

# Lighting & Sound INTERNATIONAL

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## Truly Scrumptious

- Chitty Chitty Bang Bang

## Technical Focus

- Review of Moving Head Fixtures

## SIB 2002

- All the news from Rimini

## Solution Providers

- Profile of Media Projects International

## The Invisible Band

- Travis at Sheffield Arena



# Truly Scrumptious



***Chitty Chitty Bang Bang* recently landed on stage at the London Palladium. Rob Halliday thinks this is theatre at its best . . .**

The funny thing is, if it had been made now rather than in 1968, it would probably have jumped from screen to stage in two years instead of 34. But *Chitty Chitty Bang Bang*, the story of a magical racecar rescued by a mad inventor and his family, is from a different time - before *Cats* and *Phantom* proved you could make as much money from the stage as the silver screen, before Disney proved that the public wanted to come and see real people perform live versions of shows they already knew from video. And before the Broccolis, producers of the Chitty film (and also of the James Bond franchise - like Chitty, based on stories by Ian Fleming) discovered they had a taste for theatre with the moderately-successful *La Cava*.

But all those things have happened now, which is why *Chitty Chitty Bang Bang* - "the most fantasmagorical stage musical of all time," according to the adverts, can now be found at the London Palladium, its buoyant, bouncy score by the Sherman Brothers - who also wrote the songs for *Mary Poppins* and *The Jungle Book* - extended to create a full-scale musical. It would be easy to be cynical about this, to accuse the producers of cashing in on an old children's favourite - if it wasn't just so damned good. I find it hard to believe that even the most jaded, hardened, negative, cynical theatregoer could come out of this show without tapping their fingers with delight and generally behaving like a wide-eyed five year old - I know I did. The people working on this show have, truly, created theatrical magic.

## DESIGN

"Of all the shows I've done - and there have been a few, over the years - I think this one has given me the greatest satisfaction. The car flies. The kids love it. And to get that kind of response even from people who know what's been going on and how it all works is very gratifying." So says Richard Bullimore, the show's production manager and a man whose 'few' other shows include the likes of *Cats* and *Starlight Express*, talking about the pivotal moment in the show when, plunging over the edge of a cliff, the car unfolds its wings and flies. If Chitty was to work on stage, how to achieve that moment dramatically was the first problem that had to be solved by designer Anthony Ward. Ward himself admits that the solution was the work of many.

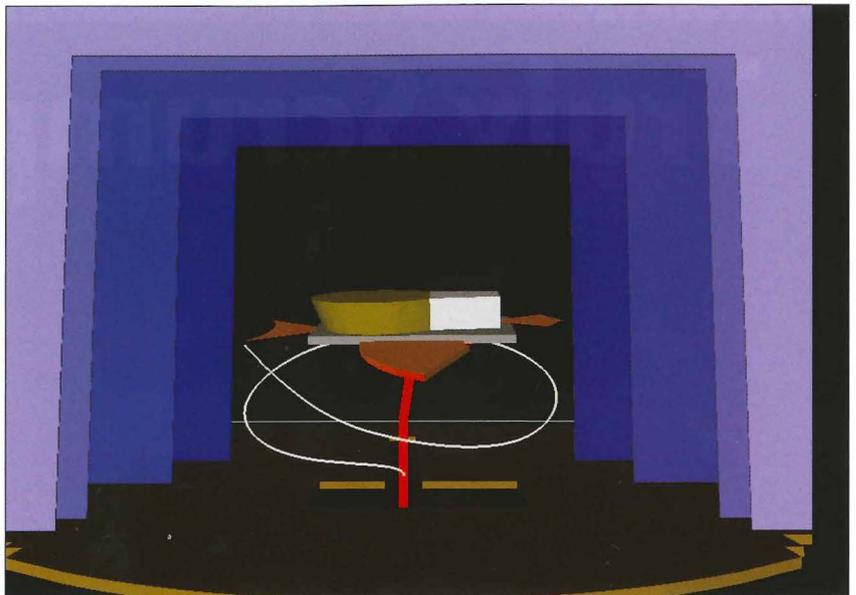
"We knew that the car had to fly," Bullimore recalls. "I thought it should be some kind of arm coming up through the floor; I called Delstar and said 'We're doing *Chitty* and we need the car to fly!' We didn't take a finished design to them: we went and talked about the parameters, we want to do this, can you make it do that, what can you give us? That's how it all came together. I think it was interesting approaching it like that, having the engineers put in suggestions."

