changes have been made.

Shift F1

Further options are available by pressing the <Shift> and <F1> keys together.

These options are '**General Edit**' options, they are described in the **Operators Section**.

Export format

A special report format called 'EXPORT1' is defined automatically. When selected this format is suitable for use by the IMPORT module.

See the '**Administrators Section**' for details of this option.

The following is an example of the output of the EXPORT1 format:

```
YZYZ
ALL
:NAM=ALL TABLES LTD
:LOC=LONDON
:BIC=
:FIX=0012345:0012345:0000000

YZYZ
AM
:NAM=
:LOC=AMEX MASTER KEY
:BIC=
:FIX=0012345:0012345:0000000
```

Tested messages reports

Introduction

This is used to produce lists of incoming and/or outgoing messages which have been tested by TelexTester either manually or through the API. It also allows individual messages to be viewed on the screen.

Messages can be located by correspondent short code, by Testkey value, by date or by amount.

Each message is allocated a number ranging from 1 to 65000. Incoming messages are allocated independently to outgoing. When 65000 is reached the system will begin to reuse these numbers but until reused any message can be viewed/reported using this option. The 65000 limit is configurable through the System parameters options and will usually be set considerably lower than this in order to conserve disk space.

The messages report can be run automatically during the Start of day routine if the system parameters are so configured. If this is done then the default selection parameters are taken except that the output option will be 'P' for printer and a wide report can be selected by entering a 'W' in the System parameters field (Start of Day options).

Various Formats are available.

Screen

The selection screen for this report is as follows:

```

+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester                      Tested messages
Report|
+User is:
STEPHEN-----11/09/01--+
+-----+
-+
| Selection Criteria
|
+-----E-----+
-|
| Incoming/Outgoing: [B]                | Enter I, O or B for both reports.
|
|           Totals only: [N]            | Enter 'Y' for totals only.
|
| Date Range  Start: [11/08/01]         | MM/DD/YY, dates are inclusive.
|
|           End: [11/08/01]             |
|
| Correspondents: [                    ] | Blank to include all correspondents.
|
|                                           | Selection limited to those whose initial
|                                           | characters match, eg MHT selects all MHT_
|
| Include only: [ ]                     | F(ail, U(nverified, T(estkey, A(mount.
|
| Testkey/Amt: [                        ] | For T and A, specify what to search for.
|
| Currency: [      ]                   | Specify a currency code to limit range.
|
| Order by: [C]                        | C(party, M(sgNo, Y(Currency, A(ccount
|
| Format: [2]                           | Report format, 1=Seq; 2=Time; 3=Account
|
| In From: [ 278] To: [ 279]           | Enter message numbers to limit selection.
|
| Out From: [ 173] To: [ 178]         |
|
| Output to: [S] [                      ] | S(creen, P(rint, F(ile and file name
|
| Narrow: [Y]                          | Enter 'N' to include remarks/test value.
+-----ø-----+
-+
<F1> to confirm and execute, <F2> to exit

```

The following explains the report options available.

Options

Incoming/Outgoing

This controls which reports will be produced. Options are:

- I To produce the incoming messages report.
- O To produce the outgoing messages report.
- B To produce a combined report.

Totals only.

If a 'Y' is entered in this field then only a totals report will be produced, otherwise each message will be listed.

Date range.

The start and end date range can limit the messages to be included in the report. The date referred to is the date on which the test was done, not necessarily the test date. The date range is inclusive of both dates entered so to report all tests carried out on a specific date enter the required date as both start and end.

Correspondents

Entering a code or part of a code will limit the report to the specified correspondents.

Include Only

The report can be limited to certain message types. Enter the required character in this field, as follows.

Failed messages

To include only Inbound Failed messages, enter an <F> in this field.

Unverified messages

To include only messages which have not been verified, enter a <U> in this field.

Testkey limit

To search for tested messages with a specific testkey value, enter a <T> in this field, then specify the testkey in the following field.

Amount limit

To search for tested messages with a specific amount, enter <A> in this field, then specify the amount in the following field.

Testkey/Amt

For options 'T' and 'A' above. Enter the required figure.

Order by.

This field defines the sort order of the report. Options are:

- C Sorts by correspondent short code. This will cause messages to be grouped for each correspondent.
- M Sorts on the message numbers. This will produce a report including the correspondent short code in the message details.
- Y Sorts on Currency
- A Sorts on Account. If selected option will print account descriptions when account changes and throw a page between accounts when printing.

The default order can be specified in the Text Parameters file. Two default settings are available, the default when running the report manually and that for running the report automatically (through the Daily report option).

Format

General

Enter a number to select a particular format. Default format can be specified through the Text parameters option (See Security section).

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Format 1

Includes Msg Number, Date Tested, Operator, Amount, Currency, Date of Test, Status and sequence variable used.

Format 2

Format 2 includes the Message number, Log Date, Time, Amount/Currency, Status and Testkey. The correspondent code will be included if the report is ordered by message number, however, for the narrow report, only the first 8 characters will show.

If the wide report is selected, to disk or printer the report will include the Test date, Operator, Verifier and remarks as well as the above fields.

Format 3

Format includes the following:

Account

Remarks

Bank name

Date

Amount/Currency

Testkey

Status

Message number range.

The message number range is only included so that the report selection phase can execute faster. If message numbers are known to be within a certain range then they should be entered. The default numbers range from the first since the last start of day to the current message number.

Narrow.

Enter 'N' in this field if the report is not going to the screen and the test result and narrative are required.

Examples.Report

The following is a sample report of outgoing messages for correspondent 'DEMOBANK3':

DEMOBANK3		NAME OF DEMO BANK THREE		LOCATION OF DEMO BANK THREE			
Msg	LogDate	Op/Ver	Tot Amount	Curr	TstDate	Status	Seq
00002	02/04/92	*		NONE	02/04/92	Encoded	1
00003	02/04/92	*	1,000	USD	02/04/92	Encoded	2
00004	02/04/92	*	511,324	MUL	02/04/92	Encoded	3
00005	02/04/92	*	20,000	USD	02/04/92	Encoded	4

Message view

When the report is directed to screen, you can use the cursor keys to move forwards and backwards through the report. To view a particular test, if your user profile allows you to, you can press the <Enter> key on any message. The message will then be presented on the screen.

The following is a sample of a message viewed in this way:

LHA TelexTester

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester                               Browse Outgoing Message
|
+User is:
STEPHEN-----11/09/01--+
Correspondent [DEMOBANK3 ]NAME OF DEMO BANK THREE, LOCATION OF DEMO BANK THR
Date of Message [ 20492] Message No. [ 4]           Serial No. [
5]
Currency                               Amount
[USD ]US DOLLAR                            20,000
[   ]
[   ]
[   ]
[   ]
[   ]
[   ]
[   ]
[   ]
[   ]
By:*                                     ===== Pfx  Testkey      Sfx
Rmks:                                20,000 [ 4][      1236][
]
249*Testkey Encoded
```

While viewing the test details, the Analysis option can be used if the User profile allows it.

Variables reports

Introduction

This is used to produce 2 reports:

Next expected variables

Missing variables

These two reports can be combined in a single report.

The variables report can be run automatically during the Start of day routine if the system parameters are so configured. If this is done then the following selection parameters will be made:

All Correspondents

Report (Next expected or Missing) depends on system parameters

Current date always 'Y'

Only changed, depends on system parameters

Exclude unused correspondents

Output always printer

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Screen

The selection screen for this report is as follows:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester                               Variables Report
|
+User is:
STEPHEN-----11/09/01--+

Correspondents: [ _____ ] Leave blank for all correspondents
limited                                     to be included. Selection will be
                                           to those whose initial characters match,
                                           eg. 'MHT' will select all 'MHT_____'.

Report: [C]                                M for Missing vars report, N for Next
                                           expected vars report, C for combined.

Current Date: [Y]                          Y to print only current date for those
                                           which reset daily.

Only Changed: [ ]                          Y to print only next expected variables
                                           which have changed since last report.

Print unused
correspondents: [N]                        Y to include unused correspondents.

Output to: [S] [ _____ ] S for Screen, F for File, P for Print
                                           Enter file name if relevant.

-----
<F1> to confirm and execute the report, <F2> to abandon and exit.
```

Options

Report

This controls which report will be produced. Options are:

- M To produce the missing variables report.
- N To produce the next expected variables report.
- C To produce a combined report.

Current date

This option applies to those correspondents who reset the grid positions each day. Enter a 'Y' in this field to cause only the grid positions for the current day to be included in the report. If this field is left blank then all grid positions and missing variables for the previous 31 days will be reported.

Only changed

For the next expected variables report, entering a 'Y' in this field will cause the report to include only those correspondents whose grid positions have changed since the last time this report was run with output to file or printer.

Print unused correspondents.

When not set to 'Y' this option will cause any unused correspondents to be excluded from the report. An unused correspondent is one who has not been used for incoming or outgoing messages since being added to the system or since the installation of this version of the software whichever is the later date.

Example.

The following is a sample report limited to a single correspondent bank. It is a combined report for the 2nd January 1991 and indicates that the next expected message to arrive is for row 3 but that the message for row 1 is missing.

The date showing next to the missing test is the date on which the following test arrived. This gives some clue as the date for the missing test.

LHA TelexTester

```
DEMONSTRATION SYSTEM                      Next & missing variables
report
LHA TelexTester V2.7    User: *          Date: 02/01/91  Time: 21:04:02  Page: 1
```

Correspondents limited to DEMOBANK
Current date only for daily reset keys

Correspondent MisRow	Date	InRow	OutRow	SeqVar	PfxNo
DEMOBANK3	02/01/91		1	20	1
NAME OF DEMO BANK NUMBER 3	02/01/91	3		82	3
LOCATION OF DEMO BANK 3	02/01/91			20	1

1

Table print

Introduction

This is normally used to produce a complete hard copy of a correspondents tables. If this report is available to you, you will require the Audit passwords to access it.

Screen

The selection screen for this report is as follows:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester                      Table Print
|
+User is:
STEPHEN-----11/09/01---+

Correspondent: [ _____ ]   Enter correspondent short code to be
                                listed.

Output to: [S] [ _____ ]   S for Screen, F for File, P for Print
                                Enter file name if relevant.

-----
<F1> to confirm and execute the report, <F2> to exit
```

Options

The only options available are correspondent short code and output device. In this case the correspondent short code must be entered completely, only a single correspondent can be printed at a time.

Press <F1> to confirm and produce the report, press <F2> to abandon the operation.

Missing variables notification

Introduction

This is used to produce letters to be sent to correspondent banks notifying missing sequence rows.

Template

The letter is based on a template which can be defined as required. A default template can be created using the system file build utility. From the DOS command line, in the Testkey directory, type the following command:

TKBUILD TEMPLATE

This command builds a file called 'MISSING.TPL'. The file contains the lines:

```
TLX:      <ROUTE>
Dated:    <DATE>
Attention: Testkey department
          <NAME>
          <LOCATION>

We are missing you!
      Serial      Prefix var      Missing since
      <ROW>      <PREFIX>      <MISSDATE>

If utilized kindly repeat message,
otherwise notify accordingly.
```

The free text in the file can be added to or altered in any way.

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The fields delimited with the characters '<' and '>' are filled in during the report production with information as follows.

Template fields

ROUTE

The field called 'Telex Routing code' from the first correspondent screen.

DATE

The current date.

NAME

The correspondents name.

LOCATION

The correspondents location.

ROW

The row in the grid which is missing, this and the next field will be repeated for as many rows as are missing.

PREFIX

The prefix or prefix variable associated with the above row.

MISSDATE

If available this will be the date of the message on the row following the missing test.

VARIABLE

Enter the text <VARIABLE> in the report template to have the current sequence variable substituted.

TLX

Enter the text <TLX> in the report template to have the Telex number substituted.

ANS

Enter the text <ANS> in the report template to have the Answer back substituted.

Screen

The selection screen for this report is as follows:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Missing Variables Notification
|
+User is:
STEPHEN-----11/09/01--+
-----+
Correspondents: [ _____ ] Leave blank for all correspondents
limited                                     to be included. Selection will be
                                           to those whose initial characters match,
                                           eg. 'MHT' will select all 'MHT_____'.
Template name: [MISSING.TPL ] File name and extension of letter
template
Output to: [S] [ _____ ] S for Screen, F for File, P for Print
                                           Enter file name if relevant.
-----+
<F1> to confirm and execute the report, <F2> to abandon and exit.
```

Template name

This option selects which template to be used for the report. The default template created by the system is called 'MISSING.TPL', if this has been changed, type the new template name here.

Account codes report

A report is available on messages by account codes. See the section on Account codes later in this Section for details.

Systems/tables issued report

This report lists the details of MessageTester licence issues and Testkey table issues. It is explained in the MessageTester Systems maintenance Section.

Report on traffic through API21

A report is available on messages automatically processed through the API. See the Section 'Application Programming Interface' for details on this report.

Grid Maintenance

General

The grid maintenance option allows the history of messages to be examined for a particular correspondent and the grid positions inspected and altered.

This option is available to users whose profile is configured for Grid display. It is accessed from either the Supervisor menu or the Messaging menu.

In the case of a grid size of 100, 100 messages would be considered as a single cycle of the grid. The system is capable of maintaining, automatically, up to 99 grid cycles for each correspondent, it is expected that 2 cycles are sufficient and this is the default setting. In the event of many messages being received or sent for a correspondent in a short time, the default setting can be easily increased without affecting the existing test history.

A grid cycle is the sequence of messages received before a sequence/prefix variable repeats. For correspondents without sequence/prefix variables a grid is still maintained this allows historic messages for these correspondents to be reviewed.

Grid Maintenance Screen

Screen

All grid maintenance functions are accessed from a single menu option 'Grid Maintenance'. The first prompt is for a correspondent short code, if a valid short code is entered a screen similar to the following will be displayed:

```

+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Grid Maintenance Incoming 03 September 1991
|
+User is:
STEPHEN-----11/09/01---+
Correspondent [DEMO BANK   ] DEMONSTRATION BANK
Row  Pfx SeqVar  Sfx    Date    MsgNo
  1      45      <Missing >
  2     156     <03/09/91>    20
  3     654     <         >      <- NEXT
  4     987     <         >
  5      13     <         >
  6      54     <         >
-----
PgUp/PgDn, Home/End, or . F8 to cancel highlighted msg
Esc, to change correspondent; F7 for Outgoing ; F5/F6 to rotate days
F3 to change 'Next' pointer or Cycles

```

This example is of an incoming grid for 3rd September 1991. The date is only relevant for correspondents who reset the grid each day.

Row

This first column indicates the grid row or sequence number of the message. First message will be 1 second 2 etc until the grid size is reached in this case 6. At this point the row reverts to 1 and a cycle is complete.

Pfx

This column will contain the prefix value to be used for each row, if the system is so configured. If the prefix is derived from the test, then the prefix type will be displayed. The following prefix types are possible:

- DDe sp Indicates a prefix which resets to 1 each day, 'Daily dispatch' number as prefix.
- Amt Dg Indicates prefix is based on the number of digits in the amount.
- Thai Indicates prefix variable table is used but is different depending on the day of the week.
- Day Mn Indicates the 'Day of Month' is used as the prefix.

Mn

Day
Wt

Indicates the prefix is derived from the 'Day of the week' table.

SeqVar

This column will contain the sequence value for the row, if the system is so configured. If the sequence variable is dependent on the test date then the word 'Daily' will be displayed.

Sfx

This column will contain the suffix value for the row, if the system is so configured.

Date

This column will:

Be blank if no test has been done at this position.

Contain the test date if a test has been done.

Contain the word Missing if the test on this row is missing.

Contain the word Canceled if the test was missing but is now known to have been unused for any reason.

Contain the word 3rdParty if the test was used by another branch for this reason

Contain the word Wired if the test was missing but has been dealt with in this way.

Contain the word WrongTst if the test was missing but has been dealt with in this way.

'O'

The presence of the letter 'O' following the date indicates that the test is an outgoing test on an incoming grid! This occurs for correspondents using the same grid for both incoming and outgoing tests.

MsgNo

This column will contain the system serial number for any test present. Serial numbers are allocated sequentially from 1 to 65000 (or a lower limit set in system parameters). The message numbers are allocated independently for incoming and outgoing tests. When the upper limit is reached message numbers from 1 will be reused.

Next Pointer

<-NEXT This indicates the row which is next expected for this correspondent.

Cycle

C1/2 This gives the cycle information of this row. The word 'Cycle' is used to represent a set of messages for each row on the grid. The system normally maintains 2 cycles for incoming and 2 for outgoing messages, however, these defaults can be increased for individual correspondents and for incoming and outgoing grids. The current cycle is always shown at the bottom of the grid and no messages can appear beyond the 'NEXT' pointer. The cycle information consists of the cycle number and total number of cycles maintained.

Grid Maintenance Options

The options available from the grid maintenance screen are always displayed at the bottom of the screen. These options change depending on the following points:

The correspondent which is being viewed

Which grid, incoming or outgoing, is being viewed

The correspondent key configuration

The 'Rights' of the operator

The position of the highlighted row in the grid

Whether the message relating to the current row is still held by the system

The options, and when they are available are detailed below:

Location keys

<PgUp> This prompt is always available, if pressed, the page up key will cause the previous cycle of the grid to be displayed at the same row as is currently displayed.

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- <PgDn> This prompt is always available, if pressed, the page down key will cause the next cycle of the grid to be displayed at the same row as is currently displayed.
- <Home> This prompt is always available, if pressed, the Home key will cause the first row of the current cycle of the grid to be displayed at the top of the screen.
- <End> This prompt is always available, if pressed, the End key will cause the last row of the current cycle of the grid to be displayed at the top of the screen.
- Arrows The up and down cursor arrows will move the grid up and down by a single row.

If the above locating keys are held down, they will cause rapid movement through the grids without each row/cycle being displayed.

F2 to display highlighted msg.

This option will only be displayed if the operator is allowed to view previous tests and the top row on the screen contains a test which is still available from the history file.

If selected, this option will display the current test.

While viewing the test details, the Analysis option can be used if the User profile allows it.

F3 to change 'Next pointer/cycles'.

This option will only be displayed if the operator is allowed to change grid positions. When selected, a screen with 3 prompts will be displayed. These prompts are explained below.

This option must be used with care, bear in mind that no tests can exist beyond the 'NEXT' pointer.

The following is an example of the screen displayed when <F3> is pressed:

```

+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Grid Maintenance
|
+User is:
STEPHEN-----11/09/01---+

```

G R I D M A I N T E N A N C E		
Correspondent	[DEMO BANK]	Incoming
03 September 1991		
Current cycle	[_1]	
Next expected row	[3]	
Number of cycles maintained	[2]	

```

-----
F1 to Save; F2 to Exit

```

Current Cycle.

The cycle on which the 'Next' test pointer will be placed. This option is not normally changed.

Next Row

The row which is expected next. No tests can be present on the grid beyond this point. If you change this to a row prior to the current setting all tests following the Next pointer will be erased. They can however be viewed from the Message report.

Number of cycles.

How many cycles of the grid should the system remember. The default is 2 which is normally adequate. If high volumes of traffic are present then this figure can be increased to a maximum of 99 cycles. It is not advisable to increase this number unless a particular correspondent requires it as disk space and consequent access times will be affected.

F1 to save, F2 to exit

To return to the maintenance screen without making any changes, press the <F2> key.

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To save changes press the <F1> key. After pressing the <F1> key, if the row has been moved back in the grid a warning will be displayed prompting you to confirm the action taken. This is because you will lose tests recorded after the 'Next' pointer. (Tests which are no longer recorded on the grid can be accessed through the message reports.)

F8 to cancel highlighted msg.

This option will be displayed if the operator is allowed to change grid positions and the highlighted message is displayed as 'Missing' or the next expected row is highlighted or a previously accepted test is highlighted. This option can be used to prevent a previously missing test from appearing in future 'Missing variable' reports. Use the <F8> key to flag the row as 'Canceled'. It will remain thus until the grid is reused. If the 'NEXT' row is canceled the 'NEXT' pointer will be advanced and the cycle changed if necessary.

F8 to change highlighted msg.

This option will only be displayed if the operator is allowed to change grid positions and the message at the top of the screen is displayed as Canceled, 3rdParty, WrngTst or Wired. This option only applies to incoming grids. This option is used to change the status of the current row through the alternatives defined as follows:

Canceled	The row has not been used for some reason.
3rdParty	The row was used as shown
WrngTst	The message has been received but the testkey was incorrect, rows flagged as wrong will be accepted in the same way as a missing test would be but they will not appear on the Missing Variables report.
Wired	The message has been received but the testkey was incorrect and has been notified, rows flagged as wired will be accepted in the same way as a missing test would be but they will not appear on the Missing Variables report.
Missing	The message has not been received but messages have been received in later positions on the grid. These rows will appear on the Missing variables report and will be accepted when they arrive.

Use the <F8> key to change the status of a row. It will remain thus until the grid is reused.

Esc to change correspondent.

This option is always displayed. Press the <ESC> key to work with a different correspondent or to exit from grid maintenance.

F7 for In/Outgoing.

This prompt will appear for most correspondents and is used to toggle the screen between incoming and outgoing message displays. Note that the number of cycles maintained for a correspondent is independently held for incoming and outgoing messages.

F5/F6 to rotate days.

This prompt will appear for correspondents who are configured to use 'Daily Message Number'. In this case a grid is maintained for each day of the month, 31 grids in all for incoming and 31 for outgoing.

The date applying to the displayed grid will be shown at the top of the screen. You cannot move beyond the current 'Start of Day' date. You can display the 31 days prior to the 'Start of Day' date. You can use all the functions of grid maintenance for any of these days. This allows messages to be viewed and grids to be maintained for the previous 1 month for Daily Message Grids. If messages prior to the current month are required then try 'Message reporting'.

F4 for daily dispatch positions

This prompt will only be displayed for correspondents using prefix type 2, Daily dispatch number as prefix. For this type the prefix positions are independent of the rows of the grid. If the <F4> key is pressed the following screen will be displayed:

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```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Daily Despatch Positions
|
+User is:
STEPHEN-----11/09/01--+

Daily message number as prefix, positions for month.

Table size: [__9]

Incoming.
  1st  [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1]
 11th  [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1]
31st
 21st  [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [
1]

Outgoing.
  1st  [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1]
 11th  [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1]
31st
 21st  [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [ 1] [
1]
```

Table size

The table size is the number of messages received during a single day before the prefix reverts to 1.

Incoming/Outgoing positions

The 31 fields hold prefix positions for the previous 31 days. During the Start of day procedure the prefix position for the current date will be reset to 1.

Correspondent Utilities

Correspondent Marking

Introduction

To facilitate Maintenance on groups of correspondents a Marking option is provided.

This option is accessible by Supervisor users who have the Admin function enabled in their profile.

Each correspondent can be either Marked or UnMarked

The Mark is shown in the field 'Marked for Selection' on the first correspondent maintenance screen.

Various options within the Telextester system use these marks, for example, Reports and changing fixed numbers.

Screen

When selected, the option will display the following screen:

```
THIS PROGRAM WILL SET AND CLEAR MARKED RECORDS IN THE CORRESPONDENTS FILE
-----
      1 Clear marks from all records

      2 Add marks to all records in Group  [      ]
      3 Add marks to all records in file   [      ]
      4 Add marks to records with Master  [      ]
      5 Save current marks in file        [      ]
      6 Invert all marks

      7 List currently marked items to screen
      8 Confirm and save changes

[ ] Select option      Status:   1128 Total Correspondents
                        69      Currently Marked

      <F1> to confirm and execute, <F2> to exit
```

The screen shows various options which are displayed below. Also shown are the current number of correspondents and the number marked.

Any changes made can be abandoned until saved.

Clear marks from all records

Removes all marks.

Add marks to all records in Group\

Each correspondent can be allocated to a group.

This option can be used to mark all records in a group or in multiple groups where the group is prefixed with the specified characters.

Add marks to all records in file

Loads the specified file from disk and marks all records from it.

Use in conjunction with the Save option.

Add marks to records with Master

Marks all records which use a specific Master table.

Save current marks in file

Saves current marks to a file.

Invert all marks

Makes all marked records unmarked and all unmarked records marked.

List currently marked items to screen

Correspondent Locks

Introduction

This module allows correspondent groups to be locked preventing testkey calculations for these correspondents.

This option is accessible by Supervisor users who have the Admin function enabled in their profile.

If a correspondent is locked the operator will receive an 'Out of Service' error if tests are attempted.

It is possible to lock all correspondents without putting them into groups.

Screen

On selecting correspondent Locking, the following screen will be displayed:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester          Correspondent Locks
|
+User is:
STEPHEN-----11/09/01---+

      Locks are active (Y/N): [ _ ]
Lock all correspondents (Y/N): [  ]

      Group Codes          Number of characters in group code to check
      to lock              for a match in correspondent group code

      [      ]            [0]
      [      ]            [0]
      [      ]            [0]

Examples:
      Code      Length      Locks groups:
      A         1           A, A1, ABCD
      A1        2           A1, A123
      empty     8           all empty groups
-----

      <F1> to save & exit, <Esc> to abandon changes
```

To lock the entire system, enter 'Y' in the first two fields then save the changes.

Start of Day

Introduction

The function of the Start of Day option is to reset daily message numbers for the day; i.e. if today is Tuesday, Start of Day will reset Tuesday's numbers to the first prefix position. Note, this option only applies to Testkey tables which reset on a daily basis

You can set a System Parameter so that this option is run automatically when an attempt is made to start the system with a new date. (See the Security Section).

If not set to run automatically, TelexTester will warn you after signon that a start of day is required if it has yet been run and the system date has advanced.

However, if start of day has been run for the current day, you can run the option again with a date change. This facility allows the option to be run at the end of day.

Operation

After you select the option from the Supervisor Menu, when prompted, enter Y to confirm and/or enter the following day's date.

The messages and variables reports can be produced automatically during the start of day function. See system parameters for the required configuration.

In a multi user environment, the Start of Day function must be carried out with no other users accessing the system.

If the system has been '**Secured**', the system will automatically try to run the Release option and you will be prompted for the audit passwords when attempting to run Start of Day..

Master currency file maintenance

Introduction

The TelexTester package is delivered with a master currency table containing all commonly used ISO (International Standards Organization) currency codes and their descriptions to which you may add or make changes that correspond to your manual system of key testing.

If changes are required you should access the Currency file maintenance function from the System utilities menu.

Screen

A screen similar to the following will be displayed:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Maintain Currency Table
|
+User is:
STEPHEN-----11/09/01---+

Existing code      New code          Description
-----
[ADP ]            [ADP_]           [ANDORRAN PESETA      ]
[AED ]            [AED ]           [UAE DIRHAM           ]
[AFA ]            [AFA ]           [AFGHANI              ]
[ALL ]            [ALL ]           [ALBANIA LEK          ]
[ANG ]            [ANG ]           [NETH-ANTILLES GUILDER]
[AON ]            [AON ]           [ANGOLA KWANZA        ]
[ARS ]            [ARS ]           [ARGENTINA PESO       ]
[ATS ]            [ATS ]           [AUSTRIAN SHILLING    ]
[AUD ]            [AUD ]           [AUSTRALIAN DOLLAR    ]
[AWG ]            [AWG ]           [ARUBAN GUILDER       ]
[BBD ]            [BBD ]           [BARBADOS DOLLAR      ]
[BDT ]            [BDT ]           [BANGLADESH TAKA      ]
[BEF ]            [BEF ]           [COMMON BELGIAN FRANC ]

If codes are changed, ensure that the new code remains in the same
position so that existing variables can be used with it.

<F1> to save/exit, <F2> to abandon, <PgUp> or <PgDn>
```

Changes

You can use the <Tab> key to move the cursor from field to the field to make your changes to the displayed codes or description.

Note that there should always be a special currency code called NONE which will not default to any Other Currency value if there is no test value set against it in the correspondent currency table.

Use the <PgUp> and >PgDn> keys to access further screens of codes.

To add currencies to the end of the list, continue to enter <PgDn> until a screen with blank fields are displayed.

Position the cursor in the first blank field and enter the additional codes and description.

Exit, abandon

To abandon your changes, press the <F2> key.

Exit, Save

To end the operation and save your changes, press the <F1> key.

Sorting

The option to sort the currencies by code or description will appear if no changes have been made to the tables.

So, to sort the table, select the 'Maintain Currency Table' option from 'Utilities'. Press the <F1> key to finish then the following prompt will appear:

```
Enter <C> to sort on Codes, <D> to sort on Description or <Esc>: [ ]
```

Press <Enter> to do no sort or select <C> or <D> to sort.

Apply changes

If changes to codes were made, the following prompt will appear:

```
You have changed the currency codes, the changes must be transferred  
to the existing currency tables. Do you want to transfer them now (Y/N): [ ]
```

There are 2 types of changes which could have been made to the currency master file.

Altering the code and/or description of an existing currency or adding new entries to the table.

Removing entries from the table or altering the order of existing entries in any way.

It is important to differentiate between these operations and to carry them out separately.

Answer <Y> to the above prompt only if you have removed entries from the master file or altered the order of entries. Do not answer <Y> if you have altered the codes used by existing correspondents.

It is necessary to exit from the Testkey system after carrying out this function. Otherwise changes which you have made will not be available in the testing functions.

Journal system

Introduction

The journal system is designed to protect against loss of data caused by power failures etc. Grid positions are stored in the file VGRID.ISM. A journal backup is maintained on the hard disk to allow recovery in the event of damage to the VGRID file. This backup file is called J.DAT, it will expand to about 100,000 Bytes and then be renamed as J.BAK. A new J.DAT will then be created. These journal files record changes to the grid positions. This ensures approximately 5000 changes are remembered.

The size of the journal file can be controlled through the system parameters option.

All Journalling will be disabled if the system parameter for journalling is set to 'N'. To disable journalling on a floppy disk, set the parameter to space.

Journal System parameters

Although the journal files are always maintained on the hard disk with the rest of the system (but see introduction). In the event of a major disk failure, they may not be accessible. It is possible to maintain an additional journal on a different disk drive, for example, the floppy diskette drive.

By specifying journalling in the system parameters, an additional journal will be maintained on the specified drive.

See the System security Section for details on system parameters.

Multi user environment

In a multi user environment, each user can have their own journal diskette. The recovery facility allows multiple diskettes to be recovered.

Recovery from journal

Introduction

In the event of loss of the grid positions, recovery can be made either from the hard disk or floppy disk journals. The journal recovery system allows multiple floppy diskettes to be inserted and sorted automatically so that on a network, many journal diskettes can be consolidated into a new VGRID file.

Journal recovery is an option on the System utilities menu.

Screen

On selecting the Journal recovery option, the following screen will be displayed:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester          JOurnal Recovery
|
+User is:
STEPHEN-----11/09/01---+

This program is used to recover the VGRID file following a system failure.
Grid positions are recovered from the journal files.
Please refer to the manual for details on the options available.

Option: [1]    1 - Recover from internal journal.
                2 * Recover from journal(s) on floppy diskette.
                3 - Verify all grid records exist.
                  (Warning. missing grids will be set to
                    row 1 by this option.)

                4 - Recover from manually input journal file (GRID.TXT).

(* = Option not available)

F1 to confirm and execute, <Esc> to abandon
```

Operation

Available options

Although there are four options available on the screen, if any are marked with a flashing star, these are not available.

Options 1 and 3 should always be available.

To select an option, type the number (1 to 4) and press the <F1> key. Press <Esc> to exit from this screen.

Option 1 - Recover from internal journal

This option is used normally to recover grid positions lost through damage to the VGRID file possible caused by the machine being switched off without exiting from the system correctly.

Selecting this option will cause all grid positions to be updated in order as previously applied while normally operating the system.

While operating, you will see the correspondent short codes and grid details being displayed at the bottom of the screen.

Option 2 - Recover from journal on floppy diskette

This option will only be available if the system parameters have been set to record a journal diskette.

On selecting this option, you will receive the following prompt:

```
Insert next journal diskette and press <F1> key
Press <Esc> key when all journal disks are done
```

You should ensure a journal disk is in the drive and press the <F1> key.

The system will read all journal entries from the drive and continue prompting for journal diskettes. Multiple journal diskettes can be inserted in any order.

In a multi user environment, all journal diskettes must be inserted and read.

After the last journal disk has be processed, press the <Esc> key.

The system will now sort all journal entries and apply them to the VGRID file in the correct order.

Option 3 - Verify all grid records exist.

In the event of a major disk error, the VGRID file not be recoverable. This situation will be noticed while attempting to start the TelexTester system and receiving errors accessing the VGRID file which cannot be fixed by using the file recovery functions detailed in this manual.

In this situation, a new, empty, VGRID file must be created using the system file build routine (TKBUILD VGRID).

Following this process, grids for all correspondents can be created using option 3 of the journal recovery system. These grids will be set to row 1.

After using this function, you should recover from the journals using either options 1 or 2 above.

Option 4 - Recover from manually input journal file

This option may used to input grid positions manually. Grid positions would be typed into a file called 'GRID.TXT' and then processed using this option.

The main use of this option is when a system is first installed. Instead of accessing each correspondent through the Grid maintenance option, all initial grid positions can be typed into the file and applied automatically.

The file 'GRID.TXT' is a simple ASCII file with each line structured as follows:

AAA/b/CCC

Where:

AAA is the correspondent short code, up to 12 characters.

b is either I for incoming position or O for outgoing position.

CCC is the next grid row to be used.

Example:

LHABANK1/I/010

LHABANK1/O/012

This would set the grid positions for LHABANK1 to row 10 outgoing and row 12 incoming.

Message file recording

Introduction

This option allows the recording of testkey values in an ASCII text file which will normally include the text of a telex message.

This option must be enabled from the System parameters, Programs and data screen.

Following calculation of a Testkey, this option will cause a prompt for a file name (a default file name including the system date is provided if required). This file would normally be found on a floppy disk drive.

The file will then be read and a location for inclusion of the Testkey found. This location is configurable.

The Testkey is added at this point in the file.

The file is then displayed on the screen.

Configuration

General

Configuration of this option is done within the configuration file TXPARAM.TXT.

The following options are available.

LOC

The text in the file which precedes the location of the testkey, preceded by 2 digit length, range 1 to 30. For example, the default looks for the text:

```
<TEST KEY :>
```

The entry in TXPARAM would be:

```
LOGTK LOC=11TEST KEY :
```

FIL

Default input file name, ddmm will cause ddmm to be substituted maximum file name length is 30 characters. This file name can be over typed during operation. For example:

```
LOGTK FIL=a:\ddmm
```

EXT

Default file extension, for example:

```
LOGTK EXT=txt
```

BAK

Backup file extension, blank gives no backup file, for example:

```
LOGTK BAK=bak
```

PRM

Prompt issued for file name, first 2 digits are column for accept, second 2 are column for cursor position. For example:

LOGTK PRM=1825TELEX FILE NAME: []

Configuring the screen colours

Introduction

Colours of different elements of the TelexTester system can be set by users.

The colour configuration option is on the Utilities menu.

Screen

On selecting the colour option, the following screen will be displayed:

```
Text-Display Attribute Code [15]
Data-Display Attribute Code [15]
Error-Message Attribute Code [31]

Forms. Field attribute code [15]
      Input attribute code [15]

F1 to save, F2 to exit, F3 to display colour codes, F4 to try colours.
```

Colour options

There are five different colour combinations to set:

Text display

This is the basic text of menu options, field descriptions and boundary boxes.

Data display

The values (or their defaults) that you enter or have previously entered into various fields.

Error messages

Diagnostic or status messages displayed at the bottom of the screen.

Forms fields

The text and background during entry of data into the forms modules.

Forms input

The text/data you enter during forms modules.

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Prompts

Colour codes

You must enter a number into each of the five colour options. This number represents the colour combination required.

F1 save

When satisfied with the colours, press the <F1> key to save the set.

F2 exit

After saving the set or in order to abandoned changes made, press the <F2> key to exit.

