Radio Shack®
TRS-80™ Microcomputer System Products

The Low-Cost Leader Goes Farther Out Front

Level-I User's Manual

TRS-80 Computer with Keyboard, 12" Video Display, Cassette Recorder, and Power Supply

TRS-80 Computer with 4K RAM, Level-I BASIC

TRS-80 Computer with 4K RAM, Level-II BASIC

TRS-80 Computer with 16K RAM, Level-I BASIC

Level-II BASIC Option

16K Memory Option

TRS-80 Computer with 16K RAM, Level-II BASIC

Quick, Watson! Deduction Game

TRS-80 Expansion Interface

TRS-80 Mini-Disk System

Editor/Assembler

TRS-80 Line Printer

T-BUG

TRS-80 Screen Printer

Backgammon/Blackjack

Level-I BASIC Course

Home Recipe

Payroll

Statistical Analysis

In-Memory Information

Personal Finance

Math I

Algebra I

Order Now at Your Nearest Radio Shack Store or Participating Dealer

Radio Shack Wants to be YOUR Computer Company!

Lewis Kornfeld

Dear TRS-80 Owner and Inquirer:

In 1977 I said the TRS-80 was "the most important product ever produced by Radio Shack." It was. It is! It is also the most difficult to build in terms of units per day. So, if you waited extra long (or are still waiting) the day is near when our backlog will be eliminated and we will be able to ship from stock. Thanks again for your patience.

A few skeptics imagined that Radio Shack would, with TRS-80, skim off a few thousand hobbyists and then retire from the fray. Shame on them! The following pages of peripheral equipment and software should demonstrate to anyone that Radio Shack means business . . . the computer business.

In short, TRS-80, the Radio Shack product that opened up the Microcomputer Age to thousands of companies, institutions and individuals, now enters Phase Two.

The Radio Shack TRS-80 is now a full microcomputer system, thanks to newly developed peripherals as described in this brochure. A peripheral is a unit that works in conjunction with a computer but is not a part of it. In summary: printers, disk drives, expansion interface/modules, and software.

Again, Radio Shack's prices are right, and our insistence upon quality (plus available local service) make our Company the one you can depend on, a fact that's particularly important in sorting out the workers from the talkers in this fascinating new field of electronics.

Get your orders in early. Despite numerous pressures to break our delivery promises, we will continue to ship computers and peripherals on a first-ordered first-delivered basis.

Sincerely,

President,
Radio Shack Division,
Tandy Corporation

TANDY CENTER
Radio Shack
International
Headquarters

The TRS-80 . . . Complete, Low-Priced, Ready to Go!

Designed and manufactured in the U.S.A. by Radio Shack, the TRS-80 computer system is 100% wired, tested and U.L. listed for 120VAC so you can put it to work immediately! It's ideal for finances, education, accounting, laboratory—even games at home. And the new products found in this brochure are proof of our intention to keep you well supplied with increasing software and accessories! Below are four complete TRS-80 systems incorporating different combinations of RAM (4K and 16K) and ROM (Level-I and Level-II BASIC). Choose the one that's right for you—turn the page for a look at the TRS-80 matched with a variety of peripherals. Expansion is easy due to TRS-80's modular design. All TRS-80 systems below include a 12" video monitor, Realistic® CTR-41 battery/AC cassette recorder, power supply, 232-page user's manual, and a 2-game cassette.

Level-I BASIC . . . The Beginner's Choice!

Radio Shack's Level-I BASIC really packs a lot into 4K of ROM to produce a thorough but easy to understand computer language. It's the ideal entry level programming language for the computer novice. In fact, BASIC is an acronym for "Beginner's All-purpose Symbolic Instruction Code." Level-I includes most standard BASIC commands, video graphics, cassette input/output, floating point arithmetic, numeric array, and limited string variables. If you can read and write English, you can probably learn to program with Level-I BASIC!

Level-II BASIC . . . More Power to You!

