

HARRIS®



DMB 670 VHF

Band III DAB/DMB Transmitter for Worldwide Digital Standards

DMB 670 VHF

The Harris® DMB 670 VHF solid-state transmitter provides digital broadcasters with an advanced platform—incorporating the field-proven DAB 665 exciter and control system—that delivers world-class performance, efficiency and reliability.

The DMB 670 builds on the success of the DAB 665 exciter with a line of amplifiers based on the Platinum Z™ FM transmitters. The DAB 665 low-power unit contains complete DAB/DMB signal processing according to the EUREKA Project 147 specifications from the ETI input to the RF output. The low-power unit contains the integrated transmitter control and monitoring system and communicates to the power amplifier bays in the system via RS-485. The amplifier bays, constructed for reliability, easy operation and maintenance, hold a range of RF modules for prefilter powers from 40 W to 10 kW.

Why Harris?

Launching a new digital service is a significant investment in often unfamiliar technology. Harris is the industry-leader in digital transmission solutions and understands the technological challenges of digital broadcasting. Harris has supplied technologies for major DAB and DMB network rollouts and trials since the beginning—longer than any other company. With the DAB 670—and all Harris broadcast products—your investment is backed by years of experience delivering world class digital performance.

Harris offers full system design as well as support options from standard telephone technical assistance and parts 24 hours a day/seven days a week, installations, training and field maintenance.



Features

- Best-in-class power efficiency for low operating costs
- High power density
- Compact, lightweight, space-saving design
- Cost-effective, reliable construction
- Digital power levels from 40 W to 10 kW
- Proven DAB 665 multi-standard exciter
- All-digital linear and nonlinear precorrection
- Fully broadband modules 168-242 MHz
- 1:1 PA module to power supply redundancy
- Hot-pluggable linear RF amplifier modules
- Hot-pluggable auto-ranging power supplies
- Automatic restart after AC mains interruption, returns to previous operational mode
- Front-panel control, monitoring and in-depth diagnostics
- Optional Web-enabled remote graphical user interface (GUI)

Reliable, Efficient, High-Performing Digital Technology

DMB 670 transmitters leverages the power supply, cooling, control and RF module systems of the Platinum Z and ZX® series—popular solid-state FM transmitters used worldwide. Combined with Harris linear and digital systems expertise, the DMB 670 transmitter provides long-term reliability, performance and key digital technology that reduce acquisition and operating costs.

Benefits

Efficiency

The DMB 670 is the most efficient Band III transmitter available today. The DMB 670 provides estimated annual savings of up to \$10,000 on a 2 kW system, based on \$0.15/ kWh, reducing the total cost of ownership by \$100,000 over the first 10 years of operation.

Compact Footprint

The compact DAB/DMB transmitter—a 78 percent size reduction at 2 kW, the most compact on the market—reduces space requirements, making it ideal for crowded, shared transmitter sites.

High Power, Simple Serviceability

The DMB 670 achieves market-leading power levels (up to 10 kw) without the need for complex liquid cooling systems. Coupled with reliable distributed control architecture, the DMB 670 is simple to install and service and provides reliability and soft failure operation.

Enhanced Uptime

Hot-pluggable redundant power amplifier (PA) and universal power supply (PS) modules make on-air servicing easy, eliminating service interruptions.

Lightweight for Easy Service and Shipping

The DMB 670 is lightweight, reducing the costs of shipping and material handling. The universal power amplifier modules (broadband from 168 to 242 MHz - 4.5 kg) and power supply modules (auto-ranging 90-264 VAC, 47-63 Hz- 2.5 kg) are easy to ship overnight/same-day from centralized depot, enable cost-effective spares holding and eliminate two-person lift requirements for routine maintenance.

Upgradeability

The DMB 670 features the DAB 665 exciter and control platform, for seamless upgrade into a new platform, minimizing costs of training, spares and programming of network control and monitoring.

Field Serviceable

Supports simple replacement of pretuned amplifier pallet, eliminating the need for complex tuning after FET replacement, reducing maintenance costs

Common Parts

The entire line of DMB 670 transmitters uses the same major parts from the highest power, air-cooled transmitter to the compact, low-power systems, for simple, straightforward parts sparing.



Global Monitoring and Control

The DMB 670 transmitter uses a central control system housed in the DAB 665 low-power stage (exciter/drive unit). The main controller communicates with the modules of the low-power stage through an internal I2C-bus and to one or more external high-power amplifier bays (PA modules) via an RS-485 connection.

