

## Blackwatch Sound Specification

Version 7 Jan 2008

**THIS SPEC MAY BE OUT OF DATE!  
PLEASE CHECK FOR LATEST VERSION AT:  
[www.garethfry.co.uk](http://www.garethfry.co.uk) and click on Specifications link**

### VENUE to provide:

- No. of Item  
Flown system:  
8 x - 16x EM Acoustics EMS-81's or Nexo PS8 loudspeaker's or equivalent with appropriate controller/amplifier's and flying hardware. For seating configurations larger than 6 rows deep, or if there is a balcony level, a 2nd row of speakers may be required, typically 2 rows of 4 speakers per side (16 in total). These speakers are driven at high volume so should be driven one amp channel per 2 speakers maximum, with an amplifier capable of driving 750watts per channel into 8ohms.
- 4 x d&b J-Sub or Meyer 700HP sub-bass
- Onstage  
4 x d&b C4 or Meyer MSL-4 (ie 15" 35x35 degrees unit), flying hardware not required. For seating banks wider than 26 seats or rows deeper than 6 seats, Meyer MSL2's or CQ2's or EM Acoustics EMS152's should be substituted. If there is a balcony level, additional speakers may be required for those levels. Each speaker is driven at very high level and will require it's own amplifier.
- Flown Downstage:  
2 x d&b Q7, Meyer CQ2 or EM Acoustics EMS152 (ie 15" 60x40 degree unit) with appropriate controller/amplifier's & fly frames (vertical) with scaff clamps
- Flown Upstage building:  
2 x d&b Q7, Meyer CQ2 or EM Acoustics EMS152 (ie 15" 60x40 degree unit) with appropriate controller/amplifier's & fly frames (vertical) with scaff clamps
- Foldback:  
3 x Galaxy Hotspots or equivalent, 2 with flying frames
- Pool table:  
4 x ~~high power compact Hifi speakers mounted underneath pool table, fed by 12V car amp, with dry cell batteries and charger, fed by IEM system (National Theatre of Scotland may tour the speakers and amp but would need you to provide IEM system)~~

#### Assistive listening

An assistive listening system should be provided for the audience, which we will provide a feed for.

**Please note: Exact speaker quantities and types will need to be determined for each venue. We are open to suggestions for substitutions, but these must be approved by Gareth Fry at least 2 weeks in advance of the fit-up. Any self-powered speakers must be fitted with an attenuation pot to allow internal amp to be turned down (to reduce speaker hiss)**

Please note, Black Watch is a LOUD show! It contains sustained periods of loud sound and music playback, as well as loud explosion sound effects. Consequently the sound system needs to be capable of sustained high volume, high quality reproduction without distortion

**Outboard**

3 x BSS Soundweb 9088 configurable matrix, with XLR patchbay . 1 used as a spare.  
 OR 1 x Yamaha DME24 / DME62, with dual ADAT input/output cards (for input) and ADAT to Analogue converters (for output). DME will need clocking to mixing desk.

**Mixer**

1 x Yamaha M7CL-32/48 or PM5d mixer, with dual ADAT input/output card  
 1 x 12 channel mixing desk, solely for purpose of monitoring radio mics at radio mic rack

**Mic.s**

12 x Sennheiser UHF radio mic system, SK6212 transmitters and compatible receivers.  
 4 x spare trasmitter aerials.  
 2 x spare transmitters

Batteries should be supplied to allow for a battery change for every performance and every 5 hours o technical rehearsals.

**NTS are touring a radio mic runner who will monitor the radio mic's during the show - all receivers should have a headphone socket, or a split output to a headphone monitoring station or small mixing desk to allow them to monitor the radio's. The receivers should be installed underneath the seating with remote aerials.**

**Cable**

Multi's, speaker cable, mains cable, etc should be provided by the venue to connect the system as detailed in the attached schematic & layout plans. This show requires an unusually large number of XLR Y-splits!

**Mains**

1 x APC-1400 Smart UPS, or equivalent (for computers and soundweb's at mix position)  
 The system should be connected to a dedicated sound mains supply, ie not used for anything other than sound equipment. Mains distribution should be provided as necessary.  
 For countries using 110V mains systems we will require 2x heavy-duty 110V-240V transformers.

**Comms**

Intercom system with single muff headsets:

1 x 6-way wireless duplex intercom system (not walkie talkies). interfaced into

Wired intercom system:

Circuit 1: DSM, Sound op, LX op, Video op, Stage Manager in auditorium, Down Stage Left, Down Stage Right, Upstage cabin, Spare

Circuit 2: LX op, Lighting designer

In some venues additional comms will be needed for: Sound designer, Video designer, Translator.

Spare beltpacks and headsets should be provided for both wireless and wired systems

Batteries should be provided for wireless comm's as necessary.

