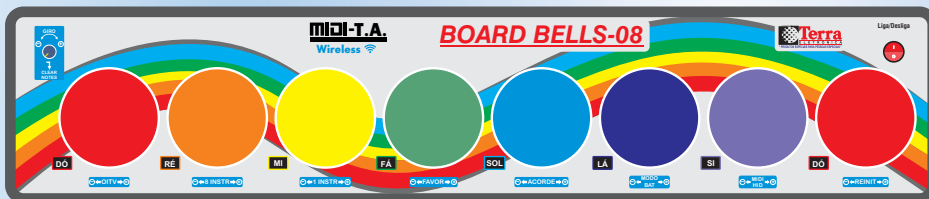
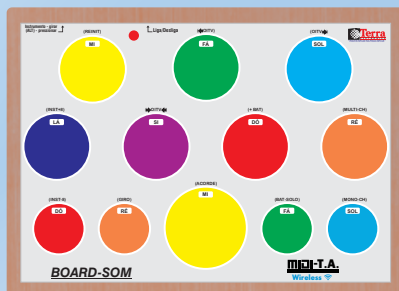


Instruction manual

NET **MIDI-T.A.** *Wireless MIDI Instruments* *for Assistive Technology*



"Instrumento mágico"



RX-USB-NET-MIDI-TA



Musical Beam

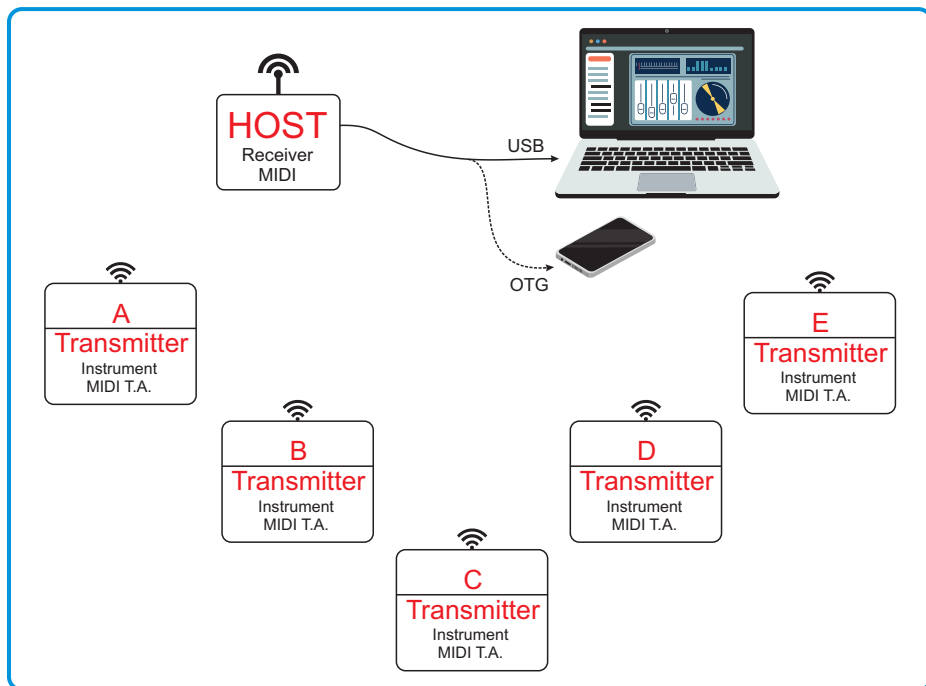
Overview:

The MIDI T.A. instruments work on a wireless network as shown in the figure below. This figure represents a group containing a HOST (receiver) and 5 Instruments (A, B, C, D and E).

Each HOST can process a group with up to 5 instruments simultaneously.

You can create up to 4 groups within the same environment and place up to 5 instruments within each of these groups, but to do this you need to have 4 HOSTs, one for each group and 4 computers or cell phones, one for each HOST, to run the instruments.

Pode-se trabalhar, em uma mesma sala, com até 4 grupos de forma simultânea, sendo que cada grupo pode ter até 5 instrumentos, sem que haja interferência entre os instrumentos



System description:

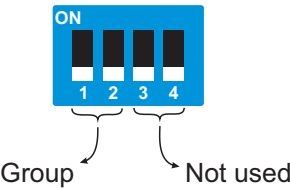
- Computer or Cell Phone, where you can run a “MIDI player” program/app, such as MIDI Player, Ableton, Walk Band, Garage Band, etc., to process the notes and commands and send them to an amplifier.
- MIDI T.A. USB receiver (Terra) responsible for receiving the commands sent by the MIDI T.A. instruments (Terra) and forwarding them to the computer or cell phone (MIDI player).
- Up to 5 MIDI T.A. instruments (A, B, C, D, E) where the notes and commands are generated on the MIDI T.A. network to be executed by the MIDI player.

