

# QX-10

**MFBASIC REFERENCE MANUAL**

**NOTICE:**

- \* All rights reserved. Reproduction of any part of this manual in any form whatsoever without EPSON's express written permission is forbidden.
- \* The contents of this manual are subject to change without notice.
- \* All efforts have been made to ensure the accuracy of the contents of this manual. However, should any errors be detected, EPSON would greatly appreciate being informed of them.
- \* The above notwithstanding, EPSON can assume no responsibility for any errors in this manual or their consequences.

© Copyright 1983 by EPSON CORPORATION.  
Nagano, Japan

# ***INTRODUCTION***

Standard EPSON/Microsoft MultiFonts BASIC can be used with QX-10 system configurations which include either 192K or 256K bytes of main memory. This manual covers all the functions of MFBASIC, including those which are required for graphic display and communication through the standard RS-232C interface with other systems and equipment (such as other QX-10's or acoustic couplers).

Chapter 1 of this manual introduces MFBASIC and the screen editor function used for entering and revising BASIC programs. Chapter 2 discusses concepts which are applicable to programming in MFBASIC. MFBASIC commands, statements, and functions are described in Chapters 3 and 4, and Chapter 5 describes commands for using the RS-232C interface, CMOS RAM, and other peripheral devices. Error codes and messages are summarized in Appendix A, and Appendices B through K discuss a variety of features applicable to use of the display, disk drives, EPSON printers, and so forth.

This manual is intended to be used together with the **QX-10 Operation Manual**, which describes operation of the QX-10 and basic procedures for use of the CP/M operating system. See any of the various publications which are available on CP/M for detailed explanations of the CP/M commands.

\* CP/M® is a registered trademark of Digital Research™

\* MFBASIC (copyright 1982 by Microsoft and EPSON) is software developed by EPSON which is upward-compatible with Microsoft BASIC-80.

## **CAUTION**

**Do not use power cables other than the one supplied.**

# TABLE OF CONTENTS

## Chapter 1 GENERAL INFORMATION

1.1	Starting MFBASIC .....	1-1
1.2	Ending BASIC Operation .....	1-4
1.3	Programming in MFBASIC.....	1-5
1.4	Keyboard .....	1-6
1.5	Screen Editor.....	1-7
1.6	Keys Used with the Screen Editor .....	1-8

## Chapter 2 PROGRAMMING CONCEPTS

2.1	Program Lines and Statements .....	2-1
2.2	ASCII Characters .....	2-2
2.3	Multiple Font Characters .....	2-3
2.4	Control Characters.....	2-5
2.5	Constants	
2.6	Single and Double Precision Numeric Constants .....	2-9
2.7	Variables .....	2-10
2.8	Expressions and Operations.....	2-14
2.9	Files .....	2-23
2.10	Display Screen .....	2-25
2.11	Input/Output Device Support.....	2-29
2.12	Error Messages	

## Chapter 3 MFBASIC COMMANDS AND STATEMENTS

## Chapter 4 MFBASIC FUNCTIONS

## Chapter 5 DISK FILES

5.1	Program Files .....	5-1
5.2	Sequential Files .....	5-3
5.3	Random Files .....	5-7
5.4	Hints for Increased Performance .....	5-12
5.5	Precautions on Changing Flexible Disks.....	5-15
5.6	Error Messages.....	5-16
5.7	Error Processing.....	5-16
5.8	Disk Protection.....	5-18

## **Chapter 6 SEQUENTIAL ACCESS USING DEVICE FILES**

6.1 RS-232C Interface Support .....	6-1
6.2 CMOS RAM .....	6-8
6.3 Printer .....	6-11

### **APPENDICES**

- A. Error Codes and Error Messages
- B. Table of Reserved Words
- C. MFBASIC Console Escape Sequences
- D. Proportional Printing
- E. Machine Language Subroutines
- F. Derived Functions
- G. Keyboard Arrangements
- H. ASCII Character Codes
- I. Style Selection
- J. MultiFonts/International Character Sets
- K. Memory Map