**Inter-Department**

A MIDI cable is run from the sound desk to the lighting desk to operate the strobe light's in sync with sound cues

**NTS will tour:**

2 x PC running Stage Research SFX, Lynx dual ADAT soundcard. (requires 240V)

12 x DPA4060 mic heads with connectors for Sennheiser radio mic's

1 x Cuelight system between DSM and Sound Op (requires 240V)

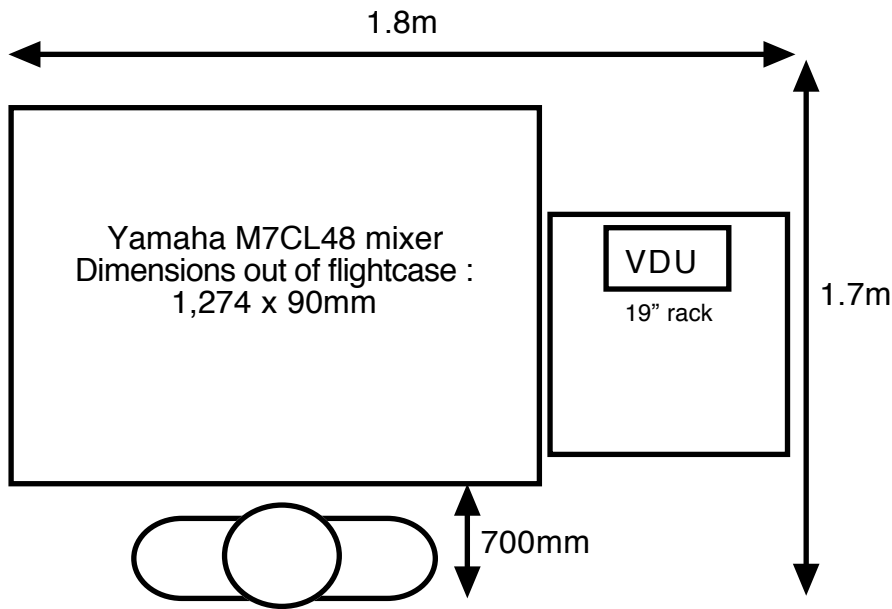
Please note: all equipment supplied must be of professional audio quality, in good working order and constant for the duration of the run. We reserve the right to reject any item supplied, if it is deemed to be of inadequate quality, unsuitable for it's supposed purpose or in poor condition whether of a cosmetic or electrical nature. Unless otherwise specified, all speakers, rigging accessories, mic. stands etc must be matt black in colour.

