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Network

Sarah Rushton-Read meets the team who transformed the National Theatre's Lyttelton stage into a TV studio . . .

Epic scenes and roaring speeches are the order of the day on the National Theatre's Lyttelton stage as director Ivo van Hove's multi-faceted multi-media production of *Network* opens to rave reviews. Complex on every level, van Hove's interpretation of Paddy Chayefsky's eerily prophetic 1976 film - adapted for the stage by Lee Hall - is fast-moving and hard-hitting. Delivered with a raging momentum, the show steams through two hours with no interval. Van Hove and his creative team - set and lighting designer Jan Versweyveld, video designer Tal Yarden, sound designer and composer Eric Sleichim and costume designer An D'Huys - have facilitated a near borderless relationship between audience and cast, cast and production, live and virtual, via a high-level mash up of live theatre, live-to-screen video, pre-recorded film, rich, multi-location soundscapes and sharp, clean, often ritualistic, lighting.

A cinematic experience presented as a live theatrical show, the success of this hybrid format comes from an exhaustive analysis of the script and detailed storyboarding of every element of the production. Set and lighting designer Jan Versweyveld discusses: "As a creative team we've collaborated on over 30 productions and over the years we've developed our own language. The script is the inspiration for the design. I didn't want to watch the film again - I knew seeing all those

different scenes would give me a panic attack! We analyse the text meticulously, scene by scene, and have a lot of meetings. From those we build an exhaustive storyboard that describes the message of the scene, time, place, feeling, actors blocking, style and type of camera shots, which screens the pictures are relayed to and why, how sound and lighting will create atmosphere and environment. We then worked closely with the National Theatre's production team, headed up by production manager Anthony Newton, to realise it."

This approach to theatre making has been a refreshing change for Newton and the National Theatre's technical team: "Ivo, Jan and Tal have a clear idea of how they will manage the production from the outset," Newton explains. "After four weeks we moved rehearsals to the Lyttelton stage for a full two weeks, rather than our usual model of doing six weeks in a rehearsal room and transferring to the stage just for tech. This meant there was little transition for the actors or the production team from rehearsals to tech, enabling us to weave the technical infrastructure of the show into the production as it was rehearsed. And because the actors are only rehearsing five hours a day, they're available for costume, hair and make-up fittings; standards go up in all departments as we are not so rushed. It's a great model."
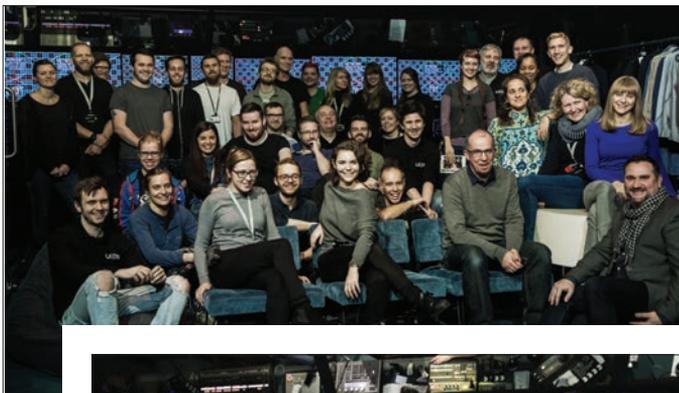
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Photo: Jan Versweyveld

Photo: Jan Versweyveld

Photo: Jan Versweyveld

⬆ Top: Roving cameras capture the action live on-stage

The full production team for *Network*

From left: Julie Rocque (camera operator), Mogzi Bromley-Morgans (video supervisor), Henri Charlton (video programmer), Jan Versweyveld (set and lighting designer, seen on screen), Ross Bristo (video switcher) and Chris Jackson (camera operator)

Versweyveld's stage design is epic - more installation than theatre set. Occupying every square centimetre of the stage, some areas are only visible to some parts of the audience through the eye of the camera. The story is centred around aging news anchor, Howard Beale (played by Bryan Cranston), who's response to his recent sacking by his ratings-chasing bosses is to announce, live on air, that he will commit suicide during his programme the following week causing the channel's ratings to soar: As a result, Beale is reinstated and his tsunamic nervous breakdown is re-packaged as a brave hero's call to the disenfranchised TV-watching public.

