

JCDecaux

Digital Screen Network & Master Content Submission Specifications



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1. Introduction

This technical document lists all available digital screens on the JCDecaux digital screen network. It also details the submission specifications that 3rd party clients and agencies need to work with to provide content to screen.

2. Artwork Submission

Copy should be supplied 10 working days before the date of display. JCDecaux will not be responsible for late posting of any artwork delivered after this deadline.

Files can be supplied via an ftp link, yousendit, digital disc or via email (up to 10mb)
Artwork should be supplied via email to digitalsales@JCDecaux.co.uk
or via post to
James Poole, JCDecaux Innovate, 27 Sale Place, London, W2 1YR.

3. Additional Submission Pricing

It is anticipated that the creative will only need to be scheduled onto the network once. If further copy/creative scheduling is required this will be charged at a rate of £120 net per copy/creative (10 maximum copy/creatives per campaign).

Out of office hours scheduling is charged at a daily rate of £250 daily per copy/creative (subject to final requirements)

To ensure that dynamic content templates work within our network and scheduling software, JCDecaux will charge £2knet which covers pre-launch testing and network optimisation.

4. Further information

4.1 General & Sales Enquiries

| | |
|--|---|
| Robert Hood email: robert.hood@jcdecaux.co.uk Tel: 020 7298 1783 / 07836208595 | Tom Winbow email: tom.winbow@jcdecaux.co.uk Tel: 020 7298 1784 / 07921826281 |
|--|---|

4.2 Content Submission

| | |
|--|--|
| James Poole email: james.poole@jcdecaux.co.uk Tel: 020 7298 8110 / 07900821365 | Matthew Walker email: matthew.walker@jcdecaux.co.uk Tel: 020 7298 1720 / 078503252389 |
|--|--|

5. Transvision 960x480



JCDecaux Transvision is a network of 17 x 48-sheet size LED screens strategically positioned at the main station hubs of the UK's railway network.

5.1 Screen Locations

| Screen Name | Location | Size (mm) | | Pixels | |
|--------------------------|------------|-----------|------|--------|------|
| | | wide | high | wide | high |
| Birmingham International | Birmingham | 3200 | 1600 | 640 | 320 |
| New Street | Birmingham | 3840 | 1920 | 768 | 384 |
| Waverley | Edinburgh | 5376 | 2688 | 768 | 384 |
| Glasgow Central | Glasgow | 5376 | 2688 | 768 | 384 |
| Leeds Station | Leeds | 3840 | 1920 | 768 | 384 |
| Lime St | Liverpool | 5376 | 2688 | 768 | 384 |
| Charing Cross | London | 5376 | 2688 | 768 | 384 |
| Euston | London | 5376 | 2688 | 896* | 480* |
| Fenchurch St | London | 3200 | 1600 | 640 | 320 |
| Kings Cross | London | 3200 | 1600 | 640 | 320 |
| Liverpool Street | London | 3840 | 1920 | 768 | 384 |
| Liverpool Street #2 | London | 3840 | 1920 | 768 | 384 |
| London Bridge | London | 3200 | 1600 | 640 | 320 |
| St Pancras | London | 3200 | 1600 | 640 | 320 |
| Victoria | London | 5376 | 2688 | 896* | 480* |
| Waterloo | London | 5376 | 2688 | 768 | 384 |
| Piccadilly | Manchester | 3840 | 1920 | 768 | 384 |

* Design to 960x480 with Safe Area

5.2 Design Area Specification 960x480

Design to pixel size: 960x480 with a safe text area of 896x480 to allow single copy to display correctly on all Transvision network screen variations. See Figure 1 for a 'Safe Area' description for text and background images.

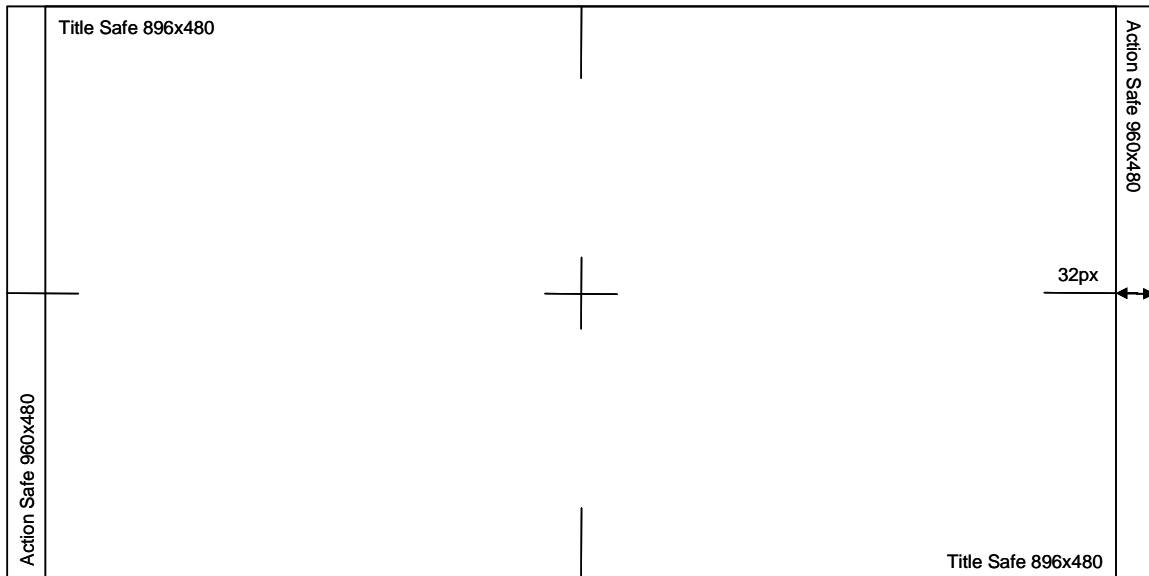


Figure 1 – 960x480 Transvision Submission Size working to 'Title' and 'Action' safe Areas

5.3 Static Content Submission

| | |
|-------------------------------|----------------|
| Format | bitmap or jpeg |
| Colour model | RGB |
| Minimum resolution | 72dpi |
| Recommended resolution | 100dpi |

5.4 Motion Content Submission

| | |
|--------------------------------------|---------------------------------------|
| QuickTime file identification | xxx.mov |
| File size | 30mb or less |
| Encoding | H264 or Sorenson 3 for playback on PC |
| Frame rate | 25fps |
| Data rate | 8mbits/sec or less |

5.5 Dynamic Content Submission

Please See Chapter 16 – Dynamic Content Design Guide.

5.6 Content Loop

The Transvision screen loop is 360s long with space for A range of 40s and 20s slots alongside the SKY News content (See Figure 2).

Please contact the JCDecaux sales team for full details of the National (40s), London (40s) and Standard (20s) advertising slots available (See Chapter 4).