Level-II BASIC is an enhanced, more powerful version of Level-I. It is contained in 12K ROM, instead of the 4K required by Level-I. This additional storage enables Level-II to include additional features that are needed in many applications. Some of these include print formatting, keyboard roll-over (you can type as fast as you wish), string functions, a long list of arithmetic functions, and user control of program errors. In addition, Level-II's versatility allows you to enjoy faster graphics, editing capabilities, and up to 16 digits of accuracy.

Level-I with 4K RAM
599⁰⁰

Our standard TRS-80 system contains sufficient memory to accommodate many uses in home, school, lab, or business.
26-1001, 26-1201, 14-841 . . . . 599.00

Level-II with 4K RAM
698⁰⁰

Improved graphics, print formatting, and a faster cassette transfer rate are features of Level-II BASIC.
26-1004, 26-1201, 14-841 . . . . . 698.00

Level-I with 16K RAM
889⁰⁰

The additional RAM with this system allows greater data storage and programming capability for more extensive uses.
26-1003, 26-1201, 14-841 . . . . 889.00

Level-II with 16K RAM
988⁰⁰

A combination of 16K RAM and the powerful Level-II BASIC produces a system capable of handling most demands.
26-1006, 26-1201, 14-841 . . . . 988.00

"CREATIVE COMPUTING" Comments on the TRS-80 . . .

". . . the designers have made the TRS-80 as idiot-proof as possible . . . operation couldn't have been simpler; by having BASIC in ROM, all you do is plug in the machine, turn it on, and start programming . . . the microprocessor in the TRS-80 is a Z-80, although a great many users won't really care if it's a 4004, as long as the computer performs. And it does, very well.

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ATTENTION!
If your application requires more complex, higher-priced system design . . . contact Tandy Computers, P.O. Box 2932, Fort Worth, Texas 76101.

Radio Shack Offers the Hardware You Need to

The NEW TRS-80 Screen Printer

599⁰⁰

- *Prints 2200 Characters/Sec*
- *Electrostatic 4" Wide Paper*

A remarkable, low-cost concept in hard copy! Amazingly fast and amazingly simple. Just touch a button — whatever is shown on your video screen (including graphics) is printed on 4"-wide paper. Requires only 4K RAM and Level-I BASIC, so you can run it right off the standard TRS-80 as is! Compact size.
26-1151 . . . . 599.00

Prints Program Listings as Quick as a Wink!

The NEW TRS-80 Line Printer

1299⁰⁰

Allows you to achieve true small-business capability! Prints from 60 to 110 characters per second using a 5x7 impact dot matrix. Character density is adjustable from 10 to 16.5 characters per inch. Roll paper up to 9.8" wide may be used. With top-of-form software control, friction feed. Requires 4K RAM, Level-II BASIC, and EXPANSION INTERFACE **26-1150** 1299.00

Sturdy Construction for Business Use

Three Typical E-X-P-A-N-

4K "EDUCATOR" SYSTEM

The "EDUCATOR" System includes our screen printer for a "hard copy" computing system useful in keeping track of household records and point-of-sale receipts. In addition, the "EDUCATOR" is ideally suited for computer-assisted instruction programs.

INCLUDES:

- TRS-80 with 4K RAM, Level-I BASIC (26-1001)
- 12" Video Display (26-1201)
- Realistic® CTR-41 Cassette Recorder (14-841)
- TRS-80 Screen Printer (26-1151)

Complete TRS-80 Computer System **1198⁰⁰**

16K "PROF

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- TR-I

Complete TRS-80
Computer System .

Make the TRS-80 into the System You Want!

The NEW TRS-80 Expansion Interface

299⁰⁰

*The Key to a More Powerful,
Versatile TRS-80 System!*

A vital part of Radio Shack's modular design, this single interface enables you to upgrade your system as your needs increase. It contains sockets for additional 16K or 32K RAM and a disk controller for up to four mini-disks. Software-selectable dual cassettes can be used. It attaches to (and continues) the TRS-80 bus, and features a Centronics parallel port, real time clock, and a card slot for an RS-232C interface — or whatever! Usually requires Level-II BASIC.
26-1140 . . . . 299.00

The NEW TRS-80 Mini-Disk System

499⁰⁰

- *80K Bytes Per Disk
  Storage Capability*
- *Includes TRS-80
  DOS Software*

Gives you more data storage space and greater operating speed — it literally transforms your TRS-80 into a new system capable of processing business applications! Transfer rate is 125K bits per second, with an average access time of ½ second. Hard error rate is 1 per 100 billion bits read. The mini-disk system enhances Level-II BASIC by adding 15 additional features. Requires 16K RAM, Level-II BASIC, and the EXPANSION INTERFACE.
26-1160 . . . . 499.00

-D-E-D TRS-80 Systems . . .

