

# MICRO MUSIC

Catalog Number 26-1902

**Radio Shack**  
**TRS-80**  
**MICRO**  
**COMPUTER**  
**SYSTEM**

**SOFTWARE**

Let out the hidden musician within you with MICRO MUSIC. Turn your TRS-80 into a fantastic new musical instrument that YOU can play. It's easy. It's simple. It's fun. Even if you've never touched an instrument, you'll be playing your favorite tunes in a few hours. If you are already a musician, you'll appreciate how easily the TRS-80 allows you to compose, and play back new works with a wide range of control.



# INTRODUCTION

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## GENERAL DESCRIPTION

MICRO MUSIC lets you type a melody directly on the Monitor Screen. Pressing **ENTER** will start the computer playing your melody. You can hear the results in several ways; Connect the Jack (normally connected to the AUX Input on the Cassette Tape Recorder) to a High Fidelity system, or a small speaker-amplifier unit (such as the Realistic Cat. No. 277-1008). Another method is to record the melody on tape, and play back the tape.

MICRO MUSIC has a five octave range, including sharps and flats. You have a choice of three different tone qualities. You can play whole notes, half notes, quarter notes, and eighth notes, as well as dotted notes, and triplets. You have a choice of two basic tempos (or speeds). You can repeat sections up to nine times, and use an alternate ending for the last time through.

The Monitor screen will display each note, and it's duration, at the bottom of the screen as the melody is played. Rests are also shown. The TRS-80 will start and stop the tape recorder automatically each time you want to record your music. Powerful editing features allow easy modification of the music between plays.

## LOADING AND USING MICRO MUSIC (LEVEL I)

1. Place the MICRO MUSIC Tape in the Cassette Recorder Recorder and press the "PLAY" button.
2. Type **CL.**, and press the **ENTER** key on the TRS-80.

### IMPORTANT NOTE:

This program is NOT written in Basic Language. The asterisks in the upper corner of the screen will flash at a much slower rate. The whole program should take about 50 seconds to load.

3. The screen will go blank, and a single flashing \* will appear. This is the cursor, which indicates the program is loaded, and working.
4. Type in your melody. (See "INSTRUCTIONS")
5. Press **ENTER** to play what you have written.
6. Press **CLEAR** to erase your present melody, and clear the screen for a new melody.
7. Steps 4, 5, and 6 may be repeated as many times as you want.
8. Press **BREAK** to stop the program, and save or load music on tape. (See page 6)

# LOADING AND USING THE MUSIC PROGRAM (LEVEL II)

1. Place the Music Program Tape in the Cassette Recorder and press "PLAY".
2. A. "MEMORY SIZE?\_" will appear on the screen. Press **ENTER**.  
B. When the "READY\_" appears, type **S****Y****S****T****E****M**, and press **ENTER**.  
C. When you see \* on the screen, type **M****U****S****I****C**, and press **ENTER**.  
D. When the second \* appears type **/**, and press **ENTER**.

## INSTRUCTIONS

When the MICRO MUSIC is ready to use, you will see a flashing \* in the upper left corner of the screen. This is the cursor. You can move the cursor anywhere on the screen by pressing the arrow keys **↑****↓****→****←**. The cursor will move in the direction of the arrow. When you use the arrow keys, the cursor does not delete the letters as it moves across them.

Try typing a sentence. If you make a mistake, move the cursor back, and type over the letter you wish to change. If you forget to type a letter, do this;

1. Move the cursor, until it's where the letter should be.
2. Hold down the **SHIFT** key, and type **I**. This will Insert a space at that point and shift everything that follows, to make room.
3. Type the missing letter.

You can delete a letter by placing the cursor on top of the letter, and pressing **SHIFT** and **D** (Ddelete). This will move everything to the left to fill in the space. You could also place the cursor on top of the letter, and press the Space Bar. This will leave a space, but the computer ignores spaces.

The **CLEAR** key erases the music you've already played, clears the screen, and puts the cursor back in the upper left corner. You can now type in a new song.