Thanks,

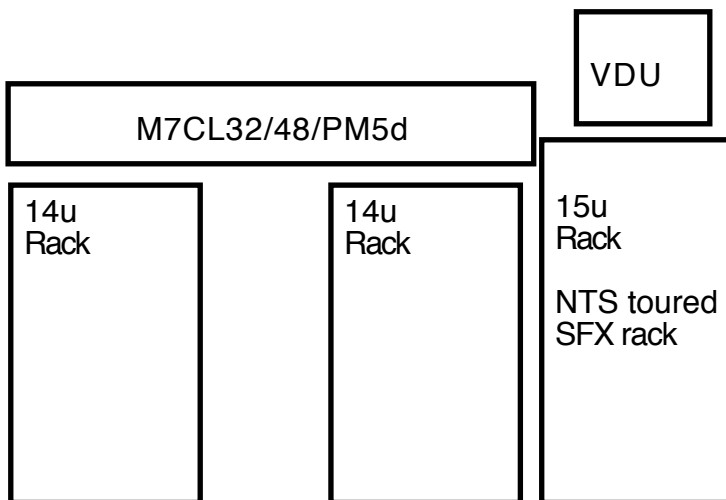
Gareth Fry  
 Sound Designer

# Blackwatch Mix Position

7 Jan 2008



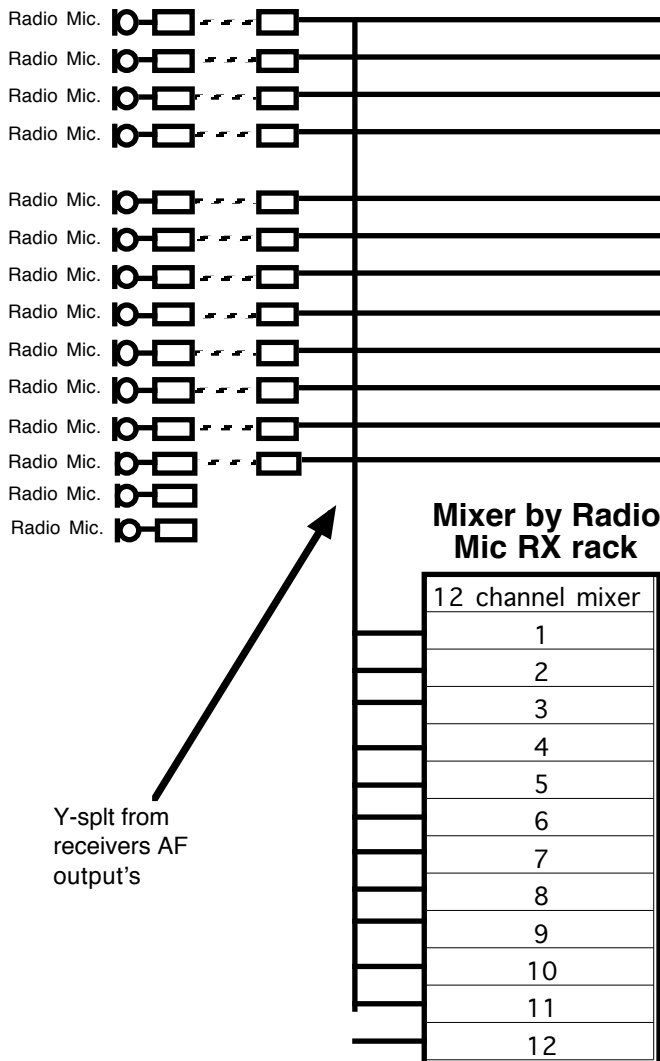
**PLEASE NOTE: WE REQUIRE AN AUDITORIUM MIX POSITION:  
THIS MUST BE A LEVEL AREA OF 2m x 1.7m. ALL VENUES ARE REQUESTED  
TO CONFIRM WITH THEIR BOX OFFICE TO ENSURE THAT, IF NECESSARY, THE  
REQUIRED SEATING HAS BEEN TAKEN OFF SALE.**