F3 to display codes

To see a table giving the colours associated with each code, press the <F3> key. The following table will be displayed:

B A C K G R O U N D									
		BLACK	BLUE	GREEN	CYAN	RED	MAGENTA	BROWN	
	BLACK	00	16	32	48	64	80	96	N
	BLUE	01	17	33	49	65	81	97	O
F	GREEN	02	18	34	50	66	82	98	R
O	CYAN	03	19	35	51	67	83	99	M
R	RED	04	20	36	52	68	84		A I
E	MAGENTA	05	21	37	53	69	85		L N
G	BROWN	06	22	38	54	70	86		T
R	LIGHT GREY	07	23	39	55	71	87		E
O									N
U	DARK GREY	08	24	40	56	72	88		S
N	LIGHT BLUE	09	25	41	57	73	89		I
D	LIGHT GREEN	10	26	42	58	74	90		T
	LIGHT CYAN	11	27	43	59	75	91		H Y
	LIGHT RED	12	28	44	60	76	92		I
	LIGHT MAGENTA	13	29	45	61	77	93		G
	YELLOW	14	30	46	62	78	94		H
	WHITE	15	31	47	63	79	95		

This indicates which number to be entered for each colour code.

F4 to try colours

If the <F4> key is pressed, a screen will be displayed which shows the effect of the colour selection which has been made.

Archiving/restoring program and data files

It is recommended that you back up your programs and data files on a regular basis, such as at the end of each day and/or at the end of each week. A system failure can happen for many reasons but if the files are backed up and the Next expected variables report regularly printed any problems can be overcome.

In addition, use of the Journal recovery system can prevent any disruption caused by power failures during the day.

You can use the DOS commands BACKUP and RESTORE to carry out the archiving function. It is suggested that the complete TESTKEY directory be backed up each time as the programs and data files will then be included in the backup facilitating a simple restoration task to a completely different machine if necessary.

It is recommended that you make an initial backup of all files and that this will become the first weekly cycle; thereafter, daily backups can be taken of only modified files. It is a false economy to use sub-standard diskettes; also, it does not seem unreasonable to suggest at least 4 complete cycles of backup diskettes incorporating the following:

A daily set for Monday to Thursday.

A set for end-of-week backup on Friday.

In the event of having to restore the data, remember you will have to load your last end-of-week backup followed by all subsequent end of day backups. This is essential to avoid loss of files which may have only been modified on previous daily backups.

System file maintenance and restructuring

Introduction

In this version of TelexTester the file maintenance utilities are supplied externally to the Testkey system.

A utility is included which automates the process. Two options are available. In the examples which follow the 'C' represents the current drive and should be replaced with correct drive letter if necessary. The command must be entered from the DOS command line in the Testkey directory.

If these utilities are used following a disk fault or power disruption, the Journal recovery option should also be used to restore grid positions correctly.

Reorganize

When records are deleted from the system the space which they occupied is not recovered until this utility is used. This option will also rebuild the indexes.

From the DOS prompt in the Testkey directory, enter the following command:

```
RB C REORG
```

Reindex

This option will rebuild the index files, it should be used if for any reason the testkey system is not terminated normally for example in the event of a power failure.

From the DOS command, in the Testkey directory, enter the following command:

```
RB C REIND
```

It is possible to rebuild the index to any file individually, for example, if error messages indicate the VGRID file has been damaged the following command may correct it, this method is not as 'clever' as the above methods, it will not rebuild an index which does not exist:

```
REBUILD VGRID.ISM
```

Analysis code maintenance and reporting.

Introduction

If the appropriate system parameters and options are configured (see the Security Section), users will be required to enter an Analysis Code during message testing.

This allows reports to be produced which detail the number of tests done against a particular code over a period of time. The information may be used for statistical analysis of testkey traffic or provide charging information (for example if you levy an internal charge for outgoing tests).

In order to implement this option you will need to establish a set of Analysis Codes which are validated on testing.

Maintain analysis codes

This option is available from the 'Billing' option on the utility menu.

The following screen will be displayed.

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Analysys Codes Maintenance
|
+User is:
STEPHEN-----11/09/01---+

      Code      Description
      [FX ]     [FOREIGN EXCHANGE   ]
      [PR ]     [PAYMENTS AND RECEIPTS]
      [____]    [                ]
      [  ]     [                ]
      [  ]     [                ]
      [  ]     [                ]

      PgUp/PgDn, <Esc> to exit
```

When complete press [Esc].

Account codes report

Introduction

This is used to produce a report based on the history files and sorted by the system analysis codes. It is available from the 'Billing' menu option on the Utilities menu.

Screen

On selecting this option, you will see the following screen:

LHA TelexTester

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Accounts Report
|
+User is:
STEPHEN-----11/09/01---+

-----
Selection Criteria

Incoming/Outgoing: [O]           Enter I for incoming, O for outgoing.

Date Range  Start: [03/04/92]    DD/MM/YY, dates are inclusive.
              End: [03/04/92]

              From: [  5]         Enter message numbers to limit selection.
              To:   [  6]

              Output to: [S] [    ] S for Screen, F for File, P for Print
                                Enter file name if relevant.

<F1> to confirm and execute the report, <F2> to exit
```

Options

Incoming/Outgoing

Enter <I> to produce a report on incoming tests, enter <O> for outgoing tests.

Date range

Enter the message date range to be included in the report.

Message number range

Enter the message numbers if known to limit the time taken for the report to select the results. If not known, these numbers should be set to a wide range. The defaults are the message numbers used on the current date.

Report

The system will then extract the appropriate records from the history file, sort them by analysis code order, count the number for each code and produce a report similar to the following:

```
DEMONSTRATION SYSTEM                               Accounts
report
LHA TelexTester V3.6  Usr: *                      Date: 06/04/92  Time: 16:04:36  Page:
1
-----
Messages from: 03/04/92 To: 03/04/92
Outgoing messages from 00005 to 00006
-----
Account  Name                                     Total Messages
-----
FX      FOREIGN EXCHANGE                             8
PR      PAYMENTS AND RECEIPTS                          1
```

End of month cleanup

Introduction

This function empties the history file in order to reclaim disk space. Its main use is for systems that have limited disk capacity and those that may be backing up onto floppy disk and find that the time taken to backup is excessive because of the history information.

It may be used at any time but ideally you should set the size of the history file in terms of the number of tests carried out in one month and then run this option when all the statistical reports have been produced.

Note that once this option has been run you will not be able to access any messages from the grids or message reports.

Screen

On selecting this option you will see the following screen:

LHA TelexTester

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           End of Month Cleanup
|
+User is:
STEPHEN-----11/09/01---+

      This procedure will empty the history files.

      Be sure that you have completed the monthly backup
      and run the analysis code report for the period.

      Enter <I> for Incoming messages
           <O> for outgoing messages
           or <B> for both incoming and outgoing: [ ] <Esc> to abandon
```

To clear the 'Incoming history' type <I>, to clear the 'Outgoing history' type <O>, to clear all history, type .

Press the <Esc> key.

You will receive a prompt asking you to confirm that you want to clear the history files, enter <Y> to confirm this.

Maintain fixed numbers.

Fixed numbers are normally altered during correspondent maintenance. It is possible that the system is configured in such a way that no user has access to the fixed numbers. In this situation access to the Audit passwords is required for the fixed numbers to be altered.

The 'Fixed numbers' option on the Utilities menu allows the fixed numbers for a correspondent to be altered. This option is protected by the Audit passwords.

On entering the Audit passwords a screen similar to that seen during correspondent maintenance is displayed. When a correspondent code is entered the cursor will only travel between the fixed number fields. Enter the new fixed numbers and press <Esc> to exit.

Help system

Introduction

The help system is available during testing of messages. For the prompts on the encode and decode screens a series of help prompts can be created.

During testing, the system will look for a file called "HELP.TXT" and if found, will use this file as the source of help prompts.

Help file

The help text file can be created by using the TelexTester system file creation utility "TKBUILD". From the DOS prompt, type the command:

```
TKBUILD HELP
```

This will create a file called "HELP.TXT". This file contains the tags required by the TelexTester system to find the relevant help text.

The HELP.TXT file can be modified using any word processor or editor which can manage a simple ASCII text file. The DOS utility "EDLIN" can be used.

The default help text is only intended as guide to the positioning of text and should be modified as required. In particular, a colon <:> must be inserted before each tag character if not already present.

Example

The following screen is an example of the an outgoing test being made, the operator is being prompted for the correspondent short code and the 2 lines at the top of the screen have been read from the help text file.

Chapter 3 Table Maintenance Section

Introduction

This Section describes the procedures for adding, altering and deleting testkey tables. It is intended for those Supervisors responsible for Testkey tables.

Correspondent maintenance is an option available to users with 'Supervisor' status. It is used to add and alter the database of correspondent banks and to specify tables and variable numbers for them.

If your system is so configured, the Correspondent Maintenance function may require 2 Supervisor Users to be signed on. If so, when you select the option from the menu, a second sign-on screen will appear. Access will be permitted only after a different Supervisor has entered their user id and password at this screen.

Correspondent Screens

Correspondent selection

On selecting 'Correspondent Maintenance' from the Supervisor Menu a screen similar to this will be displayed:

LHA TelexTester

```
+ABN AMRO BANK -
KARACHI-----V6.3.9e-----+
| LHA TelexTester                      Correspondent
Maintenance|
+User is:
STEPHEN-----11/07/01--+
Correspondent Code [          ] Screen
1/5
      Name [          ]
      Location [          ]
Testkey Identifier [          ]
      Country code [          ]
      BIC code [          ]
Telex Routing Code [          ]
      Telex Number [          ]
      Answer back [          ]
                               Fixed Numbers.
      Use tables of [          ] Active Pending Old
      Central test [          ] In: [          ] [          ] [          ]
      Specialist [          ] Aux [          ] Out: [          ] [          ] [          ]
                               Branch: [          ] [          ] [          ]
Restrict use (Y/I/O) [          ]
      Group [          ] Last date Old fixed number used: [          ]
Marked for selection [          ] Last date key can be used: [          ]
-----
--
Enter Correspondent code; <F2> to exit; <F8> - ABNOUT
<PgUp> <^PgUp> - ABNLONDON      <PgDn> <^PgDn> - ABSAZAJJ; <F9>/<ShiftF9>
Master
```

Correspondent code prompt

General Adding/Altering

Pressing <Enter> or <Esc> at the prompt without making an entry returns you to the **Supervisor Menu**.

The correspondent short code is used throughout the system to identify your correspondent banks/companies. Up to 12 characters can be entered, we suggest you decide on some standard for these codes which will make it simpler for operators to remember them during use.

You should enter a code that is easy to remember, e.g. **MHT** if you are going to reference this record for the Master Set of tables used for all branches of Manufacturers Hanover Trust and then **MHT NY** for the individual New York branch.

When you enter a code at this prompt and press the <Enter> key, the system will attempt to access the correspondent details.

If the correspondent code entered does not exist, the system assumes you are adding a new correspondent. This is indicated by a flashing message at the top of the screen **ENTERING DETAILS FOR A NEW CORRESPONDENT**. If you made an error typing the code, just press the <Esc> key at this point to be prompted for the code again.

Additional retrieval features

Introduction

In addition to entering a correspondent code and pressing <Enter>, some codes may be available directly. The available codes are shown at the bottom of the screen.

<F8> Most recent access

To retrieve the most recently accessed code, press the <F8> key. This facility is useful if an incorrect code has been entered, the incorrect code will be presented again and can be altered before pressing the <Enter> key to accept it.

<PgUp> Previous correspondent

To retrieve the correspondent code alphabetically prior to that available with the F8 key, press the <PgUp> key. The code will be shown at the bottom of the screen if it is available.

<PgDn> Next correspondent

To retrieve the correspondent code next in alphabetical sequence to that available with the F8 key, press the <PgDn> key. The code will be shown at the bottom of the screen if it is available.

<Ctrl Pg> Show Previous/Next

Pressing the <Ctrl> key together with either the <PgUp> or <PgDn> keys will cycle through the correspondents available, showing the 'Prior', 'Current' and 'Next' at the bottom of the screen.

<F9> Get Master Option

The use of 'Master' keys is explained later in this Section, however, assuming you are familiar with their use, the Get Master option is available.

To access correspondents which use a particular 'Master' key, first set the Master by pressing the <Shift> key together with the <F9> key. The system will prompt for the Master key, enter the key and press <Enter>.

The first correspondent using this Master key will be accessed.

Pressing the <F9> key alone, will access the next correspondent using a previously specified Master key.

If you have not set a current Master, pressing the <F9> key will retrieve correspondents which have no Master table setting.

Adding/changing a correspondent, Introduction

To add a new correspondent, select 'Correspondent maintenance' from the **Supervisor Menu** enter a new correspondent code and press the <Enter> key.

To alter an existing correspondent, select 'Correspondent maintenance' enter the correspondent code and press the <Enter> key.

There are five correspondent maintenance screens, four of these screens define the tables used and various other elements of correspondent configuration. Press <PgUp> or <PgDn> to access these screens. The fifth screen allows free text to be entered for a correspondent, press the <F10> key to access this screen.

After you enter data into a field, or to skip fields that are not applicable to the correspondent, press <Enter> or <Tab> to move the cursor to the next field.

When you have no more fields to complete, press the <F1> key to save the correspondent details and select another correspondent.

Correspondent screen 1

Screen

The following is an example of a completed

Correspondent Maintenance data entry screen:

```

+ABN AMRO BANK -
KARACHI-----V6.3.9e-----+
| LHA TelexTester          ENTERING DETAILS FOR A NEW
CORRESPONDENT|
+User is:
STEPHEN-----11/07/01---+
Correspondent Code [TESTBANK      ] Screen
1/5
      Name [TEST BANK LTD          ]
      Location [LONDON              ]
Testkey Identifier [                ]
      Country code [                ]
      BIC code [                    ]
Telex Routing Code [                ]
      Telex Number [                ]
      Answer back [                  ]
      Fixed Numbers.
      Use tables of [                ] Active Pending Old
      Central test [                ] In: [ 1234] [ 0] [ 0]
      Specialist [                ] Aux [                ] Out: [ 1234] [ 0] [ 0]
      Branch: [_____0] [ 0] [ 0]
Restrict use (Y/I/O) [ ]
      Group [                ] Last date Old fixed number used: [00/00/00]
Marked for selection [ ] Last date key can be used: [00/00/00]

```

Name

You can enter up to 50 characters for the full name of the correspondent bank and/or any other identifying information.

This information is also displayed during encode/decode to ensure that the user entered the correct code for the correspondent. You can use this information to sort and produce a report on all correspondents by name.

Location

You can enter up to 30 characters to identify the actual address of the correspondent bank. This information is displayed during encode/decode to ensure that the user entered the correct code for the correspondent and you can sort and produce a report on all correspondents by location.

Testkey Identifier

If required, use this field to record which of your testkey algorithms is used by the correspondent.

Country

You can enter a three character country code. The correspondent reports can be sorted on this field.

BIC Code

Use this field to record the correspondent's BIC code.

Telex Routing Code

You can enter up to 12 characters; for example, the bank's telex number. The information entered here is printed on labels which can be automatically produced during encode/decode if you have set your system accordingly. (See **System Parameters** in the **Security Section**.)

Telex Number

Use this field to record the Telex number for the correspondent.

Answer back

Use this field to record the correspondent's Telex answer back.

Use Tables (Master Set)

An extremely useful facility which saves time when entering several correspondents with the same tables and also conserves disk space. For further details see section **Using tables from a Master Set**.

If you are using this option, just enter the **Correspondent Code** for the record you wish to reference.

Before using this option, the Master table must have been entered into the system. See also the **Set slaves** option.

Central test

Enter a correspondent code here which is the site used for centralized testing. For further details see section **Centralized testing**

Specialist keys

Some testkey algorithms are either too specialized or confidential to be included in the standard TelexTester package. For these keys a code is entered in this field to indicate which specialist key is to be used. If you have been given access to a specialist key, the documentation will be issued separately.

See Specialist keys Section.

Specialist key Auxiliary Value

A numeric value can be entered it is used by some specialist keys.

Fixed Numbers In/Out

If applicable, enter the correspondent's fixed numbers for incoming and outgoing messages which are often identical but the system caters for correspondents with different numbers.

Only Users whose profile is set to allow fixed number maintenance are able to alter these fields.

It is possible for all users to be restricted from fixed number maintenance. In this case fixed numbers must be altered from the Utilities menu. This option requires the Audit passwords for access.

Branch Number

You can enter up to 6 digits if the correspondent requires a branch code as another fixed part of the testkey.

Pending fixed numbers

These fields are used to record new fixed number for the correspondent. The Pending fixed numbers will not be used until activated.

See the section **Start new fixed numbers** in the **Security Section** for details.

Old fixed numbers

These fields are used to record the previous fixed numbers for the correspondent.

There is also a date field which specifies when the previous fixed numbers expired.

LHA TelexTester

If incoming tests are received prior to the fixed number change, they will be validated against the previous fixed numbers instead of the current numbers.

Automatic changes

If the automatic 'Start fixed numbers' option is used to transfer pending fixed numbers to current. The current fixed numbers can also be moved automatically to the 'Previous' slots and the expiry date entered as specified.

The Pending fixed numbers will not be used until activated.

See the section **Start new fixed numbers** in the **Security Section** for details.

Restrict Use (Y/I/O)

When a correspondent's record is marked **Y** for **Restrict Use**, it is not available for use during a testing operation.

For example, when you begin to enter data for a new correspondent, the field automatically displays **Y** as a safeguard against the record being used before it is completed.

Or, if for some reason you must put a hold on transfers to a bank, the correspondent's record can be **taken out of service** temporarily rather than your having to delete it and then add it again.

When the record is ready for use within the system, enter **N** in this field.

Another effect of restricting use is to prevent a correspondent record from being deleted. It is normal to restrict the use of keys used as **Master keys** this prevents them from being used and from accidental deletion.

A further refinement of the **Restrict Use** field is to enter either an 'I' or an 'O'. This will restrict use to either Incoming or Outgoing tests.

Group

Correspondents can be allocated to groups using this field. The grouping facility enables various options within the TelexTester system to be applied to members of specific groups or sub groups. A sub Group is formed by taking the initial letters of a group, for example, 'ANZE' is a sub group of 'ANZ'.

This field is optional, however, it can be very useful in producing reports etc.

Marked for selection

This field, like Group, is used to make a selection from the correspondents in the system. Some options within the TelexTester system can be made to apply to only those correspondents currently marked for selection.

To mark a correspondent, enter <Y> in this field, otherwise, leave it blank.

For further details on correspondent marking, see the '**Administrator Section**'.

The last date key can be used

Enter a date in this field to cause this key to be put 'Out of Service' from a specific time.

This field may be entered automatically by the Export/Import utility.

On the date specified and any subsequent date, the key will not be valid for any testing, in or outbound. The operator will receive the message:

```
055 /CORRESPONDENT OUT OF SERVICE; REFER TO DBM
```

Correspondent screen 2

Introduction

When the first correspondent screen is completed pressing the <PgDn> key will access the second screen. This screen includes defines the specific tables used by the correspondent.

LHA TelexTester

Screen

```
+ABN AMRO BANK -
KARACHI-----V6.3.9e-----+
| LHA TelexTester          ENTERING DETAILS FOR A NEW
CORRESPONDENT|
+User is:
STEPHEN-----11/07/01---+
Correspondent Code [TESTBANK      ]          Screen
2/5
          Name [TEST BANK LTD          ]
          Location [LONDON              ]
-----
--
Day of Week [_] Day of Month [ ] Week of year [ ] Day of mnth/Day of week [
]
Julian date [ ] Date of Year [ ] Mnth of year [ ] Day of wk/month of year [
]
  DD+MM+YY [ ]      Add DDMM [ ]      Deduct DD [ ] Mnth of yr/yr of decade [
]
Manual value (Y/T(ranslate)) [ ]          Manual value prompt [
]
          Currency Table [ ]          Amount Table [ ]
          Character Table [ ]
Alpha seq table for no amt [ ]      Prohibit multi currency tests [ ]
Significant decimal amounts [ ]
Limit testkey length [ ]
```

Day of week

Enter a 'Y' if the correspondent uses variables associated with the 7 days of the week.

Day of month

Enter a 'Y' if the correspondent uses variables associated with the 31 days of the month.

Week number

Enter a 'Y' if the correspondent uses variables associated with the 52 weeks of the year.

Day of month/Day of week

Enter a 'Y' if the correspondent uses variables relating to the day of the month (1 - 31) versus the day of week (1 - 7).

Julian date

Enter a 'Y' if the correspondent uses variables relating to the Julian date (1 - 366).

Date of year

Enter a 'Y' if the correspondent uses variables relating to the day of month (1 - 31) versus the month of year (1 - 12).

Month of the year

Enter a 'Y' if the correspondent uses variables associated with the 12 months of the year.

Day of week Vs Month of year

Enter a 'Y' if the correspondent uses variables relating to the Day of the week (1 - 7) versus the Month of the year (1 - 12).

DD + MM + YY

Enter a 'Y' if the testkey includes the value of day plus month plus year, eg. 107 for eight day of August 1991 (8 + 8 + 91).

Add in DDMM

Enter a 'Y' if the testkey includes the value of DDMM, eg. for the eighth of September add 809.

Deduct DD

Enter a 'Y' if the testkey deducts the value day of the month, eg. subtract 8 from the testkey total for the eight day of any month.

Month of year/Year of decade

Enter a 'Y' if the testkey uses variables relating to the month of the year within each year of the decade.

This table has 12 * 10 (120) variables.

Manual value

Enter a 'Y' if a value which is not specified in any table needs to be added into the testkey calculation. An example of this is the bank sortcode, a batch or invoice number.

The operator will be prompted during encode/decode for the value to be included.

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This field can also be used to add a value from a testkey table not currently supported by this system.

A refinement of this option is to enter a <T> in this field, this will generate a table of ten variables to be associated with each digit entered as the manual value. These variables are summed with the testkey value. See Section **Manual Value table**.

Manual value prompt

If a manual value is to be added to the testkey, the text entered in this field will be used to prompt the operator at the time of testing. In the case of a bank sort code being required as part of the testkey calculation, the word 'SortCode' should be entered in this field.

Currency table

Enter **Y** in this field if the correspondent has variables associated with currencies, see **Currency table** below.

Amount table

Enter **Y** in this field if the correspondent has variables associated with values, see **Amount table** below.

Character table

Enter **Y** in this field if the correspondent has variables associated with characters in the message, see **Character table** below.

Use Alpha sequence table for no amount

Enter **Y** in this field if the correspondent uses an alphabetic sequence table for tests with no amount.

Prohibit multi currency tests

Enter **Y** in this field if the correspondent testkey does not allow tests with more than a single currency.

Significant decimal amounts

Normally decimals in testkey amounts are ignored, for example, two amounts of 1.50 give a total of 2.00 for testing purposes. Enter a 'Y' in this field to indicate that decimals are not to be ignored. If you are not sure, then leave this field blank as it is not often required.

Limit testkey length

If a figure is entered into this field, the resulting testkey for this correspondent will be truncated from the right to the number of digits specified.

Correspondent screen 3Introduction

When the second correspondent screen is completed pressing the <PgDn> key will access the third screen. This screen includes sequencing rules for the correspondent. Even if a correspondent uses no sequence numbers a grid will be maintained, this enables the system to show the order of tests being received and present the test for inspection from the grid maintenance option.

Screen

```
+ABN AMRO BANK -
KARACHI-----V6.3.9e-----+
| LHA TelexTester          ENTERING DETAILS FOR A NEW
CORRESPONDENT|
+User is:
STEPHEN-----11/07/01---+
Correspondent Code [TESTBANK      ]          Screen
3/5
          Name [TEST BANK LTD          ]
          Location [LONDON              ]
-----
--
          Size of grids.  In: [ 99]          Common in & out grids: [N]
                                Out: [ 99]          Translate testkey value: [ ]
Separate incoming/outgoing tables: [N]          Auto cancel missing tests: [ ]
Missing incoming sequence, gap size: [ 5] Check for missing tests with
                                duplicate sequence variables: [ ]
                                Reset SeqVar to row 1 each day: [ ]
1 Add   SeqVar          Add Last SeqVar for each cycle of grid: [ ]
2 Minus SeqVar          Testkey is cycle dependant: [ ]
3 Add   SeqVar, separate table days of week
4 Minus SeqVar, separate table days of week
5 Add   SeqVar, separate table days of month
6 Add   SeqVar, separate table months of year & days of month

[1] SeqVar Option          (SeqVar = Sequence Variable)
```

Size of grids

You can specify the grid size of the table for incoming and outgoing messages up to 999. The grid size represents the number of messages processed before the table is repeated. For tables which do not use a grid it is advisable to enter a figure here since this will allow the last sequence of messages to be displayed.

Separate incoming/outgoing tables

Enter a 'Y' in this field if the sequence variable tables are different for incoming and outgoing tests.

Missing incoming sequence gap size

The figure entered here will be used to calculate whether a test which has arrived out of sequence can be accepted. It only applies to tests which arrive early, a missing test will always be accepted (dependent upon operator acceptance).

Common in & out grids

Put a 'Y' in this field if the correspondent uses a single grid for both incoming and outgoing messages, this is not the same as using the same variable tables for in and out messages.

Use of this option is rare, as an example, tests on rows 1 and 2 are outgoing tests, then the next expected incoming test would be on row 3.

Translate testkey value

Enter a 'Y' in this field if the resulting Testkey value is to be translated using a character translation table. For example, Testkey '123456' becomes 'AXBZ'.

Auto cancel

If selected, any missing rows for this correspondent will be flagged as 'Cancelled'. This option allows a table to be used in a 'Random' manner with incoming tests on any row being accepted without generating 'Missing' rows.

Check for missing tests with duplicate sequence variables

This option should only be set to <Y> if the sequence variables in the grid have duplicates present.

It is used when incoming testkeys are received in the wrong order. It will cause the system to perform an additional check of the grid cycles for a correct position on a missing row instead of stopping when the first correct position is found.

Use of this option will cause the system to operate more slowly for incoming test failures.

Reset SeqVar to row 1 each day

If selected, during the House Keeping operation (which is run automatically each day) the Next rows for this correspondent will be reset to one.

Add Last SeqVar for each cycle of grid

Normally used in addition to '**Reset SeqVar each day**'.

If selected, the final sequence variable in the table is added to the testkey for each rotation of the grid.

When used, the Grid cycles must be set high enough to accommodate all tests carried out in a single day.

Testkey is cycle dependant

This option should only be selected for testkeys where the testkey can vary dependant on which cycle of the grid is being used.

The option allows the system to process incoming tests more accurately.

Specify <Y> for example if using prefix option 10 or some Specialist keys.

Sequence Variable Option (SeqVar Option)

Enter the requitred option or zero for none. Options are defined below.

1 Add SeqVar

Sequence Variable added to Testkey

2 Minus SeqVar

Sequence Variable subtracted from Testkey

3 Add SeqVar, separate table days of week

Sequence Variable added to Testkey, seven tables are maintained, Monday, Tuesday etc.

4 Minus SeqVar, separate table days of week

Sequence Variable subtracted from Testkey, seven tables are maintained, Monday, Tuesday etc.

5 Add SeqVar, separate table days of month

Sequence Variable added to Testkey, 31 tables are maintained, 1st to 31st day of the month.

6 Add SeqVar, separate table months of year & days of month

Sequence Variable added to Testkey, 12 * 31 tables are maintained, 1st to 31st, January to December.

Correspondent screen 4

Introduction

When the third correspondent screen is completed pressing the <PgDn> key will access the fourth screen. This screen includes the Prefix and Suffix options for the correspondent.

Screen

```

+ABN AMRO BANK -
KARACHI-----V6.3.9e-----+
| LHA TelexTester                      Correspondent
Maintenance|
+User is:
STEPHEN-----11/08/01---+
Correspondent Code [TESTBANK      ]          Screen
4/5
      Name [                               ]
      Location [                           ]
-----
--
Sequence number as prefix ..... 1
Daily despatch number as prefix.. 2
No of digits in amount as prefix. 3
Prefix from prefix tables..... 4
Prefix from alpha tables..... 5
Optional sequence no as prefix .. 6
Day of month as prefix ..... 7
Prefix from day of week table ... 8
Day of Month plus Month of Year . 9
Sequence + (Grid size * Cycles) .10
Sequence number as suffix.....1
Sequence variable as suffix.....2
No of digits in amount as suffix.3
Nos tests today (same ccy & amt).4

      Prefix Option [_0]                      Suffix Option
[0]

Separate prefix table each day of week: [ ]

```

Prefix Options

Introduction

The package has been designed to cater for all currently known methods of arriving at the prefix value and you can enter one of the options as follows.

Sequence number as prefix

This option allows you to use the sequence number as a prefix without having to set up a prefix table as would be the case with option **4**.

An example of how this option works is:

The 53rd message is sent to Demo Bank which we will refer to as the 53rd **sequence number**.

The 53rd **sequence number** has a **sequence variable** of 278.

When calculated, the value 278 will be added to the testkey with 53 appearing as a **prefix**, e.g 53/34567.

Daily dispatch number as prefix

This option is similar to option 1 except that the prefix resets to 1 when Housekeeping is run.

This option is only used if the correspondent uses both a sequence variable and a prefix number which is reset each day and has a different size to the sequence grid.

An entry in this field allows the prefix to cycle independently of the sequence variable.

For example, ABCBANK uses a daily message number as a prefix which has a table size of 9 but uses a sequence variable which cycles through 100 values.

If the daily dispatch is the same size as the grid and the grid is reset to 1 each day then do not use this option, use option 1 instead as this will give more control of out of sequence tests.

If this option is selected then after the second correspondent screen has been completed another screen will be displayed allowing the prefix grid size to be specified and positions for the previous month to be entered. This screen is defined and explained in **Grid maintenance**.

No. of digits in amount as prefix

The system automatically adds up the number of digits in the amount to be tested and uses the total as the prefix for the calculated testkey. For example:

A test for the amount 1,765,218 would be prefixed by 007/.

Prefix from prefix table

Similar to option 1, except that the system uses a set value from an established prefix table.

For example, using the same scenario as given for option 1, but this time the testkey result uses this option for issuing the prefix.

The 53rd message is sent to Demo Bank which we will refer to as the 53rd **sequence number**.

The 53rd **sequence number** has a **sequence variable** of 278.

But, in this case, the 53rd **sequence number** has a **prefix variable** in an established **prefix table** of, let's say, the value 87.

When calculated, the value 278 will be added to the testkey, but since the 53rd **sequence number** in the **prefix table** has a value of 87, this appears as the **prefix**, e.g 87/34567.

Prefix from alpha table

Same as above except using values from an established alpha table. This enables values such as '0' (zero) or '00' or even 'ABCD' to be used as a prefix.

Optional sequence number as prefix

Same as above option 1 except that for incoming tests if the prefix is not entered then it will be supplied by the system based upon where in the grid the testkey fits.

Day of month as prefix

The day of the month (1 - 31) of the testkey date is used as the prefix.

For example, for a testkey of 2345 on 8 August the complete key will be 8/2345.

Prefix from day of week table

The prefix value is taken from the **Day of week** table. If this option is used a 'Day of week' table needs to be established. If, however, the variable from this table is not to be added to the testkey value, do not set the 'Day of week' option on the first correspondent screen.

Day of Month plus Month of year

Add the current day of the month to the current month of the year and use the result as the prefix.

Sequence + (Grid size * cycles)

Prefix option 10 will use the sequence position as prefix, then, when all the sequences have been used the prefix will continue sequentially, not reset to row 1.

The prefix is dependant on the grid cycle, so the number of cycles must be set as required.

If used with the option 'Reset to row 1 each day', this prefix will produce the number of tests for the day, or 'Daily Despatch Number'.

Also, see 'Cycle Dependant' option.

Separate prefix table for each day of week

Enter a 'Y' in this field if the prefix variable tables are different for each day of the week.

Suffix Option

Introduction

The four suffix options are similar in operation to the prefix options although not as common, but a testkey may have any combination of prefix and suffix options.

Sequence number as suffix

The number of the current grid position is used as suffix. See **prefix option 1** for detailed description.

Sequence variable as suffix

The variable associated with the current grid position is used as the suffix.

Number of digits in amount

Same as prefix option 3.

Nos tests today (same ccy & amt)

This option will add a suffix to the testkey which is a count of the tests done today with the same currency and amount.

Correspondent screen 5

Introduction

The fifth correspondent screen is used to record the type of key and various dates. This screen is accessed by pressing the <PgUp>/<PgDn> keys after accessing a correspondent.

Screen

The following is an example of screen 4:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester          Correspondent Maintenance
|
+User is:
STEPHEN-----11/09/01--+
Correspondent Code [LHALONDON  ]
                    Name [BANK OF LHA LTD          ]
                    Location [LONDON                ]
-----

                    Type of key: [_____ ]

                    Date key issued: [12/01/94]
                    Acknowledged: [13/01/94]

Date fixed numbers issued: [12/01/94]
                    Acknowledged: [13/01/94]

                    Date key operative: [01/02/94]

-----

<F1> to save; <F2> to abandon; <PgUp> or <PgDn>; <F10> General Information
<F9> Tables; Shift <F1> direct table; <F3> Set Slaves; <F4> Copy; <F5> Delete
```

Description

The information entered into these fields is recorded by the system and can be produced in correspondent reports.

Correspondent screen 6

Introduction

The sixth correspondent maintenance screen is used to record general information about the correspondent bank.

To access this screen, press <F10> from any of the other screens.

The first line entered on this screen will be displayed during input of tests, it was previously called 'SPECIAL INSTRUCTIONS'.

A screen similar to the following will be displayed.

