

THE

CONTACT

TECHNICAL
MANUAL

Teli

CONTENTS

A. INTRODUCTION

B. ENTERING TEXT

1. To enter characters
2. To enter capital letters
3. To end a paragraph
4. SHIFT characters
5. To enter a space

C. MOVING AROUND THE TEXT FILE(S)

D. EDITING OR AMENDING TEXT

1. To correct typing errors as you make them
2. To erase a letter or letters
3. To erase a line or lines of text
4. To erase a complete text file
5. To insert additional text
6. To insert one text file into another
7. To clear the memory of text

E. LINE LENGTH

F. TABULATION

1. To insert a tab at a different position
2. To insert standard tabs

G. SEARCHING FOR A PARTICULAR POINT IN A TEXT

H. STRING TEXT ON TAPE

1. To dump to tape
2. To load from tape

I. TRANSMITTING AND RECEIVING TEXT BY PHONE

1. To send to another CONTACT
2. To receive from another CONTACT

J. CALCULATIONS (TELI CONTACT)

1. Single calculations
2. Altering calculations
3. Consecutive calculations
4. Number of positions before and after the decimal point
5. Use of brackets
6. Calculation errors

K. USING THE CONTACT PRINTER

1. To connect the printer to the CONTACT
2. To print a text file
3. To list the first lines of all text files
4. To print one line at a time
5. To interrupt printing
6. To disconnect the printer from the CONTACT

L. CONNECTING OTHER PRINTERS TO THE CONTACT

M. ADAPTING THE CONTACT TO NON STANDARD PRINTERS

1. To reprogram the CONTACT keys
2. To set printer control codes

N. RECHARGING THE CONTACT AND THE CONTACT PRINTER

O. MESSAGES IN THE DISPLAY

1. Fixed messages
2. User prompts

P. RECOVERY/CANCELLATION OF INSTRUCTIONS

Q. TRANSMITTING AND RECEIVING ENCRYPTED MESSAGES

1. To encrypt
2. To decrypt
3. Transmitting and receiving encrypted messages
4. To send partially encrypted mailbox messages

R. ON/STOP FUNCTIONS

S. SUMMARY OF KEYS

T. USING THE MENU

U. TECHNICAL DATA

A. INTRODUCTION

The CONTACT combines functions normally found in highly sophisticated word processing systems. Despite this versatility, the CONTACT is simplicity itself to operate and requires absolutely no prior knowledge of computers or word processing. Do not be afraid to experiment with the CONTACT -

whatever you type on the keyboard, you will not harm the machine.

Please note: before using your CONTACT and Printer for the first time, it is necessary to charge the batteries (see section N).

B. ENTERING TEXT

1. TO ENTER CHARACTERS

- Switch the unit on with the ON/STOP key and type in text as on a typewriter, using any of the black keys. The text will appear in the display.
- Do not worry about how long the line is; the CONTACT will automatically break off at the end of a line and put the next word at the start of the next line.
- You should hear a single beep each time you press a key. Two beeps mean the key has registered twice, no beep that the key has not registered at all. A longer beep indicates a mistake.
- Where appropriate, keys will 'repeat' as you keep them pressed down.
- The unit switches itself off after 2 minutes. Press ON/STOP to restart.

2. TO ENTER CAPITAL LETTERS.

Hold either one of the SHIFT keys down while pressing the desired letter. To type a series of capitals, press CAPS LOCK and continue typing (LOCK lights up in the display); to revert to ordinary (lowercase) letters press CAPS LOCK again. CAPS LOCK only operates on character keys, not on function keys.

3. TO END A PARAGRAPH (RETURN key)

Press  (RETURN key), which has the same function as the carriage return on a typewriter. To leave one full line clear before the next paragraph, press  (RETURN key) again.

4. SHIFT CHARACTERS

The figure keys also have various signs and punctuation marks indicated at top left and top right of the key. To obtain these signs use one of the SHIFT keys. For the character on top left use the left-hand SHIFT key (LEFT SHIFT), and for top right use the right-hand SHIFT key (RIGHT SHIFT), keeping the SHIFT key pressed down while pressing the relevant figure key, e.g.:

LEFT SHIFT + 1 = !
but RIGHT SHIFT + 1 = @

5. TO ENTER A SPACE

Press the long space bar in the center of the bottom row of keys. The 'underlining' in the display, which indicates the blank part of a line which has not (yet) been taken up by text, will disappear to indicate that you have entered a space.

C. MOVING AROUND THE TEXT FILE(S)

The cursor (the flashing block on the display) shows you where you are in the text. Various keys are provided to help you move this cursor quickly around your text, as if you were moving your finger over a page of text or turning the pages of a book. These keys work as follows:

SHIFT +  cursor back 1 position
SHIFT +  cursor to start of line

 cursor down 1 line
SHIFT +  cursor to last position in text file

SHIFT +  cursor up 1 line
SHIFT +  cursor to start of text file

SHIFT +  cursor forward 1 position
SHIFT +  cursor to end of line

TEXT starts a new text file.

LEFT SHIFT + TEXT moves cursor to the start of next higher numbered text file. To repeat, press TEXT again.

RIGHT SHIFT + TEXT moves cursor to start of the next lower numbered text file. To repeat, press **TEXT** again.

You can also use a search string to look for a

particular point anywhere in the memory (see section G).

Finally you can 'scan' the first line of each text file by pressing **SHIFT + PRINT (= LIST)**.

D. EDITING OR AMENDING TEXT

1. TO CORRECT TYPING ERRORS AS YOU MAKE THEM

- Place cursor on the letter you wish to correct.
- Type the correct letter. If you continue typing you will 'overtyp' any existing text.

2. TO ERASE A LETTER OR LETTERS

- Place the cursor directly after the letter you wish to correct.
- Press **DELETE**.
Repeated pressing of **DELETE** 'eats back' into the existing text, erasing one letter at a time. This operates on letters, numbers, punctuation marks and spaces entered with the space bar. To delete a **RETURN** (= end-of-paragraph) instruction, move the cursor to the start of the line and press **DELETE** once.