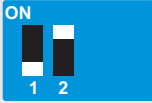

Note: The MIDI T.A. receiver (HOST) and the MIDI T.A. instruments (transmitter) are exclusive products developed by Terra Indústria Eletrônica.

System configuration

HOST Configuration

To configure the USB HOST (Terra) there is a 4-position switch where it will be determined from which group the HOST will receive the commands and instrument notes (A, B, C, D, E).



	Select group 1
	Select group 2
	Select group 3
	Select group 4

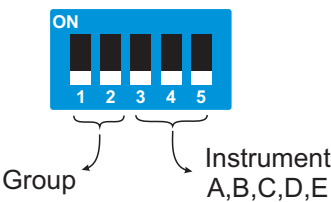
Each HOST works with only one group and must be connected to a computer or cell phone with a MIDI player program/app.

To use more than one group in the same environment, you need to have more HOST(s) and more computers or cell phones and configure each HOST to work in a different group (remembering that each group can contain up to 5 instruments).



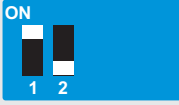

Note: For the HOST to receive commands and notes from the instruments, keys 1 and 2 on the HOST and the Instruments must be in the same position, as this indicates that they belong to the same group.

Instrument Configuration:

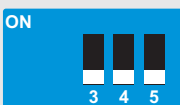
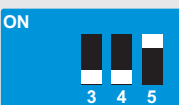
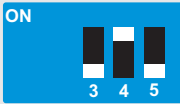

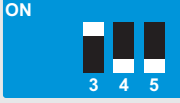
The configuration of the instruments is similar to that of the Host, but the configuration switch has 5 positions, confirm the figure below, with the first 2 indicating which group the instrument belongs to and the last 3 indicating whether the instrument is A, B, C, D or E.



Switches 1 and 2 define which group the instrument belongs to.

	Select group 1		Selecciona o grupo 2
	Select group 3		Select group 4

Switches 3,4 and 5 define whether the instrument is A,B,C,D or E.

	Select Instrument A		Select Instrument B
	Select Instrument C		Select Instrument D
	Select Instrument E		

Note: For the HOST to receive commands and notes from the instruments, switches 1 and 2 on the HOST and the Instruments must be in the same position, as this indicates that they belong to the same group.

Software tocador de MIDI

Terra Eletrônica MIDI T.A products are compatible with software that accepts MIDI commands, such as MIDI Player, Ableton, Walk Band, Garage Band, etc. Basic functions such as notes or keys are supported automatically, but some special functions may work differently depending on how each player works.. It is up to the user to choose the software that they find most interesting or with which they are most familiar.

If this is your first time using MIDI player software for Windows computers, we recommend using MIDI Player because it is lightweight, free, easy to use and fully integrated with all commands of the T.A. Terra MIDI system. Therefore, we will use MIDI Player as a reference to guide installation and configuration.

MIDI Player

The Software will be sent on a Pendrive, which comes with the product. No installation is necessary, just copy the files from the Pendrive to an easily accessible location and run the MidiPlayer. However, if for some reason you need to download it, just follow the steps below:

- 1 - The MIDI Player Software can be downloaded for free from the website <http://falcsoft.hu/software.html>.
- 2 - Once you access the site, scroll down the page until you find the link for Soundfont Midi Player 6.3. In this area of the site there will be 3 versions for download, all of which work, but we suggest the third link as shown in the image below:

[Soundfont Midi Player 6.3 \(without soundfont\)](#)

64 bit/unicode version. It's less tested but fully functional:

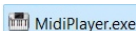
[Soundfont Midi Player 6.3 64-bit \(without soundfont\)](#)

I have made a preconfigured edition that uses a tiny 10MB ogg compressed version of Reality GMGS falcomod soundfont:

[Soundfont Midi Player 6.3 Bassmidi + Soundfont Edition](#)

