Flexiva™ FLX with PowerSmart® 3D

High Efficiency FM Liquid-Cooled Transmitter

Made in USA

The GatesAir Flexiva™ FLX with PowerSmart® 3D is a Liquid-Cooled FM solid-state transmitter family provides today's broadcaster with a single transmission platform capable of analog and digital. Built on the next generation of GatesAir's groundbreaking green transmission architecture, Flexiva transmitters offer today's FM analog or digital broadcaster compact, energy-efficient solutions to reliably deliver high performance and reduce Total Cost of Ownership.

Flexiva FLX utilizes the latest 50 volt LDMOS amplifier devices, compact high-efficiency power supplies, variable speed cooling and the Flexiva FAX exciter with RTAC™.

Featuring PowerSmart® 3D technology, the Flexiva FLX line offers unmatched efficiency that makes it ideal for all FM applications. FLX provides today's broadcaster with unparalleled power efficiency and outstanding signal performance.

This powerful blend of new technologies provides best-in-class performance with respect to transmitter power efficiency, physical size, performance and features. The modular design allows for simpler installation, infrequent maintenance requirements together with dramatically reduced total cost of ownership over the life of the transmitter.

Flexiva FLX Features

- Featuring 4th Generation HD Radio Crest Factor Reduction and Adaptive Pre-Correction technology for the highest HD Radio™ power available.
- Flexiva High Power Transmitter features identical power blocks for scalability. 10,000 Watts to 80,000 Watts
- Small and compact. 10kW power blocks in 16 rack units
- Variable speed coolant pumps and heat exchanger cooling fans maximize system efficiency
- Common dual power amplifiers and IPA modules for all power levels simplifies spares
- Single-phase or 3 phase power, Delta or Wye configurations. 190 to 464 VAC
- 1:1 Power supply to Power Amplifier module maximizes redundancy
- Hot-Pluggable, hot-swappable power amplifier and power supply modules minimizes down-time and simplifies maintenance.
- Simple, distributed hardware based control architecture uses analog circuits to control critical transmitter functions. Not reliant on a microprocessor for high reliability
- Hardware based life support backup controller provides added robustness, reliability
- Can use any standard FM exciter or can be tightly integrated with FAX low power exciter
- Fully broadband, 87.5 to 108MHz — requires no tuning or adjustments.
- Best-in-class power efficiency — lowest operating costs
- Extremely high power density; compact and lightweight space-saving design
- Latest state-of-the-art LDMOS-FET power amplifier technology, high efficiency (98%) auto ranging, hot-pluggable power supplies
- Maintain power up to 1.5:1 VSWR with proportional VSWR fold-back above that for safe operation at reduced power into marginal loads (icy antenna etc.)
- Automatic restart after AC mains interruption; returns to previous operational mode
- Global control and monitoring via the World Wide Web remote graphic user interface (GUI) works with any PC, table or smart phone
- Full SNMP network control and monitoring support
- In-depth diagnostics and setup via an easy-to-use front panel control
- Dual-drive with automatic failover exciter switching

FLX 10K Available Options:

- Internal or External pump system

Product Details:

GatesAir PowerSmart 3D Technology Inside

GatesAir PowerSmart 3D Technology Inside. The Flexiva liquid cooled transmitter offers superior power density and by far the highest available system efficiency on the market.

This new amplifier design utilizes the latest 50 volt LDMOS device technology to deliver a dramatic increase in power density, lower operating costs and reduced cost of ownership over the life of the transmitter.

Compact Footprint

As the most compact liquid-cooled FM transmitter, the Flexiva FLX is ideal for crowded, shared transmitter sites. The Flexiva FAX50 exciter drive further reduces rack space requirements. The Flexiva FLX transmitter reduces facility space requirements, simplifies installation, lowers shipping costs and allows for easier maintenance.

Highest Power Density

Flexiva FLX provides the highest power density with up to 20KW per rack, saving floor space.

Global Monitoring and Control

The Flexiva FLX transmitter can be controlled from anywhere in the world with an intuitive browser-based GUI or SNMP over TCP/IP via a telecom or network connection with password protection.

Improved Uptime and Reduced Service Costs

Hot-pluggable, redundant power amplifier (PA) and universal power supply (PS) modules make on-air servicing easy and eliminate costly service interruptions. Light-weight universal PA pallets and universal PS modules facilitate overnight/same-day shipping for simple, cost-effective spares holding. With lightweight subassemblies, the Flexiva FLX eliminates any two-person lift requirements for routine maintenance and troubleshooting.