The final design has the car - a faithful recreation of the film car - housed understage, mounted to the end of a double armature on a gimbal that allows it to rotate and tilt in two planes. This combination allows the car to





Right, a screen capture from Stage Technologies' desk showing 'Chitty' flying. Above, the real thing



appear to drive around the stage, to lift straight up with a giant airbag appearing underneath for the scene where Chitty floats on water, or to lift, spin, tilt and even fly out over the audience, wings extended, for the flying scene. Of course, to make that work requires a clear sub-stage area, and the Palladium's basement was far from clear, filled with the old drum revolve familiar from years of televised variety shows - though hardly used since. "It took quite a bit of negotiating, but the revolve has now gone," Bullimore explains - though one suspects that the theatre management are secretly delighted that they now have a clear basement and modular floor to offer to incoming productions (assuming *Chitty* ever leaves the building!) The revolve was documented photographically by Joe Aveline prior to its removal.

The final car is a joint project between Delstar, who built the armature, Stage Technologies, who provide winches and control, and Howard Eaton Lighting Limited (HELL), who built the car itself. Eaton - a creator of crazy gadgets who lives with two children in the English countryside, not unlike the central character of the show itself - has made the car twinkle and sparkle magically using every trick in his company's book, including low-voltage lighting, fibre optics and LEDs, ensuring that car and occupants are lit entirely from within the car during the flight, minimizing the external light required and so helping to hide the mechanics. "Howard drives you to distraction - but the result is just fantastic. He deserves a lot of credit for taking something that no-one really knew what to do with and creating this wonderful thing," says Richard Bullimore.

Chitty's movement is under the control of automation operator Graham Coffey, housed, with his Stage Technologies Acrobat console, in the stage-left side of the auditorium, close to the Palladium's first front-of-house lighting control position - the only minor drawback being the need to operate the show tethered to an earthing point after static from the theatre's new carpet took out the desk's

### FIBRE OPTICS

*Chitty* is the largest fibre optic job in the West End. The show features 40km of fibre and 30 HELL DMX-Twinkle sources with either twinkle or animation disk and eight-position colour wheel.

The show includes starcloths in the pros, large star patterns and an animated show logo in the header, plus stars in the portals. The scenic fairground piece, with its animated sources, includes 2,000 25W 40mm lamps.

A HELL DMX Radio system controls the lights, the motors in the trucks, plus a separate system for the pyro sequence on the breakfast machine.

trackball during the first dress rehearsal! For the car alone, Coffey has 10 axes of control - nine real axes, plus one virtual axis used by Stage Technologies' Pathway software to allow a route to be dragged out on a screen. "The Pathway on this is a variation of the system developed for *The Witches of Eastwick*, adapted to suit the car. We just sat down, firstly at Delstar and then here, and tried it, then refined it based on feedback from the creative team. We had a 'dummy' car at first, so it didn't matter if it got bumped around a bit!," explains Coffey. The movement of the armature is hydraulically controlled, but using a new type of hydraulic valve that allows greater control than has previously been possible and stunningly smooth movement. Programming was helped by the many volunteers wanting to ride in the car - in fact, about the only person who hasn't tried it yet is Coffey himself, since no-one else has learnt to operate it!

What Eaton, Coffey and their teams have done most successfully is imbibe Chitty with a

personality, the car even winking cheekily and bowing during its curtain call (yes, it gets a call). Be in no doubt, the cast may feature Michael Ball, Brian Blessed, Richard O'Brien, Anton Rodgers, a fantastic newcomer in Emma Williams, some great children and 12 dogs, but the car's the star!

