WILL HARVEY'S
MUSIC
CONSTRUCTION SET
APPLE II, II+, IIe, IIc, IIGS
8K; Joystick, KoalaPad™
r AppleMouse Optional
Mockingboard or The Cricket Optional
in IIe emulation mode
Requires 5¼" disk drive
MUSIC CONSTRUCTION SET 1013
ELECTRONIC ARTS
YOU
MAY BE AN
UNHERALDED
MUSICAL
GENIUS

MUSIC CONSTRUCTION SET

Welcome to a new way to explore and compose in the world of music. In *Music Construction Set (MCS)*, the building blocks of music appear as pictures that you can arrange on your computerized "score." With MCS, you can compose a song in musical notation, cut out some measures and paste them elsewhere, transpose to another key, and change the instrument from piano to, for example, harpsichord. The computer can then play back what you just created. You can also print your compositions on paper.

Before you use MCS, read the instructions for Your Computer; then read the instructions for Creating and Playing Music.

PART I: COMPUTER-SPECIFIC INFORMATION

INSTRUCTIONS FOR YOUR APPLE II

GETTING STARTED

Put the MCS disk in drive 1. Close the drive door; turn on your computer and monitor. When the program finishes loading, press RETURN to use the program, or wait and the demo automatically begins. In the demo, you hear some of the songs on the MCS Disk. To stop a song and start the next, press the Space Bar. To leave the demo, press RETURN.

Setting up Your System When you start using MCS, you must indicate the control device, sound equipment, printer, and printer card you are using. (To change these settings while using the program, select the Plug Icon in the bottom corner of the icons Box).

While the options appear in the lower left of the screen, press the Space Bar to cycle through the options within a set and press RETURN to select the displayed option.

1. **POINTER TYPE:** Select the pointing device you want to use—keyboard, joystick, mouse, or Koalapad. If you select the Keyboard option, use the Arrow Keys to point and drag the Hand Icon. Use either Apple key in place of the joystick button to make selections. (If you

own an Apple II or II+, you do not have Apple keys. For these machines a joystick or mouse is required.)

2. **SOUND DEVICE:** It you select Apple Speaker or Cassette Port, MCS sounds up to four notes simultaneously and does not scroll the score as the music plays. Select the Cassette Port only if you have a stereo connected to your computer via the cassette port. Then you can use the volume controls on your stereo for louder volume than is available through your Apple speaker. If you select, Echo Plus, Mockingboard, or Cricket, MCS sounds up to six notes simultaneously and scrolls the score as the music plays. With these sound boards, you can also adjust the MCS sound and Volume gauges (for example, to select the accordion sound).
3. and 4. **PRINTER AND INTERFACE CARDS:** Select your printer and then your interface card. To print a song, press **Control-P**. The music prints 2-1/2 measures vertically down the left side of the page. Press any key to print the next 2-1/2 measures, and so on. Turn the printer carriage manually to stop printing on one page and start on the next. Press ESC to stop.

LOADING AND SAVING MUSIC

To perform the tasks below, first select the MCS Disk Icon. (Apple //c and //e users, be sure to depress the CAPS LOCK key before typing.)

1. **To see a list** of the music on your disk, type CATALOG and press RETURN.
2. **To load music** into memory from your disk, type LOAD and the name of your piece and press RETURN twice—for example, type LOAD BUMBLEBEE. (To clear the entire score so you can create a new song, type LOAD NEW.)
3. **To format a disk** to save music on, put the disk in your drive and type FORMAT and press RETURN. (Note: Any information previously on the disk is erased.) When the drive stops, press RETURN again. Reinsert your MCS disk and press a key.
4. **To save music**, place your own files disk in the drive. Type SAVE followed by the name you pick; press RETURN twice. (A name can have up to 30 characters; it must start with a letter and must not include a comma.) When your drive stops, remove your files disk, reinsert the MCS disk, and press RETURN.
5. **To delete a song** from a disk, type DELETE and the song name; press RETURN twice.

NOTE: if you have two disk drives, put your MCS disk in drive 1 and your files disk in drive 2. The first time you use the files disk in a session, type **,D2** at the end of your command —for example, type LOAD BUMBLEBEE,D2.

USING SPEED, SOUND, AND VOLUME CONTROLS

The five gauges in the center bottom of the MCS screen control speed of playback, sound quality, and volume. Use the Hand icon to move the gauge markers up and down (see Using the Hand icon below).