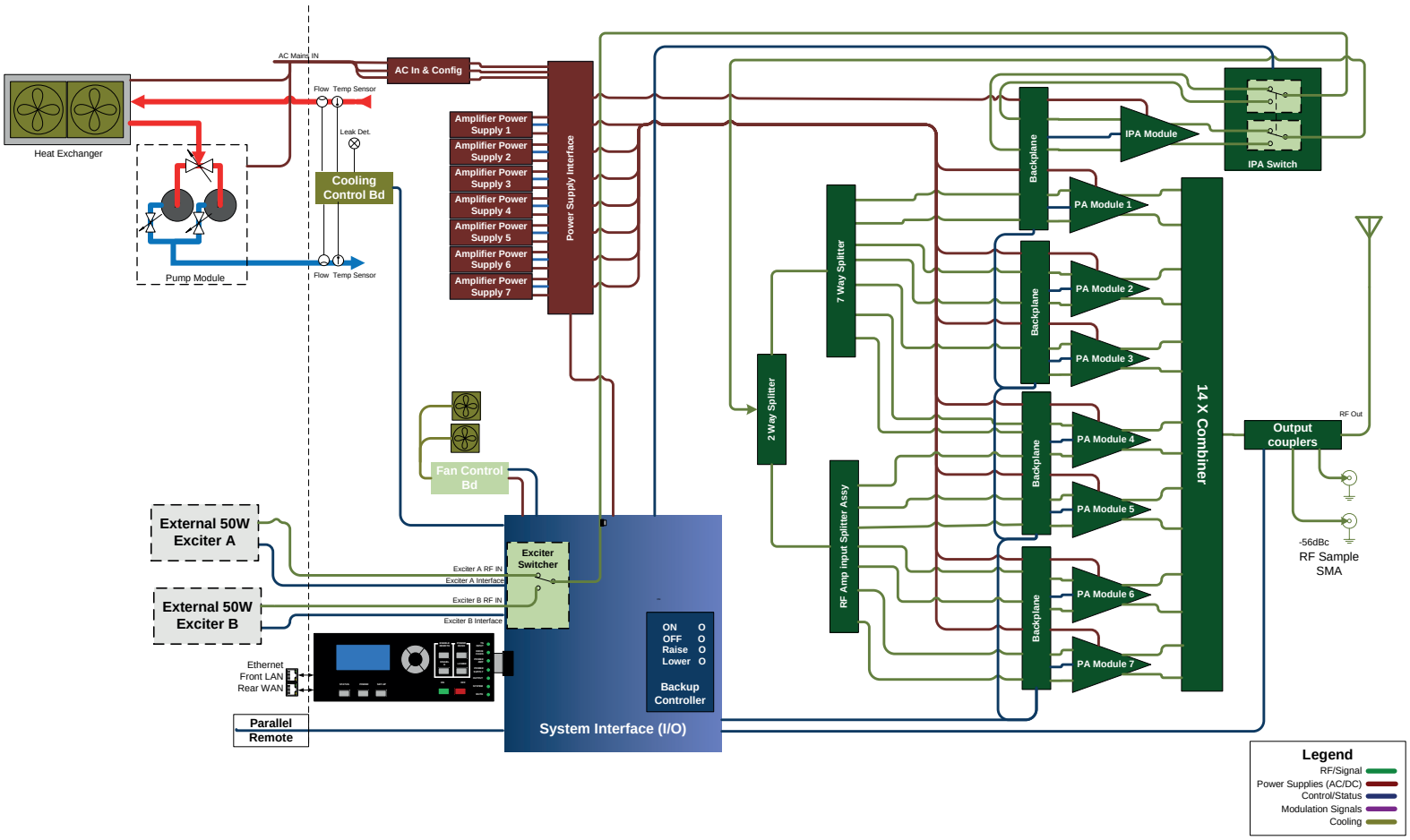
Smooth Upgradeability

The Flexiva FLX system features the new FAX G4 Exgine technology, allowing for a seamless transition from analog FM to a digital standards such as HD Radio™ DRM+ or China Digital Radio

Images/Diagrams:

FLX 10K Dual Drive

FAX10k Transmitter/ Power block



Flexiva™ FLX Liquid-Cooling Pump Modules

The FLX10K 10kW transmitter, can be supplied with a quiet, efficient internal dual pump module system

