ZITHA TECH SPECIALTY CABLES (Pty) Ltd

Low-loss low-voltage complete sets of equipment for broadcasting transmission



Overview

Complete AM/FM/TV Transmission Equipment Supply FMUSER supply for high-end AM/FM radio transmitter, shortwave transmitter, analog & digital TV transmitter.

Key Takeaways

Complete low-loss, low-voltage broadcasting solutions include compact FM/TV transmitters, high-efficiency amplifiers, antennas, and studio-transmitter link systems designed for turnkey installation and reliable operation.Key Components of a Complete Set



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1. Transmitters: Modern low-voltage transmitters are available in low, medium, and high power ranges, from 30W to over 10kW EIRP for FM, and from 5W to 10kW for TV broadcasting . These units often integrate exciter and RF amplifier modules in a compact enclosure, providing ultra-low noise, high stability, and minimal frequency drift. Advanced models feature software-defined modulation, supporting multiple standards (DVB-T, DVB-T2, ATSC, ISDB-Tb) and remote configuration via TCP/IP or SNMP . 2. Antennas: High-gain antennas are critical for low-loss transmission. Options include dipole, ground plane, circularly polarized, panel, slot, and Yagi antennas. Proper antenna selection ensures maximum coverage and minimal VSWR, often achieving values below 1.2 across the FM band . 3. Studio-Transmitter Links (STL): STL systems provide reliable point-to-point audio or video transmission. Solutions include microwave STL, IP-based STL, and dedicated STL antennas, ensuring low-latency, high-fidelity signal delivery from the studio to the transmitter site . 4. Amplifiers and Power Efficiency: Modern amplifiers use XET (eXtreme Efficiency Technology) or LDMOS devices for high RF efficiency (>50%) and overall system efficiency up to 42–96%, reducing energy consumption and heat generation . Hot-swap power supplies and responsive cooling systems allow maintenance without interrupting broadcasts. 5. Modulators and Signal Processing: Integrated modulators handle frequency modulation, audio processing, and noise reduction, ensuring clear, distortion-free transmission. Some systems include built-in audio limiting and stereo processing, eliminating the need for separate external equipment . 6. Remote Management and Monitoring: Complete sets often feature web-based interfaces for real-time monitoring, alarm notifications via email or messaging apps, and remote firmware updates, enabling efficient operation and quick troubleshooting .

Advantages of Low-Loss, Low-Voltage Systems

• Energy Efficiency: Reduced power consumption with high-efficiency amplifiers and optimized cooling.

• Compact Design: Rack-mounted or modular units save space and simplify installation.

• Reliability: Redundant modules, corrosion protection, and hot-swap components ensure continuous operation.

• Scalability: Systems can be upgraded from low-power to high-power configurations without major infrastructure changes.

• Ease of Use: Intuitive interfaces and software-defined controls allow flexible operation and minimal technical intervention.

Recommended Providers

• FMUSER: Offers turnkey FM/TV station packages, including transmitters, antennas, and STL systems .

• DB Broadcast: Provides compact, high-efficiency TV transmitters with XET technology and software-defined modulation .

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• AXON / Tekobroadcast: Low-power FM transmitters (30W–5kW) with integrated exciter and RF amplifier, optimized for low-loss and low-voltage operation .

• Aareff: High-power FM systems with complete antenna and transmitter packages, suitable for long-range coverage . These solutions are ideal for small to medium radio or TV stations, community broadcasting, or professional setups requiring low-loss, energy-efficient, and fully integrated equipment.

Article Content

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TV Broadcasting Equipment

DB ofers a full range of multistandard software defined analog or digital or dual-cast television transmission and processing

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Discover broadcasting equipment, FM transmitters, antennas, and studio gear for your radio station. Shop

FM Radio Studio Packages

A wide range of complete studio packages of different types and sizes, to suit every broadcaster. Mainly designed for medium/small

Complete FM Radio Station

Get your complete Radio station package, easy to install and ready to go on air! Here you find different turnkey radio solution, set

All Equipment for FM and TV Broadcasting Stations

Professional Audio, Studio and Transmission Equipment for Radio Stations and Manufacturers

100kW EIRP Complete FM Radio Transmitter Broadcasting System

Achieve 100kW EIRP with just 8kW transmitter power! Discover the modular 8x 1kW amplifier architecture designed for maximum FM

Low power FM radio LPFM | LPFM Kit

OMB Broadcast is a provider of professional broadcasting equipment, offering transmitters, antennas and complete systems that can

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1W EIRP Complete FM Radio Transmitter Broadcasting System

The following range chart is derived from real-world customer reporting, providing a reliable baseline for expected broadcast

Digital TV Broadcasting Equipment Guide

TRedess produces equipment for digital TV broadcasting, including their Compact Series of low-power transmitters, gap fillers, and

Essential Equipment Required in Every Broadcast Facility

Broadcast facilities serve as the backbone of the media industry, enabling the effective

Low Power FM Radio Equipment Guide

The final section, “Notes,” has further information about transmission power, used equipment, time-sharing stations, and how to get

Essential Radio Broadcasting Equipment to Know for Radio Station

Why This Matters Radio broadcasting equipment isn''t just a checklist of gear to purchase—it''s a signal chain where every component

Analysis of complete sets of high and low voltage electrical equipment ...

Complete set of high and low voltage electrical equipment As an important type of electrical device, complete sets of

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What is high voltage and low voltage complete set

A high voltage and low voltage complete set refers to protective, switching, and control devices as an integrated

How to Choose Radio Broadcasting Equipment: A Complete Buyer''s

When choosing radio broadcasting equipment, prioritize reliability, transmission range, and regulatory compliance. For

Radio Broadcast Transmission Equipment Overview

Broadcast transmission equipment refers to the complete set of devices that process, amplify, and radiate electromagnetic signals

Top Content on LinkedIn

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The Low Power FM or LPFM service is ideal for local communities, educational institutions, and non-profit organizations, allowing

Complete sets of equipment Archives

GHS168 (MNS) Withdrawable Low Voltage Complete-set Switchgear Equipment GHS168 is our company absorbing foreign

BETS-5 — Technical Standards and Requirements for AM Broadcasting ...

Broadcasting Equipment Technical Standard BETS-5, issue 1, Technical Standards and Requirements for AM Broadcasting

Complete Radio Studio Equipment List 2023 (and How to Choose)

Take your radio broadcasting to the next level with our Complete Radio Studio Equipment List 2023. In this ultimate guide, we help

High

The POWGRID-S series three-cabinet products are low-voltage complete sets specially developed by Chint Electric for the three

Low Power FM Transmitters

High performances frequency agile 87.5-108 MHz Broadcast Stereo FM transmitter, 0-500 W out adjustable, synthesized, agile

Radio Station Equipment

In this page, we would like to show you the type of broadcast equipment that you need to set up a

Low-power broadcasting

Low-power broadcasting is broadcasting by a broadcast station at a low transmitter power output to a smaller service area than "full

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Radio transmitter design

A radio transmitter design has to meet certain requirements. These include the frequency of operation, the type of modulation, the

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NAB FASTROAD White Paper_FINAL_020311.doc

This history has been combined with an understanding of current analog and digital transmission technology and methods to provide

Radio Broadcasting Equipment

Very high eficiency, great robustness, low maintenance costs, compact design and complete and intuitive web control are just some

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

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