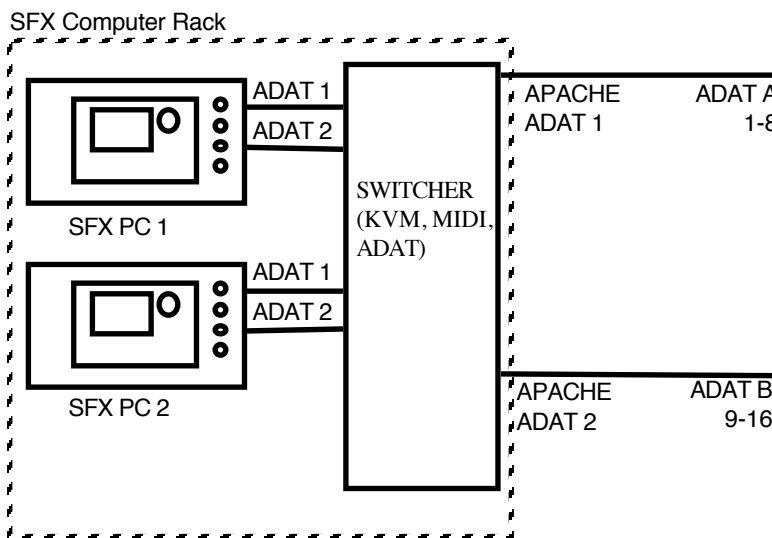
# Blackwatch Audio schematic - inputs

7 Jan 2008

## Mixer inputs



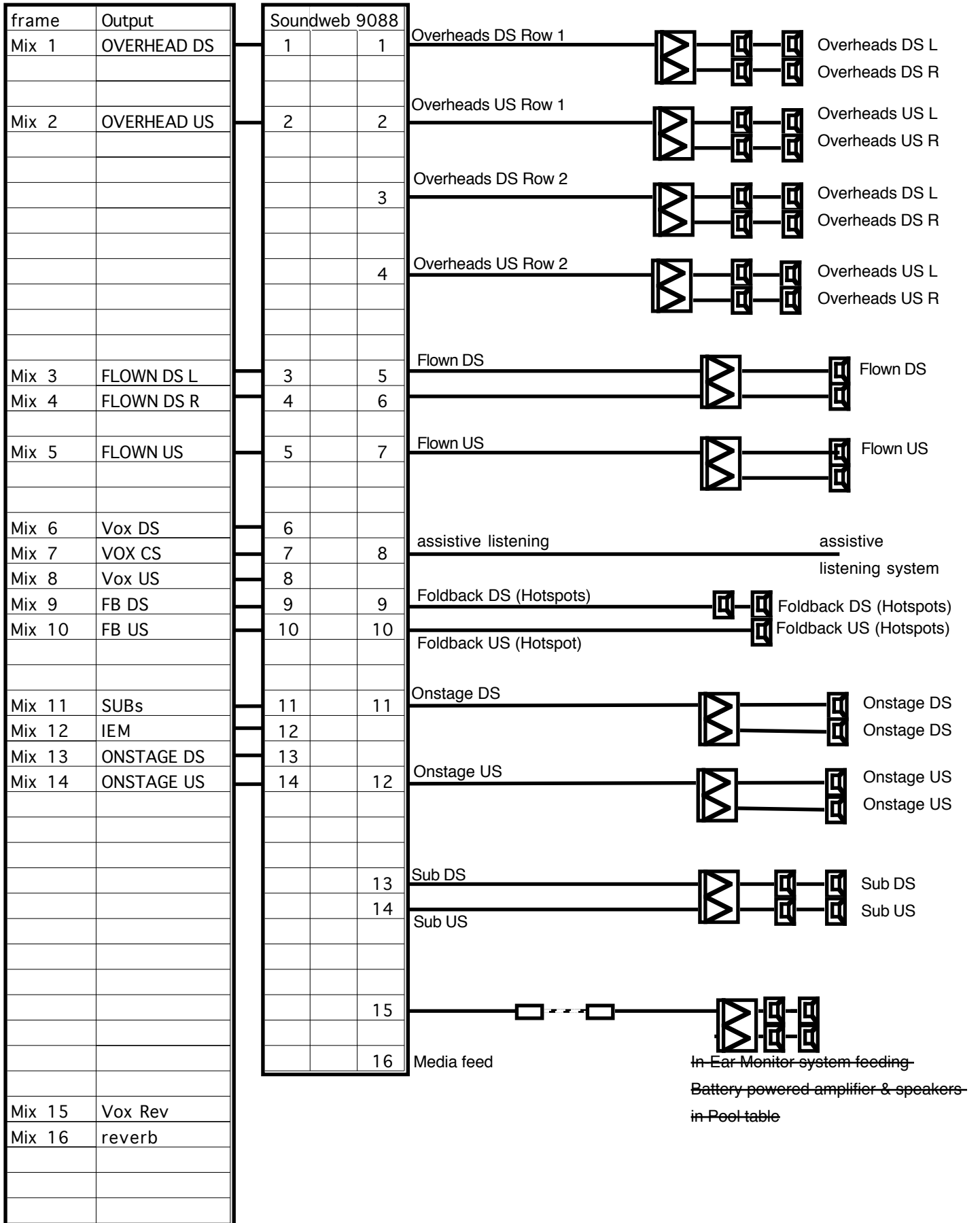
input	fader	Input	
AD 1	2	Cammy 2	
AD 2	3	Sarge	Michael
AD 3	4	Captain	Jack
AD 4	5	Lord Elgin	Jack
AD 4	8	Cammy	Paul
AD 5	9	Fraz	Emun
AD 6	10	Kenzie	
AD 7	11	Macca	David
AD 8	12	Stewarty	Ali
AD 9	13	Granty	
AD 10	14	Nabsy	Nabil
AD 11	15	Rosco	Henry
AD 12	16	SPARE LAV	
AD 13			
AD 14			
AD 15			
AD 16			
ADAT 1	17	SFX output 1	FLOWN DS L
ADAT 2	18	SFX output 2	FLOWN DS R
ADAT 3	19	SFX output 3	unused
ADAT 4	20	SFX output 4	FLOWN US
ADAT 5	21	SFX output 5	ONSTAGE DS
ADAT 6	22	SFX output 6	ONSTAGE US
ADAT 7	23	SFX output 7	OVERHEADS DS
ADAT 8	24	SFX output 8	OVERHEADS US
ADAT 9	25	SFX output 9	IEM
ADAT 10	26	SFX output 10	IEM BACKUP
ADAT 11	27	SFX output 11	FOLDBACK DS
ADAT 12	28	SFX output 12	FOLDBACK US
ADAT 13	29	SFX output 13	SUB
ADAT 14	30	SFX output 14	unused
	31	Geoff	
	32	Alex	
	33	Fraz - Song	
	34	Kenzie - Song	
FX1L	St1L	reverb 1	SFX REVERB
FX1R	ST1R	reverb 1	SFX REVERB
FX2L	ST2L	reverb 2	VOX REVERB
FX2R	ST2R	reverb 2	VOX REVERB



