



Accelerates Communications Performance

Talladega, Alabama



When NASCAR needed a faster, more efficient communications system, they turned to Motorola.

The Talladega Superspeedway covers 3,000 acres, and is a Super Bowl®-sized NASCAR event that attracts 150,000 on-site spectators and millions more watching at home.

NASCAR manages over 1,200 races every year on 200 race tracks in Canada, the United States, and Mexico, and each location poses its own challenges in terms of radio traffic and interference. These challenges are magnified when systems must be deployed quickly, every week, over a wide geographic area. Pit crews, drivers, officials, and all other members of the internal and external organization must have a communications system that supports flawless connections, every time. When seconds count, there is no room for missed or delayed communications; speed and voice clarity are everything. NASCAR recently realized that their older system was just not keeping up, and there's no doubt that providing secure and reliable communications for an event like this can seem overwhelming.

Each NASCAR event involves up to 40,000 people, with approximately 80 officials presiding over two races, each with 43 cars, and each with teams of up to 30 people. In addition to NASCAR drivers, maintenance personnel, and pit crews, each race requires spotters, timing and scoring groups, as well as fire and rescue units. Also working on-site are emergency personnel, food vendors, ticketing and parking attendants, television and radio crews, and public relations representatives. Because NASCAR stages many regional events, several outside organizations need to be integrated into the communications loop. The sheer number of radios and talk groups that have to be moved and set up very quickly is enough to tax any radio system, and NASCAR's old system was clearly over-taxed.

NASCAR examined all options during a six-month intensive study. Digital radio seemed to be the best route to achieving the key requirements surfaced in this study, which included NASCAR's need to:

- Coordinate large numbers of radios
- Ensure absolute audio clarity
- Maintain consistent, reliable communications
- Have a radio that was durable enough to withstand a rough environment

After assessing all the options, NASCAR determined that Motorola's MOTOTRBO professional digital two-way radio was the right system for their needs.

NASCAR: MOTOTRBO Deployment At-A-Glance

Motorola User:
NASCAR

Project Location:
Talladega, Alabama

Solution Features:
Efficient use of spectrum,
multiple talk groups,
voice clarity, dual
digital-analog operations

“We have to make sure we’re communicating quickly and concisely. Through MOTOTRBO, we’re able to do our jobs a whole lot better than we have in the past.”

Kerry Tharp, Director of Communications, NASCAR



MOTOTRBO GETS THE GREEN LIGHT

MOTOTRBO digital radio precisely met each of NASCAR’s four requirements.

To coordinate large numbers of radios, the MOTOTRBO system is engineered to maximize use of the radio spectrum. The power of MOTOTRBO is leveraged by NASCAR to bring together multiple talk groups who work all over the property and need to be in full communication at all times. MOTOTRBO is also used to connect spotters, emergency medical technicians, crews in the garage and pit areas, as well as security and all other service and support personnel required to help each race run smoothly. MOTOTRBO’s ability to work in either digital or analog mode makes it possible to seamlessly integrate older radio systems that may not yet have migrated to digital.

To ensure absolute audio clarity, MOTOTRBO’s noise-canceling technology enables headsets for racing officials to perform at higher levels. Added to inherently clearer digital communications, the noise-canceling capabilities of MOTOTRBO technology supports sharp and clean communications in even the harshest environments. If MOTOTRBO users can communicate clearly at a noisy racetrack, it’s easy to see how well these digital two-way radios would perform in most workplace environments.

To maintain consistent, reliable communications, MOTOTRBO’s digital technology makes possible extended battery life so that all users can easily connect throughout an 8-to-12-hour workday and then keep communicating, even when races run longer than scheduled. The MOTOTRBO system is also less susceptible to static and interference, and when second-by-second communication is demanded, digital provides the proven reliability NASCAR needs.

Durability is ensured with MOTOTRBO radios that deliver the highest quality of communications, even in harsh environments where they’re frequently dropped and exposed to dust, rain, grease, oil, and solvents. MOTOTRBO is designed to meet U.S. Military Standards C, D, E, and F, as well as IP57 for submersibility in water. When properly equipped with a Motorola FM-approved battery, MOTOTRBO radios have been certified by FM Approvals in accordance with Canada and U.S. codes to be intrinsically safe.

