

# The Hybrid Music System

“There is no comparable integrated music system for any micro.”

The Guardian

## AMPLE Toolbox

AMPLE Toolbox is a set of extensions to the Hybrid Music System operating software providing many extra facilities for advanced users and AMPLE programmers:

**TEDIT text editor**, for entering and editing AMPLE words:

- full-featured professional-style editor
- choice of 40 or 80-column display
- vertical and horizontal scrolling edit window
- up to 90 characters per line
- any number of lines, limited only by available user memory
- insert-mode entry and editing, with BBC cursor copy mode
- line split on RETURN key and line join on DELETE key
- editing of any number of words simultaneously
- ability to split words, combine words and transfer lines
- permanent text storage, retained on program run and load

**IEDIT image editor**, for creating mode 7 screen designs:

- creates images for titles, displays, animations etc.
- entry and editing of text, block graphics, colour and effects
- full-screen editing area plus 'scratchpad' image buffer
- block copy and character paint facilities
- fully automatic storage of images as AMPLE words
- options for full screen, part screen and windowed screen
- choice of word formats: compact data or editable text
- 13 example screens including pictures, logos and large font



**UTILS utilities**, for advanced program development:

- LEDIT line editor for manual, batch and programmed editing
- COMPILE – makes compact run-only versions of programs
- DISCOMPILE – returns compiled programs to editable form
- MERGE – combines a saved program with the one in memory
- BROWSE – interactively displays program structure
- SPARESHOW – searches for unused words
- SPAREDELETE – deletes unused words
- ABBREV – gives the minimum abbreviation of any word
- REPORT – locates and describes the source of the last error

TEDIT, IEDIT and UTILS are fully integrated AMPLE modules, so they may be loaded alongside the user program and other editors, to provide instant access at any time.

**SideMod** sideways RAM module store for Master 128 – adapts a System Disc to store modules in Master sideways RAM, from where they are loaded automatically when required. This gives faster access to editors and allows the System Disc to be removed from the drive once the system has started – particularly useful for single drive users. The Toolbox modules may also be included in sideways RAM, so that they can be loaded at any time without using the Toolbox System Disc. (Compatible with Master sideways RAM only.)

**AREC** program recover – recovers lost AMPLE programs from DFS and ADFS floppy discs, including programs that have been accidentally deleted or made unloading by corruption or loss of the disc catalogue.

**Disc menu** – an extension to the Studio 5000 Main Menu providing easy access to all Toolbox facilities. It controls loading, selection and unloading of the TEDIT, IEDIT and UTILS modules, and running of SideMod and AREC. The user may also load and unload modules by direct commands.

### Documentation

User Guide (70 A5 pages), including:

- Contents list
- Installation instructions
- TEDIT, IEDIT and UTILS, inc. many application examples
- Editor module management
- Using SideMod and AREC
- Summary of key controls
- Index

### Package contents

- Toolbox User Guide
- Toolbox Issue Disc (dual 40/80-track DFS)
- label for user's Toolbox System Disc

### Other equipment required

- Music 5000 Synthesiser, installed and tested
- One blank disc

### Compatibility

- All AMPLE Toolbox facilities are compatible with the Music 5000, 4000, 3000, 2000, and 1000.
- User programs created using AMPLE Toolbox facilities are run-time compatible with the standard AMPLE Nucleus/ Studio 5000 software, so they may be run without AMPLE Toolbox present. Using AMPLE Toolbox, the user is able to create word definitions that are beyond the capacity of the Studio 5000 editors so can be edited only with AMPLE Toolbox.

### Prices and ordering information

Please see enclosed price list and order form

# The Hybrid Music System

“There is no comparable integrated music system for any micro.”

The Guardian

## AMPLE Nucleus

### PROGRAMMER GUIDE

At the level below its Studio 5000 editors, AMPLE includes a complete programming language that gives access to all System facilities and supports a vast range of computer music applications, from real-time musical control by mathematical processes to the creation of new musical instruments, tools and languages. The AMPLE Nucleus Programmer Guide is the 'bible' for users working at this level.

Part 1 of the Guide surveys the facilities by functional group:

- Using AMPLE – starting the system, using the computer keyboard, example programs, screen display, operating system commands, AMPLE commands, starting a new session
- Programs and words – programs, program-manipulation commands, words, word-manipulation commands, user word formatting, memory usage
- Modules and editors – module functions, examining modules, module names, loading modules, module loading on start-up, module loading by the user, module loading by program, module deletion, reading module word definitions, module memory usage, editors, editor types, editor data
- Music and sound – music words, music environment words, music event words, music interpretation, music actions, sounds events, the sound queue, queue control sound words, time control, voice selection, voice assignment, voice events, type-global voice events, voice servers
- Numbers and flags – arithmetic expressions, constants, the number stack, passing numbers, stack operators, flags, flag operators, variables and storage, random numbers
- Characters and strings – string operators, string stack usage, using strings at the command line, using the input line, using strings in players, string stack capacity
- Input and Output – numbers, characters and strings, system effects, commands, additional interfaces, music and sound event input, synchronisation
- Execution control – control structures, conditionals and loops, condition expressions, concurrency, player-control instructions, stopping execution
- Machine-code programming – calling routines, user routine applications, user routines in language RAM, user routines in operating system RAM, user routines in ROM, locating user routines, user routines' zero page, communication with user routines
- Errors – error effects, error effects from modules, error and editors, error-like events, error messages (list and description of all 35)

Part 2 of the Guide is an alphabetic catalogue of Nucleus words. Each entry gives word name, function, status, input and output items, description, examples of use, related words and further information. The full list of Nucleus words, (arranged by functional group) is as follows:

program manipulation	AMPLE NEW MERGE SAVE LOAD WRITE
word manipulation	[ ] SHOW DELETE TYPE RENAME FIND
user word formatting	% <carriage return> <space>
memory usage	MEM COMPACT
modules and editors	MCAT MSHOW MPREFIX INSTALL MLOAD MDELETE QUIT CLEAR
music environment	, BAR   : ! + - = K( )K @ ( ) ; ~ =L +L -L SCORE READY MVAL? MVAL!
music event words	A-G a-g X ^ ^; / \ =T +T -T
music actions	ACT ACT( )ACT SIMPLEACT
sound queue	DURATION QTIME GO FAST PAUSE
time control	WIND HALT
voice selection	VOICE SHARE VOICES RVOICES UNUSED
voice events	PITCH VEL GATE
arithmetic operators	#* #+ #- #/ #B12 MAX MIN & -
stack operators	#11 #12 #2 #212 #2121 #213 FCOPY FRAME FRAME! FRAME? FVAR VOICE!
random numbers	RAND RAND! RANDL
flags	OFF ON #< #= #> SIGN AND OR XOR NOT
variables and storage	GVAR DIM ARRAY #! #? #+! #B! #B?
characters and strings	“ ASC \$CHR \$+ \$- \$PAD \$REV \$STRIP LEN \$12 \$2 \$STR &\$STR VAL &VAL OSCLI
input/output	NOUT &NOUT #IN QKEY #OUT \$IN \$OUT ALIGN MODE NL SP
program execution	IF( )ELSE( )IF FOR( )FOR INDEX COUNT REP( )REP )UNTIL( STOP
player control	P( )P IDLE PNUM
machine-code routines	CODE

The Guide also contains a contents list, index of AMPLE words, and index of subjects. It is supplied as a single 206-page comb-bound A5 volume.

#### Price and ordering information

Please see enclosed price list and order form.

# HYBRID

Hybrid Technology Ltd, 273 The Science Park, Cambridge CB4 4WE  
Tel: (0223) 420360