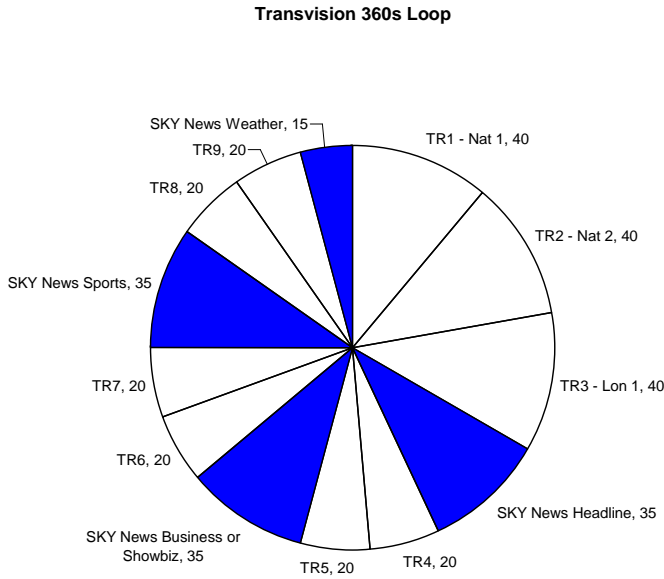


Figure 2 – Transvision Loop

The 6 minute loop is based on the average dwell time at the station being 18 minutes. All copy must follow Network Rail Codes of acceptance.

TIP: A good way to ensure title text size readability for content across the Transvision network is preview the submitted content at a resolution of 320x160 on your PC.

6. PrimeTime 480x240



JCDecaux PrimeTime is an LED screen network based at 20 x key roadside locations around London.

6.1 Screen Locations

| Location | Address | | |
|-----------------------|---------------------------------------|--------|----------|
| Edgware Road | 400 Edgware Road, Victory Park | London | NW2 6JP |
| Tottenham Court Road | 79B Tottenham Court Road | London | W1T 4DU |
| Swiss Cottage | Finchley Road, Swiss Cottage | London | NW3 3HY |
| Hanger Lane | Hanger Lane, Ealing Common | London | W5 3HJ |
| Western Avenue | 608 Western Avenue | London | W3 0TE |
| New Kings Road | 214 New Kings Road, Fulham | London | SW6 4XD |
| Hammersmith | North End Road, junc of Cromwell Road | London | W14 9ES |
| A4 Showcase | A4 Showcase, Great West Road | London | W6 9AR |
| Kew Bridge | Kew Bridge, Chiswick High Road | London | W4 3AZ |
| Elephant & Castle | Elephant & Castle Shopping Centre | London | SE1 6LW |
| Cromwell Road | Marriott Hotel, Cromwell Road | London | SW5 0QD |
| Waterloo Bridge | Waterloo Bridge Southbound | London | SE1 8WA |
| Waterloo Bridge | Waterloo Bridge Northbound | London | SE1 8WA |
| Vauxhall Cross | Wandsworth Road, Vauxhall Cross | London | SW8 2LF |
| Lambeth North | Westminster Bridge Road, Baylis Road | London | SE1 7XG |
| Lower Richmond Road | 323 Lower Richmond Road | London | TW9 4PL |
| Prices Candles | York Road, Wandsworth | London | SW11 2SJ |
| Harrow Road | 59 - 65 Harrow Road, Paddington | London | W2 1JH |
| Whitechapel Road | 45 Whitechapel Road | London | E1 1DU |
| Old Street Roundabout | 218 Old Street, City Road Roundabout | London | EC1V 9HE |

All PrimeTime screens are 5755mm wide by 2877mm tall.

6.2 Design Area Specification 480x240

Content pixel size: 480x240 with no requirements for a safe text area. See Figure 3 for an outline illustration.

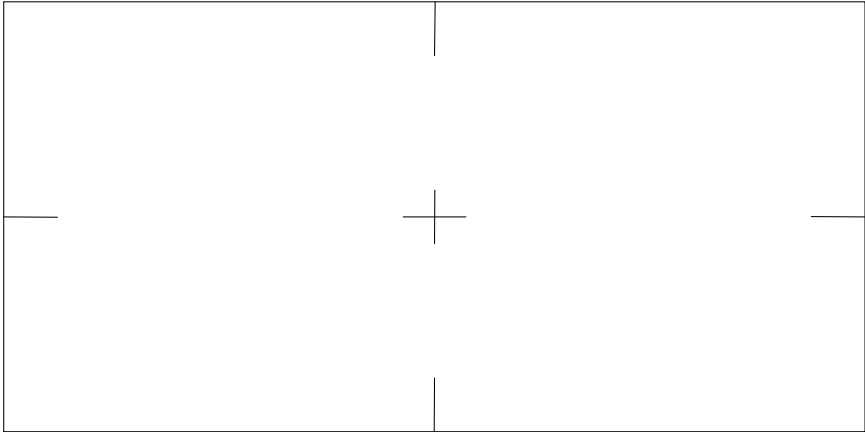


Figure 3 – 480x240 PrimeTime Submission Size

Static Content Submission

| | |
|---------------------|----------------|
| Format | bitmap or jpeg |
| Colour Model | RGB |
| Resolution | 72dpi |

6.3 Motion Content File Submission

Motion content is not allowed at roadside locations

6.4 Dynamic Content Submission

Basic dynamic / live content update templates can be created for the PrimeTime network in the format of static html graphics and text. Please contact the JCDecaux sales team for further information (Chapter 4).

6.5 Content Loop

The PrimeTime screen loop is 360s long with space for 7 x 7.5s slots alongside the SKY News content (See Figure 4).

PrimeTime 60s Loop & 7.5s Slots

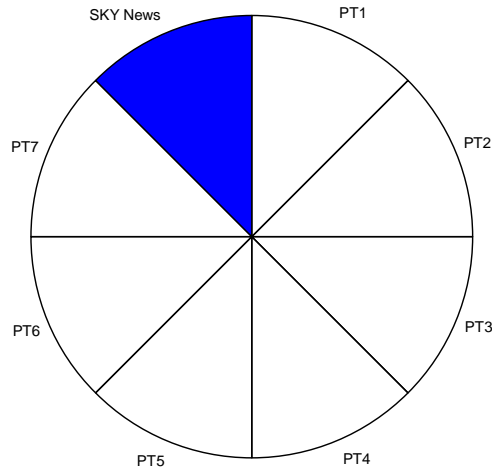


Figure 4 – PrimeTime Loop

As the roadside location of the PrimeTime screens does not allow video motion, two Primetime slots can be purchased to progress a narrative of 3x5s slots (See Figure 5 for an example of this). This technique is known as a JCDecaux ‘Creative Carousel’.

Primetime 60s Loop & 7.5s Slots (with 3 x 5s Creative Carousel)

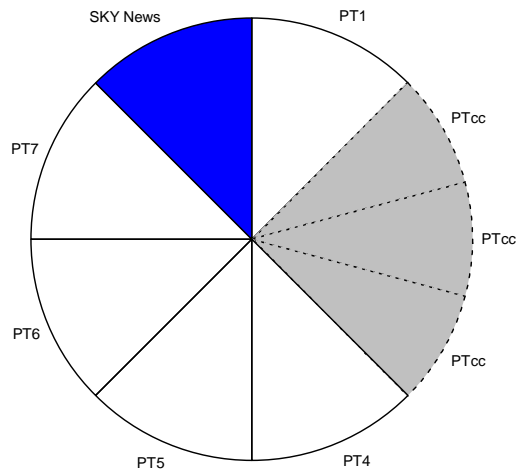


Figure 5 – PrimeTime loop with the inclusion of a Creative Carousel

7. Torch 448x656

The torch is the iconic LED screen situated on the M4 motorway corridor from Heathrow Airport to London City Centre.