# Blackwatch Audio schematic - outputs

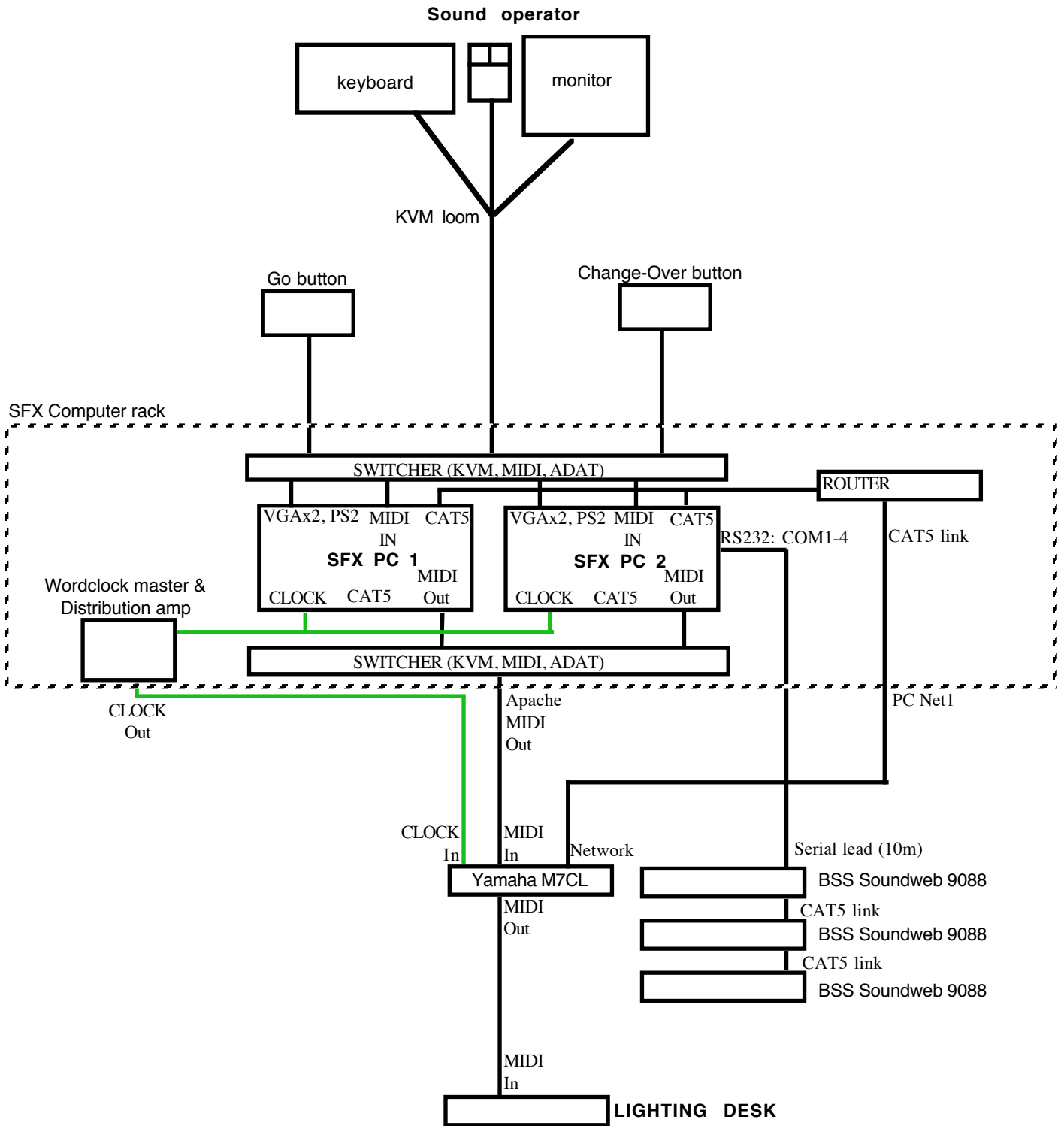
7 Jan 2008