At this point, you should try the things we've talked about. Try typing a letter to a friend, for example. After you've typed a sentence or two, try the arrow keys to see how they work. Type over a misspelled letter or word. Use the Insert and Ddelete functions, until you're completely familiar with the way they work. (Don't forget to use the **SHIFT** key with Insert and Ddelete.)

# WRITING YOUR OWN MUSIC

You write music by typing a letter (CDEFGAB) for each note in the song. Let's start with something simple;

1. Load MICRO MUSIC into the TRS-80.
2. Put in a blank cassette, and press "RECORD" and "PLAY" at the same time.
3. Type `CDEFGFEDC`. (This is just a simple up and down scale.)
4. To record the music, press `ENTER`. You will see the notes appear, one at a time, in the lower right corner of the screen. Notice that the cursor disappears while the music is being recorded.
5. When the tape stops, unplug the black earphone jack, and the remote plug. (closest gray plug to the front of the recorder). Press "REWIND".
6. When the tape stops, press "PLAY". Congratulations, you've just written your first song. (We know it's not much, but even Beethoven had to start somewhere.)

You can change octaves by holding the `SHIFT` key down, and typing `↑` or `↓` arrow keys. Press `CLEAR`, and type `CDEFGAB C`. Record it, then play it back. Did you hear how the first "C", and the last "C", sounded the same? To make it sound right, you have to type `CDEFGAB ↑ C`. Each octave starts at the bottom with "C", and ends at the top with "B". (Remember, The `↑` must be "Shifted".)

When the TRS-80 starts a song, it plays all the notes in the middle octave, until an arrow tells it to shift to another octave. By using the arrows, you can play all the notes in a three octave range.

Now type this: (Afterwards, we'll explain it, step by step.)  
`↓CDEFGAB ↑C RCDEFGAB ↑C RCDEFGAB#`  
(The underline is to remind you to hold down the `SHIFT` key.)  
Record, and play it back, while we explain what you just did. The down arrow made the TRS-80 start in the lowest octave. The next arrow told the computer to shift to the next higher octave. The "R" meant a Rest between the octaves. The spaces (if you used them) were ignored. The "B#" was a sneaky way to get in the high "C" without using an arrow. "B#" and "↑C" are the same note. (Keep it in mind, it might come in handy, later on.) The TRS-80 can actually play in five octaves, but we'll get into that later.

Sharps are played by typing `#` right after the note. Flats are played by typing `-` after the note. Try typing this, and then play it back:  
`C C# D D# E F G- G A- A B B#` (Notice again that B# is the same note as ↑C.)

How long the note stays on, is determined by typing 2, 4, 8, or nothing, after the note. A note, without a number, is a whole note. A note, followed by a 2, is a half note. 4 would be a quarter note. 8 would mean an eighth note. Like this;

C D E2 F2 G A4 B4 B#

MICRO MUSIC can play at two different tempos (speeds). "M" is the normal speed, and "W" is the slower speed. The TRS-80 is always at the "M" speed unless you change speed to "W" at some point. Here's an example;

C D E F G A B B# R W C D E F G A B B#

Dotted notes cause the normal note to extended to 1 1/2 times normal time. A dotted 2, for example, would be as long as a 2 plus a 4 together. C2.=C2+C4 Here are some ways to use dotted notes;

C8 D8 E8. F8. F4. C4. ↓ A4. G4 F8. E4 ↑ D4 C2

Here's a familiar song using some of the things you've learned so far;

W G4 B-2 ↑ C4 D2 E8 D8 C2 ↓ A4 F2

You should be able to play quite a few popular songs using what you've learned so far. If you have a book containing sheet music, or a collection of songs, this would be a good time to try playing a few. When you have them down, you might want to go on to the next section to learn some of the advanced features, and tricks of MICRO MUSIC. Here's a sample of some of the advanced section techniques;

T ↑ (3E8 E-8 D8 D-8 C8 F8 E8 E-8 E8 E-8 D8 D-8 (8D-8 D8 E-8 ↓) E8 A

## ADVANCED FEATURES

Triplets are three notes played in the space it would normally take to play two notes. You write triplets by changing to a slightly faster speed, play the notes, and then change back to the original speed. Typing [T] increases the speed, and [N] returns to normal speed. If the music doesn't contain triplets, the T can be used to play the entire song at breckneck speed. Used with the W, and the M speeds, you have a choice of four distinct tempos. Here is an example of triplets;

T G4 A4 G4 A4 G4 A4 N G4. N T E4 F4 E4 F4 E4 F4. N E4.