“With the old system, there was a lot of interference. Sometimes you couldn’t hear at all because of static. Now, with MOTOTRBO, it’s much clearer.”

Steve Lowery, Chief Scorer, NASCAR



THE SHIFT TO DIGITAL

NASCAR officials have enthusiastically embraced MOTOTRBO, and they applaud the benefits it has brought to the NASCAR experience.

Smooth Management of Communications Traffic **MOTOTRBO “does a super job for us,” according to Kerry Tharp, Director of Communications, NASCAR.**

“You have to communicate pre-race, during the race, and most importantly for us, post-race because when the race is over, that’s when our media operation kicks in for us full-bore. We bring in our top three drivers for interviews; we bring in our winning driver to the victory lane, and we also check in on the garage to make sure that post-race is going along as it should. We have to make sure we’re communicating quickly and concisely. Through MOTOTRBO, we’re able to do our jobs a whole lot better than we have in the past.”

A Clear Road for Communications

Digital provided a measurable improvement over NASCAR’s old system, which sometimes had a slower response time. “MOTOTRBO has taken NASCAR to a whole new level.” Steve Lowery, Chief Scorer, NASCAR, explains, “With the old system, there was a lot of interference. Sometimes you couldn’t hear at all because of static. With MOTOTRBO, it’s much clearer.”

Consistency and Reliability **You’d Expect from a Winner**

According to David Hoots, Managing Event Director, NASCAR, one of the most important benefits is “extended battery life because some of our days are extremely long. We have to be able to communicate consistently and reliably. MOTOTRBO has done a super job for us.” Hoots adds that MOTOTRBO is the first step toward an even more comprehensive communications system: “We took the opportunity to start with a very solid foundation and we will grow with the capabilities the radios offer. With a digital system, we’re going to reap the benefits for years to come.”

Robust Enough for the Toughest Environments

The NASCAR study, Hoots recalls, determined that the organization needed “one clear and uninterrupted communication system, and because we move from venue to venue, we’re faced with a big challenge.” The robust, durable and adaptable MOTOTRBO system was able to move from location to location – over 56 events every year, almost every month of the year – for quick deployment and certain performance. “Reliability,” says Hoots, “is of utmost importance. We cannot have a product that is going to fail. We must have the most robust system possible, so MOTOTRBO is the right system for us.”

According to Michael Helton, President, NASCAR, “Fans have become interested in the entertainment aspect of listening in, so we still want an analog system going out for fans who still use analog radios.” The ability of MOTOTRBO to support digital and analog communications made it the perfect selection for this blended environment that had to accommodate fans in the stands who want to scan for instant updates using older analog radios.

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UNDER THE HOOD: MOTOTRBO TECHNOLOGY

Twice the Capacity

MOTOTRBO is able to manage large numbers of radios by utilizing TDMA – time division multiple access – which divides the channel into time slots for greater spectrum efficiency. TDMA enables each single repeater to do the work of two repeaters for enhanced call management with private, group, and system-wide calling capability.

Digital Means Clarity

MOTOTRBO supports audio quality with digital clarity and noise-canceling technology so that everyone is able to connect with one another and communicate more efficiently. MOTOTRBO radios contain a digital signal processor (DSP) that fine-tunes the audio. When a user connects an IMPRES™ intelligent audio accessory to a MOTOTRBO radio, the accessory provides the radio's DSP with a unique set of audio parameters to shape the microphone and speaker frequency responses, ensuring the maximum clarity, volume, and intelligibility of each communication.

Batteries Go Farther on a Single Charge

MOTOTRBO is able to maintain consistent, reliable communications. All digital radios provide improved battery life, and because TDMA digital systems utilize batteries more efficiently, users have received up to 18 hours of operation after quick-charging a standard nickel metal hydride battery. Talk-time is now extended and personnel spend less time returning to base to recharge their radios or pick up fresh batteries.

Robust Enough to Take on the Road

One key advantage of MOTOTRBO is that it's designed to be packed up, moved to a new location and set up, only to be taken down days later and moved again. To withstand that kind of constant use, a radio has to be strong, and MOTOTRBO has proven to be very strong, robust, and durable.

For additional case studies, visit Motorola.com/MOTOTRBO.



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