LHA TelexTester

Screen

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester                      Correspondent Maintenance
|
+User is:
STEPHEN-----11/09/01---+
Correspondent Code [LHALONDON  ]
                    Name [BANK OF LHA LTD           ]
                    Location [LONDON                  ]
-----
Information, contacts etc. First line will be shown to operator during
testing.
-----
|No Third Party Tests!
|
|26 FRITH STREET
|
|LONDON W1
|
|GEORGE TURNABLE, 0181 399 1489
|
|KEY RECEIVED 12TH AUGUST 1993
|
-----
<F1> save/exit, <Esc> to abandon changes <Shift F1> more
```

Options available

F1 Save

When all changes have been made, press the <F1> key to save the information and return to the correspondent maintenance screens.

Escape abandons

Press the <Esc> key to exit without saving changes.

You will receive a warning if changes have been made.

Shift F1

Further options are available by pressing the <Shift> and <F1> keys together.

These options are '**General Edit**' options, they are described in the **Operators Section**.

Correspondent maintenance prompts

F1 Save

When all changes to the correspondent are complete, press the <F1> key to save the changes and prompt for another correspondent.

F2 Abandon

To abandon any changes you have made, press the <F2> key. Note, the abandon option will only apply to changes to the correspondent record. Any changes made to table contents will still stand.

PgUp/PgDn

The <PgUp> and <PgDn> keys will cycle through the four correspondent maintenance screens.

F9 Tables

When the details of which tables are used have been completed on the second correspondent screen, pressing the <F9> key will access the variables for selected tables.

F10 General Information

Pressing the <F10> key will access the editor for entering Special Instructions and General information.

Shift F1, direct table

To access the variables for a specific table directly, set the cursor on the required field and press the <Shift> key together with the <F1> key.

F3 Set slaves

The <F3> key accesses the set slaves option, see **Set Slaves** later in this Section for details.

F4 Copy

The <F4> key allows details from an existing correspondent record to be copied over the current record

After pressing the <F4> key you are prompted for a correspondent code, enter the code from which to copy and press the <Enter> key. The table details from the specified correspondent will be copied over the current correspondent details.

This feature differs from using a Master Set in that duplicate copies of the tables you want to use are made and you have the facility to change individual tables as needed for the correspondent you are adding without affecting others which use the same tables.

For example:

Let us suppose that you have already added the correspondent **MHT NY** (Manufacturers Hanover Trust New York) and now wish to add a record for the London branch. Let us further suppose that the tables for London are marginally different, say different sequence tables (otherwise you would use the Master Set as previously described for adding the New York branch).

When adding this correspondent, you enter **MHT LD** as the code for London, its full name, location and unique fixed numbers and then enter **MHT NY** in the **Copy From** field and press the <Enter> key. The screen will then display:

```
... Please Wait. Table copy in progress.
```

and then if the original set has been added correctly:

```
... Table copy successful.
```

At this point the tables have been duplicated for London and you can make modifications to the sequence tables (which, for the sake of this example, are different from New York) or add a new table, or change any others.

A word of warning: be sure that the original tables are accurate before using this option as any error in the table will be propagated to each correspondent that you copy to.

F5 Delete

To delete a correspondent, press the <F5> key, you will be prompted for confirmation that you want to delete the correspondent, enter <Y> and press <Enter> to confirm and delete the correspondent record and all its tables.

If a correspondent is marked as 'Out of service' you will not be able to delete it. This feature exists to protect 'Master' correspondent keys which are normally marked as Out of service.

Using tables from a Master Set

Introduction

Most major banks have standard testkey tables which are issued to all of its branches or correspondents throughout the world with the only differences being the fixed incoming and outgoing numbers.

Therefore, once you have added a correspondent record containing the head office tables, it is an easy operation to add records for the branches or other correspondents with a different correspondent code and the relevant fixed numbers and then simply reference the testkey tables from the record containing the Master Set.

This facility saves space on the system as only the one table set is referenced although separate Sequence Positions are maintained for each correspondent using the Master Set. Maintenance is also easier because you only have to change the Master Set if the change is applicable for all those correspondents using it.

Example

Let us suppose that you have added the correspondent **MHT** (Manufacturers Hanover Trust) with all standard table data (the Master Set) and now wish to add a record for the NY branch with unique fixed incoming and outgoing numbers.

When adding this correspondent, you enter **MHT NY** as the **Correspondent Code**, the full name and location of the bank, the unique fixed numbers and then simply enter **MHT** in the **Use Tables** field and press <F1> to save.

On pressing <F1> the system will transfer the Master table details to the 'Slave'.

Although the grid sizes for users of master tables must be the same as the master, it is possible to set individual branches with their own tolerance for incoming tests.

LHA TelexTester

Set Slaves option

Introduction

This option is available from the **Correspondent Maintenance** prompt. It is used when a **Master** correspondent record has been changed. The table selections, grid sizes and prefix/suffix options specified for the Master set must be transferred to its user correspondents. These are called the Slaves.

Access the correspondent record for the 'Master' key. Then press the <F3> key to set the slaves.

Screen

On selecting this option the following screen will be displayed:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Correspondent Maintenance
|
+User is:
STEPHEN-----11/09/01---+

This option is used to update correspondents which use the tables of another
correspondent after this Master correspondent has been altered.

New Master correspondent: [MASTER      ] MASTER KEY
                           BANK OF LHA

Select from the following those settings which you want transferred from the
the Master correspondent record to the Slaves.

                Name:      [_]           Missing sequence gap size: [ ]
Incoming fixed number:  [ ]           Prefix option:             [Y]
Outgoing fixed number:  [ ]           Suffix option:            [Y]
Branch number:          [ ]           All table selections:     [Y]

Reset grid positions to first row: [ ]

Alter the 'Use Tables' option and apply these changes only
to those correspondents currently using Master tables of: [           ]

                <F1> to confirm and execute, <F2> to exit
```

Operation

The default options are normally correct, however, they may be changed if necessary.

The Set Slaves option can be used to alter the Master key on all slave keys using a particular master. If this is required, enter the original master key in the field 'Alter the Use Tables option'.

Press <F1> to confirm and execute the operation.

Centralized testing

This field is used to specify a correspondent short code whose tables will be used to calculate and record all tests for this correspondent. It follows that all other table entries will be ignored.

During initial encode/decode the original correspondent details (Name/Location) will be displayed. Once the calculate button is used the central test details will be displayed, the original code is recorded in the remarks field.

Date Tables and Date Options

Introduction

The **TelexTester** package has been designed to handle all known types of date tables and any additional tables that may be required can be provided on request.

Date tables are accessed through the Correspondent maintenance option, by pressing the <F9> key or directly by pressing <Shift F1>.

Scope of the Date Tables

Current date tables included are:

Day of week:	Monday to Sunday
Day of month:	1 to 31
Date of year:	Date and month
Week of year:	1 to 53
Month of year:	January to December
Month of yr Vs Yr of decade	January to December against 1 to ten

Day of Month Vs Weekday:	1 to 31 against Monday to Sunday
Day of week Vs month:	Monday to Sunday against January to December
Julian date:	Day of year 1-366
DDMM	Date of month + month of year i.e. 1312 = 13th December. No table is produced.
DDMMYY	Add or subtract date of year, e.g., 13/12/88 = 13+12+88 = 110. No table is produced.

Table maintenance

When you select <F9> to continue with the tables, from correspondent maintenance, the tables will be presented individually.

Enter the variables associated with the correspondent and Date table. In some cases the variables are too many to fit on a screen, in this case you will see a 'PgUp/PgDn' prompt at the bottom. Press <PgUp> and <PgDn> to scroll the variables.

Day of week table

```

+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester          Day of Week
|
+User is:
STEPHEN-----11/09/01---+
Correspondent [          ]

Monday      In/Out      Out
            [_____]    [    ]
Tuesday     [    ]      [    ]
Wednesday   [    ]      [    ]
Thursday    [    ]      [    ]
Friday      [    ]      [    ]
Saturday    [    ]      [    ]
Sunday      [    ]      [    ]

Enter 'S' to subtract variable [ ]   Enter 'Y' for separate In/Out tables [ ]

Enter values, <Esc> to finish.

```

Enter variables only in the column marked In/Out unless variables are different for incoming/outgoing messages in which case use both columns and enter 'Y' in the In/Out field.

Enter <S> in the subtract variable only if the associated variables are to be subtracted from the testkey value.

Day of month table

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Day of Month Table
|
+User is:
STEPHEN-----11/09/01--+
Correspondent [           ]

Day 01-05      [ ]      [ ]      [ ]      [ ]      [ ]
Day 06-10      [ ]      [ ]      [ ]      [ ]      [ ]
Day 11-15      [ ]      [ ]      [ ]      [ ]      [ ]
Day 16-20      [ ]      [ ]      [ ]      [ ]      [ ]
Day 21-25      [ ]      [ ]      [ ]      [ ]      [ ]
Day 26-30      [ ]      [ ]      [ ]      [ ]      [ ]
Day   31       [ ]

Multiply value by sequence number: [ ]

Enter values, <Esc> to finish.
```

The option 'Multiply by sequence number' will cause the variable associated with the day to be multiplied by the row number of the sequence grid before adding to the testkey.

Week of year table

```

+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Week of Year Table
|
+User is:
STEPHEN-----11/09/01---+

Correspondent [API1      ] NAME OF API1

  Week No  Value      Week No  Value      Week No  Value      Week No  Value
    1  [_____]    14  [  ]    27  [  ]    40  [  ]
    2  [  ]      15  [  ]    28  [  ]    41  [  ]
    3  [  ]      16  [  ]    29  [  ]    42  [  ]
    4  [  ]      17  [  ]    30  [  ]    43  [  ]
    5  [  ]      18  [  ]    31  [  ]    44  [  ]
    6  [  ]      19  [  ]    32  [  ]    45  [  ]
    7  [  ]      20  [  ]    33  [  ]    46  [  ]
    8  [  ]      21  [  ]    34  [  ]    47  [  ]
    9  [  ]      22  [  ]    35  [  ]    48  [  ]
   10  [  ]      23  [  ]    36  [  ]    49  [  ]
   11  [  ]      24  [  ]    37  [  ]    50  [  ]
   12  [  ]      25  [  ]    38  [  ]    51  [  ]
   13  [  ]      26  [  ]    39  [  ]    52  [  ]
                                53  [  ]

Enter values, <Esc> to finish

```

Month of year table

LHA TelexTester

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Month of Year Table
|
+User is:
STEPHEN-----11/09/01---+

Correspondent [API1      ] NAME OF API1

January [____]      February [  ]      March   [  ]
April  [  ]        May      [  ]        June   [  ]
July   [  ]        August  [  ]        September [  ]
October [  ]       November [  ]       December [  ]

Enter values, <Esc> to finish
```

Date of year table

```

+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester                               Date of Year Table
|
+User is:
STEPHEN-----11/09/01--+
Correspondent [API1          ] NAME OF API1

Day      Jan   Feb   Mar   Apr   May   Jun   Jul   Aug   Sep   Oct   Nov   Dec
1 : [____][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ]
]
2 : [   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ]
]
3 : [   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ]
]
4 : [   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ]
]
5 : [   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ]
]
6 : [   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ]
]
7 : [   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ]
]
8 : [   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ]
]
9 : [   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ]
]
10 : [   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ]
]
11 : [   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ]
]
12 : [   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ]
]
13 : [   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ]
]
14 : [   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ]
]
15 : [   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ]
]
16 : [   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ][   ]
]

Enter values and press PgUp/PgDn, <Esc> to finish

```

You will need to press the <PgUp>/<PgDn> keys to access the other days of the month.

Day of month versus day of week table

LHA TelexTester

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Day of Month / Day of Week Table
|
+User is:
STEPHEN-----11/09/01--+

Correspondent [API1      ] NAME OF API1

Day |   Mon   Tue   Wed   Thu   Fri   Sat   Sun
 1 | [_____] [ ] [ ] [ ] [ ] [ ] [ ]
 2 | [ ] [ ] [ ] [ ] [ ] [ ] [ ]
 3 | [ ] [ ] [ ] [ ] [ ] [ ] [ ]
 4 | [ ] [ ] [ ] [ ] [ ] [ ] [ ]
 5 | [ ] [ ] [ ] [ ] [ ] [ ] [ ]
 6 | [ ] [ ] [ ] [ ] [ ] [ ] [ ]
 7 | [ ] [ ] [ ] [ ] [ ] [ ] [ ]
 8 | [ ] [ ] [ ] [ ] [ ] [ ] [ ]
 9 | [ ] [ ] [ ] [ ] [ ] [ ] [ ]
10 | [ ] [ ] [ ] [ ] [ ] [ ] [ ]
11 | [ ] [ ] [ ] [ ] [ ] [ ] [ ]
12 | [ ] [ ] [ ] [ ] [ ] [ ] [ ]
13 | [ ] [ ] [ ] [ ] [ ] [ ] [ ]

Enter values and press PgUp/PgDn, <Esc> to finish
```

You will need to press the <PgUp>/<PgDn> keys to access the other days of the month.

Day of week versus month of year table

```

+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Day of Week / Month of Year
|
+User is:
STEPHEN-----11/09/01---+

Correspondent [API1      ] NAME OF API1

Day |   Jan   Feb   Mar   Apr   May   Jun   Jul   Aug   Sep   Oct   Nov   Dec
---|-----
Mon | [____][    ][    ][    ][    ][    ][    ][    ][    ][    ][    ][    ]
]
Tue | [    ][    ][    ][    ][    ][    ][    ][    ][    ][    ][    ][    ]
]
Wed | [    ][    ][    ][    ][    ][    ][    ][    ][    ][    ][    ][    ]
]
Thu | [    ][    ][    ][    ][    ][    ][    ][    ][    ][    ][    ][    ]
]
Fri | [    ][    ][    ][    ][    ][    ][    ][    ][    ][    ][    ][    ]
]
Sat | [    ][    ][    ][    ][    ][    ][    ][    ][    ][    ][    ][    ]
]
Sun | [    ][    ][    ][    ][    ][    ][    ][    ][    ][    ][    ][    ]
]

Enter values, <Esc> to finish

```

LHA TelexTester

Month of Year versus Year of decade

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Month of Year / Year of
Decade|
+User is:
STEPHEN-----11/09/01---+
Correspondent [MASTER      ] BANK OF LHA

      00      01      02      03      04      05      06      07      08      09
      --      --      --      --      --      --      --      --      --      --
Jan | [_____] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
Feb | [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
Mar | [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
Apr | [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
May | [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
Jun | [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
Jul | [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
Aug | [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
Sep | [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
Oct | [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
Nov | [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
Dec | [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]

Enter values, <Esc> to finish
```

Julian date (day of year)

```

+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Julian Date Table
|
+User is:
STEPHEN-----11/09/01---+

Correspondent [API1          ] NAME OF API1

   Day      0      1      2      3      4      5      6      7      8      9
10 | [  ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
20 | [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
30 | [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
40 | [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
50 | [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
60 | [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
70 | [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
80 | [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
90 | [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
100 | [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
110 | [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
120 | [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
130 | [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
140 | [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

Enter values and press PgUp/PgDn, <Esc> to finish

```

You will need to press the <PgUp>/<PgDn> keys to access the other days of the year.

Other Testkey Tables

Introduction

The basic commands and operations for adding and maintaining the other table types required by correspondents are defined individually below.

These tables are accessed from the correspondent maintenance screens, by pressing the <F9> key. Tables will be presented one after another. To access a table directly, locate the cursor at the relevant point on the correspondent screen and press the <Shift F1> key.

Currency tables

Introduction

Prior to setting up correspondent currency tables you should read the section **Maintaining Currency Master File** in the Supervisor Section. This documents the maintenance of the master currency list.

Screen

On selecting a Currency Table a screen similar to the following will be displayed, the currency codes and descriptions displayed will depend upon your Currency table configuration:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Currency Table
|
+User is:
STEPHEN-----11/09/01--+
Correspondent: [ DEMO BANK   ] DEMONSTRATION BANK
Other Currencies:   [ 888]           Enter 'Y' to use           Maximum test
                                'Other Currencies'           amount in
                                value as default.             thousands.
TZS TANZANIAN SHILLING          [   ]           [Y]           [   ]
UGX UGANDA SHILLING             [   ]           [Y]           [   ]
USD US DOLLAR                   [3344]          [Y]           [   ]
USN US DOLLAR NEXT DAY FUNDS    [   ]           [Y]           [   ]
UYP URUGUAYAN PESO              [   ]           [Y]           [   ]
VEB BOLIVAR                     [   ]           [Y]           [   ]
VND VIETNAM DONG                [   ]           [Y]           [   ]
VUV VANUATU VATU                [   ]           [Y]           [   ]
WST SAMOA TALA                  [   ]           [Y]           [   ]
XAF CFA FRANC BEAC              [   ]           [Y]           [   ]
XAG SILVER                      [   ]           [N]           [   ]
XAU GOLD                        [   ]           [N]           [   ]
XBA EUROPE COMPOSITE (EURCO)    [   ]           [Y]           [   ]
XBB EUROPE MONT. UNIT (EMU-6)   [   ]           [Y]           [   ]

                                F3 to find: [   ]
Enter values and press PgUp/PgDn, Esc to finish
```

Prompts

In the above example a test using 'USD' or US Dollars will use a variable 3344. Most other currencies will use the value for 'Other' currencies, in this example it is 888. The exceptions are Silver and Gold, you will notice in the second column a 'N' has been entered against Silver and Gold, this will prevent the use of the 'Other' currencies value for these codes. The default is to use the 'Other' currencies value for any currency which has no variable entered. You must enter 'N' against those where 'Other' currencies is not relevant.

The column titles 'Maximum test amount in thousands' is used to limit test amounts for specific currencies. To limit the test amount in the above example to 100,000 US dollars the figures '1000' would be entered in the last column against USD.

Currencies can be located in the list by pressing either the <PgUp> or <PgDn> keys. Alternatively, press the <F3> key to select the seek field then enter the code of the currency required and press <Enter> or <F3> to locate it.

When all changes are complete press the <Esc> key.

Amounts Tables

Introduction

On selecting an Amount Tables, a screen similar to the following will be displayed:

LHA TelexTester

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Amounts Tables
|
+User is:
STEPHEN-----11/09/01--+
Correspondent: [MASTER      ] BANK OF LHA

Each digit position 1-9, 10-90, 100-900 etc. . . . . 1
Each digit position with separate tables for values 1-99 . 2
Standard Test Key using message amounts and Julian date
(tables are automatically generated . . . . . 3

Substitute each digit in amount . . . 4   Bank of Ireland (variation on 3) . 8
Sum each digit in amount (0 = [00]) . 5   Amount bands . . . . . 9
Separate table for each weekday . . . 6   Number of digits in amount . . . . A
As option 3 less Julian date. . . . . 7

                                Please Select Table Option 1 - 9 or A: [1]

Separate test for each amount: [ ]   Ignore values less than 1000 for [ ]
Add prefix value to amount:   [ ]   Add amount divided by max amount: [ ]
Separate test for each line:  [ ]   Multiply testkey by amount total: [ ]
```

Primary Amount Table Options

Option 1, Each digit position

The most commonly used table.

For values between 1-9, 10-90, 100-900, 1000-9000, 100000-900000 etc.

Selection of this option will cause a second screen to be displayed when the rest of the screen has been filled in or the <Esc> key is pressed.

Option 2, Each digit position, separate 1 - 99

Similar to Option 1, but a separate table for values between 1 and 99 will be prompted for before the second screen of option 1.

Option 3, Standard test key

The standard testkey table used mainly by Midland Bank and National Westminster. If this option is required, there will be no need to enter any data as the algorithm is contained in the package software. It also adds in the Julian date so there is no need to set up a separate Julian date table.

Option 4, Substitute digits

Digit substitution. Table substitutes values in the tested amount.

For example: 1,746,609 could be 2,381,165 the sum of which will then be added to the other table values to arrive at the test code ($2+3+8+1+1+6+5 = 26$).

Selection of this option will cause a second screen to be displayed when the rest of the screen has been filled in or the <Esc> key is pressed.

Option 5, Sum digits in amount

The individual digits in the amount are added together.

The value for zero can be entered, it is normally 19.

For example: 100 would be ($1 + 19 + 19 = 39$).

Option 6, Each digit position, separate days of week

As option 1 but a separate amount table is entered for each day of the week.

Option 7, Standard test key, less Julian date

Calculates amounts the same as option 3 but it does not automatically add in the Julian date. This is the 'Thomas Cooke' option.

Option 8, Standard test key, Bk Ireland variation

Calculates amounts the same as option 3 with a slight variation to accommodate Bank of Ireland.

Option 9, Amount banding

Variables are assigned to various ranges of amounts.

For example: 0 to 1000 could be 3333, 1001 to 100000 could be 5555. Therefore a test on 6000 would use 5555 as the key.

Selecting this option will result in a further screen being displayed. Further explanation follows later in this manual.

LHA TelexTester

Option A. Number of digits in amount

This option requires entry of a table where variables are associated with the number of digits in the amount.

Other amount table settings

Separate test for each amount

Most tests are calculated on an amount total which is the sum of all the amounts entered independent of currency. If **Y** is entered in this field the amounts will be added by currency, tested on each sub-amount and the generated tests are then summed.

For example: if the test is entered as

GBP	1,000	
USD	2,000	
GBP	2,000	
USD		10,000

The test will be calculated for 12,000 (USD) and 3,000(GBP) and the two test values added rather than testing total of 15,000.

Add prefix value to amount

Before calculating the amount test, the prefix is calculated and added to the total amount.

Separate test for each line

Most tests are calculated on an amount total which is the sum of all the amounts entered independent of currency. If **Y** is entered in this field the amounts will be tested on each line entered and the generated tests are then summed.

For example: if the test is entered as

GBP	1,000
USD	2,000
GBP	2,000
USD	10,000

The test will be calculated for 1,000 (GBP), 2,000 (USD), 2,000 (GBP) and 10,000(USD) and the four test values summed.

Ignore values < 1000 for

A currency code can be entered into this field. Tests done on this currency will be rounded down to the next thousand before amount test is done.

Add amount divided by max amount

This option applies to amount types 1, 2 and 6 only.

If selected, for amounts greater than the highest in the table, this will cause the amount to be incremented by how many times the amount is greater than the highest in the table.

For example:

Highest amount in table is 1,000,000

Amount is 3,500,000

Amount for testing will be 500,003

Multiply testkey by amount total

This option if selected will cause the final testkey value to be multiplied by the amount total. It can be used in association with an amount type 0 if no other amount options are required.

For example:

Amount value is 1,000,000

Testkey value is 12345

Final testkey value is 12345000000

Additional amount table screens

Separate 1 to 99 tables. (Option 2)

This screen is used to assign variables to the amounts between 1 and 99.

LHA TelexTester

Correspondent	[DEMO BANK]					DEMONSTRATION BANK				
	1	2	3	4	5	6	7	8	9	10
0 :	[22]	[33]	[44]	[55]	[66]	[77]	[88]	[99]	[88]	[76]
10 :	[54]	[32]	[12]	[34]	[56]	[78]	[98]	[776]	[65]	[4]
20 :	[32]	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9988]
30 :	[7]	[6]	[6]	[5]	[5]	[4]	[4]	[4]	[3]	[3]
40 :	[2]	[34]	[45]	[5]	[5]	[6]	[6]	[67]	[77]	[8]
50 :	[8]	[7]	[6]	[66]	[5]	[5]	[54]	[4]	[4]	[4]
60 :	[45]	[66]	[6]	[7]	[77]	[7]	[7]	[88]	[8]	[77]
70 :	[7]	[7]	[77]	[87]	[66]	[7]	[6]	[5]	[4]	[34]
80 :	[56]	[7]	[89]	[7]	[665][4433]	[4]	[55]	[56]	[6]	
90 :	[77]	[5]	[4]	[3]	[2]	[34]	[5]	[6]	[8]	[6]

Amount Tables Digit by Digit. (Options 1 & 2).

Screen

LHA TELEXTESSTER											V4.T.7A		
LHA TelexTester													
Correspondent:	[DEMO]					Highest amount in table:					[
1000000]						No amount val:					[23]	Over max val:	[
]													
		1	2	3	4	5	6	7	8	9			
	n												
	n0												
	n00	45	31	54	654657	54	654	654	646544				
54	n000	6546	54	654	654	64	4	654654	654				
4654	n0,000	654	8487	645	45	6464	3546	746544	84				
54	n00,000	98448	674	648464	484864	546	6454	86	54				
874	n000,000	654											
	n0,000,000												
	n00,000,000												
	n000,000,000												
	n0,000,000,000												
	n00,000,000,000												
	n000,000,000,000												
	n0000,000,000,000												
	00000,000,000,000												
	000000000,000,000												

Note that in this example the first 99 values are blank in the 'digit by digit' table as we have chosen option 2 to illustrate the separate 1 to 99 tables.

Highest Amount in table

It is necessary to enter the highest amount value covered by the table in this field. Calculations will be based on the variable associated with this figure if the amount to be tested exceeds it.

Normally multiples of this amount will be used, however, see 'Over max value' below.

No amount value

Both options 1 and 2 cater for no amount values which are prompted for on the top left hand corner of the data entry screen. If no nil amount value is required simply press **[Enter]** to move to the next field.

Over max value

A variable to be used if the test value exceeds the highest amount value. Leave this blank to use multiples of the variable associated with the 'Highest amount in table'.

Substitute digits in amount

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester          Substitute Digits in Amount
|
+User is:
STEPHEN-----11/09/01---+
Correspondent [DEMO BANK   ] DEMONSTRATION BANK

0 : [ ]
1 : [ ]
2 : [ ]
3 : [ ]
4 : [ ]
5 : [ ]
6 : [ ]
7 : [ ]
8 : [ ]
9 : [ ]
```

Enter the ten digits to be substituted for the total amount value.

Amount bands

If the amount bands option is selected the following screen will be displayed, this example has already been completed:

LHA TelexTester

```
+ABN AMRO BANK -
KARACHI-----V6.3.9e-----+
| LHA TelexTester          Amount banding
|
+User is:
STEPHEN-----11/08/01---+

Correspondent: [TESTBANK      ]

Amount less than [          1,000] gives [ 2233]
"                [          10,000] "    [ 4455]
"                [         100,000] "    [ 6677]
"                [        1,000,000] "    [ 8899]
"                [       10,000,000] "    [11122]
"                [      100,000,000] "    [33344]
"                [_____ ] "    [   ]
"                [_____ ] "    [   ]

Use multiples of final band value: [ ]
```

In the above example, a test value of 5 million would use variable 11122.

The ranges and variables are completely flexible, however, ranges which do not sensibly increase will not be accepted.

Use multiples of final band value: [].

If selected, if the amount exceeds all the band amounts, the amount specified as the last band amount will be divided into the total amount, rounded up. This result is then multiplied by the variable for the last band amount.

The last band amount will normally be lower than the second last band for this purpose.

Also, the first band can be specified as 1 to give a zero amount variable.

Number of digits in amount

If this option is selected the following screen will be displayed, this example has already been completed:

```

+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Number of Digits in Amount
|
+User is:
STEPHEN-----11/09/01--+

Correspondent: [MASTER      ] BANK OF LHA

Variables associated with number of digits in amount.

          1 [  258]          9 [   35]
          2 [197637]        10 [  435]
          3 [395016]        11 [  754]
          4 [589824]        12 [   45]
          5 [   23]         13 [  345]
          6 [   324]        14 [  435]
          7 [    34]        15 [344355]
          8 [   325]        16 [  753]

```

In the example above, an amount of 1 million would take the variable 34 (7 digits).

Character tables

Introduction

The character tables allow text within a message to affect the testkey calculation.

If a correspondent has a character table then during encoding and decoding of messages the operator will be prompted for **Characters in Message**. At the same time the operator will see the rule for characters to be entered, for example, 'Enter the Beneficiaries name'.

The prompts for characters are configurable, up to 99 different prompt templates can be created. Any one of these templates can then be specified for a correspondent.

The character table consists of variables to be associated with the letters of the alphabet together with the digits 0 - 9. Also, the amount of text which can be entered by the operator is configurable in terms of the number of lines entered.

There are two algorithms for calculating the character table value, defined below.

The variables associated with letters and numbers can be either positive or negative values.

If weighting by position is used, only the characters in the character table (A - Z, 0 - 9 and '?') are considered. This means that line breaks and spaces do not affect the testkey calculation.

LHA TelexTester

Character table screen

On selecting 'Character Tables' from the supervisor menu you will see the following screen:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Character Tables
|
+User is:
STEPHEN-----11/09/01--+

Correspondent  [MASTER      ]  BANK OF LHA

    Weight value by position (Y/N): [ ]   Subtract variable: [ ]
Number of lines to accept (1 - 10): [ 1]
Use prompts from prompt template #: [00] (Press <F3> to modify this template)
          Base table on: [                ]
          Character table algorithm: [1]   (1 or 2)
```

Weight value by position

This field specifies whether the testkey is calculated by simply summing the variables associated with each letter or the position of the letters is taken in to account.

For example;

Character table entry A = 10, B = 20, C = 30

Test on the letters 'ABC'

Weight by position is 'N' gives (10 + 20 + 30 = 60).

Weight by position is 'Y' gives ((1 * 10) + (2 * 20) + (3 * 30) = 140).

This table allows you to enter values up to 9999 for each character A to Z, the digits 0 to 9 and the character '?'.

Subtract variable

If set to <Y>, this will cause the total character table value to be subtracted from the testkey total.

Number of lines to accept

You can enter a number here between 1 and 10.

During testing the operator will be allowed to enter lines of text up to 45 characters in length. This field specifies how many of these lines can be entered.

Use prompts from prompt template

This field defines the prompt template to be used for this correspondent. Up to 99 prompt templates can be defined and a figure from 1 to 99 may be entered here. If zero is entered, the prompt "Characters in message" will be used as default.

If a number is entered, the prompt template can be created or modified by then pressing the <F3> key.

Character table algorithm

- 1, Sum the values associated with each letter and optionally to weight this value by the position in the text entered.
- 2, As above, but work on pairs of characters.

Input screen, algorithm 1

[_____]	[]	[]	[]	[]	[]	[]	[]	[]
7	8	9	A	B	C	D	E	
[]	[]	[]	[]	[]	[]	[]	[]	[]
F	G	H	I	J	K	L	M	
[]	[]	[]	[]	[]	[]	[]	[]	[]
N	O	P	Q	R	S	T	U	
[]	[]	[]	[]	[]	[]	[]	[]	[]
V	W	X	Y	Z				
[]	[]	[]	[]	[]	[]			

Enter values and press PgUp/PgDn; <F8> Generate; Esc to finish

A single entry screen is available for each letter/number.


```

+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Character Tables
|
+User is:
STEPHEN-----11/09/01---+

Correspondent [           ] NAME OF DEMO BANK 4

    Weight value by position (Y/N): [ ]
Number of lines to accept (1 - 10): [ 8]
Use prompts from prompt template #: [01] (Press <F3> to modify this template)
    Base table on: [           ]

-----
                [           ]
                [           ]
                [           ]
                [           ]
                [           ]
                [           ]
                [           ]
                [           ]
-----
<F1> save; <F2> Abandon

```

Explanation

The size of the prompt screen is dependent on the number of lines which have been specified previously for the correspondent.

You must enter the prompts which you want the operator to receive during testing using this correspondent.

These prompts will be displayed on the screen during encode/decode of a test. The operator will be expected to read them and understand which components of the message are to be typed in for character table testing.

When you have finished entering or modifying the prompts, press the <F1> key to save the screen, press the <F2> key to abandon any changes.

Base table on

This field defines the rules for entering the characters from the message during testing. The text entered in this field will be displayed for the operator during encoding and decoding. It is used in addition to any prompts defined in the template.

Translation table

Introduction

The translation table can be activated by entering a 'Y' in the relevant field on the second correspondent screen.

This table is used to translate the calculated Testkey value following calculation.

There are three conversion algorithms available.

Translation Rule 1

Takes the right hand 4 digits of the testkey, splits this into 2 pairs of digits and translates the two pairs into 2 character pairs.

The table now accommodates two sets of 100 twelve character variables. For Rule 1, only the first two characters of the first set are relevant. For Rule 3 only the first character of the first ten variables are relevant.

The displayed indexes when maintaining this table are from 0 to 99 for rules 1 and 2, from 1 to 100 for rule 2.

Translation Rule 2

The final testkey value is divided by 100 with the remainder being an index into the translation table.

The two sets of variables will be used in turn dependent on the current cycle of the grid.

This allows a twelve character names sequence table to be utilised, enter a set of sequence variables from 1 to the grid size in the sequence variable table, and enter as many names as grid positions in the translate table.

Specify 'Testkey is Cycle Dependant' in correspondent maintenance.

Translation Rule 3

The testkey value is padded with leading zeroes to at least four digits.

Each digit, up to twelve digits is translated individually using the first ten variables in the table.

Screen

On selecting the Translate table option, the following screen will be displayed:

```

+ABN AMRO BANK -
KARACHI-----V6.3.9e-----+
| LHA TelexTester           Translation table
|
+User is:
STEPHEN-----11/08/01--+
Correspondent [TESTBANK  ]

 0 |-----|
 6 |
12 |
18 |
24 |
30 |
36 |
42 |
48 |
54 |
60 |
66 |
72 |
78 |
84 |
90 |
96 |

Set 1 Translation rule: [0] (1 -
3)

Enter values and press PgUp/PgDn, Esc to finish

```

Prompts and operation

The table accommodates two sets of 100 twelve character variables. For Rule 1, only the first two characters of the first set are relevant. For Rule 3 only the first character of the first ten variables are relevant.

The displayed indexes when maintaining this table are from 0 to 99 for rules 1 and 2, from 1 to 100 for rule 2.

Manual Value Table

Introduction

Normally, when the manual value option is selected on correspondent screen 1, the operator will be prompted for a value which is then added directly into the testkey. This is used for example when the bank sort code is part of the testkey algorithm.

LHA TelexTester

This table allows the value entered by the operator to be translated to another value.

Screen

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Manual Value
|
+User is:
STEPHEN-----11/09/01---+
Correspondent [S1          ] NAME S1

      Manual value prompt: [          ]

      0          1          2          3          4
[ ___23] [ 5476] [ 345] [ 78] [ 234]

      5          6          7          8          9
[ 654] [ 687] [ 2] [ 654] [ 765]

      Enter values, <Esc> to finish
```

Example

Using the above example, if the operator were to enter the manual value of 1234, this would become:

$$5476 + 345 + 78 + 234 = 6133$$

The value 6133 would be added to the testkey calculation.

Sequence Variable table

Introduction

The sequence variable tables allow variables to be associated with the order of messages sent and received. The sequence size can be up to 999. This size is specified on the second correspondent screen.

When the sequence exceeds the grid size the sequence will repeat.

Screen

On entering sequence variable maintenance, via correspondent maintenance, a screen similar to the following will be displayed.

```

+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Sequence Numbers Table
|
+User is:
STEPHEN-----11/09/01---+
Correspondent [DEMOBANK2 ] DEMONSTRATION BANK NUMBER 2      [Incoming ]
                Separate incoming and outgoing tables [Y]
                                Table size (max 999) [ 9]
                                        Day [Monday]
]

```

	1	2	3	4	5	6	7	8	9	10
10 :	-----									
20 :										
30 :										
40 :										
50 :										
60 :										
70 :										
80 :										
90 :										
100 :										
110 :										
120 :										
130 :										

```

Esc; PgUp/PgDn; F7 for Outgoing; F5/F6 to rotate days; F4 to copy; F8 generate

```

Sequence variable input

Sequence variables ensure that 2 tests for the same correspondent, currency and amount are not identical. There are many ways to configure sequence variables. The configuration of a correspondent is completed on the first and second screens of Correspondent maintenance. The options available on the sequence variable input screens reflect this configuration. In the above example the correspondent 'DEMOBANK2' has the following configuration:

Different variable numbers for each day of the week.

Different variables for incoming and outgoing messages.

If the table size exceeds the screen size you can use the PgUp/PgDn keys to see more of the table.

Use the **F7** key to toggle between incoming and outgoing tables. This is only available when the key has different variables for incoming and outgoing tests.

Use the **F6** key to rotate the days forward and **F5** to rotate back. This is only available for keys which use different tables for each day of the week. The use of a key with this feature is not the same as a key which resets to the first row each day. To select a key which resets each day see **Daily Message Number**.

Use the <**F4**> key to import variables from another correspondent. This option can be used for dual entry of variables where two users enter different variables which are added to give the true variable. An option will be given to replace or add the imported variables.

Use the <**F8**> key to generate a random table.

The grid size is set when the correspondent is added to the system. If you choose a size of 999 then the table will be pre-filled with its own position value i.e. the first entry will contain 1, the second 2, etc. This feature is to facilitate ease of setup for a certain bank's key. If you require a table size of 999 but do not require these values, set the initial size to say 998 and then add the table. Then modify the size of the table to 999. The table is only auto filled when it is first added.

If you wish to use the SEQUENCE NUMBER (sometimes referred to as row number or grid position) as a prefix to the test you would select **Prefix Option 1** when you add the correspondent.

See **The Message Grids**, for instructions on how to synchronize the SEQUENCE NUMBER with your manual system when automating a particular key for the first time.

Daily Message Tables

Daily message tables work on the same principle as sequence variable tables except that when the **Start of Day** option is run, the next expected sequence number will be reset to 1 for that particular day. If you test for a previous day the position will be remembered (for up to 1 month).

Maintenance of this table is the same as **Sequence variable tables** above.

This type of table normally uses prefix option 1, sequence as prefix. **Do not use prefix option 2 with Daily message tables.**

Prefix Variable Tables

Introduction

The prefix variable tables allow variables to be associated with the order of messages sent and received and used as a prefix to the testkey. These tables are not required if the prefix is simply the row number of the test. The sequence size can be up to 999. This size is specified on the second correspondent screen.

When the sequence reaches the grid size the sequence will repeat.

Screen

On entering prefix variable maintenance, via correspondent maintenance, a screen similar to the following will be displayed.

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Prefix Variables Table
|
+User is:
STEPHEN-----11/09/01--+
Correspondent [DEMOBANK2   ] DEMONSTRATION BANK NUMBER 2   [Incoming ]
                Separate incoming and outgoing tables [Y]
                Table size (max 999) [ 9]
                Day [Not
separate]
                1      2      3      4      5      6      7      8      9      10
: [_____] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
10: [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
20: [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
30: [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
40: [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
50: [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
60: [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
70: [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
80: [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
90: [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]

Esc; PgUp/PgDn; F7 for Outgoing; F8 to generate
```

Prefix variable input

Prefix variables ensure that 2 tests for the same correspondent, currency and amount can be distinguished without the sequence be apparent. There are many ways to configure prefix variables. The configuration of a correspondent is completed on the first and second screens of Correspondent maintenance. The options available on the prefix variable input screens reflect this configuration. In the above example the correspondent 'DEMOBANK2' has the following configuration:

Different variable numbers for each day of the week.

