MUSICALS: Mounting, Maintaining, Remounting, Downsizing

(some hints on what you need to write down!)

Rob Halliday

LDI Conference, November 2005

The documentation of a large-scale musical needs to serve its purpose during four main stages of the life of the show - as it is created, as it runs in its first venue, as it is remounted in new productions (or perhaps in new venues on a tour) then, as time goes on, as it is downsized into smaller and smaller tours! Thought lighting one of these shows was 'art'? Only about one part art to four parts information management...

Mounting

Even before the show is created on stage, there will be a mountain of paperwork generated as the rig is designed, put out to bid, re-designed to fit the budget, re-designed as the set is altered to fit its budget, then re-designed again after the venue is changed! Paperwork here includes the equipment list in a database system such as Lightwright and the lighting plan lightplot in American parlance - showing where all of the lights are to be rigged. Standards

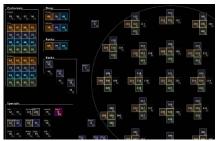
All Po	Cha Dim C	AN CF	Pos Chn Dim	Pur Ck	n l
	okmark 1 [5]			s – Bookmark 3	
View: All		() ()	ie:		
121012210		120			
Sorted By:	Channel	•			
T Channel	Position	Unite	Instrument Type	Wattage	Pur
(207)	LX No.1	3	Per 64CP 62	187	Cent
(207)	EX No 1	30	Reinbow Scroller	10v	
(211)	SR Lødder 1	5	Source 4-19	7504	Invi
(211)	SR Ledder 1	56	Wybron CXI Scroller	10.	-
(212)	SR Truck Boom	1	Source 4-19	750-	Invi
(212)	SR Trieck Beem	10	Wybros CXI Scroller	104	-
(213)	USR Doom	3	Source 4-19	750v	Javi
(213)	USR Boom	30	Wybron CXI Scroller	104	1.
(214)	Set Houst USR	1	Source 4-26	750v	
(215)	SR Lader 1	3	Source 4-19	750v	Tavi
(215)	SR Ledder 1	34	Wybros CXI Scroller	104	-
(216)	USR Boom	2	Source 4-19	750v	Invi
(216)	USR Boom	28	Wybron CXI Scroller	104	-
(221)	St Looper 1	5	Dource 4-19	750v	Envi
(221)	SL Ledder 1	54	Wybroh CXI Scroller	10w	-

across a production team are vital here since information will be moved regularly between lighting designer, associates, production electrician and other members of the design team. Ideally, software used will allow and support collaboration - allowing people to work on the same file or at least merge changes they've made into each others file - rather than having one 'active' file that has to be passed from person to person in a strictly managed way. And in a perfect world the drafting program and the rig database program would be seamlessly linked....

Email now at least offers a much faster way of moving files; storing files on the web allows everyone access to the 'current' version of a file (-it's not really 'paperwork' any more!)

In the theatre, the paperwork has to keep track of the rig - what's up there, what's been focused, what's still waiting to be focused, what those lights need in order to be focused (if they're specific to certain scenery). At this stage in many cases we still up in the crazy situation of having to 'double handle' data - for example, printing a patch out of Lightwright then typing it into the lighting console. That we are still doing this in this day-and-age is insane, but while there are alternatives they are generally less trustworthy or more difficult to set-up than just re-typing everything! This problem of data management continues throughout a production period - ensuring that if a patch is changed, it is changed in Lightwright and in the console and anywhere else it's written down. The job of lighting large scale musicals is four parts data and version management to one part 'art'!

At this point, the lightplot may be joined by magic sheets or other alternative representations of the rig; software such as Eric Cornwall's Virtual Magic Sheet now starts to merge the paper magic sheet into the list of numbers traditionally seen on screen (while software such as Strand's xConnect allows lighting designers to see those numbers in any way they choose rather than just how they're shown on the main console screen).



Traditionally, as a rig has been focused it has been 'focus-plotted' - a written record has been taken of where each light is pointing, usually using a grid-type notation such as '6L@8' for a beam centred on the head someone standing six feet stage-left of centre, eight feet upstage of the setting line; ideally this is done during focus so that when the lights get hit by scenery they can be re-focused to the right place! Of course, you also have to note the height of the person doing the focus plotting! And many details of the focus are hard to describe accurately in this way - exactly where the shutter cut lands, exactly how hard or soft the edge focus of the beam is, exactly how the gobo is oriented.

