

APPLE - HELL - SCHREIBER

BY:

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A HELL-FELDFERNSCHREIBER

AND HELL-SCHREIBER 'GL'

FOR APPLE ][

\* PRESS 'SPACE' FOR INSTRUCTIONS

\* PRESS 'RETURN' TO START HELL

THE APPLE-HELL-FELDSCHREIBER.

THE APPLE-HELL-FELDSCHREIBER.

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THE APPLE-HELL-SCHREIBER "GL" TYPE 72C

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\* \* \* APPLE - HELL - SCHREIBER \* \* \*

THIS PROGRAM TURNS YOUR APPLE COMPUTER INTO A HELL-TYPE TERMINAL.

THE HELL SIGNALS CAN WITHSTAND A LOT OF INTERFERENCE, BECAUSE THE TRANSMITTED INFORMATION IS NOT A CODE, SYMBOLIZING THE CHARACTER, BUT A DESCRIPTION OF THE SHAPE OF THE CHARACTER.

INTERFERENCE APPEARS AS DISTORTION OF THE CHARACTER-SHAPE, BUT NEVER CAUSES A WRONG CHARACTER TO BE PRINTED.

\* 'SPACE'=CONTINUE            'RETURN'=START \*

\* \* \* TWO SYSTEMS \* \* \*

THERE ARE TWO HELL-SCHREIBER SYSTEMS.

A) THE HELL-FELDSCHREIBER IS A QUASI-SYNCHRONOUS SYSTEM AND USES NO STARTING MARKS. THIS SYSTEM IS THE MOST INSENSITIVE TO INTERFERENCE.

B) THE HELL-SCHREIBER 'GL' USES A PULSE THAT LEADS THE CHARACTER INFORMATION. INTERFERENCE DURING RECEPTION MAY DISTURB THIS STARTING MARK, SO THAT INFORMATION WILL BE LOST

\* 'SPACE'=CONTINUE            'RETURN'=START \*

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* * * RECEIVER INTERFACE * * *
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HELL-SIGNALS ARE TRANSMITTED OVER RADIO AS AN INTERMITTENT RADIO CARRIER (A1). YOUR SSB-RECEIVER CONVERTS THEM INTO AUDIBLE TONES, SOUNDING LIKE:

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'PREET PREET PREET'
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TO INTERFACE THE SPEAKER OUTPUT TO THE APPLE, A TONE AMPLITUDE DETECTION CIRCUIT IS REQUIRED THAT GIVES A LOGICAL '1' TO THE SW0 INPUT OF THE GAME I/O (PIN 2) DURING DETECTION OF A TONE.

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* 'SPACE'=CONTINUE      'RETURN'=START *
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* * * TRANSMITTER INTERFACE * * *
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THE KEYING-SIGNAL FOR THE TRANSMITTER IS PRESENT ON THE AN0 OUTPUT OF THE GAME I/O CONNECTOR (PIN 15).

A LOGICAL '1' INDICATES KEYDOWN STATUS.

THE AN1 OUTPUT (PIN 14) INDICATES THE STATUS OF THE TERMINAL. A LOGICAL '1' CORRESPONDS TO TRANSMISSION. THIS OUTPUT MIGHT BE USED TO CONTROL THE OPERATION OF A RADIO TRANSCEIVER.

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* 'SPACE'=CONTINUE      'RETURN'=START *
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\* \* \* SYNCHRONISATION \* \* \*

THE HELL-FELDSCHREIBER REQUIRES A MORE OR LESS SYNCHRONOUS OPERATION OF THE TRANSMITTER AND RECEIVER. THE <= AND => KEYS MUST BE USED FOR ADJUSTMENT OF THE RECEIVER. LINES OF TEXT SHOULD APPEAR ON YOUR SCREEN ABOUT HORIZONTAL.

THE HELL-'GL' HAS SYNCHRONISATION OF ITS OWN. HERE THE <= AND => ARE USED TO ADJUST THE VERTICAL POSITION OF THE CHARACTERS ON THE LINE.

\* 'SPACE'=CONTINUE 'RETURN'=START \*

\* \* \* CONTROL KEYS \* \* \*

THE FOLLOWING CONTROL CHARACTERS ARE RECOGNIZED BY THE APPLE-HELL RECEIVER:

CTRL-A: PRINT THE HELL CHARACTER SET

CTRL-T: PRINT THE TITLE

CTRL-G: SWITCH TO 'GL' (F)

CTRL-F: SWITCH TO 'FELD' (G)

CTRL-X: EXIT, STOP PROGRAM

CTRL-W: HALT RECEPTION

CTRL-C: CONTINUE RECEPTION

(F): ONLY IN 'FELD. (G): ONLY IN 'GL'

\* 'SPACE'=CONTINUE 'RETURN'=START \*

\* \* \* RECEIVE - TRANSMIT \* \* \*

THE TERMINAL SWITCHES TO TRANSMISSION WHEN NON-CONTROL CHARACTERS ARE TYPED. THE CHARACTERS ARE BUFFERED AND SHOWN ON THE SCREEN.

WITH 'HELL-FELDSCHREIBER' IN OPERATION THE TERMINAL RESUMES RECEPTION AS SOON AS THE BUFFER HAS BEEN EMPTIED.

HELL-'GL' REQUIRES A 'RETURN' TO DO SO.

\* 'SPACE'=CONTINUE            'RETURN'=START \*

\* \* \* TYPING ERRORS \* \* \*

DURING TRANSMISSION OF 'FELDSCHREIBER' SIGNALS THE <= KEY MAY BE USED TO ERASE TYPING ERRORS AS LONG AS THESE CHARACTERS HAVE NOT YET BEEN TRANSMITTED. CORRECTION OF TYPING ERRORS IS NOT POSSIBLE IN HELL-'GL' DUE TO ITS HIGHER SPEED.

\* 'SPACE'=CONTINUE            'RETURN'=START \*

\* \* \* TRANSMISSION RATES \* \* \*

THE TWO HELL SYSTEMS USE DIFFERENT  
TRANSMISSION RATES.

A) THE HELL-FELDSCHREIBER USES A  
TRANSMISSION RATE OF 122.5 BAUD.  
THIS IMPLIES A BANDWIDTH FOR THE  
RECEIVER OF AT LEAST 150 HZ.

B) THE HELL-SCHREIBER 'GL' USES A  
TRANSMISSION RATE OF 300 BAUD.  
A RECEIVER BANDWIDTH OF AT LEAST  
400 HZ IS REQUIRED.

\* 'SPACE'=CONTINUE            'RETURN'=START \*

\* \* \* START 'APPLE-HELL' \* \* \*

NOW PRESS 'RETURN' TO START 'APPLE-HELL'  
THE INSTRUCTIONS WILL BE ERASED

PRESS 'SPACE' TO REPEAT THE INSTRUCTIONS

\* 'SPACE'=CONTINUE            'RETURN'=START \*

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* CONTROL CHARACTERS *
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CTRL A: CHARACTERSET
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CTRL T: TITLE
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CTRL G: 'GL'
```

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CTRL F: 'FELD'
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```
CTRL X: EXIT
```

```
CTRL W: WAIT
```

```
CTRL C: CONTINUE
```

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RESTART: 'RUN'
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