

The Making of War Horse in 4K

How Sony is taking broadcasting to the next level with a live 4K screening of the National Theatre's hit production War Horse



In September 2013 Sony impressed the world of live production with the first live 4K broadcast of a rugby match to the IBC in Amsterdam.

Now Sony is taking the concept of live 4K broadcasting a step further by joining forces with the National Theatre to produce the first live 4K broadcast of a theatrical production.

The aim is to shoot Nick Stafford's successful adaptation of War Horse at the New London Theatre and broadcast it live in HD to 600 cinemas around the country, with the Curzon Chelsea to host a special live 4K broadcast of the event.

Producer Emma Keith explains that the National Theatre's live broadcasting unit NT Live was the first to offer live HD broadcasts of its productions to live audiences over four years ago and they have proved enormously popular. Now NT Live wants to go a stage further and offer audiences the ability to watch its highly regarded productions in 4K quality.

Pioneering broadcast



Sony's F55 will be used to capture the performance

“We really want to be pioneering 4K broadcasts. Our expectation is that it’ll enable us to offer cinema audiences something special – a 4K version of War Horse that will look better and crisper.”

The War Horse 4K project began life when broadcast consultant Christopher Bretnall, who has been working with NT Live on their HD broadcasts for some time, suggested the time was right for a 4K broadcast.

The 4K transmission, scheduled for the end of February, will be captured on [Sony PMW-F55 cameras](#), converted to 4K system cameras with the use of Sony’s 4K fibre transmission camera adapter the [CA-4000](#).

Using Sony’s base band processor unit the [BPU-4000](#), the 4K feed will then be sent to a Sony MVS switcher, cut and then distributed live to cinemas as either HD or 4K.

The Curzon Chelsea has been chosen as the cinema screen to showcase the 4K broadcast, and the venue will be fitted out with a Sony 4K projector for a live screening to paying cinemagoers.

Says Bretnall: “By capturing War Horse in 4K we will be meeting the principal aims of NT Live, namely to bring exclusive, live content to audiences around the country who otherwise might not be able to see this amazing, globally-recognised production. And we’ll be able to do this in the best possible quality – which at the moment means 4K.”

And Sony’s head of business development for 4K Mark Grinyer added: “For the first time audiences will be able to see a 4K mastered version of the live performance. Meaning we will deliver to cinemas a live event at the same quality threshold as a movie production.”

The National Theatre will also be producing a 4K Digital Cinema Package version for cinemas around the world, with NT Live productions already distributed in the US, Canada, South Africa, Australia, Russia and India.

Huge potential of 4K



War Horse’ has become an international smash hit

Tim Van Someren, who will direct the live multicamera broadcast, is enthusiastic about the potential of 4K for theatrical productions. “NT Live already has an advantage by being exclusively shown in cinemas in HD, so NT Live audiences have always enjoyed the richer big-screen experience. By

moving into 4K, NT Live can take this experience to the next level.”

“The idea is to create an experience that compares to seeing the play in the flesh. The incredible detail and immersive experience of 4K will add to that immeasurably.”

“As director my aim is for the cinema viewer to forget they are watching a broadcast at all and simply to enjoy the play in its own right.”

Van Someren adds; “The other advantage for the National Theatre of capturing War Horse in 4K is that it future proofs the recording and ensures it will have a much longer and diverse life in archive.”

The workflow for the live broadcast was designed by Bretnall in collaboration with NT Live’s OB partner Visions. “We came up with a workflow using Sony 4K kit including the F55 camera to capture the performance in full native 4K using a flyaway kit style set up at the theatre,” reveals Bretnall.

Sony expertise



Sony’s expertise is a crucial part of the set up

As he points out, Sony’s expertise is a crucial part of the set up, with its F55 cameras creating 4K images which are sent through the F55 camera adapter to the Sony broadband processing unit and into the Sony MVS-8000 4K mixer for the live cut.

From there a 4K and down converted HD version will be created, with partner Links Broadcast distributing the HD cut to around 600 cinemas including the 4K version to the Curzon Chelsea.

Cinemagoers who see the HD version are expected to notice a significant uplift in quality because the HD images have been derived from a 4K master.

Emma Keith confirms that cinemas are enthusiastic about live broadcast because it means a fresh style of content and a new revenue stream.

“Live broadcast is a fast growing market for cinemas which brings in a different, slightly older audience than would go to traditional films.”

“Thursday evening live performances are often sell outs for theatres, plus they can charge a bit more, so they do well out of it financially.”

4K set up

Tim Van Someren adds that shooting the production in 4K will require a few changes, particularly to the way the production is lit. “Theatre lighting is designed for the human eye, not for camera, so we usually find the contrast between subject and background is too strong for cameras. On War Horse we will re-light much of the play to even this out.”

“But the dynamic range of the F55 cameras will be a huge help,” he adds: “It should allow us much more leeway in exposure so we can give the performance a more naturalistic look and also we should be able to accurately show the video projection background which forms a core part of the story-telling of War Horse.”

Other considerations for the play's production team include remaking wigs, make up and costume to stand up to the scrutiny of 4K.

New experience for cinemagoers

Sony's Mark Grinyer concludes: “The live cinema market is a great opportunity for producers and content owners to offer audiences a new 4K experience.”

Van Someren agrees: “There's no doubt that 4K will bring incredible clarity to the viewer.”

“When 1080 HD first arrived, I found that wider shots could last longer as you could see so much more detail. I expect this to be even more the case in 4K.”

“Viewers of theatre, arts, music and sports will feel even more connected to the event they are watching and this will help spur the already rising popularity of live event coverage.”