But it is by no means the only piece of scenery: Anthony Ward puts just about the entire film on stage, complete with his familiar trademarks of stunning cloudscapes, exaggerated perspective and tricks of scale; there's flown and tracking scenery, mostly automated, and the performing area extends beyond the proscenium, with a pasarelle around the front of the orchestra pit, a hot-air balloon that flies across the stalls (controlled by Stage Technologies' BigTow winches hidden in the side auditorium boxes), and the final, spectacular exit of the Childcatcher, hoisted up through the auditorium roof. And, as Graham Coffey notes, "much of it happens at the same time. In the last third of act one there is always something moving - we pick up Grandpa in his outhouse, track him across, then a cloth flies in, the balloon flies across the auditorium, the little car follows it, but at the same time we're presetting Chitty upstage, then we reveal that, then it flies and the wings come out and so on to the end of the act." Coffey admits to sleepless nights during technical rehearsals - "but after all that, we have a great show!"

"The Broccolis are ecstatic - they were very worried about the car, but they now know that's the least of the problems," says Richard Bullimore, though he has been getting notes about it from other sources. "The Westminster health and safety guy came to see the show. He had a few notes for us, but the main one was 'last car flight - fabulous!'"

### LIGHTING

Those who know Mark Henderson say that he is one of the calmest, most laid-back - yet also most efficient and best - lighting

designers working in theatre. For those who don't know him, the story of the Chitty focus provides an example. Apparently it went something like this: 9am, Mark Henderson arrives wearing a suit. With production electricians Fraser Hall and Steve Reeve and the Palladium crew, he gets on and focuses front-of-house. At 11am, he leaves to go to the Olivier Award presentation ceremony. At 2pm, having won the Olivier award for lighting (for the fourth time from eight nominations), he returns to focus the overhead rig. At dinner time, the team have a little celebration. Then they focus the sidelight. By 10pm, they're done - two days ahead of schedule.

Of course, being a large-scale musical, the percentage of equipment needing focusing was lower than on many of Henderson's 'lower budget' designs. Here, with so much scenery leaving so little space for lights, every light needed to be able to offer as much as possible and so much of the rig - supplied by White Light and The Moving Light Company - is automated. "It will be hard to go back to a more normal rig in the future!" the lighting designer admits, looking across his plan that includes four principal overhead trusses, each containing eight High End Studio Beams, four Martin MAC 600s as pipe-end crosslights, two Martin MAC 500s and one Vari\*Lite VL2202, with the downstage truss containing extra MAC 600s. Upstage, a bar of 14 MAC

600s (half of them with wide-angle lenses) provide coverage to the cyc; upstage of that are a stage-left truss containing six 600s and a stage-right truss containing a further two 600s, the asymmetry following the asymmetry of the set to provide a backlight through a giant window piece.

A further 11 MAC 500s live front-of-house, and there are a number of Martin PAL1200s floating around, though Henderson confesses that "we're not using them much, and the ones on the front truss will probably come down; I put them there because I thought we might have to put light on the car and that the shuttering would be useful for that, but we haven't. The MAC 500s, some with animation disks instead of gobo wheels, do lots of animation work.

The MAC 600s light the cyc and do backlight. And we particularly like the Studio Beams - they're bright, punchy, go narrow and do great colours. Originally, I wanted Digital Light Curtains, but there wasn't room to have those as well, so instead I've clustered the Studio Beams together and they make a very light-curtain-like effect. I'm actually glad we ended up with them instead, though, since we're also using them as washes to different parts of the stage a lot of the time."