## Commands and Statements

AUTO.....	3-3	LPRINT/LPRINT USING.....	3-73
BEEP.....	3-4	LSET/RSET.....	3-74
BIT.....	3-5	MERGE.....	3-75
CALL.....	3-7	MID\$.....	3-76
CHAIN.....	3-8	NAME.....	3-77
CIRCLE.....	3-10	NEW.....	3-78
CLEAR.....	3-12	ON ERROR GOTO.....	3-79
CLOSE.....	3-13	ON...GOSUB/ON...GOTO.....	3-80
CLS.....	3-14	OPEN.....	3-82
COLOR.....	3-15	OPTION BASE.....	3-83
COMMON.....	3-17	OPTION COUNTRY.....	3-85
CONNECT.....	3-19	OPTION CURRENCY.....	3-86
CONT.....	3-20	OPTION STYLE.....	3-87
COPY.....	3-21	OUT.....	3-88
DATA.....	3-22	PAINT.....	3-89
DAT\$.....	3-25	PEN.....	3-91
DAY.....	3-28	POKE.....	3-92
DEF FN.....	3-30	PRESET.....	3-93
DEFINT/SNG/DBL/STR.....	3-32	PRINT.....	3-94
DEFUSR.....	3-33	PRINT USING.....	3-97
DELETE.....	3-34	PRINT #/PRINT # USING.....	3-106
DIM.....	3-35	PSET.....	3-108
EDIT.....	3-36	PUT.....	3-109
END.....	3-37	PUT@.....	3-110
ERASE.....	3-38	RANDOMIZE.....	3-111
ERROR.....	3-39	READ.....	3-113
FIELD.....	3-41	REM.....	3-115
FILES.....	3-43	RENUM.....	3-118
FOR...NEXT.....	3-44	RESET.....	3-119
GCURSOR.....	3-47	RESTORE.....	3-120
GET.....	3-48	RESUME.....	3-121
GET@.....	3-49	RUN.....	3-122
GOSUB...RETURN.....	3-51	SAVE.....	3-123
GOTO.....	3-53	SET.....	3-124
IF...THEN[...ELSE]/IF...GOTO.....	3-54	SOUND.....	3-125
INPUT.....	3-56	STOP.....	3-126
INPUT #.....	3-58	STOP KEY.....	3-128
KEYn/KEY LIST/KEY LLIST.....	3-59	SWAP.....	3-129
KILL.....	3-60	SYSTEM.....	3-130
LET.....	3-61	TIMES.....	3-131
LINE.....	3-62	TRON/TROFF.....	3-132
LINE INPUT.....	3-66	WAIT.....	3-133
LINE INPUT #.....	3-67	WHILE...WEND.....	3-134
LIST.....	3-68	WIDTH.....	3-136
LLIST.....	3-70	WRITE.....	3-139
LOAD.....	3-71	WRITE #.....	3-140
LOCATE.....	3-72		

## Functions

ABS .....	4-2	LOC .....	4-32
ASC .....	4-3	LOF .....	4-33
ATN .....	4-4	LOG .....	4-34
ATTR\$ .....	4-5	LPOS .....	4-35
CDBL .....	4-6	MID\$ .....	4-36
CHR\$ .....	4-7	MKIS/MKSS/MKDS .....	4-37
CINT .....	4-8	OCT\$ .....	4-39
COS .....	4-10	PEEK .....	4-40
CSNG .....	4-11	PEN .....	4-41
CSRLIN .....	4-12	POINT .....	4-43
CVI/CVS/CVD .....	4-13	POS .....	4-44
DATE/DATES\$ .....	4-14	RIGHT\$ .....	4-45
DAY .....	4-15	RND .....	4-46
DSKF .....	4-16	SCREEN .....	4-47
EOF .....	4-17	SGN .....	4-48
ERL .....	4-18	SIN .....	4-49
ERR .....	4-19	SPACE\$ .....	4-50
EXP .....	4-20	SPC .....	4-51
FIX .....	4-21	SQR .....	4-52
FONT .....	4-22	STR\$ .....	4-53
FRE .....	4-23	STRING\$ .....	4-54
HEX\$ .....	4-24	STYLE\$ .....	4-55
INKEY\$ .....	4-25	TAB .....	4-56
INP .....	4-26	TAN .....	4-57
INPUT\$ .....	4-27	TIME/TIME\$ .....	4-58
INSTR .....	4-28	USR .....	4-59
INT .....	4-29	VAL .....	4-60
LEFT\$ .....	4-30	VARPTR .....	4-61
LEN .....	4-31		