

# Pinewood Studios in London relies on Rohde & Schwarz products



## At a glance

London-based Pinewood Studios provides film and digital dailies for features, TV and commercials. Pinewood's customers include many of the world's leading film studios. One of Pinewood's requirements went beyond having a huge amount of storage in their facility. They needed to be able to break it up into sections, put it in flight cases and take it on location as part of their dailies offering.

## Executive summary

- **Customer:** Pinewood Studios, London
- **Task/challenge:** fast and reliable storage solution for production workflow
- **Solution/product:** R&S®SpycerBox Cell, R&S®SpycerBox Ultra TL, R&S®CLIPSTER, R&S®VENICE
- **R&S®SpycerBox Cell key facts:** central, high-performance production storage, supports uncompressed and compressed formats up to 8K, modular storage concept addresses evolving storage demands
- **R&S®SpycerBox Ultra TL key facts:** high-performance nearline storage for mid-term archiving, supports compressed formats up to 4K, high density with 48 disks, SAN and NAS server in 4 HU chassis

## The customer

In addition to its core studio operations, London-based Pinewood Studios boasts a team of award-winning creative talents that are available to support film, television and games production from inception through to distribution.

Whether a cinematographer needs digital dailies support or a post supervisor needs bespoke sound elements or the VFX department needs an actor's body 3D scanned, Pinewood can deliver a vast array of creative services that blend traditional techniques with cutting edge technology. It offers expertise in post production sound mixing and design, Foley, grading, restoration and archiving, character voice casting and international re-versioning in 40 different languages.

## The challenge

Pinewood's customers include many of the world's leading film studios. Darren Woolfson, Group Director of Technology at Pinewood Studios, explains their workflow and product choices for film dailies.

"Our film studio customers are very demanding and not unreasonably so: they've made demands on us that they expect us to meet, and we've said we can meet them. If it's a digital production it doesn't matter how much they've created in a day, editorial expect it by the following morning and we want to have cleared the mags by lunchtime or mid-afternoon so they can be used the day after. If it's a film production, we have a bit longer because the negative has to be processed.

"We collaborate with all the other post contributors at the start of the process – to make sure that we work in the right color spaces and agree on the color pipeline, resolution extraction and bit depth.

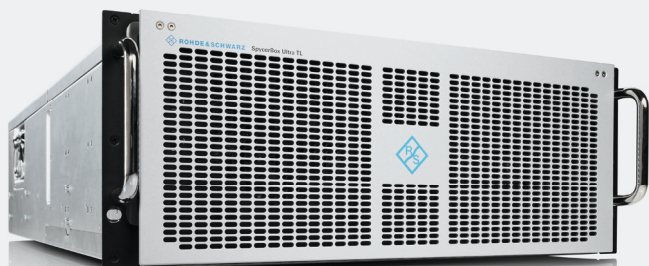
## The solution

The versatile, reliable, high-performance R&S®SpycerBoxes from Rohde & Schwarz give Pinewood a range of ingest and storage solutions that meet their exacting needs.

"We set up a system based on how much material we expect to process," continues Darren Woolfson. "It might be a single R&S®SpycerBox Ultra TL top loader, sometimes two clustered together or a few R&S®SpycerBox Cells. For some movies, where Alexa 65 has been used, we've had days where 20 Tbyte have come in on a single show. We can be simultaneously running up to three large shows, and with some smaller ones running alongside, this could mean up to 60 Tbyte coming in a day.

"We'll make one copy onto disc while still retaining the original and we'll make two LTO tape copies which are then verified. After our checks, we recycle all of the mags or keep the film negative. The slowest part is backing up to tape since most of our customers want lower cost LTO6. We just parallel up. We might have 10 or 12 drives running simultaneously, backing up two copies of the data.

"We need to do a dailies grade, a QC, render the media for Avid along with a lower res review copy, and sync the sound. Some of those processes require realtime playback while you're writing to the discs at the same time. It's all about built-in efficiencies.



### R&S®SpycerBox Ultra TL

R&S®SpycerBox Ultra TL provides all the assets of a powerful and compact SATA storage solution in a single unit. The 4 HU chassis offers reliable and easy-to-maintain nearline 4K storage with maximum density and comes with an extensive configuration tool. High density with 48 disks, SAN and NAS server.



### R&S®SpycerBox Cell

Cascadable thanks to its unique SAS interconnection, the modular and scalable storage concept allows you to easily expand capacity and achieve even higher performance as your workflow environment or storage requirements grow. Supports uncompressed and compressed formats up to 8K.