3. TO ERASE A LINE OR LINES OF TEXT

- Place the cursor at the start of the line.
- Press **SHIFT + CLEAR ALL (= CLR LINE)**.
- If you keep **CLR LINE** depressed it will continue to delete lines until you release it again or until you reach the end of the text file. If the cursor is not at the start of the line, this key will only erase the part of that line to the right of the cursor.

4. TO ERASE OR DELETE THE COMPLETE TEXT FILE IN WHICH YOU ARE WORKING.

- Press **SHIFT + DELETE (= DEL TXT)**. Display shows: **DELETE TEXT 00 ? + PRESS AGAIN**.
- Press **DELETE** again. This can be done with the cursor in any position in the text.

5. TO INSERT ADDITIONAL TEXT WITHOUT DELETING EXISTING TEXT

- Move cursor to desired insertion position.
- Press **INSERT**. The word **INSERT** in the display lights up. An opening appears in the center of the cursor to indicate **INSERT** mode.
- Type the required text.
- To stop insertion press **INSERT** again. Use of

TAB in **INSERT** mode enters a space equal to the existing tab length.

6. TO INSERT ONE TEXT FILE INTO ANOTHER

- Move the cursor to the text file in which you wish to insert.
- Press **SHIFT + INSERT (= INS TXT)**. The **INSERT** mode cursor is positioned for typing in text number.
- Enter the number of the text file which you wish to insert.
- Press **INSERT** again.

The **CONTACT** will copy the second file and insert it at the beginning of the first text file. The 'original' of the copied text remains stored under its original text file number. To insert a part of a text file, copy the text to a free text file, delete the unwanted section and insert the remainder using the above procedure.

7. TO CLEAR THE MEMORY OF TEXT

- Press **CLEAR ALL**.
Display shows: **CLEAR ALL TEXT ? + PRESS AGAIN**.
- Press **CLEAR ALL** again. Display shows: **ARE YOU SURE ? + PRESS AGAIN**. Press **CLEAR ALL** again. This will clear everything except:-
 - the 'conversion characters'
 - mailbox ID
 - Form Code
 - text file 00If you wish to preserve any text files delete the text file by file as described in section D.4 above.
- To clear text file 00 position the cursor in that text file.
Press **SHIFT + DELETE**. Display shows:
DELETE TEXT 00 ? + PRESS AGAIN.
Press **DELETE** again.
Display shows:
ARE YOU SURE ? + PRESS AGAIN.
Press **DELETE** again.

E. LINE LENGTH

The CONTACT automatically moves to a new line when the current line is full. The display shows up to 40 characters and the standard line length is also set at 40 characters, but lines of text, e.g. for printing, can have a length of up to 80 characters. You can adjust the line length by resetting the right-hand margin anywhere between the 10th and the 80th position, (also in existing text) as follows:

- a. Press **MARGIN**. Display shows:

RIGHT MARGIN (10-80) AT 00 + PRESS AGAIN.

- b. Type in the desired number of characters per line. (Between 10-80.)
c. Press **MARGIN**. This sets the new line length for that text file.
d. To revert to 40 character line length, repeat 'a' thru 'c', inserting 40.

For checking line length: press **MARGIN**, check and press **MARGIN** again.

F. TABULATION

To assist you with the layout of your text, standard 'tabulator stops' have been set at every 8th character from the left in the display. If you press **TAB** the cursor will jump to the next preset tabulator stop. This also provides a 'fast forward' facility within a line.

1. TO INSERT OR CLEAR A TAB AT A DIFFERENT POSITION OR POSITIONS

- a. Move cursor to that position.
b. Press
LEFT SHIFT + TAB (= SET).

2. TO RESET STANDARD TABS

Press **RIGHT SHIFT + TAB (= CLR)**. This clears all tabs set previously and reverts to standard tabs (one tab per eight positions).

G. SEARCHING FOR A PARTICULAR POINT IN A TEXT

The CONTACT can search its entire memory for a particular combination of 1-8 characters occurring anywhere in its memory. When using this facility to search for a particular position, try to select a unique set of characters, i.e. a sequence of letters or figures which probably only occurs once in the memory. A suitable selection is often the last letters of one word, the space and the first letters of the next word. Proceed as follows:

- a. Press **SEARCH**.
b. Type in 1-8 characters as a 'search string'.
c. Press **SEARCH**.

- d. If the 'search string' occurs more than once in the memory, press **SEARCH** again until you reach the correct position.

- e. To enter a new search string, first press **ON/STOP**, then repeat 'a' thru 'd' above. If the display shows:

-----NOT FOUND, correct your search string and try again.

SEARCH ignores the difference between capitals and lowercase letters.

N.B. All operations can be interrupted by pressing **ON/STOP**. This resets the CONTACT to the position in the text at which you were previously working.

H. STORING TEXT ON TAPE AND RELOADING INTO THE CONTACT

You can see how much of the machine's internal memory is full by the **M** indicator in the display. Each square which lights up indicates max. 25% of the memory still available, so 3 squares means 50-75% of the memory is still available. If you try to perform an operation (e.g. copying/inserting) for which there is insufficient free memory available, the display will show: ***** MEMORY FULL *****.

If you do not want to delete text files in order to free space, you can transfer or 'dump' all text on a tape.

1. TO DUMP TEXT

- Connect the CONTACT audio socket (at right of machine) to the microphone input of the tape recorder using the special cable supplied.
- Press **DUMP**.
Display shows: **START 'RECORD' ON TAPE + PRESS AGAIN**.
- Start tape recorder in record mode.
Make sure the non-recording leader at the start of the tape has passed the recording head.
- Press **DUMP** again.
- When the light stops flashing all text is transferred to tape. Display shows the first line of transmitted text.

