



Transmission Solutions

Complete End-to-End Transmission Systems
for Television and Radio



ONE Company. ONE Direction. The Future.

Thriving During Uncertainty and Change

Broadcasters and broadcast network operators face an unprecedented scope of issues, change and uncertainty. Increasing global competition. New technologies and business models for content distribution. More complex modulation approaches and diminished pools of skilled RF engineers and technicians. Skyrocketing costs of electricity.

As broadcasters around the world tackle these challenges, they're turning to the ONE company with the scale, technology, solutions, quality, reliability and customer support to help them come out ahead of the competition — Harris Corporation.



From high-power AM transmitters in Algeria and DAB+ services in Australia, to mobile TV services in the United States and comprehensive infrastructure rebuilds in Romania, Harris offers broadcasters the cost-saving solutions that companies need to thrive in the 21st century. As the only global company with products for virtually every broadcast band and modulation, Harris offers broadcasters solutions tailored to their unique requirements.

Designing Transmitters for Years of Reliable, Cost-Effective Service

For years, radio and television broadcasters approached their transmission requirements with a similar set of technologies and approaches. Often a new radio or TV transmitter could be installed with the confidence that the technology requirements would be the same for decades, and a quality transmitter could remain in service for 20, 30 or more years.

Today, broadcasters are migrating to digital broadcasting systems — and the standards and technologies are changing rapidly. For broadcast transmitters to provide long-term service, they should be easy to upgrade to the newest modulation version — even supporting total software change-outs from one standard to another.

Successful transitions from analog to digital transmission, and the deployment of mobile TV and other multimedia networks, can require scores of transmitters in greatly varying sizes and power levels, challenging the support logistics and expanding the costs of installing and maintaining transmitters. At the same time, broadcasters need transmission systems that operate more efficiently, for lower cost of operation and a more eco-friendly approach.

	BAND	FREQUENCY	POWER LEVELS
Radio	AM	529 – 1705 kHz	1 kW – 2,000 kW
	FM	87.5 – 108 MHz	50 W – 80 kW
	DAB Band III	168 – 242 MHz	40 W – 10 kW
	DAB L-Band	1450 – 1492 MHz	25 W – 1.2 kW
Standards ▶	■ AM ■ DAB/DMB ■ DRM ■ FM ■ HD Radio		
Television	Band I VHF	47 – 88 MHz	30 W to 120 kW
	Band III VHF	168 – 242 MHz	30 W to 120 kW
	UHF	470 – 872 MHz	10 W to 60 kW
	L-Band	1452 – 1492 MHz	30 W to 1.2 kW
Standards ▶	■ ATSC ■ ATSC-M/H ■ CMMB ■ CTTB ■ DMB ■ DVB-T/H ■ FLO ■ ISDB-TB ■ NTSC ■ PAL ■ PAL/M ■ SECAM		

With the largest installed base, the broadest technology range, the largest global transmission business and the greatest selection of software-upgradeable, power-friendly products, Harris offers the solutions and capabilities you need to thrive for years to come.

Solutions for All Global Television Standards

Harris offers television and multimedia broadcasters solutions that are easy to install and maintain, and cheaper to operate. With the Apex M2X™ multimedia exciter technology at the core of our Maxiva™ and Platinum™ product families, Harris offers VHF, UHF and L-Band broadcasters the assurance of reliable operation and outstanding operating efficiency. The Apex M2X technology is designed for change, adapting easily via software downloads from one modulation version to another, such as from DVB-T to DVB-T2 and from ASTC to ATSC M/H, while also supporting transitions from analog to digital modulation.

Our new Maxiva and Platinum transmitters address a wide range of power levels — making sparing and support logistics easier. These products also feature market-leading Harris PowerSmart™ technology — offering greater power density for smaller space requirements, and lower power requirements for lower cost of operation. When Harris products are identified with the PowerSmart label, you have the assurance of 50-volt LDMOS device technology that delivers a dramatic increase in power density and energy efficiency.

PowerSmart 

Look for the PowerSmart label for maximum power and efficiency in your Harris transmitter.