7.1 Design Area Specification 448 x 656

Content pixel size: 448x656 with no requirements for a safe text area. See Figure 6 for an outline illustration.

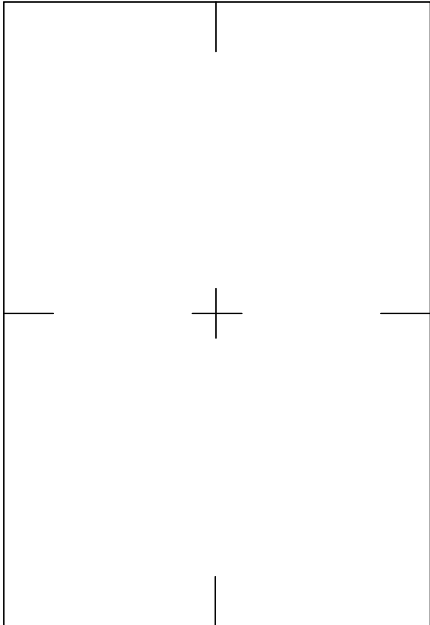


Figure 6 – 448x656 Torch Screen Submission Size

7.2 Static Content Submission

| | |
|---------------------|----------------|
| Format | bitmap or jpeg |
| Colour Model | RGB |
| Resolution | 72dpi |

7.3 Motion Content File Submission

Motion content is not allowed at roadside locations

7.4 Dynamic Content Submission

Please See Chapter 16 – Dynamic Content Design Guide.

7.5 Content Loop

The Torch screen loop is 60s long with space for 4 x 15s slots (See Figure 7).

The Torch 60s Loop & 15s Slots

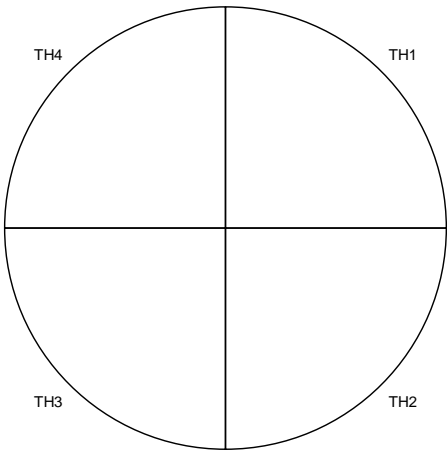


Figure 7 = The Torch Loop

TIP: JCDecaux can't provide uniform font or copy sizes as all fonts vary in width and style however we recommend checking your artwork at 100% in a design package such as Photoshop to ensure the font is visual at height. The artwork can then be scaled down to 25% to check for text legibility of text at roadside distance and speed.

8. The Sail 736x184

The Sail is a landmark LED screen installed at Stratford, London, located on the A11 commuter route on the edge of the Olympic Park.



8.1 Design Area Specification 736x184

Content pixel size: 736x184 with no requirements for a safe text area. See Figure 8 for an outline illustration.

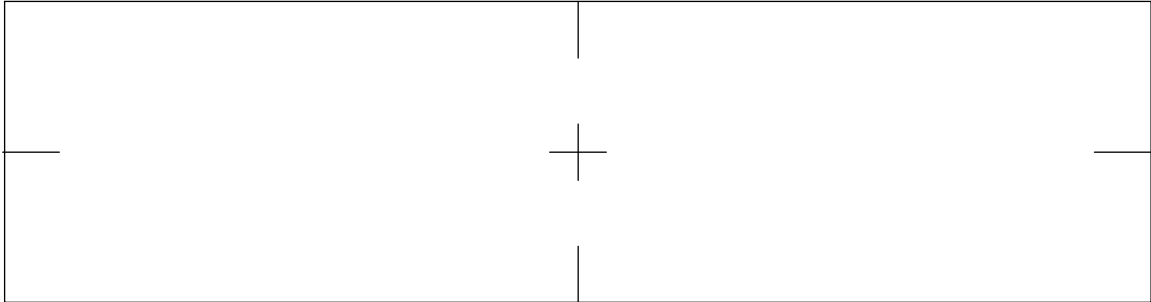


Figure 8 – 736x184 Sail Screen Submission Size

8.2 Static Content Format

| | |
|---------------------|----------------|
| Format | bitmap or jpeg |
| Colour Model | RGB |
| Resolution | 72dpi |

8.3 Motion Content File Format

Motion content is not allowed at roadside locations

8.4 Dynamic Content Submission

Basic dynamic / live content update templates can be created for the PrimeTime network in the format of static html graphics and text. Please contact the JCDecaux sales team for further information (Chapter 4).

8.5 Content Loop

The Sail screen loop is 120s long with space for 4 x 30s slots (See Figure 9).

The Sail 120s Loop & 30s Slots

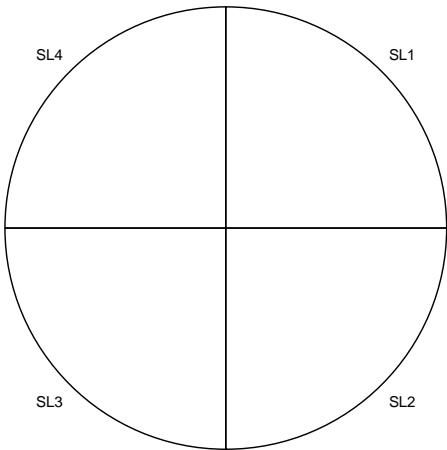


Figure 9 – The Sail Loop

TIP: Keep copy text to a minimum to maximise the delivery of a key message to drivers.

9. D6 720x1280

The D6 LCD portrait orientated display units are located in the main UK rail network stations and a selection of commuter stations in the London area.



Additionally, there are a collection of D6 units spread over 24 key shopping malls in the UK.



9.1 Design Area Specification 720 x 1280

Content pixel size: 720x1280 with no requirements for a safe text area. See Figure 10 for an outline illustration.

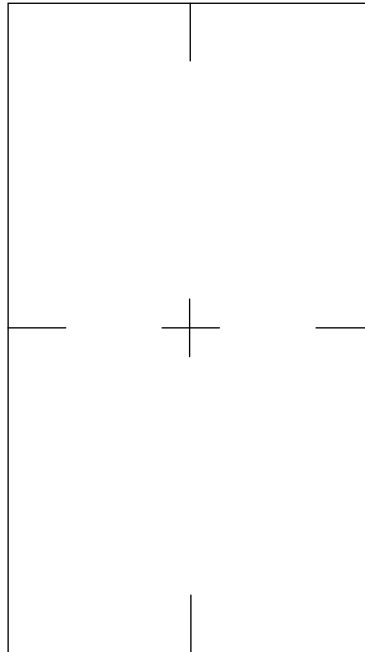


Figure 10 – 720x1280 D6 Screen Submission Size

9.2 Static Content Submission

| | |
|-------------------------------|---|
| Format | bitmap or jpeg |
| File Naming Convention | Less than 10 characters avoiding * <> [] = + " \ , ; : \$ % ! ' () , |
| Colour Model | RGB |
| Resolution | 100dpi |

9.3 Motion Content Submission

| | |
|--------------------------------------|---|
| QuickTime file identification | xxx.mov |
| File Naming Convention | Less than 10 characters avoiding * <> [] = + " \ , ; : \$ % ! ' () , |
| Suggested File size | 1Gb or less |
| Encoding | H264 or Sorenson 3 for playback on PC |
| Frame rate | 25fps |
| Data rate | 8mbits/sec or less |

9.4 Dynamic Content Submission

Please See Chapter 16 – Dynamic Content Design Guide.

