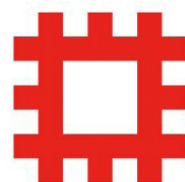


ENGLISH HERITAGE MIGRATE FROM FM ANALOGUE TO DIGITAL RADIOCOMMUNICATIONS AT HISTORIC DOVER CASTLE



**English
Heritage**

SECURING NATIONAL ASSETS AND ENHANCING THE VISITOR EXPERIENCE AT THE HISTORIC “KEY TO ENGLAND”



Dating back to the 11th century, Dover Castle is one of the largest castles in England and is set on high ground above the town of Dover on the south coast of England where it commands spectacular views across the Strait of Dover, the narrowest point in the English Channel between Great Britain and France.

The 75-acres (30-hectares) castle site is a protected Scheduled Monument with its buildings Grade 1 listed to preserve their originality. While the majority of the site, including the complex of tunnels beneath the castle were developed since the 11th century, the site also includes structures dating back to Roman times.

Dover Castle has served as served a strategic role in the protection of the country from invaders cross via the Strait of Dover and earned its reputation as the “Key to England” up to 1984 when the underground tunnels which were used during the Cold War as a nuclear bunker were finally vacated.

Today, Dover Castle is managed by English Heritage as a historic tourist destination and attracts over 300,000 visitors each year.

CHALLENGE

The Castle team had been using an old FM Analogue system which was not able to provide adequate coverage of the entire site largely occupied by fortified structures and notably in the underground tunnel complex. The decision was made by English Heritage and its radio system partner Smye-Rumsby to upgrade the system to digital operation to ensure good coverage of all key areas and allow the system to adapt to future needs – whether capacity increase or AI/Automation integration etc.



SOLUTION



**Mark Williams,
Business
Development
Manager at Smye-
Rumsby comments:**
“We have worked with
English Heritage for
many years and had
planned this upgrade
to meet their changing

needs in terms of coverage and future-proofing the radio system. The solution of creating a two-site system provides coverage in previous reception blackspots while the ‘Call-all-Radios’ feature gives the castle’s guides, maintenance and security teams who often find themselves working alone the reassurance that assistance is but the push of a button away”.

Having explored the options, the decision was made to migrate to DMR digital operation on the VHF frequency as it met the customer’s existing requirements and provides the flexibility and supporting eco-system to allow the radio system to grow and evolve in the future.

DOVER CASTLE VHF SYSTEM

The system is based on KENWOOD’s NX-1000 Series devices which feature a host of built-in and programmable worker safety features which were an important consideration given the application. The system is most extensively used in two key areas of the site, the Tunnels and Castle Keep (Tower).

TUNNELS:

- NXR-1700E repeater
- 22 x NX-1200DE3 portable radios
- Signal delivered from an external antenna via a leaky feeder cable to tunnel
- 4 x 6-way KMB-35A chargers

CASTLE KEEP:

- NXR-1700E repeater
- 30 x NX1200DE3 portables
- 6 x 6-way KMB-35A chargers

The new system Integrates into 4 x existing Base Stations and is programmed to provide SMC Alerts and automated Digital Voice Alerts to all radios in the event of an incident.

In addition to the radio system upgrade at Dover Castle, English Heritage wanted to bring another nearby property up to date.

WALMER CASTLE



Some 8 miles along the coast east of Dover is Walmer Castle, an artillery fort built to defend a strategically important deep-water anchorage off the coast. It was one of three adjacent, connected castles along with Deal and Sandown constructed during the reign of Henry VIII as protection from invaders.

Since the 18th century, Walmer Castle was gradually converted from a fortification into a private residence playing host to several Prime Ministers, prominent politicians and most notably Queen Elizabeth, The Queen Mother.

The castle stands in grounds covering 8-acres (3.24-hectares) and in this instance, the new system was required to provide coverage across the whole site.

WALMER CASTLE UHF SYSTEM

The new system provides whole of site coverage across its 8-acre (3.24-hectare site).

As with Dover Castle, the system is based on NX-1000 Series devices, comprising of:

- NXR-1800E2 repeater
- 43 x NX-1300DE3 portables
- 13 x KSC-35S single chargers
- 5 x 6-way KMB-35A chargers



BENEFITS

The recently commissioned KENWOOD DMR radio systems in both castles have already proven to have



helped to streamline operations and improve security and worker safety. The transition from FM Analogue to full digital operation including programming the radio devices, installation of the repeater sites and antennas were carried out by the team at Smye-Rumsby with minimal disruption.

The new digital radio systems at both locations have significantly improved radio coverage to the full extent of the sites both indoors and out enhancing the efficiency of operations and in turn, the visitor experience.

English Heritage concludes: “It was a big decision to take the plunge to digital operation – the old analogue system was great in its time, but both we and the team at Smye-Rumsby felt that it was time to upgrade to the many advantages and benefits of digital operation – not least the elimination of coverage blackspots and the additional layer of critical worker safety features offered. I’m happy to report that the new system here at Dover Castle and the one at Walmer Castle are both already supporting improved efficiency in worker mobility and giving staff working in remote parts of the sites the reassurance that support is always available. The team at Smye-Rumsby were great and the systems were tested and commissioned quickly, and they also trained our staff on how to use the radios and get the best from them.

The great thing about the system is that we are confident that it provides the flexibility to meet our needs well into the future as we introduce additional intelligence and automation into our operations”.



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