Controlling the rig is a Strand 500 series console for the conventionals (which includes lots of ETC Source Fours, Wybron CXi colour changers and scrollers, Par cans, and effects including the GAM FilmFx animation loop, and the chasing lights and smoke that feature in just about every set piece) and a WholeHog 2, driven by Stuart Porter, running the moving lights. Despite the technology, Henderson has stuck to his principles, always "having a clear idea in my head for each



Michael Ball in the lead role of Caractacus Potts and Emma Williams as Truly Scrumptious.

particular scene. But once we started lighting the set it became clear quite quickly that it looked best with coloured light on it, so I have gone further down that road than I

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Left Brian Blessed and Nichola McAuliffe as *The Baron and Baroness*. Below, Richard O'Brien as *the Child Catcher*

might normally have - I think the moving lights have made me more adventurous!"

Henderson and Porter have also responded to the car, which usually appears in a great swirling morass of Studio Beams, making its shiny metal surfaces twinkle and sparkle. Then when it flies, they pull right down to the lights in the car itself, plus just a hint of background stars. "Howard Eaton has done a wonderful job - we've just left him to it, and they kept adding things as they came up with new ideas! It works because we keep it dark around it - often the problem wasn't seeing the arm directly, but becoming aware of it moving in front of lit things."



It also sounds like part of the success of the lighting is that the team have been having fun doing it. "It's just been one of those jobs where you've wanted to come into work every day because it's been a really good team - Fraser, Chris Dunford (the moving light technician), Stevie, Stuart, and the Palladium crew who are really clued in and know exactly what's going on. We've had fun, even though we have been here a long time."

Mark's only real problem has been getting time away from the music. "My

children love the show - they love the film, they've been to see this and they love it. The only problem was that they saw it on a Saturday and on the Sunday - my only day off - they wanted to watch the film! So I had the tunes in the background all day again!"

## SOUND

"I think one of the main things to note about this show is that I don't think there's any way that one person could have done it. Perhaps by staying up all night making effects, then up all day doing the show - but I don't want to work like that." So says Andrew Bruce, whose name appears below the 'sound designer' credit on the Chitty poster (and who you may have seen referred to as 'that nice black-haired sound boy' if you've stumbled across actress Nichola McAuliffe's web diary about the production) - but who has, in fact, continued the double act with fellow Autograph sound designer Simon Baker that began on *The Witches of Eastwick*. Though each has contributed to the entire design, the split initially had Bruce concentrating on the live sound and Baker on the sound effects.

If the challenge to the scenic department was to create a version of the flying car that would impress theatre audiences, Baker set himself a bigger challenge. "I felt it was important that we kept the sounds from the film, particularly for Chitty, because they're so well known - my son knows exactly what Chitty sounds like, he can make the sounds from the film. But there was no way we could just lift those from the film." Fortunately, luck intervened: Baker discovered that The Tape Gallery had just purchased the complete Cinesound sound-effects library, thousands of boxes of analogue tape. "So we made contact with them," Bruce recalls. "Actually, I think they'd been waiting for us - but Simon hit it off with their archivist and so they went through the tapes, 7.5ips, recorded on a Nagra in the 60s - very well recorded, actually - to find the original sounds."

"We took lots of sounds - the car, the grand prix; they were in mono, but we could deal with that," Baker explains. "I made up the original grand prix montages based on that. Of course then we got here and the first thing Adrian Noble, the director, said was 'I want it to be more, you know, yeooooowwwwwww.....' so we had to



## THE CAR IN SHORTHAND

### Construction/Lighting

Construction and Specialist Lighting Effects by Howard Eaton Lighting.

95% scale of film car. Construction started in January 2002, completed 12 weeks later ("very, very tired HELL team by April 16th!" according to Howard Eaton).

Lit completely from within car using 24 HELL MR8 fittings, six 100W fibre sources and looms, 200 LEDs, controlled via DMX using Hell and Mode Digitran products. Car also contains a Meyer UPA in pieces and six other speakers fed via the slipring that also carries mains, DMX, bi-directional control data, sound and compressed air. Bodywork and wheels by Stephen Pyle Workshop, wood painting by Chris Clark, wings by Mrs Eaton and Ken Creasey! Other elements "had to be real - beautiful headlights by a headlight manufacturer, windscreen by a man who makes windscreens for AC Cobra cars."