9.5 Content Loop

The D6 screen loop is 30s long with space for 6 x 5s slots (See Figure 11). Copy must follow the local landlord codes of acceptance.

D6 60s Loop & 5s Slots

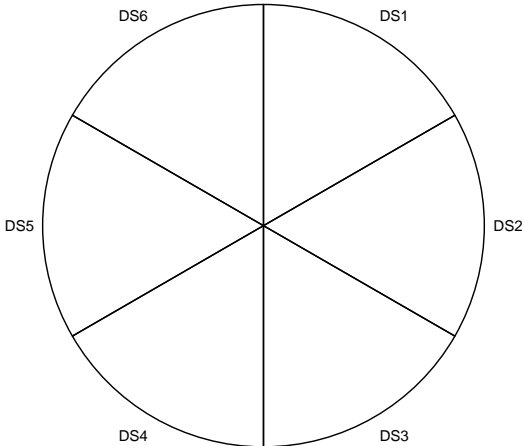


Figure 11 – D6 Loop

TIP: Excessive flicker within screen content/animations is not permitted.

10. Euston Motion 608x160



Euston Motion is an array of 9 full motion digital banners installed around the main arrivals hall at Euston railway station, London.

10.1 Screen Locations

The 9 LED Screens of size 6.08m x 1.6m + Case are positioned around the Euston Railway Station concourse

The screen arrangement is 5 above the main station entrance, flanked by a further group of 2 screens at each side. See Figure 12 for the exact screen display locations.

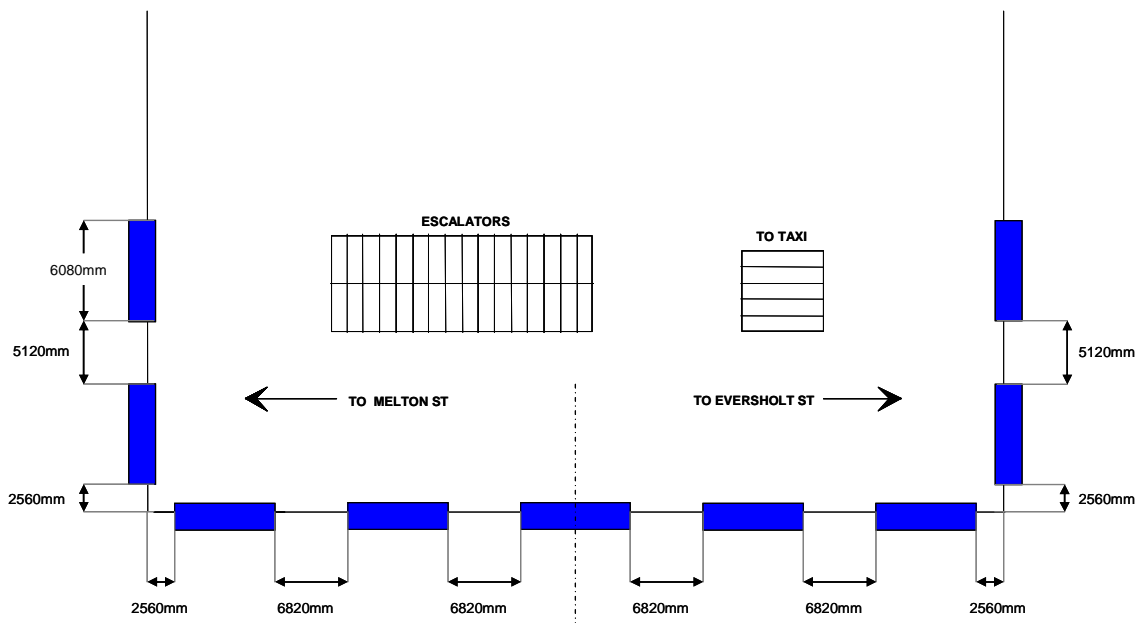


Figure 12 – Actual Screen Locations of the Nine Euston Motion screens (exit is South)

10.2 Design Area Specification 608 x 160

There are 9 screens with a content pixel size of 608x160 with no requirements for a safe text area. See Figure 12 for an outline illustration.

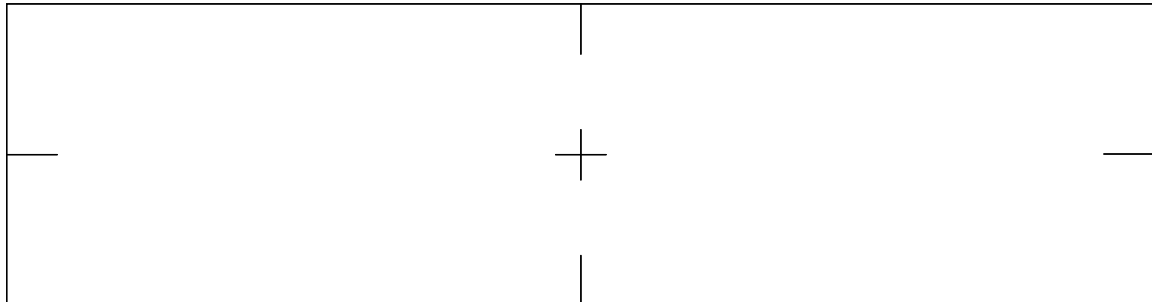


Figure 12 – 608x160 Euston Motion Design Area

10.3 Static Content Submission

| | |
|-------------------------------|--|
| Format | bitmap or jpeg |
| File Naming Convention | xxx.jpg xxx_A.jpg xxx_A1.jpg (see below) |
| Colour model | RGB |
| Minimum resolution | 72dpi |
| Recommended resolution | 100dpi |

10.4 Motion Content Submission

| | |
|--------------------------------------|--|
| QuickTime file identification | xxx.mov |
| File Naming Convention | xxx.mov xxx_A.mov xxx_A1.mov (see below) |
| File size | 20mb or less |
| Encoding | H264 or Sorenson 3 for playback on PC |
| Frame rate | 25fps |
| Data rate | 8mbits/sec or less |

10.5 Dynamic Content Submission

Please See Chapter 16 – Dynamic Content Design Guide.

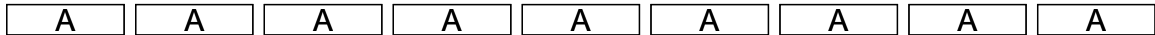
10.6 Synchronised Content Submission

The Euston Motion is a ‘domination’ media format whereby the 9 screens play out content from a single advertiser at exactly the same time (down to a millisecond).

The client can submit the following combinations of creative display formats:

Same Creative

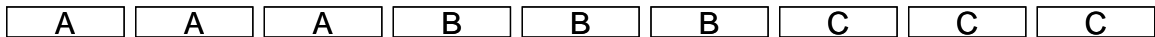
A single video or image is shown on all nine Euston Motion screens e.g.