Moving lights have also added to the confusion - instead of having one focus, they can have many, many focuses. Do you need to focus plot these? Wouldn't the lights always go back to the same place? Experience suggests that you do: lights vary from unit to unit, a unit rigged slightly off horizontal will miss its targets, edge focus can be inconsistent from day to day, rotating gobos often don't have anything to indicate their orientation when loaded into the lights. And, of course, you need something to prove to the director that the light is in the same place it has always been in, but the actor has moved!

Years ago, I used to document the moving lights as people did the conventional lights - by drawing each focus by hand. On *Oklahoma!* in New York a few years ago, we turned to digital photography to document both the conventional focus and the moving light focus, taking a picture of each light in each focus in turn on



the stage (the pictures don't need to be hugely high resolution; the keys to success are a tripod, some worklight so you don't just see a blob of light, a person standing in each light so you can see the effect of the light, and a camera with a big enough memory card and a good battery!). The trouble was, you still had to figure out what to photograph - which lights were actually used in which focuses in which cue during the show. Attempting to solve these problems while avoiding the need to first spend a day figuring out which lights go to which positions in a show, and then juggle camera, laptop and lighting desk while taking the pictures is what led to the development of FocusTrack.

FocusTrack: MISS S	SAIGON -	Tam Tour
MPORT CONTROL: Just import mus number: 4		Main Menu
# 10:07:57 pm	# 16/4/2005	from showfile : Tam Norwich rev
mporting:		
Min Intensity 5		
Start Cue for Focus Track: 1		E / UPDATE
End Cue for Focus Track: 700		JCG311GCK

FocusTrack can take a showfile from a Strand console and process it to generate a list of which lights are actually used (ie. actually come on) in which focuses during the show; it can also read the console patch to give an accurate record of what's patched where, and merge in information from Lightwright for a complete record of what the lights are and where they're rigged.

		Smatt Pic Big List Picture	Find AL	Clear "focus" Markers NEW only	CUE
Group Ma	n Group Name	Focused?Contents 3,pe	Chan	2014	First Cur
535	C Dress Room	DIDIP	11	X to SL, straight edge at SL for droom wall	264
535	C Dress Room	DICIP	14	X to SPI, straight edge at SI, for driroon wall	264
535	C Dress Room	DICIP	3	Front into C of Dr Room, catches truck US	263
563	New D/Room	DDP	63	Candia topi to table SIL	263
426	Dress SidesMoulin int	DIDP	79	X to top of SR trucks, keep above droom	263
563	New D/Room	DICIP	03	X into Dr Room table St, 6 window	263
563	New D/Room	DOP	724	Team in hole US, off per US	263
563	New D/Room	DIDP	725	Backl thru SL drivon window	263
535	C Dress Room	DICIP	4	Gobo frontlints driroom	262
426	Dress Sides/Moulin int	E COP	78	X to top of SL trucks, keep above drittom	262
563	New D/Room	DIDP	7	X into SPICe Room baskat and wall	261
514	Dress Neon Signs	DDP	71	X to neon zigna	261
535	C Dress Room	DOP .	53	Topi DS droom Kim/Tam	250

It can then control the console through Strand's xConnect software, using an ethernet cable or a wireless ethernet network. So to focus plot the moving lights, you mark out a grid on stage with tape or focus tapes, position yourself in the circle with a laptop and a digital camera, in FocusTrack turn the first light on in its first focus, take a picture, press the button to turn that light off and turn the next light on, take a



picture, and repeat for all of the lamp-focuses in the show. For the current UK tour of *Miss Saigon* - about 700 lamp-focuses - this process was completed well inside one four hour session, including the time taken to move scenery to the correct positions on stage. The photos are then imported into FocusTrack, photos showing complete washes of lights or even actual cues added, then descriptions added to give a complete record of the show.

(Of course, the real question is - should this information live in the console itself.....?)

whole other story, and a whole other database! And where a big monitor comes in really useful....

