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classic gear

The Liquid Dimmer | Rob Halliday . . .



It's amazing, looking back, quite the lengths people will go to just to fade a light up and down. Clever electronics now, of course - before that, clever use of valves and before that, variable resistances driven by hand, by chain or by motor.

But before all of *that*, perhaps craziest of them all: the liquid dimmer.

We're taught now that electricity and water shouldn't mix. That's good advice. But advice you had to ignore in the earliest parts of the 20th century if you were the lighting operator. Then, your control system might have consisted of a series of tall, narrow, glass or glazed earthenware jars. Each jar was filled with a conductive liquid, usually water with added salt; at the bottom was a conductor bringing in electricity. Above the jar, a narrow lead weight suspended by a wire, the top connected to the lights. With the weight lifted out of the liquid, the circuit was broken and the light was off. But lower the weight into the salted water and you'd make the circuit, at first with a high resistance because of the amount of liquid between the two conductors - so the light would come on dim. Lower the weight further into the liquid, closer to the bottom conductor, and the resistance would reduce and so the light would get brighter - the heart of theatrical lighting.

These were not dimmers that would meet current health and safety standards: so many exposed live parts, solid and liquid. They were also not low-maintenance devices: salt water is corrosive, so the dimmer was effectively always destroying itself, little by little. The jar's open top meant that the liquid would evaporate, with constant topping up required - but the light level for a particular depth of metal (what we'd now call the fade curve) was completely dependent on the concentration of salt in the liquid. Keeping that consistent was important, but required care and a stock



of the appropriate liquids and salt (the manufacturers would sell you 'special salts for use in the dimmer,' by the pound).

But there were other ways for the electrician to adjust that fade curve. The liquid dimmer was also known as the salt water dimmer. But it is not for nothing that it also had another name: the 'piss pot', for the quickest way of adjusting the salinity. Though the wise or experienced always checked that the pot was not live before making this adjustment, otherwise the result could be somewhat - shocking . . .

Three pounds and 10 shillings for a 40A liquid dimmer back in 1925 (two-and-sixpence per-pound for the salts); still just three pounds, 14 and sixpence 20 years later, with the salt at the same price - surely some kind of bargain! Richard Pilbrow recalls finding them still in use a decade and a half after that, at the Savoy Theatre. If you're lucky

enough to be able to sneak into the theatre at Alexandra Palace in north London, you'll find some still bolted to the wall on the stage left perch - hopefully they will survive the building's current reinvention, if just as a record of a harder time in lighting control, rather than as a working installation!

Sadly, John Watt's valiant attempt to re-introduce the technology at Showlight in 2009 seems to have gone nowhere, other than YouTube . . .

Liquid Dimmers in 1925 and 1945:

▶ www.theatre crafts.com/archive/albumviewer.php?id=3&page=17&type=a

▶ www.theatre crafts.com/archive/albumviewer.php?id=4&page=75&type=a

The 2009 Version:

▶ www.youtube.com/watch?v=lnSPMNiv42c

Rob has been working in and writing about lighting for more than 25 years, on shows around the world. He wonders if this makes him a classic... or just old!

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