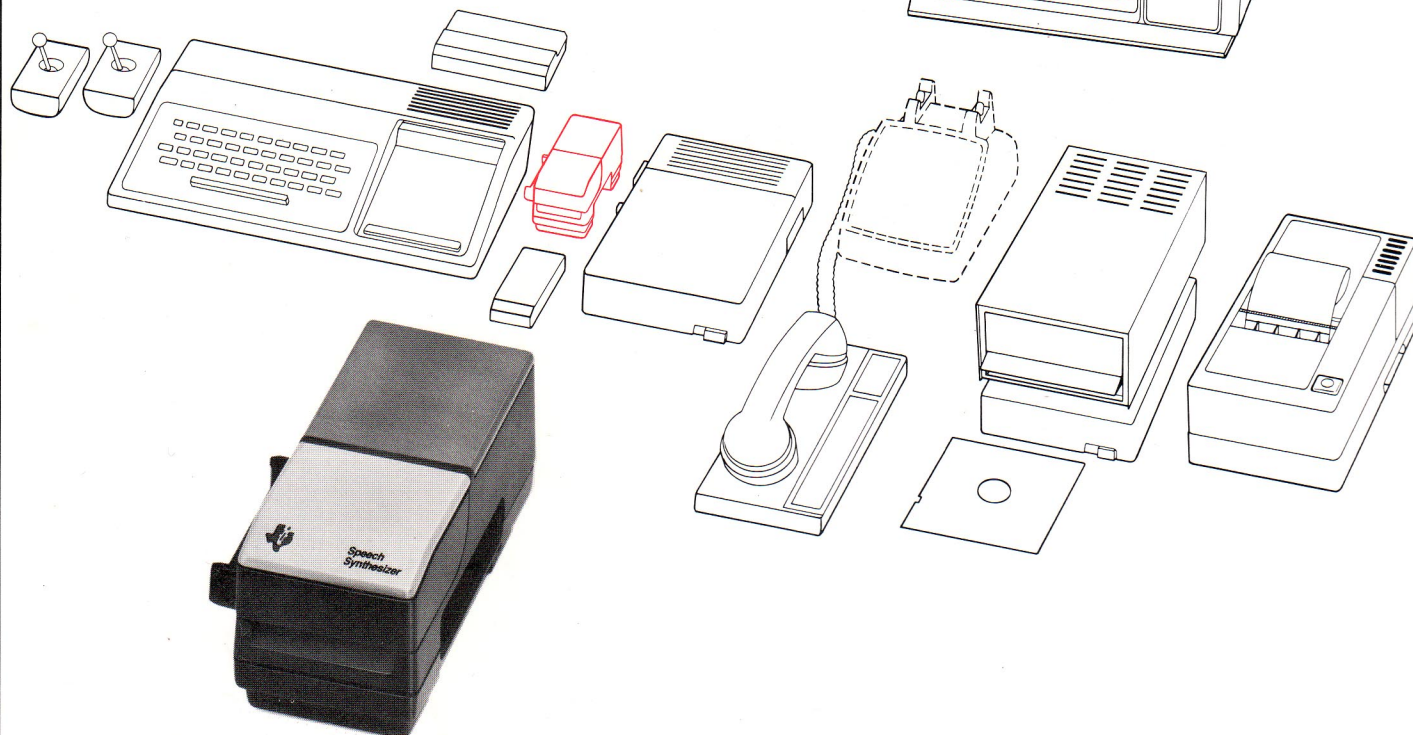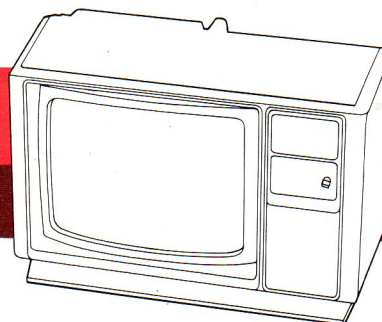**Texas Instruments**
TI-99/4 Home Computer Accessory

Solid State Speech™

Synthesizer Model PHP1500

The Texas Instruments Solid State Speech™ Synthesizer makes possible the exciting addition of speech to the TI-99/4 Home Computer. Utilization of the Speech Synthesizer requires an optional Command Module programmed for speech, such as the Speech Editor Command Module. These preprogrammed modules allow the Speech Synthesizer to be used without the need to do any programming. Speech can also be included as part of your own programs in TI BASIC.

The Speech Synthesizer is entirely electronic. There are no taped voice recordings or any other traditional recording medium. Instead, a vocabulary of words and phrases is permanently stored on chips contained within the Speech Synthesizer. Each word has been transformed into a pattern of bits. When processed, each pattern drives electronic circuitry that rebuilds the requested word and audibly reproduces it through a loudspeaker. The Speech Synthesizer contains a resident vocabulary of over 300 words. Capacity is expandable with optional Plug-in Speech Modules.

Using the Speech Synthesizer is easy. It simply docks directly into the Home Computer by means of built-in connectors. There are no dangling cables. Next, you insert one of the Command Modules designed to call up speech from the Speech Synthesizer and you are ready to go.

