

# **Interface Digital de Instrumento Musical**

## programando o Arduino como dispositivo MIDI

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# O que é MIDI?

*Musical Instrument Digital Interface*

Interface Digital de Instrumento Musical

Dave Smith and Chet Wood  
Sequential Circuits, Inc.  
San Jose, California

**Presented at  
the 70th Convention  
1981 October 30–November 2  
New York**



**AES**

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Primeira comunicação MIDI com os sintetizadores Sequential Prophet 600 e Roland Jupiter 6, na NAMM de 1983, Califórnia.

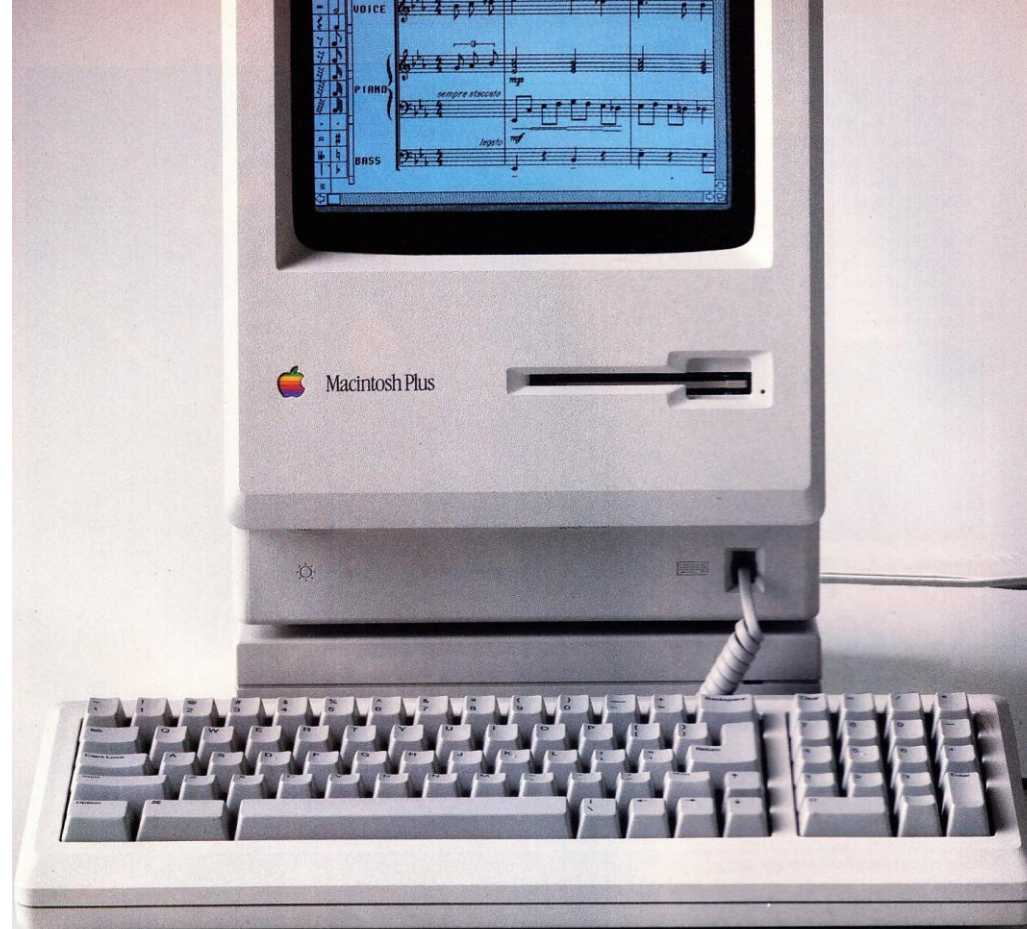




Yamaha DX7, 1983.