"FESSIONAL" SYSTEM

ROFESSIONAL" System offers 16K RAM, mini-stem, and a screen printer for applications in and engineering, clinical laboratories, statistical, and software development. A major plus of this is its potential to eliminate expensive "on-line"

UDES:

- 80 with 16K RAM, Level-II BASIC (26-1006)
- Video Display (26-1201)
- 41 Recorder (14-841)
- 80 Screen Printer (26-1151)
- 80 Expansion Interface (26-1140)
- 80 Mini-Disk System (26-1160)

2385⁰⁰

32K "BUSINESS" SYSTEM

A line printer and two mini-disk units are featured in the "BUSINESS" System. Possible applications include general ledger and payroll, accounts receivable/accounts payable, inventory control, mailing lists, sales and market analysis, and use in medical and dental offices.

INCLUDES:

- TRS-80 with 16K RAM, Level-II BASIC (26-1006)
- 12" Video Display (26-1201)
- CTR-41 Recorder (14-841)
- TRS-80 Line Printer (26-1150)
- TRS-80 Expansion Interface (26-1140)
- Two TRS-80 Mini-Disk Systems (26-1160)
- 16K RAM Memory Option (26-1101)

Complete TRS-80
Computer System # 3874⁰⁰

How to Expand Your Existing TRS-80 System

Radio Shack has the cure for your growing pains — our low-cost options for easy system expansion! And we've made expansion a smooth operation by designing the TRS-80 with an eye on your future — so you can beef up your system without hassling with large-scale modifications. Just add on one or more options for increased RAM or ROM. Read on and you'll discover how simple — and inexpensive — system expansion can be at Radio Shack!

Level-II BASIC (ROM)

This option allows you to step up to Level-II BASIC if you own a Level-I BASIC microcomputer. Chances are that as you become proficient in Level-I programming you'll want to go to Level-II BASIC. When you're ready to "graduate," simply place the order at your nearest Radio Shack. When it arrives at the store, you simply bring in your Level-I TRS-80 (keyboard unit only) and the store will send it to the nearest Radio Shack Repair Center for conversion to Level-II—at no extra installation cost to you! This usually takes less than a week. Level-II BASIC includes a user's manual and a conversion program that converts your Level-I programs and cassettes to Level-II, which has a faster cassette transfer rate. Plan for your future . . . order one today! 26-1120 . . . . 99.00

Features of Level-II BASIC

In order to show you the versatility of Level-II BASIC, we've listed statements, commands, and functions included in Level-II. Remember — you don't even have to go to 16K RAM to enjoy these features!

Variable Type Declaration Characters	Storage Bytes Used
$ String (0 to 255 characters)	3 + # of characters
% Integer (−32768 to 32767)	2
! Single precision (7.1 digit floating point) . . .	4
# Double precision (16.8 digit floating point)	8

Arithmetic Functions

ABS (exp)	PEEK (add)
ATN (exp)	POINT
CDBL	POS (dummy)
COBL (exp)	RANDOMIZE
CINT (exp)	RND (parameter)
COS (exp)	SGN (exp)
CSNG (exp)	SIN (exp)
ERL	SPC (exp)
ERR	SQR (exp)
EXP (exp)	TAB (exp)
FIX	TAN (exp)
MEM	USRn (exp)
INP (port)	VARPTR (var)
INT (exp)	VARPTR (# file number exp)
LOG (exp)	

Full Editing Features Commands

A — Restart EDIT at the start of the line
nC — Change n character(s)
nD — Delete n character(s) at the current position
E — End editing and save changes but don't type the rest of the line

H string — Delete the rest of the line and insert string
I string — Insert string at current position
L — Print the rest of the line and go to the start of the line
Q — Quit and cancel all changes
(backspace) — Delete previous character on the line
(Enter) — End editing and save changes
  And many more . . .