The Speech Synthesizer provides a voice for the Home Computer, creating many new applications and enhancing the effectiveness of existing ones. It can communicate with you without you being near the display. It can recite instructions to those unable to read, or where written instructions might interfere with the display. It can provide exciting comments and sound effects in games, and it can reinforce concepts in educational applications.

Specifications

Operating modes.

The Speech Synthesizer can be used in several ways. In one mode, the Speech Synthesizer is controlled by a Command Module other than the Speech Editor Command Module. (This must be a Command Module with speech capability, and not all Command Modules have this feature.) In effect, the Command Module calls on the services of the Speech Synthesizer to perform requests for speech programmed into the module. This is the only operating mode available without the optional Speech Editor Command Module plugged into your Home Computer.

Other methods of operation require the use of the Speech Editor Command Module. Using the TI BASIC programming language, words, phrases, or sentences may be recited under program control. The Speech Synthesizer can be programmed to provide verbal instructions, prompting messages, or intermediate or final data results without interfering with other data you may wish to retain on the display.

The Speech Editor Command Module can also immediately recite words, phrases, and sentences without having to write a program. In this mode just type in the desired word, push the return key and the Speech Synthesizer says the word.

Speech Synthesizer resident vocabulary.

+ (positive)	B	CONNECTED	ENTER	GO
− (negative)	BACK	CONSOLE	ERROR	GOES
• (point)	BASE	CORRECT	EXACTLY	GOING
0	BE	COURSE	EYE	GOOD
1	BETWEEN	CYAN	F	GOOD WORK
2	BLACK	D	FIFTEEN	GOODBYE
3	BLUE	DATA	FIFTY	GOT
4	BOTH	DECIDE	FIGURE	GRAY
5	BOTTOM	DEVICE	FIND	GREEN
6	BUT	DID	FINE	GUESS
7	BUY	DIFFERENT	FINISH	H
8	BY	DISKETTE	FINISHED	HAD
9	BYE	DO	FIRST	HAND
A (ā)	C	DOES	FIT	HANDHELD UNIT
A1 (ah)	CAN	DOING	FIVE	HAS
ABOUT	CASSETTE	DONE	FOR	HAVE
AFTER	CENTER	DOUBLE	FORTY	HEAD
AGAIN	CHECK	DOWN	FOUR	HEAR
ALL	CHOICE	DRAW	FOURTEEN	HELLO
AM	CLEAR	DRAWING	FOURTH	HELP
AN	COLOR	E	FROM	HERE
AND	COME	EACH	FRONT	HIGHER
ANSWER	COMES	EIGHT	G	HIT
ANY	COMMA	EIGHTY	GAMES	HOME
ARE	COMMAND	ELEVEN	GET	HOW
AS	COMPLETE	ELSE	GETTING	HUNDRED
ASSUME	COMPLETED	END	GIVE	HURRY
AT	COMPUTER	ENDS	GIVES	I

I WIN
IF
IN
INCH
INCHES
INSTRUCTION
INSTRUCTIONS
IS
IT
J
JOYSTICK
JUST
K
KEY
KEYBOARD
KNOW
L
LARGE
LARGER
LARGEST
LAST
LEARN
LEFT
LESS
LET
LIKE
LIKES
LINE
LOAD
LONG
LOOK
LOOKS
LOWER
M
MADE
MAGENTA
MAKE
ME
MEAN
MEMORY
MESSAGE
MESSAGES
MIDDLE
MIGHT
MODULE
MORE
MOST
MOVE
MUST
N
NAME
NEAR
NEED

NEGATIVE
NEXT
NICE TRY
NINE
NINETY
NO
NOT
NOW
NUMBER
O
OF
OFF
OH
ON
ONE
ONLY
OR
ORDER
OTHER
OUT
OVER
P
PART
PARTNER
PARTS
PERIOD
PLAY
PLAYS
PLEASE
POINT
POSITION
POSITIVE
PRESS
PRINT
PRINTER
PROBLEM
PROBLEMS
PROGRAM
PUT
PUTTING
Q
R
RANDOMLY
READ (rēd)
READ1 (rĕd)
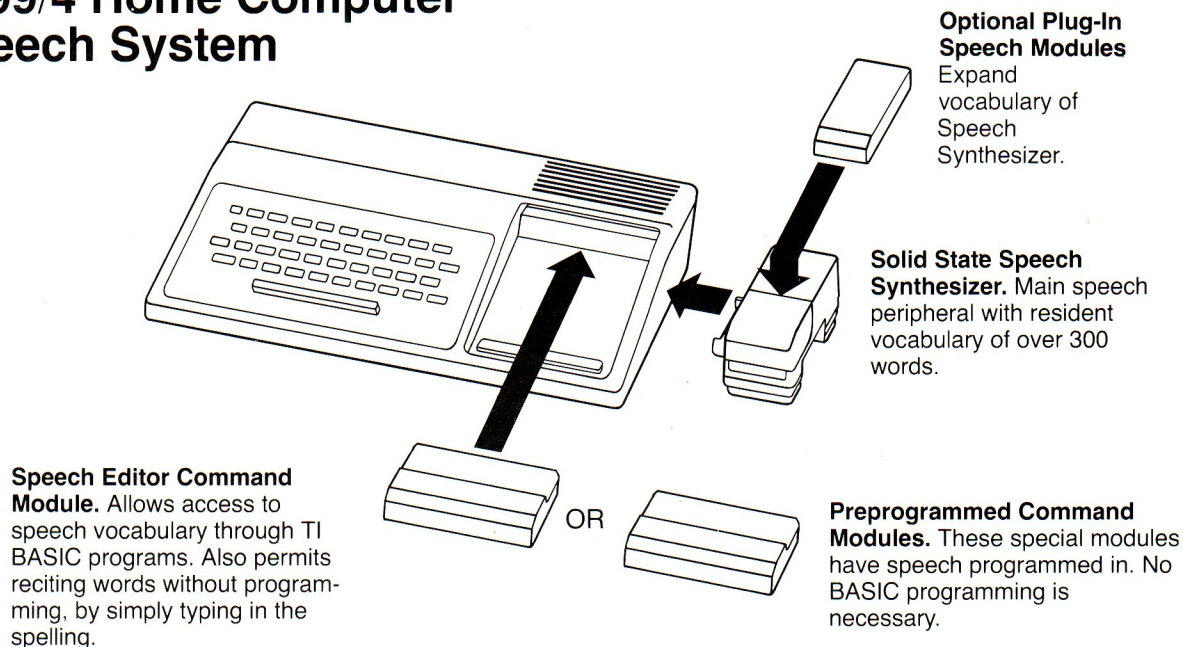READY TO START
RECORDER
RED
REFER
REMEMBER
RETURN
REWIND
RIGHT