Stacatto is used to put short rests between notes. If you play C4C4C4C4, it will sound exactly the same as C played by itself. Type [S] to put in a very short rest between the notes. The [N] key is used to stop the Stacatto, and return to normal. Here's an example using the Stacatto function.

C4C4C4C4 R4 S C4C4C4C4 R4 N C4C4C4C4

Tone quality is changed the same way you change Triplets and Stacatto. The TRS-80 starts in the Normal Tone Mode. Typing [V] changes the tone to a thinner sound, and [N] returns the sound to Normal. An even thinner tone can be achieved by typing [L]. This produces the thinnest possible tone. [N] returns the sound to Normal. By now, we're sure you can devise you own example.

phrase; ( 4 C D E )

T(3CDEF (8G8A8) G R)) You can keep going for a long time this way.

(2 C D E F G  $\rightarrow$  F E D C R) A B G B#

right parenthesis, you may not get the desired results if you have another repeated phrase between the arrow and the ending parenthesis.

what it looks like;

(↑) Highest Normal Octave  
(Y) Move Up Normal Octave  
(↓) Lowest Normal Octave/ Highest Bass Octave (↑)  
Move Down Normal Bass Octave (Z)  
Lowest Bass Octave (↓)

$$(2 \uparrow (3N(2T \text{ CDEF } (8G8A8) \text{ G R L C D E F } (8G8A8)GVR) \downarrow) \uparrow Z)$$

your friends think that this tape is only good for playing “Mary Had A Little Lamb”, play this last example for them. It might make them hum a different tune. It was written without using a musical instrument for reference, by someone who doesn’t read music. Just by trial and error, until it sounded the way he wanted it to sound. With apologies to the original composer;

## “FRIGHT FLIGHT”

(2(1(2T(3E8 E-8 D8 D-8 C8 F8 E8 E-8 E8 E-8 D8 D-8 C8 D-8 D8 E-8) E8 A R8 (3A8 A-8 G8 G-8 F8 B-8 A8 A-8 A8 A-8 G8 G-8 F8 G-8 G8 A-8) A8↑D ↓(2(3E8 E-8) D8 E-8 E8 (3F8 E8)E-8)E8 F8(2E8 E-8 E8 F8 G-8 G8 A-8 G8 G-8 F8)(2(3A8 A-8)G8 A-8 A8(3B-8 A8)A-8)A8 B-8(2A8 A-8 A8 B-8 ↑ C-8 C8 D-8 C8 C-8 ↓ B-8)B8 2LT)V↑)NY↓T) ↑ (2TYLE8 E-8 E8 G-8 G8 G-8 G8 A8 B8 B-8 B8↑E-8 E8 E-8 E8 G-8 G8 G-8 E8 E-8 E8 G-8 G8 E8 G-8 G8 A8 G8 A8 B8 B#8 A8 B8 B-8 B8↑C8 D-8 D8 E-8↓ B8↑D-8 E-8 E8 D8 C8↓ B8↑D8 C8↓ B8 A8 B8 A8 G8 G-8 A8 G8 G-8 E8 E-8 E8 B8 B#8 A8 B8 A8 G8 G-8 A8 G8 G-8 E8 E-8 E8 G8 B8 B-8 B8↑D-8 E8↓ B8↑D-8 E8↑)E.

# TO SAVE YOUR COMPOSITION ON TAPE:

## LEVEL I

When you finish writing the song, press the **BREAK** key. The screen will show; COMMAND? Type **SAVE** and press **ENTER**. The screen will show; READY CASSETTE Press PLAY and RECORD at the same time. (Make sure all cords are connected) Press **ENTER**. The command will return an @ sign at the cursor position when finished.