The Sound (So) and Volume (Vo) gauges work only if you have a sound board. The left Sound and Volume gauges control the music in the top staff, and the right Sound and Volume gauges control the bottom staff.

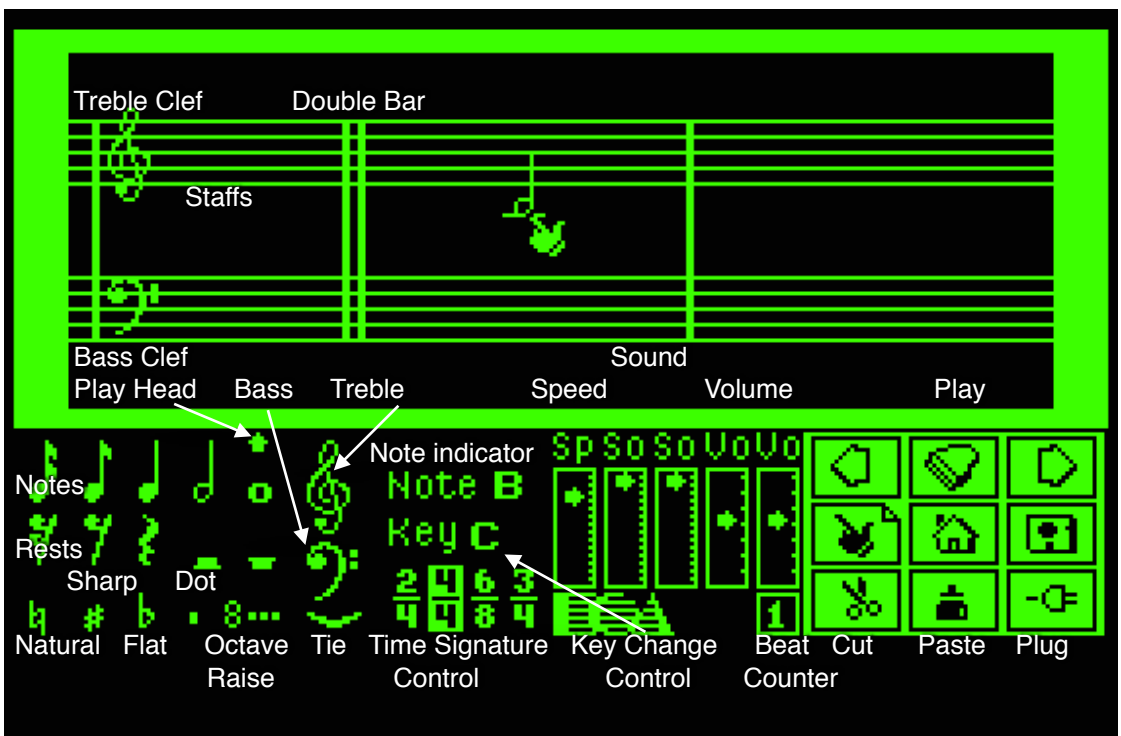
Sound: The first eight notches on the Sound gauges, starting at the top, are for Piano, Harpsichord, Tamtam, Accordion, Flute, Snare, Organ, and Banjo.

Volume: Moving the gauge marker down. makes the music louder; moving it up makes it softer. (NOTE: If your left and right Volume Controls on the screen are set on identical notches on the screen but don‘t give identical volume levels, adjust the volume wheels at the back of your Mockingboard.)

PART II: GENERAL INFORMATION

INSTRUCTIONS FOR CREATING AND PLAYING MUSIC

When you start MCS, the screen displays two staffs, which make up the score where you load or create music. Below the score are the Parts Box (on the left); Key Change, Time Signature, Speed, Sound, and Volume Controls (in the middle); and the Icons Box (in the right). Here is a picture of the screen with labels.



USING THE HAND ICON

Use the Hand icon to:

- Select other icons. Point to the icon and push the button quickly to turn the icon on; push the button again to turn it off.
- Change Controls (for Key, Speed, etc.). To adjust the five gauges. point the hand above or below the marker and push the button quickly to move the marker closer to the tip of the finger.
- Move musical parts. Make sure the tip of the finger points to the note. Hold down the button, drag to the desired location, and release the button.

PLAYING MUSIC

To play a piece of music you've composed or loaded from disk refer to the instructions for your computer on loading and saving music. On the MCS screen, select the Piano Icon at the top of the Icons Box. MCS plays your song from beginning to end. If you have a sound board, the score scrolls across the screen and the notes sound when they reach the left side of the screen (just above the triangular Play Head In the Parts Box).