- Disconnect the cable.
- TO LOAD FROM TAPE TO CONTACT**
 - Connect earphone output of the tape recorder to the CONTACT audio socket.
 - Press **SHIFT + DUMP (=LOAD)**. Displays shows: **READY TO RECEIVE (XXXX)**, and the memory space available to receive text.
 - Start tape recorder in 'play' mode.
 - If a text is found on tape, the first line of this text will appear on the display. If this text is not the correct one, loading can be interrupted by pressing the **LOAD** key again. The CONTACT will immediately be **READY TO RECEIVE** again.
After reception of a text, the reception quality and the length of this text is indicated on the display.
 - The CONTACT will immediately be **READY TO RECEIVE** again, etc., until the **ON/STOP** key is pressed.
 - Disconnect the cable.
If your tape recorder has no earphone output or microphone input socket you can also dump to tape and re-load using the same procedure as for telephone transmitting and receiving.

I. TRANSMITTING AND RECEIVING TEXT BY PHONE

1. TRANSMITTING TO ANOTHER CONTACT

Proceed as follows:

- Move cursor to any position in the text you wish to transmit.
- Start the telephone call in the usual way. Be sure that the other party has a unit ready to receive.
- Make sure no connector is plugged into the CONTACT audio socket, as this shuts off the telephone adaptor. Make sure there is little or no background noise.
- Press
RIGHT SHIFT + MARGIN (=HIGH)
or
LEFT SHIFT + MARGIN (=LOW)
Send/receive lamp lights up.
- Display shows:
READY TO SEND [H] - PRESS SENDKEY (XXXX) or
READY TO SEND [L] - PRESS SENDKEY (XXXX)
H indicates the selected transmission mode (high speed).

L indicates the selected transmission mode (low speed).

(XXXX) indicates the length of the message (in a number of characters).

- Close CONTACT lid and hold the rubber adaptor on the back of the CONTACT against the telephone mouthpiece.
- Press the **SEND** key. The red light will flash during transmission.
- Keep adaptor against the telephone mouthpiece until the lamp stops flashing and remains off.
- Ask the other party whether he/she has received the text successfully.

Note:

After sending, the CONTACT will automatically switch into receiving mode.

2. RECEIVING FROM ANOTHER CONTACT

To receive text from another CONTACT proceed as follows:

- Make sure no connector is plugged into the CONTACT audio socket and there is little or no

- background noise.
- Press RCVE.
Display shows:
READY TO RECEIVE (XXXX)
(XXXX) indicating the number of characters that still can be stored in the memory.
 - Close CONTACT lid and hold rubber adaptor against the telephone earpiece.
 - Upon receiving a message, the first line will be visible on the display during reception.
 - Wait till the lamp stops flashing.
 - Check number of audible beeps and/or visible

squares on display for reception quality (see table below).

- After reception of a message the text **RECEIVED: XXXX BYTES** is visible to indicate the number of characters received. Press **ON/STOP** to read the text.

RECEPTION QUALITY TABLE:

1 square / 4 beeps:	0	- 70 % received
2 squares / 3 beeps:	70	- 90 % received
3 squares / 2 beeps:	90	- 99 % received
4 squares / 1 beep :	99	- 100 % received

J. CALCULATIONS

1. SIMPLE CALCULATIONS

The CONTACT can be used to perform standard arithmetical calculations. Select CALC from the MENU or press **ON/STOP + C** The display shows:

----- 01 - C -

The keys used for calculation are as follows:

addition: LEFT SHIFT + (=+)

subtraction:

multiplication: x or LEFT SHIFT+4 (=*)

division: : or LEFT SHIFT+. (= /)

To perform addition, subtraction, multiplication or division, proceed as follows:

- enter the figures and arithmetic symbols in the same order as you would write, e.g. 2×3
- press **RETURN** key or type = (equals sign).

The CONTACT will now calculate the answer to this 'sum' and place that answer after the equals sign.

2. ALTERING CALCULATIONS

To correct calculations, make the necessary changes as with normal text, press **RETURN** key again and the sum or sums will be recalculated.

3. CONSECUTIVE CALCULATIONS

The result of one calculation can be used as the first figure in a new calculation, as with calculators using sub-totals. The answer to a string of calculations can be given section by section or 'at one go.' To produce answers section by section, place the cursor before the first equals sign (=) and press **RETURN** key. This will show the answer to the section. Repeated pressing of **RETURN** key will then produce answers to each of the sections in succession.

To see all answers 'at one go' place the cursor after the last equals sign and press **RETURN** key. In all sections where you had made changes in the calculation, you will now see updated answers.

4. NUMBER OF POSITIONS BEFORE AND AFTER THE DECIMAL POINT

The maximum number of digits before the decimal point the CONTACT can handle is 9 (max. 140737488). The maximum number of digits after the decimal point is 6 (e.g. 1.404167).

5. USE OF BRACKETS

You may use brackets to change the (standard arithmetical) sequence in which individual elements of calculations are carried out. For example if you enter:

$2 \times (3+8) / 0.5$

The CONTACT will first add 3 to 8 and then multiply the result by 2 and divide by 0.5.

More than one set of brackets may be used in a calculation (max. 31 sets).

6. CALCULATION ERRORS

If, when the **RETURN** key is pressed, the CONTACT cannot perform the calculation (because for instance it is not clear which calculation must be performed), the CONTACT will display the error message:

ENTER CALCULATION : e.g. $2+(3*2):2=$

The remedy is to check whether the calculation was written in a correct format.

If you try to perform a calculation for which the CONTACT has insufficient capacity, the CONTACT will display the error message:

***** NO WORKSPACE *****

If the number 140737488 is exceeded in your calculation, the CONTACT will display the error message:

***** OVERFLOW *****

If brackets are used in a calculation and the number of opening brackets is different from the number of closing brackets, the CONTACT will display the error message:

***** ERROR IN (()) *****

K. USING THE CONTACT PRINTER

1. CONNECTING THE PRINTER TO THE CONTACT

- Check that the printer is switched off.
- With the CONTACT keyboard facing you, fit the CONTACT PRINTER into the slot on the left side of the CONTACT.
- Switch the CONTACT PRINTER on with the ON/OFF switch at the rear of the unit.