"My first big challenge was how to combine the three elements of reality that surround Beale," explains Versweyveld. "I wanted these elements - the TV broadcast moments when Beale is live on air, the work environment, where he interacts with colleagues, and his social and private life - to come together in one flowing space. That was a big step."

The texture of the show alludes to the 1970s, however the set is a persuasive facsimile of a modern-day television studio divided into three areas. Centre-stage is a large, open studio dominated by a huge news desk. Upstage centre is a vast LED 'TV' screen. Stage right is an impressive control gallery occupied by Beale's colleagues, while opposite and taking up almost a third of the stage is a city-chic bar and restaurant, in which 42 paying members of the audience consume a five-course dinner as the action unfolds.

Video director Tal Yarden says: "Part of Jan's creative genius is that he fashions truly theatrical spaces. He's not trying to recreate naturalism. He uses elements from the real world to create an environment you would never find anywhere else. So yes, at first glance, it looks like a huge TV studio, but of course you would never find a full-blown, top class restaurant inside a TV studio. It's a unique space entirely created for Ivo to tell his story."

"I wanted to bring existing or recognisable items together to create a reality that exists only for this production," explains

"Part of Jan's creative genius is that he fashions truly theatrical spaces. He's not trying to recreate naturalism. He uses elements from the real world to create an environment you would never find anywhere else . . ."

Tal Yarden, video director

Versweyveld. "It's more of a machine than a set. Each individual object has little significance alone, but acquires meaning in the context of the other elements and the way in which the cast interacts with them. This design was inspired by studying each one of the 37 scenes individually and then imagining the theatrical environment we wanted for each. At this stage, we did not reference how one scene would link to another. Once we'd agreed on the texture and feeling for each, we brought them together in one universal theatrical world."

Add live broadcast of on-stage action mixed with pre-recorded content, spatial manipulation of audio and hyper-real, ritualistic lighting and the result is a series of complex interlocking scenes where both the dramatic and the intimate are drawn from one universal set through the eye of a camera and onto the screen.

"We knew we wanted to use projection, live cameras, screens and video walls to enhance the story," adds Yarden. "Of course, there's always room for flexibility and improvisation, but we do tend to have a strong concept a long time before we get anywhere near the venue."

"Knowing the details of the set much earlier than normal means our production departments have time to perfect the finer details and finishes of the set while our technicians can ensure that all the technical elements are fit for purpose and repeatable night after night," continues Newton.

In this way, van Hove and his team built a rich theatrical language that cleverly maintains demarcation between what is a live TV broadcast and what is the narrative of the play. It goes way beyond using video as a derivative storyteller. Yes, live camera-to-screen is used for the newscasts, but it's also used to add depth to the narrative and to transport the audience around the vast set, where short, intimate scenes are amplified on screen.

Associate set designer Paul Atkinson explains: "There are areas within areas in Jan's set. They may not always look special on set, but on camera they become something else. For example, the office is just two tables and two chairs stage right, but the camera brings a new dimension to it. There are two scenes at the bar where the main protagonists are way off on stage left, with their backs to the audience, yet the live cameras afford the audience a full-frontal filmic view via the central screen."

While the broadcast elements of the show are ritualistic and glossy, the live video-to-screen storytelling is docu-drama in style. "We wanted to use a combination of tools,

Photo: Jan Versweyveld

Photo: Jan Versweyveld

including large-scale imagery and shifting sound sources, to tell the story," Versweyveld explains. "Each had to have its own style and ritual to create the distinction between the broadcast news and all the other narratives that are running on stage together. Defining these took a long time."