## Mixer outputs



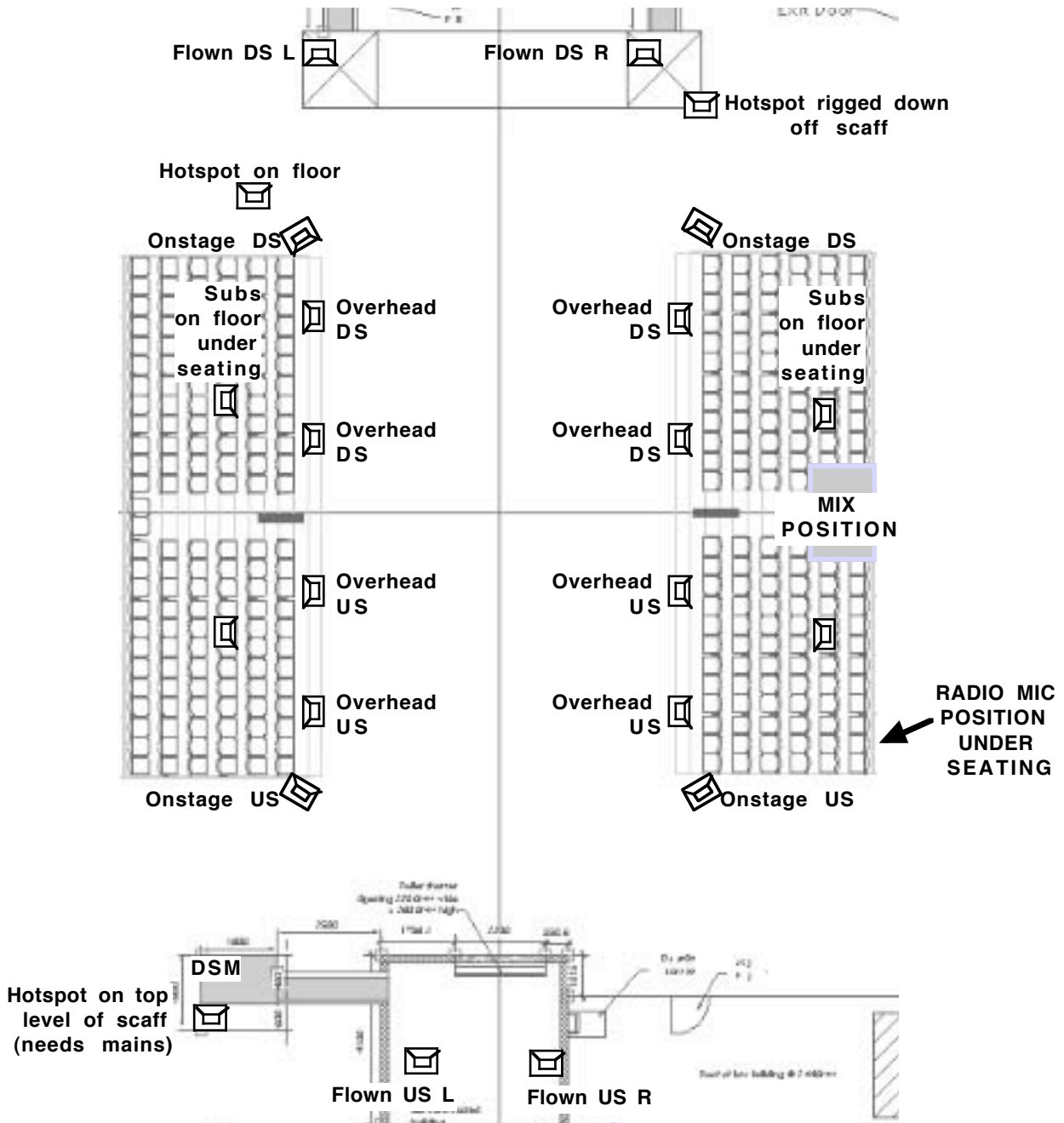
# Blackwatch Data schematic

7 Jan 2008



