

The Imhof and Mukle Orchestrion at Kinloch Castle on the Isle of Rum

by Nicholas Simons

This orchestrion was built around 1900 in the factory of Imhof and Mukle in Vorenbach, near Baden in the Black Forest region of Germany. Its build number is 3220.

The Black Forest was the centre of barrel organ building in the second half of the 19th century with numerous companies involved in the business. Imhof, and later Imhof and Mukle, were one of the larger companies involved, and they continued right into the first quarter of the 20th century, but as with most manufacturers of mechanical musical instruments they were overtaken by the developing industries of phonographs, gramophones and then radios. Imhof and Mukle even had their own retail outlet in London, and continued to sell home entertainment well beyond the death of mechanical music. The shop was in New Oxford Street, but it was closed in the late 20th century and is now a Starbucks.

It is thought that orchestrions were introduced to Britain in 1852 by Leopold Mukle, a clockmaker from the Black Forest, and he set up in business with Daniel Imhof and opened their own orchestrion factory in Vorenbach in 1874. Early instruments would have been barrel operated, but later they designed their own 'music leaf' system. Early instruments would have been converted to this new system as this gave them the ability to play any music and tunes, which could be up to 15 minutes long. A famous British orchestrion that underwent such a modification is the Tower Orchestrion, once the centrepiece of the Blackpool Tower aquarium, which was later moved to the Industrial Museum in Birmingham. Unfortunately this instrument, along with its impressive collection of mechanical music, was moved some ten years ago, when the new Think Tank Science Museum was opened, and it is currently crated and in storage, maybe never to be seen again.

Around the beginning of the 20th century, manufacturers were

experimenting with music playing systems that would liberate the instrument from playing a small repertoire of relatively short tunes provided by the barrel. Some moved to folded cards, while others moved to thin paper rolls. The latter became normal for player pianos, but Imhof developed its own 'music leaf' system. This was more durable than paper rolls, and so was less susceptible to mis-handling by inexperienced operators, and was therefore eminently suitable for instruments in public places and orchestrions. The music would have been much more expensive than paper rolls, but this would have been of no consequence to the owner of a vastly expensive orchestrion. The Imhof music leaf system used a thin manila roll housed in a wooden cassette. The roll travelled at a slow speed so long music selections or overtures could be played. If the instrument was kept in good repair, the rolls could last for ever.

Imhof's main competitor in classic orchestrions around this time was the German company of Welte, based in Freiburg on the edge of the Black Forest. They moved straight from the barrel to the paper roll, resulting in cheaper but less durable music. Imhof finally moved over to paper rolls around 1915. An excellent example of an Imhof orchestrion employing the music leaf system is housed at the British Musical Museum at Brentford, London. This was acquired from the Imhof shop in London, and it still performs regularly. Both the Brentford and Birmingham Imhof orchestrions can be heard on LP records, which can be found occasionally on a well-known internet auction site.

The later Imhof orchestrions are categorised by model name, each having,

or sharing, a specific musical scale. The scale is the brain of the instrument, and comprises the number of keys, or playing tracks, which are divided into musical notes, percussion and registers. Early instruments do not appear to stick rigidly to any of the recorded scales, and it must be assumed that each instrument was built to the purchaser's requirements, and music rolls may not be interchangeable between instruments. The Rum Orchestrion was built in 1900 and is said to have 108 tracks, with 88 of these operating musical notes and 20 operating the registers and percussion. This is much larger than any of the documented Imhof scales so this orchestrion must be one of the largest ever built. There are 264 organ pipes, covering registers imitating the sounds of flutes, clarinets, trumpets, baritones, trombones and piccolos.

Fig 1 shows the main view of the Kinloch Castle Orchestrion. Like a number of similar instruments sold to grand country houses, it was built into the fabric of the building, in this case at the end of the grand hall and partly under the adjacent staircase. History has it that it was purchased from Imhof's London showroom as a fully cased model, so that case must have been either discarded or remodelled in order

to fit it into its new home. Unusually, the operating side of the instrument is separated from the visual display of the pipes, so the operator cannot be seen by the people in the grand hall enjoying the music. The orchestrion follows the conventional arrangement of early Imhof and Mukle orchestrions where an electric motor pumps a set of large bellows to provide the wind for the speaking pipes, percussion controls and the keyframe, which is the mechanism that reads the music roll. Due to the remodelling required to install it at Kinloch, the pump and roll frame are situated at the side of the main pipe case rather than underneath it as is normal.

Fig 2 shows the pump and roll frame situated under the stairs. Also in this view can be seen the percussion frame, which will have the effect of reducing the effect of the percussion when heard from the grand hall.

Fig 3 shows a detail of the keyframe. The red manila roll is housed in a purpose-made cassette, seen to the left, and is transported across the keyframe by the main motor driving the take-up spool through a system of gears and shafts. The music roll is read by a number of lightly sprung metal keys placed above the roll and sprung downwards. When a slot appears below the key, it drops and in so doing operates a small valve at its other end. This, in turn, sends a pneumatic signal down a thin lead pipe to a second pneumatic valve which inflates a small bellows, which in turn pulls down a wire passing into the main pipe chest, being connected to a leather-faced pallet valve which then lets air into the chosen organ pipe. Of course, things are not so simple as the orchestrion contains a large number of pipe ranks, each with a different speaking voice, some flues and some reeds. The music roll has additional tracks which turn on and off the various ranks in accordance with the musical requirements.



Fig 1 The Kinloch Castle Orchestrion



Fig 2 The pump, key, drum and roll frame situated under the stairs

Above the keyframe can be seen a large triangular wooden manifold which contains all the windways for each track. The thin lead pipes pass from the back of this manifold across to the right to the main organ chest. Below the keyframe can be seen the top of the set of large bellows which provide all the wind. Fig 4 shows a detail of the drum frame. Of interest here is the side drum reiteration



Fig 3 Detail of the keyframe



Fig 4 The drum frame

mechanism. This harks back to the days of the barrel orchestrion, and uses a continuously rotating shaft driving a second shaft fitted with four cams, one for each beater. When the side drum slot is cut in the roll this causes a small bellows to push two gears together and unite the two shafts, thus creating a roll on the drums. This is very

effective and saves three tracks on the roll if each beater were to be independently controlled. Also, with such a slow moving roll, a fast cut drum roll would cause weakness in the card. If you look carefully, you can see the two gears and white leather bellows behind that pulls the two gears together to operate the drum roll. Also seen are the bass drum, cymbal and triangle. These early Imhof and Mukle classical orchestrions contain no piano.

The workmanship in Imhof and Mukle orchestrions is always of the highest quality, using only the best materials. If well looked after, kept in the correct environment and played regularly, such machines will give their best for a hundred years and more. There is

not much point in spending tens of thousands of pounds restoring such an instrument if it is then not going to be played regularly, say, at least once a week. It will simply deteriorate again. If such a future cannot be guaranteed it would be better for it to be sold on the open market to someone who would cherish it and make it available to enthusiasts. However controversial this may sound, I believe that such instruments are better off in private hands rather than museums.