Nevertheless, this brings a new level of intimacy between audience and actor. "We're particularly interested in the tension between the live and the virtual," says Yarden: "When you watch a movie star on a huge screen, there's an intimacy: you're reading their face and their emotions. Audiences bond to a film character in a way that they rarely do in the theatre, where the connection is more to the 'aliveness' of the medium. We play with that tension, creating a piece of cinema that's simultaneously a theatrical experience. In theory, the audience could watch the action on the screen and experience the production as a movie, but they would miss out. We purposely force the audience to embrace the theatrical space - often by directing characters to interact with the audience directly in some way."

The actors and the technicians dance around each other in such a way that it is impossible to define who is what. Production video engineer and live camera operator Chris Jackson, and live camera operator Julie Rocque, are kept busy filming the live to screen action on stage for almost all of the show: "We are essentially a hybrid between tech and performer," explains Rocque. "We're on-stage almost all the time, working closely with the actors. We are part of the show but we also need to ensure we don't distract. Thankfully, we were in rehearsals from the beginning, which was not only a fascinating experience but has enabled us to become a fully-integrated part of the action on stage."

With scenes happening both on and off stage and even outside the building, and with some speedy moves required between shots, wired cameras were not an option: "We chose to use the BlackMagic micro studio cameras with on-board monitors,"

explains Jackson. "They're incredibly small, 4K Ultra HD and when mounted on Ronin-M gimbals, give us the freedom to move around the stage at speed, while maintaining a steady shot."

To avoid trailing wires on the stage the BlackMagic cameras broadcast HD video wirelessly via a Teradek Bolt Pro 500 5GHz video transmitter. NT video supervisor Mogzi Bromley-Morgans explains: "This was one of our major challenges. We knew we would need to broadcast wirelessly in real time and also that we may need to broadcast from outdoors. At that time, we were working with broadcast experts Riedel, who were installing Bolero - a new digital comms system - and it made sense to talk to them about integrating this with their MediorNet system."

Ben Tompsett, Riedel's rental operations manager, elaborates: "We suggested installing the MediorNet system, in this case eight MediorNet nodes each with a 12-in/12-out SDI router. We linked them up via fibre in a decentralised matrix. Three of the MediorNet units were positioned in the rack and the other five were installed on the *Network* set - one in the grid, one upstage, one stage right, one in the DSM Box and one on the Circle Front. This meant that any input and any output could be routed together, as it would be in a traditional matrix located in the rack. However, because the Riedel system is linked via OpticalCon Quad fibre, the system did not require any additional cables back to the rack. There was also an added - but unexpected - bonus in that the deputy stage manager can use his Bolero desk comms panel to access every camera in the show's system and pull those pictures onto his own monitors. The interface also allows the video production team to clearly see the status of the signal flow in any part of the system."

Bromley-Morgans continues: "We can also use the Riedel system to automatically switch content in the background. Daniel Murfin, lighting and control manager, wrote an app called Blaze, which takes care of switching on the Robocams and the pre-recorded content. This is triggered via the lighting desk and is an integral part of the show, primarily because

> *"Thankfully, both Eric and I were in rehearsals from day one. We had to be flexible and relied on clear inter-departmental communication to make critical decisions relating to which department would trigger what thing and when . . ."*
>
> *Alex Twiselton, NT sound associate*

the number of feed switches is considerable and it's something that our live vision mixer Ross Bristo couldn't have managed on top of switching the live on-stage camera feeds."

All video content and live cameras are mapped to the various outputs through two disguise (previously named d3) 2x4 servers and triggered from the Lighting Q stack. In addition, an Isadora media server provides live camera effects and runs the AutoCue for the news room scenes and a Catalyst media server is used for camera recall for the PTZ cameras.

In all, there are 37 screens, each capable of showing separate content from two wireless cameras, two broadcast cameras, six Robocam surveillance cameras and pre-recorded content from the two disguise servers. Bromley-Morgans says: "We were determined to give Tal and Jan everything they wanted, but at the same time we had to design a system that accommodated wireless

technology, that could work in rep with *Pinocchio* - another technically demanding show - and that could make use of much of our pre-existing equipment stock."