# Blackwatch Layout

7 Jan 2008

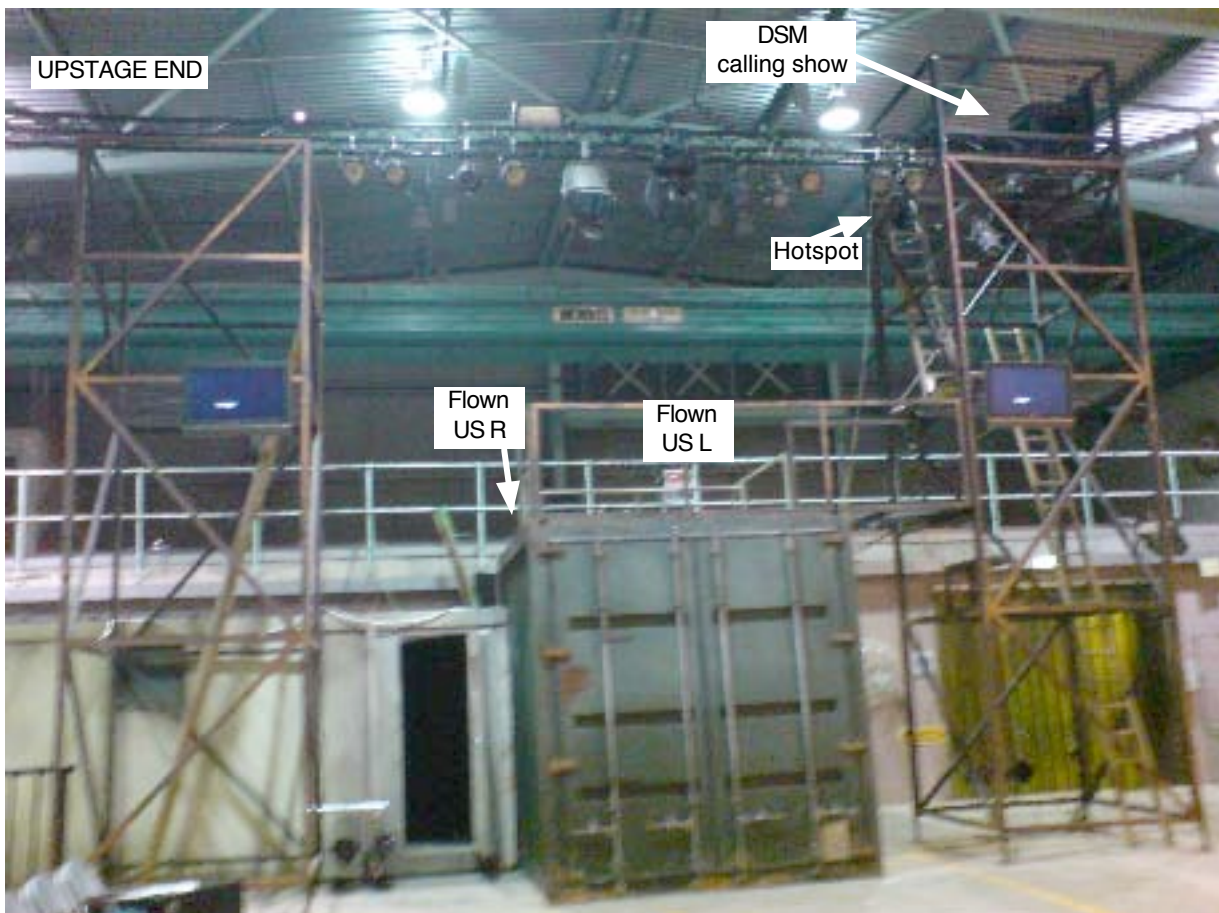
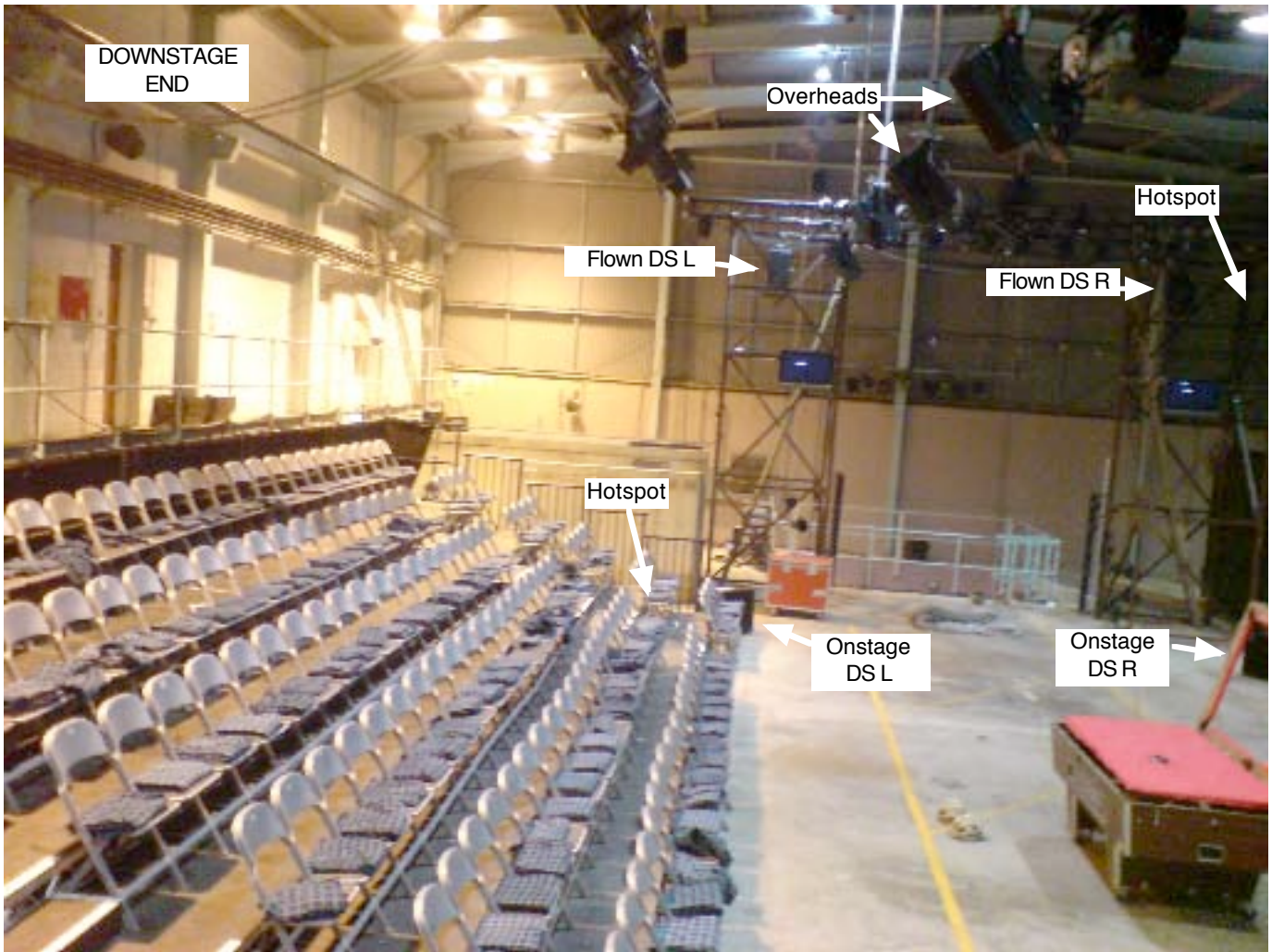