Different variables for incoming and outgoing messages.

If the table size exceeds the screen size you can use the PgUp/PgDn keys to see more of the table.

Use the **F7** key to toggle between incoming and outgoing tables. This is only available when the key has different variables for incoming and outgoing tests.

Use the **F6** key to rotate the days forward and **F5** to rotate back. This is only available for keys which use different tables for each day of the week. The use of a key with this feature is not the same as a key which resets to the first row each day. To select a key which resets each day see **Daily Message Number in section 3**.

The grid size is set when the correspondent is added to the system.

Prefix variables are used to provide a random prefix as opposed to prefixing the test with the SEQUENCE NUMBER itself.

They must be selected on the first screen displayed during the **Correspondent Maintenance** option and are invoked by selecting **Prefix Option 4** or **5** from the second screen.

Maintenance of this table is the same as for Sequence variables above. The prompts available depend on the configuration of the correspondent.

Sequence & Prefix Generation

When generating random variables the system will prompt as follows:

120 :										
130 :										
Digits in each variable, zero for sequence or <Esc>: [4]										

Enter a number from 0 to 6 inclusive. This determines the maximum length of each variable generated.

The special value '0' will cause the variables to be generated as a sequence. The sequence is controlled by the existing numbers entered in the first two positions in the table. The first number is the starting point, the second number is the increment. So, to set the variables to 10, 20, 30 etc, set the first entry in the table to 10 and the second to 10. To fill all variables with the same number, enter it in the first position and enter zero in the second position.

Chapter 4 Operator Section

Introduction

This Section details instructions for testing incoming messages (decoding) and calculating the test for outgoing messages (encoding and verifying). It is intended for those users responsible for testing messages; that is, they are registered in the system with Operator or Verifier status.

Those users with Supervisor status who are responsible for testing and/or verifying messages should also reference this Section for instructions and procedures to follow when using the option Testkey Messages from the Supervisor Menu.

Accessing the System

Entering TelexTester

If your system has been configured with a proprietary menu, just select the TelexTester option as instructed by your system administrator.

If your system has not been configured to start automatically, at the DOS prompt you should enter the command:

Testkey

If your system is so configured, it will request a STARTUP diskette. Insert this and press any key. Again, depending on your configuration, the system may prompt for two startup passwords.

Type the startup passwords, pressing <Enter> after each and, once the program is loaded, remove the STARTUP diskette and place it in a secure place.

Copyright banner

The first action of the system is to display a Copyright screen, this includes telephone numbers which can be used to call LHA for support.

The copyright screen will be displayed for a few seconds or until a key is pressed.

THIS PROGRAM IS PROTECTED BY INTERNATIONAL COPYRIGHT LAWS
LICENSED ONLY TO THE ORGANISATION SPECIFIED ON THE SCREEN

DEMONSTRATION VERSIONS ARE VALID FOR 30 DAYS FROM THE INSTALLATION DATE.
A SUBSTANTIAL REWARD WILL BE PAID FOR ANY INFORMATION LEADING TO THE
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Start of Day

After loading the main program, the TelexTester system checks to see whether the date has advanced since the system was last used and, if so, whether the Start of Day option must be performed.

For your information, the main function of the Start of Day option is to reset the daily message numbers and optionally to produce a set of reports.

Therefore, once you load the program, the system may display the following screen:

```
Warning: Start of day required
Run Start of Day after signing on
Press <Enter>
```

As illustrated, this is a reminder to run the Start of Day option. As instructed by your supervisor, you should:

Stop and report that this screen has appeared. If your system is configured to automatically run Start of Day after loading the main program, this screen indicates some change or problem with the date function of your PC.

Press <Enter> and proceed to the signon screen.

Your system may be configured to run the Start of day automatically. In this case the following message will appear:

```
060/System date has advanced
```

Press the <Enter> key and the system will prompt:

```
Run Start of Day [ ]
```

At this point you must enter <Y> to allow the system to carry out the Start of Day functions. In this situation the Testkey system will not allow access until this function is complete.

In the event that you need to start the system without running start of day, you must reset the system parameters to allow an optional start of day before accessing the system. Instructions for this are in the Security Section.

Signon

Screen

The user sign on screen will appear after the system introduction banners.

LHA TelexTester

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester          System Signon
|
+-----11/09/01-----
-+

      +-----+
      | User Id      [ _____ ]
      | Password    [      ]
      |-----|
      | New Password [      ]
      | Again to confirm [      ]
      |-----|

Enter details and press <Enter> to continue; <F3> to change password

PRESS ESCAPE KEY BEFORE TURNING OFF

TelexTester, Copyright (c) 1985 to 1994 LHA.
```

Operation

Normal

At the signon screen you are required to enter your user identification and personal password as issued by the system supervisor.

First type your identification and press the <Enter> key. The cursor will move to the Password prompt, enter your password, (this will not be displayed on the screen) and press the <Enter> key. Your password will be validated against your identification and if all is well the Testkey system menu will be displayed.

Password Expired

Passwords are given a validation period, following this period they must be changed. If your password has expired you will be informed of this and requested to enter a new password, follow the procedure below to set the new password.

Changing Passwords

To force a change of password, press the <F3> key following entry of the old password. At this point the cursor will move to the box labeled 'New Password'.

Enter a new password and press the <Enter> key. The minimum length of this password may have been defined by your system administrator. The cursor will move to the 'Again to confirm' box, this is to ensure that you have typed what you intended to type. Enter your new password again and press the <Enter> key. If both attempts at entering the new password were the same and if the password is a valid password, the message 'Password changed, please continue' will be displayed. If anything was wrong the relevant message will be displayed and you will be required to enter the new passwords again.

If you do not wish to change your password and have entered a new password by mistake, press the <Esc> key when prompted for the confirmation password.

Closing the TelexTester system

If nothing is entered as a user identification and the <Esc> key is pressed, the Testkey system will close down.

If an invalid password is attempted more than three times the Testkey system will be closed down. In these circumstances, if the system, is so configured, the user identification code will be removed from the system.

A log is made of all successful and unsuccessful attempts at accessing the system.

User Status

If you are a user with Operator status, after you have successfully signed on, the Operator Menu illustrated in the next section will be displayed.

This menu may not be complete. Options available will depend upon your user profile as set by the system supervisor. If options are available which are not detailed below the instructions may be found in the Supervisors Section.

If you are a user with Verifier status, after you have successfully signed on, no menu appears, just the verify messages screen. Continue reading from the Verify messages section.

If you are a user with Supervisor status, for message testing purposes, the instructions in this Section are applicable after you signon and select the option Testkey Messages, from the Supervisor Menu.

The Operator Menu

As noted above, after you successfully sign on, the Operator Menu is displayed.

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Messaging Menu
|
+User is:
STEPHEN-----11/09/01---+

      1 - Encode Outgoing Testkey
      2 - Encode on Sequence Number
      3 - Verify Encoded Testkey
      4 - Decode Incoming Testkey
      5 - Decode on Sequence Number
      6 - Verify incoming Testkey
      7 - Grid Maintenance
      8 - Diary maintenance

Please select option [ ] - Enter 'EX' or <F2> to Exit
```

To select an option from the menu, type the corresponding number, then press <Enter>.

To return to the signon screen, type EX, then press <Enter>.

Grid maintenance is not covered by this Section, if you have access to the option 'Grid maintenance' you should request to see the Supervisor Section as this contains the relevant information.

Encode Outgoing Testkey

Introduction

This option may not be available depending on your user configuration.

On selection of this option the following data entry screen will appear:

Error reading file or Correspondent not found

If this message is displayed, simply press <Enter> and the cursor will move back up to the Correspondent field and await entry of the correct short name.

If a correct code is entered the name and location of the corresponding bank will be displayed.

Pressing <Esc> at this field ends the encode option and returns you to the Operator Menu.

Serial No

This field displays a number that is automatically allocated by the system.

You will need to note this number if you intend to Verify the test as it uniquely identifies the message within the system.

The number is also entered in the message grid together with the test date.

The number will not appear until the entry of the test is completed.

Date of Message

The date of the message on which the test is to be calculated.

Usually the date is the current date in which case simply press <Enter> and the date maintained by the system is automatically inserted for you.

In the case of a telex arriving the following day (usually from overseas branches in different time zones) enter the date in the format DDMMYY (Day/Month/Year). For systems so configured the date may be entered in the format MMDDYY.

You may press the <Escape> key while in this field if you have entered an incorrect correspondent code.

Message No

This field automatically displays the correspondent's next sequence number. In some configurations this number will not be displayed until the message is verified.

Currency

The currency code for the particular transaction will be entered in this field.

If the function keys F5 to F10 have been set up by the supervisor for frequently used currencies, you can just press one of these keys and the code is entered automatically.

Otherwise, you must enter a code from the list defined in the system by the supervisor.

When a code is entered into the field, the full name of the currency appears to the right of the field. If an invalid currency code is entered this will be indicated by an error message.

If the message does not include any currency, for example, if the transaction consists of a number of stocks or shares, simply press <Enter> and No Currency will be displayed.

Amount

The amount that relates to the particular currency.

You can enter amounts in the Billions, Millions and Thousands with the abbreviations B, M and T to two decimal places. For example, if you enter 1.75M, it will be recorded and displayed as 1,750,000.

If the transaction includes additional currencies and/or amounts, continue until all currency codes and amounts have been entered.

Once completed, you can:

Press F3 after typing the last amount to move the cursor directly to the next field.

Press <Enter> twice at the next blank Currency field to move the cursor down to the next field.

Press F4, if no entry is required in the Rmks field, to immediately calculate the test.

Characters in msg

You will be required to complete these fields only if the correspondent uses associated character tables. If so, when the cursor leaves the last amount field it enters the character fields. The prompts for the character fields are configurable for individual correspondent, the default is Characters in message.

The basis for the values you must enter is displayed at the bottom of the screen.

For example:

LHA TelexTester

The first two characters of the beneficiary name.

Complete as many character fields as required then press <ESC> in the next blank field to move on to the Rmks field.

Rmks

Short for Remarks.

You can enter any comment to identify the nature of the test.

For example:

Documentary Credit

If Duplicate Checking (Outgoing) is enabled, (See Text Parameters) the Test will be rejected if the Narrative matches a previous message.

Acct

Short for Account.

If this prompt appears you must enter a valid account code, only systems where account validation has been enabled will prompt for this.

Manual Prompt

Some testkey algorithms require entry of a manual component, for example, the bank sort code or a batch or invoice number may be part of the testkey. In these circumstances a prompt will appear for the manual component of the test.

Calculating

After completing all fields, the following prompt appears at the bottom of the screen:

C(alculate testkeys), Q(uit), ENTER to Modify []

When this prompt appears, you can:

Enter C to calculate the testkey.

Enter Q to quit if you wish to abandon the entire operation.

Press <Enter> to go back and correct any errors you made in the fields. You can use the Tab key to move from field to field to make corrections, then enter C to calculate the test.

Where and when the calculated testkey appears is dependent on how your system has been configured to meet security requirements:

If you have a two-stage operation, the test calculation will not be displayed until the Verification stage in which case after entering 'C' to calculate, the Serial Number of the message should be noted for the Verify operator.

The calculated testkey may be revealed in the appropriate fields at the bottom right corner of the screen, automatically printed out, or both. Even if printed, you should write the testkey on the message.

The calculation may be displayed or printed and there still may be a requirement for Verification in which case both the testkey and Serial Number of the message should be noted for the Verify operator.

However, after every test, the transaction and operation are reported on the audit trail for future reference and security reasons with the amount of detail recorded again depending on the way your system has been configured. Example

The following is an example of producing an outgoing test for a correspondent, DEMOBANK, for 1 Million US Dollars.

The field entries indicate information either entered by the operator or calculated and displayed by the system (for example, you would enter 1M in the Amount field which the system then displays as 1,000,000).

The example includes a 'Characters' element, the prompts have been configured specifically for this correspondent.

LHA TelexTester

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Encode Outgoing Testkey
|
+User is:
STEPHEN-----11/09/01--+
  Correspondent [DEMO BANK ]DEMONSTRATION BANK NAME, DEMO CITY, DEMOGRAPHIA
Date of Message [230492] Message No. [ 1]           Serial No. [
17]
Currency                               Amount
[USD ]US DOLLAR                          1,000,000
[   ]
[   ]
[   ]
[   ]

-----
Beneficiary account number: [10234412           ]
Beneficiary initials: [           ]
Beneficiary name: [LHA INC           ]

-----

By:OSBERT                               ===== Pfx   Testkey   Sfx
Rmks:TEST MESSAGE                       1,000,000 [ 1][           5678][
]

249*Testkey Encoded
```

Continuing and Analysis

After noting the required details of the test, press the <Enter> key and the following prompt will appear:

```
Enter 'C' to retain current correspondent or RETURN [ ]
```

When this prompt appears, you can:

Enter <C> if another test is to be carried out on the same correspondent. This will save the time required to read the tables into memory.

Press <Enter> to clear the entries in all fields and return the cursor to the Correspondent field to enter data for another correspondent.

Press <Esc> twice to end the encode option and return to the Operator Menu.

Enter <A>, if your system is configured to produce an Analysis of the Testkey Result which is an operation that may be allowed or suppressed by the supervisor.

For example, using the test result illustrated in the previous screen, entering <A> would reveal a screen similar to the following which displays the analysis of the testkey computation.

Fixed numbers	5678
Day of week	0
Amount table	0
Currency table	0
Sequence table	0

You can press <Esc> or <Enter> to return to the encode data entry screen to continue.

Encode on Sequence Number

This option may not be available depending on your system/user configuration.

This option is used to generate a test on a specific row. It should not normally be used.

The operation is identical to that described in the Encode Outgoing Testkey option but with the following prompt displayed at the bottom of the screen before the test is calculated:

```
Enter Sequence Variable Row Num to test against [ ]
```

This prompt requires your entry of the row number corresponding with the prefix number to be included in the calculation.

In most cases the row number will be identical to the prefix number but to be absolutely sure, you can examine the outgoing message grid before using this option (Display Outgoing Message Grid).

Use of this option to calculate a test will result in the test being entered on the grid at the appropriate row but the 'Next' pointer on the grid will not be altered. It should not be used to calculate tests in advance of the 'Next' pointer as they will be overwritten and recalculated.

Verify Encoded Testkey

Introduction

This option may not be available depending on your system/user configuration.

There are two ways of verifying messages, just viewing the original test result or full data entry. Both are described below and the procedure you follow depends on the System Parameter set by the supervisor for Message Verification Rules.

Also, the system is normally configured so that it is mandatory for all tests to be verified by someone other than the user responsible for entering the original test data.

This configuration can be set in two ways:

All tests are verified by an Operator other than the one responsible for entering the original test data. If this is the case, you select this option from the Operator Menu and follow one of the procedures described below.

Only a user with status V can verify messages. If this is the case, the option does not appear on the Operator Menu and, as a Verifier, after signon you are prompted to select either Incoming or Outgoing messages to verify and then follow one of the procedures described below.

Screen

When you select option 3 from the Operator Menu (or immediately after signing on as a Verifier), the following screen will be displayed with the cursor positioned in the Serial No. field.

LHA TelexTester

These options are explained next.

View verification.

In this configuration the message is displayed for visual checking as follows:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Message Display
|
+User is:
STEPHEN-----11/09/01--+
  Correspondent [DEMO BANK ]DEMONSTRATION BANK NAME, DEMO CITY, DEMOGRAPHIA
Date of Message [230492] Message No. [ 1]           Serial No. [
17]
Currency                               Amount
[USD ]US DOLLAR                          1,000,000
[  ]
[  ]
[  ]
[  ]
[  ]
[  ]
[  ]
[  ]
-----
Beneficiary account number: [10234412           ]
Beneficiary initials: [                          ]
Beneficiary name: [LHA INC                       ]
-----
By:OSBERT                               ===== Pfx  Testkey      Sfx
Rmks:TEST MESSAGE                        1,000,000 [ 1][          1][
]
      V(erify message, A(bandon test, Q(uit [V]
249*Testkey Encoded
```

To exit the operation (for example, if it is the wrong message), enter 'Q' or just press <Enter>.

To verify the message, just press <Enter> if a V is displayed in the prompt already or type the V, then press <Enter>.

To abandon the test (for example, if the message contents are incorrect), enter 'A'. This option has the effect of canceling this message without using a grid position. If the test is incorrect and left unverified it will appear as such on reports, use the abandon option to clear unverified and unwanted tests.

Data entry verification.

In this configuration the details of the message must be entered as they were during the initial input of the test. Depending on the system configuration the correspondent short code may not be required.

The input screen will be displayed as defined in the section dealing with 'Outgoing Tests' and instructions for input of the test are also defined there.

The lines of currency and amount can be entered in any order so long as the actual data entered is the same as the original.

When data entry is complete the following prompt will appear:

```
V(erify, A(bandon test, Q(uit or <Enter> to modify [ ]
```

To exit the operation without any action enter 'Q' and press <Enter>.

To verify the message, just press <Enter> if a V is displayed in the prompt already or type the V, then press <Enter>.

To abandon the test (for example, if the message contents are incorrect), enter 'A'. This option has the effect of canceling this message without using a grid position. If the test is incorrect and left unverified it will appear as such on reports, use the abandon option to clear unverified and unwanted tests.

Press <Enter> to correct any input errors.

If the 'V' option is taken the message contents will be compared with the original entry and any errors indicated. If no errors are found the message will be verified.

Post verify

If your system is so configured, the testkey result may be revealed (on screen, printed, or both) only after successful verification. If so, and even if printed, you should write the verified testkey on the message.

Function keys in verify

When the verify screen is waiting for a message number to check for verification the following functions are available:

F1

Acts the same as the [Enter] key to accept the displayed message number.

F2

Acts the same as the [Escape] key to exit from verify.

F3

Searches from the message number currently displayed backwards for unverified messages which the current user is authorised to verify. When found the message number is displayed and verification continues as if the number had been entered manually.

F4

As with F3 except that the system searches forwards.

F5

Moves the cursor to the short code field where a correspondent's short code can be entered. This operates in conjunction with the F3/4 keys. If a short code is entered only messages for that correspondent will be retrieved.

Decode Incoming Testkey

Introduction

This option may not be available depending on your system/user configuration.

This option is used to check the validity of testkeys on incoming messages.

The operation of the option is identical to the Encode Outgoing Testkey option described previously with the exception that you will be prompted for the testkey following entry of the message.

The required components of the test will be requested, these will consist of an optional prefix, the testkey, an optional suffix.

Following entry of the testkey the following prompt will appear:

V(alidate testkey), Q(uit), 'Enter' to Modify []

Enter 'V' to check the validity of the test.

Enter 'Q' to abandon the test.

Press the [Enter] key alone to correct the test details.

The operation at this point depends upon the system configuration, validity of the test and previous tests.

Duplicate test

Test is correct at the expected grid position or a grid position within the acceptable tolerance for this correspondent but the testkey is identical to a test previously recorded for this correspondent on this date and at this grid position.

The test in these circumstances is considered a possible duplicate.

If the system parameters are configured to prohibit duplicates the test will be failed at this point with the message 'Testkey decode failed (Duplicate)'.

If the operator is not allowed grid display the test will be failed at this point with the message 'Testkey decode failed (Duplicate)'.

If the current user is authorised to display message grids and duplicates are acceptable the system, the grid for this correspondent will be displayed. The options available in grid display are documented in 'Grid Maintenance' in the supervisor Section, some of these options are available at this point. The main point of the grid display is to allow the operator to accept or fail the test. Press 'A' to accept the test and record an exception, press 'F' to fail it.

If the test is accepted and out of sequence then the grid may be displayed again to check that this second exception is correct.

Correct test

Test is correct at the expected grid position.

The message 'Testkey decoded' appears. Press the [Enter] key and continue with another message. The system will record the test and increment the 'Next expected row' in the grid cycle.

Out of sequence test

Test is incorrect at the expected grid position but is correct at a position which is within the tolerance determined for this correspondent.

If the current user is authorised to display message grids, the grid for this correspondent will be displayed. The options available in grid display are documented in 'Grid Maintenance' in the supervisor Section, some of these options are available at this point. The main point of the grid display is to allow the operator to accept or fail the test. Press 'E' to accept the test and record an exception, press 'F' to fail it.

If the current user is not authorised to display message grids or if the user accepts the test by typing 'E' to record the exception the test will be accepted and the message 'Testkey decoded, exception out of sequence' displayed.

This will result in 1 or more rows of the grid being flagged as missing and the 'Next expected row' being moved to the row following the entered row.

Previously missing test

Test is correct at a position which is currently flagged as 'Missing', 'Wrong test' or 'Wired'

If the current user is authorised to display message grids, the grid for this correspondent will be displayed. The options available in grid display are documented in 'Grid Maintenance' in the supervisor Section, some of these options are available at this point. The main point of the grid display is to allow the operator to accept or fail the test. Press 'E' to accept the test and record an exception, press 'F' to fail it.

If the current user is not authorised to display message grids or if the user accepts the test by typing 'E' to record the exception the test will be accepted and the message 'Testkey decoded, previously missing' displayed.

In these circumstances the 'Next expected row' will not be altered.

Incorrect test

Test is incorrect at the expected row and any row within tolerance.

The message 'Testkey decode failed' will be displayed. This message will appear twice to ensure it is noticed. Note that the tolerance given to a correspondent for out of sequence tests applies only in a forward direction. Tests will only be accepted prior to the 'Next expected row' if they are missing.

Incorrect test, duplicate

Test is correct at a row other than that expected, test is out of tolerance and duplicates a previous test.

If the current user is authorised to display message grids, the grid for this correspondent will be displayed. The options available in grid display are documented in 'Grid Maintenance' in the supervisor Section, some of these options are available at this point. The main point of the grid display is to allow the operator to see the previous messages. Press 'F' to fail the test.

Decode on Sequence Number

This option may not be available depending on your system/user configuration.

This option is used only to generate a test on a specific row. It should not normally be used.

The operation is identical to that described in the Decode Incoming Testkey option but with the following prompt displayed at the bottom of the screen before the test is calculated:

```
Enter Sequence Variable Row Num to test against [ ]
```

This prompt requires your entry of the row number corresponding with the prefix number to be included in the calculation.

Use of this option to calculate a test will result in the test being entered on the grid at the appropriate row but the 'Next' pointer on the grid will not be altered. It should not be used to calculate tests in advance of the 'Next' pointer as they will be overwritten and recalculated.

This option should no longer be used. Correct use of correspondent tolerance and correct setting of grid position make this option obsolete.

Type the number as noted on the message and press <Enter> to continue with verification. The function keys available at this point are explained in the section 'Verify Outgoing message'.

After entering a serial number the system will check if the message requires verification and that the current operator is allowed to verify it. In the event of an invalid serial number being entered, one of the following message will be displayed:

Message Not Found. A message with this number does not exist.

Record already verified. The message has already been verified.

Test has been abandoned. The message number applies to an abandoned test.

Same user cannot verify message. You entered the tests originally and the system has been configured to prevent the same user from verifying his messages.

When a correct message number has been entered the message will be presented for verification. You can then enter <V> to verify the message or just press the <Enter> key to quit.

House-keeping

System house keeping consists of resetting testkey tables which use daily tables/prefixes.

The house keeping function will run automatically when the system is started on a new day.

The function will automatically include any missed days since the previous run. This allows the system to ignore weekends/holidays.

The function will remember which correspondents require to be reset, this allows the function to operate very rapidly on most systems.

Diary Maintenance

Introduction

The Diary system is used to provide reminders to all Users of the TelexTester system. You can make Diary entries for yourself or other users.

LHA TelexTester

If the system is so configured, the Diary will be checked each time you sign on to the system and any outstanding reminders shown to you.

The Diary can be further checked at any time by selecting the Diary option from the menu.

In System parameters, if the 'Auto' run diary option is set to <S> the diary will be run only for 'Supervisors' when they sign on, not for 'Operators'.

The option 'Create diary reminder on grid cycle change' is added to correspondent maintenance. If selected this option will cause a diary reminder to be generated when the grid cycle changes and the row reverts to row one.

This option is useful for correspondents which alter their sequence variables on each cycle of the grid.

Screen

On selecting Diary Maintenance, a screen similar to the following will be displayed:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Diary Maintenance
|
+User is:
STEPHEN-----11/09/01---+

Date: [          ]      Correspondent Code: [          ]
Remind Operator: [          ] (Blank for all)
Notes: [          ]
      [          ]

-----
Diary report, selection criteria
Correspondents: [_____]      Leave blank for all correspondents to be
                               included. Selection will be limited to
                               those whose initial characters match.
Cutoff Date:      [28/11/94]      Enter latest date to include
Operator id:      [ERIC          ]      Enter operator id to limit report

-----

Press <F1> to run report; <F2> to exit; <F3> to set reminders.
```

Report Options

Correspondents

When Diary entries have been set for specific correspondents, the relevant correspondent code can be entered in this field limiting the report to entries for this correspondent.

Cutoff Date

Enter a date in this field, only diary entries up to and including this date will be listed. This defaults to the current date.

Operator id

Diary entries will be listed for a single operator. Normally leave this field at the default value, which will be your own id.

If set to your own id, all reminders for yourself and all reminders for 'all' operators will be listed.

If this field is cleared, all reminders for your own id, and any which you have made for other operators will be listed.

If this field is set to another operator id, only reminders which you have set for the other operator will be listed.

F1 Run report

Press the <F1> key to produce the Diary listing.

F2 Exit

Press <F2> to exit from Diary maintenance and return to the operator menu.

F3 Set reminders

Press the <F3> key to access the top area of the screen which is used to set reminders for yourself and other operators.

Reminder Setting options

Date

Enter the date from which the reminder is to be listed.

LHA TelexTester

Correspondent Code

If required, enter a correspondent code to be reminded of.

Remind Operator

Enter the operator id to be reminded, leave blank to remind all operators.

Notes

Enter up to two lines of text to be included in the reminder.

F1 Save

Press the <F1> key to save the current reminder.

F2 Exit

Press <F2> to exit from Diary maintenance and return to the operator menu.

F3 Report

Press the <F3> key to access the lower area of the screen to run the report.

Example report

The following is a sample report:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Diary Maintenance
|
+User is:
STEPHEN-----11/09/01---+
Diary entries to: 29/11/94
Entries for operator: ERIC

-----
DATE          SHORT CODE  USER      NOTES                                     ORIGINATOR
-----
28/11/94
28/11/94
29/11/94 DEMOBKLOND  ERIC      REMEMBER TO CHANGE FIXED NUMBERS      ERIC

-----
PgUp/Dn & Arrows scroll; <F2> exits; <F5> Remove entry; <^P> Prints; <^F> File
```

Report Prompts

PgUp/PgDn

Use the Page up and Down keys together with the cursor keys to scroll through the report.

F2 Exit

Press <F2> to exit from the report screen and return to the selection screen.

F5 Remove entry

To prevent a reminder from appearing in further listings, press the <F5> key while the reminder is highlighted. An asterisk will show to the left of the selected item.

You will only be able to remove items which are reminders for your specific operator id, or which you have created.

Print/File

To print the listing or send it to a file, press the <F> or <P> keys in conjunction with the <Ctrl> key. For the file option, you will then be prompted for a file name.

Chapter 5 Security Section

Introduction

This Section describes in detail the security functions of the **TelexTester** system running on an IBM or compatible personal computer and is intended for anyone who is responsible for maintaining overall system security.

The Section teaches how to use the **TelexTester** features that control system security.

Security is maintained through the following features:

Optional dual password control for system start up which may require a 'key' floppy disk to be inserted.

Password protection access to the system and the ability to establish **user profiles** which dictate the menu items that a user is allowed to select.

Dual password control for key security functions such as adding new users, changing system parameters or accessing fixed numbers.

Division of responsibilities and dual control requirements.

System parameters that control what information is displayed on the screen or printed on the audit log.

A facility to remove the fixed numbers and lock the system.

When the system is installed a set of default parameters and passwords are established for you. The first thing you should do is to add your own users and remove the defaults. In order to do this refer to the section entitled **User Maintenance**.

Then read through the section **System Parameters** to determine the changes that need to be made to bring the system into line with your bank's own security requirements.

Finally, use the **Users & Passwords** option to change the **audit** passwords and system **start up** passwords, if you intend to use this particular option.

This Section may also be read by any bank internal auditors who wish to appreciate the levels of security offered by the system. The **TelexTester** security options have been approved by many audit departments but any further comments or requirements for security enhancements would be welcomed by LHA.

Users and Password Maintenance

Accessing

To access **Users and Password Maintenance**, you must first select the **Utilities menu** from the **Supervisor Menu**.

Users and Passwords are then accessed from this menu.

When you select the **Users and Passwords** option, the system prompts for two **Audit** passwords.

When first installed, the system is configured with an asterisk <*> for each password, so, the first time you want to access this option, type an <*> then press <Enter> in both the **Audit Pass1** and **Audit Pass2** fields.

Instructions for changing these passwords are given later.

User and Passwords menu

On selecting the 'User and Passwords' option and entering the Audit passwords correctly, the following screen will be displayed:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Users and Passwords
|
+User is:
STEPHEN-----11/09/01---+

          1 - User Maintenance
          2 - Print Users
          3 - Change Audit Passwords
          4 - Change Startup Passwords

Please select option, 'X' to exit [ ]
```

User maintenance

Initial Screen

On selecting User Maintenance the following screen will appear:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           User Maintenance
|
+User is:
STEPHEN-----11/09/01---+

User id: [          ] Name: [          ]
Password: [          ] Operation Status: [ ] S(upervisor, O(perator,
V(erifier

Suspended (Y/N): [ ] Language: [ ] Limit Accesses (Y/N): [
]
Initial menu: [ ] Limit to this many: [
]
```

User id

To alter, add or delete a user, type the user's id in this field.

A user id consists of any characters up to 10 in length. Leave this field blank and press the <Enter> key to exit from User maintenance.

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If a user id is entered the cursor will move to the 'Name' field and the user details will be displayed for amendment if the user exists, if this is a new user a blank screen will be displayed for you to enter new user details.

This is the identification a user requires when accessing the TelexTester system.

User ids should be unique for the initial 6 characters, this is because the verify option checks only the first 6 characters of the user id.

User profile screen

After entering a user id, a screen similar to the following will be displayed:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           User Maintenance
|
+User is:
STEPHEN-----11/09/01---+

User id: [SJA      ]   Name:           [_____]
Password: [      ]   Operation Status: [ ] S(upervisor, O(perator,
V(erifier

Suspended (Y/N): [ ]           Language: [ ]           Limit Accesses (Y/N): [
]
                               Initial menu: [ ]           Limit to this many: [
]
Profile, Enter Y to give access.
-----
Maintain fixed nos (Y/E): [ ]   Run Variables report:           [ ]
Display previous tests: [ ]     Run Testkeys report:           [ ]
Display test analysis: [ ]      Run Messages report:           [ ]
Change grid pos & cycles: [ ]   Run Daily reports:             [ ]
Display grids: [ ]              Recover from Journal:           [ ]
Outgoing messages: [ ]          Analysis code maintenance:     [ ]
Incoming messages: [ ]          Send messages:                  [ ]
Verify outgoing messages: [ ]    Purge messages:                 [ ]
Verify incoming messages: [ ]    Administration functions:       [ ]
Access API testing: [ ]         Maximum test value:             [ ]
]
Test on sequence (Y/N/O): [ ]
Disp/Change seq/pfx vars: [ ]
<F1> Save; <F2> Exit; <F4> Copy
```

User maintenance prompt

During addition or alteration of a user the prompt displayed at the bottom of the screen will be either:

F1 to Save; F2 to Exit

or F1 to Save; F2 to Exit; F4 to Copy; F5 to Delete

Press F1 to save any changes and exit.

Press F2 to abandon any changes and exit.

Press F4 to copy the profile from another user.

Press F5 to delete the displayed user and exit. This option will be displayed for existing users only. (It will not be displayed if changes are being made to the user who is currently signed on.)

Name

You can enter up to 40 characters to identify the user. No validation is done on this field but it is used to fully identify the user and will appear on the user report.

Password

You can enter up to 8 characters for the user's access password. This will be visible on the screen when entered for the first time but will then be encrypted and therefore not available.

The password must be specified when a user is added to the system, the length of password is not validated at this point.

If you are altering a user's access rights or other details it is not necessary to alter his password, simply leave the password field alone.

You can however alter a user's password if required.

If you are adding several users to the system a good tip is to make the password the same as the user name. It may subsequently be changed to something more private by the user when he accesses the system for the first time.

When a user changes his password from the signon screen the password will be validated for length. The minimum password length is set from the **System Parameters**.

When a User id is first used he will be forced to change the password.

Operation Status

User status defines which menus will be displayed for this user.

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Enter the character **O**, **S** or **V** to control the functions accessible by the user as follows:

O - Operator Status. Access restricted to the **Operator Menu** to test and verify messages. The ability to verify messages and display message grids may be further restricted (see profile below).

V - Verifier Status. Restricts the user solely to verifying messages. On sign-on this user is presented with a **Verify** prompt screen with no other menu choices. See the **Operator Section** for a full description of the verify process.

S - Supervisor Status. Allows the user to maintain testkey tables and carry out all the functions described in the **Supervisor Section**. Supervisors may be restricted from testing messages if so desired by setting the appropriate **System Parameters**.

All the above status' can be further refined through the user's profile.

Suspend User

The field "Enter 'Y' if user is suspended" allows a user id to be disabled temporarily. Entering a 'Y' in this field will prevent the user id from being used.

This facility is used when it is known that a user will not require to access the system for a period of time.

Language

Normally leave this field blank or enter 'ENG'. This will cause the default language files to be used. If you have been supplied with other specific language files enter the 3 character language id here.

Limit Accesses

This option allows a user to be given only a specified number of accesses to the system. Enter a <Y> in the field to enable the option.

This option can be used to provide a 'one shot' user which suspends immediately following use. To do this, set the 'Limit' to two and test it. While testing, the password will be forced to change as normal.

Limit to this many

Used in conjunction with 'Limit Accesses'. Enter a figure in this field to specify the number of accesses a user is allowed. This figure will decrement by one each time the user id is used for sign on. When zero the user will be automatically suspended.

Initial menu

Setting the operator status above specifies to the system which menu set to use. For certain users it may be necessary to enter a different initial menu in this field.

This option is provided for users with knowledge of the TelexTester menu configurations.

For example, if a menu 'AD' is set to enable the API system directly, a user can be given 'AD' as his initial menu. When signing on, the user will not be provided with any menu options but will be directed to the API system automatically.

User Profile

The user's profile allows each user to be individually configured dependent on his ability and requirements. Enter a 'Y' against each task which the user will need to carry out.

Maintain fixed numbers

This field enables a user to see and alter a correspondents fixed numbers. A user will only be able to alter fixed numbers if he has access to the correspondent maintenance screens. If all users are stopped from accessing fixed numbers then fixed numbers must be altered from the System Utilities screen, this option is protected by the Audit passwords.

If 'E' is entered, the user will only be allowed access to an encrypted form of the fixed numbers.

Display previous tests

A user who has access to grid maintenance can be allowed to view previous tests by entering a 'Y' in this field.

Display test analysis

If this option is set to 'Y' the user will be allowed to breakdown the test result into component pieces following encode or decode, and when viewing historical tests.

Change grid pos & cycles

A user who has access to grid maintenance can be allowed to move the 'Next' pointer and alter the cycles of a correspondent by entering a 'Y' in this field.

Display grids

Entering a 'Y' in this field will allow the user to display grids for any correspondent. This option will cause a grid to be displayed when an exception is generated during decode of an incoming test. If this option is not set to 'Y' previously missing and out of sequence test will be automatically accepted, possible duplicates will be failed.

Outgoing messages

A 'Y' is required in this field for the user to be able to test outgoing messages.

Incoming messages

A 'Y' is required in this field for the user to be able to test incoming messages.

Verify outgoing messages

A 'Y' is required in this field for the user to be able to verify outgoing messages.

Verify incoming messages

A 'Y' is required in this field for the user to be able to verify incoming messages.

Access API testing

A 'Y' is required in this field for the user to be able to initiate tests through the API.

The API is an additional method of operating TelexTester. See the API documentation for further details.

Test on sequence (Y/N/O)

A 'Y' in this field will allow a user to encode and decode tests on specific rows. Testing on sequence numbers is retained for compatibility with previous versions, it should not normally be used. If an 'O' is entered in this field then testing will be allowed on sequence numbers for outgoing messages only.

Disp/Change seq/pfx vars

See the section '**Dual Control of Correspondent Maintenance**' for details.

A 'Y' in this field will allow a user to see the sequence variables during grid display and variables report.

Run variables report

A 'Y' in this field will allow operators to run the 'Next expected' and 'Missing' variables reports.

Run Testkeys report

A 'Y' in this field will allow operators to run the tested messages reports.

Run Messages report

A 'Y' in this field will allow users to run the Forms messages report.

See MessageTester Sections for details.

Run Daily Reports

A 'Y' in this field will allow operators to run the Daily Reports functions.

Recover from journal

A 'Y' in this field will allow operators to run the recover from journal function.

Analysis code maintenance

A 'Y' in this field will allow operators to run the Analysis code maintenance function.

Send messages

A 'Y' in this field will allow users to access the 'Send messages' option.

See MessageTester Sections for details.

Purge messages

A 'Y' in this field will allow users to access the 'Purge messages' option.

See MessageTester Sections for details.

Administration functions

Administration functions are only available in the Administration version of TelexTester.

Enter a <Y> in this field if the user (Supervisors only) is allowed to access the additional administration functions.

Maximum test value

Entering a figure in this field will cause the user to be limited to testing of amount totals not exceeding this figure.

Leave the field blank (zero) if this option is not required.

Print user list

This option is used to produce a report listing all User names currently on the system. A list of users together with their status and profile will be sent to the printer. Here is an example including 3 users differently configured, see the relevant sections for explanations of the authority:

```
DEMONSTRATION SYSTEM                                USER
LIST
LHA TelexTester V2.7   User: *      Date: 13/01/91  Time: 07:23:18  Page:
1
```

UserId	Name	Status	Special	Authority
USER1	NAME OF USER 1	Active	Supervisor	Fixed Numbers Display Tests Change Grids Display Grids
USER2	NAME OF USER 2	Active	Operator	Display Tests Change Grids Display Grids Incoming tests Outgoing tests Verify tests Test on sequence
no				
USER3	NAME OF USER 3	Active	Verifier	Verify tests

Change audit passwords

Introduction

Various parts of the TelexTester system are protected by Audit level passwords, two passwords are required for these options to be accessed. The system can be configured with up to 4 different audit passwords, any 2 from these four will allow access to the protected areas. This option is used to alter the Audit level passwords.

Screen

On selecting this option a screen similar to the following is displayed:

LHA TelexTester

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Change Audit Passwords
|
+User is:
STEPHEN-----11/09/01---+

Current password state.

Option 1  Audit  1
Option 2  Audit  2
Option 3  Audit  3 Unset
Option 4  Audit  4 Unset

Please select option [ ] - Enter 'EX' or <F2> to Exit
```

The screen will indicate which of the four audit passwords are set. When the system is first installed, the Audit passwords 1 & 2 are set to a single asterisk <*>.