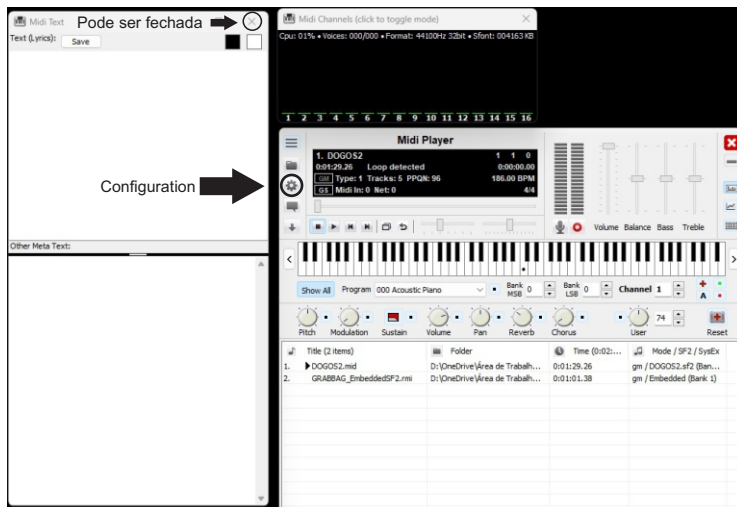


- 3 - Download the file and unzip the zip file to an easily accessible location.
- 4 - After unpacking, a folder named "MidiPlayer6" should have been created, inside which all the files for the program to work are contained.
- 5 - To run the MIDI Player, simply click on the MidiPlayer.exe file.



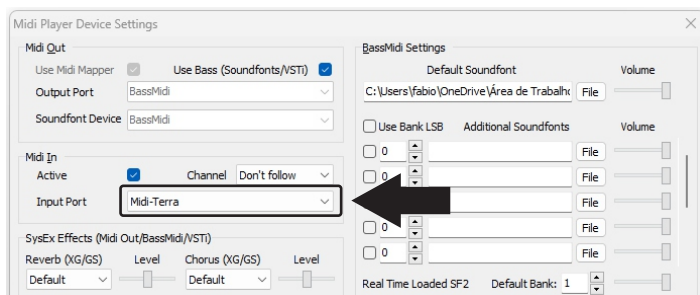
MidiPlayer.exe

- 6 - The first time you run the program the screen should look similar to the image below.
- 7 - The “Midi Text” window can be closed.
- 8 - Connect the USB HOST receiver (Terra) to the computer, no installation is required.
- 9 - If no MIDI device has been previously running on the computer, MidiPlayer should recognize the MIDI HOST Receiver (Terra) automatically, but if this does not happen it may be necessary to tell MidiPlayer to use the Receiver by clicking on the configuration icon.



- 10 - Check in the “Input Port” field whether Midi-Terra is selected, as shown in the figure below.

- 11 - If it is not, just select it and leave it the same as in the image above. remembering that for this procedure the HOST receiver (Terra)



must be connected to the PC.

- 12 - You can close the configuration screen, the MidiPlayer is now configured.

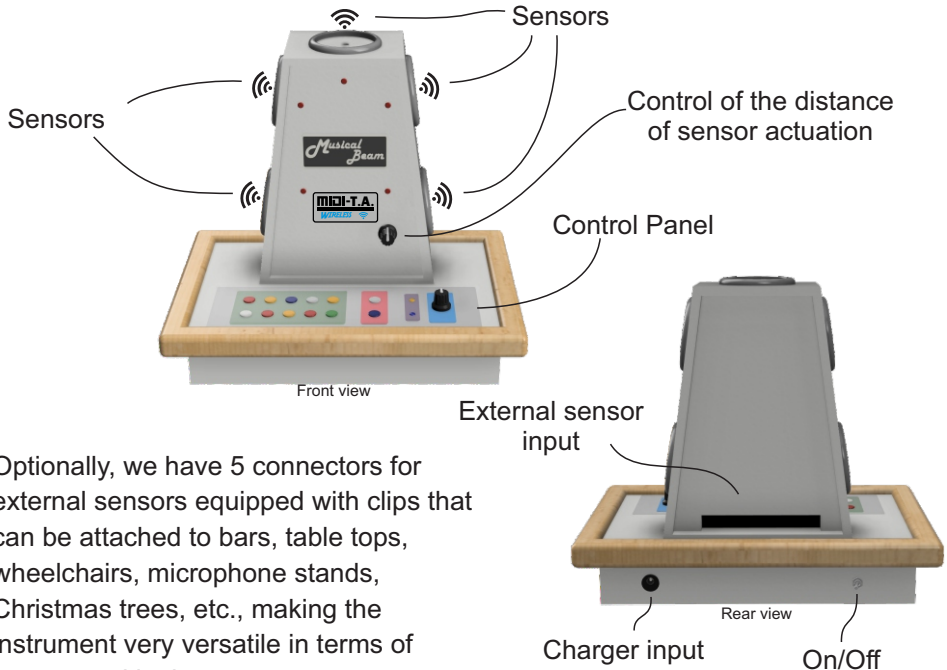
If the HOST receivers and the Instrument are in the same group, that is, if the configuration switch 1 and 2 of the HOST and the Instrument are in the same position, everything should already be working.