To scroll forward and backward in a piece , use the Arrow Icons on either side of the Piano; click to stop scrolling. Click on Piano to start the section and click again quickly to stop. To go back to the beginning select the Home Icon (just below the Piano).

As an example. load and play CANON. Then clear the piece from the score.

CREATING MUSIC

you can create music using a combination of two methods. You can drag musical parts onto the score from the Parts Box. And you can cut measures from any existing piece and paste them in a different location.

Using Parts from the Parts Box The Parts Box contains notes of various values (whole notes, half notes, and so on), rests; natural, sharp, and flat signs; an octave raiser (8===); a tie; and treble and bass clefs.

To place music on the blank score, point to a part in the Parts Box (for example, a half note) and drag it to the desired location on the score. Then point to another part (such as a half rest), and repeat the process. (You can use parts as often as you want.) You can also drag parts *off* the score.

Cutting and Pasting To cut measures from the score, select the Scissors Icon, place it in the blank area above a measure, and press the number of measures you want to cut. Pressing 3, for example, cuts out the measure you're on and the two measures to the right, and places them in an invisible storage area called a buffer. The cut and paste buffer will allow you to cut up to 9 measures at a time. If you try to cut more than the buffer can handle, you hear a beep and the command is not executed.

To paste the last music you cut (which is now in the buffer), select the Paste Pot icon and place it over the measure which you'd like the music inserted in front of. Then press the button. MCS inserts your measures, *and* it continues to store your music in the buffer until you cut something else or turn the computer off. You can also cut and paste *between* songs.

(NOTE: On the IBM, you can also cut by pointing to the first measure you want to cut, pressing the Space Bar or the second joystick button, pointing to the last measure, and pressing again.)

KEYBOARD SHORTCUTS

1 through **5**	16th notes through whole notes	**T**	Treble clef	**N**	Natural
5 through **0**	16th rests through whole rests	**B**	Bass clef	**D**	Dot
K and **L**	32nd note and 32nd rest (only available through keyboard)	**S**	Sharp	**I**	Tie
		F	Flat	**O**	Octave raiser

ESC	Erases whatever's being pointed at or held
Space Bar	Puts down another of whatever you put down last
U	Inverts the note or tie you're carrying
=	Scrolls forward one measure
Control-P	Starts printing

IDENTIFYING NOTES

When you point the Hand at a note on the score and press **P**, the note sounds and the name appears in the Note indicator (in the center bottom of the screen). To make the Note Indicator display a name automatically (without your having to press **P**) as soon as you point to a new note, press **Control-S**. Press Control-S again to return the Note Indicator to manual control. And when pressing notes above and below the staff lines, press **P** to produce a helpful line segment.

TRANSPOSING

To transpose a song from one key into another, point to the Key Change Control at the bottom center of the screen and hold down your button. (Inverse video means that you're moving down the scale from your starting point; regular video means that you re moving up.) When the name of the new key you want appears, release the button. MCS then automatically inserts the correct number of sharps or flats at the beginning of the score and rewrites the song in the new key.

If you try to transpose to a key that is too high or low for MCS to handle, you hear a beep and the command is not executed. You can also change the key of a piece manually by dragging sharps or flats onto the score from the Parts Box. In this case, however, you must also change each note in the song manually, and the Key Change Control no longer shows the correct key signature.

SETTING YOUR TIME SIGNATURE

Select a time signature for your piece (such as 4/4 time) from the Time Signature Control. If you have the appropriate sound board, the Beat Counter (to the left of the Scissors Icon) counts along as the music plays. If it finds a measure with too many or too few beats, it warns you by changing to inverse video.

TIPS FOR COMPOSERS

- Your songs can contain up to approximately 700 symbols (notes. sharps, flats) in each start, so a song that averages 10 notes a measure can go for as long as 70 measures.