Program Statements

CMD	GOSUB	POKE
DEFDBL	GOTO	REM
DEFINT	IF	RESET
DEFSNG	LET	RESTORE
DEFSTR	NEXT	RESUME
DIM	ON ERROR GOTO	RETURN
END	ON . . . GOTO	SET
ERROR	ON . . . GOSUB	STOP
FOR	OUT	

Input-Output Statements

INPUT	DATA	CLOAD	PRINT #
PRINT	SET	CSAVE	INPUT #
READ	RESET	INKEY $	PRINT USING

Commands

CLEAR	DELETE	LIST	NEW	TROFF
CONT	EDIT	LLIST	RUN	TRON

String Functions

ASC (string)	MID$ (string, start [,length])
CHR$ (exp)	RIGHT$ (string, length)
LEFT$ (string length)	STR$ (exp)
LEN (string)	VAL (string)

Disk Commands

Input-Output Statements		Input-Output Functions	
CLOSE	LSET	CVD	LOF
DATA	OPEN	CVI	MKD$
FIELD	PRINT	CVS	MKI$
GET	PUT	EOF	MKS$
KILL	RESET	LOC	

These Disk Commands Are Available Only With the TRS-80 Mini-Disk

16K Memory (RAM)

Convert your 4K TRS-80 to 16K of RAM with this option and increase your computer's memory capability! You don't have to stop here, either. Our EXPANSION INTERFACE (26-1140) will accommodate one or two additional 16K options for a total of 32 or 48K RAM. Now that's total versatility! As with Level-II BASIC, this option can be ordered from your nearest Radio Shack for installation at one of our Regional Repair Centers. When the 16K option arrives at your store, you will be notified and asked to bring in your keyboard unit and/or INTERFACE for conversion. 26-1101 . . . . 290.00

Twelve Programs from Our Software Library

PAYROLL PROGRAM

The Payroll Program will handle up to twelve employees. With these programs, you will be able to create an employee file, add new employees to an existing file, and summarize year-to-date wages and taxes. In addition, you can enter hours worked, figure net pay, track quarter and year-to-date earnings and taxes for each employee. An invaluable tool! **26-1501** **19.95**

IN-MEMORY INFORMATION PROGRAM

A collection of three assembly language programs that can virtually replace any small index card system. It will file inventory, name and address lists, phone numbers, investment portfolios, and more. **26-1502** **19.95**

HOME RECIPE PROGRAM

Menus, directory, message center ... with this program, kitchen chores can be organized, simplified, and "computerized." You will be able to convert measurements, whether you want to serve five or fifty! It won't take long before you'll wonder how you ever worked in the kitchen without your computer! **26-1601** **4.95**

PERSONAL FINANCE PROGRAM

A 7-cassette portfolio with manual. Helps you keep track of household budgets, checkbook balances—even categorizes expenses for income tax records. **26-1602** **14.95**

MATH I PROGRAM

Math I is a basic math facts educational primer designed by a teacher, using a previously proven technique. It begins with the most basic fundamentals of addition and subtraction and proceeds through multiplication and division tables. An evaluation test program is also included for progress measurement. **26-1701** **19.95**

ALGEBRA I PROGRAM

A supplemental course in elementary algebra for those who want to know more about math, and those who have trouble with this phase of mathematics. The course includes nine programs on three cassettes and uses modern, interactive, computer-assisted instruction techniques. **26-1702** **19.95**

STATISTICAL ANALYSIS PROGRAM

A system of programs designed for the routine analysis of data in business, education, medicine, government administration, and other fields. It includes Random Sample, Descriptive Statistics, Histogram, T-Test, Simple Correlation, and Linear Regression. **26-1703** **29.95**

BACKGAMMON/BLACKJACK GAME PROGRAM

Play these two time-honored games with your computer. Great fun for parties, at the office, or at home after an exhausting day at work. Includes instructions. **26-1801** **4.95**