2. TO PRINT A TEXT FILE

- Move the cursor to the text file concerned.
- Press PRINT.
N.B. It is advisable to set the RIGHT MARGIN at 40, when using the printer.

3. TO LIST FIRST LINES OF ALL TEXT FILES IN MEMORY

Press
SHIFT + PRINT (= LIST).

4. TO PRINT ONE LINE AT A TIME

- Move the cursor to the line concerned.

b. Press RETURN key.

Each time you press RETURN key the CONTACT PRINTER will print the line visible in the display.

5. TO INTERRUPT PRINTING

Press ON/STOP. This will interrupt the transfer of text to the printer. The printer will stop as soon as all text already transferred to printer 2K buffer memory has been printed out. To stop immediately turn off the switch of the printer.

6. TO DISCONNECT THE PRINTER FROM THE CONTACT

- Switch the printer off.
- Press the two release catches on the sides of the CONTACT PRINTER.
- Pull the printer carefully from the CONTACT.
N.B. Do not forget to switch off the CONTACT PRINTER after use or when charging.

L. CONNECTING OTHER PRINTERS TO THE CONTACT

- Connect the cable supplied into the 3.5 mm socket on the left of the CONTACT.
- Connect the 3 open leads to the printer terminal as indicated in section X and your printer's manual.
- Send text to the printer in the same way as indicated for the CONTACT PRINTER.

M. ADAPTING THE CONTACT TO PRINTERS WITH NON STANDARD CHARACTER CODES.

With some printers, what is actually printed will not be exactly the same as what you have entered into the CONTACT. This is because some of the printer's characters have been coded differently than those of the CONTACT. To overcome this you can 'reprogram' up to 12 of the CONTACT keys to correspond with the coding in the printer. You will require an ASCII character-code table for your printer.

1. TO 'REPROGRAM' CONTACT KEYS

- For the letters, figures and punctuation marks which you will be using frequently, use the character-code tables of the printer and of the CONTACT to identify where the 2 units use

different 'hexadecimal' codes for the same character.

- Make a list of the characters and codes concerned.
- Press and hold down
ON/STOP + L
Release first ON/STOP then L, or select NEW-CHARACTER-SET from the MENU (see section T).
- Display shows:
CONVERSION CHARACTER . -> 00
- Press the CONTACT key for the first character concerned (from the list you have made).
- Press the code number from your printer table.
Display shows:

CONVERSION CHARACTER

A → 41 Y/N

- g. Press Y or N.
- h. Repeat steps 'e' thru 'g' for all characters concerned (maximum 12).
- i. When you have finished your conversions, press RETURN key twice.

This same 'conversion character' feature on the CONTACT enables you to instruct an external printer to carry out special instructions such as underline. This is done with so-called printer control codes. These codes should be given in your printer manual.

2. TO SET PRINTER CONTROL CODES

- a. Check in your printer manual the hexadecimal code e.g. underline.
- b. Press and hold down:
ON/STOP + L
Release first ON/STOP then L or select
NEW-CHARACTER-SET from the MENU

(see section T).

- c. Display shows:
CONVERSION CHARACTER .→00
- d. Select any key on the CONTACT which you will not use in your text and press that key (using SHIFT if necessary).
- e. Type in the hexadecimal value shown in your printer manual.
- f. Press RETURN key. Display shows:
e.g. **CONVERSION CHARACTER
@ →7D Y/N.**
- g. Repeat steps 'd' thru 'f' for each printer instruction you wish to include.
- h. When complete, press RETURN key twice
When you insert the 'converted character' in text entered into your CONTACT this will now provide the desired instruction to the printer.
- i. If you want to clear the conversion characters press ON/STOP + K or select NEW - CHARACTER-SET from the MENU. This will replace the original ASCII codes for each key.

N. RECHARGING THE CONTACT AND CONTACT PRINTER

If the CONTACT is not used for a period of 2 minutes, it will switch itself off automatically (unless it is in the READY TO RECEIVE mode after transmitting, then it will switch itself off in 40 seconds).

The CONTACT PRINTER will print approximately 2,000 lines of text on full batteries. When the batteries are low the printer will print as a last line:
"Batteries low, please recharge"

While charging the CONTACT the send/receive lamp lights up.

The units can be charged separately by inserting the charger lead into the 3.5 mm socket on the left side of the CONTACT or the rear of the CONTACT PRINTER. The printer must be switched off. The units can also be charged simultaneously. To do this connect the CONTACT PRINTER to the CONTACT and insert the charger lead into the socket at the rear of the printer. Charging time is 10 to 12 hours. (see section Y)

O. MESSAGES IN THE DISPLAY

1. FIXED MESSAGES

A number of 'fixed messages' are registered in the display and will light up in the following situations:

 :
Indicates reception quality.

FORMAT : 40

Line length at 40 characters or less.

FORMAT : 80

Line length between 41 and 80 characters.

SHIFT

Indicates that SHIFT key is in operation.

LOCK

Indicates CAPS LOCK key in operation.

INSERT

Indicates CONTACT is in INSERT mode.

BATT

If flashing CONTACT needs to be charged.

 :

Each square indicates max. 25 % of the memory available.

TEXT

Indicates number of text file.

LINE

Indicates line number.

2. USER PROMPTS

These are messages which appear during text entry or while using various function keys to assist the user.

P. RECOVERY/CANCELLATION OF INSTRUCTIONS

If a display message or prompt appears, because you pressed the key concerned by mistake, you can 'recover' or return to your previous position by pressing ON/STOP. Where the message requests you to enter a figure or text, you should only cancel the instruction by pressing ON/STOP.