Instruments

Musical Beam

The Musical Beam is basically a MIDI controller that has 5 laser distance sensors that act as 5 octaves of a MIDI instrument.

These sensors are positioned in a small tower, as shown in the photo below:

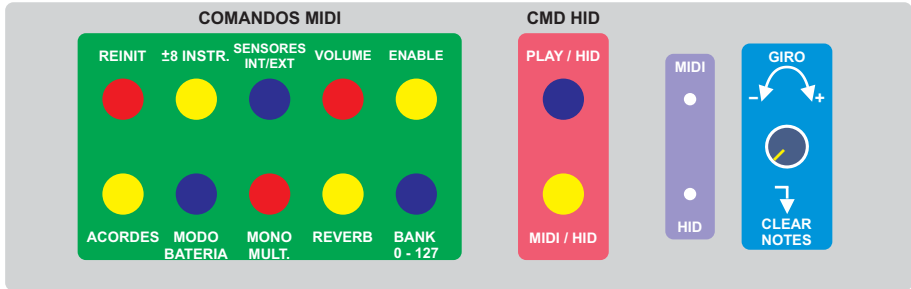


Optionally, we have 5 connectors for external sensors equipped with clips that can be attached to bars, table tops, wheelchairs, microphone stands, Christmas trees, etc., making the instrument very versatile in terms of sensor positioning.

Musical Beam uses channels 11 and 12 of the MIDI Player and also channel 10 (drums) and depends on the mode chosen by the keys and functions. A working mode has also been implemented that sends codes **not** for MIDI, but keyboard codes, very useful in emulating music controllers that use this method of communication with the computer. This mode is known as HID.

Then we have communication in MIDI mode, quite general and compatible with several software and applications such as MIDI Player (free), Ableton, Reaper, Walk Band, etc., and HID mode, quite specific, using the keyboard protocol for some dedicated applications (for example Beamz).

Musical Beam Control Panel



Important note about using commands:

To prevent unwanted commands from occurring, all keys only work in conjunction with the \pm GIRO (clockwise and counterclockwise), so to perform any command it is necessary to press the desired key and rotate \pm GIRO so that the command is performed; even if the key only performs an on/off function, such as the chord on/off key, it is still necessary to press the key and rotate \pm GIRO

Key functions \pm Giro

REINIT \pm GIRO	Resets Musical Beam's initial options
8 INSTR. \pm GIRO	Increases or decreases by 8 the instrument chosen for channel 11 of the Musical Beam, this function follows the set defined in the General Music (GM) table as per the attached table. Note: The base 8 was chosen to follow the standard of instrument groups contained in the GM documentation.
SENSORES INT/EXT \pm GIRO	Select 5 tower sensors or 5 external sensors (clips)
VOLUME \pm GIRO	Change the sound volume
ENABLE \pm GIRO	On/Off sensors (useful for inhibiting sound at events and demonstrations)..

ACORDE ± GIRO	Selects chord mode on channel 11
MODO BATERIA ± GIRO	Selects the drum insertion mode on channel 10 No drums, add drums and drums solo
MONO/MULT. ± GIRO	Various composition modes for channels 11 and 12 Channel 11 solo Channel 12 solo Channel 11 + 12 (with several instruments pre-set on channel 12 and the chosen one on channel 11)
REVERB ± GIRO	Increases or decreases the reverb effect on channel 11
BANK ± GIRO	Choose between bank 0 and bank 127 of the MIDI-PLAYER providing 256 instruments
MIDI / HID ± GIRO	Selects the MIDI command interface (used for example in the MIDI Player) or HID keyboard commands (used by applications that accept keyboard commands) indicated by 2 LEDs on the panel.
Só ± GIRO	In MIDI mode, increment the instrument set on channel 11 of the MIDI Player by 1
Press the button GIRO	Send command to delete all notes already sent, allowing you to delete possible notes stuck in the MIDI Player or on the keyboard.

