

Entertainment Team Champions Technology for World’s Largest Cruise Line

Oasis of the Seas, the largest and most elaborate cruise line of Royal Caribbean International, depends on Clear-Com’s Eclipse-Pico digital matrix, Encore partyline, HME DX200 and FreeSpeak wireless system for clear communications as well as efficient and wide collaboration during broadcast and live productions.

EXECUTIVE SUMMARY

CUSTOMER: *OASIS OF THE SEAS*
(Royal Caribbean International)

- 80 countries
- 6,000 guests and 2,394 crew members

BUSINESS CHALLENGE

- Lack of connection between and within production venues
- Improved productions require more powerful technologies

INTERCOM SOLUTION

- Eclipse-Pico digital matrix system
- Eclipse Configuration Software (ECS)
- 4 MS-704 Encore partyline
- RS-602 wired beltacks
- FreeSpeak 1.9 GHz DECT base station and 8 wireless beltacks
- 6 CEL-TA active transceiver antennas
- 4 V-Series intercom panels
- 2 HME DX200 wireless intercom system
- BP200 wireless beltacks
- 2 CCI-22 two-wire interfaces

BUSINESS RESULTS

- Integrated, centralized intercom platform enables faster response to shifting production demands
- Communications capability across all production venues allow wider collaboration
- Enhanced features of robust intercom systems streamline workflow processes



Christopher Vlassopoulos, Royal Caribbean International’s Entertainment and Technical Design Director, with *Oasis of the Seas* Cruise Ship

Background

Royal Caribbean International is a global cruise brand that has built its reputation on providing novel cruise experiences to over 80 countries. With already 20 ships in service, Royal Caribbean International took on their most ambitious project yet, to construct *Oasis of the Seas*, which would be the largest cruise ship in the world at that time. Commissioned in December 2009, *Oasis of the Seas*, which sails in the Caribbean, spans 16 decks and can carry over 6,000 guests along with 2,394 crew members. This cruise line was the pinnacle of their navel engineering genius thus far.

Launching this new ship was an opportunity for Royal Caribbean to imagine and create innovative experiences for their guests without compromise. Not only was *Oasis of the Seas* their first ship with an Aqua Theater and carousel, but it was the first to implement the idea of seven distinct themed areas. This

impressive cruise line had more theaters than former builds and the physical size of each theater was larger and staffed by more personnel than ever before. Accordingly, Christopher Vlassopoulos, Royal Caribbean's Entertainment and Technical Design Director, wanted to maximize their communications technology so that their guests can receive the very best on-board entertainment.

Business Challenges



Oasis of the Seas Pool Deck

Unreliable Connection between and within All Production Venues

On older ships, Royal Caribbean International had installed basic partyline and UHF intercom systems, with each functioning as standalone systems. At times, it was difficult for the UHF wireless beltpack users to clearly hear each other because of the interference from other Wi-Fi and wireless devices, of both the ship's crew and guests, sharing the same frequency spectrum. Moreover, the crew could only use their wireless beltpacks to communicate in the region of coverage surrounding the UHF intercom system. Hence, when the crew was out of range, they would either use their wireless mobile phones to correspond with each other or walked around the ship to search for their point of contact.

With *Oasis of the Seas*, they wanted to interconnect all production venues and ensure that the staff could effectively communicate between their three theaters, themed neighborhood locations, and the Broadcast Center's control room.

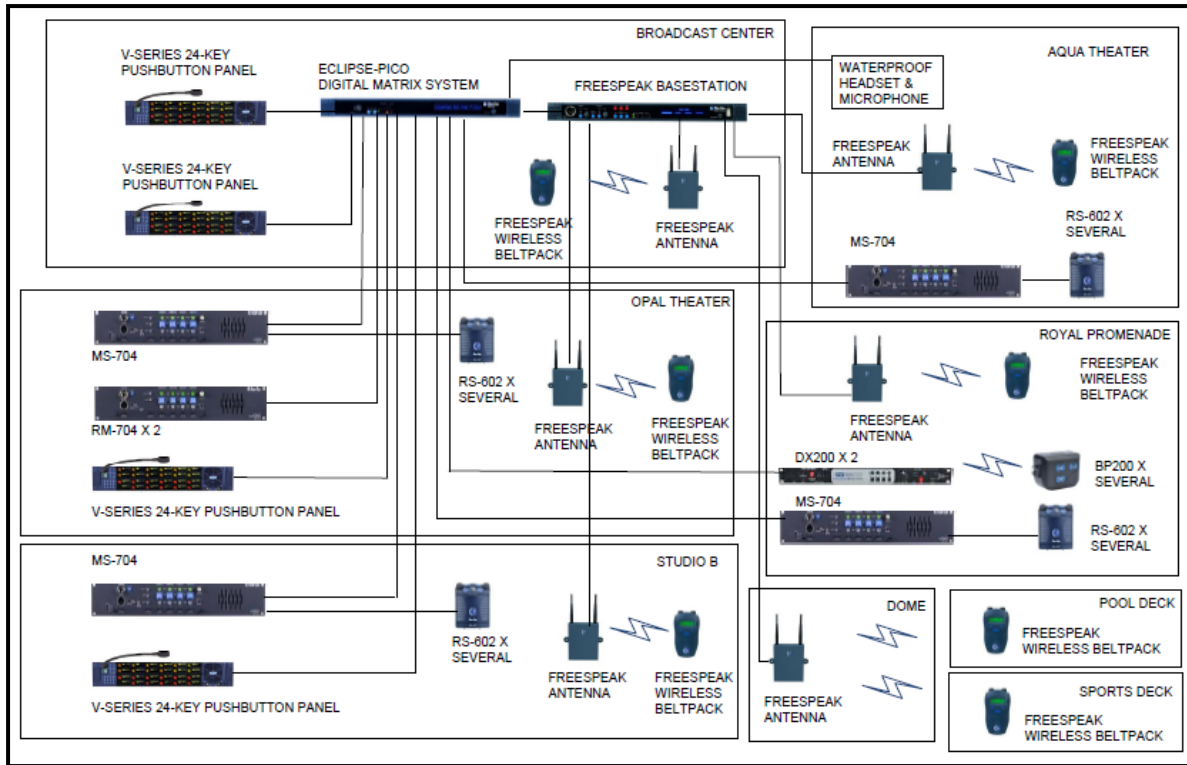
Improved Productions Required More Powerful Technologies