To interrupt processes such as transmit, print, etc., press ON/STOP. The CONTACT will stop processing and revert to the position you were at before you gave the instruction.

Q. ENCRYPT /DECRYPT FILES

To prevent a transmitted CONTACT message or text being read by unauthorized persons, you can encrypt each text file individually before transmitting it via the telephone.

To encrypt and decrypt, the CONTACT uses an algorithm. A fully encrypted text can be transmitted and recorded on tape in the normal manner, but it cannot be displayed, printed or altered. Encrypting and decrypting is done with a code key, which can consist of any combination of up to 16 letters digits or characters.

1. TO ENCRYPT:

Position the cursor in the text you want to encrypt. Press CODE. The display shows:

KEY : + PRESS AGAIN.

Type any combination of 16 or less characters or figures. Press the CODE key again or RETURN. The display shows: ENCRYPTED TEXT, LENGTH XXXX BYTES. Pass the code key to the user to whom you are sending.

2. TO DECRYPT:

After receiving an encrypted text the display shows:

ENCRYPTED TEXT, LENGTH XXXX BYTES. To insert the correct code key, press CODE. The CONTACT asks:

KEY : + PRESS AGAIN. Now type the code key. Press CODE or RETURN key. After - PLEASE WAIT- readable text is displayed.

After encrypting, the text is stored in the memory in the form of figures that bear no relationship whatsoever to the letters in the original text. These code figures contain absolutely no indication of what the key might be. Since the number of possible keys is more than 18 quintillion, even the largest and fastest computer would need years to try out all the combinations. Without knowing the correct key it is therefore practically impossible to reproduce the encrypted text.

N.B.

Do not use obvious keys, like names of persons, children, etc..

3. TRANSMITTING, RECEIVING AND STORING OF ENCRYPTED MESSAGES

Encrypted messages can be transmitted, received and recorded on tape in exactly the same manner as unencrypted messages. Text received via the phone or read from tape can, however, only be decoded using the correct key. If attempts are made to decode the text using a different key, the display will show :

** WRONG KEY ** - PLEASE WAIT-

To make it easier to remember the encrypting/decrypting key, the CONTACT does not differentiate between uppercase and lowercase letters (i.e. capitals and ordinary letters).

4. TO SEND PARTIAL ENCRYPTED MAILBOX MESSAGES

When you want to include encrypted text in a mailbox message press

SHIFT + CODE (= KEY TXT) to insert a partial encrypt marker (double bar) at the beginning of that part of text you want to encrypt. After inserting the marker and the text, press CODE and insert the code key to encrypt. After pressing CODE the text will look like:

TO SALES

Next text is coded ||46C394753E1DA

FREE (text and line number). Indicates an empty text file.

NO FREE TEXT AVAILABLE Indicates that all 99 text files are in use.

RIGHT MARGIN (10-80) AT 40 + PRESS AGAIN
Appears when **MARGIN** key is pressed to invite you to enter a line length (pressing **MARGIN** again retains existing margin).

INSERT TEXT 00? + PRESS AGAIN
Appears after you pressed
SHIFT + INSERT key, to ask which text you wish to insert.

***** ERROR IN (())*****
The **RETURN** key was pressed and the calculation as written, contained an odd number of brackets.

***** OVERFLOW *****
The result of a calculation exceeds 140737488.

***** NO WORKSPACE *****
The **CONTACT** memory is almost full: some text may still be entered, but there is insufficient memory to perform the calculation required.

SEARCH FOR ..+ PRESS AGAIN
Appears after you have pressed **SEARCH**, inviting you to enter the search string.

(.....) NOT FOUND
The **CONTACT** has not found the search string you requested to search for.

START 'RECORD' ON TAPE + PRESS AGAIN
Appears after pressing **DUMP** to transfer text to tape.
READY TO RECEIVE (XXXX)
Appears after pressing **RCVE** or **LOAD**.

READY TO SEND [L] PRESS SENDKEY (XXXX)
Appears after pressing:
LEFT SHIFT + MARGIN (=LOW). Prepares unit to send the present text file in low speed (300 Bd.).

READY TO SEND [H] PRESS SENDKEY (XXXX)
Appears after pressing:
RIGHT SHIFT + MARGIN (=HIGH). Prepares unit

to send the present text file in high speed (1200 Bd.).

READY TO SEND [M] PRESS SENDKEY (XXXX)
Appears after pressing:
ON/STOP, then **LEFT SHIFT + SEND**. Prepares unit to send the all text files up to the first free or fully encrypted file in one transmission, in the selected baudrate. (See section T.)

<TRANSMITTING> (XXXX)
Appears on the display while the **CONTACT** is transmitting.

***** MEMORY FULL *****
There is no space for further text without deleting or dumping text.

DELETE TEXT XX? + PRESS AGAIN
Appears after pressing
SHIFT + DELETE asking for confirmation.

CLEAR ALL TEXT? + PRESS AGAIN
Appears after pressing **CLEAR ALL**.

ARE YOU SURE? + PRESS AGAIN
Allows you to think again whether you wish to clear the whole memory or to cancel the operation by pressing **ON/STOP**.

<PLEASE WAIT>
Indicates that the **CONTACT** is transmitting text through its serial output (e.g. to printer), or the **CONTACT** is en-/decrypting.

CONVERSION CHARACTER .->00
Appears after pressing **ON/STOP + L** or after selecting **NEW-CHARACTER-SET** and prompts you to enter the conversion characters and code desired.

<CHARACTER TABLE CLEARED> Appears when **ON/STOP + K** is pressed or after selecting **RESET-CHARACTER-SET**. It clears the converted characters and will replace the original ASCII codes for each key.

R. ON/STOP FUNCTIONS

Press and hold down: first **ON/STOP** then character. Release: first **ON/STOP** then release character.

ON/STOP +

B: turns on and off key beep.

C: sets **CONTACT** in calc mode

D: 1200 Bd. mark/space modem test

E: 10 sec. mark/space modem test

K: clears all previously converted character codes.

