

**TANDY**  
ELECTRONICS

The biggest name  
in little computers

# MICROCOMPUTER NEWSLETTER

Volume No. 6 — October-November, 1979

Prices may vary at individual Stores and Dealers

## NEW!



### VOICE SYNTHESIZER:

The new TRS-80 Voice Synthesizer gives any TRS-80 the capability of simulating speech under program control.

There are 60 phonemes (elementary sounds) which under your progress control are joined together to form words and sentences. Even accents can be programmed!

No special software is required as all output to the Synthesizer is via PRINT @ or POKE commands. A demonstration cassette is included which will show exactly what is possible and the instruction manual will show you how.

Applications for the Voice Synthesizer are limited only by your imagination. You can substitute voice output for information you would otherwise print on the screen in computer assisted instruction, business programs or games.

The Voice Synthesizer comes in a silver finish wooden enclosure and contains an inbuilt amplifier and speaker and is ex-stock, but in extremely limited supply so order one **NOW**.

**Voice Synthesizer 26-1180 . . . \$499.95**

### DUST COVERS:

As mentioned in Newsletter No. 5 the dust covers for the TRS-80 are available. There are 3 separate sets of covers.

C.P.U., MONITOR, CASSETTE  
RECORDER . . . . . 26-501  
DISK DRIVES (2 off) . . . . . 26-502  
PRINTER . . . . . 26-503

These covers will fit both styles of Monitor and disk drives and will fit either of the line printers (26-1150 and 26-1152).

26-501 . . . . . \$12.95  
26-502 . . . . . \$ 9.95  
26-503 . . . . . \$ 6.95

### DISK STORAGE CASES:

These are a must for all disk drive owners for the safe storage of diskettes. Each case will hold either 50 diskettes or 24 tapes. They are made of anti-static plastic and are designed for stacking.

**Disk Storage Case 26-1450 . . . \$29.95**

## SOFTWARE

### INVASION FORCE:

Take command of the USS Hepaestus and protect the galaxy against the hated and feared Jovians. The Command Control Display (TRS-80 screen) places all the ship's resources at your fingertips. Navigate through space using your hyper or ion engines. Use your long-range and short-range scanners to find the Jovian villains. When you do, attack with one of your four weapon systems — but you had better keep your deflector shields up to protect yourself against counter-attack!

You will have to manage your energy resources carefully so that you don't run out and get stranded in space. Keep an eye out for a space station where you can dock and replenish your supplies of energy and weapons

This game requires split-second decisions on your part and all action is in real-time. While the clock on your screen is running, energy will be consumed and Jovian ships in your sector of space will change position.

Depending on which of 10 levels of difficulty you choose, the speed of the action will change. You'll have

unending hours of fun playing this space-age adventure game. Requires 16K Level I or II.

**Invasion Force 26-1906 . . . \$24.95**





## BUDGET MANAGEMENT:

This program, as the name suggests, is for balancing your income to your expenses. It is an advance of the Personal Finance package but is simpler than the General Ledger program.

It is capable of using either disk or tape files without modification and will output to a printer if one is connected.

Budget Management allows you to keep track of up to:

**60 Budget Accounts**  
**25 Cash Expenses**  
**20 Savings deposits or withdrawals**  
**50 Cheques per month (or pay period)**  
**20 Deposits per month (or pay period)**

You can also keep track of cheques as they are drawn against, via your bank statement. Requires minimum of 16K Level II.

**Budget Management 26-1603. \$29.95**

## DISK INSTRUCTION COURSE:

A comprehensive disk course dealing with using TRSDOS and DISKBASIC.

It deals with random and sequential file handling plus the extensions to Level II BASIC.

The format is the same as the Level II BASIC Course Part I and Part II and is supplied on 4 diskettes.

**Disk Instruction Course 26-2007 ..... 59.95**

## FLYING SAUCERS:

Get your own Real-Time shooting gallery. Your targets are three types of flying saucers and spy satellites with different point scores. Your weapon is a missile launcher which you can aim and fire at will. But be careful you lose points for each miss!

**Flying Saucers. 26-1905 ..... 14.95**

## Assembly Language Programming:

Here is a new book from Tandy that will take some of the mystery out of the Z-80 microprocessor's machine language and introduce you to assembly language programming on the TRS-80.

Among the topics covered are the instruction set of the Z-80, its different addressing modes, movement of data within memory, arithmetic and compare operation. Logical operation including shifting and bit-wise operation, and, of course assembly language programming.

One of the biggest mysteries of computing — to novices and experienced assembly language programmers alike — is the functioning of input and output operations. Only mad dogs and developers of system software seem to live comfortably

with I/O concepts because of their dependence on specific hardware features and configurations. The chapter on I/O operations will go a long way toward removing some of the mystery for you. It does not talk in vague generalities but gives specific details about the TRS-80 keyboard, graphics display and cassette operation.

**Assembly Language Programming 62-2006. .... 3.95**

## D.O.S. Version 2.3

The latest version of TRSDOS has been released and should be delivered by the end of October.

There are no additional commands or instructions as the changes are to the method of operation therefore no manual update is included.

## HINTS:

### Copy Graphics to lineprinter

If you have ever had a graphic display, one which contains only graphic characters, and you wished there were a way to copy that display using your line printer, here is one solution.

**3000'SCREEN GRAPHICS HARD COPY GENERATOR**

```
3010'
3020 FOR X = 15360 TO 16383 STEP 64
3030 A = 1: B = 2: C = 1
3040 FOR K = X TO X + 63
3050 IF ((PEEK(K) - 128) AND A) = A
    THEN PRINT "#"; GOTO 3070
3060 LPRINT " ";
    + "° IF PEEK(K) = 32 GOTO 3090
3080 IF ((PEEK(K) - 128) AND B) = B
    THEN PRINT "#"; GOTO 3100
3090 LPRINT " ";
3100 NEXT K
3110 LPRINT " "
```

```
3120 ON C GOTO 3130, 3140, 3150
3130 A = 4: B = 8: C = 2: GOTO 3040
3140 A = 16: B = 32: C = 3: GOTO 3040
3150 NEXT X
3160 RETURN
```

If you need a sample program to test this with, try the following:

```
10 DEFINT I,J
20 CLS
30 FOR I = 0 TO 33
40 FOR J = 0 TO 50
50 A = INT(RND(0) + .5)
60 IF A = 1 THEN SET (J,I)
70 NEXT J,I
80 GOSUB 3000
90 END
```

## TANDY COMPUTER CENTRES

So far there are three computer centres already opened.  
Centres in Sydney and Adelaide will be opening shortly.

Tandy Computer Centre,  
721 Glenhuntly Road,  
CAULFIELD SOUTH  
Vic. 3162

Phone (03) 523-9717

Manager — Jeff Beaumont

Tandy Computer Centre,  
131 Abbotsford Road,  
MAYNE,  
Qld. 4006.

Phone (07) 52-2091

Manager — Gary McGregor

Tandy Computer Centre,  
208 Beaufort Street,  
PERTH,  
W.A. 600.

Phone (09) 328-4122

Manager — Bruce Woods