Inflatable drive by 1000litre/sec air fan which feeds via ductwork to airbag folded underneath. "Good old velcro!" Helicopter arms "very complicated, but very beautiful mechanisms." All done without the 'cheating' the film allowed with mechanisms hidden off-camera - film car also didn't have to be able to be "hidden away in the most expensive underground carpark in London!"

### Automation - Stage Technologies

9 Axes of control, including a virtual master for speed control during flight profiles. 5 hydraulic axes include three main arms plus two tilting axes for the car. 3 electrical axes for arm rotate, car rotate and an US-DS track.

Pathway software used to create flight paths for journeys at end of each Act. Due to infinite number of ways to resolve every car position into axis positions for arms and track, one axis needed to be fixed. Therefore, during flights, lower arm remains vertical and all other axes are used to run car smoothly along desired path.

### The Garage

All doors and locks controlled from a PLC. 3 bomb doors cover upstage, midstage and downstage above main track. 2 infill doors cover either side of track when garage door is open. 1 main garage door closes when car is in stored position, sub-stage. Car reveal requires at least two arms and track to move simultaneously in order to clear garage.

Car mechanics and hydraulics by Delstar.

start again with that. But Chitty sounds as Chitty should!" And the effects sound fantastic: as usual, Baker has created effects that have a point of view and a sense of humour!

As to the equipment used, both admit that there are no major new technical breakthroughs on the show. "It's a Cadac J-Type, as for *Witches*, but with more automated faders. We're continuing with L-Acoustics' dV-DOOSC, which continues to do everything we want of it without any fuss; we're also using the new dV-DOOSC sub, which has only just become available. Plus the usual front fills (Meyer UPM-1s, dB E3s), delays (UPM-1s) plus a surround system, plus at least one speaker in every piece of scenery, since there's nowhere to put any kind of upstage effects speakers. It's all good, old-fashioned analogue equipment that we know how to use and that we trust to deliver the results we need," Bruce explains. "Lots of people seem to be using digital desks, but they all seem to be saying 'they're small' rather than 'they sound fantastically better...'"

Effects replay is from an Akai S6000 sampler and a DAR Theatreplay, with the surround effects routed by TiMax. Given the number of effects, the designers made the decision to split the control of the console and the sound effects, running the console from Cadac's software and the effects from Matt



McKenzie's MIDI control software. Operator Veronique Haddesley has one 'Go' button for each system "... which I was a little nervous about at first, but which turned out to be a Godsend when we got going."

The show also uses 46 channels of Sennheiser radio microphones, with the principals double-miked, and the designers having to work hard to overcome another problem: "Everyone wears hats! The spooks have their mics mounted on the ends of their glasses," Bruce explains. "And one always forgets when he takes his glasses off," Haddesley adds. There are also five reverse-radio transmitters used to get sound effects to loudspeakers hidden in bits of scenery. The car itself has numerous speakers, to locate the sound within the car and also to keep the sound level up as it rotates and tilts. Making the system work fell

An amazing 12 dogs feature in the cast

to engineers Ken Hampton and Tim Stephens along with their crew of Jim Douglas, Colin Compost and Angela McCluney; Haddesley's show crew consists of James Meadwell, Steve Barnes and Lucy Baker.

### THE SHOW

The result of all of these people's work is triumphant. This is not theatre trying to be film, nor theatre trying to be 'serious' drama, but theatre doing what it does best: being theatrical. Spectacular. Entertaining. Amusing. Magical. The audience clap along, boo the baddies, cheer the goodies. Panto, maybe - but panto, too, is theatre being theatre; no other medium can do what it does. Surprisingly even jaded critics were swept along, declaring the stage version better than the film. This one will run and run.

*Mary Poppins* next, anyone?

Photos: Martin Smith; Autograph Sound; White Light; Peter Thompson Associates

We are planning a backstage tour of *Chitty Bang Bang* at the Palladium Theatre. If you are interested in attending please e-mail [media@plasa.org](mailto:media@plasa.org) or call us on +44 (0)1323 418400

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