RB5X BUMPER MUSIC
Software Module
Version 1.1
By STAR, Inc.

The "RB5X Bumper Music" software module allows you to use the eight bumper panels on the robot's lower skirt to compose simple tunes that the robot plays back on command.

Age Level

Children of all ages as well as adults can use "RB5X Bumper Music," although older children and adults will be better able to understand and use this software module, and create more complex tunes than younger people.

Operation

To create tunes using the "RB5X Bumper Music" software module, you press the robot's tactile sensors, each of which has been assigned a note value, like keys on a piano. The bumpers are numbered 1 through 8, starting with the bumper under the sonar sensor as #1 and proceeding clockwise around the robot as you look down on it. The note range covers the piano octave that contains middle C and the two octaves above middle C.
We have assigned RB5X's first seven bumpers the following musical note values:

        1 C
        2 D
        3 E
        4 F
        5 G
        6 A
        7 B

Bumper 8 is designated the "pause" key. Pressing this bumper allows you to add pauses between notes in your tune. Pressing a bumper more than once creates longer notes or, for bumper 8, longer pauses.

In addition to these note assignments, certain combinations of bumpers, when pressed simultaneously, provide specific functions.

1 and 2 -- Moves the notes down an octave. 1 and 8 -- Moves the notes up an octave.

1 and 3 -- Signals that you are finished programming your tune and that you are ready for RB5X to begin playing it back.

To use your "RB5X Bumper Music" module:

1.   Make sure your RB5X is switched off.

2.   Check to see that the voice/sound synthesis card has been installed according to the instructions that come with the voice/sound package.

3.   Insert the software module into the socket on RB5X's interface panel, making sure the guide marks on the socket and on the module match up. Push the module firmly into the socket.

4.   Check the label on your "RB5X Bumper Music" module and set the module switch located to the right of the socket to the appropriate position (2K or 4K).

5.   Switch RB5X on. The five center light-emitting diodes (LEDs) begin flashing and continue to do so throughout "RB5X Bumper Music." If the center LEDs do not flash when you switch RB5X on, check to be sure the software module is installed correctly, that the robot is adequately charged, and that the switch located to the right of the module socket is set to the proper position.   If the LEDs still do not light, check the "Troubleshooting" section of the RB5X Reference Manual or call your dealer.

6.   Use the bumpers to select the proper octave for starting your tune. The "RB5X Bumper Music" module "wakes up" in its highest octave and may need to be lowered at least one octave for many tunes. Three of the four corner LEDs indicate which octave is currently active; looking down at the robot with the sonar sensor facing you, the robot's forward right LED corresponds to the highest octave, the rear right LED to the middle octave, and the rear left LED to the lowest octave.

7.   Press the bumpers to compose your tune. The note corresponding to each bumper sounds and the LED associated with each bumper lights as you press the bumpers.

8.   Press bumpers 1 and 3 simultaneously to begin the robot's playback of the notes you entered. The robot pauses for five seconds before beginning and pauses again for five seconds before each subsequent repetition of the song. RB5X will repeat your tune indefinitely until you push the software reset button on the interface panel or switch the robot off.

9.   Be sure to switch the RB5X off before you remove the "RB5X Bumper Music" software module.
If you make a mistake while entering your notes or wish to enter a new tune, either press the software reset button on the interface panel or switch RB5X off and back on and begin entering notes again.
Please note that RB5X does not remember your musical compositions after you switch it off or reset the software. We suggest you write down your bumper/note sequences so you can play them whenever you wish.

We have included a simple tune for you to use to begin your experimenting with the "RB5X Bumper Music" software module. First, enter the notes just as we have them; then experiment by making changes and listening to the effect.

FRERE JACQUES
1&2
1 (C) 2 (D) 3 (E) 1 (C)   Are you sleeping,
8
1 (C) 2 (D) 3 (E) 1 (C)   Are you sleeping,
8
3 (E) 4 (F) 5 (G) 5 (G)   Brother John?
3 (E) 4 (F) 5 (G)   Brother John?
8
5 (G) 6 (A) 5 (G) 4 (F) 3 (E) 3 (E) 1 (C)   Morning bells are
8   ringing,
5 (G) 6 (A) 5 (G) 4 (F) 3 (E) 3 (E) 1 (C)   Morning bells are
8   ringing.
1 (C) 1&2 5 (G) 1&8 1 (C)   Ding, dong, ding.
8 8 8
1 (C) 1&2 5 (G) 1&8 1 (C) 1 (C)   Ding, dong, ding.

Now press 1 and 3 to play it back.