L: prepares **CONTACT** to accept conversion characters. To convert: press first character then new character code. To end press: **RETURN** key twice.

M: checks the memory of the **CONTACT**.

N: switches on/off line and text file nrs.

O: switches **CONTACT** off.

S: gives the number of free bytes in memory.

V: gives the **CONTACT** software version.

T: display test.

Y: **CONTACT** will receive text on the serial port, regardless of header, at 1200 Bd.

Z: *warning* — you reset the unit.

DELETE: removes empty files between used files.

INSERT: inserts an empty text file between used files.

SEND: sends all text files from the present to the last file before an empty or fully encrypted text file (**ENCRYPTED TEXT, LENGTH XXX BYTES**) in one transmission.

It enables you to send different messages to different users in one transmission with the mailbox computer. Start each mailbox message with the command word and the destination of your message. (See your mailbox manual.)

S. SUMMARY OF KEYS

This summary proceeds anti-clockwise round the keyboard, starting at top left.

SEND

The **SEND** key is the only key outside the keyboard when the lid is in closed position. On pressing this key once, the main **MENU** is displayed. On pressing twice, the transmission starts in the selected transmission mode. (see section R).

PRINT

With **CONTACT PRINTER** or other printer connected and switched on, **CONTACT** sends contents of one text file to printer.

SHIFT + PRINT (= LIST)

Displays the first lines of all text files which contain text, one after the other. With the printer connected and switched on, all the first lines of used text files are printed.

RCVE

Prepares **CONTACT** to receive text.

MARGIN

Initiates sequence for changing the line length of the text file concerned.

LEFT SHIFT + MARGIN (=LOW)

Prepares the **CONTACT** to send at low speed (300 Bd.).

RIGHT SHIFT + MARGIN (=HIGH)

Prepares the **CONTACT** to send at high speed (1200 Bd.).

TAB

Moves cursor to next preset or manually set tab position. Also serves as 'fast forward' key within line.

In 'insert' mode, inserts tab-length spaces.

LEFT SHIFT + TAB (= SET)

Will set a **TAB** at cursor position, or will clear a previously set tab. On the display, tabs are visible as dots wherever no text is filled in.

RIGHT SHIFT + TAB (= CLR)

Clears all existing tabs and resets the standard tabs (one tab per eight positions).

CAPS LOCK

Results in changing from lowercase to capitals or vice versa. Does not operate on figure or function keys.

LEFT SHIFT

When used in conjunction with triple function key (e.g. **TAB/SET/CLR**): produces the function shown at top left of the key (in this example: **SET**). When used in conjunction with figure key (e.g. top row on keyboard), produces character or sign shown at top left on key concerned.

When used with dual function keys (e.g. **DELETE/**

DEL TXT) produces the top function shown on the key (i.e. DEL TXT).

LEFT SHIFT + SEND prepares CONTACT for transmission.

CURSOR CONTROL KEYS

Cursor back one position

SHIFT +Cursor to start of line

Cursor forward one position

SHIFT +Cursor to end of line

Cursor down one line

SHIFT +Cursor to last position in text file

Cursor up one line

SHIFT +Cursor to start of text file.

SPACEBAR

Enters one space in text.

INSERT

Sets CONTACT in INSERT mode, allowing new text to be inserted in existing text.

SHIFT + INSERT (= INS TXT)

allows one text file to be inserted into another.

DELETE

With the cursor within a line, deletes the character or space before the cursor. With cursor at start of first line of new paragraph, deletes RETURN key (= end-of-paragraph) and puts text on that line at end of text on previous line.

SHIFT + DELETE (= DEL TXT)

Prepares CONTACT to delete the present text file.

RIGHT SHIFT

Operates in the same way as LEFT SHIFT, except with triple function keys where it operates the top right function, sign or character on that function key.

RETURN key

When typing in new text: gives end-of-paragraph instruction, moving cursor to beginning of next line.

With cursor at the first position of a new line, produces a blank line and moves cursor to start a new line.

With the cursor in a previously typed text, displays the whole of that line (if the line is larger than the display, it scrolls across the display), then puts the cursor at first position of the next line.

If a printer connected and switched on: it prints that line.

In INSERT mode and with the cursor within a previously typed text: moves the text after the cursor to the beginning of the next line, i.e. starts new paragraph.

In INSERT mode with cursor at the first position of a line: inserts a blank line above that line.

SEARCH

Instructs the CONTACT to search its full memory for the set of characters, entered as search string.

TEXT

Starts a new text file.

LEFT SHIFT + TEXT

Moves the cursor to the first position of the following (higher numbered) text file, regardless of whether that file contains text or not.

RIGHT SHIFT + TEXT

Moves the cursor to first position of preceding (lower numbered) text, regardless of whether that file contains text or not.

DUMP

When pressed twice, the CONTACT will transmit all texts in memory (with a speed of 1200 baud) with 3 second intervals. This facilitates copying the complete CONTACT memory contents onto tape.

SHIFT + DUMP (=LOAD)

The CONTACT will be READY TO RECEIVE successive files until:

- ON/STOP is pressed

- the memory is full

- nothing is received for 2 minutes. Pressing LOAD again during the reception of a text will erase that text and resume READY TO RECEIVE (XXXX)

CLEAR ALL

Prepares to erase all text from memory, with the exception of the 'conversion characters', ID and Form Code + text file 00

SHIFT + CLEAR ALL (= CLR LINE)

Erases all characters to the right of the cursor on one line. Sets cursor at first position of following line.

CODE

It gives the opportunity to en-/decrypt present text file after inserting the code key.

SHIFT + CODE (= KEY TXT)

When pressed, a double bar appears in the text, after which the text can be encrypted.

ON/STOP

When CONTACT is off: this key switches the CONTACT on. The CONTACT switches itself off automatically after 2 minutes, except when in READY TO RECEIVE mode after transmitting.