File submission example: xxx.mov

Multiple Creative

Any combination of up to nine different adverts from the same advertiser can be shown on all nine of the Euston Motion screens. The following example shows three different creatives being submitted from the same advertiser e.g.



File submission example: xxx_A123.mov, xxx_B456.mov, xxx_C789.mov

Synchronised (Bouncing Ball) Creative

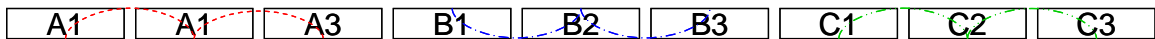
A movie can be shown on the nine Euston Motion screens that has an animated element (or elements) that drift from screen to screen. This effect is created by playing nine separate movies that link to each other on a motion basis when played at exactly the same time in the advertising loop e.g.



File submission example: xxx_A1.mov, xxx_A2.mov, xxx_A3.mov, xxx_A4.mov, xxx_A5.mov, xxx_A6.mov, xxx_A7.mov, xxx_A8.mov, xxx_A9.mov

Multiple Synchronised (Bouncing Ball) Creative

Rather than using all nine Euston Motion screens, the synchronised animation could just be set to animate over sub-groups of the nine screens. This could be three separate movies that synchronise in three groups of three over the nine screens e.g.



File submission example: xxx_A1.mov, xxx_A2.mov, xxx_A3.mov, xxx_B1.mov, xxx_B2.mov, xxx_B3.mov, xxx_C1.mov, xxx_C2.mov, xxx_C3.mov

11. The Cromwell Road I 500x500



The Cromwell Road i is a 1:1 square digital screen which is the only outbound digital site on Europe's busiest road.

11.1 Screen Locations

The Cromwell Road i is situated on the A4 between Earls Court and Hammersmith

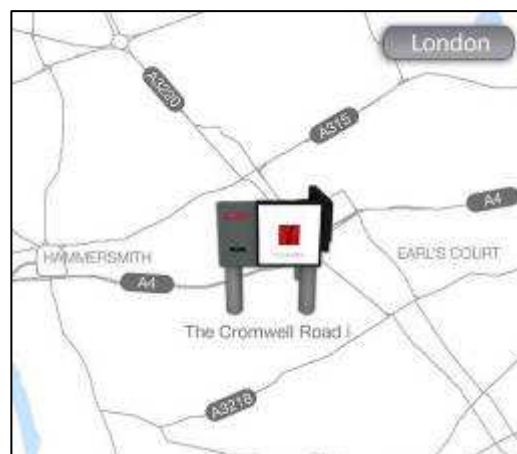


Figure 13 – Location of The Cromwell Road i

11.2 Design Area Specification 500 x 500

The single screen has a content pixel size of 500x500 with no requirements for a safe text area. See Figure 14 for an outline illustration.

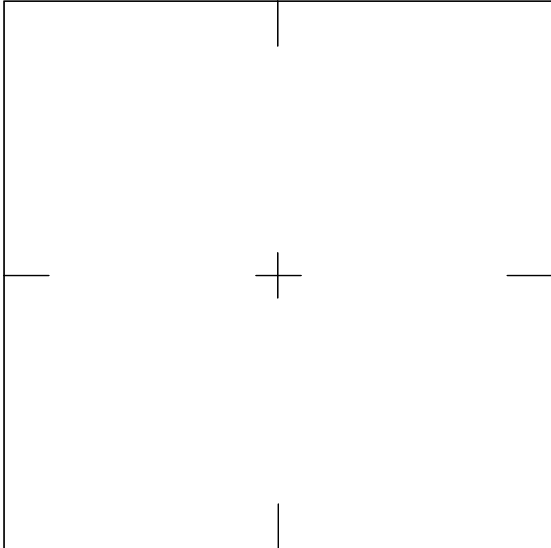


Figure 14 – 500x500 Cromwell Road i Design Area

11.3 Static Content Submission

| | |
|-------------------------------|----------------|
| Format | bitmap or jpeg |
| File Naming Convention | xxx.jpg |
| Colour model | RGB |
| Minimum resolution | 72dpi |
| Recommended resolution | 100dpi |

11.4 Dynamic Content Submission

Please See Chapter 16 – Dynamic Content Design Guide.

11.5 Content Loop

The Cromwell Road I is intended for a single advertiser 60second slot only. However, this slot can be broken down into 4 x 15second narratives.

12. Cromwell Road 96 Sheet 1280x320



The Cromwell Road 96 Sheet a state of the art high impact LED screen centrally located in one of London's most key arterial roads.

12.1 Design Area Specification 1280 x 320

The single screen has a content pixel size of 1280x320 with a safe title/display area of 1216x320 pixels. This ensures that the copy is suitable for the other 4:1 aspect ratio screens on the JCDecaux digital network (e.g. the sail) See Figure 15 for an outline illustration.

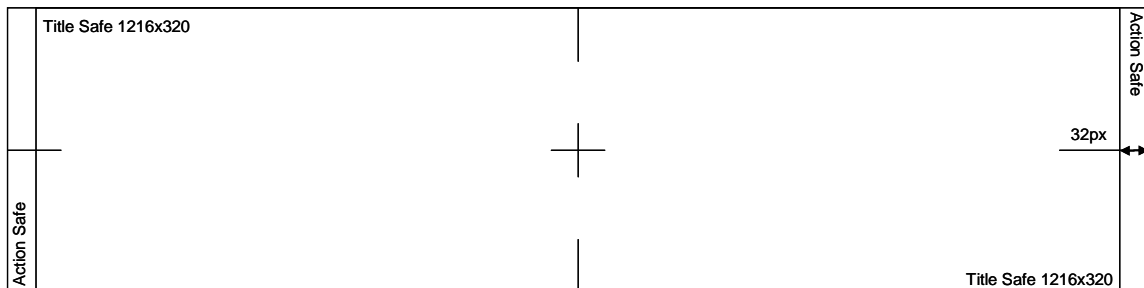


Figure 15 – 1280x320 Cromwell Road 96 Sheet Design Area

12.2 Static Content Submission

| | |
|-------------------------------|----------------|
| Format | bitmap or jpeg |
| File Naming Convention | xxx.jpg |
| Colour model | RGB |
| Minimum resolution | 72dpi |
| Recommended resolution | 100dpi |

12.3 Dynamic Content Submission

Please See Chapter 16 – Dynamic Content Design Guide.

12.4 Content Loop

The **Cromwell Road 96 Sheet** screen loop is 60s long with space for 4 x 15s slots (See Figure 16).