- If you want to use only one staff, use the top one. If you want only the bottom one to play notes you must put rests in the top staff.
- You can change the clefs in both staffs. For example, you can put a treble clef on the bottom staff.
- Make sure that you don't place any notes on the score to the left of the double bar, or MCS can't play your piece.
- Make sure that a chord is composed of notes that are all of the same value (so MCS can play it) Suppose that you have two half notes on the top of your chords, and you want a whole note on the bottom. Convert the whole note to two tied half notes. Place the tie underneath the *first* note.
- MCS cannot play triplets as such. Try to approximate a triplet by using, for example, a sixteenth note and two dotted sixteenths.
- To change keys in the middle of a song, you must put the new key signature in every measure. To do this quickly, insert the new signature in a new measure and use Cut and Paste to add as many copies of that measure as you need. Then add your notes.
- If the Beat Counter changes to inverse video but you can't find an error, take the measure apart a symbol at a time. You probably put one symbol on top of another.
- If you don't have a sound board, certain MCS functions don't work: The score won't scroll as the music plays; the Beat Counter won't work; and pointing at a note and pressing **P** doesn't sound the note.

CREDITS

Software © 1983, 1984 William Harvey. Douglas Fulton adapted and arranged the music on the MCS disk and created the Commodore instrument sounds. Jim Nichals provided program consulting for the Apple Speaker version. Special thanks to Greg Riker for his work on the Atari instrumental sounds and pitch accuracy.

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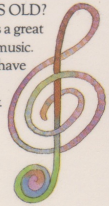
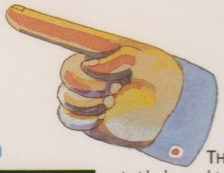
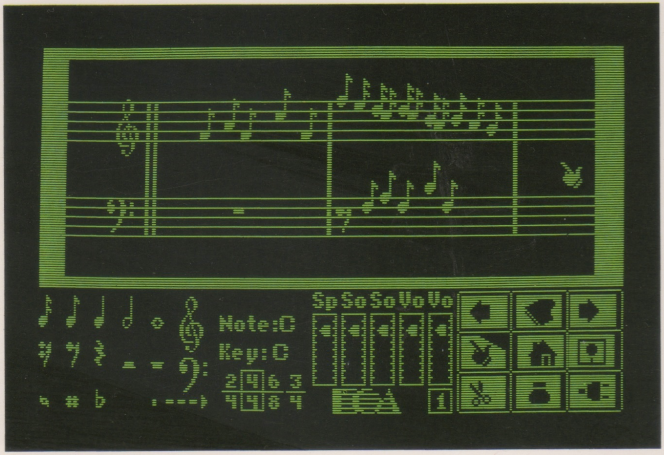
YOU CAN'T READ MUSIC? You already read music? You don't play an instrument? You play them all by ear? You go to the symphony every Saturday? You go to the hardware store every Saturday? WHAT? YOU'RE ONLY TEN YEARS OLD? Not to worry. This is a great way to learn about music. And a great way to have fun with what you might already know.



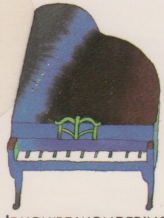
HOW IT WORKS.



THIS IS YOUR HAND inside the machine, the way you make things happen. Pick out notes and point them into place. Grab some rests. Choose your key. Then tap the little piano and hear it all played back. When you've got it right, you know right away. And when you don't... well, you know that right away, too.



IMAGINE A RECORD ALBUM you could actually enter, rewrite, and then play back—all in seconds. Imagine that, besides the music already on it, you could use it to write songs of your own. And what if—despite this thing's awesome power—it was still simple enough to be a toy? Imagine all that. Then imagine you were holding it in your hands at this very second. You're starting to get the idea.



IF YOU'RE WONDERING just how much music you can really make with this thing, the answer is: a lot. The Apple version by itself can play up to 32 notes per measure, two notes at a time. But if you add on a Mockingboard,™ you'll be able to construct chords of up to six notes each. Got an Atari? You'll be playing chords of up to four notes each. A Commodore 64? Up to three notes each. In short, you're gonna get some noise.

THE MUSIC IN THE MACHINE ranges from rock and roll to ragtime, nursery rhymes to baroque. It's fun to punch one up and play it, but it's even more fun to change it. Throw in a few flats. Put it in a minor key. Reach across the centuries and tweak the nose of Mozart.

WHEN YOU MOVE THESE SCALES up and down, amazing things happen. The music speeds up. The music slows down. It gets louder. Softer. It changes in tone. In the screen shown here, you're looking at a version of Bach's "Two-Part Invention No. 8." Imagine what all those notes sound like at light speed.

IF YOU DON'T HAPPEN to like one of the measures you wrote, you can use the scissors to make it history. Oops, changed your mind? Then use the glue pot to stick it back in there. You may even want to put in a nice, shiny new measure and start all over again. It feels like getting your windshield cleaned.

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