To My I		3	My Fair Lady		UK Tour					Pages Hardnery 2005		
21			Followspot 1 FOH SL 04				Followspot 2 FOH SR					
	9	-9	\$15. www.	200	100	**	pick up	68	Not.	nt	pick up	
1	11	111	Elos entronce	1					11/3	475	The CI to Hug	
ļ	12	312	Force uit							-	Pade of Dear An	
i		214	CALLS DO NOT HIT CYC SPOT 2 CALLS ALL FADID		Al	1005	Queen and Servarts	3	AL	1025	Queen and Len	
ĺ		316.1	CAUS	3	AI	1025	Costemorgens Ing enough to cover C ond SL	3	A	1025	Margaret and a	
		3142	CAUS	1	7/8	1025	Ascol Couple Cover 1.	8	1/8	1008	Ascol Couple	
		214.3	CALLS	3	AI	1005	Cronies Cover 11	5	N	1025	Cronies Cover 18	
		216.4	CALLS	3	r/8	_	MRS Peace		1/8	_	WAS Pearce	
		314.3	CAUS	1	1/8	100	MRS Higgins	2	1/8	005	MAS Hippine	
		216.6	CALL	3	7/8	1005	Pickeling	3	1/8	1075	Picketing	
		214.7	CALLS	3	7/8	1005	Doolffie	3	1/8	100%	Doolffe	
I		214.8	CAUS	3	1/8	1027	Bies	3	1/8	1025	Hagins	
ĺ		24.9	CAUS	1	AI	1005	Mas, Doolffle and MR1 Higgins	3	N	1025	Res. Higgins or	
Į	19	319	CAUS	1	eșt.	1005	MD to pill (With LX 317)					
Į	80	200	CAUS	3	AI		Ellas. Doolffle and MRS Higgins (with LX 300)					
ĺ			CALLS				Forde off its They separate				Pade of 11 Tary	
Í		han 2	CALLS As they come back on	2	A8	1005	Man. Doolffie and MRS Higgins	3		1025	Res. Hippins or	

Maintaining

Things slip over time; it's a fact of life. And a crew running a show every night are often the least likely to spot this - a big dramatic change, like a lamp failing or a scroller being in the wrong colour they'll see, but a gradual softening of focus over time might be missed. Unless there's an accurate record that can be left with the show.

18:00:11 7/01/0	5 << >>	CUE SHEE	
	0023 VL2202	0024 VL2202	: 0025 VL22
1 Intensity	FL		
2 Colour	0	C4 CT Blue	C4 CT Blu
3 Pan	Welcome	Kite Bench	Sweeps 1
	Welcome	Kite Bench	Sweeps 1
4 Tilt	Welcome	Kite Bench	Sweeps 1
	Welcome	Kite Bench	Sweeps 1
5 Iris	Full	Full	Pinspot
6 Focus	Sharp W2	-1 Soft	-2 Soft
8 Gobo	0	G6 Twigs	0
9 RGobo	R5 Welcome	0	ŏ
17 Speed	0	ō	ō
18 ColSpeed	ō	ō	ō
19 BeamSpeed	ō	ō	ō
20 Reset	ň	ň	ŏ
23 Index	Welcome	50	50
41 Stroke	0	Ő	Ő
53 Zoom	Full	Large	Smallest
		Lango	011011030

I always aim to have the first part of this record in the console itself, by careful use of preset focus groups/palettes for everything possible. If a moving light is meant to be in sharp focus on gobo wheel 1, use a palette called 'W1 Sharp'. If the light is meant to be in a colour that was matched to Lee 201, store that colour in a palette called '201'. Doing this means that the person operating the show only has to look at the screen to know what the light is meant to be doing; it also means that fixing the problem is just a matter of fixing the look then updating the palettes rather than having to update lots of cues.

For the same reason I take this further, using lots of individual position palettes wherever possible - so with three people on stage in specials, one for 'person DL', one for 'person UC' and one for 'person DR' rather than just one palette for 'people specials'. The palette names effectively become labels showing where the lights are meant to be pointing; adding this information to focus notes also means you're keeping a record of why a light is pointing somewhere rather than just where it is pointing to. The why is usually more important - if the actor gets moved from down centre to down right it's more important to know that the light was meant to be pointing at the person!

Using palettes also lets you tie the focus information back to a focus database easily. FocusTrack takes things further: you can pick out information for a particular light ('I've swapped out unit 1, list all of the things I need to check'), a particular focus, a particular song, or a particular piece of scenery ('the house is on stage, I want to check all of the lights

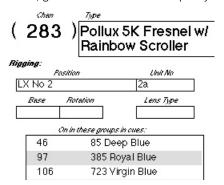


focused on it). It can also figure out which moving lights are used cue by cue - so go to cue 1, list the lights in that cue and fix their focuses. Or - and this is how they re-focus Miss Saigon during a dress rehearsal on tour - list the lights used for the first time in a cue. Re-focus those lights, update the palettes and move on. Once you've fixed the positions in the first cue it's fixed in all subsequent cues using that palette so you can stop caring about those lights in that focus. That's another reason it's not 'paperwork' any more; paper is fixed, but rigs now change constantly - even if just swapping out broken moving lights and keeping track of the lamp hours so the bulbs can be replaced before they get too dim.