Prompts

Enter 1, 2, 3 or 4 to alter a password. Press the <F2> key to exit. Once altered, a password will indicate with the word '**changed**' that it is altered. You can only alter a password once during each maintenance session.

Entering new Audit passwords

Enter the number of the password you wish to change and press the <Enter> key. The following prompts will appear:

```
Enter new password for Audit  2

New password      Rekey to confirm
[_____]        [      ]

Press <F1> to confirm and save
<Esc> to abandon change
```

Enter the new password and press the <Enter> key, enter the new password again and press the <Enter> key. Press <Esc> to abandon changes, press the <F1> key when you have correctly entered the new password 2 times.

Passwords 1 & 2 must not be left blank, passwords 3 & 4 may be left blank.

Change startup passwords

The TelexTester system may be configured to require the input of special 'STARTUP' passwords when first started and when accessing various areas. This configuration is set from within the System Parameters section. See this section for details on configuration.

The Startup passwords are set in a similar manner to the Audit passwords above. Up to 4 startup passwords can be configured with any 2 required for access.

Refer to the section on setting Audit password above for details on setting the startup passwords.

System Parameters

Accessing

To access **System Parameters**, you must first select the **Utilities option** from the **Supervisor Menu**. Then select the option 'System parameters' and enter the Audit passwords when prompted.

It is possible to access the system parameters without going through the above procedure. From the operating system command line enter the following command:

Testkey (+1)

This method still requires the audit passwords but is included in order to bypass the Startup system.

Introduction

On acceptance of the **Audit** passwords the first parameter screen will be displayed.

There are 8 parameter screens, each covering a different topic. These are summarized as follows. The details for each are given later.

Screens overview

Screen 1, Printer options

Allows you to configure printer lines per page, select label options and to establish whether to print an audit trail and message test details to log.

Screen 2, Screen display and date options

Deals with how and what information is displayed on the screen during testing. Also sets US date (MMDDYY) format if required.

Screen 3, Function key setup

Allows you to link commonly used **Currency** and **Correspondent** codes to function keys for rapid data entry during testing.

Screen 4, System security

Allows you to change journal options, keyboard timeouts and user password expiration limits.

Screen 5, Programs and data

Determines where information is stored and allows sizing of history files. Includes API parameters.

Screen 6, Testkey rules

Establishes type of verification required for outgoing messages.

Screen 7, Start of day options

Establishes whether **Start of Day** is mandatory when the system is first started and the date has advanced, and the reports required when the option is run.

Screen 8, Additional options

Liocence information and other options.

Prompts

PgUp/PgDn

To select each of the parameter screens, press either the PgUp or the PgDn keys.

F1 save/F2 Exit

To save changes which have been made and to finish with Parameter maintenance, press the <F1> key. If you want to exit without making any changes, press the <F2> key.

Exiting system parameters

When exiting from the system parameters menu, if the Startup option is set to '4', you will be asked to insert the Startup diskette. The Startup diskette will be altered at this point and must not be write protected.

Printer Options

Screen

When you select System Parameters the following screen appears:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester          Printer Options
|
+User is:
STEPHEN-----11/09/01---+

Printer lines per page ..... [66]
Print device for reports (1 or 2)... [1]
Write continuous log, to printer.... [N] and to disk ..... [N]
Redirect printer to disk ..... [ ]
Print during message transmission... [ ] and during receipt [ ]

Testkey Results Form.
  Print Incoming ..... [ ]          Print Outgoing .... [ ]
  Lines per Form, (99 for page) .... [07]          Testkey delimiter . [-]
  Start column for Form ..... [001]          Format (1-4) ..... [4]
  Print to second printer (lpt2) ... [ ]          Save Form in File . [ ]

Print coding result format (1 or 2)... [ ]          Print results of verify .[N]
Print Testkey on log..... [Y]
Print Sequence number variable on log. [Y]
Suppress print of variables on reports [Y]

<F1> to save/exit, <F2> to abandon, <PgUp> or <PgDn>
```

Printer lines per page

The number of lines used on a page before a new header is printed. The default is 66 (standard for 8-1/2" x 11" paper and a printer which prints 6 lines to an inch). If you are using a larger or smaller sheet size or printer font, you can adjust this accordingly. For example, legal size, common in the USA, measures 84 lines per page when printed at 6 lines per inch.

Print device for reports (1 or 2)

When 'Print' is selected for reports, output will be directed to the DOS device 'LPT1' or 'LPT2'. This parameter determines which of these is used. Enter the figure <1> or <2>.

Default is 1.

Write continuous log to printer

Enter **Y** to have the system produce an audit log to date and time stamp all events and write them to your printer. For example, system signon, table changes, additions, etc. Examples of the audit log are listed in the **Supervisor Section**.

Default is **N** (do not write).

Write continuous log to disk

As above but write to file TKLOG.TXT. Even though written to disk, the log may be printed when **Start of Day** is run (see **Supervisor Section**.)

Default is **N** (do not write).

Redirect printer to disk

If the printer is absent, you may send **all** printer output to disc. The file name will be 'PRINTER.LST'.

Default is **N** (do not redirect).

It is not advisable to leave this setting permanently on as a large disk file will be created.

Print during message transmission/receipt

This option is not implemented in the standard TelexTester system but is used by other LHA products.

If set to 'Y' message text will be printed during transmission/receipt.

Testkey Results Form

Print Incoming/Outgoing

Select either or both options to produce printed results for testkey calculations.

This option can also write the results to a file.

Lines per form

If set to 99 a single page will be produced for each testkey. Also, the printer will be closed and reopened to force page eject.

To provide a page eject on a network printer, try running the testkey system with the command line:

TESTKEY (+P)

Testkey Delimiter

Character used between Prefix and Testkey

Start column for Form

Allows form to be positioned horizontally on the page

Format

Format 1

Format 2

Adds 'Remarks' instead of the 'Routing' code.

Format 3

Includes only the Date and Time on the first line

The Testkey on the second line

Format 4

Includes full Testkey details, including routing code, remarks, all character field detail and prompts.

This option also includes individual currency and amounts.

Save Form in File

This allows the Testkey results form to be directed to a file instead of printer.

The file name default is specified in 'Text Parameters' and also prompted following Testkey calculation.

Print Coding result format (1 or 2)

Should the details of the test (Currency, Amount, Correspondent, Date, Testkey, Sequence Variable, etc.) print automatically after the testing operation. Default is **N** (do not print).

If set to <Y> or <1>, the standard format is used.

If set to <2>, a new format is used which includes the correspondent name and location.

Print results of verify

As above but print after outgoing message verification only. Default is **N** (do not print).

Print Testkey on log

If the **Print results of Encode/Decode** parameter is set to **Y**, this parameter can be set to **N** to suppress the print of testkey. Default is **N** (do not print).

Print sequence number variable on log

As above but suppress print of sequence variable. Default is **Y** (print sequence variable on log).

Suppress print of variables on reports

Do not print sequence or prefix variables on **Missing Variables** or **Next Expected Variable** reports. Default is **N** (do not suppress).

Screen Display and Date Options

Screen

When you select Screen Display the following screen appears:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Screen Display Options
|
+User is:
STEPHEN-----11/09/01--+

USA Date Format (MMDDYY)..... [N]
Number of alarms on decode failures..... [  ]

Display correct result during decode ..... [Y]
Display testkey result during encode & verify ... [Y]

Suppress display of sequence variables on grid .. [ ]

<F1> to save/exit, <F2> to abandon, <PgUp> or <PgDn>
```

Date Format

Enter **Y** to have all dates accepted and displayed in MMDDYY format. Default is **N** (print and accept date as DDMMYY).

Number of alarms on decode failure

The number entered here is the number of times the computer's bell will sound, in addition to the normal 1, during decode, when a message is failed. This is provided to ensure an operator notices the failure in situations where the computer's bell is not very loud.

Display correct result during decode

On decoding an incoming test, the operator enters the test in the appropriate field and the test is validated against the value calculated by the system.

Setting this parameter to **Y** allows the display of the calculated value in the bottom left corner of the screen. The facility is useful when the system is being tested prior to live running as it gives an indication on test failures that tables may have been entered in error.

Default is **Y** (display result).

Display testkey result during encode & verify

The display of a calculated testkey may be suppressed on the screen for outgoing messages. This only makes sense if you are obtaining the test from the printer so the default is **Y** (display result).

Suppress display of sequence variables on grid

Enter **N** if you want any sequence or prefix variables to appear on the screen when the incoming and outgoing message grids are displayed. Default is **N** (do display).

Function Key Setup

Screen

When you select **Function Key** the following screen appears:

```

+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Function Key Setup
|
+User is:
STEPHEN-----11/09/01---+

Currency codes returned by F5 - F10 .... [____] [  ] [  ] [  ] [  ] [  ]
Correspondents returned by F5 - F7 ..... |          |
Use 'F5' as default correspondent ..... [  ]
Stop access to both SeqVars and Date/Ccy/Amt Vars [  ]
Fixed prefix to remarks field.Encode: ..... [  ]
Fixed prefix to remarks field.Decode: ..... [  ]
Validate analysis code in remarks field.Encode .. [  ]
Validate analysis code in remarks field.Decode .. [  ]

<F1> to save/exit, <F2> to abandon, <PgUp> or <PgDn>

```

Currency Codes returned by F5 - F10

The values set in the six fields will be entered into the currency fields of the testkey data entry screen when the appropriate function key is pressed.

For example, using the above illustration, when **F5** is pressed the code for United States Dollars (**USD**) will be entered into the currency field during testing. Each currency code you set must be a valid one set up during the **Master Currency Maintenance** option.

Correspondents returned by F5 - F7

As above but when set, these function keys will return a short code when pressed in the **Correspondent** field of the testkey data entry screen.

Finally, if you set any function keys for the direct entry of currency or short codes, we suggest that you photocopy this page of the manual to include in the **Operator Section** so testers and verifiers will know which keys they can use.

Use F5 as default correspondent

If a 'Y' is entered in this field and a correspondent code has been entered against F5 above, this correspondent code will automatically appear when the encode or decode options are selected.

Stop access to both SeqVars and Date/Ccy/Amt Vars

This allows dual control of correspondent maintenance. See the section '**Dual Control of Correspondent Maintenance**' for details.

Fixed prefix to remarks field.Encode

You can enter up to 6 alphanumeric characters as a fixed prompt to be displayed in the **Remarks** field of the encode data entry screen in order to remind an operator that an entry should be made; for example, **Dept:**.

Default is blank (no fixed remarks).

Fixed prefix to remarks field.Decode

Same as above but for incoming messages.

Validate analysis code. Encode

If this parameter is set to **Y**, an extra prompt 'ACCT' will appear during testing. This allows a code to be entered which will be checked against preset codes, e.g., FX - Foreign Exchange or PR - Payments and Receipts. Analysis reports may be produced on the number of tests performed for each code. See the **Supervisor Section** for details on establishing analysis codes and generating reports.

Default is **N** (do not validate analysis codes).

Validate analysis code. Decode

Same as above but for incoming messages.

System Security

Screen

When you select **System Security** the following screen appears:

```

+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           System Security
|
+User is:
STEPHEN-----11/09/01---+

Startup security level ..... [0]
Drive and program name for startup ..... [      ]
Journalise (Y/N), drive letter and maximum size... [ ] [ ] [ 100000]

Allow Operators to change their password ..... [Y] Remember old pwds [N]
Disable User if passwords invalid (3 attempts)... [N] Strict Passwords [N]
Minimum length of user's passwords ..... [3]
Days between forced password changes ..... [90]
Disable remote audit option ..... [Y]
Keyboard timeout in seconds ..... [999]

Possible Duplicates 0-allow 1-warn 2-prohibit .... [0]
Use swipe card validation during sign on ..... [ ]

      <F1> to save/exit, <F2> to abandon, <PgUp> or <PgDn>

```

Startup security level

You can enter a code in the range 0 - 4 which dictates the startup requirements for the **TelexTester** system and access to the **Utility Menu** options, **System Parameters** and **User Maintenance**.

The codes are as follows:

- 0** Allow system to be started immediately, i.e. on entering the command **testkey** at the DOS prompt will proceed to the signon screen.
- 1** The **testkey** command will first check the system date and if it has changed since the system was last started, it will look in the **Drive letter and program name for Startup** field (see the next field description) for the name of the **Startup** program. The system is issued with a program called **Startup** which prompts for the two **startup** passwords prior to allowing **TelexTester** to run. The **Startup** program may be moved onto a floppy disk and its name changed if so desired. By keeping the floppy disk in safe storage an additional level of physical security may be maintained.

- 2 In addition to requiring running the **Startup** program when the system is started, the **Startup** program must be run again in order to access the **Utility Menu** options **System Parameters** and **User Maintenance**. Thus as for code **1**, the floppy disk would need to be inserted in addition to providing two of the AUDIT PASSWORDS for these options.
- 3 The **Startup** program will need to be run whenever the **testkey** command is issued; that is, whenever **TelexTester** is started irrespective of the date. The **Startup** program will also be run in order to access the **Utility Menu** options **System Parameters** and **User Maintenance**.
- 4 As option 3, but in addition, the Startup disk will be updated every time TelexTester is run, this means that this disk must be the same copy as was last used. The Startup disk cannot be copied unless it is copied in association with the TelexTester system. If the Startup disk is lost or damaged the system will not start without access to the audit passwords.

The default option is **0** (no **startup** program required).

Drive and program name for startup

An entry in this field is relevant if security level codes 1, 2, 3 or 4 are set as described above in order to determine where the **Startup** program is to be found. For example, if the **Startup** program has been moved to floppy disk and called **Access**, the field would contain **A:ACCESS**.

After altering the startup options you may be prompted to insert the Startup disk before exiting from system parameters.

Journalise (Y/N), journal drive letter and size

Entering **Y** in the first field and then a drive parameter in the second causes a journal entry to be written to a file on that drive every time the message grids are updated during testing; that is, it records all **Sequence Number** movements.

In the event of a catastrophic failure of the system, the journals may be applied to a backup copy of the **TelexTester** database in order to restore it to the state immediately prior to the failure.

See **Recovering from Journals** in the **Supervisor Section**.

The default is blank fields (do not journalise).

If selected it is necessary to create a directory on the disk in the journal drive. This directory is called 'PREFIX'. This process is designed to prevent creation of journal entries on the wrong disk.

If left empty a journal is still created on the hard disk drive. If set to 'N', no journal is maintained.

The size parameter is the maximum size in bytes that the journal file will grow to, when this size is reached, the journal file will be renamed as Journal.bak and a new file created.

Allow Operators to change their password

Entering **N** as the parameter prevents users registered with **operator** status from being able to change their access password.

The default is **Y** (allow operators to change passwords).

Remember Old Passwords

If specified as <Y>, the system will record five generations of a users password changes.

Users will not be allowed to use passwords which are remembered as previously used.

Disable User if passwords invalid (3 attempts)

Entering **Y** as the parameter allows for the automatic suspension of a user who fails to enter the correct password in three attempts to signon to the system.

If this occurs, the Security Manager(s) will have to reset the user by following the instructions in **Chapter 1** of this manual.

The default is **N** (do not suspend).

Strict Passwords

If set to <Y> the system will enforce rigid password validation as follows:

Rule	Invalid	Valid
No repetitions above 2	1QWEEER	1QWEERR
No sequences above 2	1ABC470 1FEDERAL	1AABBCC 1FDEERAL

LHA TelexTester

Must contain digits	QWERTYU	1QWERTY
Must contain letters	1357926	A135792
Must not contain the User Id	1STEVE/STEVE	1FRED/STEVE
No leading spaces		

Minimum length of user's password

Enter a number here to set the minimum length which a user's password may be. This only applies when user alters their own password from the sign on screen.

Days between forced password changes

When a user is added to the system the date is recorded. Also, when the user changes his password, the date is recorded. When the user signs on to **TelexTester** the number of days are calculated between the current date and the date user was entered or when the password was last changed. If the number of days exceeds the value (up to 99) in this field, the user is prompted to change the password. The user must enter a new password correctly twice in succession and the password is checked to ensure that it is different from the old value. The user is then prompted to signon again with the new password.

The default is 99 days which disables the option.

Disable remote audit option

The remote audit option is a means for controlling the Audit passwords from a remote site. This option is not implemented in the standard TelexTester system but is used by other LHA products. Enter 'Y' in this field to disable the remote audit control so that the standard dual password control is used.

Keyboard timeout in seconds

If the keyboard is left unattended by the operator for more than the number of seconds specified in this field then the operator is prompted for his or her password when keyboard input is resumed. If the password entered is invalid, the operator is immediately signed off the system. This prevents any unauthorized person entering details into the system if it is left unattended.

During testing the process is slightly different. If a user takes more than the timeout period to enter a complete test then the keyboard timeout will operate.

The default value is 999 seconds.

Possible Duplicates 0-allow 1-warn 2-prohibit

A duplicate message is a decoded (incoming) message that occupies the same grid position with the same testkey as a previously tested message.

This normally means that the test is a duplicate and should be failed. The system will normally fail such tests including a message 'Duplicate' in the status returned.

In exceptional circumstances it is possible for the grid to have been completely used and an identical test received. Only in these circumstances will the following action be taken.

The parameters which you can set here to control this range from 0 - 2 and have the following meaning:

- 0** If operator has grid display in his user profile he will be presented with a grid display and invited to accept or fail the tests. If accepted the test will be placed on the next expected row or if out of sequence then the normal out of sequence processing will take place.

If operator is not allowed grid display the test will be failed.
- 1** This is identical to 0 above and is only for compatibility with previous versions.
- 2** On detecting a possible duplicate, the test will be failed and the reason logged to the audit trail.

The default is 0 (allow duplicates with confirmation).

Use swipe card validation during sign on

This option allows an additional level password protection to be imposed.

If set to <Y>, following a user signing on to the system, he will be prompted to pass a magnetic striped card through a card reader.

Card reader keyboards are commercially available. The card reader can be included within a standard keyboard.

If enabled, this option will cause the card swipe prompt to be enabled during user maintenance.

Programs and Data

Screen

When you select Programs and data the following screen appears:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Programs and Data
|
+User is:
STEPHEN-----11/09/01--+

Number of messages kept in history files..... [00500]
Record testkey in message file ..... [ ]
Maintain historical record file..... [Y]

API system ..... [21]
API parameters ..... [02] [00] [05] [01] [000]
Suppress leading zeroes in api results ..... [Y]
Maintain API report file..... [Y]
Next record to be used in api report file .... [ 37]

Default number days (forms) messages retained [ ]
Next forms message numbers .....In. [ 1]
                                   Out [ 3]

      <F1> to save/exit, <F2> to abandon, <PgUp> or <PgDn>
```

Number of messages kept in history files:

Specifies the number of records to be written before the file is rewound back to record number one. The number of records will depend on how much disk storage is available and/or how much history information is required. Many banks try to keep at least one month's records on file and in order to do this you should work out how many tests are calculated in one month (incoming and outgoing) and enter this value into the field. The **Supervisor Section** contains more details on file organization and sizing.

The default value is 100. The maximum is 65000. Please note that a setting of 65000 will eventually require disk space of 35 MBytes for the history files alone, plus at least as much again for sorting of reports.

Record testkey in message file

If set to <Y>, this option will cause the testkey value to be recorded in an ASCII text file which will normally include the text of a telex message. See the '**Supervisor Section**', '**Message file record**' for details.

Maintain historical record file

If set to <Y>, the system will record all changes to fixed numbers in a historical record file. The history of changes can then be archived and reported on later.

See the '**Administrator Section**' for details on this option.

API system

This parameter is only for specialist applications. API stands for Application Programming Interface. The TelexTester system can be connected to various other systems for automated testing.

API parameters

See relevant API documentation.

Suppress leading zeroes in api result

Only applicable to API systems (including MessageTester), this will cause the prefix and testkey components to be trimmed from the left, leading zeroes will be removed and the results shunted together.

Maintain API report file

Set to 'Y' to enable use of the API 21 traffic report file.

Next record to be used in api report file

After enabling the report file above, this parameter should be set to 1.

Default number of days (forms) messages retained

This option is not implemented in the standard TelexTester system but is used by other LHA products.

This refers to messages via the communications interface, for example in MessageTester.

The number entered will be the number of days messages are kept on disk.

Incoming messages are purged dependent on this parameter during the Start of day procedure.

Next forms message number

This option is not implemented in the standard TelexTester system but is used by other LHA products.

This refers to the message numbers allocated to incoming and outgoing messages from MessageTester.

Testkey Rules

Screen

When you select **Testkey Rules** the following screen appears:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester          Testkey Rules
|
+User is:
STEPHEN-----11/09/01--+

Print/display Test results only at Encode verify..... [Y]

Prevent Outgoing Tests on Previous dates ..... [N]

Re-key reqd for verification (2 to exclude short code). [Y]

Allow same user to verify message ..... [N]

Make tests through API status verified ..... [ ]

Default option when verifying message ..... [V]
Allow backout of testkey calculations ..... [Y]

<F1> to save/exit, <F2> to abandon, <PgUp> or <PgDn>
```

Print/display Test results only at Encode verify

When this parameter is set to **Y** a message is simply recorded after the encode stage and only when successfully verified is the testkey calculated and the grid position allocated. This is an important parameter if you wish to establish a two stage operation for calculating tests for outgoing messages. An operator may encode many messages and another operator may then verify them independently of the sequence in which they were initially entered.

The default is **N** (display at encode stage).

Prevent outgoing tests on previous dates

If set to **<Y>**, the date for outgoing tests cannot be set earlier than the current date.

Re-key required for verification

If this parameter is set to **Y**, at the verify stage, an the operator is presented with a blank testkey data entry screen and must re-enter the complete details of the message. The system will then compare the contents of the screen with the original message. Messages must be identical (except in the **Remarks** field) for the verification to be successful.

LHA TelexTester

If this parameter is set to **N** (or blank) then the completed message is presented for at verification for visual approval.

Setting this option to '2' is the same as the 'Y' setting except that the correspondent short code is not required to be reentered.

The default is **N** (Full re-key not required).

Allow same user to verify message

When a message is encoded, the operator's Id is recorded. If this parameter is set to **N** then the same operator may not verify a message that he or she previously encoded.

The default is **Y** (allow same user to encode and verify the same message).

Only the first 6 characters of a user's id is recorded, if this option is implemented the uniqueness of user ids should be considered.

Make tests through API status verified

This option is only used in conjunction with the API, it causes tests encoded via the API to be marked as already verified.

Default option when verifying message

When a message has been selected for verification the operator must type **V** then press **[Enter]** at the prompt to begin the verification process. Entering **V** for this parameter presets the prompt field in order to save keystrokes.

The default is **V**.

Allow backout of testkey calculations

If set to <Y> this will allow an outgoing testkey calculation to be reversed if it the last test for the correspondent. This is currently only used by some APIs.

Start of Day Options

Screen

When you select **Start of day** the following screen appears:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Start of Day Options
|
+User is:
STEPHEN-----11/09/01--+

Current testkey date . . . . . [11/08/01] (MM/DD/YY)
House-keeping has been done for . . . . . [11/08/01]

Daily reports were done on . . . . . [06/09/00]
Run Daily reports automatically . . . . . [ ]
Prompt before automatically running reports . . . . . [ ]

Included in Daily reports:
  Missing Variables report . . . . . [Y]
  Next expected variables report . . . . . [Y]
  Print ALL next expected variables . . . . . [Y]
  Print messages ('W' for wide report). . . . . [W]
  Print log (1 = All, 2 = Audit only) . . . . . [1]

Run Diary after sign on (Y/N or S(upervisors only)) . [Y]
Entries to save in log file following daily report. . [1000]

<F1> to save/exit, <F2> to abandon, <PgUp> or <PgDn>
```

Current testkey date

The system date is established when **TelexTester** is started. The format is YYMMDD.

House-keeping has been done for

The date when the last House Keeping was run.

Daily Reports were done on

Last date the Daily Reports option was run.

Run Daily Reports automatically

When set to **Y**, this parameter allows for the automatic running of the Daily Reports option at start up of **TelexTester** if the system date has advanced.

Default is **N** (do not run automatically).

Prompt before automatically running reports

If set to 'Y', the Daily Report will not run until confirmed.

Included in Daily Reports

Missing Variables report

Next expected variables report

Print ALL next expected variables

Print messages ('W' for wide report)

Print log (1 = All, 2 = Audit only)

If you have set the parameter to **Write Continuous log to Disk** the disk file TKLOG.TXT will be printed when Daily Reports are run.

Default is N (Do not print log).

To print all of the log at Start of day, set this option to <1>.

To print only those items protected by the Audit passwords, set this option to <2>.

Run Diary after sign on

The TelexTester system internal diary can check for a users reminders automatically when they sign on to the system, enter a <Y> in this field to utilise this function.

Diarys can be checked by using the menu option if the automatic option is not suitable.

See the section **Diary Maintenance** in the Operators Section for details.

Entries to save in log file

During Start of day, the log file is cleared. To retain entries which can then be viewed through the View/Print log facility, set this entry to the number of entries to be retained.

Additional Options

Screen

When you select **Additional Options** the following screen appears:

```
+DEMONSTRATION SYSTEM
-----V6.3.9e-----+
| LHA TelexTester           Additional options
|
+User is:
STEPHEN-----11/09/01--+

Bank Name...[DEMONSTRATION SYSTEM_____] <- do not alter.
Licence No..[0010323219]                "

Sequence numbers.
  Daily messages log,    incoming... [000001]    Outgoing [000005] <-Do not
alter
  Message serial number, incoming... [00278]    Outgoing [00177]    "

2nd supervisor required for table maintenance .... [ ]
2nd supervisor required for grid maintenance ..... [ ]

Allow 'SECURE' option without audit passwords .... [ ]

<F1> to save/exit, <F2> to abandon, <PgUp> or <PgDn>
```

Bank Name

This name is set up by LHA it must not be altered.

Licence No

As above.

2nd Supervisor required for table maintenance

If set to 'Y', when a supervisor attempts to access the **Correspondent Maintenance** option, the system will prompt for the user id and password of a second supervisor.

2nd Supervisor required for grid maintenance

If set to 'Y', when an operator or supervisor attempts to access the **Grid Maintenance** option, the system will prompt for the user id and password of a second supervisor.

Allow 'SECURE' option without audit passwords

Normally, access to the Export/import functions and the Secure option require input of the 2 Audit passwords.

Setting this option to 'Y' will allow access to the Secure option without the audit passwords. This is provided to enable operators to run the secure option at the end of day when the Supervisor or Audit holders may not be available. Once run in this way, the TelexTester system cannot be used until 'Released'. The function 'Release' will require the Audit passwords as normal.

Text Parameters

Introduction

In addition to the system parameters, further flexibility is provided by use of the Text parameters.

The text parameters are held in an ASCII text file called 'TXPARAM.TXT' in the Testkey directory. Each parameter is defined on a single line in the format:

xxxxxyyy=.....

These text parameters are used by various components of the Testkey system.

The first 6 characters on each line are the section of Telextester which the parameter refers to.

The next 3 characters are the specific parameter.

The next character is always the <=>. Then follows the actual parameter.

The following information on Text parameters is divided into the Sections of TelexTester to which it refers.

Outgoing Testing (Duplicates)

To enable checking for duplicates of Outgoing messages, add the line:

CODINGRDP=Y

When enabled, the 'Narrative' field (remarks) are compared with previous tests and the test is rejected if duplicated.

Tested messages Report

Default Order (Manually run report)

REPMSGOR1=C

Sets default to 'C' (Correspondent)

Default Order (Automatically run report)

REPMSGOR2=M

Sets default to 'M' (Message order)

Default Format

REPMSGDEF=1

Sets format to 1

Temporary files

The system uses the DOS environment setting <TEMP> to locate some temporary files. In addition, some functions will use the following parameters:

The directory for temporary files:

<TMPFILDIR=\temp>

The file name of temporary files, the number 000 will be incremented if multiple files are created:

<TMPFILFIL=temp000.tmp>

Limited TelexTester

MENUCO, Menu configuration

The default menus for Limited system TelexTester can be configured the defaults are:

Supervisors <MENUCOSUP=AA>

Operators <MENUCOOP =AB>

Verifiers <MENUCOVER=AC>

User Maintenance

LSEM, Default language

The default language for a system can be specified, this default is used if no language is set in the user profile, default is:

<LSEM LAN=ENG>

MessageTester

TXMAIN, Default values

The default value for a field on a form can be entered in the form definition as <TXMAIN>. This is followed by the tag value which is any 3 characters.

For example, if a field is type <DOSDEST> and the default value is <TXMAINDDT> then the actual default value will be taken as <xxxxxxxxxxx> in the example:

TXMAINDDT=xxxxxxxxxxxxxxxxxxx

The use of TXPARAM for defaults in this way allows default values longer than that available in the normal forms definition. Also, defaults can be changed more easily to reflect local conditions instead of having to change the form definitions.

COMPOSUNL

This defines the character in the prefix and suffix fields which is translated into a space character.

The default value is <COMPOSUNL=_>, the underscore.

COMPOSPD

This supplies text for input into a message which may be a duplicate.

When a message send fails or the status is changed from 'Sent' the message text will have this inserted at the beginning of the message.

For example, <COMPOSPD =*** WARNING POSSIBLE DUPLICATE>.

REPTLX

The titles above the user defined columns of the outgoing messages report.

The defaults are:

<REPTLXRE1=User>

<REPTLXRE2=Verifier>

The title above the text column for incoming messages report:

<REPTLXINT=Text

Default file name for 'Testkey Results Form'

LOGCODFIL=logcod

The file name to save testkey results.

Default file name extension for 'Testkey Results Form'

LOGCODEXT=txt

The default extension to LOGCODFIL.

Printer control

SETGLO PCT=xxxxxxxxxxxxx

This will set the name of the printer control file.

API40 Access Interval

API40 IOT=n

The number of milli secs between io operations when waiting for an input file.

Default is 50

System Security

Introduction

This section gives suggestions for security while the system is inactive and unmanned. While in operation the TelexTester system is protected from unauthorised use by the combinations of User profiles, Audit passwords and Startup passwords. Details of these are elsewhere in this Section.

The data in TelexTester is partly encrypted, files and records are of variable length. However, the fact that information is there somewhere means it could possible be accessed.

Physically secure computer

The computer can be physically secured, it could be stored in a safe or secured area. It may be convenient to use a Notebook sized PC, this could be locked away when not in use in the same way as Testkey tables are secured. During use, some notebook PCs have devices to secure them to walls or desks.

Physically secure hard disk

The hard disk used could be removable, allowing just this to be secured.

Physically secure data

The data can be removed and the hard disk erased. This could be achieved in one of the following ways.

DOS Tape/Floppy backup

The data could be backed up onto tape or floppy disks, these could then be secured and the hard disk erased.

TelexTester Export utility

The testkey tables could be backed up using the export utility, then the tables could be erased.

TelexTester Secure utility

The secure and release options are available from within the Export/Import system. This option is fully documented in the **Supervisors Section**.

The secure option is used to remove the fixed numbers from the Testkey system and transfer them to a floppy disk which can then be conveniently secured. At the same time correspondent records are made inaccessible. This function makes the Testkey system unusable without the floppy disk.

The release option is used to reverse the operation of secure.

Encrypt data

A proprietary security package could be installed, this will provide hard disk encryption if required. Users can then be configured in addition to the TelexTester user profiles giving them restricted access to the machine's resources.

Start new fixed numbers

Introduction

This option is provided on the **Utilities** menu. It allows fixed numbers to be changed for individual or groups of correspondents.

The new fixed numbers are entered in the 'Pending' area of correspondent maintenance and activated later using this option.

New fixed numbers can be manually entered in the standard TelexTester system. The Administrator systems have facilities for generating ranges of fixed numbers randomly.

Screen

On selecting 'Start fixed numbers', a screen similar to the following will be displayed:

LHA TelexTester

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Start New Fixed Numbers
|
+User is:
STEPHEN-----11/09/01---+

THIS PROGRAM WILL TRANSFER FROM THE PENDING FIXED NUMBERS TO THE ACTIVE
FIXED NUMBER FIELDS FOR THE SELECTED RANGE OF CORRESPONDENTS.

-----

Limit operation to 'Marked' correspondents (Y/N): [Y]
Correspondent Group to further limit operation:  [      ]

Transfer Option: 1  Inbound
                  2  Outbound
                  3  Branch
                  4  Inbound & Outbound
                  5  Inbound, Outbound & Branch    [4]

Save previous fixed numbers in 'Memo' text (Y/N): [N]

-----

<F1> to confirm and execute, <F2> to exit
```

Options

Limit operation to Marked correspondents

During correspondent maintenance, correspondents can be flagged as 'Selected'.