The liquid crystal control screen displays operational parameters and enables easy diagnosis of any equipment problems. In addition to local control, options allow the DMB 670 transmitter to be controlled from anywhere in the world via RS-232 or TCP/IP via a telecom or network connection with password protection.

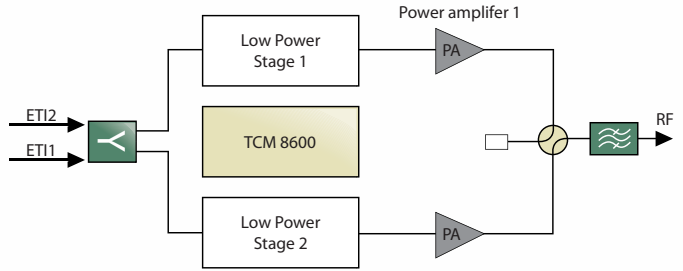
Remote Communication

Additional remote interface options are also available.

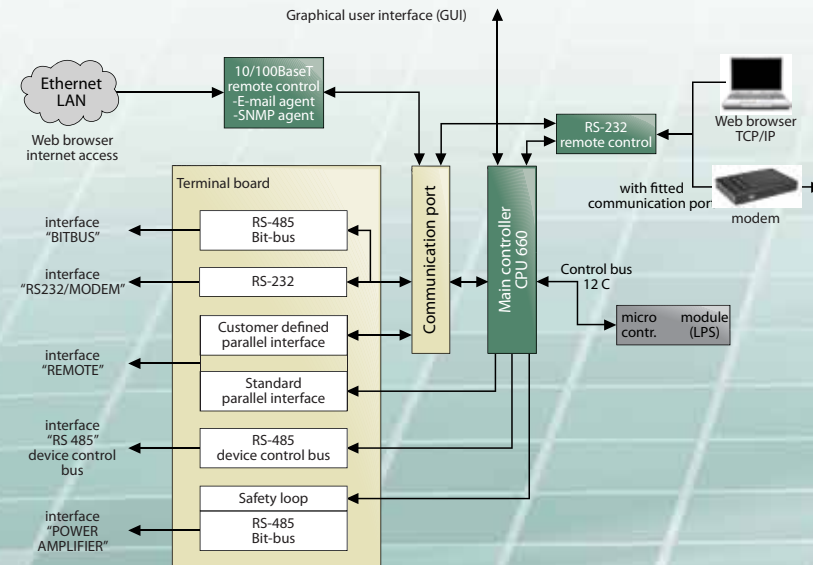
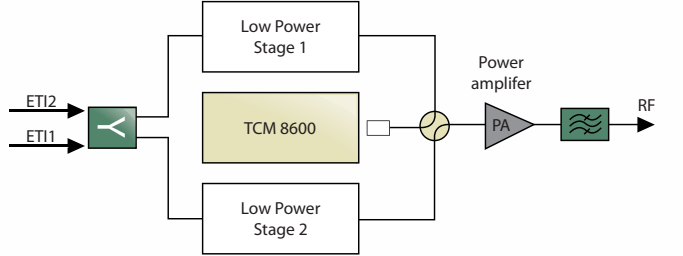
- With the graphical user interface (GUI), enter operation parameters, query simple reports and measured values and view transmitter operation problems.
- Ethernet network connection RJ45 (10/100BaseT) with TCP/IP protocol
- RS-232 for modem/PC connection with TCP/IP protocol (low-power stage front panel and rear panel)
- Remote alarms generated automatically in the event of a fault and sent via GSM (SMS format) or modem (ASCII format). If a network connection is present, the alarms can be sent by SNMP or email.
- Arbitrarily assign contacts of the parallel interface for special needs
- RS-232 as mod-bus (ASCII protocol) or bit-bus-IEC864-2 available on request

To support greater redundancy, the TCM 8600 Terrestrial Central Monitoring unit supports a range of backup options. In dual-drive systems, the TCM 8600 monitors the low-power unit and switches control and RF feeds. In 1+1 and full N+1 installations, the TCM 8600 monitors each transmitter level system and controls RF switching.