Then it will switch itself off in 40 seconds when nothing is received. When the machine is on:

pressing

ON/STOP interrupts all functions (e.g. transmit/receive text, etc.).

RESET

is located on the rear side of the CONTACT (a small hole in the back).

If the CONTACT does not react anymore on your actions, this button can be pressed by a small pointed object. Some files may be lost.

T. USING THE MENU

TRANSMISSION MODE

Press **SEND** key. In the display appears:

TRANSMIT calc set-up [use cursor keys]

Press **RETURN** key or use cursor keys if you want to set up the transmission mode or use cursor keys for other options.

If you press **RETURN** key or cursor down when **TRANSMIT** is in capitals, the display shows:

NORMAL mailbox

If you want to send from **CONTACT** to **CONTACT** select **NORMAL** (600 Bd.). Selecting this mode, the unit will not automatically switch to receive mode after transmission of text.

When you select **MAILBOX**, the **CONTACT** will send the text file(s). It will automatically switch to **RECEIVE** mode after transmission.

Start the text file(s) with the command word and destination of your mailbox message.
(See your mailbox manual.)

When either **NORMAL** or **MAILBOX** are selected, the display shows:

TRANSMISSION SPEED: 600 Bd [use spacebar]

Use spacebar to select baudrate: 300, 600 or 1200Bd. If you expect a bad connection: change baudrate to 300.

For fast transmission: select 1200 Bd.

For **MAILBOX** select 600Bd.

The transmission mode is now stored in your **CONTACT**. When sending a message the next time in the same transmission mode, you only need to press the **SEND** key twice. The **CONTACT** will automatically switch to **RECEIVE** mode.

SET-UP

To adapt the **CONTACT** to non-standard printers (see section M): press **SEND** key. Select **SET-UP**, select **PRINTER**.

Press **RETURN** key or cursor down. The display shows:

RESET-CHARACTER-SET new-character-set

Select **NEW-CHARACTER-SET**. Press **RETURN** key or cursor down. Display shows:

CONVERSION CHARACTER . - > 00

Press the **CONTACT** key for the first character concerned. Press the code number from your

printer table. Display shows, e.g.:

CONVERSION CHARACTER

A - > 41 (Y/N)

Correct? Press **Y** and continue.

You made a mistake? Press **N** and insert the correct numbers. When complete press **RETURN** key twice. The **CONTACT** will revert to the **MENU**. Press **ON/STOP** to quit the **MENU**.

You can 'reprogram' up to 12 of the **CONTACT** keys.

To clear the conversion characters select **RESET-CHARACTER-SET** and press **RETURN** key or cursor down. Display shows:

< CHARACTER TABLE CLEARED >

Press **ON/STOP** to revert to the text.

To display or not to display the line and text file numbers in the display select **DISPLAY**. By pressing the space-bar you have the option to switch the line and text file numbers on or off. Press **RETURN** key after selecting. The **CONTACT** 0.9 reverts to the **MENU**.

To switch on or off the keyboard click, select **KEYCLICK** from the **MENU**. By pressing the space-bar you have the option to switch the keyboard click on or off. Press **RETURN** key to select and to revert to the **MENU**. Press **ON/STOP** to revert to the text.

To perform standard arithmetical calculations select **CALC** from the **MENU**. Press cursor down or **RETURN** key.

The display shows:

01 - C -

Enter figures and arithmetical symbols in the same order as you would write e.g. 6x12.45

Press **RETURN** key or type '='. The **CONTACT** will now calculate the answer to this 'sum' and place that answer after the equals sign.

When you press **TEXT** the calculation is inserted in a free text file.

(See section J.)

CONTACT NORMAL AUDIO TRANSMISSION FORMAT

1 start-bit, 7 data-bits (LSB first),
1 parity-bit (even), 2 stop-bits.
MARK = 1300 Hz, SPACE = 1700 Hz, MARK = 1,
SPACE = 0.

HEADER

Transmission starts with 0.5 seconds MARK
followed by:
16 Null-bytes (ASCII 00) at 600 Bd..
0.8 sec. MARK, 4 Null-bytes (ASCII 00)
(or 4 x HEX FF if encrypted).
Any unacceptable data will restart the reading
process.

DATA

Even parity is used.
The first byte of data is the MARGIN value.
End of transmission:
32 End-Of-Transmission bytes (ASCII 04) are sent.
3 End-Of-Transmission bytes (ASCII 04) must be
received to stop.
Frequencies at 600 Bd. are complying with CCITT
V23 Standard Mode 1.

CONTACT HAMMING AUDIO TRANSMISSION FORMAT

600 Baud, 1 start bit, 8 data bits, no parity, 2 stop
bits.
MARK = 1300 Hz, SPACE = 1700 Hz, MARK = 1,
SPACE = 0
These frequencies are complying with the CCITT
V23, Mode 1, Standard.

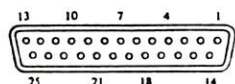
HEADER

Transmission starts with 0.5 seconds MARK,
followed by:
- 16 null-bytes (ASCII 00)
- 0.8 seconds MARK
- 4 bytes which identify the filetype: 4 x HEX 66 if
text is normal
4 x HEX 99 if text is encrypted

CONTACT SERIAL DATA OUT FORMAT

1 start-bit, 7 data-bits (LSB first),
1 parity-bit (even), 2 stop-bits,
baud-rate 1200.
logic 1: -5 V (plm. 20%),
logic 0: +5 V (plm. 20%)
handshake:
busy 0.8 V max., ready 2.0 V min.
Data levels are compatible with RS232C and V24
Standards.

