4 women, 12 legs. 120 DEN!

Soundperformance with modified mannequin legs

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1 ABOUT 120 DEN

The Cologne based ladies‘ quartet 120 DEN, founded in 2019, plays with modified mannequin legs, which become independent electronic instruments through guitar strings, contact microphones and built-in synthesizer elements.

The resulting sounds range from subtle caresses to overflowing tapestries of sound, to knee-jerked death metal passages and conceptual electronic textures. The experimental leg sound is of course also supported orally.

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The down-to-earth feminine performance moves on a large scale, incidentally referring to the background of the subtle numbering and giving Rosa Luxemburg a leg up: a spectacular stage show for a wide audience!
The unit denier (DEN, symbol Td) is defined as follows: 1 den = 1 gram per 9000 meters. Thus, for a filament yarn, 15 denier = 15g : 9000 m, 1 tex corresponds to 9 denier.

The lower the DEN number, the more transparent and fine the product is. The higher the number, the more opaque the stocking is. Pantyhose with only 8 DEN are just a hint and particularly finely worked. Opaque are fine stockings with 50 DEN or more, through which no skin shimmers. 120 DEN are therefore opaque and with the number 120 also refer to the noise character of the musical output: at 120 decibels is the pain threshold of the human ear.

To sum up:

$$1\,tex \;=\; 9\,DEN\,tex \cdot Nm \;=\; 1000$$

$$254 \cdot N\,e\,B \;\approx\; 150 \cdot N\,m$$

$$254 \cdot N\,e\,L \;\approx\; 420 \cdot N\,m$$

$$120\,DEN \;=\; 13.333333333\,tex!$$

2 MANNEQUIN LEGS AS FEMINIST MUSICAL INTERFACES

We use selfconstructed mannequin legs as instruments. Each leg has an inbuilt arduino-based synthesizer/ soundgenerator with 6 potentiometers which control frequenz, oszillator, filter, volume and modulation.

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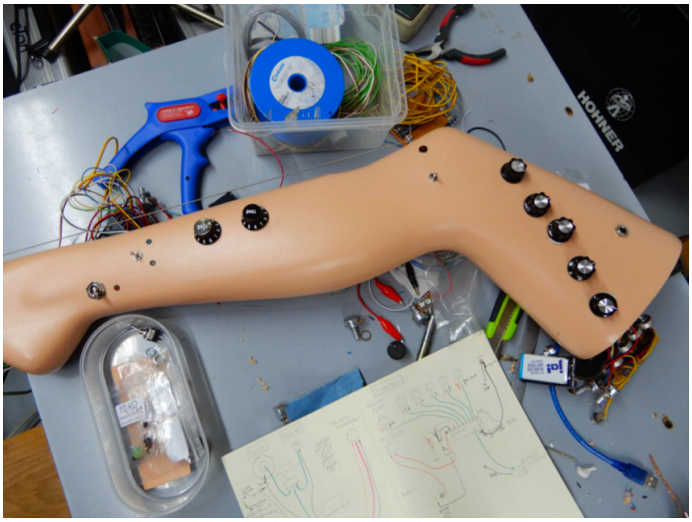
The prototype is only using an arduino nano and MOZZi library, but we are busy with building the next leg level, it will be with teensy and teensy audio shield, so we can also use samples and a larger scale of sound effects. Furthermore we want to install different effect devices (distorsion, tremolo etc.) directy into the leg. They will be connected with patch cables (as a funny reference to modular synthesizers).

The guitar string can be tuned with a guitar machine and is amplified with a single coil pick up. The integrated piezo contact microfone amplifies every sound we play directly on the leg, for example stroking the leg or blowing into it.

Guitar-string and piezo are amplified with a small lm386 audio amplifier (inside the leg). A switch selects which source is active and one potentiometer controls the volume.

The arduino soundmodule don't need a seperate amp and can be played simultaneous to guitar or piezo, but also independent. There's one output, 6,3mm Jack.



3 MEDIA LINKS

- Video: https://vimeo.com/384351180
- Video: https://vimeo.com/385714602
- Website: www.120den.de