

ATA

Features

AMPE

- ★ music notation and sound commands
- ★ compatibility for musical notation and sound editing
- ★ complete control over keyboard, data, sector, track and
- ★ word structure of user programs
- ★ alphanumeric control over string variables and arrays
- ★ music operating system: compatibility with Atari and IBM
- ★ complete system

Software

A set of

One M...



Changes

ly Change up to 18 sounds can be assigned to any of the 128 keys of the keyboard. The sound of any

use two channels per note. Independent control of volume, pitch, and duration is provided for each

sound bank. The system also includes a sequencer for automatic sound playback. The sequencer

modular, synchronization, and volume. The sequencer of the system offers

frequency resolution of 0.025 Hz.

Waveforms

The synthesiser is capable of producing 128 different sounds. Each sound is produced by a

frequency and speed of oscillation. All waveforms can be extended by use of modulation.

Music 5000 — Specification

The Music 5000 is a powerful music production package for the BBC Microcomputer, consisting of a high-quality digital synthesiser unit controlled from the music language AMPLE. Pieces of music and other musical programs are built up in AMPLE by programming or entry of music and sound information using user-friendly editors.

The synthesiser can play up to 16 sounds at once, usually organised as eight musical voices. Control over a wide range of sound parameters including waveforms, envelopes, modulation and stereo allow a vast range of instrument sounds to be created by the user. Many preset instruments, waveforms and envelopes are provided for easy selection by name.

AMPLE is the most powerful micro music language ever produced, offering enormous possibilities for creating music. The heart is the AMPLE Nucleus ROM, which provides the basic programming and music notation words, and the operating system facilities which support RAM-based extensions for specific applications. Studio 5000 is the extension that supports the Music 5000, providing an integrated set of modules for sound design and music entry, both in textual and traditional staff form. All sound and music definitions created with Studio 5000 are standard AMPLE words, allowing free mixture of different types of data to make a complete piece.

Features:

AMPLE

A powerful and versatile music language with

- ★ music notation and sound commands
- ★ concurrency for multiple parts and real-time editing
- ★ complete control over musical parts, sections, loops etc.
- ★ 'word' structuring of user programs
- ★ arithmetic, loops, conditionals, strings, variables and arrays
- ★ music operating system supporting extensions and front ends
- ★ compatibility with further hardware add-ons such as keyboard and MIDI

Studio 5000

A suite of integrated music and sound editors providing an easy-to-use interface to the AMPLE language for using the Music 5000. Studio 5000 includes:

Master Menu

With single-key or cursor selection of all major functions including program run, stop, load and save, and selection of editors. Users can create their own menus, just providing display and action definitions.

Notepad

A screen editor for AMPLE words and scores with insert/delete character/line and immediate play of the score being edited at any time.

Panel

A versatile control panel primarily for editing instrument definitions. The parameters are presented on a single screen and can be adjusted in-place with the editing cursor, with drop-down menus for waveform and envelope choices. Any instrument of a piece can be edited while playing. The Panel can also be used as a front end to any user program which provides its control interfaces as simple words.

Mixing Desk

For controlling the instruments and balance for the voices in a piece. Individual level fader, pan control, instrument selection, manual gate and activity indicator for each voice. All controls work in real time and reflect changes programmed in the music. Includes additional pause, fast wind, restart and group mix functions.

Staff Editor

Allowing traditional notation to be entered and edited. The set of symbols includes the normal notes, rests etc., plus chords, dots and double-dots, single and multiple ties, triplets and duplets. Commands for repeats, dynamics, instrument changes etc can be included at any point. The Staff Editor uses and creates standard AMPLE words.

Special Effects

Multiple echoes on successive voices, simulated reverb, articulation control, etc.

Voices

Eight musical voices in total (up to eight notes can be played simultaneously), with between 0 and 16 of the channels on any voice. Independent control of instrument selection, pitch, transposition, detuning, dynamic level, overall (voice) volume and overall (voice) stereo position.

Channels

16 channels (up to 16 sounds can be made simultaneously), assigned in pairs to musical voices. Most instruments use two channels per voice. Independent control of channel volume, channel transposition (pitch shift), channel stereo position, waveform, pitch envelope, amplitude envelope, frequency offset, ring modulation, frequency modulation, synchronisation, wave phase initialisation and inversion. Pitch resolution of 1/16 semitone. Offset frequency resolution of 0.0056 Hz.

Waveforms

14 predefined waveforms, independantly selectable by each channel. Includes basic synthesiser, natural instrument and special effects shapes. All waveforms can be extended by use of modulations.

Pitch envelopes

10 predefined shapes, independantly selectable by name for each channel. Includes vibrato, natural delayed vibrato, bends, slides, swoops etc. Pitch envelopes can also be used as tone envelopes with modulation.

Amplitude envelopes

10 predefined shapes, independantly selectable by name for each channel. Includes synthesiser ASDR, decay, percussive, organ, slow attack, repeating, echo, etc.

Modulation

Ring modulation, frequency modulation and synchronisation of channel pairs.