ROUND
S
SAID
SAVE
SAY
SAYS
SCREEN
SECOND
SEE
SEES
SET
SEVEN
SEVENTY
SHAPE
SHAPES
SHIFT
SHORT
SHORTER
SHOULD
SIDE
SIDES
SIX
SIXTY
SMALL
SMALLER
SMALLEST
SO
SOME
SORRY
SPACE
SPACES
SPELL
SQUARE
START
STEP
STOP
SUM
SUPPOSED
SUPPOSED TO
SURE
T
TAKE
TEEN
TELL
TEN
TEXAS
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THAN
THAT
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THEIR
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THINK
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THIRTEEN
THIRTY
THIS
THREE
THREW
THROUGH
TIME
TO
TOGETHER
TONE
TOO
TOP
TRY
TRY AGAIN
TURN
TWELVE
TWENTY
TWO
TYPE
U
UHOH
UNDER
UNDERSTAND
UNTIL
UP
UPPER
USE
V
VARY
VERY
W
WAIT
WANT
WANTS
WAY
WE
WEIGH
WEIGHT
WELL
WERE
WHAT
WHAT WAS THAT
WHEN
WHERE

WHICH
WHITE
WHO
WHY
WILL
WITH
WON
WORD
WORDS
WORK
WORKING
WRITE
X
Y
YELLOW
YES
YET
YOU
YOU WIN
YOUR
Z
ZERO

TI-99/4 Home Computer Speech System

Optional Plug-In Speech Modules Expand vocabulary of Speech Synthesizer.

Solid State Speech Synthesizer. Main speech peripheral with resident vocabulary of over 300 words.

Speech Editor Command Module. Allows access to speech vocabulary through TI BASIC programs. Also permits reciting words without programming, by simply typing in the spelling.

OR

Preprogrammed Command Modules. These special modules have speech programmed in. No BASIC programming is necessary.

Vocabulary expansion.

Optional Plug-in Speech Modules add additional vocabulary, in specialized areas, to your Home Computer. Simply drop the appropriate Speech Module into the Speech Synthesizer and the new words are immediately accessible to you, in addition to the resident vocabulary in the Speech Synthesizer itself. (Requires Command Module with speech capability, such as the Speech Editor Command Module.)

A technological milestone.

Speech synthesis is a milestone innovation in computer technology. For the first time, Texas Instruments has combined all the functions necessary to electronically duplicate the human voice track in a single semiconductor chip. Prior to this development, speech synthesis required so much logic and memory capability that it could only be done with large computers and at great cost. This exclusive TI technology reproduces complete words stored in memory.

Texas Instruments reserves the right to make changes in materials and specifications without notice.

Power source.

All power requirments of the Speech Synthesizer are supplied by the TI-99/4 Home Computer console.

Physical characteristics.

Length: 13.7 cm (5.4-inches).
Width: 8.1 cm (3.2-inches).
Height: 6.8 cm (2.7-inches).
Weight: 0.3 kg (0.6 lbs).

Limited warranty.

The Texas Instruments Solid State Speech Synthesizer Model PHP1500 is covered by a 90-day limited warranty against defects in materials and workmanship. This warranty covers only the hardware portion of the Speech Synthesizer. See *User's Reference Guide* for complete warranty text. TI cannot and does not warrant that the TI Home Computer programs and book materials will be free from error or will meet the specific requirements of the user. The user assumes complete responsibility for any decisions made or actions taken based on information obtained using these programs and book materials, which are made available solely on an "as-is" basis (see owner's manual).

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