Cromwell Road 96 Sheet 60s Loop & 15s Slots

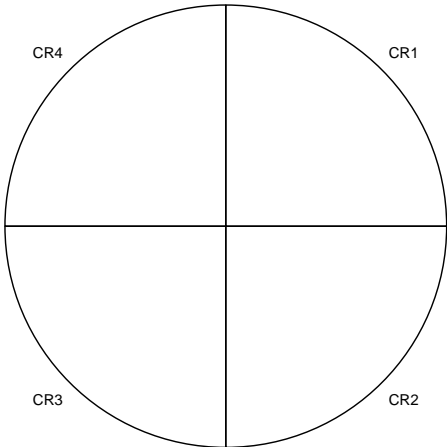


Figure 16 = The Cromwell Road 96 Sheet Loop

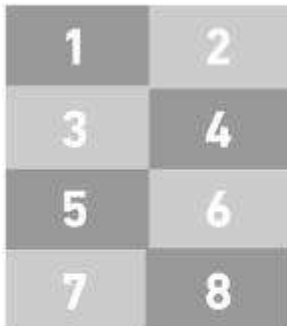
13. Luton Airport Video Wall 1920x1080 (squashed)



The Luton Airport video wall is situated at the main entrance of Luton Airport and consists of 2 x independent display areas which sit either side of a flight Information (FIDS) and airport information display area.

13.1 Design Area Specification 1920 x 1080 per display area

LUTON MEDIA WALL
Spec sheet



Intro

The whole canvas is made up of eight 1920px by 1080px screens. The system is programmed to spot the first screen and stretched it to fill the whole canvas.



Original 8:9

The ratio of the original creative should be 8:9. Size: 1920px wide by 2160px high.



Fit to 16:9

After the original creative is complete, it needs to be stretched / fitted in to a 16:9 Canvas. Size: 1920px wide by 1080px high.

This is the final stage and all the creatives must be supplied in this distorted state.



Stretched FINAL

Once uploaded, the final stretched 16:9 Creative will be distorted back to its original size and ratio (8:9) automatically and fill the entire screen.

13.2 Static Content Submission

| | |
|-------------------------------|----------------|
| Format | bitmap or jpeg |
| Colour model | RGB |
| Minimum resolution | 72dpi |
| Recommended resolution | 100dpi |

13.3 Motion Content Submission

| | |
|--------------------------------------|---------------------------------------|
| QuickTime file identification | xxx.mov |
| File size | 300Mb or less |
| Encoding | H264 or Sorenson 3 for playback on PC |
| Frame rate | 25fps |
| Data rate | 8mbits/sec or less |

13.4 Dynamic Content Submission

Please See Chapter 16 – Dynamic Content Design Guide.

13.5 Content Loop

The **Luton Airport Video Wall** screen loop is of variable length with a typical advert length of 10 to 30 seconds.

14. Luton Airport Cascade Screens 1360 x 768 (CCW)

The Luton Airport Cascade consists of 6 pole mounted LCD screens that are installed in the airside departures lounge. The individual screens are synchronised in groups of 3 to allow the combined faces to array (or storyboard) a narrative in the audience's full field of vision.



14.1 Design Area Specification 1360 x 768 (CCW)

Each creative (media file) needs to be submitted in a 90 degrees counter clockwise format of pixel size: 1360x768 with no requirements for a safe text area. See Figure 17 for an outline illustration.

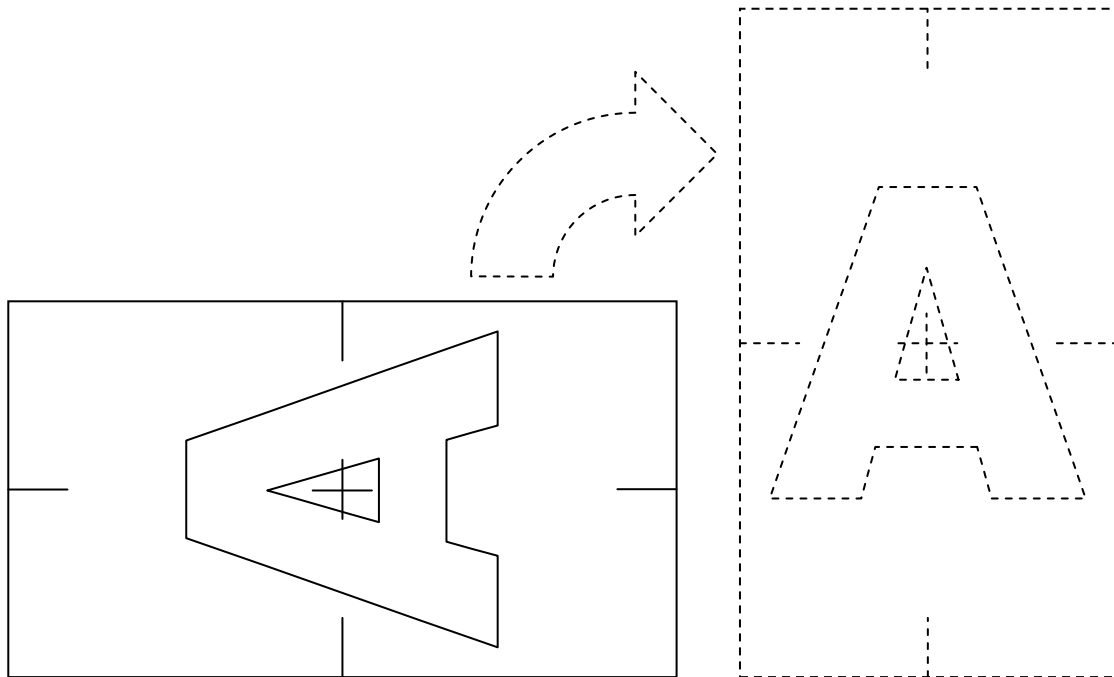


Figure 17 – 1360x768 (CCW) Cascade Screen Submission Size

14.2 Static Content Submission

| | |
|---------------------|----------------|
| Format | bitmap or jpeg |
| Colour Model | RGB |
| Resolution | 100dpi |

14.3 Motion Content Submission

| | |
|--------------------------------------|---------------------------------------|
| QuickTime file identification | xxx.mov |
| Suggested File size | 300Mb or less |
| Encoding | H264 or Sorenson 3 for playback on PC |
| Frame rate | 25fps |
| Data rate | 8mbits/sec or less |

14.4 Dynamic Content Submission

Please See Chapter 16 – Dynamic Content Design Guide.

14.5 Content Loop

The **Luton Airport Cascade** screen loop is of variable length with a typical advert length of 10 to 30 seconds.

15. Luton Airport Escalator Screens 1360 x 768 (CCW)

The Luton Airport Escalator Screen are a line of 10 units which can fully synchronise individual media files to display individual, group or combined screen animations in the overall advertising loop.



15.1 Design Area Specification 1360 x 768 (CCW)

Each creative (media file) needs to be submitted in a 90 degrees counter clockwise format of pixel size: 1360x768 with no requirements for a safe text area. See Figure 18 for an outline illustration.