Remounting

When the show is going to happen again, it's time to reach for that paperwork. Partly as a reminder of what everything did (particularly if the original production of the show has closed and so you can't just go and watch it again!), partly to allow you to rationalise the rig. There's no point in making 24 colour scrolls again if you only used six colours (or if you must, at least pick some different colours!). All of this information is in the console - in the old days the showfile recorded what was coming on and off, now it also details what colour many of the lights were in and even where some of them were pointing. The showfile and an off-line editor are a good starting point. But none of the current consoles let you get at the information you need easily - hopefully they will in future.

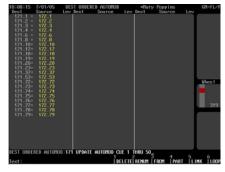
FocusTrack was also designed to solve this problem, allowing you to list what scroller frames, gobos and the like are used quickly.



Downsizing

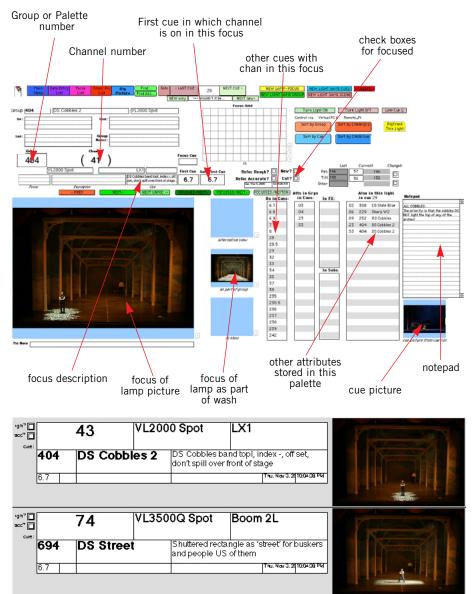
The first transfer of a musical will probably be the same as the original - maybe better rationalised, possibly a little bigger. From then on it's all downhill as the producers set out to do the show smaller, faster, cheaper. You now have to figure out how to do the show with fewer lights working harder. Making those decisions comes down to data again: can I cut that backlight scroller cover and replace it with the moving lights? How many specials can one moving light replace? Those are artistic decisions, but ones best made on the basis of hard data.

And having made those decisions, you need to make those changes in the show. A good console will help you with this - Strand's AutoMod function is invaluable here, allowing, for example, a six-part wash cover to be merged down to



four lights, or the levels of multiple specials to be combined into one moving light. And here, preset palettes are invaluable again. To set your moving light up to replace those specials you don't need a day of WYSIWYG; in the offline editor set the lights to be in palettes called 'position 1', 'position 2'. It doesn't matter that you don't know what the pan/tilt values for those positions are yet - you can fill them in later, in the theatre.

Then load the show in, focus it, light it, make it look beautiful (the computers can't do this part!). Then start the process of documenting the show all over again so that this production can also be immaculately maintained.....



FocusTrack list view showing each lamp in a focus with a description and picture



FocusTrack Cue view showing the cue information from the console with a picture examples are from the UK tour of My Fair Lady

Lightwright: www.mckernon.com; Virtual Magic Sheet: www.westsidesystems.com/vms Further information about FocusTrack: www.focustrack.co.uk, or visit the Strand Lighting stand

Rob Halliday

Rob began his lighting career with the National Youth Theatre of Great Britain. Since then he has worked on shows across the UK and in America, Australia, Belgium, Denmark, France, Germany, Japan, Korea, Lebanon, Russia and Singapore as Lighting Designer (recently: *My Fair Lady, The Merry Wives of Windsor, Kiss Me Kate*), Lighting Programmer (*Guys and Dolls, Mary Poppins, Miss Saigon, Oklahoma!, Oliver!, Ragtime, Les Misérables*) and writer (for *Lighting+Sound International, Lighting+Sound America* and *Lighting Dimensions*). He has lectured at colleges including LAMDA in London and the Hong Kong Academy for Performing Arts, and has spoken about projects he has worked on at LDI on several occasions. He is a member of the ETS-LDI 2005 Advisory Board.