### **R&S®Clipster, R&S®Venice and R&S®SpycerBox: fast, versatile and reliable**

"We have two older R&S®SpycerBoxes and another nine newer units: three R&S®SpycerBox Cells and six R&S®SpycerBox TLs. We also have two R&S®Clipsters. R&S®Clipster is best of breed. It's the product that everyone wants. If you can afford it, you won't buy anything else. And we have three R&S®VENICE platforms in our TV offering. That's quite an investment in Rohde&Schwarz," explains Darren Woolfson.

"For the very first R&S®SpycerBox, we had an R&S®Clipster with a film scanner connected to it and some restoration tools for realtime playback. The second R&S®SpycerBox was our TV studio recorder for compressed format recording. The ones we've bought more recently sit in the middle of our dailies workflow and they were absolutely bought for speed and capacity.

"We looked at a lot of solutions and there are many alternative storage and realtime playback products. One of our requirements was not just to have a huge amount of storage in our facility but to be able to break it into sections, put it in flight cases and take it on location as part of our dailies offering. This idea of a 'SAN in a can' was very interesting (unlike a traditional SAN that has separate metadata controllers and can be much more difficult to maintain and where you'd be less likely to put it in a flight case and send it on the road).

"The R&S®SpycerBoxes have always been good – everything's self-contained. In a small environment, you can insert a fiber channel card and connect four devices – you don't even need a fiber switch.

"From the outset, the R&S®SpycerBoxes looked like they could be hugely versatile. We went down to Germany and

did some speed tests on them. You can cluster multiple units together and increase the bandwidth. The discs are reliable and all the storage is RAIDed. But the backbone is the fiber channel – with StorNext. Every client either has a single or dual 16 Gbit/s dual fiber channel connection and some of the systems are connected back into the switch at 32 Gbit/s. Because a lot of our tools are Mac-based and because they run StorNext, the clients are license-free. XSan is included in the Mac OS and allows us to increase the number of clients we have hooked up without much extra cost. All of these things together contributed very nicely. The R&S®SpycerBoxes fully meet the brief and offer value and performance.

"We originally backed up to the R&S®SpycerBox Cells and that's where we got the realtime playback. Then we'd move the data on to the R&S®SpycerBox TLs from which we'd create the backups and clear the R&S®SpycerBox Cells and bring in more media. As it turned out, the R&S®SpycerBox TLs performed much better than we'd expected – we can get realtime playback from an Alexa 65 camera (RAW).

It's the whole R&S®SpycerBox form factor that sold it to us and we've stuck with it. It sits in the background and it works hard. It supports a lot of work going through the facility," concludes Darren Woolfson.

**"R&S®Clipster is best of breed. It's the product that everyone wants. If you can afford it, you won't buy anything else."**

**Darren Woolfson, Pinewood Studios' Group Director  
of Technology**

## Service that adds value

- ▮ Worldwide
- ▮ Local and personalized
- ▮ Customized and flexible
- ▮ Uncompromising quality
- ▮ Long-term dependability

## About Rohde & Schwarz

The Rohde & Schwarz electronics group offers innovative solutions in the following business fields: test and measurement, broadcast and media, secure communications, cybersecurity, monitoring and network testing. Founded more than 80 years ago, the independent company which is headquartered in Munich, Germany, has an extensive sales and service network with locations in more than 70 countries.

## Sustainable product design

- ▮ Environmental compatibility and eco-footprint
- ▮ Energy efficiency and low emissions
- ▮ Longevity and optimized total cost of ownership

Certified Quality Management

**ISO 9001**

Certified Environmental Management

**ISO 14001**

## Rohde & Schwarz GmbH & Co. KG

[www.rohde-schwarz.com](http://www.rohde-schwarz.com)

## Rohde & Schwarz training

[www.training.rohde-schwarz.com](http://www.training.rohde-schwarz.com)

## Regional contact

- ▮ Europe, Africa, Middle East | +49 89 4129 12345  
[customersupport@rohde-schwarz.com](mailto:customersupport@rohde-schwarz.com)
- ▮ North America | 1 888 TEST RSA (1 888 837 87 72)  
[customer.support@rsa.rohde-schwarz.com](mailto:customer.support@rsa.rohde-schwarz.com)
- ▮ Latin America | +1 410 910 79 88  
[customersupport.la@rohde-schwarz.com](mailto:customersupport.la@rohde-schwarz.com)
- ▮ Asia Pacific | +65 65 13 04 88  
[customersupport.asia@rohde-schwarz.com](mailto:customersupport.asia@rohde-schwarz.com)
- ▮ China | +86 800 810 82 28 | +86 400 650 58 96  
[customersupport.china@rohde-schwarz.com](mailto:customersupport.china@rohde-schwarz.com)

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PD 3607.7270.32 | Version 01.00 | February 2018 (ch)

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