Apex M2X

Featuring software-defined modulation standards and world-proven linear and nonlinear equalization, the Harris Apex M2X multimedia exciter offers broadcasters a high-performance, high-power platform for virtually every global analog and digital television standard.



Maxiva ULX

Maxiva ULX transmitters offer high power, small footprints and reliable broadband UHF operation in virtually every analog and digital television format, at power levels up to 18.9 kW COFDM and analog levels up to 62.8 kW.



Maxiva UAX

For power requirements up to 2 kW COFDM and 3 kW analog, Maxiva UAX transmitters provide broadband UHF solutions from established analog modulation approaches to emerging digital multimedia and mobile standards.



Platinum VLX

Platinum VLX transmitters deliver outstanding power density and reliable operation with liquid cooling for band III VHF analog or digital operation, at up to 9.6 kW COFDM and 14 kW analog in a single cabinet. Multiple cabinets can be combined for higher power levels.



Platinum VAX

Supporting COFDM operation up to 10 kW and analog powers up to 15 kW in VHF band III, Platinum VAX transmitters offer outstanding power efficiency and operating flexibility for analog and digital networks.



LAX

Small footprints, high power density, software-driven exciters — the LAX has it all, delivering L-Band COFDM performance up to 1.2 kW.

The Broadest Range of Radio Transmitters, for Every Standard

Since we started serving the emerging radio broadcasting industry in 1922, Harris has provided a growing range of products. Today, leading broadcasters turn to us for solutions that include transmitters, audio consoles and networking systems, studio-to-transmitter links and data multiplexing solutions.

Only Harris supports the AM, FM and DAB radio bands with an outstanding range of analog and digital transmitter platforms. From low-power FM to very-high-power AM, Harris transmitters operate reliably and cost efficiently in radio networks around the globe.



DAX

For analog, DRM or HD Radio performance in a compact package, Harris DAX™ transmitters provide superior performance at output powers from 1 kW to 6 kW.



DX | 3DX

With models from 10 to 2,000 kW, Harris DX® and 3DX® transmitters operate reliably in analog, DRM and HD Radio applications around the world.



Platinum VLX | VAX | LAX

Harris transmitters have powered many of the world's leading DAB networks, and the new Platinum VLX, VAX band III and LAX L-band transmitters are ideal for emerging DAB and DMB multimedia applications.



FlexStar HDX

The elegance, reliability and capability of Harris radio modulation solutions are typified in the FlexStar® HDX exciter, which brings unrivaled performance and solid features to HD Radio™ applications as well as standard analog FM.



ZX transmitter

Harris ZX® FM transmitters bring the legendary performance and reliability of the Platinum Z™ transmitter to a compact platform at operating powers up to 5.5 kW.



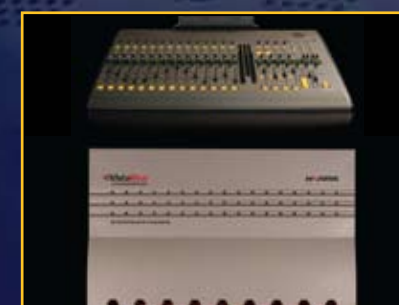
Platinum Z

The world's most popular FM transmitter, with more than 3000 units shipped at power levels from 5.5 kW to 40 kW, the Platinum Z and Z-HD+ series are ideally suited for HD Radio operations.



HPX

The Harris® HPX® high-power tube transmitter delivers up to 80 kW for FM analog and HD Radio broadcasting in a compact design that offers greater reliability and power efficiency than solid-state transmitters.



VistaMax

The broad range of Harris audio console solutions for radio includes the RMXdigital® and NetWave® consoles and the VistaMax™ networkable audio management and routing system.



Intraplex HD Link

The renowned Intraplex® product family provides an outstanding range of wired and wireless IP and audio networking solutions for radio broadcasters that make it easy to manage multiple transmitters and studios. For digital radio operations, Intraplex now offers the new 950 MHz digital STL, HD Link™.

Great Broadcasters and Great Harris Customers

Thriving and growing in a competitive global economy requires more than strong products and comprehensive support. It also requires the opportunity to serve great customers. Over the years, Harris has had the privilege of working closely with many of the world's premier broadcasting organizations as they have built, extended and rebuilt their broadcast networks.