QUICK, WATSON! GAME PROGRAM

New from our games department, it's a fascinating game of logical deduction that even ol' Sherlock himself would have found challenging. **26-1802** **4.95**

T-BUG PROGRAM

This is a monitor program which allows access to the Z-80 CPU. With T-BUG it is possible to program in machine language on a Level-I BASIC TRS-80. **28-2001** **14.95**

EDITOR/ASSEMBLER PROGRAM

Although 16K of RAM is required, this package will run with Level-I BASIC. It is a 2-cassette program which creates both source and object files. Microsoft, an industry leader in systems software, has developed this program ... so you can expect the ultimate in editing features. Standard Zilog mnemonics are used; macros and conditional assembly are not supported. **26-2002** **29.95**

LEVEL-I BASIC COURSE

Contains 8 lessons with 26 programs. Written by Dr. Ralph James and Dr. Ronald Lodewyck of University of California at Stanislaus. Both are experienced educators and have combined their talents to produce one of the best computer-assisted instruction courses we have seen. It is a totally interactive, self-paced system designed to teach you how to use your TRS-80 to its fullest potential. If you are new to programming, this course is for you. **26-2003** **12.95**

FUTURE SOFTWARE PLANNED

Business
1) General Ledger
2) Accounts Receivable/Payable
3) Advanced Payroll
4) Inventory Control

Home and School
1) Self-improvement Series
2) Computer-assisted Instruction
3) Challenging Logic Games

LEVEL-I USER'S MANUAL

"At last, a book that assumes the user doesn't know 'boo' about programming," writes a customer. The manual contains 232 pages full of programs, charts, and illustrations. An excellent step-by-step guide! Included FREE with each computer ordered! **5**⁹⁵ **26-2101**

Order Worksheet for the TRS-80 and Peripherals

QUAN.	CATALOG NUMBER	DESCRIPTION	EACH	TOTAL
		TRS-80 COMPUTERS		
	26-1001	4K LEVEL-I	400.00	
	26-1003	16K LEVEL-I	690.00	
	26-1004	4K LEVEL-II	499.00	
	26-1006	16K LEVEL-II	789.00	
	26-1201	12" VIDEO DISPLAY	199.00	
	14-841	*REALISTIC CTR-41 CASSETTE RECORDER	49.95	
	26-2101	*LEVEL-I USER'S MANUAL	5.95	
		*RECORDER AND MANUAL INCLUDED FREE WHEN COMPUTER IS ORDERED WITH DISPLAY		
		EXPANSION OPTIONS		
	26-1101	16K MEMORY (RAM)	290.00	
	26-1120	LEVEL-II BASIC (ROM)	99.00	
		THESE TWO OPTIONS ARE INSTALLED BY RADIO SHACK AT NO EXTRA INSTALLATION COST		
		PERIPHERALS		
	26-1140	TRS-80 EXPANSION INTERFACE	299.00	
	26-1150	*TRS-80 LINE PRINTER	1299.00	
	26-1151	TRS-80 SCREEN PRINTER	599.00	
	26-1160	*TRS-80 MINI-DISK (REQUIRES 16K)	499.00	
		*REQUIRES LEVEL-II BASIC, AND EXPANSION INTERFACE		
		SOFTWARE		
	26-1501	PAYROLL (UP TO 12 EMPLOYEES)	19.95	
	26-1502	IN-MEMORY INFORMATION	19.95	
	26-1601	HOME RECIPE	4.95	
	26-1602	PERSONAL FINANCE	14.95	
	26-1701	MATH I	19.95	
	26-1702	ALGEBRA I	19.95	
	26-1703	STATISTICAL ANALYSIS	29.95	
	26-1801	BACKGAMMON/BLACKJACK	4.95	
	26-1802	QUICK, WATSON!	4.95	
	26-2001	T-BUG	14.95	
	26-2002	EDITOR/ASSEMBLER	29.95	
	26-2003	LEVEL-I BASIC COURSE	12.95	
		TOTAL		
		10% DEPOSIT		
		BALANCE DUE		

Radio Shack®

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