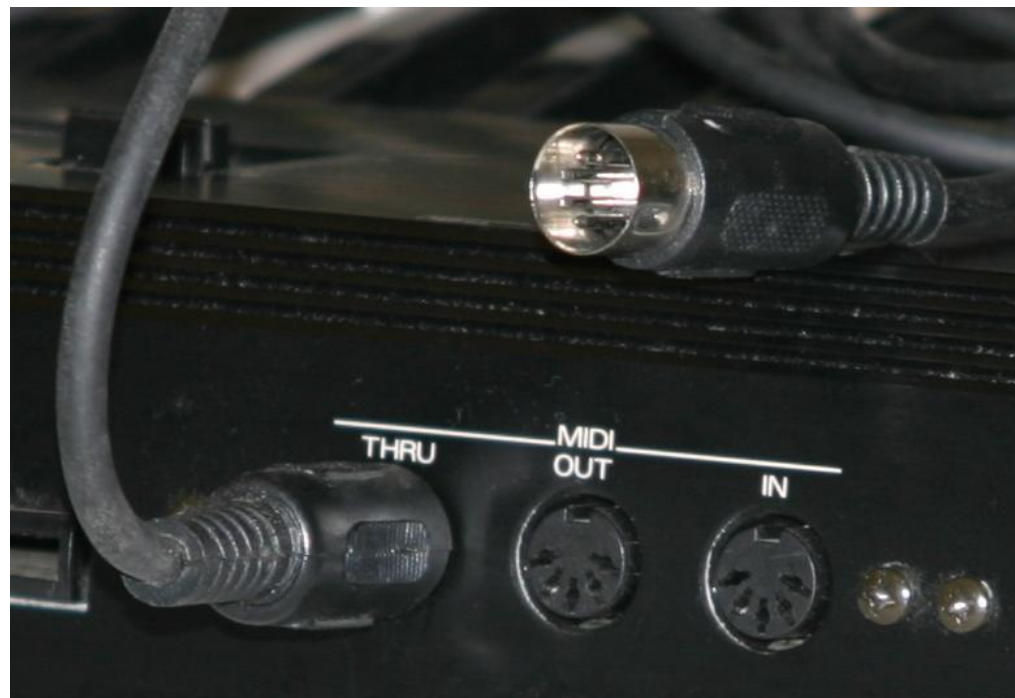


Roland MPU-401, 1984.



Think of it as the  
ultimate keyboard  
instrument.

