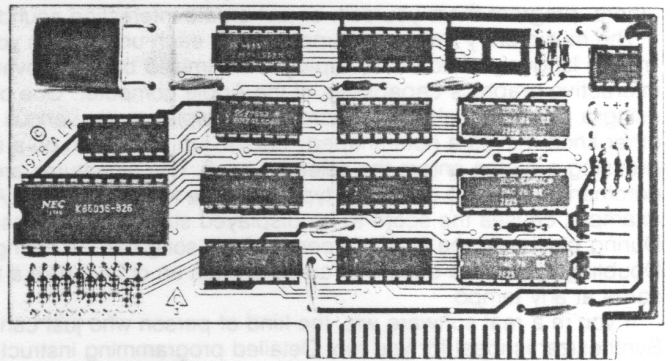
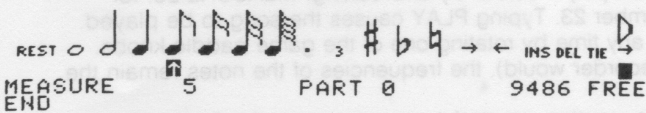
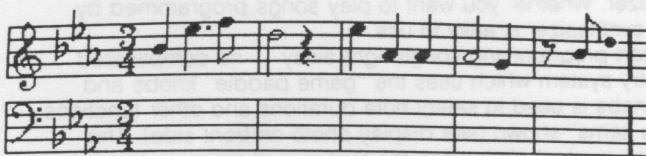


A L F Products Inc. 128 South Taft Denver, CO 80228

MUSIC SYNTHESIZER



A COMPLETE LOW COST SYNTHESIZER FOR THE APPLE II COMPUTER

- **THREE SIMULTANEOUS VOICES**
Single circuit card contains 3 channels.
- **INTERACTIVE GRAPHICS MUSIC ENTRY**
High resolution screen displays entered music in traditional sheet-music format.
- **FULLY ASSEMBLED AND TESTED**
Plugs into any Apple expansion slot.
- **COMPLETE, READY TO USE**
Comes with manual, software cassette, and audio cable which connects to your home stereo system.
- **STEREO OUTPUTS**
Stereo is available when using 2 or 3 units.
- **PITCH, ENVELOPE, AND VOLUME**
Easily controlled using software provided with unit.
- **EXPANDABLE TO 6 OR 9 VOICES**
Use 1, 2, or 3 units for 3, 6, or 9 voices.
- **NO "MUSIC LANGUAGES" TO LEARN**
Interactive music entry program uses game paddles to position notes on musical staff.
- **FULL PIANO RANGE**
Eight octaves with 24 notes per octave.
- **NO TUNING REQUIRED**
Crystal-controlled pitches are accurate to within 2 cents.
- **SAVE AND LOAD SONGS**
Using cassettes or disk.
- **RECREATIONAL**
Relative enjoyment factor (REF) typically exceeds 82.

ENTER THE FASCINATING FIELD OF COMPUTER-CONTROLLED MUSIC

With a Music Synthesizer from ALF Products, you can use your Apple II to explore the possibilities of computer-controlled music. New Horizons await musicians as the versatility of direct computer control removes the restraints and physical limitations of conventional instruments and synthesizers. Modern musicians are just discovering the profound aptness of the marriage between computers and synthesizers, and now Apple users can become directly involved in this exciting new field

THE SYNTHESIZER

The Hardware (circuitry) of the synthesizer takes advantage of the latest advancements in digital and analog integrated circuit technology. Pitches are produced by an accurate and highly stable crystal-controlled circuit which never requires tuning. The synthesizer can produce half steps (the piano scale), quarter steps, and even slide between quarter steps. An eight octave range is available, which includes the full piano range.

A unique volume control circuit allows a pitch to be produced at any of 256 programmable volume levels. Combined with the powerful software included with each unit, this circuit produces a virtually limitless selection of envelope contours.

FULLY POLYPHONIC

Each synthesizer can produce three tones at once, using three nearly identical "channels". Pitch, volume, envelope, and other settings can be selected for each channel independently from the other channels. Two synthesizers can be used for six simultaneous tones, or three for nine tones. Stereo outputs are available when using two or more synthesizers.

IDEAL FOR MUSICIANS

With the Apple Music Synthesizer, you can program a piece of music straight from the score and play it back instantly. Even the most complex pieces can be entered and played back accurately, with perfect timing. During entry, the score as entered so far is shown on the Apple's display in traditional music notation. Measure bars are automatically inserted at the proper places, immediately identifying any incorrect measure lengths. Once entered, a song is easily modified. Grace notes and other embellishments can be added or removed, and the piece played back to see how the modifications sound. Whole new parts can be added without difficulty.

The synthesizer is particularly useful for trying out new melodies, especially for pieces which are difficult to perform on a piano or which involve more than one instrument.

IDEAL FOR RECREATION

You don't have to be a musician to enjoy the Apple Music Synthesizer. Whether you want to play songs programmed by others, program them yourself, or just create interesting sounds, the synthesizer is easy to use.

The music entry program (supplied with each unit) allows you to start programming songs right away — no complicated "music languages" to learn. Typing is minimized by an innovative entry system which uses the "game paddle" knobs and interactive graphics capabilities of the Apple computer. One of the knobs is used to select note durations and other functions using a pointer which moves across the display to the various "menu items" shown (see display photo on front side). The other knob moves a note-shaped "cursor" up and down on a standard musical staff; when the cursor is at the correct note, pressing a button enters the selected pitch. Key signatures are handled automatically by the entry program. A variety of commands, entered using the typewriter-like keyboard of the Apple, simplify music entry and editing. MEASURE:23, for example, causes the score to be displayed starting with measure number 23. Typing PLAY causes the song to be played. During playback, the tempo (speed) of the song can be changed at any time by rotating one of the game paddle knobs. Doubling the speed does not raise the pitch an octave (like a tape recorder would), the frequencies of the notes remain the same at any tempo.

If you're a real software wiz, the kind of person who just can't resist creating wonderful new programs, the Apple Music Synthesizer is ideal for you too. Detailed programming instructions in the manual, plus convenient subroutines, allow you to do your own thing. The CHROMA subroutine is used for chromatic frequencies, sliding, vibrato, pulse width control, and other effects; PERFORM is used for easy control of one to nine command sequences, simultaneously performed.

An empty socket on the circuit card provides access to the three TTL-level square wave pitch outputs (pins 3, 4, and 5) and the mixed audio output (pin 11). Hardware enthusiasts can connect these outputs to their own audio processors for even more versatility.

IDEAL FOR MUSIC EDUCATION

The programming simplicity, tuning accuracy, envelope control, and other features make the synthesizer a powerful tool in the classroom. Composition, score writing, pitch and interval recognition — the synthesizer is useful in nearly all phases of instruction. Programming is so easy — and fun — that your students will not only be eagerly participating, but many will be interested in developing new programs for study in other musical areas.

A COMPLETE SYSTEM

The ALF synthesizer, along with an Apple II computer and a home stereo system, forms a complete computer-controlled music synthesis system. The synthesizer is a single circuit card which fits inside the Apple. Audio output cables, with standard phono plugs, are supplied to connect the synthesizer to your amplifier and speakers.

Your Apple II computer should have 24K or more memory (plus any memory needed for the disk system), and a black and white video monitor is recommended (although any good quality television set will work). See your Apple dealer for complete details.

• ALF part number 10-5-16. Each unit contains an owner's manual, software cassette, circuit card, and audio output cable.
APPLE II is a trademark of Apple Computer Inc.