With such a complex mix of live theatre, live video and film, balancing the lighting for camera is no simple feat, especially as the sense of the piece relies not only on the various looks but on the seamless transitions between each scene. This is especially crucial for the live camera operators who cannot easily change their settings on the move. "Tal and Jan worked hard on balancing light levels for the live performance and for the cameras," explains Bromley-Morgans. "It's a delicate balancing act and the collaboration between them is what makes a lot of our shots possible."

"Lighting the show for the live audience and the screen are very different disciplines. We've spent a lot of time fine-tuning that balance," explains Yarden. "If we compromise, it's always on the cameras because

VIDEO WALL:
45 Panels of LMD 6.4mm LED - Covered with screen of Translite Midnight BP from Harkness Screens

MEDIA SERVER:
2 x disguise 2x4 Pro Servers with DVI VFC Cards
1 x MacPro 6.1 running Isadora for live camera effects
1 x MacPro 6.1 running Catalyst V5 for camera control
1 x MacMini running Blaze for real-time triggering of MicroN

SIGNAL TRANSPORT & CONVERSION:
8 x Riedel MicroN, part of the Mediornet family
8 x Datapath X4
32 x Blackmagic HDMI to SDI converters
32 x Blackmagic SDI to HDMI converters
4 x Blackmagic SDI to Analogue converters

CAMERAS, MIXING & SWITCHING:
6 x Sony BRC Z330 with SDI & IP card upgrades
2 x Blackmagic Studio Camera
2 x Blackmagic Micros Studio 4K
2 x DJI Ronin M Gimbals
2 x Blackmagic Video Assist
2 x Terradek Bolt 500
1 x Blackmagic ATEM 1 M/E Broadcast Panel
1 x Blackmagic ATEM 1 M/E Production Studio 4K

SOUND:
Monitors - Yamaha QL5
Front of House - DiGiCo SD7T
PA - Mix of d&b audiotechnik Y-Series with D80 amplification and EM Acoustics (various) with Lab. gruppen D80L amplication
Audio Transport: Dante audio over IP
Playback - QLab and Ableton Live
MacBook Pro running Ableton live with Novation 49SL MK2, Ableton Push 2
Alesis Sample Pad Pros as external controllers
Laptops running Audinate's Dante Virtual Soundcard

Photo: Jan Versweyveld

ultimately it's a theatrical experience and that takes precedence. If we were just doing it for camera we would have approached lighting in a different way."

Versweyveld continues: "It's not the first time I've done a lighting design for a show where video plays a big part. For *Network* the challenge centres around my own internal struggle as set and lighting designer. As a set designer, I wanted a high-shine, copper-mirrored floor to line up with the centre stage video screen for Beale's big TV show moments. However, this did mean I spent more than twice the amount of time getting rid of unwanted bounces or reflections!"

In fact, Versweyveld's use of lighting to dramatically and effectively create rituals around certain types of action is inspired: "This was a way of letting the audience know where they were, what kind of scene they were watching - 'live on air', background story or inner thoughts and feelings of a character, moving beyond the fourth wall. We wanted the rituals to evoke a feeling - adrenaline during the live broadcasts, empathy with a character, a sense of place or time . . ."

And of course, it works: lighting is clean, crisp and sharp, statement-making, yet never distracting or messy, sometimes tightly-focused and intimate, sometimes full-stage and bright, yet constantly in sync. With so much going on on-stage, often lighting is an unperceived player, subtly guiding the audience's perception of location or mood, or evoking an environment. For the broadcast scenes, the ritual is the same every time. The 'floor manager' counts down from the glass control box; huge 5K Fresnels drop in on pantographs then bounce back to the pre-set position; Beale moves fast towards the presenter's desk while make-up and hair do their thing around him; there

is a projected video clock counting down on set; cameras are positioned . . . Everyone is focused on Beale, you wonder if they will make it, and then - bang! - the lights snap up and Howard Beale is on air . . .