1+1 Configuration



Dual Drive Configuration



DMB 670 125
DMB 670 250
DMB 670 500

DMB 670 1000*
DMB 670 2000*

DMB 670 4000*

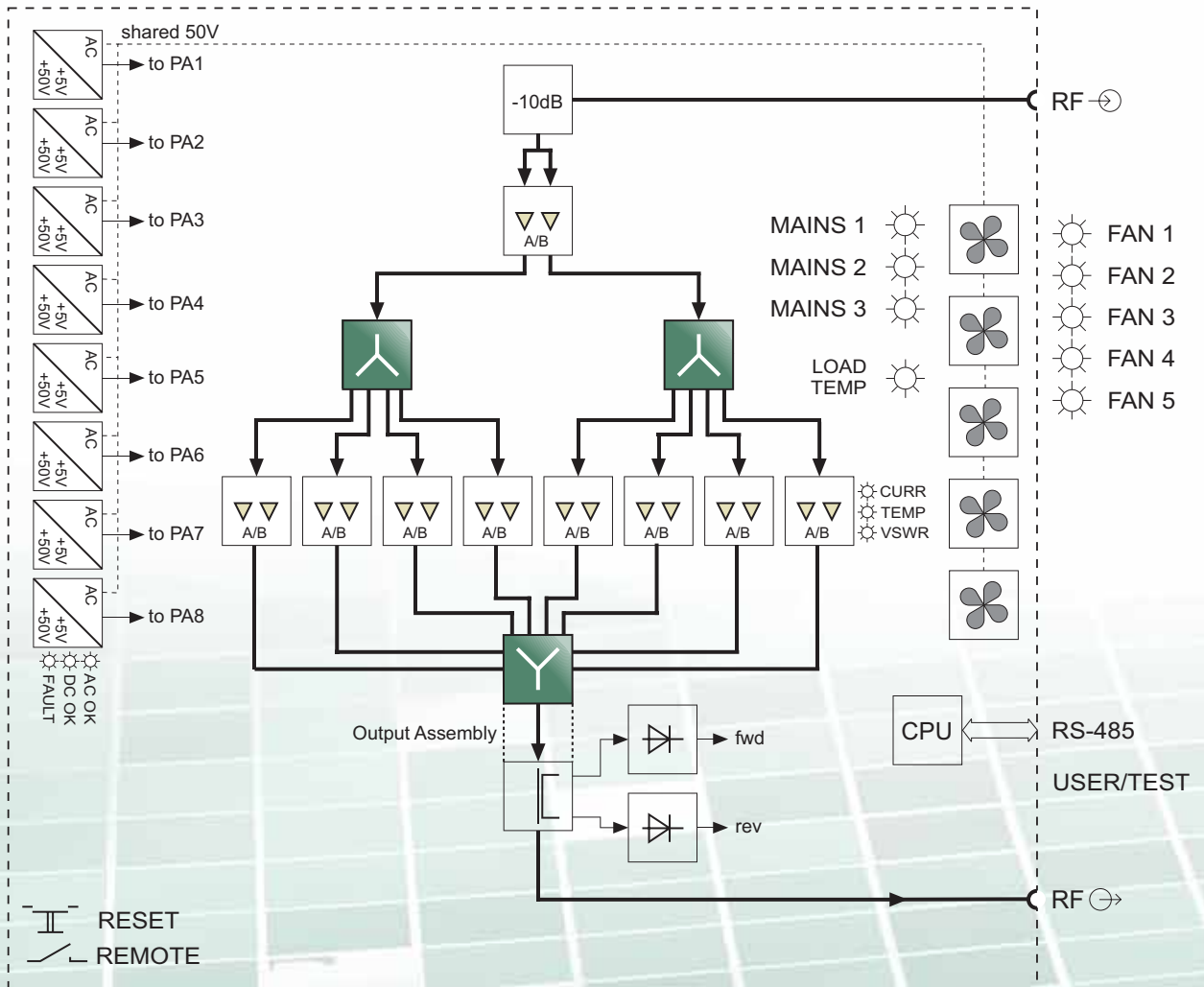
DMB 670 6000

DMB 670 8000*



Optional rack integration is available for DMB 670 -- 125, 250, 500, 1000 & 2000 * Shown with dual drive option

DMB 760 Model	125	250	500	1000	2000	4000	6000	8000
Power before filter-watts	35 to 160	125 to 315	250 to 630	500 to 1,250	1,000 to 2,500	2,000 to 5,000	3,000 to 7,500	4,000 to 10,000
Output Connector	"N" female	"N" female	"N" female	DIN 7-16	1-5/8" EIA	1-5/8" EIA	1-5/8" EIA	1-5/8" EIA
Rackspace	11 RU	11RU	11 RU	22 RU	22 RU	1 cabinet	2 cabinets	2 cabinets
PA Modules	1	2	2	4	9	18	27	36
PS Modules	1	2	2	4	8	16	24	32



DMB 670 VHF Configuration

DMB 670 Front View



1 Power Supplies

Auto-ranging, hot-pluggable power supplies with automatic regulation to smooth mains fluctuation. Redundant supplies keep transmitter on air during supply failure.