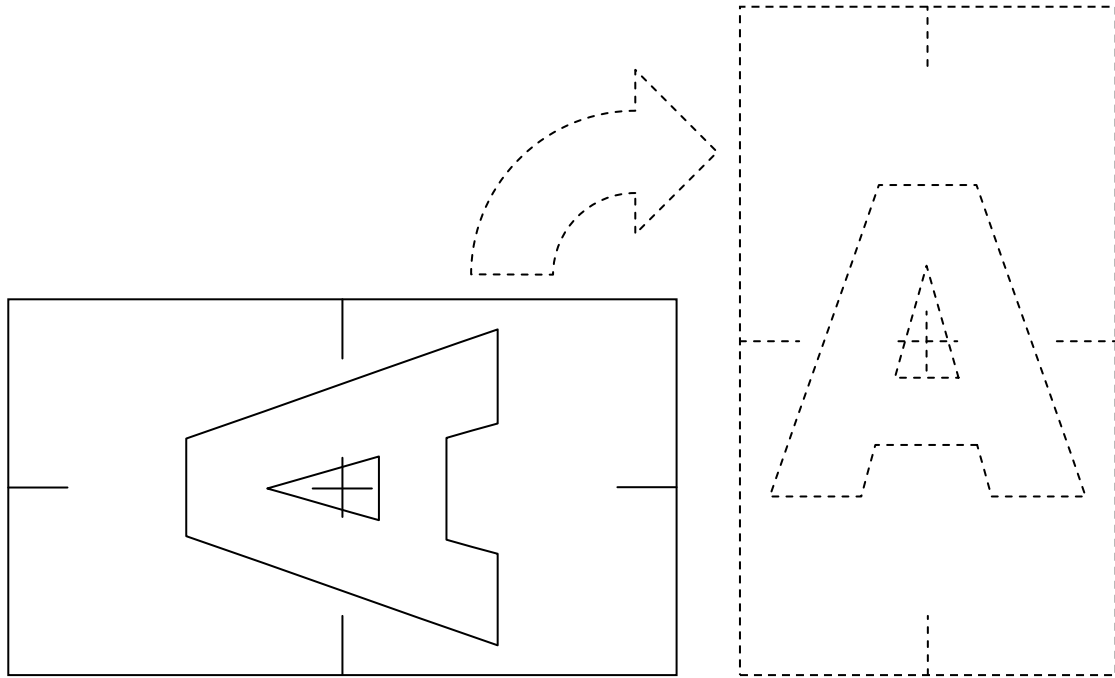


Figure 18 – 1360x768 (CCW) Cascade Screen Submission Size

15.2 Static Content Submission

| | |
|---------------------|----------------|
| Format | bitmap or jpeg |
| Colour Model | RGB |
| Resolution | 100dpi |

15.3 Motion Content Submission

| | |
|--------------------------------------|---------------------------------------|
| QuickTime file identification | xxx.mov |
| Suggested File size | 300Mb or less |
| Encoding | H264 or Sorenson 3 for playback on PC |
| Frame rate | 25fps |
| Data rate | 8mbits/sec or less |

15.4 Dynamic Content Submission

Please see Chapter 16 – Dynamic Content Design Guide.

15.5 Content Loop

The **Luton Airport Escalator** screen loop is of variable length with a typical advert length of 10 to 30 seconds.

16. Dynamic Content Design Guide

A key USP of Digital Signage is that it can instantly change content to target the screen message to the right audience at the right time. To give the client maximum control of this feature, the JCDecaux networks can display 3rd party content templates designed to connect to 3rd party data sources that the client has full control of.

The following JCDecaux digital products are currently enabled to deliver this dynamic feature:

- Transvision – Flash v10
- D6 – Flash v9
- Torch – Flash v10
- The Cromwell Road I – Flash v10
- Cromwell Road 96 Sheet – Flash v10
- Luton Airport Screens – Flash v10

| Design Size | Orientation | Transvision | PrimeTime | Torch | The Sail | D6 | Euston | | Cromwell Road | | Luton Airport | | |
|-----------------------------------|----------------------------|-------------|-----------|---------|----------|----------|---------|--------|---------------|----------|---------------|----------|-----------|
| | | | | | | | Motion | DEP | I | D400 | Wall | Cascade | Escalator |
| | Movie / Image | 960x480* | 480x240 | 448x656 | 736x184 | 720x1280 | 608x160 | | 500x500 | 1280x320 | 1920x1080 | 1360x768 | 1360x768 |
| | Flash | | | | | 90degCCW | | | | | -3:2 | 90degCCW | 90degCCW |
| Content Allowed | | Motion | Static | Static | Static | Motion | Motion | Motion | Static | Static | Motion | Motion | Motion |
| Content Type | H264 MP4/mov | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Jpeg | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Flash Version | 10 | | 10 | | 9 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Dynamic Update Connectivity | Internet | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Closed Network (FTP Sync) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Daily Scheduling | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Dynamic Data Supported | XML Data Feed (+ jpg link) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| (all templates must be failsafed) | Streaming Video | ✓ | | | | | | | | | | | |

Figure 19 - JCDecaux UK Digital Estate Summary

By submitting any content to the JCDecaux digital screen networks, all parties concerned agree to abide by the rules, guidance and terms described below. Figure 19 shows a summary of what dynamic content is currently supported on the JCDecaux UK Digital estate.

All Flash media submitted will require JCDecaux submission approval. Approval should take approximately 10 working days providing a copy of the proposed design is received by JCDecaux to the specifications detailed below.

16.1 Basic Dynamic Content Specification

- Flash file submitted as a xxx.swf
- File name <10 characters avoiding * <> [] = + " \ , ; ; \$ _ + ! * ' () ,
- All graphic files imported at 72dpi
- File size: 3 MB or less
- Embed all fonts within the SWF file
- SWF should load with no start or prompt and no pop-ups or windows
- The JCDecaux display system will open the Flash file using Flash Player 10.

16.2 Stage size: Transvision

The Flash file should be designed to a stage size of 960x480 with a safe text area of 896x480 as detailed in Chapter 4, figure 1.

Flash does not interpolate (resize) embedded bitmaps smoothly when resizing to the range of screen resolutions currently available on the Transvision LED Screen network. The Flash creative needs to be submitted either in the following resolution versions OR as a single flash file that can resize to these resolutions without pixelating:

640x320
768x384
960x480

16.3 Stage Size: D6

For D6 screens, the flash file needs to be designed to a stage size of 1280x720 in a 'counter-clockwise orientated' configuration (see Figure 20). This is because the PC hardware behind the screens is running with a landscape 1280x720 desktop and the actual screen display hardware is then mounted to portrait.

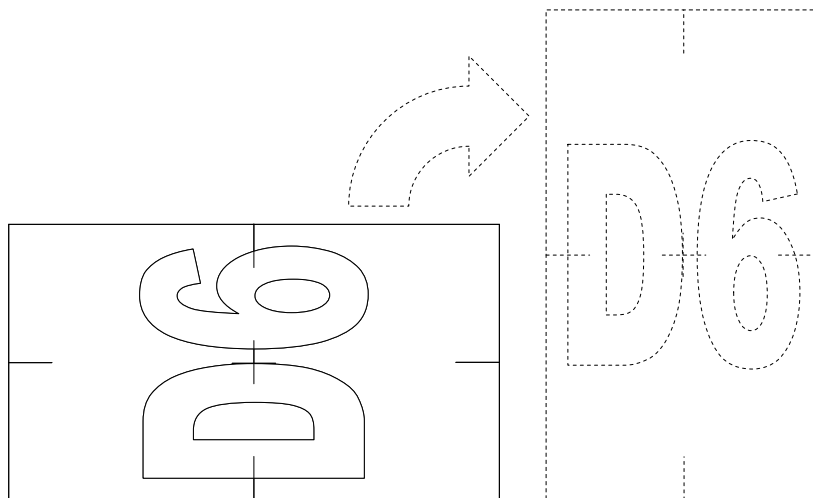


Figure 20 - Dynamic Flash files for D6 screens need to be submitted on 'on their backs facing up'.