Enter a <Y> in this field to limit this operation to only those correspondents currently flagged as selected.

Correspondent Group

During correspondent maintenance, correspondents can be allocated to groups, see the Table Maintenance Section for details.

Entering a group in this field will limit the operation to correspondents within the selected group.

A full group title can be entered, or, a group hierarchy followed by a <?> to indicates sub groups to be included.

Transfer Option

Enter a number from 1 to 5 to indicate which numbers are to be transferred as follows:

- 1 Transfers only Inbound numbers
- 2 Transfers only Outbound numbers
- 3 Transfers only Branch numbers
- 4 Transfers both Inbound & Outbound numbers
- 5 Transfer Inbound, Outbound & Branch numbers

Save previously 'Active' numbers as 'Old' numbers (Y/N)

If selected, the fixed numbers will be moved to the 'Old' fixed number fields.

Use 'Old' numbers up to and including this date:

If selected, the 'Use old fixed number up to' field will be completed with this date.

F1 to confirm

When all options have been checked, press the <F1> key to start the transfer.

F2 to exit

Press the <F2> key to exit from this option.

Dual Control of Testkey tables

General

This facility allows responsibility for correspondent maintenance to be divided between Supervisors.

If enabled, a Supervisor doing correspondent maintenance will be able to view/change either the sequence/prefix variables or the date/currency/amount variables but not both.

Implementation

To implement this option there are two controls.

User Maintenance

In user maintenance, the profile option:

‘Disp/Change seq/pfx vars’

Set this option to <Y> to allow a user to view/change sequence/prefix variables.

If the user is an ‘Operator’, the option only refers to viewing the variables in for example ‘Grid Maintenance’.

If the user is a ‘Supervisor’ the option also refers to ‘Correspondent Maintenance’.

System Parameters

In System Parameters, the option:

‘Stop access to both SeqVars and Date/Ccy/Amt Vars’

Set this option to <Y> to prevent a users who has access to Sequence/Prefix variables from also accessing the Date/Ccy/Amount variables.

Fixed number Translation

This option is available on the ‘Additional Utilities’ Menu.

It allows users to be specified in the user profile as having access to the fixed numbers but only in a translated format.

When selected a screen like this will be displayed:

```

+ABN AMRO BANK -
KARACHI-----V6.3.9e-----+
| LHA TelexTester           Fixed number translation
table|
+User is:
STEPHEN-----11/09/01---+

Lower limit: [ 1] Upper limit: [ 6]

Clear  Coded   Clear  Coded   Clear  Coded   Clear  Coded   Clear  Coded
1:_____18   2:    44   3:    26   4:    48   5:
28
6:     3      :      :      :      :
:         :      :      :      :
:         :      :      :      :
:         :      :      :      :

<F1> Save & Exit; <F2> Abandon & Exit;           <Shift F1> more
<PgUp>/<PgDn>; <^PgUp> Top; <^PgDn> Bottom;
<F3> Check for duplicates; <F4> Set limits;
<F5> Screen List; <F6> File List; <F7> Print List;
<F8> Generate; <F9> Sort on Clear; <F10> Sort on Encrypted

```


Appendix A Sample Testkey

The following represents a sample bank's test key tables and is provided for educational purposes only.

<p style="text-align:center">CYPHER KEY</p> <p style="text-align:center">for use between</p> <p style="text-align:center">LHA BANK</p> <p style="text-align:center">MONEY TRANSFER AND WIRE Suite 11B, 50 Glenbrook Road Stamford CT 06902</p> <p style="text-align:center">and</p> <p style="text-align:center">VP International Money Transfer</p> <p style="text-align:center">International Bank Inc Wall Street, 34th Floor New York, NY 99999</p>
--

This Cypher Key is confidential. It should be safeguarded against misuse and be accessible ONLY to personnel authorized to use it. ERIC SHEPHERD BANK, CT, disclaims any responsibility in circumstances which may arise through the omission of its correspondents to observe such precautions.

If this Cypher key is lost or stolen, LHA BANK, CT should be advised immediately by wire.

This Cypher Key is intended for reciprocal use, unless otherwise arranged.

All correspondence relating to this arrangement is to be marked CONFIDENTIAL.

INSTRUCTIONS ON THE USE OF THIS KEY

LHA TelexTester

TEST ALL messages ordering or involving payments and transfers, purchase, sale and delivery of securities; containing acknowledgments of receipt of funds, advices of collections paid, advices of issuance of letters of credit and amendment; and other matters of importance requiring positive proof of origin.

Calculate TEST by adding together the following:

- | | | |
|----|---|-------------|
| 1. | Fixed number from | Table (i) |
| 2. | Variable referring to the month from | Table (ii) |
| 3. | Variable referring to the date from | Table (iii) |
| 4. | Variable referring to the currency from | Table (IV) |
| 5. | Variable referring to the total amount from | Table (v) |

(All fractions or decimals omitted BEFORE totaling)

SECURITIES

BONDS: Test for face amount. However when ordering payment against receipt of a stated face amount of bonds, test for the total face amount of the bonds as well as for the full amount to be paid or received.

SHARES OF STOCK: Test for the number of shares. However, when ordering payment made against receipt of a number of shares, test for the number of shares mentioned as well as for the amount to be paid or received.

WHEN MONEY AMOUNT OR NUMBER OF SHARES is NOT mentioned in message, compute test only from Tables (i), (ii) and (iii).

EXAMPLES

A message is dispatched January 27th ordering payments of:

United States Dollars	5,281.50
United States Dollars	12,528.16
Pounds Sterling	26,189.45
Total of amounts	43,999.11

Tested as follows:

fixed number		8512
month:	January	21
Date:	27 th	15
currency:	United States Dollars	123
currency:	Pounds, Sterling	200

Total amount	43,999.11	
	40,000	86
	900	118
	90	145
	9	175

Test: 9525

A message dispatched April 3rd ordering sale of:

LHA TelexTester

Shares of stock and payment of 4,250 United States Dollars against receipt of bonds with face value of 5,000 United States Dollars

Tested as follows:

fixed number		8512
month	April	37
date	3 rd	29
currency	USD	123
Total amount	9,400	
	9000	101
	400	139
	Test:	8941

TEST, WRONG OR OMITTED

When the test is wrong, or is omitted from a message important enough to be tested, instructions are not to be executed. The sender of the message is to be notified immediately, unless the correct test can be quickly obtained by a Service message.

NAME OF SENDER

In addition to being tested, messages are also to bear the sender's signature.

CONSECUTIVE MESSAGE NUMBERS

When, by separate arrangement, consecutive message numbers are used and are prefixed to the test, these numbers are not part of this testing system.

When such a consecutive message number is skipped or appears to be mutilated or is omitted altogether, the test itself, if correct, is not affected. Instructions in the message are to be executed and the sender is to be advised in the matter by either message.

However, when a consecutive message number is duplicated, instructions are not to be executed and the sender of the message is to be notified immediately.

TABLE (i) - FIXED NUMBER

Inbound	2921
Outbound	8512

TABLE (ii) - MONTH

JAN	FEB	MAR	APR	MAY	JUNE	JUL	AUG	SEPT	OCT	NOV	DEC
21	28	31	37	42	46	53	56	64	69	73	75

TABLE (iii) - Day of Month

1...31 6.....26 11....21 16....16 21....11 26....67
2 ...30 7.....25 12....20 17....15 22....10 27....15
3 ...29 8.....24 13....19 18....14 23....19 28....45
4 ...28 9.....23 14....18 19....13 24....18 29....73
5 ...27 10....22 15....17 20....12 25....17 30....25
31....21

TABLE (IV) - CURRENCIES

BOLIVARES	104
CRUZEIROS	181
DOLLARS, CANADIAN	116
" " UNITED STATES	123
" " AUSTRALIAN	155
" " NEW ZEALAND	168
ESCUDOS	143
FRANCS, BELGIAN	88
" FRENCH	93

" SWISS	99
GUILDERS, NETHERLANDS	137
KRONEN, CZECHOSLOVAKIAN	74
KRONER, DANISH	91
" NORWEGIAN	84
KRONOR, SWEDISH	152
LIRE, ITALIAN	172
MARKS, FINNISH	189
" GERMAN	192
PESETAS	118
PESOS	159
POUNDS, EGYPTIAN	146
" " ISRAELI	127
" " STERLING	200
" " TURKISH	111
RANDS	129
RUPEES, INDIAN	102
" PAKISTAN	69
YEN	20
ANY OTHER CURRENCY	100

<u>Table (v) - Amounts</u>

LHA TelexTester

1....199	10.....169	100.....133	1,000.....114
2....182	20.....154	200.....142	2,000.....126
3....194	30.....174	300.....140	3,000.....130
4....187	40.....165	400.....139	4,000.....121
5....168	50.....157	500.....122	5,000.....119
6....151	60.....161	600.....128	6,000.....107
7....177	70.....149	700.....134	7,000.....99
8....189	80.....137	800.....110	8,000.....103
9....175	90.....145	900.....118	9,000.....101
10,000....97	100,000....93	1,000,000....51	
20,000....82	200,000....100	2,000,000....67	
30,000....94	300,000....74	3,000,000....59	
40,000....86	400,000....81	4,000,000....48	
50,000....79	500,000....73	5,000,000....80	
60,000....92	600,000....54	6,000,000....53	
70,000....89	700,000....69	7,000,000....70	
80,000....95	800,000....58	8,000,000....39	
90,000....71	900,000....72	9,000,000....11	
10,000,000....46	50,000,000....38		
20,000,000....39	60,000,000....21		
30,000,000....49	70,000,000....17		
40,000,000....25	80,000,000....9		
50,000,000....40	90,000,000....14		
	100,000,000....2		

Appendix B TelexTester Files

File listing

The following is a description of the files present in the system:

CB.BAT	Batch command file used by rebuild routine
RB.BAT	Batch command file for rebuilding data files and indexes
INCOMING.DAT	Data file containing incoming messages
OUTGOING.DAT	Data file containing outgoing messages
CURRENCY.DAT	Data file containing master currency information
GLC.DAT	Data file containing parameters
COBLIB.DLE	Program library
TKBUILD.EXE	Program file for building data files
REBUILD.EXE	Program file for rebuilding files and indexes
TESTKEY.EXE	Program file to run TelexTester
STARTUP.INT	Intermediate code file used by TelexTester
AMTDLY.ISM	Indexed data file containing Daily amounts tables
CHARAC.ISM	Indexed data file containing character tables
VSEQ.ISM	Indexed data file containing sequence variable numbers
TTDWVMY.ISM	Indexed data file containing date tables
TTDOFM.ISM	Indexed data file containing date tables

TTDMVDW.ISM	Indexed data file containing date tables
DOFW.ISM	Indexed data file containing date tables
USERS3.ISM	Indexed data file containing user details
TTDOFY.ISM	Indexed data file containing date tables
AMOUNTS.ISM	Indexed data file containing amount tables
VGRID.ISM	Indexed data file containing grid positions
TTWOFY.ISM	Indexed data file containing date tables
TTJULIAN.ISM	Indexed data file containing date tables
CPART5.ISM	Indexed data file containing correspondent details
TTMOFY.ISM	Indexed data file containing date tables
MEMO.ISM	Indexed data file containing correspondent details
TTONE299.ISM	Indexed data file containing amount tables
VPFXA.ISM	Indexed data file containing prefix variables
VPFX.ISM	Indexed data file containing prefix variables
CURRTAB.ISM	Indexed data file containing currency tables
TESTKEY1.LBR	Program library
TESTKEY2.LBR	Program library
TESTKEY3.LBR	Program library
ENG1.MNU	Default Menu options
TXPARAM.TXT	Various parameters

In addition, files with an 'IDX' suffix are the indexes to data files. These indexes can be rebuilt using the file rebuild utility.

Recreating Files

After installation, if necessary, you can use the TKBUILD program to recreate files (please see Chapter 1).

When you run this program, the following screen is displayed and you are prompted for the file that you want to re-create.

However, as indicated by the prompt Please delete files before recreating them., if necessary, before you proceed, you should delete the corresponding ISM and IDX files.

For example, if you are going to enter users at the option prompt to re-initialize that file, you should first delete USERS*.IDX and USERS*.ISM before running the program.

```

L.H.A. Testkey                                     File Builder
-----
This program recreates the original data files for the Testkey System.
Please delete files before recreating them.

GLC      - Global Parameters File                ALL      - All files (except *)
USERS    - Original Users File                  TEMPLATE - Missing tests template (*)
CURRENCY - Original Currencies                  HELP     - Help text file tags  (*)
NCPARTY  - Correspondents                       DDESP    - Daily prefix positions

INCOMING - Incoming messages                   OUTGOING  - Outgoing messages
AMOUNTS  - Amount tables                       CHARAC    - Character tables
CCYTAB   - Currency tables                     DMVDW    - Day of month/day of week
VGRID    - Grids                               DOFM     - Day of month tables
VPFXA    - Alphabetical prefix table           DOFW     - Day of week
MEMO     - Memo on correspondents              DWVMY    - Day of week/month of year
VPFX     - Prefix tables                       JULIAN   - Julian date tables
VSEQ     - Sequence tables                     MOFY     - Month of year
WOFY     - Week of year tables                 ONE299   - Amounts 1 - 99 tables

Enter Option: [_____]   Files will be created on DEFAULT drive.

```


Appendix C System messages, error codes, Run Time switches, Printer Control

File status return codes

The file status codes are reported on line 24 of the screen.

The code consists of two components separated by a hyphen.

The error messages on line 23 give an indication of errors in fairly plain language, the file status codes on line 24 give the reason for the error messages. See the following section for details on the meanings of some of the codes.

Operating system return codes

The operating system return codes are reported either by the Testkey system in fatal errors when the testkey package fails to load or cannot survive a catastrophe and also when the file status key 1 contains a '9'. Some of the codes are reproduced here:

1	Insufficient buffer space.
5	Illegal device specification.
7	Disk space exhausted.
9	No room in directory.
13	File not found.
14	Too many files open simultaneously.
15	Too many indexed files open.
21	File is a directory.
24	Disk input-output error.
27	Device not available.

28	No space on device.
30	File system is read only.
31	Not owner of file.
35	Attempt to access a file with incorrect permission.
36	File already exists.
37	File access denied.
41	Corrupt indexed file.
43	File information missing for indexed file.
47	Indexed structure overflow.
65	File locked.
68	Record locked.
164	Run time system subprogram not found.
165	Version number incompatibility.
170	System program not found.
173	Called program file not found in drive/directory.
198	Load failure.
210	File is closed with lock.
213	Too many locks.
219	Operating system shared file limit exceeded.

Run Time Switches

General

Run time switches are used to control some aspects of the system. They are specified on the command line when starting the system.

For example:

TESTKEY (+2)	Enables run time switch 2
TESTKEY (+2+3)	Enables run time switches 2 and 3

Switch 1

Causes System Parameters to be run immediately.

Switch 2

Causes additional information to be recorded in the System log file.

Switch 5

Prevents all print output from 32 bit version of TelexTester.

Printer Control

Introduction

The system can send printer control characters before printing. This allows specific orientation/fonts to be selected on printers.

Control characters are taken from a file named 'PRINTER.DAT'. This file name can be configured through **Text Parameters**.

Creation

To create a printer control file use the 'TKBUILD' program which is used to create TelexTester data files.

The following options are available:

HPLJ3

Hewlett Packard LaserJet 3. This will send only the printer initialise string which sets the printers default font.

HPLJ3PC8

Hewlett Packard LaserJet 3. This will set 10pt PC8 font.

HPLJ3CON

Hewlett Packard LaserJet 3. This will set 8.5pt PC8 font.

FX80

Epson FX80. This will send the printer initialise string which sets the printer to its default font.

FX80CON

Epson FX80. This will set the printer to condensed mode.

Detail

The printer control file contains 2 groups, the first is 5 bytes which are sent when the printer is opened. Byte 6 is the binary length of the following bytes up to 29, this string is sent before each line of print.

Although called Epson FX80 & HpLJ3, the above options should be general enough to operate on their entire families of printers.

System Log

A log file called 'SYSLOG.TXT' is now produced to record any error messages. This file will be created in the default 'TESTKEY' directory.

If the system is started with switch 2 enabled (Command line: TESTKEY (+2)), the system log will include additional information.

Appendix D Specialist Keys

Introduction

This Section describes the Specialist keys available with TelexTester.

Some of these keys require program modules in addition to the standard TelexTester package. Banks requiring access to these keys should contact LHA for details.

Specialist key BOC

Correspondent Maintenance Options,

First Screen example

The following are the settings for the correspondent maintenance screen:

LHA TelexTester

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester                               Correspondent Maintenance
|
+User is:
STEPHEN-----11/09/01--+
Correspondent Code [BOC          ] Loc [                ]
Name [                ]
Telex Routing Code [                ] Country [          ]
Fixed Numbers: In [          0] Out [          0] Branch No [          0]
Restrict use (Y/I/O) [ ] Use tables of:[                ]
                  Central test:[                ] Specialist:[BOC  ]
Day of Week [ ] Day of Month [ ] Week of year [ ] Day of mnth/Day of week [
]
Julian date [ ] Date of Year [Y] Mnth of year [ ] Day of wk/month of year [
DD+MM+YY [ ] Add DDMM [ ] Deduct DD [ ] Mnth of yr/yr of decade [
Manual value (Y/T(ranslate)) [T] Manual value prompt [PMTTYPE
]
          Currency Table [Y] Amount Table [Y]
          Character Table [Y] Daily Message Number [ ]
Sequence Variable Table (S) [ ] Sequence Prefix Table [ ]
  Alpha seq table for no amt [ ] Prohibit multi currency tests [ ]
  Significant decimal amounts [ ] (S = Subtract
variable)
          Limit testkey length [4_]
```

Selections

Specialist

Set the field 'Specialist' to 'BOC'.

This will cause the testkey system to group the test amount into 3 digit numbers from the right. Each 3 digit number will be added to the testkey value.

Also, if significant decimals is set, any decimal value will be added to the testkey.

Date table

Select any date table options required, normally 'Date of Year'.

Manual value

The manual prompt is used to enter a value directly into the testkey, in this case an invoice number.

Select Manual value option, set manual value prompt to "INV NOS".

During testing, the operator will be prompted INV NOS:. She will then enter the invoice number which will be added to the testkey value.

Set the Manual value option to <T>, this will cause the value entered at the manual prompt to be translated through a table, digit by digit and the translated value added to the testkey total. A translation table will appear during the table entry stage, following pressing <F9>.

Currency table

Select currency table option.

Amount table

Select amount table option, see later details.

Character table

Select Character table, see later details.

Decimals amounts

Select 'Significant decimal amounts' option.

Testkey length

Select 'Limit testkey length' option, set this to 4. This will cause the Testkey to be truncated from the right at 4 digits.

Amount table options

Screen

The following shows the amount table selection to make.

LHA TelexTester

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Amounts Table
|
+User is:
STEPHEN-----11/09/01--+
Correspondent: [BOC      ]

Each digit position 1-9, 10-90, 100-900 etc. . . . . 1
Each digit position with separate tables for values 1-99 . 2
Standard Test Key using message amounts and Julian date
(tables are automatically generated . . . . . 3

Substitute each digit in amount . . . 4   Bank of Ireland (variation on 3) . 8
Sum each digit in amount (0 = [00]) . 5   Amount bands . . . . . 9
Separate table for each weekday . . . 6   Number of digits in amount . . . . A
As option 3 less Julian date. . . . 7

                                Please Select Table Option 1 - 9 or A: [A]

Separate test for each amount: [_]   Ignore values less than 1000 for [   ]
Add prefix value to amount:      [ ]   Add amount divided by max amount: [ ]
Separate test for each line:     [ ]   Multiply testkey by amount total: [ ]
```

Option

Select option 'A' from the amount table options.

Variables

Complete the following amount screen with the variables to be substituted for the number of digits in the amount, as follows:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Number of Digits in Amount
|
+User is:
STEPHEN-----11/09/01--+

Correspondent: [BOC      ]

Variables associated with number of digits in amount.

      1 [ 20]          9 [ 34]
      2 [ 40]         10 [ 45]
      3 [ 35]         11 [ 58]
      4 [ 50]         12 [ 39]
      5 [ 100]        13 [ 67]
      6 [ 200]        14 [ 74]
      7 [ 23]         15 [ ____53]
      8 [ 78]         16 [ 78]
```

Character table

Introduction

The character table is used to enter the payment type, Payment or Credit.

LHA TelexTester

Screen example

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Character Tables
|
+User is:
STEPHEN-----11/09/01---+

Correspondent [          ] BANK OF CHINA

    Weight value by position (Y/N): [N]   Subtract variable: [N]
Number of lines to accept (1 - 10): [ 1]
Use prompts from prompt template #: [01] (Press <F3> to modify this template)
          Base table on: [PAYMENT TYPE      ]

    ?      0      1      2      3      4      5      6
[  ?  ] [  0  ] [  1  ] [  2  ] [  3  ] [  4  ] [  5  ] [  6  ]
[  7  ] [  8  ] [  9  ] [  A  ] [  B  ] [  C  ] [  D  ] [  E  ]
[  F  ] [  G  ] [  H  ] [  I  ] [  J  ] [-1000] [  L  ] [  M  ]
[  N  ] [  O  ] [  P  ] [  Q  ] [  R  ] [  S  ] [  T  ] [  U  ]
[  V  ] [  W  ] [2000] [  X  ] [  Y  ] [  Z  ] [  ] [  ] [  ]
[  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ] [  ]
```

Options

Set 'Weight by position' to N.

Set 'Subtract variable' to N.

Set number of lines to 1.

Set 'Prompt template' to 01.

Set 'Base table on' to Payment Type.

Enter variables for the characters 'C' and 'P' only. To subtract a variable, enter a minus sign before the variable, as shown for 'C' above.

Template

Press <F3> to access the prompt template, then complete the template and press <F1> to save.

Specialist key DD1

Correspondent Maintenance Options,

Introduction

Specify <DD1> as the specialist key

Select an amount table, with amount option 1 selected.

Select a currency table.

Maintenance

Following entry of the amount variables in the normal way, the following screen will be displayed:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Zero variables (DD1 key)
|
+User is:
STEPHEN-----11/09/01---+
Correspondent: [TEST2      ]

Variables associated with zeroes in the amount.

          0 [____10]
         00 [   20]
        000 [   30]
       0,000 [   40]
      00,000 [   50]
     000,000 [   60]
    0,000,000 [   70]
   00,000,000 [   80]
  000,000,000 [   90]
 0,000,000,000 [   ]
00,000,000,000 [   ]
000,000,000,000 [   ]
0,000,000,000,000 [   ]
00,000,000,000,000 [   ]
000,000,000,000,000 [   ]
```

Enter the variables associated with zeroes in the test amount.

Operation

The total amount is used to calculate an interim testkey value using amount type 1 and the above zero variables.

The testkey for any currency is calculated.

The amount and currency testkeys are added together.

This sum is used as an amount and the amount table option 1 plus the above zero variables are again used to give a testkey value.

This is then added to any other testkey components for example, date tables.

Specialist key BB1

Operation

Specify specialist key as <BB1>.

Following calculation of testkey for fixed numbers, branch number, amount, currency and date tables, the following takes place:

Subtract the branch number from the testkey total.

Multiply the remaining testkey total by the branch number.

Subtract the total amount from the remainder giving the testkey.

Specialist key BR1

Operation

Specify specialist key as <BR1nnn>.

Substitute nnn with the number of digits from the amount to be added to the testkey value.

For example, to add the amount total to the testkey, specify specialist key as <BR1999>.

To add only the first 3 digits, specify <BR1003>.

Decimals will be ignored.

Specialist key SOCGEN

Details for operation and maintenance of this key are available separately.

Specialist key RA1n and RA2n

This key supports the addition of the amount total or a part of the amount total into the testkey or the appending of the figure to the end of the testkey.

The first digit controls adding or appending:

If specified as 'RA1', the amount is added to the testkey.

If specified as 'RA2', the amount is appended to the testkey.

The second digit controls the portion of amount used:

If specified as 'RA1' or 'RA2' the total amount is used

If specified as RA11 or RA21, the total amount divided by 10 is used.

If specified as 'RA12' or 'RA22', the total amount divided by 100 is used (Normally requested as Number of Hundreds in amount).

If specified as 'RA13' or 'RA23', the total amount divided by 1000 is used (Normally requested as Number of Thousands in amount).

RA10 to RA19 and RA20 to RA29 are supported.

Examples:

Testkey	Amount	RA1	RA13	RA2	RA23
40	0	40	40	400	400

LHA TelexTester

40	1	41	40	401	400
40	1,000	1040	41	401000	401
40	50,000	50040	90	405000 0	4050

Additional options, option Rann2, will cause the fixed number to be appended to front of the testkey.

Additional option RA3, will stop amount being added to testkey, this allows Rann2 to be used alone.

Specialist key REUxxx

Operation

999 variables up to four digits.

Step 1. Amount total is translated in three digit groups through this table.

eg: 1,900 becomes 1 and 900. So, the variables at 1 and 900 are added to the testkey..

Step 2. Date in various formats is translated in 3 digit groups through this table.

Eg. DMY format, date as 20th August 1997 becomes 200897 and then 200 and 897. So, the variables at 200 and 897 are added to the testkey.

Selection

To use this key, specify 'REU' as the specialist key in correspondent maintenance. To use the date option, include the date format eg: 'REUDMY', this will use the date format day, month year.

Specialist key BBPxyy

Operation

Supports multiple grid and cycle variable tables.

X is the number of Grids to use

YY is the number of times each grid is used in succession. Two digits must be entered here.

Eg. BBP1 will use grid 1 repeatedly

BBP2 will use grid one then grid two then one again

BBP202 will use the first grid twice followed by the second grid twice followed by the first again.

BBP216 will use the first grid 16 times followed by the second grid 16 times followed by the first again.

The current grid is determined by the current cycle, so the number of cycles must be specified as a multiple of (x * yy), eg, BBP216 requires 32 or 64 cycles to operate correctly.

Selection

To use this key, specify 'BBP' as the specialist key in correspondent maintenance. Then specify the number of grids and cycles.

In grid maintenance, specify the number of cycles maintained as at least grids (x * yy) cycles. This must be entered for both Incoming and Outgoing grid maintenance.

Select 'Sequence Variable table'.

Select separate tables for each day of the week, sequence only. The different grids are then entered for each day of the week starting with Monday, only complete the number required, but access all of the days to prevent table errors later.

Specialist key IN1

Operation

Following testkey calculation, the branch number is subtracted from the testkey, then, the testkey becomes the difference between the remaining testkey and the branch number.

Then, if specified the 'Auxiliary' value is added to the testkey.

Example

Normal procedure	Fixed number	7001
	Branch number	8022
	Amount table	18
	Date tables	106
	Testkey interim value is:	15147
Specialist key IN1 causes	Subtract Branch	8022
	Testkey interim value is:	7125
	Difference between interim value and branch value:	897
	Add Auxiliary value	7056
	Testkey total	7953

Selection

Enter 'IN1' in specialist key field on first correspondent screen. Fixed, branch and any other tables are entered normally.

If required, enter the branch number in 'Aux' on the first correspondent screen.

To achieve alphabet conversion following final calculation, use 'Translation table' on third correspondent screen.

Specialist key IN2

Operation

Exactly as 'IN1' key above. In addition, when multiple messages are processed for the same date and amount (therefore given same testkey), the 'Fixed number' is multiplied by the number of messages with that date and amount.

Selection

Enter 'IN2' in specialist key field on first correspondent screen. Fixed, branch and any other tables are entered normally.

If required, enter the branch number in 'Aux' on the first correspondent screen.

To achieve alphabet conversion following final calculation, use 'Translation table' on third correspondent screen.

Specialist key SQ1

Operation

Allows correspondents using a Master set of tables to have their own 'Sequence' variables.

Selection

Enter 'SQ1' in specialist key field on first correspondent screen.

Enter the Master code as normal.

Pressing the <F9> key to access tables for the correspondent will cause only the Sequence variables to be presented.

Specialist key GRE

Operation

Allows correspondents using a Master set of tables to have their own 'Month of Year' variables.

Selection

Enter 'GRE' in specialist key field on first correspondent screen.

Enter the Master code as normal.

Pressing the <F9> key to access tables for the correspondent will cause only the Month of Year variables to be presented.

Specialist key DOR

This key has two sequence tables, one normal and one with ten slots which resets daily. This additional sequence table (1 – 200) is specified in the spec key, eg DOR010 or DOR009 etc.

This key requires the 'Cycle dependant' option to be set.

Appendix E Systems Maintenance

Introduction

Systems Maintenance is used to create Corporate TelexTester Systems, MessageTester Systems, configure forms for MessageTester, Maintain default parameters and issue testkey tables.

Options applicable to Messagetester systems will only be available to users of those systems.

This section of the documentation covers the menu options available for both Limited TelexTester system generation and Message Tester systems.

In addition to this documentation you should refer to the documentation specific to **Limited TelexTester** systems and to **Forms Maintenance**.

Limited TelexTester

The Limited System TelexTester is a product designed to be generated and distributed by users of the full TelexTester package. The Limited System TelexTester can be issued to corresponding clients to facilitate the testing of messages between the Bank and correspondent.

MessageTester

MessageTester was designed to provide a simple and inexpensive method of exchanging messages of all types between banks, branches and corporate customers. The combined use of message encryption and testkeys provides a high degree of security with flexibility.

MessageTester provides a 'front end' to TelexTester allowing users to define message templates which can then be completed by operators and submitted for verification and transmission.

The system can be configured to use various means for communicating in addition to simply printing the message:

Telex
Fax
Electronic mail

There is support for dual control of message input and release.

Messages can be encrypted either entirely or partially. The encrypted message retains the Telex character set. This facility requires MessageTester to be present at the receiving address.

MessageTester can automatically apply testkeys.

Accessing systems maintenance

The Systems maintenance option is available to users of the **TelexTester** system with 'Supervisor' status and the Audit passwords.

Sign on to the TelexTester system and access the 'Utilities' menu option. On this menu is the option 'Systems Maintenance'. If this option is not available you must contact LHA for the relevant licence details.

This option is protected by the Audit passwords, enter the 2 Audit passwords to gain access.

Screen and options

Screen

On selecting Systems Maintenance, the following screen will be displayed:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Systems Maintenance
|
+User is:
STEPHEN-----11/09/01---+

          1 - Maintain default parameters
          2 - Systems/tables issued report
          3 - Issue tables
          4 - Issue remote passwords
          5 - Generate TelexTester system
          6 - Generate MessageTester system
          7 - Generate licence file
          8 - Forms maintenance
          9 - Fields maintenance

          Please select option [ ] 'X' to exit
```

Outline of options available

The options are explained in detail later in this and the associated sections, the options available depend on the User profile and System configuration. Further options may be available, they will be detailed in additional Sections. Here is a brief outline of the options.

Maintain default parameters

The normal TelexTester system includes a configuration section called 'System Parameters', this is where security levels and many other options are defined.

The default parameters which will be issued with any TelexTester systems are defined with this menu option.

Systems/tables issued report

This option is used to report on screen or printer the TelexTester systems issued and the correspondent keys included.

Issue tables

This option is used to transfer testkey algorithms to diskette for issue.

Issue remote passwords

This option is used to generate the passwords needed before a TelexTester system can be accessed by the ultimate user.

Generate TelexTester System

This option is used to create the programs and data files for a new TelexTester system, this type of TelexTester system is capable of calculating testkeys for a single correspondent bank.

Generate MessageTester System

This option is used to create the programs and data files for a new MessageTester system, the system created at this point is intended as a Demonstration system only and does not contain all the security features of a proper system.

Generate Licence File

This option is used to apply a proper licence to a MessageTester system which has been created.

Forms maintenance

This option is used to define the input and output formats for messages.

Fields maintenance

This option is used to define the default fields which are used within the forms definition.

Default parameters

Introduction

The main TelexTester system is configured using the system parameters option. Limited System and messageTester Systems can be configured in a like manner using these 'Default parameters' option. The parameters set here will be in force when the System has been installed.

Three screens of parameters are established and these will be used when generating each new system.

Most defaults below are those for the Host TelexTester system. The actual defaults used will be taken from the host and so could have been changed to be different to that specified below.

Prompts

PgUp/PgDn

To select each of the parameter screens, press either the PgUp or the PgDn keys.

F1 save/F2 abandon

To save changes which have been made and to finish with Parameter maintenance, press the <F1> key. If you want to exit without making any changes, press the <F2> key.

First parameter screen

Screen

When you select **Default Parameters** the following screen appears:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Default Parameter Maintenance
|
+User is:
STEPHEN-----11/09/01--+

Printer lines per page           [66]
Print device for reports         [ ]
Write continuous log to printer  [ ]
Write continuous log to disk     [ ]
Print encode result format (1 or 2) [ ]

Print testkey on log             [ ]
Print sequence number variable on log [ ]
Suppress print of variables on reports [Y]

USA date format                  [ ]
Suppress display of variables on grid [Y]

Print during transmission        [Y]
      receipt                     [ ]

      <F1> to save/exit, <F2> to abandon, <PgUp> or <PgDn>
```

Printer lines per page

The number of lines used on a page before a new header is printed. The default is 66 (standard for 8-1/2" x 11" paper and a printer which prints 6 lines to an inch). If you are using a larger or smaller sheet size or printer font, you can adjust this accordingly.

Print device for reports (1 or 2)

When 'Print' is selected for reports, output will be directed to the DOS device 'LPT1' or 'LPT2'. This parameter determines which of these is used. Enter the figure <1> or <2>.

Write continuous log to printer

Enter **Y** to have the system produce an audit log to date and time stamp all events and write them to your printer. For example, system signon, table changes, additions, etc. Examples of the audit log are in the **Supervisor Section**.

Write continuous log to disk

As above but write to file TKLOG.TXT. Even though written to disk, the log may be printed when **Start of Day** is run (see **Supervisor Section**.)

Print encode result format (1 or 2)

Should the details of the test (Currency, Amount, Correspondent, Date, Testkey, Sequence Variable, etc.) print automatically after the testing operation? Default is **N** (do not print).

If set to <Y> or <1>, the standard format is used.

If set to <2>, a format is used which includes the correspondent name and location.

Print Testkey on log

If the **Print results of Encode** parameter is set to **Y**, this parameter can be set to **N** to suppress the print of testkey. Default is **N** (do not print).

Print sequence number variable on log

As above but suppress print of sequence variable. Default is **N** (do not print).

Suppress print of variables on reports

Do not print sequence or prefix variables on **Next Expected Variables** report. Default is **Y** (do not print).

Date Format

Enter **Y** to have all dates accepted and displayed in MMDDYY format. Default is **N** (print and accept date as DDMMYY).

Suppress display of sequence variables on grid

Enter **N** if you want any sequence or prefix variables to appear on the screen when the outgoing message grids are displayed. Default is **Y** (do display).

Print during transmission

This option is not relevant to TelexTester systems.

Print during receipt

This option is not relevant to TelexTester systems.

Second parameter screen

Screen

When you select the next parameter screen the following appears:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Default parameter Maintenance
|
+User is:
STEPHEN-----11/09/01---+

Startup security level          [0]
Drive & program for startup     [      ]

Disable user if passwords invalid (3 attempts) [ ]
Minimum length of user passwords [4]
Days between forced password changes [90]

Keyboard timeout in seconds     [300]
Number of messages in history file [01000]
Number of days to retain incoming messages [ 0]

Startup password1               [*      ]
Startup password2               [*      ]
Audit password 1                [*      ]
Audit password 2                [*      ]
Disable remote audit system [ ]

      <F1> to save/exit, <F2> to abandon, <PgUp> or <PgDn>
```

Startup security level

You can enter a code in the range 0 - 4 which dictates the startup requirements for the **TelexTester** system and access to the **System Parameters** and **User Maintenance**.

The codes are as follows:

- 0** Allow system to be started immediately, i.e. on entering the command **testkey** at the DOS prompt will proceed to the signon screen.
- 1** The **testkey** command will first check the system date and if it has changed since the system was last started, it will look in the **Drive letter and program name for Startup** field (see the next field description) for the name of the **Startup** program. The system is issued with a program called **Startup** which prompts for the two **startup** passwords prior to allowing **TelexTester** to run. The **Startup** program may be moved onto a floppy disk and its name changed if so desired. By keeping the floppy disk in safe storage an additional level of physical security may be maintained.