Instruments

Combinations of channel, waveform, envelope, modulation and other settings to produce a particular sound for a musical voice. Independantly selectable by name for each voice or voice group at start of music and any point during music. 20 predefined instruments, including abstract, simulated natural, synthesiser, percussion and special effect. User-definable instruments, using a full set of sound commands. Instruments can be created by editing existing instruments, or making extended definitions with specific additional parameter adjustments.

Stereo

Seven positions from full left to full right. Stereo instruments and/or stereo positioning of voices available, with balance correction at limits.

Output

Channel output sampling rate of 46.875/sec
Level of up to 2V peak-to-peak
5-pin DIN standard audio connector.

Connections

Audio output
1 MHz bus with pass-on for compatible equipment
Mains input with power switch.

Documentation

Three manuals supplied:
User Guide (128 pages)
An introductory guide to setting up and using the package to create pieces of music using the Studio 5000 software
Introduction to AMPLE
A step-by-step beginners guide to getting the best from the system by programming music in AMPLE notation
Includes over 25 musical examples and many illustrations
Rudiments of Sound and Music (32 pages)
A clear and simple explanation of sound synthesis and music notation for beginners to computer music.

Example programs

Over 12 carefully-presented example pieces demonstrating various aspects of the package.

Software format

Supplied on ROM, and cassette with a program for transfer to disc.

Other equipment required

BBC Microcomputer Model B (shadow RAM recommended), B+, or Master 128. Disc drive, Acorn-compatible (not essential, but recommended), Amplifier, e.g. home stereo, with suitable audio connection lead.

The Music 5000 is the successor to the outstanding Music 500 which, when launched at the end of 1984, was hailed by the press as the most powerful package of its kind:

"The quality of sound is simply superb" — Electronics and Music Maker
"Performance is nothing short of spectacular" — Micro User
"A truly revolutionary piece of hardware" — What Micro
"The sound facilities are stunning" — Personal Computer World

Amongst the many advantages that Music 5000 offers over the Music 500 are:

- 1 An integrated 'front-end' of easy-to-use music and sound editors.
- 2 Powerful ROM-based operating software.
- 3 Easily-accessed pre-defined instrument sounds.
- 4 Special effects including multiple echo, articulations and pitch slides.
- 5 Compatibility with additional hardware units such as keyboard and MIDI.
- 6 Extensibility to support additional music applications software.
- 7 Compatibility with the BBC Master 128.

The Music 5000 Synthesiser unit also has minor hardware improvements, but is entirely software compatible with the Music 500 unit.

Music 5000 - Specification

The Music 5000 is a personal computer based music workstation. It is designed to be used on a PC compatible system with a hard disk and a mouse. It is available in two versions: a standard version and a professional version. The standard version is priced at £1995 and the professional version at £2495. Both versions include a 1.44MB floppy disk and a manual.

The Music 5000 is a powerful music workstation. It can handle up to 16 channels of audio and has a built-in mixer. It also has a staff editor and a score editor. The Music 5000 is a great choice for anyone who wants to create professional quality music on their PC.

```

Studio 5000 Main Menu ID 108782
program "timeout" module "PANEL"
-----
r run program
x start program
l load program
s save program
n start new program
t notepad
k keyboard
m mixing desk
p instrument panel
e staff editor
i microphone input
* OS command
-----
% SHOW
bellwave decayenv      detunpenv
indianbell             jupiter               percenv
simplepenv              sinewave               ss6
ss7
10 words, STA data
%
    
```

```

Studio 5000 Staff Editor ID 108782
editing "miller" bar 14
    
```

```

%%"miller"NAME
%%RUN
%
    
```

```

editing "mix" ID 12, 3BAR
OFF PAUSE OFF FAST OFF group
125 tempo 0 tune 17 bars
-----
1 2 3 4 5 6 7 8
Voice 1-1 2-1 3-1 4-1 4-2 4-3 5-1 5-2
magicflut synpian bassdrum
Ins vibglock synpian cymbal
zing
Pan
Gate
Vol
    
```

```

editing "jupiter"
-----
SCORE 24,
-1:EG A/ACbg CDc/b/ aBa/g/ e///
-1:EG A/ACbg CDE/E/ Edc/D/ c///
-1:Ge d/d/CE d/c/Ge d/d/EG A///
-1:AB C/b/a/ g/C/e/ dcD/E/ G///
-1:EG A/ACbg CDc/b/ aBa/g/ e///
-1:EG A/ACbg CDE/E/ Edc/D/ c///
-----
bellwave decayenv      detunpenv
indianbell             jupiter               percenv
simplepenv              sinewave               ss6
ss7
10 words, STA data
%
    
```

```

editing "indianbell" trying "RETURNGATE"
-----
2 CHANS
1 CHAN
sinewave      decayenv      simplepenv
34 SHIFT     ON RM        OFF SYNC
2 CHAN
bellwave      percenv       detunpenv
0 SHIFT      300 OFFS.    128 AMP
-----
Aux:  EDIT      NAME
RETURNGATE     RUN      TRY
%
%
%
    
```

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