2 Transmitter Interface

Provides amplifier bay local protection, control and monitoring interconnect to the low-power unit via RS-485 on the back panel.

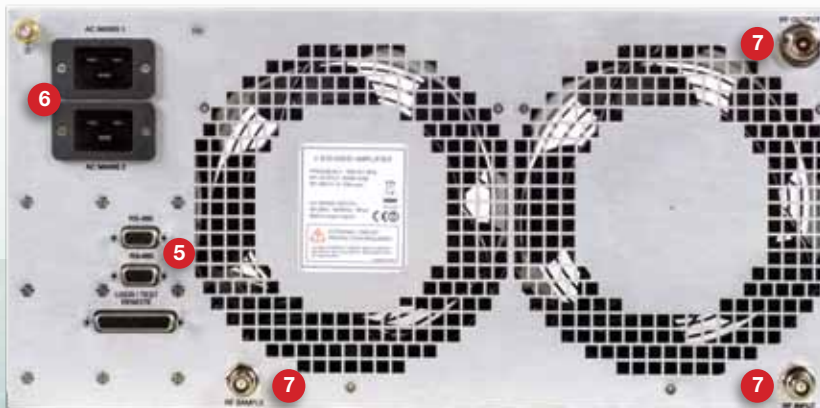
3 Hinged Front Panel

Fold down for easy access to RF and power supply modules. Integrated, removable, washable air filter for simple servicing.

4 RF Power Module

Each hot-pluggable module holds two linear power amplifier pallets, each producing 175 watts of coded orthogonal frequency division multiplexing (COFDM).

DMB 670 Rear View



5 Transmitter Interface

Provides amplifier bay local protection, control and monitoring interconnect to the low-power unit via RS-485 on the back panel.

6 Dual Power Connections

Multiple CE-compliant power inputs to allow distributed feeds for maximum redundancy and installation flexibility.

7 RF Connections

Features a main RF output, an RF input from the low-power unit and a sample for test use.

Low Power Unit



8 Front Panel Control

Control and monitoring of the transmitter via the key pad and LCD display on the low-power unit. Simple menus for easy access to operational and setup adjustments. The home page is the default display.

9 Low-Power Amplifier

Linear 200 mW or 40 W output for direct operation or as the driver.

10 COFDM Modulator

Provides direct modulation (no IF), features noiseless and electronically tunable synthesizer, and controls the RF output at a constant level.

11 Digital I/Q Precorrection

Adapts the digital signal to counter the nonlinear characteristic of the PA; sideband signals are optimized with digital FIR filtering. Dynamic precorrection adjusts for changes in the output power.

12 COFDM Encoder

Processes the ETI signal to ETS specifications for modes 1-4 and supports standard ETI-NA (NI) with seamless switchover and quality check, 12-bit I/Q-resolution, time-stamp processing, dynamic group delay, integrated CRC check with adjustable alarm thresholds, mode selection for local/automatic/test, automatic NI/NA input signal detection.

13 Frequency Processing

Provides internal reference frequencies 1 Hz and 10 MHz plus 1 PPS input from external GPS receiver or optional internal GPS receiver.

14 System CPU

Contains the central transmitter control and optional Web interface. The system communication is based on an I2C-bus and RS 485.

15 Optional QPSK Receiver

Provides a high-quality DVB-S satellite receiver that outputs a standard ETI-signal. Complies with EN300.421, EN301192 and supports ETI-Signal (G703) via PID-filtering/FIFO and HDB3-coding.

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.

Warranty

Because we want to assure you that Harris stands beside its products and system solutions, our products carry a standard set of warranty services, which are competitive with — and in some cases outperform — others in the industry.

Service Packages

We offer value-add services that allow you to customize the level of services you need in meeting mission-critical performance levels. Our service package options offer many ways to upgrade your standard warranty by choosing the All-Inclusive OnePak, or by selecting individual services from our extensive portfolio. Our service and support advisors can assist in the selection of the individual services that best suit your requirements.

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For more information, please visit broadcast.harris.com/TVTransmission.

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