- 2 In addition to requiring running the **Startup** program when the system is started, the **Startup** program must be run again in order to access the **Utility Menu** and **User Maintenance**. Thus as for code **1**, the floppy disk would need to be inserted in addition to providing two of the AUDIT PASSWORDS for these options.
- 3 The **Startup** program will need to be run whenever the **testkey** command is issued; that is, whenever **TelexTester** is started irrespective of the date. The **Startup** program will also be run in order to access the **Utility Menu** options **System Parameters** and **User Maintenance**.
- 4 As option 3, but in addition, the Startup disk will be updated every time TelexTester is run, this means that this disk must be the same copy as was last used. The Startup disk cannot be copied unless it is copied in association with the TelexTester system. If the Startup disk is lost or damaged the system will not start without access to the audit passwords.

The default option is **0** (no **startup** program required).

Drive and program name for startup

An entry in this field is relevant if security level codes 1, 2, 3 or 4 are set as described above in order to determine where the **Startup** program is to be found. For example, if the **Startup** program has been moved to floppy disk and called **Access**, the field would contain **A:ACCESS**.

After altering the startup options you may be prompted to insert the Startup disk before exiting from system parameters.

Disable User if passwords invalid (3 attempts)

Entering **Y** as the parameter allows for the automatic deletion of a user who fails to enter the correct password in three attempts to signon to the system.

If this occurs, the Security Manager(s) will have to add the user again.

The default is **N** (do not delete).

Minimum length of user's password

Enter a number here to set the minimum length which a user's password may be. This only applies when user's alter their own password from the sign on screen.

Days between forced password changes

When a user is added to the system the date is recorded. Also, when the user changes his password, the date is recorded. When the user signs on to **TelexTester** the number of days are calculated between the current date and the date user was entered or when the password was last changed. If the number of days exceeds the value (up to 99) in this field, the user is prompted to change the password. The user must enter a new password correctly twice in succession and the password is checked to ensure that it is different from the old value. The user is then prompted to signon again with the new password.

The default is 90 days.

New Users will always be prompted to change their password when the id is first used.

The default user id of <*> can only be used to maintain users, not operate the system.

Keyboard timeout in seconds

If the keyboard is left unattended by the operator for more than the number of seconds specified in this field then the operator is prompted for his or her password when keyboard input is resumed. If the password entered is invalid, the operator is immediately signed off the system. This prevents any unauthorized person entering details into the system if it is left unattended.

During testing the process is slightly different. If a user takes more than the timeout period to enter a complete test then the keyboard timeout will operate.

The default value is 999 seconds.

Number of messages kept in history file

This specifies the number of records to be written before the file is rewound back to record number one. The number of records will depend on how much disk storage is available and/or how much history information is required. Many banks try to keep at least one month's records on file and in order to do this you should work out how many tests are calculated in one month and enter this value into the field. The **Supervisor Section** contains more details on file organization and sizing.

The default value is 100. The maximum is 65000. Please note that a setting of 65000 will eventually require disk space of 35 MBytes for the history files alone, plus at least as much again for sorting of reports.

Number of days to retain incoming messages

This option is not relevant to TelexTester systems.

Startup passwords

These are the default Startup passwords. They allow dual control of access to the system in association with the 'Startup' security level.

Audit passwords

The audit passwords are required for access to various functions in the system. For a TelexTester system, the first password only need be specified. The second password is normally replaced by the Remote Audit option.

If the remote audit option is disabled then the second audit password will be required.

If the audit passwords are set to anything other than the default <*>, the operator of the Limited System will be prompted for the passwords when trying to create the empty data files.

Disable remote audit option

The remote audit option is a means for controlling the Audit passwords from a remote site. This option is explained in the section **Remote Audit option**. Enter 'Y' in this field to disable the remote audit control so that the standard dual Audit password control is used.

Third parameter screen

Screen

When you select the next parameter screen, the following appears:

LHA TelexTester

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Default Parameter Maintenance
|
+User is:
STEPHEN-----11/09/01---+

Print/display Test results only at Encode verify      [N]
Allow same user to verify message                    [N]

Run start of day automatically                       [Y]
Force run of next expected variables at start of day [ ]
Print ALL next expected variables at start of day    [ ]

Print messages at start of day ('W' for wide report) [ ]
Print log at start of day                           [ ]
Name of help file                                   [HELP  ]
Name of MENU file                                   [CORPHELP]

<F1> to save/exit, <F2> to abandon, <PgUp> or <PgDn>
```

Print/display Test results only at Encode verify

When this parameter is set to **Y** a message is simply recorded after the encode stage and only when successfully verified is the testkey calculated and the grid position allocated. This is an important parameter if you wish to establish a two stage operation for calculating tests for outgoing messages. An operator may encode many messages and another operator may then verify them independently of the sequence in which they were initially entered.

Allow same user to verify message

When a message is entered, the operator's Id is recorded. If this parameter is set to **N** then the same operator may not verify a message that he or she previously encoded.

The default is **Y** (allow same user to encode and verify the same message).

Run start of day automatically

When set to **Y**, this parameter allows for the automatic running of the **Start of Day** option at start up of **TelexTester** if the system date has advanced. The **Start of Day** functions resets the Daily Message Numbers to 1.

Default is **N** (do not run automatically).

Force run of next expected variables at start of day

Automatically produce the **Next Expected Variable** report during Start of day function.

Print ALL next expected variables at start of day

When set to **N** this parameter forces the production of a report that lists those correspondents whose variables have changed since the last report was run (see the **Supervisor Section** for details and sample report).

Default is **N** (only print correspondents that have changed).

Print messages at start of day (W)

When set to **Y** this parameter produces an analysis report of the number of encoded tests performed during the previous day.

Setting this option to 'W' has the same effect except that a report is printed including the test result and remarks fields.

Default is **N** (do not print messages).

Print log at start of day

If you have set the parameter to **Write Continuous log to Disk** the disk file TKLOG.TXT will be printed when **Start of Day** is run.

Default is **N** (Do not print log).

Name of HELP file

The help file is used during input of messages, normally the file is called 'HELP.TXT', however, it is possible to create a file with a different name so that the help file can be different from that used by the TelexTester system.

Enter the name here if required, do not enter the 'TXT' extension.

In the example illustrated, the file 'HELP.TXT' will become the help file for the TelexTester system.

Name of MENU file

The menu file contains menu options for the TelexTester system. Normally the standard Menu file is included with the Limited system. This option allows a different menu system to be issued.

In the example illustrated, the file 'CORPMENU.MNU' will become the menu file for the TelexTester system.

Systems/tables issued report

Introduction

This report lists the details of Systems issues and Testkey table issues.

The report can be directed to screen, print or a file.

Selection screen

On selecting this option the following screen will be displayed:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Systems Issued Report
|
+User is:
STEPHEN-----11/09/01--+

-----
Report required: [I]           I for Issues report
                               G for Systems generated

Output to: [S] [             ] S for Screen, F for File, P for Print
                               Enter file name if relevant.

-----
<F1> to confirm and execute the report, <F2> to exit
```

Options and prompts

Report required

In this field you must enter either 'T' or 'G'.

'G' will cause a report on system generations to be produced.

T will produce a report on testkey table issues.

Output to.

This option defines where the report is to be sent. Enter one of the following options:

S To display the report on the screen.

F To put the report in a disk file. A valid file name must be specified for this option.
Enter the file name in the next field.

P The report will be directed to the printer. The system parameter 'Redirect printer to disk' will cause this option to print to disk.

F1 to confirm, etc

When all options are entered correctly, press the <F1> key to execute the report. Press the <F2> to abandon the report.

Issues report

Example

Here is an example of the report on table issues:

LHA TelexTester

DEMONSTRATION SYSTEM				Systems issued	
report					
LHA TelexTester V3.7 Usr: STEPHEN Date: 26/09/92 Time: 17:43:02 Page:					
1					
<hr/>					
<hr/>					
Exported from	Exported to	Pending in	Drive letter	User id	Date/time
<hr/>					
BANK1	BANK1	BANK1	D	STEPHEN	26Sep92, 17:42

Exported from

This column indicates the correspondent short code which has been entered into the Host TelexTester system and then issued.

Exported to

This is the short code by which the user of the Limited TelexTester system will know the correspondent.

Pending in

This is the short code which the correspondent is held as in the TelexTester's 'Pending' file.

Drive

The drive to which the export file was directed.

User id

The user id of the person who issued the tables.

Date/time

The date and time of the table issue.

System generation report

Example

Here is an example of the report on generated systems:

DEMONSTRATION SYSTEM		Systems issued
report		
LHA TelexTester V3.7 Usr: STEPHEN Date: 26/09/92 Time: 17:42:27 Page: 1		
System generated for	Date/time	Type
BANK OF LONDON, LONDON	26Sep92, 17:41	TLX

System generated for

This column indicates the name of the correspondent bank to whom the TelexTester system has been issued.

Date/time

The date and time of the table issue.

Type

The type of system issued, TLX is for Limited TelexTester, MSG for MessageTester.

Issue Tables

Introduction

This option is used to transfer testkey tables from the Host TelexTester system to the Limited TelexTester or MessageTester system. This option may also transfer testkey tables to a 'Pending' file for later import back to the Host system.

The option is intended to facilitate Testkey table issues both at the same time as the Main system issue and later when tables are updated.

LHA TelexTester

A 'Pending' file is maintained in order that a Testkey table which is to be updated can be first entered into the Host TelexTester system as, for example 'NEW TABLE'. This table is then specified for issue as 'MAIN BANK' to the TelexTester user. When transferring to the Pending file the code could be changed to 'SUB BANK'. Not until the TelexTester user has received and installed the new table will the issuing bank activate the Pending table 'SUB BANK' by reference to the 'Table manager' system, detailed in the Supervisor Section.

For Limited TelexTester systems, only a single correspondent code can be used by the operator. This default code will be the last correspondent code imported into the issued system. For this reason, the issue of a single correspondent has been automated, when Generating a Limited system, you will be prompted for a single correspondent code for inclusion in the system.

Screen

When the Table issues option has been selected the following screen will be displayed:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Issue Tables
|
+User is:
STEPHEN-----11/09/01--+
-----
Correspondents      [ _____ ]
Activation date     [ 00/00/00 ]
Drive for file      [ A ]
-----
                        <F1> continue, <F2> exit
```

Options

Correspondents

This field is used to specify which correspondents are to be issued. The correspondent field can be left blank, this will cause all correspondents in the TelexTester system to be included. If anything is entered in this field then selection will be limited to those correspondents whose short code matches. For example, entering 'A' in the field will cause only those correspondents whose short code begins with the letter 'A' to be included.

Activation date

If specified this will be the earliest date that correspondents can be imported to the TelexTester system.

If an import is executed prior to this date, correspondents which have an activation date will have this date transferred to the correspondent details. Attempts to encode tests beyond this date without first importing the new details will be refused.

This field is used to coordinate table issues between the issuing bank and TelexTester user.

Drive for files

The drive identifier where the exported file is located.

F1 continue, F2 exit

When the above fields have been completed, press the <F1> key to continue with the operation. Press the <F2> key to abandon the operation.

Operation

Automated Use

As noted in the Introduction, it is not necessary to use this Issue option if you are only creating a Limited System, during creation of the system you will be prompted for a correspondent code for inclusion in the system. If a code is entered, the Issue function will be executed automatically.

New export file

After pressing the <F1> key to confirm the issue the system will check if there is an existing Export file on the output device.

If no export file is available a prompt similar to the following will appear:

```
Export file A:TESTKEY.ISM Not found, Create? (Y/N) [ ]
```

If you wish to create a new export file, enter 'Y' and press the <Enter> key.

Password

If a new export file is being created, you can specify a password to be associated with it, the following prompt will appear:

```
A new 'EXPORT' file is being created, it can be protected by a password.  
Enter a password if required [          ]
```

Enter the password if required, press <Enter> without a password if none is required. If a password is specified, the prompt will reappear in order to confirm the password.

If a password is specified, whenever the export is accessed, the password will be required.

Confirm operation

After the export file has been opened a screen similar to the following will appear, this displays details about the export file and allows you to confirm the operation:

```
*** Transferring tables to Export file ***  
-----  
Database version: VC03          Created: 18Apr92 at 16:59 By: *  
                               Last update: 18Apr92 at 16:59 By: *  
-----  
Press <Enter> to confirm Issue tables operation, <F2> to abandon
```

Press the <Enter> key to continue with the table issue. Press the <F2> key to abandon the operation.

Remote passwords

The remote password option is used to limit access to System parameters, Import system and user configuration of the Issued system without being in contact with the Host bank.

Unless disabled through the default parameters, when any option in TelexTester requiring audit passwords is accessed, the remote password prompt will be displayed.

Remote password operation consists of two parts, a prompt and a reply.

The operator of the TelexTester must relate the prompt to the issuing bank.

The issuing bank will then access TelexTester Systems maintenance and select the 'Remote password' option. The following prompts appear:

```
Remote Audit Option
Part 1: [          ]
Part 2: [          ]
```

Type the prompt as related by the User of the Limited system in as 'Part 1' and press the <Enter> key. The system will display a reply which can be related back to the TelexTester operator allowing him access to the system.

The prompt and reply will be different each time the system is used.

Appendix F Limited System Generation

Introduction

The Limited System TelexTester is a product designed to be generated and distributed by users of the full TelexTester package. The Limited System TelexTester can be issued to corresponding clients to facilitate the testing of messages between the Bank and correspondent.

This Section describes the operations required to produce the system for issue to the customer. It is intended for anyone who is responsible for the issue and control of TelexTester systems

TelexTester systems are created on a computer diskette and then issued to clients for their use. The Testkey calculation algorithms are transferred to the same or a separate diskette, optionally password protected. Testkey algorithms can be altered and reissued at any time to maintain a varying security regime.

The issued TelexTester system may be controlled so that it cannot be used without first contacting the issuing bank for activation details.

The issued TelexTester system is limited to Test facilities with the issuing bank.

Some aspects of Limited Systems are shared by the MessageTester systems, documentation for these is in the section **Systems Maintenance**.

Accessing Systems maintenance

The Systems maintenance option is available to users of the **TelexTester** system with 'Supervisor' status and the Audit passwords.

Sign on to the TelexTester system and access the 'Utilities' menu option. On this menu is the option 'Systems Maintenance'. If this option is not available you must contact LHA for the relevant licence details.

This option is protected by the Audit passwords, enter two Audit passwords to gain access.

Quick start steps

Introduction

The following steps are enough to create a TelexTester system on floppy disk.

Prepare diskettes

A single high density floppy diskette is required.

The Diskette must be 'formatted' before use.

Exit from the TelexTester system to the DOS command line and format a new floppy disk with the command:

```
FORMAT A:
```

The TelexTester system will be created on this diskette.

Generate system

Select option 'Generate TelexTester system' from the Systems Maintenance menu.

Insert the prepared floppy disk.

The screen will display a message and request a name, drive identifier and correspondent code.

Enter these details, the correspondent code must exist in the database.

Press <Enter> to start the process.

Program files and data will be copied to the floppy disk, progress will be reported on the screen.

Running a limited system TelexTester

A TelexTester installation disk has now been created. You can try it out by installing it on another computer.

Insert the disk in another computer and access the floppy drive.

Start the installation process by typing:

LHA TelexTester

<SETUP> and pressing the <Enter> key.

Now you can run the generated system. Type the command <TESTKEY> to start the system.

During the initial startup of the system, the data files will be created automatically.

The system will have been created with a user id of <*> and password <*>. You will be forced to add a different user id before accessing menu options.

The TelexTester system is fully functional at this point.

You can add users and sign on to the system. You will not be able to carry out tests until you have imported Testkey tables.

The installation could be carried out on the same computer, but ensure that a different directory/drive is used.

Screen and options

Screen

On selecting Systems Maintenance, the following screen will be displayed:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Systems Maintenance
|
+User is:
STEPHEN-----11/09/01---+

1 - Maintain default parameters
2 - Systems/tables issued report
3 - Issue tables
4 - Issue remote passwords
5 - Generate TelexTester system

Please select option [ ] 'X' to exit
```

Menu screen outline

Options available

The 5 options are explained in detail later in this Section, the options available depend on the User profile and System configuration. Further options may be available, they will be detailed in additional Sections. Here is a brief outline of the basic options.

Maintain default parameters

The normal TelexTester system includes a configuration section called 'System Parameters', this is where security levels and many other options are defined.

The default parameters which will be issued with any TelexTester systems are defined with this menu option.

See the documentation for **Systems Maintenance** for information relating to default parameters.

Systems/tables issued report

This option is used to report on screen or printer the TelexTester systems issued and the correspondent keys included.

See the documentation for **Systems Maintenance** for information relating to this.

Issue tables

This option is used to transfer testkey algorithms to diskette for issue.

See the documentation for **Systems Maintenance** for information relating to this.

Issue remote passwords

This option is used to generate the passwords needed before a TelexTester system can be accessed by the ultimate user.

See the documentation for **Systems Maintenance** for information relating to this.

Generate TelexTester System

This option is used to create the programs and data files for a new TelexTester system, this type of TelexTester system is capable of calculating testkeys for a single correspondent bank.

Generate TelexTester system

Introduction

A new Limited TelexTester system can be created by using this option.

The system created can be used in the same way as the full TelexTester system for incoming and outgoing testkeys. However, systems generated in this way are limited to a single Testkey algorithm and all key maintenance functions must be carried out by the issuing Bank.

You will require a single high density diskette.

The disk must not have any files on it otherwise an error will be reported.

Screen

On selecting the 'Generate' option the following prompts will be displayed:

```
System for issue to:  [                               ]
  Drive for system:   [ ]
Correspondent code:  [                               ]
```

Operation

Enter the name of the correspondent to whom you are issuing the system.

Enter the drive on which you want the system to be created.

Enter the correspondent code relating to the testkey algorithm to be included with this system.

Press <Esc> to abandon the operation.

If you enter a valid name, drive and correspondent code, then press the <Enter> key, the system will check that the specified drive is empty of files and if so a system will be created.

The system will copy all programs required for installation of the new system, progress will be shown on the screen.

If a correspondent code was specified, the tables will be transferred to the system disk.

Following the transfer of program files to the diskette, the selected correspondent tables will be transferred.

If you have been supplied with Limited System diskettes by LHA, these diskettes are used in the same way as above, however, since these disks already contain the TelexTester system, the above operations will be much quicker.

Installation

The disk which has been created must be installed before use.

Installation and Operation of the Limited System is documented in the '**Limited System User Manual**'.

Appendix G Testkey Management System

Introduction

This option is protected by the Audit passwords.

This option is available from the utilities screen. It is called 'Export/Import system'. This system has several uses, for example:

- Extraction of testkey details for Testkey issuance
- Altering correspondent short codes
- Securing the Testkey system
- Merging multiple TelexTester systems
- Storage of new testkey tables in a 'Pending' file for later activation.

The exported data is kept in separate files which are compressed and encrypted, an optional additional password is available. The files used are named:

- Exported data is kept in a file called 'TESTKEY.ISM'
- Secured data is kept in a file called 'RELEAS5.DA1'.
- Pending tables are kept in a file called 'PENDING.ISM'.

The 'SECURE' function removes the fixed numbers from correspondents and locks all correspondent records. The TelexTester system is therefore unusable without the exported data disk.

Menu

On selecting this function, the following screen will be displayed:

```
+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester           Table Manager
|
+User is:
STEPHEN-----11/09/01---+

          1 - Export
          2 - Import
          3 - List exports
          4 - Secure System
          5 - Release System
          6 - Issue tables
          7 - Transfer tables to pending
          8 - Recall tables from pending
          9 - List pending tables

          Please select option [ ], 'X' to eXit
```

Export

The export option transfers tables to the export file. If the export file already exists, tables will be appended. Any duplications will be overwritten by the new export.

Import

The import option transfers tables from the export file back to a Testkey system. If the table already exists it will be updated to reflect the replacement details.

List exports

This option is used to list the tables available on an export file. This listing can be routed to a printer if required.

Secure system

This option is used to transfer fixed numbers to a file. This is designed to make the Testkey system unusable. The fixed numbers are wiped from the existing system. Also, the correspondent details will appear to be missing from the Testkey system.

Before the first operation of this function you are advised to backup the TelexTester system, this is because the exported data will be the only means of reactivating the system.

If this function is carried out on a daily basis the diskette used for the exported data should be changed each day thereby maintaining backup copies. As fixed numbers do not normally change the backup copies could be used if a diskette is damaged.

This option may also be available on the Utilities menu independently, this allows operators to access it without having the Audit passwords. This access is configurable from the System parameters screens.

Release system

This option is used to transfer the fixed numbers from the security file back to the Testkey system.

Issue tables

This option is similar to the export option. It first exports tables using certain default parameters. Then transfers the exported tables to the pending file. During the export function, the tables are reversed, incoming becoming outgoing etc.

Transfer tables to pending

This option is similar to the export option except that tables cannot be reversed and the Pending file is always on the same disk as the Testkey system. It is used to store new tables prior to them being utilized. By specifying an activation date and using a different code for the exported tables, this option can be followed immediately by taking the option 'Recall', by doing this, the activation date will be transferred to the old key and cause it to expire at the right time.

Recall tables from pending

This option is used to transfer tables from the Pending file back to the main system. If an activation date has been specified, this option will not make the transfer back prior to this date, it will however mark the correspondent as expiring on that date.

List pending tables

This option is used to list the tables available on a the Pending file. This listing can be routed to a printer if required.

Screen prompts

Introduction

The various options available in the Table management system all have different combinations of prompts. The following text lists and explains these prompts. Only a selection of these prompts are applicable to each option.

Correspondents

This field is used to specify which correspondents are to be exported/ imported or listed. The correspondent field can be left blank, this will cause all correspondents to be included. If anything is entered in this field then selection will be limited to those correspondents whose short code matches. For example, entering 'A' in the field will cause only those correspondents whose short code begins with the letter 'A' to be included.

Alter codes.

If specified, this will allow correspondent codes to be altered during the process. This can be used to alter correspondent codes during import or to transfer from a temporary correspondent code to the real code in the Pending file.

If the original code exists during import, an option will be given to either leave the existing code, flag it as being out of service or delete it.

Activation date

If specified this will be the earliest date that correspondents can be imported.

If an import is executed prior to this date, correspondents which have an activation date will have this date transferred to the correspondent details. Attempts to encode/decode beyond this date without first importing the new details will be refused.

Fixed numbers

If specified this will cause the correspondent fixed numbers to be included in the export file. During import, correspondents without this option set will retain their original fixed numbers. If a new correspondent is imported the fixed numbers will be set to 0.

Grids and positions

If specified, this will cause the grid positions to be included in the export file. During import, correspondents without this option set will retain their original grid positions. If a new correspondent is imported the grid positions will be set to 1.

If specified, the dates and message numbers will be included in the transfer. If the correspondent code is altered and grids are included, the message details will not be available during grid maintenance. In this situation message details can be viewed through the Message reports.

Swap tables

This option can be used for key distribution. If selected then tables, grid positions and fixed numbers which are specified in the key as incoming and outgoing will be reversed during the process.

Confirm each

If set to 'Y' each correspondent in the range will be displayed for inclusion or exclusion in the process.

Drive for file letter

The drive identifier where the exported file is located.

Delete file afterwards

If specified, the file will be deleted after completion of the process.

Print list

If specified, the listing will be sent to the printer.

Delete from pending

If specified the records will be deleted from the file following the import process.

Other prompts

Create new file

If the target file does not already exist you will be prompted to create a new file.

Encryption key

If specified during export this will be used to protect the export file, it will then be required for import, list or release of the exported data.

When creating a new file you can specify a password to be applied to it. If specified, the password will be required at all other access to the file.

Appendix H Application Programming Interface (API)

Introduction

TelexTester has become a worldwide standard and therefore application developers require to access the TelexTester calculation system. To this end LHA has provided various Application Program Interfaces (APIs).

Documentation for specific APIs is available from LHA.

API 8

This API has new functions controlled by the fourth API parameter in 'System Parameters', 'Programs and Data'.

When this parameter is set to 1 or 2 the API will continuously monitor the Date. Following a change of date, the House Keeping functions will automatically be run.

If the parameter is set to 2, the Daily reports will also be run automatically.

API40

A file based API allows multiple functions, not just access to the Coding modules. This module includes the following features:

Lists, produces Correspondent and Currency listings

User Validation, validates users and passwords, returns user profiles

Information, returns System information including verification requirements, Single/Multi user etc.

Incoming & Outgoing Testkey calculation & Verification.

Backout of calculated testkeys

Historical test results and testkey analysis

Timeout information

API 21

This API will process an input file, select individual messages from it. Encode/decode those requiring testkey and write the resultant messages to multiple output files.

The system can be run continuously or on a single file, see **Running the api** later in this document for details.

Input, output and reject file names and directories are specified in the TelexTester text parameters file 'TXPARM'. See **Text parameters** later in this document.

Messages not requiring Testkey but containing correspondent codes can have addressing information attached.

Output messages of all types can have header text, relevant to the type of message, attached.

Running the api

General

All TelexTester APIs use a similar input data structure called the Testkey Parameter Block (TPB) to exchange information. The method of exchanging the information varies between APIs. TelexTester is started at the DOS prompt using the following command line:

TESTKEY (optional switches) (optional info)

Where:

Optional switches may be:

(+7) causes the API to run immediately without user name, password or menu prompts. If the (+7) prompt is not used then the API is accessed by signing on to the system and selecting the API testing option.

(+8) causes TelexTester to run without the screen or bell enabled.

optional info only entered if required.

Used for username/password if required in configuration.

Can be used to override the API type specified in the system parameters. To do this use the format 'API=nn', where nn is a two digit number for example '21'.

Example command lines:

```
TESTKEY (+7+8) STEPHEN/STEPHEN API=21
```

This will call the testkey api type 21 without user intervention.

Security

TelexTester's API is password protected, if an incorrect User or Password is detected then the API is halted and a message displayed on the PC screen to inform the user of an access violation. Normal operation will be resumed when the return key is pressed and a suitable error is returned in the rejected file.

It should be noted that this user/password error is different from normal errors which will not suspend operation of the program.

Operation

Sequence

When the API is operating, the following sequence is performed.

1. Previous temporary file deleted if it exists.
2. The input file is renamed (by prefixing "\$"). If input file cannot be accessed or renamed then the system suspends for the delay period of seconds specified by parameter 3 (see API parameters). The keyboard is checked before but not during the delay period.
3. If a key is pressed, the option to terminate the API is given.
4. After successfully renaming the input file, the process continues by reading the file line by line until either of the following occurs:

End of file is reached

An 'END' tag is found

Text specified as end of non tested message is found

5. When any of the previous situations occurs, the current message if any is processed and output to the relevant output file.

Notes

While operational the TelexTester API dedicates the PC for calculating tests, however, you may exit the API for manual tests and then resume the automated operation. If TelexTester is installed within a local area network environment other PCs may run TelexTester to perform manual tests while the API is running.

If TelexTester is run in a multi tasking environment, manual testing may be carried out in a separate partition simultaneously with the api.

Input file structure

The input file can contain tested, untested and addressed messages.

Untested messages

The characters specified in the **Text parameters** for untested trailer delimiters, when detected, will indicate a non tested message. Non tested messages will be passed through to the relevant directory untouched (except for any required header text addition).

Tested messages

Tested messages must be in the format known as the **TelexTester Parameter Block (TPB)**. The TPB consists of tags, data and text. Tags can be present anywhere in the message, a new line or another tag delimits a previous tag except in the case of :CHR= where the data may exceed a line length. Trailing 'White Space' is ignored.

The TPB tag ':END=' must be used to delimit tested and addressed messages.

For **Incoming** tested messages, TelexTester will accept a Testkey within the TPB and verify it's makeup.

Output file structure

Untested

A header, up to ten lines, as specified by the **text parameters** for untested messages will be output first. This is followed by the input file text unaltered.

Tested

A header, up to ten lines, as specified by the **text parameters** for tested messages will be output first.

The message text then follows, this text will include all lines of the input message except, if so configured, those starting with a valid TPB tag.

Lines starting with a valid TPB tag can be omitted from the output file if the relevant api parameter is set, see **API parameters** later in this document.

TelexTester will insert the calculated testkey into the message where the TPB tag ':15 =' is located. Other TPB data can be included in the output message if required. For example, to include the correspondent short code in the header, you would include the TPB tag ':COR=' in the text parameters file.

Output data is normally appended to the TPB tag. However, the tag can be suppressed. To omit the tag from the output message, the tag must be prefixed with '-'.

Rejected

A header, up to ten lines, as specified by the **text parameters** for rejected messages will be output first. This is followed by the input file text unaltered.

The header text can include the TPB tag ':RES='. This will be completed with the reason for rejection.

If the user and password tags are included in the input file, they can be omitted from the output file, see **API parameters**.

Addressed

A header, up to ten lines, as specified by the **text parameters** for addressed messages will be output first.

The message text then follows, this text will include all lines of the input message except, if so configured, those starting with a valid TPB tag.

Addressing information from the TelexTester database can be included in the output message. The correspondent tag ':COR=' must be present in the input message together with a valid correspondent short code.

The following tags are valid for addressed messages:

COR Correspondent short code

NAM Correspondent name

LOC Location

TLX Telex routing code

Lines starting with a valid TPB tag can be omitted from the output file if the relevant api parameter is set, see **API parameters** later in this document.

Output data is normally appended to the TPB tag. However, the tag can be suppressed. To omit the tag from the output message, the tag must be prefixed with '- '.

API Traffic Report

Introduction

A report is available on messages passing through this API. This report can be enabled or disabled, see the section dealing with API configuration for instructions for configuring this report.

Screen

On selecting this option, which is normally on the reports menu, the following screen will be displayed:

```

+BANK OF LHA, LONDON
-----V6.3.9e-----+
| LHA TelexTester          API Report
|
+User is:
STEPHEN-----11/09/01---+

Selection Criteria
    Message type: [_]          Leave blank for all, otherwise T(ested,
                                U(ntested, A(ddressed or R(ejected.

Date Range  Start: [12/31/93]  MM/DD/YY, dates are inclusive.
            End:  [12/31/93]

Correspondents: [          ]  Leave blank to include all correspondents

Message nos from: [000000]    Enter message numbers to limit selection.
                to: [000001]

Output to: [S]          [          ]  S for Screen, F for File, P for Print
-----
                <F1> to confirm and execute the report, <F2> to exit

```

Prompts

Message type

The report can be limited to specific message types. Leave this blank to include all message types.

Enter <T> to include only Tested messages.

Enter <U> to include only Untested, free text messages.

Enter <A> to include only Untested, addressed messages.

Enter <R> to include only rejected messages.

Date range

Enter dates in the format specified on the screen to limit selection to specific messages.

Correspondents

Enter a correspondent short code to limit selection to a particular correspondent. Selection will be limited to correspondents whose initial letters match whatever is entered in this field.

LHA TelexTester

Messages numbers

To speed up selection for the report, enter a message number range. The default message numbers will be those of messages on the current date.

Output to

This controls the target of the report.

Enter <S> to output the report to the screen.

Enter <F> to output the report to a file, if this option is selected, the file name must be specified.

Enter <P> to output the report to the printer.

Report layout

Example

The following is an example of report output:

```
LHA TELEXTESTER DEMONSTRATION BANK V4.1.7
A
LHA TelexTester API report
-----
All messages to From: 12/31/93 to: 12/31/93

Date      Time      Type      Correspondent Status
-----
12/31/93  14:36    Non Swift DEMO          0000Test Successful
12/31/93  14:35    Rejects   DEMO          256\Testkey Decode Failed
12/31/93  14:35    Non Swift DEMO          250*Testkey Decoded
12/31/93  14:31    Rejects   DEMO          017/Invalid Date:

Total messages Non Swift      2
Total messages Rejects        2
Total messages processed      4
-----
Arrows scroll list, <Esc> exits
```

Details

The report is in date/time order with the most recent messages listed first.

For each message, the date and time is shown. In addition, the Type of message is indicated. This message types is defined in the Text parameters section.

The correspondent will be indicated if available on the message.

The status indicates either the reason for rejection or acceptance.

For Untested messages, the detail will include the correspondent if defined and found (see the delimiting text parameters).

API Configuration

Introduction

The API can be configured in many ways. Configuration is available through the TelexTester System parameters and in addition through the Text parameters file TXPARAM.TXT.

System Parameters

API Parameters

TelexTester API parameters are configured by using the "Programs and Data" option in the System Parameters menu. These parameters are not validated and are protected by audit passwords:

API System

Set to 21

Parameter 1

Controls the requirement for user id and password. The API can be run directly from the command line or accessed from a menu option within TelexTester.

When run from the command line, a user id and password are required. Parameter 1 controls the location of this user id.

By using option 2, the user id and password although present in the input file, can be suppressed in the resultant message.

0 = USR and PW tags are required in the input file.

1 = User id and password are required on testkey command line:

```
C:\TESTKEY\> TESTKEY STEVE/12345
```

Note the '/' separator between id and password.

- 2 = As option 0 except that where the 'USR' and 'PW' tags are the first characters on a line, the entire line will not be written to the output file for tested and rejected messages.

Parameter 2

Controls operation of the API following completion of the input file. Processing can be terminated following a single file or be continuous until interrupted by the keyboard.

An input file can contain a single message or multiple messages.

- 0 = Continue processing files until interrupted at the keyboard
- 1 = Terminate when first input file is complete

Parameter 3

Controls operation while waiting to access the input file. A simple protocol exists between the api and controlling program. When the input file exists and can be renamed, the API will process it. Meanwhile, this parameter controls the wait period between attempts to access the input file.

Parameter is specified as the number of seconds to suspend between attempts.

Parameter 4

Allows data from the input file which is necessary to the API functions to be excluded from the resulting message. This parameter can be used to remove entire lines from the output file.

For example, on an inbound message, the Testkey could be removed from messages which are successfully decoded.

- 0 = Lines beginning with a TPB tag will be included in the output file.
- 1 = Lines beginning with a TPB tag will only be included in the output file if they contain data output from the TelexTester system.

This parameter can be overridden by tag "GC4" in the **Text parameters**.

Parameter 5

Controls the output of form feed and blank lines between messages.

- 0 = Form feed characters and blank lines situated between messages will not be output.
- 1 = Form feed characters between messages will not be output.
- 2 = Form feed characters and blank lines between messages will be written to the output message.

Suppress leading zeroes in API results

Normally set this to "Y", if set to "N" then testkey values will be up to 22 digits long including leading zeroes.

Traffic report parameters

Maintain API report file

Set to "Y" if the API report will be required. This will cause the system to maintain an additional data file called "API.DAT" containing information for inclusion in the API traffic report.

Next record to be used in API report file

When initially enabling the API report, this parameter should be set to 1. The report file will then grow until the number of records exceeds the number specified in the parameter "Number of messages in history" when record slots will be reused.

This parameter should not be altered following its initial setting.

Text Parameters

Introduction

In addition to the system parameters, further flexibility is provided by use of the Text parameters.

The text parameters are held in an ASCII text file called 'TXPARAM.TXT' in the Testkey directory. Each parameter is defined on a single line in the format:

xxxxxxxxyy=.....

These text parameters are used by various components of the Testkey system, not just the APIs.

For API21, xxxxxx is always the 6 characters 'API21 ', except for parameters associated with the API traffic report, where it is 'REPAPI'.

yyy is a tag as defined below, this is followed by the '=' character, the remainder of the line is the parameter. The parameter must not exceed 40 characters in length except where otherwise stated.

Do not omit the space following 'API21'.

File and directory parameters

INP tag

Example:

```
API21 INP=d:\txinput
```

This is the directory where the input file will be found.

INF tag

Example:

```
API21 INF=input.txt
```

This is the file name of the original input file. It must not begin with the character "\$" as this will be replaced with '\$' in order to rename the file.

Maximum length is 12 characters.