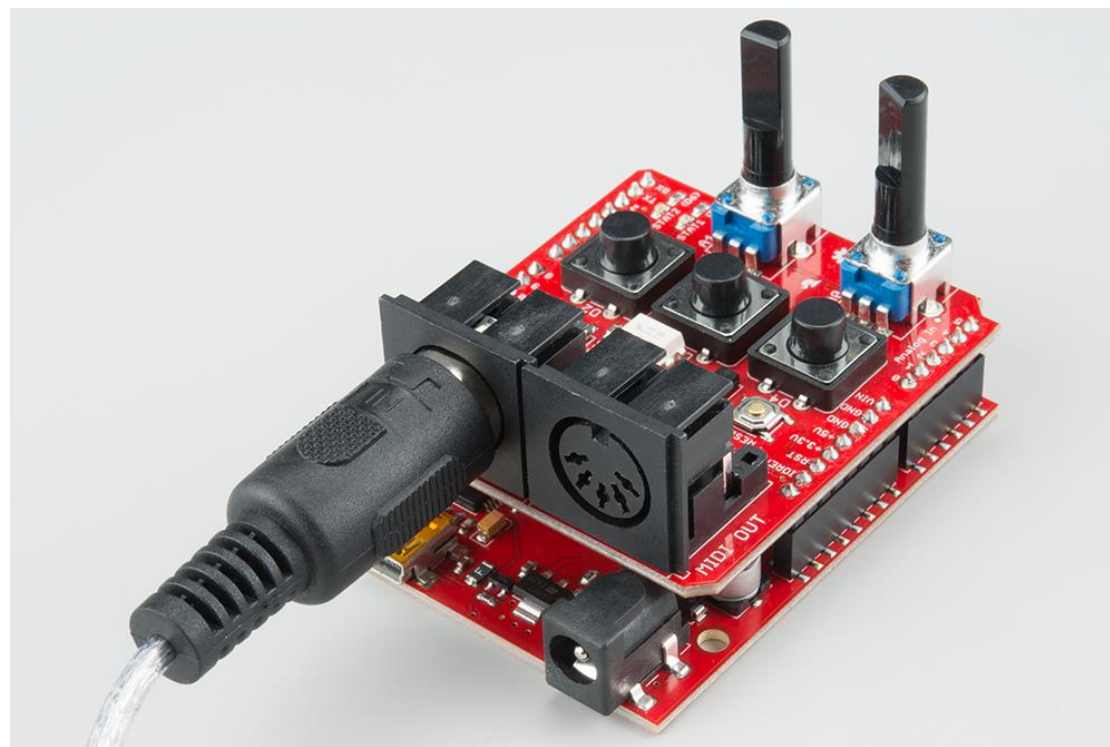




Conector MIDI, cabo DIN de 5 pinos.



Mais de 3 décadas depois...



Arduino com shield de MIDI da Sparkfun.

# Arduino como dispositivo MIDI

O firmware **mocoLUFA** de **morecat\_lab** possibilita transformar o Arduino em dispositivo MIDI nativo (*Class Compliant MIDI Device*), com "dual boot", atualizando o chip ATmega16U2 do Arduino Uno ou Arduino Mega.

GitHub do projeto:

<https://github.com/kuwatay/mocolufa>

A versão **Pimp my mocoLUFA** de **Yaeltex** / **pablofullanado** permite nomear o dispositivo MIDI:

<https://moco-lufa-web-client.herokuapp.com>

Para fazer a atualização do firmware ou *Device Firmware Upgrade* (DFU) precisa de um software específico. Veja o tópico "Download a DFU Programmer" para baixar a ferramenta necessária de acordo com o sistema operacional:

<https://www.arduino.cc/en/Hacking/DFUProgramming8U2>

# Atualizando o firmware mocoLUFA no ATmega16U2

Vídeos de referência que explicam os procedimentos para atualizar o firmware do Arduino Uno ou Arduino Mega

Arduino é MIDI - EITA!

<https://youtu.be/wyB4fweqU5Q>

Turn Arduino Uno into a Class Compliant MIDI Device - Corvus Prudens

<https://youtu.be/-bCz2I9SMAA>

#3 Traktorino how to: Make the Arduino a MIDI Class-Compliant Device - Nerd Musician

[https://youtu.be/180Ko9sQ\\_s0](https://youtu.be/180Ko9sQ_s0)



# Links e referências MIDI

Biblioteca MIDI de Francois Best para Arduino

[https://github.com/FortySevenEffects/arduino\\_midi\\_library](https://github.com/FortySevenEffects/arduino_midi_library)

Lista das notas MIDI com as respectivas notas musicais e frequências

[https://www.inspiredacoustics.com/en/MIDI\\_note\\_numbers\\_and\\_center\\_frequencies](https://www.inspiredacoustics.com/en/MIDI_note_numbers_and_center_frequencies)

Lista dos tipos de mensagem de controladores MIDI (*Control Change* ou CC)

<http://midi.teragonaudio.com/tech/midispec/ctllist.htm>

# Referências de projetos MIDI + Arduino

Canal *LOOK MUM NO COMPUTER*

<https://www.youtube.com/c/LOOKMUMNOCOMPUTER/search?query=midi>

Canal Notes and Volts

[https://www.youtube.com/watch?v=0L7WAMFWSgY&list=PL4\\_gPbvyebyH2xfPXePHtx8gK5zPBrVkg](https://www.youtube.com/watch?v=0L7WAMFWSgY&list=PL4_gPbvyebyH2xfPXePHtx8gK5zPBrVkg)

Canal Nerd Musician

<https://www.youtube.com/c/M%C3%BAsicoNerd>

Canal Bitluni's Lab

<https://www.youtube.com/c/bitlunislabs/search?query=midi>