<Llor>

This very heavy musical robot uses eleven large stainless steel (AISI 304L) shells of different diameters as sound sources, as well as a single antique bronze bell of similar shape. These twelve shells are either struck by strong electromagnets with a heavy beater, or with felt covered piano hammers driven by much smaller and less powerfull solenoids. The first method covers the f to fff loudness range, whereas the piano hammers cover ppp to mf and even allow for quasi sustained sounds by grace of their relatively high repetition rate capability. Although the sounds of this automaton have definite pitch content in the inharmonic bell like sound, we do not classify nor use it as a pitched percussion instrument. The name given to this robot is a tribute to Llorenc Barber, who we saw playing shell like bells at so many occasions within the last 25 years. However, Llorenc's bells are made of normal iron (taken from gas containers) and suspended in a light wooden frame.

The constructional parts for this robot, apart from the very sturdy wheel base, are all made from stainless steel. All welding was performed using the full manual TIG process, using pure Argon gas.

The entire circuitry for this robot makes use of three fast PIC controllers: Microchip PIC18F252 - I/SP type. The first one only controls the blue LED lights fitted on different places all over the instrument. The second microcontroller takes care of their largest eight bidirectional solenoids and control not only the striking force, but also the backwards (return) movement. The third micro steers all the smaller solenoids. The power supply is rated 48V/ 12.5A, allowing for full polyphonic operation even at high striking forces and repetition rates. The dynamic range of the instrument is very wide.

Mapping:

Midi note range: 36-59 (hard-beaters on 36-47, soft beaters on 48-59) , lights (blue) mapped on notes 1,2,3,4,5. For those who like to see this in traditional music staff notation in the we we hear it:

For midi files played by our <GMT> software, there is an 'intelligent' playing modus available, which you can switch on by sending controller 72 with a value higher then zero (value 0 resets to absolute mapping as described here above). In intelligent mode, our software will try to find a note that corresponds to the correct pitch of the given midi note, where the value of the controller determines the allowed deviation in cents. If, in this modus, no matching note is found, nothing will be played.