Although basic partyline and the UHF intercoms were adequate for the demands on those ships, the much larger and more intricate productions on *Oasis of the Seas* would require advanced intercom systems with expanded features and user controls. They had set a high bar to design nearly flawless entertainment experiences and they were determined to reach it.

The Intercom Solution

Choosing Clear-Com

Through the recommendation of two system integrators and their past history with Clear-Com, they knew that Clear-Com's intercom systems are reliable for coordinating their complex productions. Since Clear-Com was known as the most common and popular choice of intercom brands, Royal Caribbean's global staff was familiar with their intercom systems, as were their crews. Furthermore, the Clear-Com staff would be able to share their experiences and best practices gained from working with highly demanding applications from all over the world. Evidently, Vlassopoulos selected Clear-Com's voice communication solutions with full confidence.



Application Diagram

PRODUCT INFORMATION

Eclipse-Pico Digital Matrix

- Powerful connectivity options
- Intuitive user controls
- Eclipse Configuration Software (ECS)
- V-Series panels (12 or 24 keys) with 10-character display, eight shift pages, and listen again digital memory
- CCI-22 two-wire interfaces

FreeSpeak Wireless System

- License-free 1.9 GHz DECT operations
- Supports up to 10 antennas to create coverage zones
- Locates antennas up to 3,200 ft. from base station
- Two-channel wireless belt packs

Encore Partyline

- Unsurpassed group communication capabilities
- Superior audio clarity and reliable
- RS-602 wired belt packs

HME DX200 Wireless System

- License-free 2.4 GHz band
- BP200 wireless belt packs

Clear-Com's intercom technologies were installed throughout the Opal Theater, Studio B, Dome, Pool Deck, Sports Deck, Royal Promenade, and Aqua Theater, linking the production managers, lighting technicians, spotlight operators, safety divers, broadcast technicians and more under an integrated intercom platform. Because Clear-Com provided reliable, crystal-clear communications, they were able to expend less energy on communications management and focus their efforts and resources on producing quality television and theatrical performances.

Although Clear-Com's Encore partyline was familiar to the crew at Royal Caribbean International, the Eclipse-Pico and FreeSpeak wireless system were entirely new technologies that had been adopted to accomplish their grand aspirations for *Oasis of the Seas*. They were more complex and presented a new challenge for the entertainment and technical design team to master. Nonetheless, Rom Rosenblum, one of Clear-Com's Application Engineers, helped them interconnect the sophisticated technologies, programmed the systems for ease of use, and thoroughly trained the technical staff. Vlassopoulos affirms, "Clear-Com was definitely

the right technology partner. With the help of their ground-breaking intercom solutions and highly-skilled technical engineer, we were able to our vision into reality.”

Results

Today, Clear-Com has become the high performance intercom backbone for over 90% of Royal Caribbean International’s cruise lines. With Clear-Com, *Oasis of the Seas* is able to respond faster to real-time production challenges, work cohesively across the entire ship, and simplify workflow processes.



Wes Du Plooy, *Oasis of the Seas*' First Head Broadcast Technician, with FreeSpeak Beltpack and Antenna in the Royal Promenade

Faster Response to Shifting Production Demands

Since all Clear-Com systems have been integrated into a single, comprehensive intercom infrastructure, staff members can route multiple sources of program audio in real-time, control integrated external devices, such as lights, IFB cue systems, and more from any location where there is a PC with internet connection. The Entertainment and Technical Design Team can now respond faster to their evolving production needs, making changes to any of the systems from a central location instead of going to each production venue.

Wider Collaboration

Because FreeSpeak extended coverage to all production areas throughout the ship, the staff can always be in communication. The time spent traveling to find the point of contact has been eliminated and *Oasis of the Seas* has significantly lowered mobile phone bills by using their FreeSpeak wireless beltacks.

Increased Efficiency

With their feature-rich V-Series panels, the production team has a more successful dialogue with one another because they can turn up the volume in loud environments for greater clarity as well as record and replay the last 30 seconds of incoming calls. Additionally, the FreeSpeak wireless beltacks not only offer customized, private channels of communication, but also has cellular auto-roaming technology that continually detects and automatically selects the best connection. The exceptionally clear audio quality from the panels and beltacks coupled with tailored conversation channels eliminate confusion when resolving problems. Moreover, they facilitate a thorough exchange of information so that educated decisions can be implemented rapidly.

All in all, the Clear-Com products and technical support team have been major players in helping *Oasis of the Seas* carry out excellent performances in the theater, on the ice rink, or in the waters. It is no surprise then, that time and time again, those productions have been well-received by guests with nothing less than standing ovations.

Note: CellCom[®] and FreeSpeak[®] are different brands representing the same digital wireless intercom system (with minor technical differences). Due to trademark limitations, CellCom and CellCom Integra (formerly CellCom50) are only available in the U.S. and Canada; and FreeSpeak and FreeSpeak Integra (formerly FreeSpeak50) are available in all countries other than the U.S. and Canada.



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