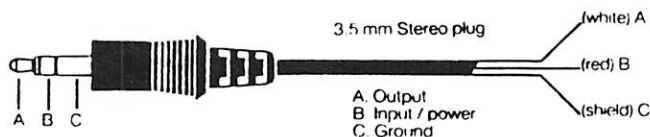
CONNECTING CONTACT TO RS 232C SERIAL PRINTERS



Most printers with RS232C serial connection use
25-way D-type connector. In order to connect the
CONTACT to such a printer, proceed as follows:
1. Connect ground lead of CONTACT (shielded
wire) to pin 7 of D-connector.
2. Connect data line of the CONTACT (top of pin
stereo jack, white wire) to pin 3 of D-connector.
3. Connect ready line of CONTACT (middle pin of
stereo jack, red wire) to pin 20 of D-connector.
4. Interconnect pin 4, 5, 6 and 8 of D-connector to
each other with a piece of wire.

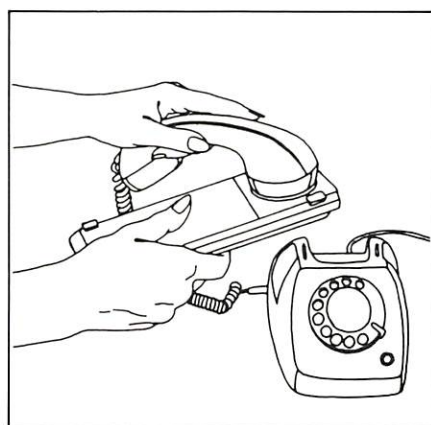
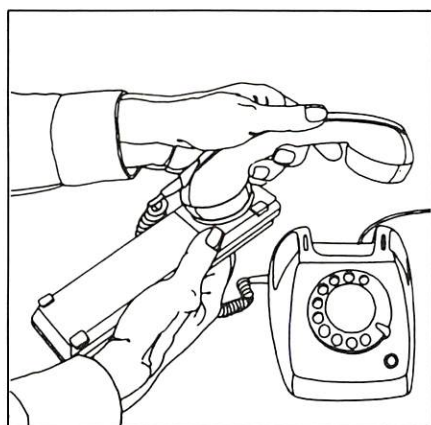
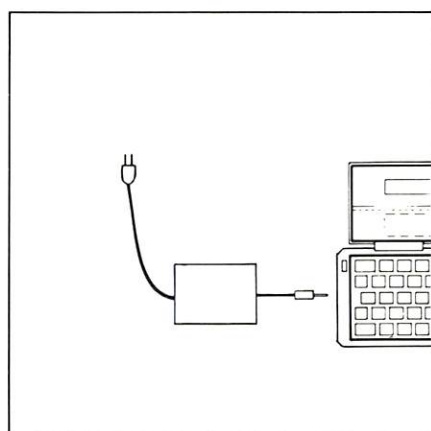
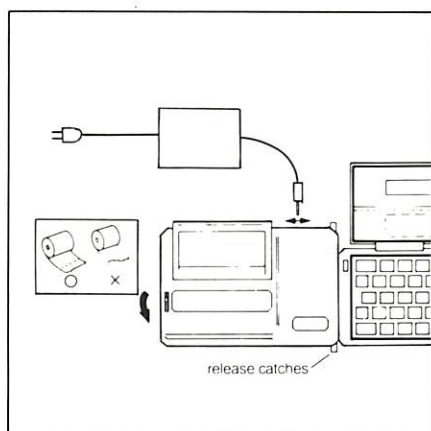
Most printers will work properly when connected as
described above.

You can also connect the CONTACT SERIAL
ADAPTOR, a device that can be used to interface
the CONTACT with almost any other printer,
computer or communications device. Its DIP
switches will configure the CONTACT SERIAL
ADAPTOR to the requirements of the serial port of
the equipment to be connected to the CONTACT.



ASCII CHARACTER CODES

to modern		to printer		to modern		to printer	
dec.	hex.	char.	dec	hex	dec.	hex.	char.
2	02	A	2	02	79	4F	O
3	03	CR	3	03	80	50	P
13	0D	SPACE	13	0D	81	51	Q
32	20		32	20	82	52	R
33	21	!	33	21	83	53	S
34	22	"	34	22	84	54	T
35	23	#	35	23	85	55	U
36	24	\$	36	24	86	56	V
37	25	%	37	25	87	57	W
38	26	&	38	26	88	58	X
39	27	'	39	27	89	59	Y
40	28	(	40	28	90	5A	Z
41	29	)	41	29	91	5B	[
42	2A	*	42	2A	92	5C	\
43	2B	+	43	2B	93	5D	]
44	2C	,	44	2C	94	5E	^
45	2D	-	45	2D	95	5F	_
46	2E	.	46	2E	96	60	0
47	2F	/	47	2F	97	61	a
48	30	0	48	30	98	62	b
49	31	1	49	31	99	63	c
50	32	2	50	32	100	64	d
51	33	3	51	33	101	65	e
52	34	4	52	34	102	66	f
53	35	5	53	35	103	67	g
54	36	6	54	36	104	68	h
55	37	7	55	37	105	69	i
56	38	8	56	38	106	6A	j
57	39	9	57	39	107	6B	k
58	3A	:	58	3A	108	6C	l
59	3B	;	59	3B	109	6D	m
60	3C	<	60	3C	110	6E	n
61	3D	=	61	3D	111	6F	o
62	3E	>	62	3E	112	70	p
63	3F	?	63	3F	113	71	q
64	40	@	64	40	114	72	r
65	41	A	65	41	115	73	s
66	42	B	66	42	116	74	t
67	43	C	67	43	117	75	u
68	44	D	68	44	118	76	v
69	45	E	69	45	119	77	w
70	46	F	70	46	120	78	x
71	47	G	71	47	121	79	y
72	48	H	72	48	122	7A	z
73	49	I	73	49	123	7B	ÿ
74	4A	J	74	4A	124	7C	À
75	4B	K	75	4B	125	7D	Á
76	4C	L	76	4C	126	7E	Â
77	4D	M	77	4D	127	7F	Ã
78	4E	N	78	4E			



For further information on the full range of Teli products please
contact Customer Services, Teli plc, Intec 3, Wade Road
Basingstoke, Hants RG24 0NE
Telephone 0256 840 504