External Dual Pumps, with auto/ manual changeover

- Pump speed inverter controlled
- Optimized for High Efficiency
- Reliable, proven
- Small physical size
- Low maintenance, closed-loop pressurized system
- Quiet – Designed for indoor installation

PowerSmart®

Flexiva™ FLX Liquid-Cooling Heat Exchangers

High Efficiency, Dual-Fan Outdoor Heat Exchanger

- Low noise, with high-efficiency fan blades
- Speed controlled for maximum efficiency
- Vertical or horizontal airflow
- Two sizes available 20kW & 50kW heat dissipation

Specifications

Specifications and designs are subject to change without notice

General					
Transmitter Type		Solid State VHF Power Amplifier for FM, HD Radio, DRM+, and China Digital Radio			
Cooling System		Closed-loop, pressurized liquid coolant, Coolant: 50/50 Ethylene Glycol or Propylene Glycol and distilled water			
Exciter		External FM Exciter. Support for dual exciters with automatic changeover			
Frequency Range		87.5 to 108.0 Mhz, 10 kHz steps			
Operating Modes		"Quad-Mode" on-the-fly switching between FM HD only, FM+HD or DRM+			
Frequency Stability		±150 Hz			
Power Stability		≤ ±0.25 dB			
Asynchronous AM SNR		>60 dB			
Synchronous AM SNR		>50 dB			
RF Harmonic and Spurious Suppression		Meets or exceeds FCC, IC, CE, CCIR IRTU and IEC215 requirements			
VSWR		Protected against open or short circuit, all phase angles. Capable of operation into infinite VSWR with proportional foldback above user adjustable threshold of up to 1.5:1			
Compliance		RoHs 2011/65/EU, FCC, CE, IC, Directive 2014/53/EU compliant			
Output Power - Max Watts		**FLX10K**	**FLX20K**	**FLX30K**	**FLX40K**
Analog Only	Max Power	11,000	22,000	33,000	44,000
	Typical Efficiency	72%	72%	72%	72%
Analog @ -20dBc HD	Max Power	10,396	20,792	31,188	41,584
	Typical Efficiency	56%	56%	56%	56%
Analog @ -14dBc HD	Max Power	9,616	19,232	28,848	38,464
	Typical Efficiency	56%	56%	56%	56%
Analog @ -10dBc HD	Max Power	7,455	14,909	22,364	29,818
	Typical Efficiency	52%	52%	52%	52%
HD-Only -20 dBc	Max Power	4,000	8,000	12,000	16,000
	Typical Efficiency	42%	42%	42%	42%
HD-Only -14 dBc	Max Power	3,700	7,400	11,100	14,800
	Typical Efficiency	42%	42%	42%	42%
HD-Only -10 dBc	Max Power	3,100	6,200	9,300	12,400
	Typical Efficiency	42%	42%	42%	42%
Electrical					
AC Input Voltage Single Phase & 3-Phase (3-Wire) Delta:		190-264 47-63Hz			
3-Phase (4-Wire) Wye):		330-460 47-63Hz			
Power Factor		0.99% Typical			
Mechanical		**FLX10K***	**FLX20K**	**FLX30K**	**FLX40K**
Width		23.5 in. (59.7 cm)	23.5 in. (59.7 cm)	47 in. (120 cm)	47 in. (120 cm)
Depth		45 in. (115.3 cm)	45 in. (115.3 cm)	45 in. (115.3 cm)	45 in. (115.3 cm)
Height		37RU 71 in. (181 cm)	44RU 83 in. (211 cm)	44RU 83 in. (211 cm)	44RU 83 in. (211 cm)
Weight (approx w/ modules installed)		588 lbs, 267 kg	1002 lbs, 455 kg	1,700 lbs, 771 kg	2,200 lbs, 998 kg
Environmental					
Altitude		15,000 ft. (4,572 m) AMSL			
Ambient Temperature Range		0° to 45° C (32° to 113° F) at sea level (upper limit derated 2° C (3.6° F) per 300 m (984 ft) elevation AMSL			
Humidity		95%, non-condensing			
Cooling Method		Liquid-cooled, using 50/50 mix of ethylene or propylene glycol and water			

*NOTE: Dimensions for the FLX10K reflect transmitter installed in 37RU deluxe rack.