



Syntacts 24-channel Tactile Amplifier

1 Overview

- Hand-sized tactile array
- 24 individually controlled tactors
- Demonstrated spatialization on large tactile array
- Made from 3D printed and commercial, off-the-shelf components



2 Description

- This tactile array is designed to demonstrate the spatialization capabilities of the Syntacts system. The array is sized to be approximately the size of an adult hand, so users can easily feel all tactors at once.
- The array is designed to be printed by a typical 3D printer and the components can be procured from commercial sources. The entire assembly can be completed with typical electrical tools.
- Designed to be used with Motu 24Ao digital audio device and three Syntacts Amplifiers
- Each tactor is mounted on a separate piece of foam in order to isolate the vibration from the rest of the array.

3 Safety Notes

The authors wish to remind users that this array is released under the TAPR Open Hardware License. When assembling this array, users must take appropriate safety precautions to protect users. Examples of safety measures are ensuring tactor chassis are isolated from power and wires are securely connected.

4 Technical specification

	Unit	Value
Board dimensions	<i>in * in * in</i>	6.125*2.375*1.375
n° of channels	--	24
Signal input voltage range	V	± 5

Table 1: Technical Specifications for tactile array

5 Board Measurements

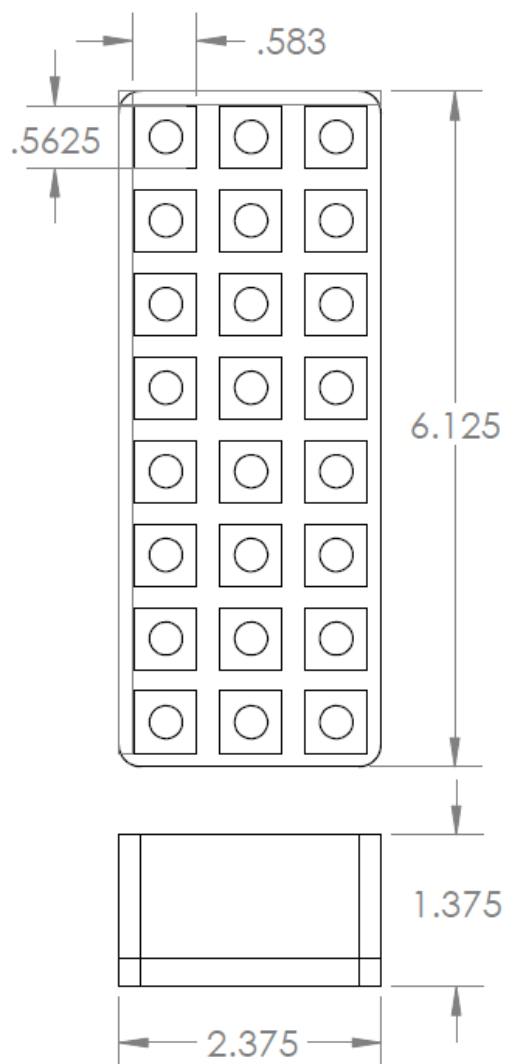


Figure 1: Array Major Dimensions (inches)

6 Wiring

The wiring is largely left to the user. In the example in Figure 2, the vertical columns were bundled together so that each column attached to a separate Syntacts Amplifier. Each horizontal row has a unique color combination to indicate its position on the array.



Figure 2: Example wiring of tactile array

7 Assembled System

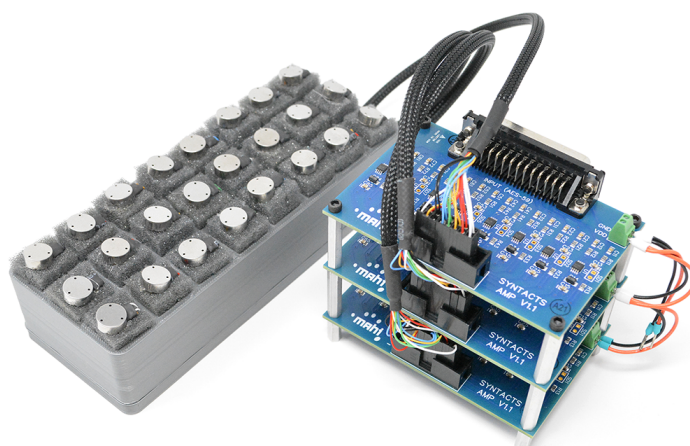


Figure 3: Assembled tactile array attached to Syntacts Amplifiers