Attachments

GM System - Level 1 Sound Set

General MIDI Sound Set Groupings: (all channels except 10)

Prog	Instrument Group
0-7	Piano
8-15	Chromatic Percussion
16-23	Organ
24-31	Guitar
32-39	Bass
40-47	Strings
48-55	Synthesizers
56-63	Brass
64-71	Reed
72-79	Pipe
80-87	Synth Lead
88-95	Synth Pad
96-103	Synth Effects
104-111	Cultural Ethnics
112-119	Percussion
120-127	Sound Effects

General MIDI Sound Set:

0. Acoustic Grand Piano 1. Bright Acoustic Piano 2. Electric Grand Piano 3. Honky-tonk Piano 4. Electric Piano 1 5. Electric Piano 2 6. Harpsichord 7. Clavi	Piano	48. String Ensemble 1 49. String Ensemble 2 50. SynthStrings 1 51. SynthStrings 2 52. Choir Aahs 53. Voice Oohs 54. Synth Voice 55. Orchestra Hit	Synthesizers	96. FX 1 (rain) 97. FX 2 (soundtrack) 98. FX 3 (crystal) 99. FX 4 (atmosphere) 100. FX 5 (brightness) 101. FX 6 (goblins) 102. FX 7 (echoes) 103. FX 8 (sci-fi)	Synth Effects
8. Celesta 9. Glockenspiel 10. Music Box 11. Vibraphone 12. Marimba 13. Xylophone 14. Tubular Bells 15. Dulcimer	Chromatic Percussion	56. Trumpet 57. Trombone 58. Tuba 59. Muted Trumpet 60. French Horn 61. Brass Section 62. SynthBrass 1 63. SynthBrass 2	Brass	104. Sitar 105. Banjo 106. Shamisen 107. Koto 108. Kalimba 109. Bag pipe 110. Fiddle 111. Shanai	Cultural Ethnics
16. Drawbar Organ 17. Percussive Organ 18. Rock Organ 19. Church Organ 20. Reed Organ 21. Accordion 22. Harmonica 23. Tango Accordion	Organ	64. Soprano Sax 65. Alto Sax 66. Tenor Sax 67. Baritone Sax 68. Oboe 69. English Horn 70. Bassoon 71. Clarinet	Reed	112. Tinkle Bell 113. Agogo 114. Steel Drums 115. Woodblock 116. Taiko Drum 117. Melodic Tom 118. Synth Drum 119. Reverse Cymbal	Percussão
24. Acoustic Guitar (nylon) 25. Acoustic Guitar (steel) 26. Electric Guitar (jazz) 27. Electric Guitar (clean) 28. Electric Guitar (muted) 29. Overdriven Guitar 30. Distortion Guitar 31. Guitar harmonics	Guitar	72. Piccolo 73. Flute 74. Recorder 75. Pan Flute 76. Blown Bottle 77. Shakuhachi 78. Whistle 79. Ocarina	Pipes	120. Guitar Fret Noise 121. Breath Noise 122. Seashore 123. Bird Tweet 124. Telephone Ring 125. Helicopter 126. Applause 127. Gunshot	Efeitos Sonoros
32. Acoustic Bass 33. Electric Bass (finger) 34. Electric Bass (pick) 35. Fretless Bass 36. Slap Bass 1 37. Slap Bass 2 38. Synth Bass 1 39. Synth Bass 2	Bass	80. Lead 1 (square) 81. Lead 2 (sawtooth) 82. Lead 3 (calliope) 83. Lead 4 (chiff) 84. Lead 5 (charang) 85. Lead 6 (voice) 86. Lead 7 (fifths) 87. Lead 8 (bass + lead)	Synth Lead		
40. Violin 41. Viola 42. Cello 43. Contrabass 44. Tremolo Strings 45. Pizzicato Strings 46. Orchestral Harp 47. Timpani	Strings	88. Pad 1 (new age) 89. Pad 2 (warm) 90. Pad 3 (polysynth) 91. Pad 4 (choir) 92. Pad 5 (bowed) 93. Pad 6 (metallic) 94. Pad 7 (halo) 95. Pad 8 (sweep)	Synth Pad		

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