

**CASE
STUDY**



**2016 The International
Dota 2 Championship**

Clear-Com Solutions Insure
Robust, Reliable, and Dependable
Communications

Background

The International Dota 2 Championships was held at the Seattle Center in Seattle, Washington, August 7th – 13th, 2016. The International brings together the world's top Dota 2 teams to compete for the Aegis of Champions. Thousands of people, both participants and spectators attend the event, which lasts six days.

Valve Corporation, who developed the game also hosts the event. To allow people around the world experience this spectacle, the event is broadcasted and streamed in English, Chinese, German, and Russian to millions of viewers.



Locations and Size of the Venue

The Seattle Center is a large multi-venue complex consisting of several auditoriums, theaters, and outdoor areas. The KeyArena, located on the western edge of the Center, is the “anchor” building for the event.

The KeyArena is an enclosed structure of 368,000 square feet. As configured for the Dota 2 event, it seats 10,500 people.

To the east of the KeyArena are the Fountain Lawns. The northernmost lawn contains the International Fountain, and the lawn area is 45,000 square feet in size. Directly to the south is the South Fountain Lawn, also known as the Fisher Lawn. It covers 29,000 square feet.

The Fisher Pavilion, which is just south of the Fisher Lawn, is an enclosed structure of 14,400 square feet.



All of these areas were occupied during the championships. All areas had to have reliable and rapid communications for staff members during the event.



Communications Challenges

The KeyArena and Fisher Pavilion have simple intercom systems that are maintained by the Seattle Center staff, but they were deemed inadequate for the Dota 2 event. The intercom is based on simplex two-way radios. The “push-to-talk” operation of simplex radios increases the delays in passing information among users. Action while the video games are underway can become fast and furious, so the need for reliable communications is critical.

Coverage of the KeyArena, the lawns, and the Fisher Pavilion had to be available at all times while the event was under way. The vast coverage area meant that wireless systems would be necessary for untethered communications, especially in the outdoor lawn area. Roving staff members in the KeyArena also needed to be able to move freely.

No full-duplex or “party line” communications are available within the installed systems operated by the Center staff. Promoters normally provide their own systems during their events.

The Intercom Communications Solution

ATK Versacom was chosen as the rental provider for the intercom systems. With over thirty years of experience in communications, ATK Versacom is fully equipped to solve client's communication challenges.

ATK chose Clear-Com's integrated FreeSpeak II wireless system with the Eclipse HX-Median system frame for the wireless needs. Four E-Que-HX Interface cards in an Eclipse-HX Median digital mainframe allowed the use of 26 FreeSpeak II distributed Transceiver Modules mounted in the KeyArena and the Fisher Pavilion, as well as the outdoor lawn areas. FreeSpeak II Antenna Splitters were used to connect the Transceiver Modules to the system frame. The Splitters in the lawn areas connected to the system frame over SFP fiber to extend the distance of the Transceiver Modules from the base station.



These configurations allowed the use of 18 FreeSpeak II wireless belt packs. Roaming staff members had full duplex everywhere thanks to the use of the active transceiver antenna modules.

Inside the KeyArena were dozens of video screens, specialty mood lighting controllers, sound systems, and other electronic devices. Many of these are electronically noisy and produce unwanted electrical artifacts that can be a problem for analog communications.

For this reason, ATK Versacom recommended the HelixNet Digital Partyline Intercom System.



Due its all-digital design, HelixNet is impervious to noise, hum, or other problems that might exist in analog-based intercom systems. HelixNet also does not generate any unwanted electrical artifacts within itself, so the intercom system did not disrupt any of the electronic products in use by the gamers.

ATK supplied seven HelixNet HMS Main Station and 65 HBP digital wired belt packs. Many of the HelixNet users were assigned tasks that required them to use the system during an entire day. The high-quality audio made sure that user fatigue was not an issue for the staff.

An HME PRO850 wireless UHF system was also used inside the KeyArena, with 12 HME PRO850 belt packs. This allowed easy roaming for staff members who needed to move about the inside of the KeyArena but had no need to venture outside onto the other venue areas.

ATK Versacom Personnel Support All Systems

ATK Versacom Show Technician Juan Gallardo was the lead person for the installation. ATK Versacom's Thomas Ryan and Brooks Schroeder assisted Juan on-site for the event.



"The biggest challenge was the sheer size of the area to be covered," said Gallardo. "With almost half a million square feet to serve, and over ten thousand people in attendance, the host of the event had a large staff who were roaming across the various places. Any lack of coverage would have been disastrous. The FreeSpeak II system, with its remote antennas and reliable fiber-based connections to the outside areas, insured that mission-critical communications remained functional at all times."

Staff members for the event were able to communicate easily and quickly, thanks to Clear-Com's full duplex wireless and wired systems.