16.4 Stage Size: Other Screens

The stage size / orientation for the Torch, The Cromwell Road I, the Cromwell Road 96 Sheet and Luton Airport screens are as detailed in the previous chapters.

No onscreen animation/update/movement is allowed on the Torch, The Cromwell Road i and the Cromwell Road 96 Sheet once the Flash file has loaded.

16.5 Connectivity for 3rd Party Data

The Dynamic Flash file can be given access to the internet to update content from an external source each time the Flash file loads in the advertising loop.

All previously listed screen products can connect directly to the internet for live data with the exception of the D6 network which requires the customer's data source to be synchronised within the D6 VPN Network via an FTP link. The customer data is then available to the D6 units on the addresses 192.168.100.147 OR 10.0.2.105 as detailed in Figure 21. This means that a flash template will have to check both addresses for valid data.

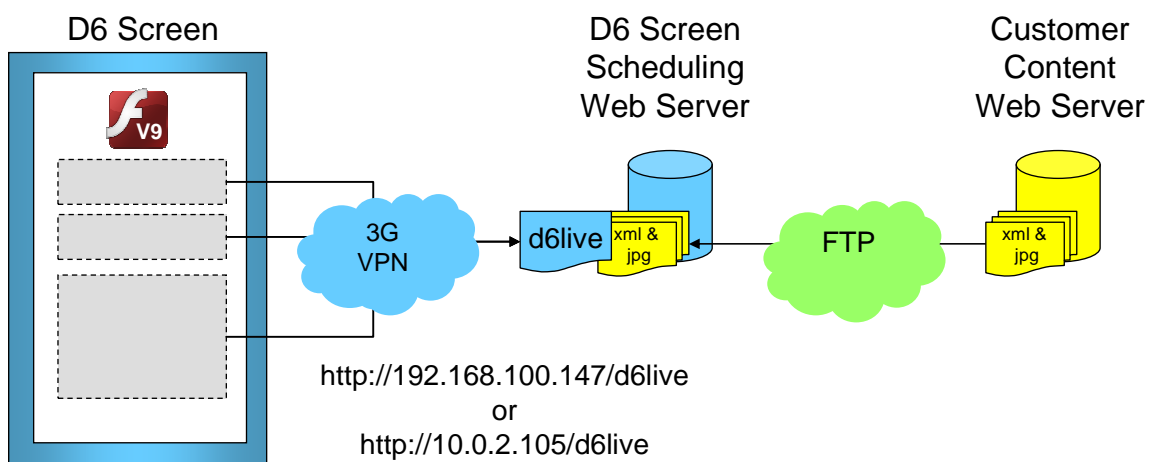


Figure 21 – D6 FTP Data Synchronisation and Availability

For all screen networks, JCDecaux will require the domains and/or urls of any XML/data feed required by the dynamic Flash movie to be listed (e.g. www.customerdata.com). 10 days notice is required to ensure that JCDecaux can open the network firewall to all screens on the screen networks.

If the flash animation needs to access an API it is required that the query interface uses a http URI/URL GET request method rather than java/php/sql scripting which will cause issues with the local security policy on the screen player PC. No data can be written to the hard drive outside of the flash local shared object storage.

If the Flash file needs to connect to a data service such as java, php or sql; all ports and local runtime services need to be identified and listed to JCDecaux. This ensures that the appropriate ports can be opened on the JCDecaux firewalls and that the security account on the BroadSign PC can be adjusted to allow the required runtime service to execute.

If the organisation building the flash file has trouble with the 3rd party data connectivity, they may need to ensure that the 3rd party data provider has a cross domain file present on their data server. Please see http://www.adobe.com/devnet/articles/crossdomain_policy_file_spec.html for further details.

16.6 Loading Animation and/or Fade In

When the flash file loads in the advertising loop it will then load the 3rd party data. In practice, the data loads a fraction of a second after the flash animation loads which may lead to the dynamic content 'flashing' onto the screen. This can be mitigated by adding a fade or introductory animation to the start of the flash timeline.

16.7 Failsafing the Flash Animation

Whilst the Transvision network runs on an ADSL network, all D6 LCD units use a 3G connection to access the internet. This means that JCDecaux can not guarantee internet access to all digital screens at all times on the screen network. Additionally the advertising client's 3rd party data provider may not be able to guarantee 100% uptime on their data feed.

To mitigate this, the Flash animation needs to be built to show a 'default' animation or creative in the event of a 3rd party data source or data connection being unavailable to the Flash file.

This default animation should also be used in the event of the Flash animation showing 'out of date' or 'stale' data that may be detrimental to the advertising campaign.

16.8 ActionScript 3 Vs ActionScript 2

3rd party classes can be used in flash files destined for the digital signage network. However, content creators should be aware that when creating content in flash 8 and lower, that the compiler and virtual machine have extremely poor error checking capabilities. Errors are suppressed and the flash player will try and play the SWF, regardless of these (sometimes fatal) errors. This can lead to seemingly random behaviour in some implementations of the flash OCX and normal behaviour in others. It is recommended that content creators make use of Action script 3 and flash 9 upwards. This is many times more robust, faster, supports higher resolutions, and has advanced event and error handling, and external communication abilities that far exceed previous versions.

16.9 Avoidance of Memory Leakage

All Flash files should have a end stop 'stop();' at the end of the stage timeline. This informs the player the flash movie has finished and the player should move to the next piece of media. The end stop on the stage timeline should only appear on the final frame – having it before this may cause playback problems.

To eliminate the possibility of any data carrying over from one file to the next, for example news from an XML feed, any variables used by the Flash file should be set to 0 in the first frame, before being populated.

16.10 Moderation of 3rd Party Data

The responsibility for moderation, control and management of content shown by the Flash creative lies with the advertising client. If indecent and/or inappropriate content is shown on the screen the content will be removed from the JCDecaux screen network and further action may be taken to recover damages occurred by such an event. All liability for data displayed on the Transvision network rests with the advertising client.

16.11 Proof of Performance

The JCDecaux scheduling system will not record any content download operations or data display made within the Flash file/animation itself.

Appendix - Document Control

Version History:

| Version | Date | Author | Notes |
|---------|------------|------------|--|
| 2.0 | 31/03/2011 | Tim Harvey | Initial draft phase |
| 3.0 | 04/04/2011 | Tim Harvey | Added Advertising Loop Details |
| 4.0 | 12/04/2011 | Tim Harvey | Added Euston Motion |
| 5.0 | 04/05/2011 | Tim Harvey | Added Cromwell Road Sites and warning about the use of PHP/SQL scripting for flash animations. |
| 6.0 | 19/05/2011 | Tim Harvey | D6 video file size submission increased to 1Gb |
| 7.0 | 30/06/2011 | Tim Harvey | Luton Airport Specs added to Document. Euston Motion Screen Positions added to document. Flash Specs updated to define use of HTTP GET requests. |
| 8.0 | 22/07/2011 | Tim Harvey | Corrected London Bridge Transvision Listing. Added D6 Flash and connectivity details to the dynamic content design chapter. |

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