This is just one of a variety of ritualistic lighting sequences that guide the audiences' senses to accept the many different environments and narratives that happen through the course of the show.

Combining theatrical and live sound and adding to the rich flavour of the *Network* experience, audio colludes with video and lighting to continuously contextualise and locate the action on the vast stage. As the show shifts between live broadcast - increasingly 'live game show' in style - sound shifts from all-encompassing surround-sound to being firmly rooted with the action on-stage. Further enhancing and punctuating the action is the live electronic quartet, which takes care of the news broadcast title music and stings.

For NT sound associate Alex Twiselton, the sound design has to work for two separate auditoriums: the main auditorium of the Lyttelton theatre and the on-stage restaurant and bar. "My brief from sound designer Eric Sleichim was to provide consistent, even reinforcement across both areas for vocal, band and sound effect playback," explains Twiselton. "Thankfully, both Eric and I were in rehearsals from day one. We had to be flexible and relied on clear interdepartmental communication to make critical decisions relating to which department would trigger what thing and when. We also kept a very close eye on how these elements would be integrated into the final show system on stage."

Twiselton's approached the production from two perspectives: "The first was to maintain a theatrical sound approach, i.e. a FOH engineer to mix the vocal reinforcement, balance the overall band playback and to trigger sound effects for the main house audience, with a monitor engineer on stage to look after the monitor mixes for the band and provide a cohesive on-stage mix for the audience in the restaurant."

The system is designed to ensure that anything that features heavily on the central upstage video wall is located back there, whether it is live camera or video playback. "This design was also applied to the on-stage band and any underscore was located back to their position upstage. This enabled us to draw the attention of the audience to the action at any given moment."

On the flip side, there were times where high sound levels were required to bring a live, almost rock concert feel to the show, primarily during Howard Beale's big 'live on air' speech moments. "Flexibility in the system was key to this, and having the ability to control both the on-stage system and the auditorium system independently allowed us to achieve this," says Twiselton.

"It's been one of the most complex shows I've done," concludes Yarden. "And it's been an exceptional collaboration. The National Theatre has afforded us a working environment and a production team, led by Anthony Newton, that is second-to-none. They are all unique in their theatrical intuition and insight. That has enabled us to achieve exactly what we wanted. I've worked with a lot of producing houses all around the world and often I've had to modify my creative expectations. On this show, I haven't - and that has made all the difference."

Network is a meticulously-developed piece of theatre in which every element of its production has been carefully considered. Exhaustively tested and expertly blended, van Hove and his creative team have achieved a sophisticated depth and rich texture of storytelling that satisfies on every multifaceted, multi-dimensional level. This skilled team of practised collaborators clearly understand every element of their process intimately. *Network* is never boring, always compelling and leaves everyone that gets a taste of it wanting more. ✸

PRODUCTION TEAM
The production team for *Network* includes . . .

Director: Ivo van Hove

Set & Lighting Designer: Jan Versweyveld

Video Director: Tal Yarden

Costume Designer: An D'Huys

Music & Sound Designer: Eric Sleichim

Creative Associate: Krystian Lada

Associate Director: Daniel Raggett

Associate Set Designer: Paul Atkinson

Associate Lighting Designer: Marc Williams

Associate Sound Designer: Alex Twiselton

Associate Video: Christopher Ash

Video Supervisor for NT: Mogzi Bromley-Morgans

Video Engineer & Live Camera Op: Chris Jackson

Live Camera Op: Julie Rocque

Live Vision Mixer: Ross Bristo

Production Manager for NT: Anthony Newton

Staff Director: Jaz Woodcock-Stewart

Fight Director: Kev McCurdy

Company Voice Work: Jeannette Nelson

Dialect Coach: Charmian Hoare