

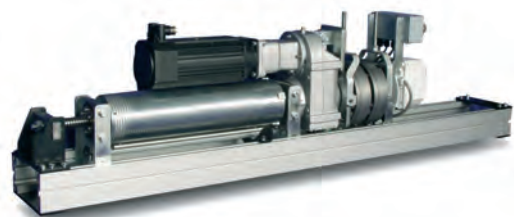
Big Tow Hoist performance:

- The Big Tow Hoist used during speech-only parts of drama is audible, but was tolerable.
- Noise from ascent and descent is different.
- The noise below 1 kHz was not measurable.
- By analysing noise level distributions, the change in the noise level for up and down movement becomes readily apparent (right).



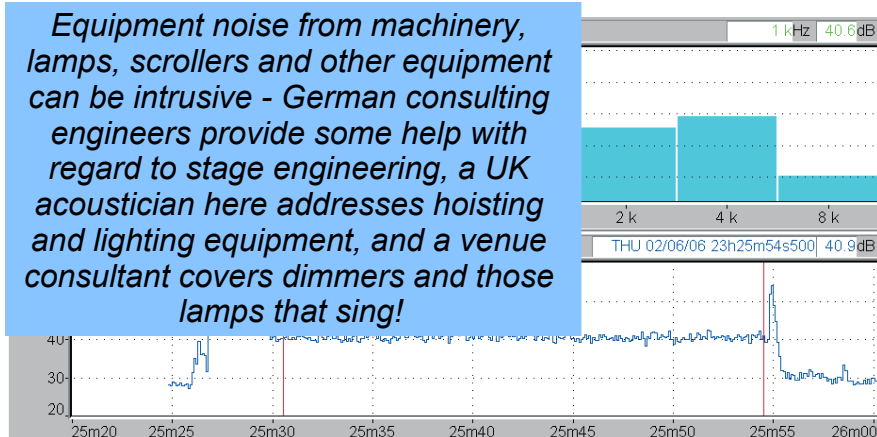
Big Tow Winch from Stage Technologies

The noise made during ascent and descent was different. We were able to get rid of some of the noise from the drive-equipment rack by enclosing it, because it had to be in the performance space. This venue is a single space, with the backstage, the foyer, the audience seating, the stage and the technology all in one room, with a very few rooms that could be used to house things. So this rack actually had some local acoustic treatment around it. If we look at the ascent noise and descent noise; it's often difficult to see exactly what's going on, but by analysing noise level distributions, the change in the noise level for up and down movement becomes readily apparent. When the hoist is going up, it's normally noisier than when it's descending. You can see it's around 45 dB going up and around 37 dB going down. It's just a useful way of understanding what's happening with the sound.



Typical Big Tow winch as manufactured by Stage Technologies.

Equipment noise from machinery, lamps, scrollers and other equipment can be intrusive - German consulting engineers provide some help with regard to stage engineering, a UK acoustician here addresses hoisting and lighting equipment, and a venue consultant covers dimmers and those lamps that sing!



Tirac Hoist Performance.

Tirac Chain Hoist

The Tirac is a special form of wire-rope hoist without a winding drum. It is a much more rough and ready unit than the Big Tow. This was interesting for a couple of reasons. The Big Tow could just about be used during performances; the Tirac was too noisy unless you had the loudest of music to cover its movement. And you can see that not only is there a big bump of sound energy as it starts up, but it's noisy right through its run, and there's a big clunk at the end when it finishes and the brakes come on. You can also see clearly we're up 10 dB on the background noise. We can look in detail at the spectrum of the start-up transients.