## LEVEL II

When you finish writing the song, press the **BREAK** key. The screen will show; COMMAND? Type **SAVE** (Remember to put in a blank space), and then type a six character title. For example;

COMMAND? **SAVE MUSIC9** (Don't forget the space between SAVE and MUSIC9) Press RECORD and PLAY at the same time. Now press **ENTER**. When finished, an @ sign will replace the cursor to indicate the recording is done.

# TO LOAD YOUR COMPOSITION FROM A TAPE

## LEVEL I

It's the same procedure as above, except type **LOAD**, and of course you don't press RECORD. You will see it written out on the screen as it goes from tape to the computer.

## LEVEL II

Same as above, but type **LOAD**, (Space), and the name of the song. Don't Press RECORD. As the program is loaded into TRS-80, it will be written on the screen.



# TRS-80 MICRO MUSIC - REFERENCE SHEET

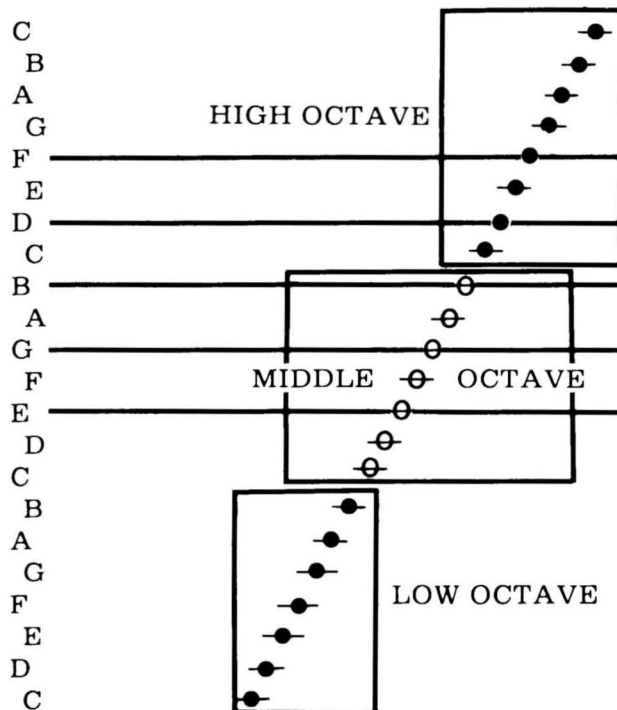
## MUSIC FUNCTIONS

CDEFGAB	Notes
#	Sharp
-	Flat
2 4 8	Half, Quarter, Eighth notes
.	Dotted Note (1 1/2 times normal)
Shift ↑	Shift to next higher octave
Shift ↓	Shift to next lower octave
(	Start of repeat (Must follow with one digit)
)	End of repeat
Shift →	Alternate ending (Skip to next right parenthesis, if last time through)
L	Third tone quality (Thinnest)
M	Change to double time
N	Resets triplets, staccatos, and tone to normal
R	Rest
S	Stacatto
T	Speed up for triplets
V	Second tone quality (Thinner than normal)
W	Slow to half speed
Y	Play in high range (Upper three octaves)
Z	Play in bass range (Lower three octaves)

## EDITING FUNCTIONS

← → ↑ ↓	Move the blinking cursor in direction of the arrow
<b>CLEAR</b>	Clears the screen for new music
<b>ENTER</b>	Begins playing music
<b>BREAK</b>	Places TRS-80 in command mode to save or load music on tape
SHIFT I	Inserts blank space at cursor position
SHIFT D	Deletes character at cursor location

## OCTAVE CHART



**NOTE:** Play can be interrupted by pushing any arrow key. Hold key down until music stops.

The first staff of music is in treble clef with a key signature of one flat (B-flat). It contains the following notes and rests: a whole note C (below the staff), a half note E2, a half note G2, a half note F4, a half note D4, a half note G2, a whole rest R, and a triplet of eighth notes (F8, E8, F8) followed by a triplet of eighth notes (NC4, C4, F8) and a final eighth note F8. The notes are labeled with their corresponding MIDI numbers below the staff.



### IMPORTANT NOTICE

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NOTE: Good data processing procedure dictates that the user test the program, run and test sample sets of data, and run the system in parallel with the system previously in use for a period of time adequate to insure that results of operation of the computer or program are satisfactory.

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