OUT tag

Example:

```
API21 OUT=d:\tested
```

This is the output directory for tested messages.

OUU tag

Example:

API21 OUU=d:\untested

This is the output directory for untested messages.

OUR tag

Example:

API21 OUR=d:\rejected

This is the output directory for rejected messages.

OUA tag

Example:

API21 OUR=d:\address

This is the output directory for addressed messages.

Delimiting text parameters

UTT tag

Example:

API21 UTT=NNNN

The text indicating the end of an untested message.

Maximum length is 80 characters.

UC0 to UC4 tags

Example:

API21 UC0=4TO:

API21 UC1=5ATTN:

The text which indicates the correspondent details in Untested messages.

Up to 4 UC tags can be specified, during output of Untested messages this text will be searched for in message, if found, the text following the parameter in the message will be recorded in the API report file and included in future API traffic reports.

Maximum length is 7 characters, this includes the initial digit which indicates the length of the parameter (excluding itself).

Example UC0 above includes a trailing space on the parameter.

Heading text parameters

UH0 to UH9 tag

Example:

```
API21 UH0=To: GATEWAY @ TLXGATE
```

```
API21 UH1=""
```

The text to be output at the top of each untested message. Up to ten lines can be specified.

Maximum length is 80 characters.

In the above example, the UH1 parameter will cause a blank line to be output.

TH0 to TH9 tag

Example:

```
API21 TH0=To: GATEWAY @ TLXGATE { DIR: -:COR= }
```

```
API21 TH1=Subject: TESTKEY -:15 =
```

```
API21 TH2=""
```

The text to be output at the top of each tested message. Up to ten lines can be specified.

In the examples above the correspondent short code will be inserted into the first and the testkey result in the second. The third example (TH2) will produce a blank line.

Maximum length is 80 characters.

RH0 to RH9 tag

Example:

```
API21 RH0=***** REJECTED MESSAGE *****
```

```
API21 RH1=:RES=
```

```
API21 RH2=""
```

The text to be output at the top of each rejected message. Up to ten lines can be specified.

In the examples above the reason for rejection will be specified in the second line.

Maximum length is 80 characters.

TA0 to TA9 tag

Example:

```
API21 TA0=To: GATEWAY @ TLXGATE {DIR:-:COR=}
```

```
API21 TA1=""
```

The text to be output at the top of each non tested, addressed message. Up to ten lines can be specified.

Maximum length is 80 characters.

General parameters

DAT tag

Example:

```
API21 DAT=J
```

Causes date fields to be interpreted as Japanese format, YYMMDD.

GC4

Example:

```
API21 GC4=1
```

Over rides the system parameter value for API number 4.

API traffic report parameters

TRT

Example:

REPAPITRT=Non Swift

The descriptive text used for Tested messages in the API report.

Up to 10 characters allowed.

URT

Example:

REPAPIURT=Free text

The descriptive text used for Non tested messages in the API report.

Up to 10 characters allowed.

RRT

Example:

REPAPIRRT=Rejects

The descriptive text used for Rejected messages in the API report.

Up to 10 characters allowed.

ART

Example:

REPAPIART=Swift msg

The descriptive text used for Non tested, addressed messages in the API report.

Up to 10 characters allowed.

TelexTester Parameter Block

Introduction

The TelexTester Parameter Block (TPB) is a structure for passing information between an application and the TelexTester system. The TPB is similar for all LHA APIs and is defined below.

Format

The TPB will consist of a set of strings; each terminated by either a new line, new tag or end of file. Messages are normally terminated with **:END=** field tag or the end of input file, except for free text messages which are terminated by a string specified in the Text Parameters section.

The string format is as follows:

[-] : <field tag> = <field value>

where :-

- Optional parameter, if present, this will cause the field tag to be omitted from the output message.
- : Colon, always present
- <field tag> All field tags must be 3 characters and are defined in the following pages.
- = Equal sign, always present
- <field value> Value of the field. Fields are generally not validated as this should be done by the input system. Leading spaces should be eliminated but trailing spaces are normally ignored.

Field Tags Supported

:USR=

User id, mandatory field if API parameter 1 is set to 1. Field contains the user id of operator testing message (up to 10 characters). It is essential the **:USR=** is the first field tag in the TPB.

:PW =

Password, mandatory field if API parameter 1 is set to 1. Field contains the password of user testing message (up to 8 characters). If present, this field must follow the :USR= field.

:COR=

Correspondent short code, mandatory field. Field contains the TelexTester correspondent code (up to 12 characters).

:30 =

Test date, mandatory field. Field contains the date in DDMMYY format or MMDDYY dependant upon the format configured with TelexTester (6 numeric). To use format YYMMDD, specify DAT=J in the text parameter file.

:CHR=

Characters, mandatory field if correspondent testkey includes character table. Field contains the characters to be included in testkey calculation (up to 500 characters). May be blank. If an illegal character is used and a character table is required by the correspondent the "CHARACTER RULE" is returned in the results field (:RES=). This rule can be displayed on an operators screen to allow input and then the corrected TPB resubmitted. The field size limit of 500 characters includes white space characters although these are ignored in calculations.

:SC =

Manual value, mandatory field if correspondent testkey includes a manual input. Field contains a value up to 7 digits which will be added to the calculated testkey value. If a manual value is required and the tag is not present the results field will return an error message, to allow the operator to be prompted for the value. Therefore a blank :SC = field must be given to indicate a null value when this field is configured for a correspondent but not used.

:32 =

Currency/Amount. Not a mandatory field. Field contains the currency and amount (up to 22 characters total). First 4 characters are the currency which will be validated against the TelexTester currency database. The amount is a numeric string left justified with no decimal point or punctuation characters.

:MSG=

Message number. Not a mandatory field. This field is left blank to allow the TelexTester API to return the serial number of the test (5 digits).

:NAR=

Narrative. Not a mandatory field. This field places comments in the remarks field within TelexTester (up to 25 characters).

:ACC=

Account. Mandatory field if account validation is enabled. This field contains the 4 character account code.

:15 =

Test Key. Mandatory field for tested messages. If the field is supplied blank then an ENCODE (test calculation) is assumed. If a testkey is submitted in this field an incoming test is assumed. If this tag is not supplied then addressing requirement only will be carried out based on the COR tag.

When a Testkey is encoded it will contain 22 characters in the format xxxx/xxxxxxxxxxxx/xxxx i.e. prefix/testkey/suffix. Delimited as follows:

Characters 1 through 4 for the prefix

Fifth character /

Characters 6 through 17 for the testkey.

Eighteenth character /

Characters 19 - 22 for the suffix.

If the system parameter 'Suppress leading zeroes in api testkey' is enabled, the testkey result field may be less than 22 characters.

:RES=

Result. Mandatory field. This field is left blank to allow the TelexTester API to return remarks about the test performed. For example **"0000Test Successful"** indicates a successful outgoing test (64 characters). The error messages that may be returned are detailed as an appendix to this document. The first three characters contain the status number of the result; **"000"** indicates test complete. The next character is reserved (and in the example is a "0"). The following 60 characters supply a text message. Please refer field tag :CHR= for error 037 as it returns the character rule.

Successful result codes are dependant on the system configuration and the operation being performed. If the system parameter 'Make test through api status verified' is enabled, the result codes will reflect the verified status.

For incoming tests, various result codes are acceptable and may indicate out of sequence test correctly received.

:NAM=

Correspondent name, this is an output only field and can be used in 'addressed' messages.

:LOC=

Correspondent location, this is an output only field and can be used in 'addressed' messages.

:TLX=

Telex routing code, this is an output only field and can be used in 'addressed' messages.

:ADR=

When found in the input file, this will cause the 'Routing Code', 'Tlx Number' and Answer Back' fields from correspondent details to be concatenated in the ADR field.

If an '@' is found in the result, the result will be converted to lower case (Email address formation).

:END=

Message delimiter, not a mandatory field. This field indicates the end of a tested or addressed message.

Tag Sequence and Sizes

The user (:**USR**=) and password (:**PW** =) tags must be the first tags supplied; the remaining tags may be supplied in any order until the :**END**= tag which terminates the sequence.

In this api, output tags MSG, RES, NAM, LOC and TLX can be concatenated. The system will insert output data into lines. However, lines will be trimmed to no more than 80 characters.

- :**USR**=(up to 10 characters)
- :**PW** = (up to 8 characters)
- :**COR**= (up to 12 characters)
- :**30** = (6 digits)
- :**CHR**= (up to 500 characters)
- :**SC** = (up to 7 digits)
- :**15** = (up to 22 characters)
- :**NAR**= (up to 25 characters)
- :**ACC**= (up to 4 characters)

The following may repeat allowing up to 14 currency amount pairs to be supplied:

- :**32** = (up to 22 characters)

Example Inputs and Outputs

Input file

```
:USR=STEPHEN
:PW =ZAPPO
:COR=LHABANK
:30 =020393
:32 =USD 1234567
CREDIT ABC CORP ACCOUNT 00112233 FOR USD1234567.00.
VALUE FEBRUARY 03 1993. DEBIT OUT ACCOUNT 11223344.
QUOTE REF 3344
:END=
```

@@ E123456789
TO ALL CORRESPONDENT BANKS.
STOLEN CREDIT CARD 1234-5678-9012 IN THE NAME
OF C.C.ZIMASCUOVICEVIC. DETAIN USER IF POSSIBLE.
NNNN

:USR=STEPHEN
:PW =ZAPPO
:30 =020393
:32 =USD 1234567
CREDIT ABC CORP ACCOUNT 00112233 FOR USD1234567.00.
VALUE FEBRUARY 03 1993. DEBIT OUT ACCOUNT 11223344.
QUOTE REF 3344
:END=

:USR=STEPHEN
:PW =STEPHEN
SUBJECT: JJ-123.
:COR=LHABANK.
-:NAM=
LOCATION: -:LOC=
MESSAGE ABC OF 12 JUNE REFERS. PLEASE REPLY.
:END

Output files

In the tested message directory:

To: EASYLINK @ IMSGATE { DIR: LHABANK }
Subject: TESTKEY 12/1234
CREDIT ABC CORP ACCOUNT 00112233 FOR USD1234567.00.
VALUE FEBRUARY 03 1993. DEBIT OUT ACCOUNT 11223344.
QUOTE REF 3344

In the untested message directory

To: EASYLINK @ IMSGATE
@@ E123456789
TO ALL CORRESPONDENT BANKS.

STOLEN CREDIT CARD 1234-5678-9012 IN THE NAME
OF C.C.ZIMASCUOVICEVIC. DETAIN USER IF POSSIBLE.
NNNN

In the reject directory

***** REJECTED MESSAGE *****

:RES=015/Correspondent not on file

:30 =020393

:32 =USD 1234567

CREDIT ABC CORP ACCOUNT 00112233 FOR USD1234567.00.

VALUE FEBRUARY 03 1993. DEBIT OUT ACCOUNT 11223344.

QUOTE REF 3344

:END=

In the addressed directory

To: GATEWAY @ TLXGATE {DIR: LHABANK}

SUBJECT: JJ-123.

LHA BANK LTD.

LOCATION: LONDON, ENGLAND.

MESSAGE ABC OF 12 JUNE REFERS. PLEASE REPLY.

Possible Results Returned

Introduction

The api will normally return error codes and messages in the TPB field ':RES='. However, in some circumstances this will not be possible and errors may be routed to the screen. The following list details most of the possible results.

Result codes

Successful outgoing tests

0000Test successful

261*Encode Verified

Successful incoming tests

250*Testkey Decoded
252\Testkey Decoded, it was previously missing
253\Testkey Decoded, possible duplicate
254\Testkey Decoded. Exception, out of sequence

Error results

015\Correspondent not on file
256\Testkey Decode Failed
258\Testkey Decode Failed (Duplicate)
262\API:Field is too long for type
263\API:Too many currency/amounts
264\API:Tags for Testkey & Results not found
267\API:Testkey character cannot be translated
272\API:Command line not valid
273\API:Error opening api INPUT file
274\API:Error reading api INPUT file
277&Correspondent in use, trying again . . .

This error will be shown on screen, however, unless the keyboard is touched the system will try to access the correspondent again.

275\API:Error writing api OUTPUT file

296\API:Error opening api OUTPUT file

468\Text parameter invalid in TXPARAM

Indicates a missing or invalid parameter entry in TXPARAM.TXT. This message will be returned to the screen. See the section **Text Parameters**.

473\API:TPB is too large

Probably indicates no 'END' tag found in the input file. This error will cause the API to terminate, it will be returned to the screen, not the reject file.

Appendix I Import Utility

Introduction

This option is used to enter/update various fields in the correspondent database with data held and maintained by other computer systems.

The import file can include various correspondent fields including the Short code, name, location, addressing, BIC number in addition to most testkey tables.

Correspondent details already held will be updated by this function, details not held will be added to the correspondent database.

This option is available from the 'Utilities' menu, option 'Additional Utilities', option 'Import correspondent details'.

If not included, the specification for this option is available from LHA.

Selection Screen

On selecting this option, the following screen will be displayed:

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```
+BANK OF WEYMOUTH -----V6.0.4
-+
| LHA TelexTester           Import correspondent
| details|
+User is: STEPHEN-----27/01/98-
-+

THIS PROGRAM WILL TRANSFER CORRESPONDENT DETAILS FROM A TEXT FILE INTO
THE CORRESPONDENT DATABASE.  EXISTING RECORDS WILL BE UPDATED, OTHERS
WILL BE ADDED.

Enter the file name for import: [IMPORT.TXT           ]

<F1> to confirm and import, <F2> to exit
```

File name

Enter the file name containing the import details.

F1 to confirm and execute

Press the <F1> key to start the import process, correspondent codes will be displayed as the process continues.

When complete, statistics will show the number of correspondents added and updated.

F2 to exit

Press the <F2> key to exit without carrying out the import.

Import file structure

General

The import file is a simple ASCII text file with lines delimited by CR/LF. Maximum line length is 132 characters. A simple file can be produced by specifying format 'EXPORT1' from the correspondent report.

YZYZ delimiter

Correspondents within the file are delimited by a line beginning with the characters:

YZYZ

Correspondent code

The next line following the YYZY must contain the correspondent code, the code can be up to 12 characters long. Nothing else can be present on the line containing the correspondent code.

This field must be all upper case.

Free text

Non blank lines which do not contain valid tags following the correspondent code will be added to the correspondent free text record, subject to the following.

Existing free text will be replaced by this detail.

Up to 10 lines of free text will be replaced.

Multiple blank lines will be replaced with a single blank line.

Each line can contain up to 78 characters and can be upper or lower case.

The first line of free text is used to display special instructions to the operator during testing, this field will not be replaced.

Tags

General

Tags are used to indicate specific field types. The following tags are currently available, further tags will be added when requested by users.

Name

':NAM=' indicates the 'Name' field. The following text will replace the correspondent name field.

This field can be up to 50 characters long and must be all upper case.

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Location

':LOC=' indicates the location field. The following text will replace the correspondent location field.

This field can be up to 30 characters long and must be all upper case.

BIC Code

':BIC=' indicates the BIC code. The following text will replace the correspondent BIC Code.

This field can be up to 12 characters long and must be all upper case.

Information

':IN1=' contains up to five fields as follows.

Routing Code

Routing Code

Telex

Telex number

Answer back

Answer back

Group

Group code. If not specified the existing entry will be kept.

Mark

Mark flag, Y or N. If not specified the existing mark will be kept.

Specialist Key

':SP1=' indicates the specialist key to be used. If used with a 'Master' key, the specialist is specified with the Master key.

Fixed numbers

‘:FIX=’ indicates the fixed numbers. The incoming, outgoing and branch numbers can be present, delimited by a ‘‘’

Pending numbers

‘:PEN=’ indicates the ‘Pending’ fixed numbers. The incoming, outgoing and branch numbers can be present.

Old numbers

‘:OLD=’ indicates the ‘Old’ fixed numbers. The incoming, outgoing and branch numbers can be present.

Last date for Old numbers

‘:FDT=’ indicates the last date the old fixed numbers can be used. Format is YYMMDD.

Branch Numbers

‘:BRA=’ indicates the ‘Branch’ fixed number.

Grid details

‘:GRD=’ indicates the grid details. There are five components:

Incoming grid size

1 to 999

Outgoing grid size

1 to 999

Separate incoming/outgoing tables

Y or N, Y indicates the correspondent uses different variables in the incoming and Outgoing grids.

Prefix type

0, 1 to 9 indicating the type of prefix used.

Gap Size

A number specifying the 'Missing Incoming Sequence Gap size'.

Prefix Type 1

':PF1=' specifies correspondent uses prefix type 1.

Suffix Type 3

':SF3=' specifies correspondent uses suffix type 3, number digits in amount as suffix.

Master Table

':MAS=' indicates the correspondent has no tables of its own but uses the tables of the correspondent specified after the '=' sign. This tag should only be used after the master correspondent has been imported, although by running the Import utility twice this limitation is avoided.

Currency Variables

':CCY=' indicates the currency variables. Immediately following the tag '=' sign is the 'Other currency' value.

Following lines are currency/variable pairs with delimited by '/' and with '=' between currency and variable.

Up to ten currency/variable pairs can be on each line.

If a currency variable is zero and the 'Other Currency' value is not to be used then add '=N' to the pair, ie. SHS=0=N.

Amount type 1

':AM1=' indicates the correspondent uses amount type 1. This is the most common amount table.

General

Immediately following the tag '=' sign are the following variables delimited by '/':

Highest amount in table

The number beyond which variables are factored with the highest variable.

No amount value

Optional, variable for tests with no amount

Over max value

Optional, variable used if amount exceeds 'Highest amount'.

Separate tests each line

Optional, if <Y> then correspondent calculates separate tests on each individual amount.

Lines

Following lines are variables for the amounts table, delimited by '/'. Up to ten on a line.

Amount type 2

':AM2=' indicates the correspondent uses amount type 2. This is the same as amount type 1 except that the values 1 to 99 have their own variables.

General

Immediately following the tag '=' sign are the following variables delimited by '/':

Highest amount in table

The number beyond which variables are factored with the highest variable.

No amount value

Optional, variable for tests with no amount

Over max value

Optional, variable used if amount exceeds 'Highest amount'.

Separate tests each line

Optional, if <Y> then correspondent calculates separate tests on each individual amount.

Lines

Following lines are variables for the amounts table, delimited by '/'. Up to thirteen on a line.

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The first 99 variables are for the digits 1 -99, the next is the 100 value followed by 200 etc.

Amount type 3

':AM3=' indicates the correspondent uses amount type 1. This is the 'Standard testkey' algorithm. No further information is required as the algorithm is automatic.

The Julian Date table will be cleared automatically.

Amount type 8

':AM8=' indicates the correspondent uses amount type 8. This is the Bank of Ireland variation on the 'Standrd testkey' algorithm.

Incoming Sequence Variables

':SEI=' and ':SSI=' indicates the variables for the incoming sequence table. If the correspondent does not use separate incoming/outgoing tables, this tag is used for both.

If the variables are changed for the days of the week, follow the '=' with the specific day of week, 1 is Monday, 2 is Tuesday etc.

Following lines are the sequence variables, delimited by '/'. Up to ten on a line.

If the variables are reset to row one each day the tag must be ':SSI='.

Outgoing Sequence Variables

':SEO=' and ':SSO=' indicates the variables for the outgoing sequence table. Only present for correspondent which have separate incoming/outgoing tables.

If the variables are changed for the days of the week, follow the '=' with the specific day of week, 1 is Monday, 2 is Tuesday etc.

Following lines are the sequence variables, delimited by '/'. Up to ten on a line.

If the variables are reset to row one each day the tag must be ':SSO='.

Day of Week

':DOW=x/y' indicates the correspondent uses variables for each day of the week.

The <x> represents either <S> or <N>, <S> indicates variable is subtracted. The <y> indicates either <Y> or <N>, <Y> indicates separate variables for incoming and outgoing tables

Following lines are the 7 variables for Monday to Sunday, if separate incoming and outgoing there should be an additional seven variables.

Day of Month

‘:DOM=’ indicates the correspondent uses variables for each day of the month.

Following lines are the 31 variables up to 13 on each line for 1st to 31st.

Week of Year

‘:WOY=’ indicates the correspondent uses variables for the weeks of the year.

Following lines are the 53 variables up to 13 on each line for the weeks of the year.

Day of Month/Day of Week

‘:DMW=’ indicates the correspondent uses the ‘Day of Month versus Day of week’ table.

Following lines are the 217 variables. The variables must be in the order 1st day, Monday to Sunday then 2nd day Monday to Sunday etc.

Julian Day

‘:JUL=’ indicates the correspondent uses a Julian day table.

The following lines are the 366 variables up to 13 on each line.

Date of Year

‘:DOY=’ indicates the correspondent uses ‘Day of month versus Month of Year’ table.

The following lines are the 372 variables. These must be in the order 1st day of month, January to December then 2nd Day, January to December etc. Also, 31 variables are required for each month although zero is assumed for blanks.

Month of Year

‘:MOY=’ indicates the correspondent uses a ‘Month of Year’ table.

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The following lines are the 12 variables.

Day of Week/Month of Year

':DWM=' indicates the correspondent uses a 'Day of week versus Month of Year' table.

The following lines are the 84 variables up to 13 on each line.

The variables must be in the order Monday, January to December then Tuesday January to December etc.

Month of Year / Year of Decade

':YOD=' indicates the correspondent uses this table.

The following lines are the 120 variables up to 12 on each line.

The variables must be in the order January to December, Decade zero then January to December Decade 1 etc.

Character Table

':CHR=x/y/n1/n2/zzzzzz' indicates the correspondent uses a 'Character' table.

The <x> represents either <Y> or <N>, if <Y> then the variable is weighted by its position.

The <y> represents either <Y> or <N>, if <Y> then the variable is subtracted.

The <n1> represents the number of lines to be input from the operator.

The <n2> represents the prompt template do be used, set to 0 for no prompt template.

The <zzzzz> represents the 'Character 'Rule' displayed to operator during testing.

This is followed by the lines with 37 variables up to 13 on a line, in the order:

?, 0 to 9, A to Z

Results

Following execution, results are displayed including the number of correspondents added/updated and any errors encountered.

Sample Input file

The following is an example of an input file:

<pre> YZYZ CITIAHK 18 Whitfield Road Causeway Bay HongKong :NAM=CITIBANK NA :LOC=HONG KONG </pre>	<p>Simple correspondent with just code, address details, name and location</p>
<pre> YZYZ REGLON :NAM=REGENCY BANK PLC :LOC=LONDON :BIC=REGLONUK :FIX=1011/1011 :PEN=11/22 :OLD=33/44 :FDT=980123 :GRD=99/99/N/1/5 :IN1=/51262/LHAINT The first line is displayed during encode and decode Other lines are stored as comments :CCY=888 USD=60/GBP=150/JPY=345 NONE=777 ADP=100/AED=200/AFA=300/CAD=12/CHF=34 :AM1=10000/555 34/53/55/78/53/77/90/12/44 123/456/22/3/44/456/456/456/22 657/4/567/546/45/6/546/547/11 245/6/546/5/47/665/7/657/6 65 :SEI= 12/34/546/435/543/544/452/435/431/68 </pre>	<p>This example has fixed numbers Prefix type 1 Grid size of 99 Pending fixed number Old fixed numbers An old fixed number expiry date A gap size of 5 A currency table Amounts table type 1 A sequence variable table using the same variables for incoming and outgoing tests. The routing code is set to space Telex number is 51262 Answer back is LHAINT</p>

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<p>432/43/41/4/40/2/44/4543/654/65 657/67/654/45/54/513/543/354/111/999 34/53/55/78/53/77/90/12/44/25 123/456/22/3/44/456/456/456/22/66 657/4/567/546/45/6/546/547/11/78 245/6/546/5/47/665/7/657/6/55 63/77/543/9/17/22/43/66/42/80 55/67/6/874/33/653/75/4/875/2 984/3254/657/98/23/65/678/2/6578</p>	
<p>YZYZ DORCHESTER :NAM=BANK OF DORCHESTER :LOC=MASTER KEY :GRD=50/50/Y/1 :CCY=222 USD=60/GBP=150/JPY=345/NONE=777 :AM3= :SEI= 657/4/567/546/45/6/546/547/11/78 245/6/546/5/47/665/7/657/6/55 63/77/543/9/17/22/43/66/42/80 55/67/6/874/33/653/75/4/875/2 984/3254/657/98/23/65/678/2/6578</p> <p>:SEO= 432/43/41/4/40/2/44/4543/654/65 657/67/654/45/54/513/543/354/111/999 34/53/55/78/53/77/90/12/44/25 123/456/22/3/44/456/456/456/22/66 453/654/76/876/654/432/543/543/21/33</p>	<p>This example has fixed numbers, prefix type 1, grid size of 50 Missing gap size is zero A currency table, an amounts table type 3. The sequence tables are different for incoming and outgoing tests</p>
<p>YZYZ DORGLAS :NAM=BANK OF DORCHESTER :LOC=GLASGOW :MAS=DORCHESTER :FIX=1201/1201</p>	<p>This example uses the master tables 'DORCHESTER'</p>
<p>YZYZ DORNY</p>	<p>This example also uses the master tables</p>

<p>:NAM=BANK OF DORCHESTER :LOC=NEW YORK :MAS=DORCHESTER :FIX=2302/2302</p>	<p>'DORCHESTER'</p>
<p>YZYZ WEYSL :NAM=WEYBANK :LOC=SIERRA LEONE :FIX=5533/5533 :GRD=9/9/N :CCY= USD=123/GBP=456 :SEI= 34 56 88 27 93 52 49 6 91</p>	<p>This example has fixed numbers, no prefix, grid size of 9 A currency table A sequence variable table using the same variables for incoming and outgoing tests.</p>
<p>YZYZ GLOBANKLON :NAM=GLOUCESTER BANK PLC :LOC=LONDON :FIX=200/200 :GRD=9/9/N/4 :SEI= 45267/78302/44871/42668/73992/57470/81047/27515/ 36279 :P4I= 472/331/567/341/629/443/678/433/432</p>	<p>This example has fixed numbers, prefix type 4, grid size of 9 A sequence variable table using the same variables for incoming and outgoing tests. A prefix variable table using the same variables for incoming and outgoing tests.</p>
<p>YZYZ CPTESTAM2 :NAM=AMOUNTTYPE TWO CORRESPONDENT</p>	<p>This example has an amount table with separate values for 1-99</p>

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<p>:AM2=1000/888 1/53/55/78/53/77/90/12/44/22 11/53/55/78/53/77/90/12/44/22 21/53/55/78/53/77/90/12/44/22 31/53/55/78/53/77/90/12/44/22 41/53/55/78/53/77/90/12/44/22 51/53/55/78/53/77/90/12/44/22 61/53/55/78/53/77/90/12/44/22 71/53/55/78/53/77/90/12/44/22 81/53/55/78/53/77/90/12/44/22 91/53/55/78/53/77/90/12/44 100/200/300/400/500/600/700/800/900 1000</p>	
<p>YZYZ DAYOFWEEK :NAM=DAY OF WEEK TABLE TEST :DOW=N/N 1111/2222/3333/4444/5555/6666/7777</p>	<p>Example using a Day of Week table</p>
<p>YZYZ DAYOFMONTH :NAM=DAY OF MONTH TABLE TEST :DOM= 1/2/3/4/5/6/7/8/9/10 11/12/13/14/15/16/17/18/19/20 21/22/23/24/25/26/27/28/29/30/31</p>	<p>Example using a Day of Month table</p>
<p>YZYZ WEEKOFYEAR :NAM=WEEK OF YEAR TABLE TEST :WOY= 1/2/3/4/5/6/7/8/9/10 11/2/3/4/5/6/7/8/9/20 21/2/3/4/5/6/7/8/9/30 31/2/3/4/5/6/7/8/9/40 41/2/3/4/5/6/7/8/9/50/51/52/53</p>	<p>Example using a Week of the Year table</p>
<p>YZYZ DOMDOW :NAM=DAY OF MONTH VERSUS DAY OF WEEK</p>	<p>Example using a Day of month versus Day of week table</p>

<p>TEST :DMW= 1/2/3/4/5/6/7 2/2/3/4/5/6/7 3/2/3/4/5/6/7 4/2/3/4/5/6/7 5/2/3/4/5/6/7 6/2/3/4/5/6/7 7/2/3/4/5/6/7 8/2/3/4/5/6/7 9/2/3/4/5/6/7 10/2/3/4/5/6/7 11/2/3/4/5/6/7 12/2/3/4/5/6/7 13/2/3/4/5/6/7 14/2/3/4/5/6/7 15/2/3/4/5/6/7 16/2/3/4/5/6/7 17/2/3/4/5/6/7 18/2/3/4/5/6/7 19/2/3/4/5/6/7 20/2/3/4/5/6/7 21/2/3/4/5/6/7 22/2/3/4/5/6/7 23/2/3/4/5/6/7 24/2/3/4/5/6/7 25/2/3/4/5/6/7 26/2/3/4/5/6/7 27/2/3/4/5/6/7 28/2/3/4/5/6/7 29/2/3/4/5/6/7 30/2/3/4/5/6/7 31/2/3/4/5/6/7</p>	<p>week table</p>
<p>YZYZ JULIAN :NAM=JULIAN DATE TABLE TEST :JUL= 1/2/3/4/5/6/7/8/9/10 11/2/3/4/5/6/7/8/9/10 21/2/3/4/5/6/7/8/9/10</p>	<p>Example using a Julian day table</p>

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<p>31/2/3/4/5/6/7/8/9/10 41/2/3/4/5/6/7/8/9/10 51/2/3/4/5/6/7/8/9/10 61/2/3/4/5/6/7/8/9/10 71/2/3/4/5/6/7/8/9/10 81/2/3/4/5/6/7/8/9/10 91/2/3/4/5/6/7/8/9/10 101/2/3/4/5/6/7/8/9/10 111/2/3/4/5/6/7/8/9/10 121/2/3/4/5/6/7/8/9/10 131/2/3/4/5/6/7/8/9/10 141/2/3/4/5/6/7/8/9/10 151/2/3/4/5/6/7/8/9/10 161/2/3/4/5/6/7/8/9/10 171/2/3/4/5/6/7/8/9/10 181/2/3/4/5/6/7/8/9/10 191/2/3/4/5/6/7/8/9/10 201/2/3/4/5/6/7/8/9/10 211/2/3/4/5/6/7/8/9/10 221/2/3/4/5/6/7/8/9/10 231/2/3/4/5/6/7/8/9/10 241/2/3/4/5/6/7/8/9/10 251/2/3/4/5/6/7/8/9/10 261/2/3/4/5/6/7/8/9/10 271/2/3/4/5/6/7/8/9/10 281/2/3/4/5/6/7/8/9/10 291/2/3/4/5/6/7/8/9/10 301/2/3/4/5/6/7/8/9/10 311/2/3/4/5/6/7/8/9/10 321/2/3/4/5/6/7/8/9/10 331/2/3/4/5/6/7/8/9/10 341/2/3/4/5/6/7/8/9/10 351/2/3/4/5/6/7/8/9/10 361/2/3/4/5/6</p>	
<p>YZYZ DATEOFYEAR :NAM=DAY OF MONTH VERSUS MONTH OF YEAR :DOY= 1/2/3/4/5/6/7/8/9/10/11/12</p>	<p>Example using a Day of month versus Month of Year table</p>

<p>2/2/3/4/5/6/7/8/9/10/11/12 3/2/3/4/5/6/7/8/9/10/11/12 4/2/3/4/5/6/7/8/9/10/11/12 5/2/3/4/5/6/7/8/9/10/11/12 6/2/3/4/5/6/7/8/9/10/11/12 7/2/3/4/5/6/7/8/9/10/11/12 8/2/3/4/5/6/7/8/9/10/11/12 9/2/3/4/5/6/7/8/9/10/11/12 10/2/3/4/5/6/7/8/9/10/11/12 11/2/3/4/5/6/7/8/9/10/11/12 12/2/3/4/5/6/7/8/9/10/11/12 13/2/3/4/5/6/7/8/9/10/11/12 14/2/3/4/5/6/7/8/9/10/11/12 15/2/3/4/5/6/7/8/9/10/11/12 16/2/3/4/5/6/7/8/9/10/11/12 17/2/3/4/5/6/7/8/9/10/11/12 18/2/3/4/5/6/7/8/9/10/11/12 19/2/3/4/5/6/7/8/9/10/11/12 20/2/3/4/5/6/7/8/9/10/11/12 21/2/3/4/5/6/7/8/9/10/11/12 22/2/3/4/5/6/7/8/9/10/11/12 23/2/3/4/5/6/7/8/9/10/11/12 24/2/3/4/5/6/7/8/9/10/11/12 25/2/3/4/5/6/7/8/9/10/11/12 26/2/3/4/5/6/7/8/9/10/11/12 27/2/3/4/5/6/7/8/9/10/11/12 28/2/3/4/5/6/7/8/9/10/11/12 29/2/3/4/5/6/7/8/9/10/11/12 30/2/3/4/5/6/7/8/9/10/11/12 31/2/3/4/5/6/7/8/9/10/11/12</p>	
<p>YZYZ MONTHOFYEAR :NAM=MONTH OF YEAR TABLE TEST :MOY= 1/2/3/4/5/6/7/8/9/10/11/12</p>	<p>Example using a months of the year table</p>
<p>YZYZ DAYWEEKMONTH :NAM=DAY OF WEEK VERSUS MONTH OF YEAR TEST</p>	<p>Example using a Day of the week versus Month of the year table</p>

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<p>:DWM= 1/2/3/4/5/6/7/8/9/10/11/12 2/2/3/4/5/6/7/8/9/10/11/12 3/2/3/4/5/6/7/8/9/10/11/12 4/2/3/4/5/6/7/8/9/10/11/12 5/2/3/4/5/6/7/8/9/10/11/12 6/2/3/4/5/6/7/8/9/10/11/12 7/2/3/4/5/6/7/8/9/10/11/12</p>	
<p>YZYZ CHARACTER :NAM=CHARACTER TABLE TEST :CHR=N/N/1/0/FIRST 2 CHARS OF BENEFICIARY NAME 0/0/0/0/0/0/0/0/0/0 1/2/3/4/5/6/7/8/9/10/11/12/13 14/15/16/17/18/19/20/21/22/23/24/25/26</p>	<p>Example using a character table</p>
<p>YZYZ SEPSEQ :NAM=SEQUENCE TABLES SEPARATE DAY OF WEEK :GRD=9/9/N :SEI=1 11/21/31/41/51/61/71/81/91 :SEI=2 12/22/32/42/52/62/72/82/92 :SEI=3 13/23/33/43/53/63/73/83/93 :SEI=4 14/24/34/44/54/64/74/84/94 :SEI=5 15/25/35/45/55/65/75/85/95 :SEI=6 16/26/36/46/56/66/76/86/96 :SEI=7 17/27/37/47/57/67/77/87/97</p>	<p>This example has a grid size of 9 and a sequence table. Variables for the sequence table change each day of the week.</p>
<p>YZYZ VAR624</p>	<p>Fixed numbers and branch number are</p>

<p>:FIX=5533/5533 :BRA=555 :AM8= :CCY=888 USD=123 GBP=456 SHS=0=N :SSI= 34 56 88 27 93 52 49 6 91</p>	<p>specified separately Amount table is type 8, Bank of Ireland variation SHS currency code does not use default amount variable Sequence table resets each day of the week.</p>
<p>YZYZ YODTABLE :YOD= 1/2/3/4/5/6/7/8/9/10/11/12 1/2/3/4/5/6/7/8/9/10/11/12 1/2/3/4/5/6/7/8/9/10/11/12 1/2/3/4/5/6/7/8/9/10/11/12 1/2/3/4/5/6/7/8/9/10/11/12 1/2/3/4/5/6/7/8/9/10/11/12 1/2/3/4/5/6/7/8/9/10/11/12 1/2/3/4/5/6/7/8/9/10/11/12 1/2/3/4/5/6/7/8/9/10/11/12 1/2/3/4/5/6/7/8/9/10/11/12</p>	<p>Month of Year versus Year of Decade table</p>