**Notes:**

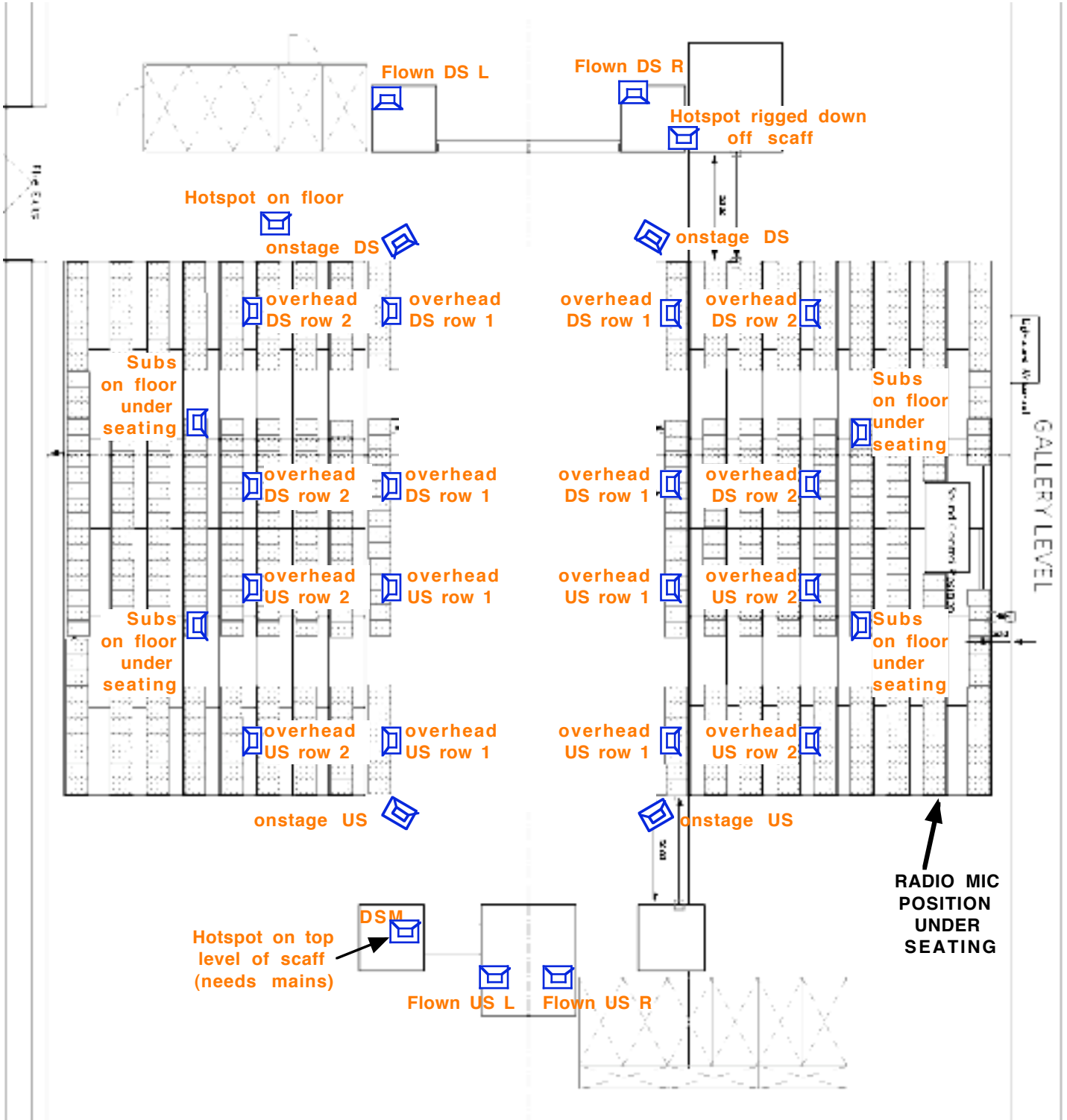
- Not to scale
- This drawing relates to a generic auditorium design and changes will need to be made to mic & speaker positions, types, quantities and rigging methods to adapt to differing auditoria.
- This drawing relates only to the visual and aural aspects of the Production, and not to matters of structural integrity and/or safety.

# Blackwatch Visual reference

7 Jan 2008



# Blackwatch Layout - Large Seating Bank



Notes:

- Not to scale
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- This drawing relates only to the visual and aural aspects of the Production, and not to matters of structural integrity and/or safety.

# Blackwatch Visual reference 2

7 Jan 2008



# Blackwatch Version history

7 Jan 2008

27th August 2007

- Extra Visual Reference provided
- Added extra possible speaker suggestions
- Pool Table speakers & IEM system cut for foreseeable future
- SFX system removed from rider - we will now tour this

27th September 2007

- All terminology changed to make more sense in a touring environment (changed from speaker model references to location, ie EMS81 to Overheads)
- Note added about minimum amplifier power required for Flown system
- We are now using 12 radio mic's in the show, preferably the smaller SK6212 transmitters. We are now touring a radio mic runner.
- We are touring DPA4060 mic capsules for the radio mics
- We now need 6 wireless intercom beltpacks rather than 4
- Batteries for the radio mics are required
- We are now touring the cuelight system

2nd October 2007

- 12 channel mixer added for purposes of monitoring radio mic's
- 2 spare transmitters added

4th October 2007

- Mix position dimensions updated
- minor notes added for clarification

31st December 2007

- Yamaha DME added as substitute for Soundweb's

7th Jan 2008

- Desk outputs to Soundweb adjusted
- Data schematic labelling adjusted
- Yamaha DME requirements clarified