USA Digital Transition

When more than 1,500 U.S. television broadcasters completed their transition to digital services in 2009, Harris played an essential role. Over 50% of the U.S. digital TV stations on air employ Harris transmitters, and our manufacturing facility, project management and support teams — the world's largest in each of these areas — ensured that these broadcasters made their deadlines. In the U.S., transitions continue, as Harris equips many of these stations for mobile broadcast services.



TV Anhanguera

As the one company offering a full line of broadcasting services and equipment, Harris has partnered with companies like Brazil's TV Anhanguera to provide servers, routers, branding, compression, signal processing and automation systems for their transition to digital and mobile broadcasting. Harris also has been privileged to provide them with ISDB-Tb transmitters. TV Anhanguera joined many of the leading broadcasters in Brazil, including Canal Futura, TV Bandeirantes, TV Morena, TV Centro America and TV Tem, in selecting Harris transmitters for their digital transition.



Saudi Arabia Ministry of Culture and Information

For many broadcasters faced with modernizing their networks or managing their transition to digital services, the local support capability of the Harris dealers and the proven experience of Harris in managing large infrastructure rebuilding projects has been particularly essential. Saudi Arabia's Ministry of Culture and Information turned to Harris solutions for their modernization project, selecting 21 AM radio transmitters, 40 FM transmitters and 36 TV transmitters.



S.N. Radiocomunicatii S.A.

S.N. Radiocomunicatii S.A., Romania's state-owned broadcast organization, looked for a strong partner to plan and implement a comprehensive \$115-million rebuild of its radio and TV transmission network. It selected Harris, and over a three-year period Harris installed 28 low-power (10 to 50 kW) AM transmitters, eight high-power (200 and 400 kW) AM transmitters, 106 FM radio transmitters and 45 TV transmitters at sites throughout Romania.



Telediffusion D'Algerie

When the Algerian government's Telediffusion D'Algerie (TDA) needed to completely rebuild two high-power medium wave transmitter facilities, it selected Harris for comprehensive, turnkey project implementation. Harris provided two 600-kW AM transmitters, towers and antenna systems and complete project management services for a complex \$15-million project.



Broadcast Australia

Harris has long been the partner of choice for organizations introducing totally new digital services. For example, Broadcast Australia Pty Ltd selected Harris DAB transmitters to launch the first DAB+ digital radio services for the Australian Broadcasting Corporation. With power levels from 125 W to 10 kW, the Harris DMB 670 offered Broadcast Australia an effective way to meet its network design requirements while benefiting from a common transmitter platform across its sites.

With its global reach and local support, Harris offers broadcasters the services they need to plan, implement and maintain efficient, reliable broadcast networks. From comprehensive product training and project management services, to spares, repairs and product update offerings, Harris matches the industry's broadest product range with an equally effective set of support options. When planning your next transmission project, make Harris your first choice. With our world-class solutions and unmatched support, we'll be there for you for many years to come.

ONE Company for Workflow Solutions Throughout the Media Chain

Harris is the ONE company delivering interoperable workflow solutions across the entire media delivery chain — providing today's broadcaster with a single, integrated approach to capitalize on the benefits of IT and mobile applications. By providing unparalleled interoperability across our product portfolio, Harris is able to offer customers integrated solutions that improve workflows, save money, enable new revenue streams and provide a migration path to emerging media business models. To meet the evolving needs of broadcast, distribution, government agencies and entertainment businesses, Harris is the ONE answer for change.

Service and Support

At Harris, we are committed to customer service excellence. It is our goal to provide the highest level of support by applying a simple rule: We take ownership of helping our customers succeed. Our support teams consist of innovative technical experts who support all situations regarding product performance, integration and operational processing. We are adept at providing proven solutions, making workflows better and ensuring reliability of the product and system. At Harris, our experienced and dedicated teams stand ready to help you meet your goals for premium product performance, 100% up-time and reduced maintenance investment.

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For more information on the complete line of radio and television transmission products, please visit www.broadcast.harris.com.

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